Covid-19 Disaster relief projects management: an exploratory study of critical success factors

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Abstract
The COVID-19 pandemic has caused unprecedented socio-economic devastation. With widespread displacement of population/ migrants, considerable destruction of property, increase in mortality, morbidity, and poverty, infectious disease outbreaks and epidemics have become global threats requiring a collective response. Project Management is, however, a relatively less explored discipline in the Third Sector, particularly in the domain of humanitarian assistance or exploratory projects. Via a systematic literature review and experts' interviews, this paper explores the essence of humanitarian projects in terms of the challenges encountered and the factors that facilitate or hinder project success during crises like Covid-19. Additionally, the general application of project management in international assistance projects is analysed to determine how project management can contribute to keeping the project orientation humane during a crisis. The analysis reveals that applying project management tools and techniques are beneficial to achieve success in humanitarian assistance projects. However, capturing, codifying, and disseminating the knowledge generated in the process and placing the end-users at the centre of the project life cycle is a prerequisite. While the latter can seem obvious, the findings demonstrate that the inadequate inclusion of beneficiaries is one of the main reasons that prevent positive project outcomes leading to unsustainable outcomes. The key finding of this paper is that the lack of human-centred approaches in project management for humanitarian assistance and development projects is the main reason such projects fail to achieve desired outcomes.

Keywords Project management · Covid-19 · Disaster relief projects management

1 Introduction
The destructive capacity of natural and artificial disasters increases continuously, affecting millions of people globally. In 2016, 564.4 million people were reportedly affected by natural disasters, the highest since 2006 (Guha-Sapir et al. 2016). The World Health Organization (WHO) declared COVID-19 as a pandemic on March 11, 2020, having around 3 million cases and causing 207,973 deaths (WHO, COVID-19: Situation Report). A Brooking’s report on socio-economic impact of COVID-19 notes that causing global economy to contract by 3.5 percent it brought about one of the deepest recessions of modern times. According to an ILO report, COVID-19 led to a loss of 8.8 per cent of global working hours roughly amounting to 255 million full-time jobs in 2020 compared to last quarter to 2019. As of June 2021, the COVID-19 outbreak had spread to 215 countries and territories across six continents causing over 3.9 million deaths. Given the vulnerability of nations to hazards like Covid-19, International Aid (IA), also known as International Development (ID), has become increasingly important especially for less developed countries. The United Nations (UN) has suggested that the developed economies spend at least 0.7% of their gross national income on international aid.

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1 https://www.brookings.edu/wp-content/uploads/2021/06/Social-and-economic-impact-COVID.pdf accessed 24 June 2021
2 https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/documents/briefingnote/wcms_767028.pdf accessed 24 June 2021
3 https://www.statista.com/statistics/1093256/novel-coronavirus-2019ncov-deaths-worldwide-by-country/ accessed 24 June 2021
assistance (Myers 2015). Much of this assistance ends up financing projects managed by the Third sector, including international, national and local non-governmental organisations (NGOs), charities and other voluntary groups (Marlow 2016).

NGOs are private organisations characterised by humanitarian objectives "that pursue activities to relieve suffering, promote the interest of the poor, protect the environment, provide essential social services, or undertake community development" (World Bank 1995). These organisations are key contributors to international assistance (Morton 2013), which is broadly divided into two categories: Official Development Assistance (ODA) and Humanitarian Assistance (HA), also referred to as emergency aid. HA projects have the overall goal of providing an immediate response as fast and effectively as possible. Nevertheless, the time scale and particular goals are less specific because of the spontaneous nature of these events and the available information (Lindell and Prater 2002). In this sense, HA projects fall into the category of exploratory projects, for which 'neither the goals nor the means to attaining them are clearly defined' (Lenfle et al. 2019). The loose definition of deliverables, the scope, and the recovery scale makes these projects challenging (Walker 2011). Additionally, a lack of Project Management (PM), cultural sensitivity, and stakeholder involvement contribute to high failure rates and unsatisfactory performance for these projects (Golini et al. 2015).

For exploratory projects, neither the output nor the means to attain it can be established from the beginning. Given their increasingly significant impact, however, it is prudent to develop a scientific understanding of the projects management challenges and success factors for the exploratory projects. Therefore, this research aims to investigate via template analysis of the relevant qualitative data, the ontology of humanitarian aid projects, and the effect that project management implementation could have on their success for such projects. More specifically, we review the literature and case studies on humanitarian projects by NGOs to identify the main challenges in achieving favourable HA project outcomes and factors that promote project success or contribute to project failure. We also explore the PM procedures, tools, and frameworks used for International Development and how these influence the cognitive aspects of humanitarian projects; and revisit the link between PM and human-centred design in the Third Sector. We find that applying project management tools and techniques are beneficial to achieve success in humanitarian assistance projects. However, knowledge generation, storage, and sharing and end-user-centric projects’ design and execution throughout the project life cycle are major critical success factors. The findings also highlight that the inadequate consideration of beneficiaries’ identity, expectation, and role is one of the main reasons preventing positive project outcomes from leading to sustainable outcomes. Our findings contribute to the literature in three ways. First, it explores the extension of the application of PM tools and techniques to a much important phenomenon of humanitarian assistance projects, especially during the current Covid-19 crisis. Second, relying on PM and design thinking literature, we explore more pragmatic design and execution choices that bring project output/ deliverables and outcomes closer. Thirdly, through literature review, case studies, and expert interviews, our study highlights some critical success and failure factors in humanitarian assistance projects. The rest of the paper is organised as follows. Part two presents the literature review, followed by the methodology and findings, followed by the conclusion.

2 Literature review

2.1 Crisis and humanitarian aid Project management

Relief projects carry an "acute sense of urgency", and their results are critical to people’s livelihood in the affected communities (Steinfort and Walker 2011). The challenge is to minimise human suffering and death (Noham and Tzur 2014) and do so in an often hostile and uncertain environment, where violence, socio-political instability, disease, other health hazards, panic, and chaos are encountered. Other obstacles include lack-of or poor communication and transportation infrastructures, different cultural norms and rules, complex issues of autonomy and control and managing productive cooperation with governments and other organisations (Steinfort and Walker 2011).

According to Bysouth, project management is a relatively new discipline in the Third Sector. Despite the limited information regarding the adoption of PM methodologies by NGOs (Golini et al. 2015), several authors agree that PM expertise can be employed as a possible remedy for the poor performance of ID projects (Landoni and Corti 2011; Golini and Landoni 2014). Moreover, guidelines such as PMDPro and PM4DEV have been developed explicitly for NGO management of these projects (Table 1). However, recent empirical studies note widespread adoption of few PM tools, viz., Logical Framework (LogFrame) and Progress Reports and almost none of few such as Earned Value Management System and Issue Logs (Golini et al. 2015). LogFrame provides the goals, measures and expected resources for each level of the means-to-end logical path, laying out the way between vision, overall and specific objectives, desired outputs and outcomes through its detailed breakdown of the chain of

4 The process of acquiring knowledge through thought, experience and/or senses (New Oxford American Dictionary, 2010).
Causality among activities. Moreover, Monitoring and Evaluation (M&E) supports learning, governance and performance accountability (Steinfort and Walker 2011). It also includes the evaluation criteria- relevance, effectiveness, efficiency, impact and sustainability- to ensure appropriate monitoring and control.

Research has shown that lack of expertise and planning (Alexander 2002), poor coordination, duplication of services, and inefficient use of resources (Kopinak 2013), inadequate beneficiary involvement has hindered positive outcomes (Brown and Winter 2010). Coupled with Linking Relief, Rehabilitation and Development (LRRD) omission, this has often provided unsustainable solutions (Kopinak 2013). These interspersed layers demonstrate that humanitarian management cannot be improvised and that planning is relevant at all stages of the Disaster Cycle (Alexander 2002; Steinfort and Walker 2011). The professionalisation of humanitarian response is thus inevitable due to the adding layers of complexity that resulted from growing levels of stakeholders and poor management skills.

### 2.2 Defining project success

Project management focuses on delivering change via unique sets of concerted actions (Tantor 2010). Unlike general management, where almost everything is routine, almost everything is an exception (Meredith et al. 2014). Each project is unique and temporary, with a definite start and end (Tayntor 2010). The end of a project can be defined when the desired output is delivered or when the output can no longer be delivered, or when there is no more need for the project. These endeavours aim to create a unique product or deliver a unique service or result. It is possible to have repetitive elements, but repetition does not take away the uniqueness of a project because the mix of elements is unique to each project. Therefore, projects can also be considered generators of value (Winter et al. 2006) and explicit and tacit learning, as their uniqueness provides a foundation for capturing new knowledge (Zollo and Winter 2002).

The definition of project success is ambiguous due to the different characteristics, perspectives, interest, and objectives of the stakeholders involved (Fig 2). Nonetheless, the essential requirement of project success is achieving the project objectives/outputs within a defined budget, quality, and time. Project output can be defined as the product, service or result that the project was expected to generate. Furthermore, many authors suggest that project success is multidimensional, and that project outcome should also be considered when determining success (Rodrigues et al. 2014). That is particularly relevant in the case of exploratory post-crisis projects, for which neither the output nor the means to attain it can be established from the beginning (Lenfle 2014). This multidimensional outlook reflects project success and the project’s manager’s responsibilities, including managing time, cost, quality and human resource, integration, communication, project design, procurement, and risk management (Radujkovic and Sjekavica 2017). The uniqueness of each project also requires the project manager to be creative, flexible, and highly adaptable. Special skills such as conflict resolution and negotiation are also required due to the high level of discontent present in these projects.

Project management success does not guarantee that the project output will lead to a successful outcome (Steinfort and Walker 2011; Kopinak 2013). The project outcome is the change produced as a consequence of the delivery of such output. Unfortunately, in HA projects, outputs are often delivered accordingly but still fail to provide a successful outcome. Project success might be initially perceived as achieved in such cases, yet project outcome might demonstrate the opposite (Brown and Winter 2010). This occurs when hard5 and soft6 services fail to transform the output into a functioning outcome (Steinfort and Walker 2011); perhaps because the output lacked the infrastructure to support its use or because it failed to consider the ‘beneficiaries’ needs, culture, behaviour, the context of their lives (Brown and Winter 2010). The latter has been recognised as a consequence of the ambiguous definition of target customer or beneficiary in HA projects, leading to their exclusion in the project design phases and considerable project

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5 “Hard” services refer to transportation links, water, electricity, etc. (Steinfort and Walker 2011).

6 “Soft” services involve the activities that help the community return to normal life, such as restoring dignity and morale of the community and providing help to overcome the trauma of the catastrophe (Steinfort and Walker 2011).
execution errors (Golini et al. 2015). To this end, the literature suggests referring to the end-user as a consumer over the word beneficiary”. Although both terms may be used interchangeably, researchers suggest that the latter can infer that recipient who do not pay for the services shall have unquestionable gratitude and, therefore, no right to choose or be informed, leading to poor recipient involvement projects. Steinfort and Walker (2011) argue that project success can be linked with the degree of customer value generated from the project. The real value is the output combinations that lead to a specific outcome, which allows the stakeholders to perceive that the project deliverables have been achieved. However, the natural outcome of the project is to generate customer value. The diversity of stakeholders and the different perception of values (Rodrigues et al. 2014) and a lack-of or poor inclusion of beneficiaries in project design (Golini et al. 2015) further hinder consensus in defining HA projects success.

2.3 Critical success factors

Planning is considered desirable in achieving success, especially among HA projects during Crisis like Covid-19 (Taylor 2010). Plans must be robust and granular yet flexible enough to adapt to different circumstances. NGOs and other organisations such as civil protection agencies have set up measures of natural disaster response based on their magnitude, recurrence, physical and human consequences, and the duration of their impact. Additionally, technology has become a vital tool in managing disasters (Alexander 2002). It was evident during the Covid-19 crisis as to how the biotechnology, data storage and analytical technology, and communication technology allowed the primary responders, frontline workers, and researchers to work together to arrive at standard operating procedures and share them with relevant stakeholders across the globe in a relatively short time. International recognition and acceptance of a set of common principles are essential to stimulate humanitarian aid project design, innovation, accountability and effectiveness, and the implementation of best tools and approaches.

Despite the diversity in stakeholders, antecedents and consequences, and desired outcomes (Alexander 2002), the lessons and results captured from previous projects can serve as a blueprint for planning and implementation (Lampel et al. 2009). Explicit knowledge can be expressed and formalised into frameworks or formal "know-how" procedures and instructions, which can later be integrated into the organisation/field/team methods. On the other hand, tacit knowledge, the skills, or experience acquired through practice, may be shared through training programs/orientations or on-the-job simulations and training. Each form of knowledge can serve as a tool to acquire the other; however, they cannot convert into one another. Understanding these epistemological dimensions and their interplay provides organisations and teams with the ability to learn, innovate and develop competencies that can be used in future projects (Cook and Brown 1999). Additionally, the knowledge seeker must be careful of the subjective interpretation of success factors and avoid "superstitious learning" (Zollo and Winter 2002). Preconceived notions can be easily generated, and projects often falter because the needs of the beneficiaries have not been fully contemplated.

Human-centred approaches such as design thinking are considered a viable solution to integrate multidisciplinary knowledge, consumer insights and recognise the infrastructure needed to support the output provided. Design-thinking complements the learning process both through the collection of knowledge and its application. Not only does it tap into capacities that conventional problem-solving practices overlook, but also it brings balance between the rational/analytical side of thinking and the emotional/intuitive counterpart (Brown and Winter 2010). This approach has contributed significantly to ID project success and has been adopted by UNICEF, The World Food Programme, and the International Rescue Committee. Additionally, companies such as Frog and IDEO continue collaborating with NGOs to integrate this approach in development projects and programmes.

Programme thinking can also be explored to drive project success, as a given programme may involve coordinating multiple projects to achieve a specific outcome. In this sense, projects can focus specifically on their particular output whilst the programme can ensure that the outcome is delivered. In addition, projects can start and end under the programme umbrella. However, both approaches are complementary, and not all projects are part of a programme (OGC 2007). Lastly, given that the distinction between HA and ODA is less straightforward in practice (Fink and Redaelli 2011), LRRD has been identified as a model that could bridge the grey zone between both sides of the international assistance spectrum (Kopinak 2013). Programmes, rather than singled out projects, can be used to provide a successful LRRD as they can coordinate and oversee the implementation of a set of related projects to deliver an outcome greater than the sum of its parts (OGC 2007).

The literature review suggests that Project Management is a relatively new discipline in the Third Sector. Its methodologies have been progressively adopted and recognised as a possible remedy for poor ID performance (Landoni and Corti 2011; Golini and Landoni 2014). Logical Framework and Monitoring and Evaluation are widely adopted PM tools by NGOs (Golini et al. 2015; Steinfort and Walker 2011). Poor planning and coordination, inadequate beneficiary involvement and omission of LRRD have often provided unsustainable/unsuccesful outcomes. (Alexander 2002; Kopinak 2013) Project
management, thus, alone is not enough to deliver a successful outcome. Outputs need to be supported by hard and soft services, and beneficiaries must be considered in project design phases (Steinfort and Walker 2011; Alexander 2002; Kopinak 2013). Projects generate value and learning. The customer value generated from the project should be considered to determine project success (Rodrigues et al. 2014). Design thinking complements the learning process both through the collection of knowledge and its application. Human-centred approaches increase the possibility to create sustainable solutions and achieve success by incorporating interpersonal elements into the existing paradigm (Winter et al. 2006; Brown and Winter 2010). The distinction between HA and ODA is not always straightforward. LRRD, Design Thinking and programme implementation can help ID projects deliver successful and sustainable outcomes (Fink and Redaelli 2011). These arguments lead to the following proposition:

*Project management can contribute to HA projects by providing better planning, coordination and knowledge generation. PM can improve the outcome of HA projects; however, it is not the only success factor. Infrastructure (hard and soft services) must be available to support the project outcome*, and most importantly, such outcome should align with the broader culture and needs of the beneficiaries. Design thinking offers PM ways of including the end-users, ensuring outcomes are fit for purpose and that customer value is generated.

### 3 Methodology

Primary and secondary data were used to explore the effects that implementation of Project Management tools and techniques could have on the success of humanitarian projects. First, secondary qualitative data was explored via a systematic literature review. The review provided a synthesis of extant knowledge and helped create an expert database for conducting interviews as primary research (Hasson and Keeney 2011). Given the exploratory nature of this research, we interviewed a limited number of experts (mentioned in Table 2) in the fields of PM, ID and design thinking. Given that the purpose was to explore in-depth the expert’s views on humanitarian aid and their particular field, discuss their findings, and find additional study paths, the interviews were kept unstructured. Each interview lasted approximately 30 to 45 minutes.

Computer-Assisted Qualitative Data Analysis Software (CAQDAS) was used for the data analysis to aid continuity, transparency and methodological rigour. Via Nvivo, the literature was coded following a template analysis, which combines deductive and inductive approaches. This meant that the literature could be coded using predetermined information (like the challenges or success factors identified in the literature review) and at the same time amend or add codes as more data was collected and analysed. This approach permitted exploring key themes and identifying emerging issues. Once all the codes were established, MS-Excel was used to measure the data from the 33 sources selected and display the data to facilitate comparisons through graphs. Ordinary scales from zero to five (from least relevant to most relevant) were used to rank-order the codes (variables) according to the importance that each author gave to each category (Sekaran and Bougie 2016).

Given that the authors did not focus solely on any of the variables, none of the categories ranked five, and most were rated two or three. Additionally, the graphs included the number of journals that mentioned the categories rated to give the audience a clearer view of each variable’s "real" frequency. Finally, to prove reliability, the consistency of the rankings was confirmed by four volunteers unrelated to the study. These volunteers were given samples of 10 different journals. This exercise helped find and correct mistakes and strengthen validity. It also served as a point of discussion regarding the findings of this research.

There was not enough literature regarding project management in ID projects (Diallo and Thuillier 2005; Golini and Landoni 2014), including humanitarian projects. To overcome the limitation of data scarcity, the findings on

| Domain                                | Expert                                      |
|---------------------------------------|---------------------------------------------|
| Project Management                    | Professor TB                               |
| Project Management in NGOs            | AB (a high-ranking manager at a Third Sector Project Management Forum) |
| Humanitarian Assistance and Innovation| Professor HR                               |
| Design and Innovation                 | Doctor AG                                  |

7 Rebuilding schools without making sure that children live in a safe home, or building a water centre that does not provide containers to easily carry clean water, are some examples of how absence of hard and soft services delay project outcome (Brown and Winter, 2010).
PM applications in ODA projects were considered and later adapted to humanitarian projects. It was a straightforward process, given that the main difference between these types of assistance is the spontaneity of the event and the time horizon (Golini and Landoni 2014). Similarly, the overall theory on design and innovation was studied and further shaped into its use in the International Development field, focusing on humanitarian relief. The sources selected were published within the last ten years to gather the most recent information. This critical selection included the collection of academic and scientific journals published under the Association of Business School (ABS/AJG) rankings (Table 3). In addition, other research databases, like Scopus and Web of Science were also considered, non-ABS/AJG listed journal listed in these databases like The Journal of Humanitarian Assistance, Design Issues Journal, Standford Social Innovation, Centre for Research on Epidemiology of Disasters, UK Department for International Development, Evaluation and Program Planning Journal, International Federation of Red Cross and Red Crescent Societies, and International Journal of Advanced Intelligence Paradigms were also included, as they provided relevant information and helped overcome the obstacle of the limited available literature. Additional sources include books, conference reports and other official publications that focused on the chosen area.

### 4 Data analysis and discussion

This section presents the results obtained from the analysis of data described in part three. In line with the initial objectives, Sect. 1 highlights the challenges encountered in HA projects and factors contributing to HA project failure and success. Section 2 reports the benefits that PM brings into this field and the importance of the cognitive process in exploratory projects of this nature. Lastly, Sect. 3 revisits the link between PM and design theory and how human-centred approaches can contribute to sustainable projects.

#### 4.1 Challenges, failure, and success

**Challenges** Figure one illustrates the main challenges in Humanitarian Aid projects. The graph further divides obstacles into four subcategories representing: A) the characteristics of the external environment and uncontrollable factors, B) general management and the "iron" triangle of Time, Cost, and Quality (TCQ), C) human-based management and challenges, and D) others. This categorisation was derived as a common theme throughout the findings. It continues throughout the graphs of this section to link the commonalities between them and show the importance of PM in each of these levels.

HA challenges are broad[1, A1]⁹, and they are growing in scale, scope and complexity. All of these challenges are interlinked and often dependent on one another. Complexity[1, A2], for example, encompasses the diversity of time lines[1, B2] roles and stakeholders[1, C2] that must be coordinated in HA projects, adding a layer of difficulty as some of these are not clearly defined. Limited resources[1, A6], including lack of human skills, were the second biggest challenge. They are followed by the complications of assessing impact/quality[B4] given the poor feedback and control mechanisms recognised in this sector. Furthermore, the high number of stakeholders[1, C2] was considered more critical than the unique and unpredictable context in emergency settings[1, A2, A3]. The greater the stakeholder spectrum, the more coordination, communication, needs and requirements[1, C1] to be met; it also increases the opacity of authority lines and responsibilities[1, A2]. It was also discovered that the greater the power distance is between donors and recipients, the harder it is to meet donor requirements[1, C1]. Additionally, high levels of bureaucracy[1, A4] contribute to delays[1, B2], and personal agendas[1, A5] might interfere with project outcomes if, for example, managers were more concerned about their relationship with particular politicians or status in the public/private sector, rather than on the community burden (Diallo and Thuillier 2004). Together with the absence of PM methodologies,
these challenges usually result in poor project planning, superficial risk management strategies, paucity of account-
ability and stakeholder involvement, unmotivated project teams, and eventually costing project success (Kelecklaite
and Meiliene 2015).

**Failure factors** Figure two presents additional omissions that not only hinder success but can also lead to project failure. Insufficient culture consideration[2, AC] was regarded as the most relevant contributor to failure. Lack of shared perception between donors, project managers, and end-users can result in poor beneficiary inclusion and omission of community needs during planning and delivery stages. Exclusion of factual information, dishonesty, and lack of transparency[2, A2] came second; these include corruption and political manipulation, shaky government policies and lack of transparency derived from the difficulty of breaking down costs incurred in HA (Kopinak, 2013). Finally, lack of or poor PM[2, B1] was one of the most critical factors, mainly as factors mentioned in sections B and C can be managed through this discipline.

Furthermore, resource allocation[2, B2] amongst relief projects has been denounced disproportionately not only in terms of goods and skills but financially; some operations have been “forgotten” as they receive little or no help from donors, while others receive more than is necessary. Next came inappropriate recruitment[2, B3] and flawed risk analysis[2, B4]. Inappropriate recruitment disrupts team functions and service delivery, reflecting negatively on the donor and hindering project management and future finance. Lack of experience also reflects poor cultural perceptions[2, AC], including difficulty adapting to the environment and having an unbalanced view of local values, beliefs, and infrastructure. Finally, inexperience often results in workplace stress, frustration, anger and lack of empathy to the host country.

**Success Factors** Figure three identifies that PM[3, B1], lessons captured[3, C5], resource allocation[3, B3], stakeholder management[3, C3], and communication[3, C2] are the key factors to consider to achieve success in HA projects. As the literature review suggested, capturing lessons is critical for success, helping to achieve continuous improvement. Knowledge creation and capture[3, C5] can happen at all stages and levels of the project life cycle. Lessons gained should be transmitted to subsequent projects to prevent the repetition of mistakes (Golini et al. 2015). Additionally, managers must know that learning opportunities are missed when managers are reluctant to admit mistakes, leading to losing some donor funding (Marlow 2016). Furthermore, PM[3, B1] was equally relevant and given that the PLC is included under this category, it can be inferred that the importance of planning has also been considered. Although communication[3, C2] was not as frequently mentioned, it is a critical success factor as it relates to other categories such as team management, motivation and leadership[3, C1], conflict resolution[3, C4], cultural sensitivity[3, AC1] and in choosing a particular language to refer to the end users[3, AC2]. Lastly, standardisation[3, D] was suggested to improve the application of PM methodologies and obtain more objective results from evaluation and feedback mechanisms. It was also significant to better understand success and failure contributing factors[2, B5], as well as to improve finance and resource allocation[2, B2], prioritisation of stakeholder needs[2, AC], ethical practices[3, A2], and reduction of coordination problems[7, B1, C1] and time frames.

**4.2 Benefits of project management in humanitarian assistance**

The general belief that enthusiasm and empathy are the essential skills of aid workers leads to staff that have unsuit-
able skills and experience (Kopinak 2013). As both literature and findings suggest, HA project managers deal with A) a broad range of challenges outside their control, B) hard services to deliver, and C) human management at all levels. Fortunately, PM can add value, improve performance through each of its knowledge areas*, and facilitate Project Capability Building (PCB). Figure four highlights communication[4, C1] as one of the most beneficial tools, followed by time coordination[4, B3] and general organisation[4, B1], monitoring and appraisal[4, B9], and stakeholder management[4, C2].

Communication[4, C1] represents the single most crucial task faced. However, it is also considered highly difficult in the HA context. The quality of information exchanged depends highly on trust, respect and values, and verbal and behavioural delivery and decoding. Furthermore, PM benefits projects by providing more realistic time frames[4, B3] and technical abilities to meet them[4, AB2]. This is particularly helpful in the case of exploratory projects as a means to identify cycles[4, AB1] such as the disaster areas: readiness, relief and recovery.

Time coordination[4, B3], allocation of resources[4, B7] and general organisation[4, B1] can be better achieved through the use of readiness stage, where possible scenarios[A1], governance indicators[4, A1] and preliminary planning can be applied to ensure quick and efficient crisis response as well as cost reduction[4, B4]. Additionally, the disaster relief stage supports logistics and procurement[4, B6] of both human and "basic" survival resources\(^{10}\), and disaster recovery serves as the transition to LRRD[4, B2].

\(^{10}\) Mainly food, shelter and medicine.
methodologies like stakeholder matrix and organised breakdown structure, as well as knowledge areas like Human Resources (HR)[4, BC] and communication[4, C1], help address the challenge of complex stakeholder management[4, C2]. Tools like "project monitoring and evaluation matrix" are relevant to assess project impact and serve as feedback mechanisms to capture lessons[4, C3].

4.3 Cognitive process in exploratory projects

PM offers the opportunity to learn from projects, which is progressively essential to project success (Fig.8). While Sect. 1 identified the uniqueness and complexity of HA projects as a challenge, both exploratory11 and exploitative12 learning are closely linked to the degree of change in the environment (Brady and Davies 2004). Learning from exploratory projects is the process of discovering practical lessons from experiences that could not have been foreseen (Lampel et al. 2009). HA projects provide higher learning opportunity as patterns and behaviours can quickly become obsolete. Consequently, constant revision of organisational process permits focus and transforms ambiguous information into knowledge, hence the relevance of identifying cycles and applying monitoring and evaluation in all stages.

Similarly, the process of learning involves making sense of the culture, leadership and capabilities of the current context; it requires a level of receptivity and observation. These lessons can manifest as the creation of new solutions or as innovative processes. The latter is ontological to the cognitive process of exploratory projects, as innovation processes are driven mainly by experimentation. Exploratory projects bring higher opportunities for learning as they do not have definite specifications; their "openness" provides a baseline for the generation of new ideas (Lenfle 2014). In like manner, new management methods are encouraged given the levels of "unforeseeable uncertainties"; therefore, the process of learning through exploratory projects can be understood as a loop of selection and testing, an inductive process. However, learning must be captured either through a communication or through embedding the new knowledge into processes and combinations.

4.4 Discussion

It was expected that each of the categories (A, B and C) within the graphs would relate to one another across the different divisions: main challenges, factors of success, contributors to failure and PM contribution. Even though all of

\[\text{Fig. 1 Main Challenges in Humanitarian Aid Projects; Source: Authors}\]

11 Knowledge acquired in exploratory projects (Brady and Davies 2004)

12 What results of exploratory learning as it develops into new capabilities (Brady and Davies 2004)
Covid-19 Disaster relief projects management: an exploratory study of critical success factors

these categories are interrelated, the results differ from one division to another. Within challenges (Fig 1), the category that was considered the most relevant was the one relating to the external factors (A). In this sense, the results agree with the literature review, which suggests that the environment of HA projects is hostile and uncertain and that its complexity is the main hindrance to success. Moreover, within success factors (Fig 2), category C, relating to human-based management and challenges, was considered vital. This category made a high emphasis on communication and interpersonal
skills. However, in contrast with what was expected from the literature, communication was not as frequently mentioned as other factors like the relevance of PM or lessons captured. Stakeholder management was also mentioned in both success factors (Fig. 2) and PM contributions (Fig. 4). However, contrary to what was expected from the literature, the consideration of the recipients and their inclusion in the project was not mentioned as such. It could be inferred that it is part of stakeholder management and that the lack of culture consideration was regarded as highly relevant within contributors to failure (Fig 3).

Nevertheless, including the beneficiaries in project design phases was expected to be the primary approach to planning and implementing HA projects. Additionally, the most relevant category in both failure factors (Fig 3) and PM contributions (Fig. 4) was in relation to the more technical and general management (B).

Furthermore, project leaders should harness the passion for positive social impact with careful and intentional planning. This confirms the suggestion from the literature review regarding the possibility of PM being a remedy for poor project performance. Furthermore, it indicates that PM management is critical to achieving successful coordination, time management and resource allocation, all of which were also suggested in the literature review. Despite being a critical factor in the literature review, it was surprising that programme end-users were shown to receive meagre attention and have not been considered necessary, mainly because beneficiaries are at the centre of creating a sustainable project.

For this precise reason, the literature suggested incorporating human-centred design in the planning and implementation and evaluation of HA projects and the benefits of treating the recipients as consumers. However, it seems like there is still a gap in both the literature and the practice between these fields.

5 Conclusion

Natural disasters’ frequency and destructive capacity are on the rise, and a high number of international assistance projects are reported to have high failure rates and unsatisfactory performance. Moreover, the livelihood and survival of people in the affected communities are highly dependent on disaster relief projects. Therefore, third sector organisations must find ways to manage humanitarian aid effectively. The professionalisation of humanitarian response has contributed to the adoption of PM tools, and the development of NGO focused PM frameworks. However, there is still a gap concerning meeting the end users’ needs and considering them in all parts of the project/disaster life cycle. As the literature identified, the latter is one of the factors of project success because it is linked with the degree of customer value and because including the beneficiaries can result in sustainable outcomes that manage to bridge relief, rehabilitation, and development.
The categorisation of the variables into HA environment and PM knowledge areas suggested that PM can contribute to humanitarian project success and that project manager can and should learn from exploratory projects. The scope of the challenges discovered was as complex as the literature suggested; the main challenges in achieving favourable HA project outcomes included limited resources, difficulty assessing the project’s impact, and the broad stakeholder spectrum. Although it was initially assumed that the emergent nature of the exploratory projects hinders outcomes, it was discovered that the highly complex- uncertain, unstable, culturally diverse, and multiple stakeholders- environment could provide a fertile ground to activate the learning process and generate explicit and tacit knowledge. In this sense, it is only logical that capturing lessons and PM application is rated as the most critical factors to achieve project success. However, project managers must consider that patterns and behaviours in HA projects can quickly become obsolete and that constant revision of organisational process and communication allows the transformation of ambiguous information into knowledge.

In the same way, communication was one of the most relevant success factors, and the PM contribution was considered the most important. Findings suggested that communication is at the core of success because it is part of every process, from HR to coordinating with a diverse roster of stakeholders to permit the correct allocation of time, resources, procurement, etc. Communication is also vital to design thinking. It allows project managers to adapt to the environment and understand the needs of the end-users and engage with them to create solutions that are suitable for the communities affected. People must be placed at the centre of the project life cycle, and beneficiaries must be included in all project design phases. Further research into both the practical use and perceived benefits of human-centred design needs to be undertaken and the results contrasted with those of current standard practices. This would enable a fuller understanding of how these practices help and hinder the development of better outcomes for beneficiaries, leading to more synthesis between traditional and innovative project management approaches in the third sector.

In conclusion, project management, particularly in HA, goes beyond tools and methodologies. Managers must also possess high human skills to adapt to demanding environments, communicate appropriately, and engage with multiple stakeholders to achieve a successful project outcome. People are the common denominator throughout this study. Lack of stakeholder consideration and working from the preconceived notions of what needs, and solutions are detrimental to project success. Both donors and recipients matter, and project managers should prioritise accordingly and bridge the gap between donor-recipient relations to find innovative ways of meeting their requirements. In this sense, adopting design thinking can lead to more sustainable solutions and project success. Lastly, this report identified a gap in the literature relating to the promotion and efficacy of design thinking when implementing PM. Further research into both the practical use and perceived benefits of human-centred design needs to be undertaken and the results contrasted with those of current standard practices. This would enable a fuller understanding of how these practices help and hinder the development of better outcomes for beneficiaries, leading to more synthesis between traditional and innovative project management approaches in the third sector.

Declarations

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