



Integrating Crowd-donating and Islamic Crowd-investing to Achieve SDG#2 towards a Zero Hunger Society in the Post-crisis of the COVID-19 Pandemic

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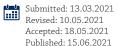
Abstract: The COVID-19 pandemic, which hit humankind in late 2019, has immensely affected food-insecure people who are susceptible to chronic hunger. Hundreds of millions of people have already been suffering from hunger and malnutrition even before the virus hit. This has motivated various groups from the society to donate for the provision of food to those below the poverty line. In this regard, crowd-donating has a high potential to assist the affected communities, which will promote the prospect of Islamic crowd-investing in realizing the efforts of increasing food supplies that may reduce hunger. The purposes of this research are, first, to integration the potentials of crowd-donating and Islamic crowd-investing in realising a hunger-free society, and second, to develop the concept of a "one-stop-centre staple food solution" for supporting food sustainability. Systematic literature review research method is used in this study, specifically to review the potentials of crowd-donating and Islamic crowd-investing in reducing the impact of hunger on the society. This research delivers the concept of providing staple food for food-insecure families through crowd-donating, and provides a conceptual overview of establishing a "one-stop-centre staple food solution" through Islamic crowd-investing to supply staple food and enable cheap transactions for people who are prone to hunger. It is hoped that the findings of this study may provide input as the basis for policy makers to create a hunger-free society through potential crowd-donating and Islamic crowd-investing, particularly for handling such a crisis during the current pandemic.

Keywords: Islamic Crowd-Investing, Crowd-Donating, Zero Hunger, Society

JEL Classification: G23, P49, Q14

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Introduction

The COVID-19 crisis has highlighted the flaws in the current economic and financial system, including in the area of food distribution. A call has gone out to rethink and redesign how the economy, social activities, and food availability are organized, especially for vulnerable households. This crisis necessitates strong responses based on solidarity, cooperation, and accountability (Bin-nashwan, 2020). Even before the virus, hundreds of millions of people were suffering from hunger and malnutrition, even before the virus hit. This, coupled with the pandemic outbreak, has resulted in increased famine, and has burdened those who continue to struggle against the virus and hunger (Diansari & Nanseki, 2015) 87 million people are presently vulnerable to food insecurity. Thus, the United Nations Development Programme's primary millennium development goal for Indonesia is to halve the number of people who suffer from hunger by 2015. It is clear that food security at the household level is crucial to achieving this target. Design/methodology/approach: In total, 371 household heads were interviewed. The households' perceptions of their food security status were captured by asking the household head the following question: "How do you perceive your household's food security status during the last month"? Respondents could select from the following options: insecure, somewhat insecure, somewhat secure, secure and highly secure. Here, the household head's answer is regarded as the household's subjective food security status (SFSS. According to the Food and Agriculture Organization (FAO) (2020), the condition of this pandemic is increasingly causing people in Asian and Pacific countries who live below poverty lines and are food insecure to experience two disasters at the same time: hunger and the viral outbreak.

Based on the data released by the World Health Organization, together with FAO in 2019 (World Food Programme, 2019), more than 820 million people around the world still suffer from hunger. Hunger is on the rise in almost all sub-regions of Africa, where the prevalence of under-nourishment has reached 22.8 per cent in sub-Saharan Africa, and to a lesser extent, in Latin America (Sileshi et al., 2019). In Asia, despite great progress in the last five years, the sub-region of Southern Asia still has the highest prevalence of undernourishment, at almost 15 per cent, followed by Western Asia, at over 12 per cent, where the situation has been worsening (Food Security Information Network, 2019). This further emphasises that the higher the food insecurity in a society, the higher the poverty level, and the more families and households will die in hunger.

The prospect of Islamic crowd-investing is great and needs to be explored continuously for humanitarian agendas, such as COVID-19 containment. In reference

to one study with regard to the existence of sharia principles in crowd-funding or crowd-investing (Wahjono & Sentot, 2016), many financing and funding schemes are based on sharia contracts and have undergone a process of supervision from the sharia board regarding the companies' operational mechanisms (Marzban, Mehmet Asutay & Adel Boseli, 2014; National Sharia Board, 2018). As is the case with the policies applied in Indonesia to most platforms that register themselves with the sharia system, these mechanisms also apply to movers or players in the financial industry, such as investors or funders, service providers, and project initiators, so that all activities adhere to the sharia (Rusydiana & Firmansyah, 2017).

Amidst the critical importance of food security research, this study is being conducted to integrate the potentials of crowd-donating and Islamic crowd-investing in achieving a hunger-free society, and thus to develop the concept of a "one-stop-centre staple food solution" for supporting food sustainability. It presents a holistic literature review approach combined with content analysis to identify the potentials of Islamic crowd-investing and crowd-donating and integrate both as a new financial source. The rest of the study is organized as follows. Following the introduction, Section 2 presents the highlights of the literature review or previous studies, and Section 3 presents the step-by-step research methodology and key descriptive data on all of the papers included in this review.

The journals, in which these papers were published, in particular, are discussed in terms of publication chronology, academic fields to which these studies belong, and the types of crowd-funding models on which they had focused. Following this description, the analysis is carried out by going over the various definitions and terminologies proposed for the concept of crowd-funding. Next, the relationship with Sustainable Development Goals (SDG) 2, food security, and zero hunger is identified. Section 4 provides the systematic review, followed by a content analysis. Section 5 discusses the findings and presents a number of future research directions for Islamic crowd-investing and crowd-donating. Finally, Section 6 concludes this paper.

Literature review

Islamic crowd-investing and crowd-donating are naturally part of raising funds aimed at social activities, including efforts to reduce hunger levels and create a society that has good food security (Fitriani, 2018). However, there have not been many studies that directly link the two funding schemes toward attaining zero hunger. For example, one study in Germany (Hornuf & Schwienbacher, 2015) only discussed the importance of crowd-investing to fund start-ups for young entrepreneurs, as well as the prospects for this type of funding in the future. Other studies

(Grundy & Ohmer, 2016; Liang, Wu & Huang, 2019) explained crowd-funding in general, related to its prospects and research agenda. Hence, the purposes of this current study are to integrate the huge potentials of Islamic crowd-investing and crowd-donating in realising a hunger free-society, and to develop the concept of a "one-stop-centre staple food solution" for supporting food sustainability.

Crowd-Donating

In general, crowd-donating is engaged to deal with issues surrounding humanitarian problems, such as natural disasters, epidemics, and other conditions; particularly, this is done through online platforms (Toke, Lars et al., 2015). Equally, the current situation has been depressing, where many people have lost their jobs and have been experiencing difficulties in buying staple food and other food items (Devine & Lawlis, 2020). Furthermore, for situations in which some countries have implemented restrictions and lockdowns, the impact on food availability is increasingly difficult for the poor to access (Findiastuti, Singgih & Anityasari, 2018).

Crowd-donating itself is a donation-based crowd-funding known as a multi-party funding method, usually done through digital platforms; donation-based crowd-funding was initially used as part of funding for new entrepreneurs, but over time, this concept has also been used for actual donations (Reddy & Tan, 2017). Crowd-funding donations, called crowd-donating, is a means of providing and distributing funds without offering rewards or providing added-value advantages, as is the case with other crowd-funding efforts (Demiray & Burnaz, 2017).

Furthermore, according to a study (Latysheva, 2017), this method not only explains its potential use for business, but also its broader application for social interests and activities, such as rehabilitation during the current COVID-19 outbreak. This is because the potential for crowd-funding, including donation-based funding, is quite an interesting concept for both donation and investment methods. As revealed in another study (Biancone & Secinaro, 2016), the opportunity for including this new method of financial services is of excessive prospect in Europe, so much that it has attracted donors or investors to participate in funding projects. Thus, it could also open up opportunities for Islamic finance to be widely known, especially in Europe. Another potential aside from humanity-related aspects, is the specific effort to provide funding to MSMEs, as some of them require mentoring or assistance in business (Z. Abdullah & Susamto, 2019).

Islamic Crowd-Investing

Currently, apart from the donations being used to procure food items during the outbreak, investment-based crowd-funding, or crowd-investing, can also be useful (Teunenbroek, Bekkers & Beersma, 2020). One part of crowd-funding that focuses more on investment is often used to finance an initial project or a pilot project in building or developing a business (Zetzsche & Preiner, 2018; Hornuf & Schwienbacher, 2017). In fact, in recent years, this capital-raising activity has begun to develop as an alternative form of financing or joint investment that can be undertaken by individuals or groups (institutions) to assist in social activities, or even crises related to hunger (UNDP, 2017; Chang, 2016). The huge potential that comes with crowd-funding, in both donation-based and investment-based types, makes this service an effective channel for fundraising, where everyone can participate in humanitarian projects and other social activities (Bigham, 2018). The development of the internet has also allowed this method of collecting or raising funds to be accessed easier, which can encourage more people to participate from any location (Ordanini, Pizzetti & Parasuraman, 2011).

However, the magnitude of this potential is not directly proportional to its application (Ziegler et al., 2020); in 2017, global alternative finance reported that peer-to-peer (P2P) consumer lending emerged as the leading model, with a volume of \$243.73 billion, accounting for 58% of the global alternative finance volume. In particular, the percentage for crowd-funding based on donations and investments was still small compared to other schemes. On the contrary, this volume was closely followed by P2P business lending, with \$102.7 billion. Indeed, since 2013, these two models have continued to rank first and second every year. Overall, when adding the \$9.14 billion associated with P2P property lending, the share of all P2P-lending models accounted for 85% of the total global crowd-funding volume (Shneor & Munim, 2019). Moreover, according to one research (Abdullah, 2020), this method is often used as an initial step in financing small and medium enterprises that require capital; it is not limited to just donations, but also the ability to provide benefits for investors to be interested in providing funds, so that the businesses can grow and develop properly.

The table below describes and summarises concepts, differences, and the similarities of both new financing models:

	Crowd Donation	Islamic Crowd- investing	References
Concepts	Donors contribute to a cause without expecting anything in return – Islamic typical of a shadaqah	 Also called "crowd lending" where backers/investor lend money to campaigner/borrower It can be a debt, where lender/investor funds a venture in exchange for equity 	(Gruzina, Zeinalov, Ilienkova, & Ilienkov, 2016); (Sargeant, Ford, & West, 2006); (Yeoh, 2014); (Sa'ad, Ahmad, & Saleh, 2019)
Similarities	 New financing model for collecting fund and charity through technology 	 New financing model for collecting fund and charity through technology 	(Mollick, 2013); (Bigham, 2018); (Ibrahim, 2012); (Roma, Messeni Petruzzelli, & Perrone, 2017)
Differences	 Fully for donations Used for charitable campaigns Sharia characteristic Mostly unregulated, or under community supervision 	 Fully for businesses/ entrepreneurs Profit-oriented Sharia compliance under the Majelis Ulama Indonesia and Financial Service Authority Highly regulated 	(Biancone, Secinaro, & Kamal, 2019); (Aulia, Yustiardhi, & Permatasari, 2020); (Toke, Lars, Jeppesen, & Rullani, 2015)

Sustainable Development Goals, Towards a Zero Hunger Society

Sustainable Development Goals itself is the adoption and development of previous policies, namely the Millennium Development Goals, which are more focused on poverty eradication, health improvement, and the general well-being of the population (Fukuda-parr, 2018). The SDG policy has 17 goals and 169 targets, such as to end poverty and hunger, to ensure healthy lives, to promote well-being, to provide quality education for all, to achieve gender equality, and to attain other targets which include quality of life improvements through food supply; therefore, the target of food security can be realised (Abubakar & Aina, 2017).

Food security itself is one of the achievement targets in the SDGs. According to FAO, in 1996, the World Food Summit in Rome defined the condition of food security, as people's need, at all times, to have physical and economic access to sufficient, safe, and nutritious food that meets dietary requirements and food preferences for an active and healthy life (Peng & Berry, 2018). Therefore, at least some of the main indicators on this target are to reconstruct the food security of each individual household, to ensure the availability of physical food, to allow for the economic and physical access to food, to maintain adequate food utilisation, and to certify the dietary quality and safety of the food consumed (Berry, 2019).

According to the FAO (2017), the relationship between agriculture today and the expected target through SDG is a priority. At this time, food and agriculture are trying to offset the global population growth as much as possible. Major improvements have been made to advance agricultural productivity intensively to meet the world's food needs. Various efforts have also been done by the Indonesian government to realise food security and to focus on the impact on the welfare of farmers in Indonesia (Atmanti, 2010). The government intends food security to become a mandate, with a legal Act to realise it. Hence, there is a need for synchronisation and integrated mechanism, both from the central government and regional governments in each province of Indonesia.

One of the legislations in implementing food rights for citizens is stated in Law No. 18 (2012) concerning food that meets basic needs, as part of guaranteed human rights in the 1945 Constitution of the Republic of Indonesia; the main component is to realise and improve the quality of human beings. Consequently, the state is obliged to provide adequate food needs, both in quantity and quality, so that the people can live a decent life (Food Security Board of Republic Indonesia, 2015).

According to the Indonesia Country Strategic Plan 2017–2020 (World Food Programmes, 2017), one of the government's efforts in improving food sovereignty is to review strategic matters, as delivered in the 2015–2019 National Medium-Term Development Plan (RPJMN), by focusing on the nutrition improvement and food quality, and by mitigating against disasters which would have an impact on food security. To achieve these goals, strategic planning needs to be implemented through four activities in the effort to achieve three strategic outcomes:

- Strategic outcome 1: to reduce the severity of food insecurity by 1 per year, prioritising the most vulnerable people and regions using evidence by approach;
- Strategic outcome 2: to increase the percentage of Indonesian consumers who are able to adopt a more balanced diet, enabling Indonesia to meet its national desirable dietary pattern target of 92.5 by 2019;

- Strategic outcome 3: to upgrade Indonesia's emergency logistics capability of responding in a timely and coordinated manner in the event of disasters.

Furthermore, the Global Hunger Index ranked Indonesia 70th out of 117 qualifying countries in 2019 (https://www.globalhungerindex.org); pandemics threaten to worsen this situation. Improving food production and quality in a sustainable way necessitates immediate action. The ranking reflects the country's severe hunger problem, which has resulted in a high number of cases of stunted growth, primarily due to a lack of nutrients in children's diets (Kusumaningrum, Siagian, & Beazley, 2021). This is strongly related to poor economic conditions; COVID-19 makes the situation more complicated and unprecedented (Paramashanti, 2020). Indonesia has implemented a policy to help the poor by providing them with small amounts of cash aid, which aims to increase their ability of obtaining food or purchasing basic necessities (Yuda & Damanik, 2021). However, the programme does not solve the problem in the long term since the aid only serves as a temporary safety measure during the pandemic, but not post crisis. Hence, this study attempts to build the concepts for food security sustainability during and post crisis.

Data and methodology

More specific objectives are required to achieve a better review (Fernandez, 2019; Siswanto, 2010). As a result, the research question was developed early on, after a preliminary review of portions of the literature but before an in-depth analysis of the papers. The research question is divided into two parts: (1) What are the potentials of crowd-funding and Islamic crowd-investing in the context of a hunger-free society? How have they been strengthened and expanded? (2) How can a society with a "one-stop-shop staple food solution" for food sustainability be imagined?

Systematic literature reviews originated in the field of medical sciences and "have become fundamental to evidence-based practice and represent a key methodology for locating, appraising, synthesizing, and reporting best evidence" (Tranfield et al., 2003). (Briner, Denyer & Rousseau, 2009). For a topic as interdisciplinary as crowd-investing (investment-based crowd-funding), which involves mixed evidence regarding the factors leading to its success and has been the focus of many theoretical fields, a systematic literature review is thought to be capable of synthesizing existing findings and considering the application of different theoretical perspectives on this emerging phenomenon and provide for the next further research.

As mentioned in this study, the relationship between scientific disciplines is very closely related, especially between the roles and functions of crowd-investing on food sustainability and the target for zero hunger (Theodoridis et al., 2019). The table below describes what Scholarly has discovered with regard to the motivations and potentials of both crowd-donating and Islamic crowd-investing, as well as their connection with food sustainability as a part of SDG# 2.

 Table 1

 Scholarly findings on Motivations and Potentials of Crowd-Donating and Islamic Crowd-Investing

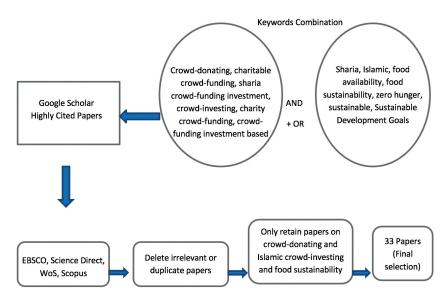
Literature Findings by Scholarly	Crowd-Donating	Islamic Crowd-Investing/Crowd- funding (Investment Based)	
The Motivations	Campaign, good initiatives, philanthropy (Gerber & Hui, 2013), (Belleflamme, Omrani & Peitz, 2015), (Mollick, 2013);	Activated Motivations (personal and situational) (Bretschneider, Knaub & Wieck, 2014), (Riggins & Weber, 2017), (Latysheva, 2017);	
	Fundraising behaviour (Chen, Dai, Yao, & Li, 2019), (Gleasure & Feller, 2016);	Sharia or Islamic-Based (S. Abdullah & Oseni, 2017), (Z. Abdullah, 2020), (Z. Abdullah & Susamto, 2019), (Marzban et al., 2014), (Biancone & Secinaro, 2016);	
	Trust (Kshetri, 2015)(2, (Chen et al., 2019);		
	Current situation with COVID-19 (Bin-nashwan, 2020)	Trust (Kang, Gao, Wang, & Zheng, 2016)	
The Potentials	Efficiency of distributing the project (Liu, Suh, & Wagner,	Sustainability (Plads & Frederiksberg, 2017), (Hörisch, 2018);	
	2017); Social capital dimensions (Cai,	Food sustainability (A. Theodoridis et al., 2019), (Misso & Cesaretti, 2017);	
	Polzin, & Stam, 2019); Sustainability (Plads & Frederiksberg, 2017), (Vasileiadou, Huijben & Raven, 2016), (Nazionale, 2018);	Promoting environmental and social sustainability (Light & Briggs, 2017);	
		Open innovation of knowledge (Chu, Cheng, Tsai, Tsai, & Lu, 2019);	
	(Palombino, Amoroso, & Zarra, 2019); (Sa'ad et al., 2019); (Mohd & Thaker, 2020); (Amaruzaman, et al., 2017); (Khandker & Koolwal, 2015); (Saiti, 2018).	Current situation, such as COVID-19 (Battaglia, Busato & Manganiello, 2020)	

Table 1 above describes how the motivations and the potentials of crowd-donating and Islamic crowd-investing are still huge for benevolent financial resources, specifically for philanthropy and for realising sustainability in various sectors. It is important to note that different motivations and potentials have specific characteristics to develop each other. Hence, from the table, the functions between two sources of finance can be connected, but within a similar platform.

Therefore, relevant research on crowd-donating and Islamic crowd-investing must be collected first, before summarising how crowd-donating and Islamic crowd-investing motivations and potentials may be performed. Finally, a theoretical model based on this summary could be established. The combinations of each crowd-donating and crowdfunding investment/crowd-investing determinant were searched from the Web of Science and Google Scholar to obtain research on the relationship between crowd-donating and crowdfunding/investing. Following some criteria (see below), irrelevant studies were deleted (e.g., those from other fields and those which did not deal with the two criteria in their model), before arriving at the final set of papers for the literature review.

To gather the appropriate array of relevant studies that address the research question, all crowd-funding investment-based literature was searched with no preconceived notions. A thorough search of the databases EBSCO Business Source Complete, Science Direct, Web of Knowledge, and Google Scholar was conducted to locate studies. These databases cover all relevant journals in business, management, finance, and economics, and thus contain all relevant papers on the topic of interest. The search was carried out at the end of December 2019 until July 2020. The primary search strings used were "crowd-funding" and "crowd-investing," "crowd-donation" and "crowd-donating," and "charity crowd-funding." These would be found in the title, abstract, or keywords. The search yielded 280 papers, so they were screened until 33 papers were finally selected, all of which are related to crowd-funding, investment/crowd-investing, and charity crowd-funding, or crowd-donating. Keywords regarding "Islamic" and "Sharia" were rarely mentioned in most of the papers.

Figure 1.The Flow of Diagram for Literature Collection



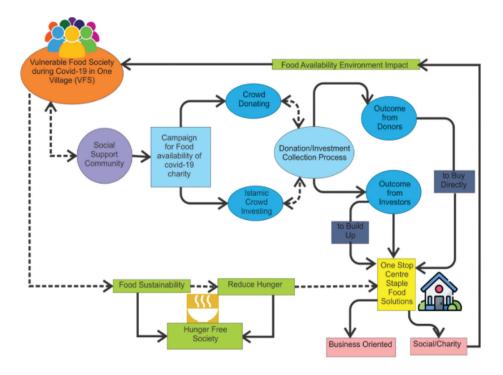
Findings and discussion

Based on the SLR process and analysis of crowd-donating and Islamic crowd-investing, motivations and potentials can be seen in Table 1. The crowd-donating and Islamic crowd-investing platforms are actually new financial innovations that combine the Internet and finance, by collecting funds in small amounts, and providing loans to those who need them (Mohd & Thaker, 2020; Wahjono & Surabaya, 2016). Moreover, this includes tools for fundraising and charity without any reward for the donors and investors. The motivation and potential of these two methods are also feasible to be optimised in realising food availability and sustainability toward a zero hunger programme (Misso & Cesaretti, 2017; Plads & Frederiksberg, 2017).

The research findings showed that the Islamic crowd-investing and crowd-donating concepts have various potentials for optimising and maximising philanthropic activities, such as those in this current situation of the pandemic. These concepts also can be integrated to build up the framework for realising food availability and sustainability, toward achieving zero hunger in SDG#2 by United Nations Development Programme. The concept of crowd-funding in general has been implemented by charity or philanthropic organisations to increase humanitarian activities. In the context of the current COVID-19 pandemic, crowd-funding can be applied to support food availability for vulnerable and high risk people suffering from hunger.

Figure 2 below describes a campaign that can be organised to promote the funds from the two mechanisms of crowd-donating or Islamic crowd-investing for a vulnerable food society which is affected by this pandemic, during or post crisis. Collection of the funds will be disbursed directly to the people/individual/society requiring staple food as the basic need. The outcome from investors will be allocated to build a "one stop centre staple food solutions" in the form of a shop or a minimarket for the sales and purchases of staple food and others basic needs for the food-insecure community. Furthermore, from this framework, investors can profit from their investment in the "one stop centre" through an Islamic investment mechanism or sharia-based profit sharing such as the *mudharabah*, *qiradh*, and *murabahah* schemes. Figure 2 proposes a concept of crowd-donating and Islamic crowd-investing for realising a zero hunger programme, as shown below:

Figure 2.Integrated Model of Crowd-Donating and Islamic Crowd-Investing towards a Hunger-Free Society



If a one stop centre for staple food solutions is implemented, several benefits can be obtained, as follows:

- a. A one stop centre may provide a solution or an alternative for channelling and strengthening the supply of foodstuffs for nutrient-deficient communities;
- b. Although it is not necessary to have a one stop centre for staple food solutions in a district or rural area, it would be better if it can be implemented.
 - c. The advantages of having a one stop centre for food solutions:
 - The ability to control food availability, especially of basic foodstuffs.
- Food-vulnerable communities are able to operate the centre as part of empowerment.
 - The food distribution process is expected to be faster.
- The ability to attract and mobilise locals who are able to donate and/or invest through crowd-donating or Islamic crowd-investing.
 - The ability to involve the community either as volunteers or as workers.

Conclusion and recommendations

Crowd-donating and Islamic crowd-investing inherently contribute to a social phenomenon. To improve literacy of these fundraising methods, the literature on the motivations and potentials of both financial innovations was systematically reviewed, particularly to support food sustainability during the COVID-19 pandemic. By selecting and categorising the key literature on food sustainability, the elements of crowd-donating and Islamic crowd-investing related to food availability or SDG#2 were identified. Most studies have indicated that all motivations and potentials involved are associated with building the framework for crowd-donating and Islamic crowd-investing. Based on this conclusion, a promising field has been discovered for future crowd-donating and Islamic crowd-investing research. Particularly, this research also has provided the implications on stakeholders for realising a hunger-free society through two mechanisms of the crowd-funding model. As such, these concepts can be implemented effectively by any society, organisation, and the government through strategic planning, such as the Peraturan Daerah (Local Government Regulation).

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