Promoting Community Resilience During Covid-19 Crises using Donation-Based Crowdfunding: Developing A Conceptual Model

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ABSTRACT

The COVID-19 pandemic resulted in several restrictions to tackle the spread of the virus, including a series of nation-wide lockdowns. The pandemic hindered the lives of people across different communities, especially the marginalised and vulnerable groups. This underscored the need for resilience at various levels. For the purpose of building resilience, several donation-based crowdfunding campaigns were launched to provide support and relief to the affected communities. Previous studies have endorsed the idea of resilience based on geographical boundaries of a particular community; however, this study supports the modern-day view of communities based on interests and circumstances. The objective of this study is to explore how donation-based crowdfunding has been used to promote and support the initiative of community resilience during Covid-19 pandemic in India. The findings are based on the thematic analysis of 94 donation-based crowdfunding campaigns from India. The findings reveal that crowdfunding helps create equality of financial and social resources among various communities, especially marginalised groups, which in turn improves the chances of resilience. Further, it presents a conceptual model depicting the different strategies adopted for promoting resilience via crowdfunding. It highlights the rationale of fundraising, resilience planning, and implementation.

Keywords – Covid-19, Donation-based crowdfunding, Community resilience

1. INTRODUCTION

The COVID-19 pandemic has led to widespread disturbances that have not only caused a nationwide medical emergency but also resulted in economic loss. The ill-effects of the pandemic led to a scarcity of resources among different communities, which in turn hampered resilience and recovery support. Norris et al. (2008) have highlighted that in order to become resilient, communities must create economic resources, minimise risk and resource disparities, and address their most vulnerable social sectors. Thus, to support resilience among the multiple communities, several organisations and individuals launched donation-based crowdfunding campaigns with the aim of undertaking a varied range of resilience initiatives. It enables liberty and equality for raising financial capital, which are essential for modern-day community resilience practices (Sakurai & Chugtai, 2020). Furthermore, Özdemir et al. (2015) demonstrated how economies with a large population base can use crowdfunding to mobilise financial resources to manage crisis. Moreover, as per a report by Bain and Company (2020), domestic philanthropic activity in India has increased twofold in the past decade. Thus, crowdfunding in India can be advantageous due to the country's large population base and can be widely used to support resilience initiatives. Thus, this study holds relevance in understanding the role and effectiveness of donation-based crowdfunding in supporting community resilience in India in the post-pandemic scenario.

Most of the previous studies linking crowdfunding with Covid-19 have limited their findings to the different initiatives for which funds were raised. This study conducts an in-depth analysis of crowdfunding campaigns to examine the motives for resilience and different strategies planned using donation-based crowdfunding. Therefore, the current study has the following research objectives:

i)   To ascertain the different motives and strategies for promoting resilience.

ii)   To develop a conceptual model explaining the role of donation-based crowdfunding and resilience.

The research focuses on the effectiveness of crowdfunding in fostering resilience among Indian communities affected by the pandemic. Communities can be identified based on their interests and circumstances. This study considered the

resilience planned based on the modern concept of community as drawn from the findings of Ntontis et al. (2018) and Robertson et al. (2021)

2. THEORETICAL CONTEXT

2.1. *Community Resilience*

Resilience is defined as the ability to recover from or respond to adversity constructively. The strengths of the community are central to community resilience. Rather than being concerned with stability, resilience is concerned with adaptation. It encompasses not only change management, but also community transformation in the face of adversity (Norris et al., 2008; Koliou et al., 2018). Furthermore, it is not about controlling unpredictable environments, but about working together to solve the problem (Magis, 2010; Matarrita-Cascante et al., 2016). The scale of resilience initiatives varies from local to national level (Koliou et al., 2018). Previous studies have supported that resilience can be achieved by promoting various initiatives Chuang et al. (2018) have highlighted that the sustainability of the livelihoods of community members is also a form of resilience. Awareness and citizen engagement can reduce the ill-effect of citizen misinformation which act as a barrier to positive recovery and resilience (Berkes & Ross, 2013; Sakurai & Chugtai, 2020). Communities with more tangible resources and economic capital will achieve better resilience (Paarlberg et al., 2020). Further, Sakurai & Chugtai (2020) advocate for the use of technologies for long-term resilience practices. Crowdfunding is a fintech practice that can resolve the issue of limited access to financial resources at the time of crises and promote better resilience.

The study adopts the modern-day view of what comprises a community to map the planned resilience. The concept of community has evolved over time. Norris et al. (2008) has described a community as an entity defined by geographical boundaries and a common purpose. However, Robertson et al. (2021) have highlighted how communities in the modern digital world are not geographically limited. Also, the rise of social networks has resulted in the formation of virtual communities that are not bound by geographical boundaries (Cinderby et al., 2014). According to Ntontis et al. (2018), communities can be distinguished based on the issues a particular group is facing.

Covid-19 pandemic led to the shift in the conventional resilience methods. Robertson et al. (2021) provided a more modern perspective on community resilience, arguing that, in addition to natural disasters such as earthquakes, floods, and fires, disturbances or adversities also include disease epidemics, social upheaval, or events leading to economic depression. Moreover, a community with established tangible resources can achieve greater resilience (Vaneeckhaute et al., 2017). Resources, such as human, social, and financial resources, are necessary to achieve resilience (Patel et al., 2017; Koliou et al., 2018). In the aftermath of the pandemic it was observed that the accessiblity to these resources was adversely effected. Donation-based crowdfunding provided the access to the essential

2.2. *Crowdfunding and Covid-19*

Donation-based crowdfunding is regarded as an effective method of raising funds for philanthropic (Younkin & Kashkooli, 2016; Beaulieu et al., 2015; Agrawal et al., 2014) activities and social ventures that focus on creating social benefits rather than profits (Meysken & Bird, 2015). Crowdfunding has been used as a method of resilience planning to mitigate the adverse effects of the pandemic in other countries as well. The number of crowdfunding campaigns increased as the pandemic situation worsened across the world (Paarlberg et al., 2020; Moine & Papiasse, 2020; Rajwa et al., 2020; Elmer et al., 2021). The analysis of donation and reward-based crowdfunding platforms in France outlines the use of crowdfunding to support healthcare workers, vulnerable populations, and other organisations (Moine & Papiasse, 2020). In the USA, donation-based crowdfunding was used to raise funds for arranging food supplies, protective kits, and community charities supporting unemployed people (Rajwa et al., 2020; Elmer et al., 2021). Moreover, donation-based crowdfunding platforms witnessed a surge in the number of COVID-19-related campaigns to support local communities, medical workers, small businesses, and personal medical and funeral expenses (Saleh et al., 2021). Manganiello and Dragulanescu (2021) highlighted the case of an Italian equity crowdfunding platform where investors are more willing to support projects with sustainable orientations after COVID-19.

3. MATERIALS AND METHODS

3.1. Sample Selection

A sample of crowdfunding campaigns was selected from a donation-based crowdfunding platform operating in India, which hosts a large number of campaigns. The sample consisted of donation-based crowdfunding campaigns raising funds for conducting resilience initiatives among communities affected by the consequences of the COVID-19 pandemic. A keyword search was conducted to identify and select a sample of COVID-19-related campaigns. Around 10 keywords were used to search for the campaign with the titles, which include words such as 'corona,' 'covid,' 'coronavirus,' 'virus,' 'pandemic,' 'lockdown,' 'job loss,' 'shortage,' 'hunger,' and 'frontline.' Besides, each campaign was manually screened to ensure that the selected campaigns had been initiated as a response to the pandemic situation and its aftereffects. Moreover, only those campaigns were selected that have a target goal of INR 1 lakh and above to maintain the focus on the initiatives that have a large scale of coverage. A total of 204 campaigns were identified, out of which the multiple campaigns with the same textual description were excluded to reduce the data redundancy. The final dataset comprises 94 donation-based campaigns that had been completed, whether successfully or not.

After the desired campaigns were selected, the textual descriptions of all the campaigns were extracted into separate word files marked with a particular campaign ID. The study is based on the data collected from crowdfunding campaigns that are publicly accessible on crowdfunding platforms. However, any details revealing the identity of the campaigner have been anonymized to protect their privacy as a part of ethical conduct (Jin, 2019).

3.2. Data Analysis

This study adopts the qualitative data analysis technique of thematic analysis to comprehend how donation-based crowdfunding has been used to foster resilience among the communities adversely affected by the consequences of the pandemic. Thematic analysis has been used to identify patterns in campaign descriptions extracted based on in-depth coding (Braun & Clarke, 2006) by adopting an inductive approach. In order to understand how donation-based crowdfunding has been used to promote resilience among the communities negatively impacted by the pandemic's aftermath, this study employs the qualitative data analysis technique of theme analysis. Using an inductive method, thematic analysis has been utilised to find patterns in campaign descriptions that were retrieved from in-depth coding (Braun & Clarke, 2006).

The qualitative data analysis software MAXQDA Pro has been used for conducting thematic analysis. Three coding cycles—the initial, axial, and thematic—were used to code the campaign descriptions. Authors used in-vivo and open-coding methods to code the textual material in the first coding cycle. Axial coding was a part of the second coding cycle, in which earlier codes were arranged into cohesive codes. Separate codesheets were generated by each author for the first and second coding rounds, which were carried out independently. Next, the individual codes created by the two authors were matched, and the codes that were consistent across codesheets were kept. The final step in the third coding cycle involved grouping codes into major themes by using the patterns and commonalities discovered in the codes created in the two preceding coding cycles as depicted in table 1. Based on the similar patterns that both authors had seen, an in-depth discussion led to the creation of central themes.

Table 1: Codebook Depicting Different Cycles of Coding

Initial codes	Axial Codes	Themes
Empowering, enhancing dignities, fair treatment	Empowerment	**Motives** (Need for resilience)
Food shortage, stranded, famine state, lack of hygiene	Lack of necessities	
Starvation, undernutrition, hunger, malnourished	Hunger and malnutrition	
Lack of facilities, private bills, overwhelmed hospitals, rural healthcare	Lack of healthcare	
PPE, masks, face shields, shortage of beds, ventilators	Shortage of medical supplies	

Without work, out of job, no support, affected livelihoods, no work, no income	Loss of livelihood	
No school	Loss of education	
Stranded, no buses, walking home, no transport	Migrant crisis	
No support, business closure, feeling insecure, scared, hopelessness	Uncertainty	
Rescue shelter, feed animal, meals for animal, injured animals	Animal rescue	**Objectives** (Issues to be resolved)
Awareness, sensitise, educate them, hygiene training	Awareness	
Feed them, meals, education, communication, shelter, transportation, medical	Necessities	
Distributing kits, providing masks, upgrade facilities, donate PPE, supply gears	Medical equipment	
Re-creation, work on recovery, skill training, employability	Rebuilding livelihood	
Sustain them, monthly approach, financial support, supply for days	Sustenance	
Distribution drive, logistics, supply chain, mobilisation, delivery, sourcing, transportation	Distribution	**Strategies** (Plan of action)
Per family, per meal, cost, expenses, INR values	Cost	
Doctor visit, treatment, fee concession, ambulance service	Healthcare facilities	
Material procurement, designing, quality assurance, manufacture, making	Manufacturing medical supplies	
Local vendors, community volunteers, NGO, local business, government administrations, village administration	Network	
Dry ration kit, hygiene kit, cooked meals	Provision of supplies	
Collaboration, support of vendors, help in supplies	Supporting local business	

4. FINDINGS

4.1. Overview

Donation-based crowdfunding has been used to promote resilience activities for various communities that were not limited to a geographical location but were recognized based on some common characteristics. Figure 1 depicts the various communities for which crowdfunding campaigns were launched. The communities that have been identified are not just limited to a geographical area but are also identified by people who share similar circumstances and experiences.
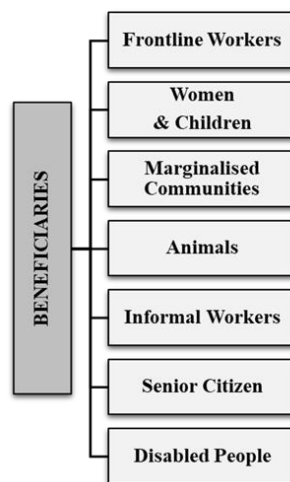

Figure 1: Communities Needing Resilience Support

Furthermore, the resilience initiatives focused on raising funds for people residing in metropolitan cities, Tier II cities, and rural areas. The resilience was planned by the organizations as a not-for-profit initiative as well as the group of individuals. An in-depth thematic analysis of the campaigns highlighted three main central themes: motives behind the campaign, resilience objectives, and strategies adopted to promote the intended resilience.

4.2.   Theme 1: Motive

A large number of initiatives aimed to support the people who had lost their livelihoods. The unexpected lockdown resulted in massive unemployment, particularly among informal workers. This led to a situation of uncertainty and a shortage of necessities. This led to a chain reaction of wide-scale mobilisation of informal workers from cities to their native places. The lack of transportation and financial resources prompted the need for resilience. Initiatives were also needed to resolve the problem of hunger and malnutrition resulting from a shortage of food supplies. Another focal point for resilience was the lack of healthcare facilities and medical equipment to reduce the probable pressure on the healthcare sector. The empowerment of workers, disabled people, and women was another concern for raising funds through crowdfunding. Table 2 highlights the sub-themes with corresponding evidence representing motives for planning resilience.

Table 2: Sub-Themes Representing the Motives for Fundraising

Sub-themes	Evidences
Loss of livelihood	● '*Suddenly left jobless, their lives and livelihoods have gone haywire and are staring at a highly uncertain future.*' (ID 64)
Migrant crisis	● '*…seeking funds for arranging buses to send the migrant workers home.*' (ID 57)
Lack of necessities	● '*Children are malnourished, adults are growing weaker by the day…*' (ID 51)
Shortage of medical supplies	● '*Most doctors and nurses are treating patients without wearing PPE…they are forced to not take off the suits (even to use restrooms) for at least 6 hours as they cannot be reused.*' (ID 36) ● '*grappling against time to upgrade our facilities to treat Covid19 patients*' (ID 28)

4.3.   Theme 2: Objectives

A prominent objective for resilience addressed the issue of providing basic necessities such as food, sanitary ware, communication facilities, transportation, shelter, and education to informal workers and marginalized communities. Initiatives ensured the supply of food and essentials to those who had no financial support. Besides supplying food, another essential service was quality healthcare. Initiatives were planned to provide basic medical facilities to those in need, along with support for the mental well-being of the beneficiaries. Certain initiatives are intended to rebuild livelihoods by providing skill training, debt management, financial support, and arranging for employment opportunities locally. Resilience was directed towards building sustainable support to the affected communities. Moreover, resilience building among the healthcare community aims to ensure the supply of medical kits and upgrade the existing medical infrastructure at the local hospitals to tackle the rising cases of infection. Resilience had been planned for arranging food and medical treatment for stray animals. A few initiatives promoted awareness about COVID-19 and precautions, as well as sensitizing people about hygiene habits. Table 3 highlights the sub-themes with corresponding evidence.

Table 3: Sub-Themes Representing the Objectives for Supporting Resilience

Sub-themes	Evidences
Necessities	● '*The focus is on providing cooked food for the homeless as well as providing dry ration packets to stranded migrant workers…*' (ID 23)

	● *'Only through your generous donations can these poor craftsmen feed their family'* (ID 90) ● *'…provide access to nutrition and healthcare (physical and mental)'* (ID 63)
Rebuilding livelihood	● *'…seek to rebuild livelihoods using financial assistance, skill training and market linkages'* (ID 12)
Medical equipment	● *'Funds will be used for critical infrastructure like Sanitization Tunnels/Booths to be installed at hospitals based on their SOS requirement requests'* (ID 32)
Sustenance	● *'…surviving the lockdown…'* (ID 47) ● *'…Stocking up…'* (ID 15) ● *'…sustain themselves…'* (ID 43) ● *'…until they can return to work…'* (ID 52)

4.4. Theme 3: Strategies

A major strategy for building resilience among the communities facing food shortages was to provide packages of food, either in the form of cooked meals or dry ration kits, depending upon the accessibility of cooking facilities. A small hygiene kit was also distributed. Such initiatives ensured the sustenance of the affected families. For easy access to healthcare, a few initiatives provided ambulance services, free hospital beds, fee concessions, and door-step medical services. Promoting innovative technological solutions to resolve the issue of the lack of medical equipment was an effective strategy to build resilience quickly and with limited funds. Innovative solutions were related to the manufacturing of medical supplies was the use of open-source designs and 3D print technology to reduce the cost and time for delivery. Besides, it enhances the combined efforts of all manufacturers to produce more equipment. These additional efforts not only benefited the raw material suppliers but also the frontline workers.

Furthermore, several initiatives demonstrated the strategies for creating a well-structured chain of logistics by putting to use the techniques of crowd logistics, cloud kitchens, and localization of supply chains. Logistics is not limited to the distribution of supplies but also includes the procurement of supplies. Another effective strategy for successful execution of planned resilience initiatives was the development of a network of different agencies, which were created by associating either with government agencies (at state or district levels) or with local community members and funders. The creation of a network of various agencies through partnerships with state or local government agencies, local community members, and donors proved to be another successful approach for carrying out planned resilience projects. Partnerships with local vendors, NGOs, and volunteers were required for distribution as well as the procurement of supplies. Lastly, some initiatives ensured transparency in the usage of the funds by specifying the estimated expenditure for the funds raised through crowdfunding. Table 4 highlights the sub-themes with corresponding evidence representing the adopted strategies for building resilience.

Table 4: Sub-Themes Representing the Strategies Adopt for Executing Resilience Activities

Sub-themes	Evidences
Provision of supplies	● *'Rice - 10 kgs, Atta - 10 kgs, Dal - 4 kg, Potatoes - 2 kgs, Onions - 1 kg, Cooking Oil - 2 litres, Salt - 1 kg, Chilli Powder - 200 gms, Sugar - 1 kg, Disinfectant Hand Soap - 2 bars, Washing Soap - 1 bar'* (ID 1)
Healthcare facilities	● *'…rendering doorstep service to critically ill senior citizens, assisting them with doctors, hospitalization & care takers…'* (ID 3)
Manufacturing medical supplies	● *'Our design and R&D teams are working on validating 3D Printable designs…improving healthcare bandwidth, manufacturing protective equipment.'* (ID 73) ● *'…make the design open-source and have been looking at activating labs across India to be able to make many more face shields.'* (ID 82)
Network	● *'network of community feeders'* (ID 25)

	• *'...consulted the Village Administrative Officer and the Panchayat to draft a plan for the distribution of masks'* (ID 78) • *'team of rural women volunteers'* (ID 61) was providing relief aid to the workers along with local grocery stores and government agencies
Logistics	• *'…local logistics...'* (ID 17) • *'...arranged in-house and outsourced cooking, thus reducing the dependence on scarce and expensive processed foods...'* (ID 25) • *'…hyper-local supply chain by pooling our customer's resources...'* (ID 73)
Supporting local business	• *'Monies will directly be transferred to the Kirana stores, in most cases, from where the dabbawala will pick his ration'* (ID 59) • *'…has collaborated with local caterers to help cook and pack tiffins...'* (ID 9)

5. CONCEPTUAL MODEL

The study proposed a conceptual model depicting the relationship between crowdfunding and the process of resilience building. The model explains at what stage of resilience building crowdfunding can be used to improve the overall process of resilience. The model depicts that crowdfunding can be used to mitigate the adversity of resources, along with supporting the implementation of resilience strategies through social cohesiveness and promoting entrepreneurial resilience to make community resilience more effective. Crowdfunding has been used as a mechanism for building resilience and supporting strategic initiatives, as shown in Figure 2. Building resilience among the affected communities requires optimal deployment of physical, human, and financial resources. Crowdfunding is an effective way of procuring financial resources along with creating a network of volunteers, leading to efficient human resources.
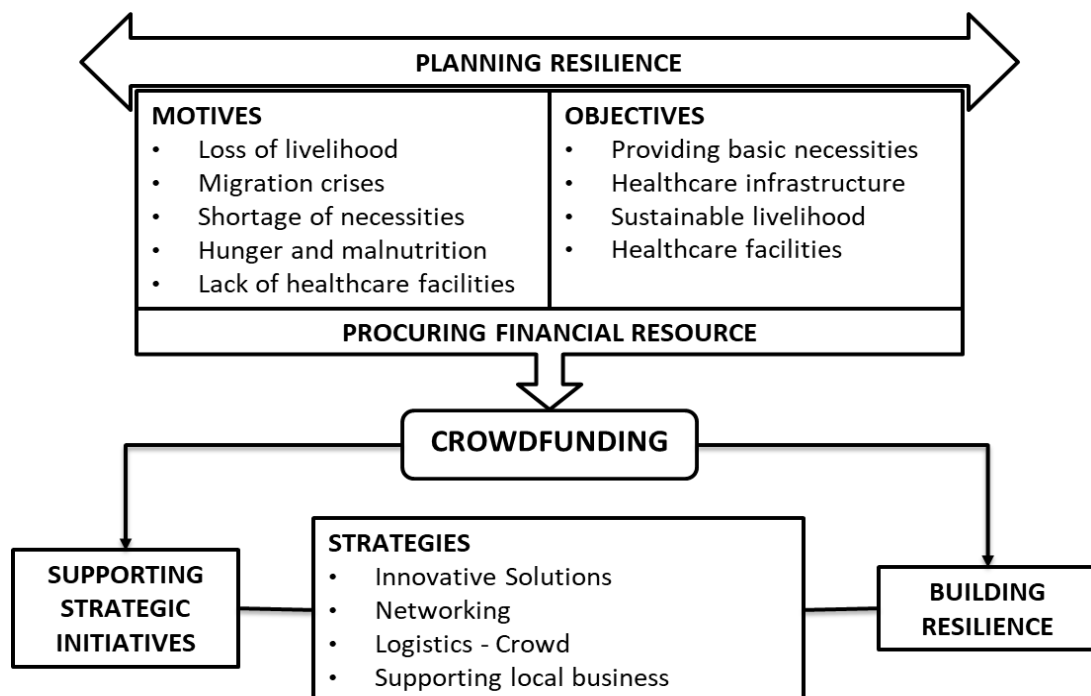

Figure 2: Conceptual Model of Crowdfunding and Community Resilience

6. DISCUSSION

The current study answers the research objectives by analysing donation-based campaigns and the solutions offered for building resilience under these campaigns. Crowdfunding had enabled resilience beyond geographical boundaries through the mobilisation of funds. Accessibility to financial resources has strengthened the resilience building process. The finding conforms to the result given by Cavaye and Ross (2019).

The findings highlighted that establishing a network of government agencies and partnerships at the local and community levels is considered a strong resilience strategy. This is in line with the findings given by Norris et al. (2008), Patel et al. (2017), Koliou et al. (2018), Sakurai & Chugtai (2020), Xu et al. (2020), Yip et al. (2021), Fransen et al. (2021) and Robertson et al. (2021). Moreover, the analysis revealed that initiatives promoting creation of employment opportunities at native places was a prominent way of rebuilding the lost livelihoods and in turn promoting sustainable resilience. Similar results were also concluded by Yip et al. (2021), Patel et al. (2017), and Berkes & Ross (2013). The findings also highlighted that crowdfunding also served as a way of garnering social support and boosting social capital which is in line with the results of Norris et al. (2008), Berkes & Ross (2013) and Bento et al., (2021). Lastly, the current study also extends to the findings of research done on crowdfunding and COVID-19 in various other countries, such as Moine & Papiasse (2020), Rajwa et al. (2020), Elmer et al. (2021), and Saleh et al. (2021). Donation-based crowdfunding aided in accumulating economic capital for community resilience for affected communities through the transfer of funds from wealthy to poor communities. This also supports the concept of social cohesiveness for community resilience, which has also been reported by Paarlberg et al. (2020), Yip et al. (2021) and Jewett et al. (2021).

7. CONCLUSION AND IMPLICATIONS

Crowdfunding has enabled community resilience beyond geographical boundaries through the mobilisation of funds. Donation-based crowdfunding can be effectively used to garner financial support in emergencies such as a pandemic or natural disaster. Donation-based campaigns seek funds to support different resilience initiatives and outline different strategies to achieve effective resilience. Strategies planned for relief and recovery entail the balance of human, social, and financial resources for achieving higher resilience. Donation-based crowdfunding not only provided quick access to the financial resource but also led to human collaboration which facilitated the mobilisation of other essential supplies which supported stronger resilience. Consequently, this study addressed a knowledge gap by demonstrating how donation-based crowdfunding can support community resilience by strengthening financial and social capital.

Like every other research study, this study also has a few limitations. First, the data has been collected from a single donation-based crowdfunding platform. By expanding the selection of campaigns to other donation-based crowdfunding platforms, we can highlight more possibilities of using crowdfunding as a response mechanism. Second, it is focused on a donation-based crowdfunding model to analyse the response to the COVID-19 situation in India. However, the application of donation-based crowdfunding is limited to initiatives that have no profit motive and are generally non-commercial. Therefore, there is a need to study the reward-based crowdfunding model to ascertain its effectiveness in reviving small-scale industries or start-ups. Furthermore, an in-depth interview with the campaigners can reveal the usefulness of donation-based crowdfunding as an aid in building community resilience.

The current study has theoretical as well as strategic implications. It adds theoretical value to the literature of community resilience by indicating the use of digital technologies for rapid resilience. The findings highlighted the essence of regional resilience as given by Norris et al. (2008). The study highlights the role of different modern-day logistic and networking techniques in community resilience. The findings also underline the essence of sustainability in community resilience. Likewise, the study adds to the knowledge base of donation-based crowdfunding. The findings underline the effectiveness of donation-based crowdfunding in facilitating the swift mobility of financial resources in times of crisis. Lastly, strategic implications can also be drawn from this study. Donation-based crowdfunding can be adopted as a tool of resilience in case of a shortage of funds. Aside from raising funds, crowdfunding campaigns can be used to build a volunteer network. Initiatives under such campaigns ensure transparency and participation by giving frequent updates to the funders. Social support, beyond one's close connections, should be sought for attracting and collaborating with more people. Local vendors and distribution agencies should be involved to create a proficient supply chain. Besides, crowdfunding has provided a platform for social support and coordination, leading to better resilience.

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