

Impact of COVID-19 on donor decision making

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Abstract This paper aims to identify the changes in factors that influence donation behavior based on the perception of who donated before and after the COVID-19 pandemic. To this end, an empirical study was carried out using the exploratory research approach and following a six steps survey method. The research uses a questionnaire addressing 14 factors that influence donations according to previous studies on donor behavior and statistical analysis to verify respondents' consistency. Results indicate the disaster awareness and the frequency of donation to certain entities as the two factors with higher percentages of change after the pandemic. The main contribution of this exploratory research is the indication of a priority order of factors to be considered in eventual adjustments in fundraising campaigns developed by humanitarian organizations. Also, the research identifies direct and indirect evidence on the effect of the pandemic in changing 7 out of 14 factors associated with the decision to donate. Future research encompasses the further investigation of the reasons for statistics inconsistencies in the respondents' perceptions as well as the differences between current and previous findings.

Keywords: Humanitarian Operations, Donor Behavior, Exploratory research, COVID-19 Pandemic.

1 Introduction

The increasing number of disaster events worldwide has affected people's life and made high financial and supply chain impacts (CRED, 2020). In this scenario, humanitarian organizations (HO) – such as non-governmental organizations, religious institutions and charities in general – provide goods and services to disaster victims and also from funds raised by donors (Burkart *et al.*, 2016). Along these lines, understanding donor's profile becomes crucial for HO to improve their campaigns and obtain more significant financing (Oosterhof *et al.*, 2009). Nevertheless, research focusing on this relationship between donors and HO acknowledges that different factors and scenarios can influence the decision to donate to a specific campaign or disaster, to a physical person, or willingly (Ülkü *et al.*, 2015).

The world is currently facing a pandemic due to the new coronavirus that causes the COVID-19. By October 15th, 2020, it had already affected more than 39 million people in 214 countries and accounted for more than 1,1 million deaths (Worldometer, 2020). The measures to prevent the dissemination of the COVID-19, such as social distancing, result in economic consequences to the population in general and even more dramatic to those in preexistent vulnerable conditions (WFP, 2020; ONU, 2020). This scenario

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of an increasing number of people in need consequently leads to an increase of appeals for donations by HO worldwide (WFP, 2020; ONU, 2020).

Therefore, this pandemic scenario motivates the investigation into whether the factors influencing the donation decision has changed during the COVID-19 pandemic, which leads to the research question: did COVID-19 impact donor behavior? Consequently, the main objective of this research is to identify the factors that influence the donor's decisions towards donating before and after the COVID-19 pandemic onset. The answer to this research question and objective can add value to HO to improve their fundraising strategies into this new scenario as well as present new pieces of evidence to previous research discussing that different scenarios affect donor's behavior (Ülkü *et al.*, 2015).

After this introductory section, the next section details the factors identified in the academic literature that involves the decision to donate. The third section describes the methodology that is classified as exploratory research based on the steps of a survey. The fourth section presents the results of the survey and discussions. The last section summarizes the conclusions of the research.

2 Donation behavior

The literature on donation behavior indicates that “disaster awareness” (i.e., the search for information about disasters) positively influences a donation to a humanitarian aid campaign (Oosterhof *et al.*, 2009).

The historical frequency of donations to certain entities is also an indication of the donation behavior. In this sense, Oosterhof *et al.* (2009) claim that people who frequently donate to charities are more willing to donate to other humanitarian aid campaigns as well. Bennett and Kottasz (2000) also analyzed the donation frequency variable and observed that this factor directly influences the incidence of donations for disaster resources. According to the study by Bin-Nashwan *et al.* (2020), the creation of disaster relief campaigns (charitable projects) and religious campaigns with well-defined information such as type, location and human well-being positively impacted the donors' decision in the COVID-19 pandemic scenario.

Burkart *et al.* (2016), Oosterhof *et al.* (2009), the IDIS (2015), da Costa *et al.* (2004) and Payne (2019) investigated the factors that positively influence the decision to donate. IDIS (2015) concluded in its research that two-thirds of the respondents believe that the action of donating makes a difference in social problems. Besides, the feeling of well-being also influences the donor's decision (da Costa *et al.*, 2004). Oosterhof *et al.* (2009) indicate the hypothesis that the moral obligation to donate affects the humanitarian aid decision. Payne's research (2019) revealed that the greater the number of victims, the more supportive the donors are and tend to donate.

Da Costa *et al.* (2004) indicate that trusted organizations presented itself as a crucial factor in the decision to donate. Sargeant *et al.* (2006) also highlight trust in the organization as a decisive factor in the decision to donate. In addition to these, Mejia *et al.* (2019) concluded that the transparency of actions positively affects the donor's decision.

Burkart *et al.* (2016) presented some funding categories, and these are associated with their performance objectives. These categories of donations are nature, source, destination, receipt, allocation, quantity, timing, speed, flexibility, variability, and unpredictability (Burkart *et al.*, 2016). Mendes (2019) analyzed the influence of the causes of disasters and concluded that donors are more inclined to donate in sudden-onset and natural disasters. The results found by Payne (2019) suggest that climatic events (natural disasters) generate more demonstrations of human solidarity than violent disasters.

Another relevant factor is the “donor agreement”, which mainly concerns how the donor wanted his donation to be used, which was also discussed in Burkart *et al.* (2016). The means of payment is also a factor that can influence the donation decision. According to research carried out by IDIS (2015), cash is the most convenient way to donate. Besides, this research also observed a rejection regarding payment methods linked to a bank account or credit card. Moreover, Ülkü *et al.* (2015) conclude that the longer the distance to deliver the in-kind donations to a HO, the more inclined the donor is to donate money.

Sudden onset disasters and natural causes, according to Mendes (2019), generate a more positive influence on donation decisions. In addition, supplies and clothing donations are more likely than cash donations in such disasters' scenarios (Mendes, 2019).

Factors that influence generous donations have been studied by Bennet and Kattasz (2000). These authors concluded that two groups motivate the donations: deserving of the beneficiaries – which can be created by images of poverty and vulnerability, starving children, and people who seek to help without assistance.

IDIS (2015) investigated that the more personal requests for donations, the more inconvenient donors believe to be the funding appeal. Despite this, the research developed by IDIS (2015) concluded that when well planned and executed, personal solicitation is fundamental to a process of trusting the donation.

Mendes (2019) identified that the most preferred method by a donor for monitoring donations is social media. In addition, Mendes (2019) analyzed the feedback options and concluded that donors believe that just one thank-you email is sufficient.

3 Research methodology

This paper presents an initial and exploratory research to identify the donor's behavior before and during the COVID-19 pandemic, and for this reason, it applies an initial sampling based on the steps indicated in a survey. This method is characterized by the evaluation of a sample of the population associated with the research problem and develops some initial propositions for practitioners and academic research (Stern *et al.*, 2014; Melo *et al.*, 2017). Forza (2002) indicates that a survey should be conducted structurally according to the six main steps: link to the theoretical level, project, pilot test, data collection for the theory test, data analysis, and report generation.

The first step is related to the theory and transforming the theoretical framework into definitions that guide the research objective (Forza, 2002). For this study, we considered the profile of donors before and after the COVID-19 pandemic has struck based on publications that discuss the main factors that influence decision making about donation. Therefore, the unit of analysis is the profile of donors before and after the start of the COVID-19 pandemic.

The second stage, the design, involves the definition of population and sample characteristics as well as the development of the research instrument (Forza, 2002). This research focuses on people who donate to different types of disasters and the factors that influence them to donate. The proposed questionnaire embraces two parts, namely: 1 - questions that addressed information about the respondent's profile; 2 - questions about donations. The first part of the questionnaire consists of 7 questions, namely: the first is related to the respondent's consent to that survey; questions 2 through 6 are related to the donor's profile; question 7 identifies the respondent's profiles: I. donated just before the start of the pandemic, II. donated only after the pandemic, III. donated before and after the beginning of the pandemic and IV. people who never donated. Considering the purpose of this research, only those in the profile III continued to the second part of the questionnaire that is mainly composed of questions structured in Likert scale of 5 points, varied according to the question, being: I disagree, never, unimportant / nothing willing/convenient (1) I even totally agree, always, very important/willing/convenient (5). A total of 14 factors were analyzed, resulting in 14 questions. For each of these factors, another question was asked to indicate whether there was a change before and after the pandemic. If the respondent answers yes, s/he should answer the same question for the post-pandemic scenario, and no additional question for those respondents who answer no. These questions will be presented in the next section.

The third step, the pilot test, focuses on investigating the suitability and adequacy of elements that support the instrument is conferred through simulation. In this sense, the objective is to develop complete instructions, glossaries, and even to adjust and refine the instrument's questions about form and content (Forza, 2002). This test was validated by five researchers in the humanitarian logistics area, with extensive experience in the subject, which resulted in technical adjustments in some questions.

The fourth step, the application of the survey, occurs in a way that the researcher has little control over the data collection (Forza, 2002). Data collection was carried out through the SurveyMonkey platform between May 20, 2020, and September 8, 2020. Due to the very specific populational group focused in the research and its exploratory nature, the analysis considers 30 complete responses from people who donated before and after the COVID-19 pandemic. Therefore, leaving out those who only donated before the pandemic, who only donated after the pandemic, and those who never donated. Other incomplete responses were also excluded from the analysis. It is also worth to mention that the respondents represent a non-probabilistic sample group and did not receive any incentive to engage the survey; which is a factor that may limit the survey participants (Stern et al., 2014).

The fifth stage, data analysis, is one of the most complexes since it directly involves adopting tools and statistical analyses that differ according to the purpose and nature of the data collected (dependency relations). Basic statistical techniques were applied in the data analysis stage, such as average and standard deviation, presenting the results according to the donor profile and the main influencing factors. In addition to these, the chi-square test was applied to test the consensus hypothesis among the respondents' responses. These hypotheses are H_0 that there is consensus between the behavior of respondents or H_1 that there is disagreement between the behavior of respondents, which is considered for all questions on the questionnaire.

The last step, the report generation, corresponds to the current document where the theoretical implications and perspectives for future studies are outlined (Forza, 2002).

4 Results

Most respondents reported to be in the age group between 30 and 49 years old (52%), be women (74%), be employees (37%), and have completed graduate school (59%). Table 1 presents the summary of a) factors that received higher averages, b) whether there is a consensus among respondents according to the chi-square test (alpha significance level of 95% to reject the null hypothesis as being true) regarding the options for each factor, and c) the perception of whether donor's perception of each factor changed before and after the COVID-19 pandemic onset. Questions 20 and 21 does not present the qui-square test as they are multiple-choice questions.

4.1 Analysis of factors that influence the decision to donate

Considering disaster awareness (#8), before and after the pandemic onset, respondents revealed consensus in the indication of the search for news and previous knowledge about disaster are the options in this factor that affect the decision to donate. Moreover, most respondents (74%) have indicated a different perception of this factor before and after the pandemic. This result corroborates with the literature which concluded that the theme influences the donations (Oosterhof *et al.*, 2009) and the literature, which indicates that different disaster scenario changed donors' perception (Ülkü *et al.*, 2015).

Regarding the frequency of donation to certain entities (#9), charities' organizations in general and NGO obtained greater attention on donor's preference, with increased concentration to these options after the pandemic. This situation resulted in a lack of consensus after the pandemic that can be explained by the reduced preference of religious institutions. This change in the scenario after the pandemic can also be a consequence explaining the 63% of respondents that confirmed a difference in this factor after the pandemic. Therefore, the result confirms the results of the literature on the importance of donation to charities (Oosterhof *et al.*, 2009; Bin-Nashwan *et al.*, 2020) and also that a different scenario, such a pandemic, influence in changing donors' perception (Ülkü *et al.*, 2015).

Table 1 Summary of donors' perception of factors affecting the decision to donate before and after the pandemic

Question	Factors with a higher average	Is there a consensus among respondents?		Is there a difference between the scenarios? Yes.
		Before the pandemic (p-value 95%)	After the pandemic (p-value 95%)	
#8. Regarding the occurrence of disasters before the pandemic, do you:	Search for news; previous knowledge about disasters	Yes	Yes	74%
#9. Before the pandemic, how often did you donate to:	Charities' organizations in general; NGO.	Yes	No	63%
#10. Classify according to the level of importance the factors that justified your donation before the start of the pandemic:	Helping those in need; impacting social reality and social concern.	Yes	No	22%
#11. Rate the importance of the different types of information when assessing the beneficiary's reliability of the donation you considered before the pandemic.	Transparency of actions and objectives; needs of beneficiaries.	Yes	Yes	37%
#12. What kind of cause do you usually donate to before the pandemic?	Epidemic.	Yes	Yes	48%
#13. Before the pandemic, you used to donate:	Money; hygiene items.	Yes	Yes	41%
#14. Before the pandemic, how often did you use the following payment methods for a cash donation:	Debit in the current account; transfer and bank deposits.	No	No	31%
#15. I believe that the option of money before the pandemic:	It was important; it is an act of solidarity.	Yes	Yes	19%
#16. Classify topics according to your agreement in the context prior to the pandemic:	Donations by their own initiative; donations to organizations that quickly allocate resources for response.	No	No	19%
#17. In cases of disasters of the following types, how willing were you to help before the pandemic:	Natural disasters: supplies; Human disasters: supplies, and clothing; Epidemics: supplies, and financial donation.	Yes	Yes	26%
#18. You were more likely to make a generous donation to a disaster emergency resource request before the pandemic if:	Donation to a third world country, which is often a disaster; donation to well-known and non-political institutions.	No	Yes	15%
#19. Classify the social media tools that were determinant in the search for information and requests for donations before the pandemic:	Social networks.	No	No	15%
#20. What means did you use to track what was accomplished with your donation?	Email with a balance of donations; search on websites of institutions; I do not search for information.	-	-	19%
21. What type of feedback did you expect at the end of the donation before the pandemic?	Thank you email.	-	-	11%

“Helping those in need” as well as “social concern” are the most essential options that justify the donation (#10), which corroborates to those of IDIS (2015). However, the options “feeling of well-being” and “moral obligation”, that were also highlighted by IDIS (2015) and Oosterhof *et al.* (2009), received medium attention from respondents. Despite that, the responses reveal no consensus in the scenario after the pandemic, although the majority of respondents (78%) indicated that the perception did not change before and after the pandemic. Therefore, this situation reveals the need for more investigation to detail further the reason for such variation in the post-pandemic scenario.

Three options were highlighted about organization reliability (#11): “transparency of the actions and objectives” and the “needs of the beneficiaries” – all before and after the pandemic start. The result for these options is a consensus among respondents and corroborates with previous findings related to the decision to donate (Sargeant *et al.*, 2006; Mejia *et al.*, 2019). Besides, 63% of the respondents indicated no difference in the preference between before and after the COVID-19 pandemic.

The causes of disasters (#12) showed a small difference between the scenarios in the donor’s preferences. The pandemic was a consensus among respondents related to the disaster that showed greater interest in donations after the start of COVID-19, followed by human and natural disasters that inverted the preference in the scenarios before and after the pandemic onset. Despite the consensus, 52% of respondents reported that there was no change between the scenarios. Thus, while this result does not represent an indication that this factor significantly changed before and after the pandemic, the specific preference on epidemic (which is also a natural disaster) reinforce previous findings that observed a higher relevance of natural disaster in general in donors’ perception (Mendes, 2019; Payne, 2019).

Considering the different funding categories (#13), on the one hand, the preference for donation in cash increased after the pandemic, on the other hand, the choice for other supplies reduced after the pandemic. Nevertheless, money and hygiene items received greater attention in both scenarios – before and after the pandemic. This result differs from previous findings that identified a favorable inclination to donate general supplies over financial resources for natural disasters (Mendes, 2019). These results represent a consensus among respondents, although 59% of them have stated that there was no difference between the scenarios.

As for the payment method of donations (#14), despite the higher average of debit in the current account and also transfer and bank deposits, there is no consensus among respondents before and after the pandemic. Previous research (2015) stressed cash as the most crucial factor in the payment method, which differs from the current research. Considering that there is no change in this factor after the pandemic by 69% of respondents, the lack of consensus regarding the payment method is indeed something that remained diverse before and after the pandemic, and this finding consequently demands further investigation.

Regarding the donation of money (#15), as presented in Table 1, the respondents believe that it is essential and also an act of solidarity. This result reinforces previous findings of the financial donation (2015). Moreover, the consensus between responses in the two scenarios, and the high rate of respondents (81%) that kept the same perception before and after the pandemic reinforce the evidence that this factor did not change before and after the pandemic.

Regarding the analysis of donor agreement on the organizational freedom on resource allocation (#16), the results present higher preference on the option “Donations by their own initiative” and “donations to organizations that quickly allocate resources for response” in the scenarios before and after the pandemic onset. These results were not consensual in either scenario, although a high rate of respondents (81%) indicates maintaining the same perception before and after the pandemic. This result differed from Burkart *et al.* (2016), where the pre-positioning of resources and disaster preparedness or response appeared as decisive factors. Therefore, such contradictive results reveal the need for more investigation on this factor.

Considering the combination of the type of disaster and different supplies (#17), the results show supplies as relevant in all disaster types, which are combined with clothing and financial donation in human disaster and epidemics, respectively. These findings were consensual among respondents in both scenarios and, a high rate (74%) reported having the same perception before and after the start of the pandemic. This result corroborates with previous findings that suggest physical donation and monetary

donation in different disaster types (Mendes, 2019), and, therefore, this is not a factor that changed with the pandemic.

Regarding the provision of generous donations (#18), the results revealed a higher focus on donation to third world countries and to well-known and non-political institutions. Although there is no consensus among respondents on the first scenario, in the scenario after the pandemic has started, the results show consensus and 85% answered that they maintain the same perception before and after the pandemic. Despite such inconsistency in the scenario before the pandemic, the results corroborate with Bennet and Kattasz (2000), especially after the pandemic.

Social networks came up with the social media tool that most influences donors (#19) in both scenarios, although there is no consensus among respondents also in both scenarios. Further analysis of this factor reveals that more personal approaches, such as telephone calls, SMS and direct approach presented as lower averages in both scenarios, as well as previous research (IDIS, 2015). Such a lack of consensus in each scenario is also reinforced by the perception that this factor is the same before and after the disaster for 85% of the respondents. Nevertheless, the results do not add new insights for HO and do not corroborate to any perception that this factor changes according to different disaster scenarios (Ülkü *et al.*, 2015).

Regarding the approach to monitor donations (#20), the current results revealed a high number of donors that do not search for information after the donation, and for those who track their donations, they search in the institution's website and through emails with a balance of the operations. This result corroborates previous findings, such as Mendes (2019), where social media was the preferred tool for monitoring donations. In addition, 81% of the respondents indicated to have the same perception in both scenarios, before and after the pandemic.

Considering the expected feedback from each donor (#21), in both scenarios, the majority of respondents reported that they expected to receive a thank you email, as well as in previous research (Mendes, 2019). This topic remained the same for almost all respondents (89%) considering the different scenarios.

4.2 Recommendations for HO and future research

The analysis of the 14 factors in Table 1 and previous subsection provides more details about the changes in the decision to donate in the scenario after the COVID-19 pandemic, which consequently helps HO to improve their funding raising campaigns. The order of factors that mostly changed in the scenario after the pandemic according the respondents' perception is: #8, #9, #12, #13, #11, #14, #17, #10, #15, #16, #20, #19, #18, and #21. In this sense, such organizations might consider to focus on previous knowledge about disasters and search for news (#8) as well as their configurations as charities' organizations in general or NGO (#9). Moreover, any revision of fundraising campaigns from HO should consider the focus on epidemics (#12) and the focus on the donation of hygiene items and money (#13). The organization needs to demonstrate reliability in terms of transparency of actions and objectives and also to deal with the needs of the beneficiaries (#11), which would also contribute to receive the financial donation through banking transfers (#14). The funding raising campaigns should also focus on hygiene and financial donation (#17) and the demonstration to help those in need; impacting social reality and social concern (#10). In addition, HO should indicate that the donation is important and an act of solidarity (#15) and also to focus on both people who donate by their own initiative and people who consider a donation to organizations with a quick allocation of resources to disaster response (#16). Lastly, HO should consider making available the data related to what was done with the donations on the institution's websites (#20) and posting in social networks (#19), with emphasis when the donation is allocated in third world country operations or that the donation is allocated to well-known and non-political institutions (#18) with a final thanking email (#21).

Despite this general recommendation for HO, only 6 factors (#8, #11, #12, #13, #15 and #17) achieved, in fact, a consensus among respondents in both scenarios. Besides that, one factor (#18) reached consensus only in the second scenario – after the pandemic has started – which indicates some consistency in the current situation that is the idea for consideration in an eventual revision of a funding

campaign. Other 2 factors (#9 and #10) achieved consensus among respondent only in the first scenario – before the pandemic – which brings lower evidence on consistency to be considered in any revision of funding raising campaign by HO. Finally, 3 factors (#14, #16 and #19) achieved no consensus in both scenarios, and for this reason, any recommendation on this regard should be taken slightly as the evidence from respondents is not consistent.

All of the factors that did not achieve consensus among respondents in either one or both scenarios (before and after the pandemic) requires further investigation to explore the reasons for this behavior. Besides that, only 2 factors (#8 and #9) out of 14 factors were directly reported to have changed after the COVID-19 pandemic by a high number of respondents. Moreover, the detailed comparison between the current and previous research revealed different results for some factors (#10, #13, #14, #15, #16), which can be assumed as indirect evidence of change in the decision to donate based on the pandemic scenario. Therefore, while previous research indicates that donor's decision changes according to different scenarios (Ülkü *et al.*, 2015), the current research presents direct and indirect evidence that corroborate to such discussion in terms of 7 out of 14 factors investigated in the current research. In this sense, the current research already presents some insights based on the indication that other options are responsible for the lack of consensus or difference from previous findings. For this reason future research with a larger number of respondents might confirm either the divergence on these factors or indicate some convergence; other data collection techniques (e.g., focus groups or interviews) could also help to confirm the current findings.

5 Conclusions

This research investigates if the decision to donate has changed due to the COVID-19 pandemic. Based on an exploratory research that consisted of collecting data through a questionnaire, this paper summarizes 14 factors according to respondents that donated either before and after the pandemic onset. The results revealed a profile of respondents that is composed of a majority of women, between 30 and 49 years old, employees and that have completed graduate school – this profile is obtained through questions #1 up to #7. The investigation of the factors that affect the decision to donate revealed consistency in respondents' perception for the following six factors in both scenarios: disaster awareness (#8), organization reliability (#11), causes of disaster (#12), funding categories (#13), donation of money (#15), and combination of the type of disaster and different supplies (#17). All other factors presented some inconsistency only in the scenario after the pandemic, only in the scenario before the pandemic, and in both scenarios. Despite these different levels of confidence, the current research also provided an order of factors based on their change before and after the pandemic. Consequently, this order and the specific options indicated as more relevant in the respondents' perception might be incorporated by the HO in eventual revisions on their fundraising campaigns considering the current scenario of COVID-19 pandemic.

Our findings are similar results to the ones from previous research in terms of 9 out of 14 factors, namely: disaster awareness, frequency of donation, organization reliability, causes of the disaster, type of cause-related to donation, generous donation, donation request tools, donation monitoring and donation feedback. The 5 factors that diverged from the literature were: influencing factors for donation, funding categories, method of donations, donation of money, and donor agreement on the organizational freedom on resource allocation. These 5 factors represent indirect evidence of change in the decision to donate after the pandemic, which combined with the other 2 factors that respondents indicated directly to change after the pandemic (#8 and #9), representing a total of 7 out of 14 factors with some evidence that corroborate the perception that different disaster scenarios affect the decision to donate (Ülkü *et al.*, 2015).

On the one hand, the research presents some similarities with previous surveys about donors' behavior and a statistical consensus among the respondents based on the chi square test. On the other hand, it acknowledges limitations regarding the sample size considered in the survey and the exploratory approach for addressing the topic of donors' behavior changes considering the recent scenario of the

COVID-19 pandemic. Therefore, the suggestions for future research involves the validation of the findings by the increasing of the sample and other data collection techniques such as interviews and focus groups, as well as more in-depth statistical analysis. Another suggestion is to carry out new analyzes with the factors that showed disagreements among the respondents so that they can conclude and thus, in fact, be able to contribute to the improvement of collection campaigns. In addition to these, future research may apply the surveys with donors from specific organizations and compare their results with the current research.

6 References

- Bennett, R., Kottasz, R. (2000) Emergency fundraising for disaster relief. *Disaster Prevention and Management: An International Journal*, 9(5):352-360.
- Bin-Nashwan, S. A., Al-Daihani, M., Abdul-Jabbar, H., Al-Taffi, L. H. A. (2020) Social solidarity amid the COVID-19 outbreak: fundraising campaigns and donors' attitudes. *International Journal of Sociology and Social Policy*, doi. <https://doi.org/10.1108/IJSSP-05-2020-0173>
- Burkart, C., Besiou, M., Wakolbinger, T. (2016) The funding—Humanitarian supply chain interface. *Surveys in Operations Research and Management Science*, 21(2): 31-45.
- CRED, Centre of Research for the Epidemiology of Disasters (2020) Disaster Year in Review 2019, available at: <https://www.cred.be/publications> (accessed 31 August 2020).
- Da Costa, F. M., Daré, P. R. C., Veloso, A. R. (2004) From consumer behavior to donor behavior: Adapting marketing concepts. *Brazilian Business Review*, 1(1):45-52
- Forza, C. (2002) Survey research in operations management: a process-based perspective. *International Journal of Operations & Production Management*, 22(2):152-194.
- IDIS, Instituto pelo Desenvolvimento do Investimento Social (2015) Pesquisa Doação Brasil, available at: <https://www.idis.org.br/pesquisa-doacao-brasil> (accessed 06 September 2020)
- Melo, P. de O., de Britto, R. M., Fontainha, T. C., Leiras, A., Bandeira, R. A. de M. (2017) Evaluation of community leaders' perception regarding Alerta Rio, the warning system for landslides caused by heavy rains in Rio de Janeiro. *Natural hazards*, 89:1343-1368.
- Mejia, J., Urrea, G., Pedraza-Martinez, A. J. (2019) Operational Transparency on Crowdfunding Platforms: Effect on Donations for Emergency Response. *Production and Operations Management*, 28(7):1773-1791.
- Mendes, D. M. G. (2019). Avaliação da aceitabilidade de um sistema de apoio à logística humanitária. Dissertação de mestrado em Engenharia de Produção. Departamento de Engenharia Industrial, Pontifícia Universidade Católica do Rio de Janeiro.
- ONU, Organização das Nações Unidas (2020) Global Humanitarian Response Plan COVID-19, available at: https://interagencystandingcommittee.org/system/files/2020-03/Global%20Humanitarian%20Response%20Plan%20COVID-19_1.pdf (accessed 01 September 2020)
- Oosterhof, L., Heuvelman, A., Peters, O. (2009) Donation to disaster relief campaigns: Underlying social cognitive factors exposed". *Evaluation and program planning*, Vol. 32 No.2, pp. 148-157.
- Payne, J. (2019) Community Responses to Mass Casualty Events: A Mixed Method Approach. Doctoral Dissertation of Philosophy. School of Politics, Security and International Affairs in the College of Sciences at the University of Central Florida Orlando, Florida.
- Sargeant, A., Ford, J. B., West, D. C. (2006) Perceptual determinants of nonprofit giving behavior. *Journal of business research*, 59(2):155-165.
- Stern, M. J., Bilgen, I., Dillman, D. A. (2014) The state of survey methodology: Challenges, dilemmas, and new frontiers in the era of the tailored design. *Field Methods*, 26(3):284-301.
- Ülkü, M. A., Bell, K. M., Wilson, S. G. (2015) Modeling the impact of donor behavior on humanitarian aid operations. *Annals of Operations Research*, 230(1):153-168.
- WFP, World Food Programme (2020) Risk of hunger pandemic as COVID-19 set to almost double acute hunger by end of 2020, available at: <https://insight.wfp.org/covid-19-will-almost-double-people-in-acute-hunger-by-end-of-2020-59df0c4a8072> (accessed 01 September 2020).
- Worldometer (2020) COVID-19 CORONAVIRUS PANDEMIC, available at: <https://www.worldometers.info/coronavirus/> (accessed 29 September 2020).