



Article

An Integrated Online/Offline Social Network-Based Model for Crowdfunding Support in Developing Countries: The Case of Nigeria

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Abstract: This paper is one of the first attempts to address the fundamental barriers to the adoption of online crowdfunding mechanisms in a developing country by offering a new online/offline fundraising model. The focus is on Nigeria as a typical example of an environment that, unlike that in the developed world, is not fully conducive to social networking as a crowdfunding platform due to both economic and technological issues. Using a mixed research method, the study first compares the state of the art in crowdfunding in a developed and developing economy by interviewing two groups of 20 entrepreneurs from the UK and Nigeria, respectively. The differences between those in terms of crowdfunding facilitation are identified, and propositions for the Nigerian market are formulated. These are then tested statistically by surveying 160 randomly selected Nigerian fundraisers. Based on the outcomes of the thematic analysis and statistical modelling, a unique integrated online/offline crowdfunding model is proposed. It is particularly aimed at supporting entrepreneurial activities and related policymaking that can have a key impact on further social and economic development of these countries. The proposed model can be considered as an alternative novel fundraising instrument in regions where socioeconomic and technological challenges inhibit the adoption of traditional crowdfunding approaches.

Keywords: SMEs; crowdfunding; social media; entrepreneurship; fundraisers; developing countries

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1. Introduction

The funding gap that affects SMEs and entrepreneurship is a source of concern. Yusoff et al. [1] and Yang et al. [2] contend that financing is one of the top priorities of SMEs especially upon start-up, and also contributes to the failure of SMEs to expand their operations. However, Oshora et al. [3] found that SMEs in less developed countries are constrained by a lack of fair access to finance, which weakens the market entry, entrepreneurial innovations and the business environment as a whole.

Asare et al. [4] further highlight that the funding shortage for SMEs is predominantly based on the unwillingness and reluctance of financial institutions to offer lending to indigenous business persons or start-ups in developing countries. This leaves SMEs with

Sustainability **2022**, 14, 9333 2 of 21

virtually no option but to approach private sector banks, which can often be done at rates higher than those of state-funded banks.

Akoh [5] noted that the barriers to the potential and growth of SMEs and entrepreneurship in developing countries, such as Nigeria, are a result of a range of challenges that are fundamental and far-reaching. These include an absence of straightforward access to funding, discrimination from banks, lack of adequate collateral, bureaucratic bottlenecks, high repayment rates, and the complex nature of documentation provided by financial lenders to small business practitioners. These barriers nearly eliminate any opportunity for SMEs to obtain funds for growing their enterprises, as exemplified in [6]. Their research shows that over 70% of the entire Nigerian working population are employed by SMEs and are responsible for over 50% of the Gross Domestic Product generated. Despite these staggering statistics, it is widely believed that these SMEs have a higher probability of failure with low survival rates due to varying factors, such as bottlenecks in securing credits from banks and other financial institutions. The Central Bank of Nigeria [7] consolidated the above point by attributing the poor performance of the Nigerian SME sector to an absence of proper infrastructures for financing small enterprises in the country. The SME Sector Report by [8] identified some problems confronting SMEs as recognized by CBN [9] and divided them into four major categories: lack of adequate funding, hostile business environment, obsolete technology, and lack of proper managerial skills. Out of these, the lack of adequate funding was recognized as having the strongest influence on SMEs.

Motylska-Kuzma [10] explains that in the developing world, the SME sector faces a massive crisis of funding; however, when seeking bank credit, SMEs are increasingly finding it difficult to access financial loans due to the stricter conditions attached to them compared to larger businesses. In cases where they secure such financial incentives, the interest rates are usually too high, which keeps them constantly at a disadvantage.

Akoh [5] recognised that a major challenge for SMEs in Nigeria and many parts of the developing world is to secure the much-needed capital that is required to finance their operations. Until SMEs, small business practitioners and entrepreneurs have access to the funding required to take their ideas and/or businesses to the next level, developing countries may never actualize the potential and benefits of entrepreneurship. Schwienbacher and Larralde [11] recognised that sustainable development is driven by ideas and the amount of bright ideas within Africa does not represent the current situation in the continent, but points towards the potential for sustainable economic development, e-commerce, poverty alleviation, global trade, etc., if such ideas ever get to be supported. Access to funding is the vehicle upon which ideas are led to success.

ICT in general and social media in particular have been shown to play a major role in scaling up new alternative financing initiatives through approaches, such as microfinance [12,13] and online peer-to-peer lending [14]. It has also proved vital in ensuring the establishment of microenterprises in developing countries by effectively assisting technologically and socially disadvantaged entrepreneurs through value-added telecommunication services, notably, mobile apps [15]. However, the applicability of purely online-based financing models can be severely affected by both economic and infrastructural limitations still inherent to many developing regions of the world. In particular, according to a World Bank report, the number of poor persons in Nigeria is estimated to be 95.1 million in 2022 [16]. Nigeria's Internet penetration rate stood at 51.0 percent of the total population at the start of 2022 [17,18]. To put this in perspective, it can be seen that 104.9 million people in Nigeria, or 49.0 percent of the population, remained offline at the start of 2022. Furthermore, the same sources reveal that social media penetration did not see any noticeable increase in the past few years. This is significant because the number of social media users in Nigeria at the start of 2022 was equivalent to only 15.4 percent of the total population.

Hence, this work seeks to explore the efficacy of introducing a viable integrated crowdfunding model, combining both online and offline dimensions as a fundraising tool

Sustainability **2022**, 14, 9333 3 of 21

for entrepreneurs and SMEs in a developing nation. A global network, capable of combining online and offline access to potential donors and/or funders, should assist in closing the gap between bright ideas on the one hand, and the funds required to turn the respective start-ups into tangible success in countries such as Nigeria.

The remainder of the paper is structured as follows. Section 2 discusses related work and presents crowdfunding in the context of the developed and the developing world. Section 3 provides a detailed account of the methodology followed in this research. Section 4 presents and discusses the results. Section 5 proposes a crowdfunding model for developing countries. Section 6 presents the validation considerations of the proposed model, with Section 7 providing the conclusions and recommendations of this study.

2. Related Work

2.1. Crowdfunding in the Context of the Developed Nations

Crowdfunding can be referred to as an approach to raising capital by obtaining funds in small amounts from many people, usually over the Internet, who are motivated to participate in various collaborative financing-related innovations [19,20].

As can be seen from [21], the concept of alternative finance via crowdfunding is critical for small-scale businesses in countries in which crowdfunding is currently being practiced. This study cites the Cambridge Centre for Alternative Finance, whose global market research indicated that the USA, the UK, Latvia, Estonia and the Netherlands represented nations with the top five crowdfunding market volumes per-capita in 2018–2019. The growth of several indigenous CF platforms across Europe, pulling in hundreds of thousands of fundraisers and funders, suggests that the crowdfunding industry is growing rapidly in the West. However, the same study showed that there remains a significant gap between alternative finance finding in developed and developing countries.

Scott-Briggs [22] made reference to a World Bank report which emphasized that although the discussion about crowdfunding's origin still exists, the concept and practice of crowdfunding have thus far showed to be one of the fastest growing industries of the world, with approximately USD 34 billion raised for project owners within the first decade of its existence; it is estimated to have reached USD 90 billion in 2020.

Ziegler et al. [23] also point out that the crowdfunding industry in developed settings has recorded astronomical growth rates since its inception. This observation could be linked to a wider digitisation context, whose enhancement is being pursued by the respective e-commerce and digital competitiveness policies and frameworks [24]. The underlying factors why crowdfunding has not been embraced or encountered in the context of developing nations and specifically, in African countries such as Nigeria, are explored in this work.

2.2. Crowdfunding in the Developing Nations: Problems, Potentials and Prospects

Asare et al. [4] found out that the lack of access to funding/credits for SMEs and entrepreneurship in developing countries, which can of course stem from the unwillingness of banks to offer credit facilities to SMEs and indigenous entrepreneurs and the outright discrimination from banks and institutional lenders towards small businesses, has created a critical shortage of funding for such businesses in these countries. Factors such as the absence of appropriate and adequate collateral, high cost of administration and management of small loans, poor and inadequate documentation of business proposals, bureaucratic bottlenecks, etc., have further compounded this problem. As argued in [25], this funding gap has affected the growth and sustainability of the start-up ecosystem and/or SME sectors. The results of their work are similar to those of [3], who noted that in Africa the funding gap means that the inclusion of entrepreneurs through funding overlooks those who are marginalised in society despite being able to contribute towards economic development.

Sustainability **2022**, 14, 9333 4 of 21

It can thus be argued that the lack of early-stage funding has added immensely to stunting the growth of potentially disruptive start-ups and is a primary reason for the high start-up failure rates in developing countries. While finding a market for a product and solving a problem for users are key metrics for start-up and/or entrepreneurship success, the availability of funding required to acquire new users, innovate the product and/or service being offered, expand into new markets quickly, capture market shares, hire early-stage employees, engage in marketing, etc., cannot be achieved without access to cash. The research by [26] revealed that entrepreneurs are increasingly gravitating towards other means of securing capital for their businesses. The authors maintain that due to the difficulties faced when such new businesses approach banks, angel investors and venture capitalists, more businesses are now aiming to access huge e-communities of consumer investors.

The position of [26] is consistent with [27], which pointed out that entrepreneurs are experiencing a downward spiral in bank lending as crowdfunding is now taking its place. According to [27], as more businesses search for finance from other sources, the traditional funding methods will slowly be replaced, which would ultimately lead to the demise of the once profitable arm of the banking sector.

Back in the 1990s, Ariyo [28] recognised that a key problem in the developing world is the amount of effort small-scale businesses put in just to access basic funding to grow their businesses. Yet, until present, this much required capital has been most often out of the reach of such businesses. As suggested in [4], the reason for this difficulty in obtaining funding from traditional financial lenders can be attributed to the fact that in the developing world, indigenous entrepreneurs and small businesses predominantly have no collateral to obtain a bank loan, nor do they have the early growth metrics needed to attract venture capital funds in the short term. They noted other factors, such as a lack of credit scores or even a banking relationship, together with the size of the firm, were critical determinants when it comes to attracting financing to these businesses.

The CBN [9] estimates reveal that commercial banks are the biggest lenders to SMEs. However, they are increasingly becoming reluctant in committing themselves due to the increased risks associated with the business of SMEs. A very good example is Nigeria, where a decaying infrastructure coupled with the uncertainties in the economic environment have brought SMEs to their knees, making it difficult for such banks to offer their finances. However, the key financial bank in the country, the CBN, has stepped in by formulating new policies that support such businesses with huge capital investments in the form of debenture stock.

Estimates reveal that the amount injected was already in the tune of NGN 500 billion which was primary paid through the Bank of Industry (BOI). Even after such interventions, statistics show that very little growth has been experienced in the sector. It is worth acknowledging that more is now being done with the hope of bridging the funding gap. The Central Bank of Nigeria (CBN), in partnership with the Federal Ministry of Youth and Sports Development, has launched a range of initiatives aimed at financial development. Specifically, 7,057 beneficiaries in the country have thus far been provided with NGN 3 billion under the Nigeria Youth Investment Fund (NYIF). The CBN have offered the NYIF programme in an effort to enhance access to funding for enterprises focused on youth, appease youth restiveness through employment and boost the entrepreneurial skills of the youth whilst improving their leadership and management competencies [9].

At the same time, in addition to the funding gap in some developing countries, specifically in Nigeria, other factors related to the environment/economy and information/communication technology (ICT) in the region have shown that crowdfunding is not available as an alternative fundraising tool to small businesses functioning in less credit-attractive settings. Several factors are responsible for the difficulties experienced by entrepreneurs and SMEs in securing funding for their businesses. These factors make it all the more difficult for businesses in most developing African countries, including Nigeria.

Sustainability **2022**, 14, 9333 5 of 21

However, a more immediate issue hindering the practice of crowdfunding in Nigeria is the current "government policy towards crowdfunding". The Director General of the Nigerian Security and Exchange Commission (SEC), Mounir Gwarzo, explained the challenges hampering the growth of crowdfunding in Nigeria and attributed them to the lack of a proper framework and regulations in the provisions of the Investment and Securities and Exchange Act (ISA) and the newly signed Companies and Allied Matters Act (CAMA). He emphasised that the SEC is well informed on the increased penchant by Nigerians to raise finance through crowdfunding. This is greatly dampened by the unsupportive legal frameworks that currently exist in the provisions of ISA and CAMA. He assured potential fundraisers in the country that the SEC is seeking ways to study crowdfunding policies and practices in a developing setting to obtain cues on how to jumpstart the crowdfunding industry in Nigeria [29].

Nonetheless, this work recommends that the government via the SEC and other stakeholders deploys a two-pronged strategy of "Policy and Profitability" towards solving this problem. The government should as a matter of urgency remove all bureaucratic blocks and bottlenecks that hinder innovation and social media-based crowdfunding and allow fundraisers and backers to explore and exploit the concept without fear or favour. The government via the SEC should get rid of all plans to regulate rewards and/or donations-based crowdfunding and only initiate regulations for equity-type models (due to the large amount of donations this model involves). The government should not attempt to regulate kind gestures from a crowd that is supporting the projects of friends or projects they believe will be beneficial to society, but it can put regulations in place to protect backers who donate large amounts in exchange for equity via crowdfunding paradigms. Policy makers should also study the Jumpstart Our Business Startup Act (JOBS) and the Financial Conducts Authority Act (FCA) as a starting point towards understanding regulatory structures for crowdfunding.

2.3. The Importance of Crowdfunding Adoption to Nigeria and the Wider Developing World

The growth rate of the crowdfunding industry in more industrialised countries is nothing short of astonishing, which has been the interest of various researchers and chronicled by [23], amongst others. The increase in crowdfunding has been facilitated by the development of the Internet and information technologies which have enabled startups the financing of their entrepreneurial projects [30].

However, the adoption of the concept in most developing countries has been considered slow and gradual, especially in Nigeria, with its growth stalled by various challenges, including technology adoption, state of the economy and unfriendly regulations [31]. SMEs play a crucial role in the overall development of any economy as they can unlock the growth potential of any nation. SMEs can cause an uptick in the growth of indigenous technologies, improve employment metrics, scale-up local production, and transform companies into large-scale industries if well funded. Asare et al. [4] acknowledged that SMEs are the backbone of a nation's economy and are akin to the bedrock of developing economies despite the financing challenges they face.

The fact that the sector accounts for a great percentage of the employable population in the developing world is a demonstration of its importance to a country's economic stability. The contributions of the SME sector and the plethora of problems the sector faces are not only limited to Nigeria. Zhang [32], in describing the SME sector in China, stated that the Chinese economy is hugely dependent on SMEs, as they are a major contributor to their overall development. However, SMEs have a hard time raising capital either through commercial banks or the stock market. As further explained in [32], whilst being an essential building block and major driver of economic development in any country, SMEs have at the same time been systematically denied the ability to raise funds from traditional financial institutions in order to sustain their operations.

As discussed, a huge number of SMEs face challenges in securing capital to run their businesses, which results in premature closures as they are unable to access the needed Sustainability **2022**, 14, 9333 6 of 21

funds to keep their businesses afloat. Harnessing the potential of crowdfunding as an alternative fundraising vehicle for businesses that find their environments deficient of lending options will help bridge the funding gap for small-scale business practitioners [31].

2.4. The Gap in Knowledge—Can Social Media Be Used as a Crowdfunding Platform in Developing Countries?

The "democratized access to capital" represents the entire concept of crowdfunding, as illustrated in recent works on crowdfunding and alternative financing. As emphasised in [33–36], the crowdfunding concept has a potential to secure finance on a global scale. Kahtan [27] suggests that due to the funding gap created by institutional financial lenders in respect to their inability to finance several categories of entrepreneurship that crowdfunding is currently helping to fund, the crowdfunding industry will ultimately dwarf the once profitable bank lending sector.

Bernardino and Santos [30], through their research, acknowledge the development of IT and the Internet, which has improved the interest and involvement of the "crowd" in providing entrepreneurial projects with financing. This includes social networks, which increase the reach and scope of the crowd and it can be argued that their availability has led to more organisations making a conscious effort to integrate their capital raising with social media campaigns. As further noted by [30], the adoption of crowdfunding rests on novel digital technologies and allows participants from different corners of a region or even the globe to join forces in project funding. This implies that small businesses in areas that are, for instance, in the developing countries, such as Nigeria, have the reach to utilise crowdfunding activities that have a global scale and can turn to those to source for capital. In some cases, companies use specialised social media platforms, such as Indiegogo and Kickstarter, to obtain the needed finances.

These studies also concluded that the explosion of Internet connectivity globally has been a major driver for crowdfunding platforms, as it creates an opportunity for entrepreneurs to obtain their needed start-up capital faster than ever. According to [37], these models and practices of rapid engagement with crowdfunding have drawn the attention of the research community. While there are merits of the above analogy of crowdfunding and its potential to leverage access to capital, the contemporary crowdfunding literature has been short of discussing the application of crowdfunding models and/or frameworks in the developing context categorized by factors, such as poor ICT infrastructures, limited online payment options and low social media adoption, which are all, in turn, affected by the poverty as well as the digital and financial illiteracy of the wide strata of population in the region. However, it remains largely unclear how developing countries will react to social media-based crowdfunding models. It is therefore important to carry out extensive investigations to further examine the various social media crowdfunding models as applicable in developing economies and the role they will play in triggering growth in less credit-attractive environments.

The present work aims to expand the discussion on crowdfunding by exploring the potential of introducing a pragmatic crowdfunding model in developing countries marred with the factors mentioned above. The work uses Nigeria as a focal point.

Table 1 shows certain successfully crowdfunded projects launched on various crowdfunding platforms. This trend of projects, which were funded even more generously than their respective initial targets (as illustrated in the table), has further motivated entrepreneurs to seek for funds over the Internet via crowdfunding their ideas. Whereas the backers of projects are further motivated by pride, prestige, the ability to own shares and equity and the prospect to be recognized and rewarded for very meagre contributions to projects from the comfort of one's living room over the Internet.

Sustainability **2022**, 14, 9333 7 of 21

Table 1	Some notable	crowdfunding	campaigns
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Project/Funding	Platform	Reference
Star Citizen (video game)		
Campaign Goal: USD 2 M	Kickstarter	[38]
Raised: USD 423,000,000+		
EOS (blockchain operating system)		
Campaign Goal: open	Ethereum	[39]
Raised: USD 4,100,000,000		
Solar Electric Vehicle (electric car)		
Campaign Goal: EUR 50 M	Independent project	[40]
Raised: EUR 53,342,998		
Flow Hive (beehive)		
Campaign Goal: USD 70 K	Indiegogo	[41]
Raised: USD 13,289,097		
Snapmaker (3D Printer)		
Campaign Goal: USD 50 K	Kickstarter	[42]
Raised: USD 2,277,182		

Crucially, in developing countries, such as Nigeria, crowdfunding can also facilitate the participation of economically disadvantaged people in social innovations. These efforts could result in the funding of projects financially less ambitious than those in Table 1, but no less important in terms of supporting local community initiatives and ultimately, improving societal behaviour [43]. Due to the motivation to participate beyond profit towards public good at the local community level, such projects would be open to participants with any levels of income, including the poor.

However, despite the acclaimed success of social media-based crowdfunding, our study considers such successes of the crowdfunding concept and practice as tentative and not present on a global scale. Neither do we agree that the concept has truly ensured access to funding for entrepreneurial activities in credit-averse environments, such as in Nigeria and many other developing countries.

Kim and Hann [35] pondered upon this same question in their study. They discovered that very limited academic research and crowdfunding literature have answered the important question of how crowdfunding assists in democratising access to capital. Furthermore, more generally, how would one describe the democratisation to capital? They further explained that crowdfunding can only be considered successful if it acts as an alternative medium for sourcing capital funds by entrepreneurs who have innovative ideas but find it difficult to raise the needed capital from established sources regardless of the entrepreneur's location. The above leaves small business practitioners operating in less credit-attractive environments at a disadvantage, and this is what the work presented here aims at addressing.

A lot of researchers may however argue that the inherent potential of crowdfunding to assist in securing valuable capital has already been proven beyond all reasonable doubts by looking at one-sided statistics from the myriad of success stories provided by fundraisers and marketed by crowdfunding platforms. However, the bottom line is the fact that if the very foundation of the purpose of crowdfunding is to remove barriers to accessing capital, then that target has not been achieved and may never be achieved judging from the current trend of the crowdfunding industry as revealed in recent studies.

In situations where crowdfunding is not explored in developing countries, such as Kenya, Ghana, Cameroon, Congo, Nigeria, Brazzaville, Zimbabwe, etc., it therefore means that the opportunity of securing valuable investments is effectively lost to millions of businessmen, entrepreneurs and small- and medium-scale enterprises that carry out business within the region. Hence, without adequate access to social media to deploy new fundraising instruments to those starting in business, capital becomes unavailable as most of

Sustainability **2022**, 14, 9333 8 of 21

them are said to be credit unworthy; in such regions, crowdfunding is considered a failure. This situation may be difficult to comprehend for crowdfunding enthusiasts based in the developed world. However, our paper identifies the specific barriers to the adoption of crowdfunding in developing countries despite an abundance of bright ideas that might exist in such regions being in an urgent need of funding. By creating a crowdfunding model that is both pragmatic and practiced in developing regions using some developing and/or least developed countries in Africa as a focal point, the "democratization of access to capital" can be expected to become truly global.

3. Methodology

In this research, we compare the status of crowdfunding in two economies with contrasting features, namely, the developed economy of the UK vs. the developing economy of Nigeria. This choice of countries follows the methodological approach of [44] in that the same range of crowdfunding-related variables is studied under the differing conditions, resulting in the identification of specific factors that affect the acceptance of crowdfunding in a particular setting. This approach allowed us to conduct a "comparative analysis" between strategies in the two countries in order to understand to what extent the UK's experience could be adopted in the market in question and by extension, how the strategies in the developed world can be adapted to the developing world. As such, we aim at better understanding how the success of crowdfunding strategies widely observed in the UK can be facilitated in Nigeria and other developing nations.

The research was arranged into four stages, as per Figure 1.

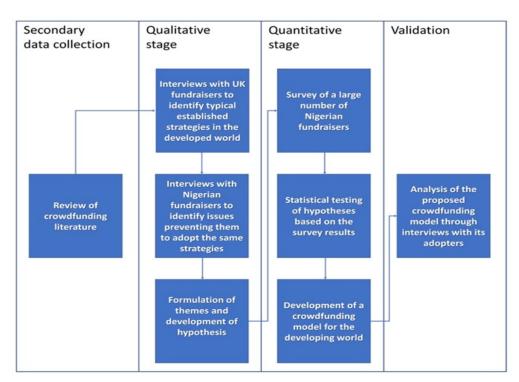


Figure 1. Key stages of the research.

Firstly, a systematic literature review on crowdfunding was completed. This included studying the applicability of crowdfunding systems in the contexts of both developing and developed countries as the latter gave some ideas for the former. The key databases adopted in the collection, collation and comparison of data included the Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) database that has a complete and well-documented list of every registered small business in Nigeria, as well

Sustainability **2022**, 14, 9333 9 of 21

as EBSCO Business Source Ultimate, used in benchmarking resource materials on crowdfunding. Furthermore, platforms such as Gofundme, Kickstarter and Indiegogo provided a vast database of crowdfunded projects spanning a little over 12 years. The keywords that guided the collation and collection of data and specifically the search for relevant articles included but were not limited to: crowdfunding success factors; small business finance; startup funding; social media; Kickstarter; Indiegogo; Nigeria; alternative financing; etc., as well as various combinations of those words.

The inclusion of papers for the review followed an approach developed in [45] specifically for the analysis of the crowdfunding literature. As such, articles included in the review of the theory behind crowdfunding were selected based on the following criteria: (a) articles should be relevant to the search keywords; (b) articles should be peer-reviewed or be working papers, books, reports or research theses; (c) articles should be published in English; and (d) articles should be available in full text. After the initial analysis, those articles that were not based on empirical data were excluded from further review. In terms of analysing businesses, we furthermore excluded large and/or multinational companies that have access to bank loans based on collateral or were relying on notable venture capitalists or investors.

The second stage involved a qualitative approach, which was based on interviewing two target groups of 20 fundraisers each in both the United Kingdom and Nigeria. The qualitative approach involved interviews that relied on the point-of-saturation [44]. The adequacy of sample is determined through the saturation point, at which the repetition of responses emerges [44,46]. The interviews were initially held with the UK-based fundraisers so that typical issues associated with online crowdfunding in a developed country could be identified. Then, the fundraisers from Nigeria were interviewed in an attempt to understand what factors could likely be hindering them from embracing models of crowdfunding similar to those practiced in the UK. As an outcome of the qualitative component, it has become possible to formulate a range of themes which were used in developing a set of hypotheses that were tested in the quantitative stage of the study. The participants in the qualitative stage were selected via the purposive non-probability sampling technique [47]. This method ensured that only expert fundraisers based on certain criteria set out by the researchers were involved in the study at the qualitative stages of the work. The qualitative stage of data collection was based on in-depth interviews comprising mainly open-ended questions but also a limited number of closed-ended questions. This approach introduced a structured component to the interviews, which also made it possible for statistics to be derived from them (see Supplementary Materials).

The third stage of the study was the quantitative stage and it involved surveying a wider number of fundraisers in the target market, Nigeria. In this stage a total of 160 fundraisers representing SMEs and entrepreneurs took part in the study. The participants were selected via a stratified random selection technique drawing heavily upon certain key criteria, such as: (i) Fundraisers who had raised funds via crowdfunding or order traditional methods, between 2014 and 2017; (ii) Fundraisers who were both unsuccessful and successful within the stipulated period; (iii) Fundraisers who fall within the category of a small business and/or start-up having a handful of co-founders/single entrepreneurs and members of staff not exceeding 20 employees; (iv) Fundraisers who operate within the Zaria, Kaduna and Abuja metropolis of Nigeria. The stratified random selection ensured that each stratum making up the total population was represented in the study [48]. This approach was crucial in obtaining statistics from a wider spectrum of fundraisers, whilst eliminating bias and ensuring that the results from the survey are reliable. The research instrument used in data collection were surveys. Questionnaires based on closed-ended questions complemented by a few open-ended questions were distributed amongst the participants (Supplementary Materials). According to Roscoe [49], the thumb rule of adequate and acceptable sample size should be above 30 and below 500 (30 \ge x \le 500). A plethora of comparative research studies have confirmed that in social science research, a

sample in the hundreds is acceptable to draw logical conclusions [44,46,49–54]. Hence, this study has an acceptable and adequate sample size to draw logical conclusions.

This analysis was a major step in the preparation for further inferential statistics. The hypotheses developed at the qualitative stage were tested at the end of the quantitative stage using the IBM version 23 statistical packages. The data were analysed and interpreted using the chi-square test in order to determine whether the association between the two qualitative variables is statistically significant [49,50].

This research was dealing with qualitative variables and as such, the authors were looking for any visible relationship between the two qualitative variables. The use of the chi-square test helped determine whether such a relationship existed. The chi-square test determines if that relationship is significant or insignificant via an alpha test/confidence interval at 0.05 p value to establish the levels of significance and/or insignificance between the examined variables. It is important to observe that qualitative variables are variables that are not purely numerical and as such, can be placed in categories [55]. The hypotheses were tested in the null [52], although for the sake of conciseness, only their respective alternative hypotheses are stated in this paper.

In the fourth and final stage of the study, the proposed crowdfunding model was validated amongst selected adopters of the model. With a view of validation, the model was applied to certain specific cases studied at stages 2 and 3. The validation instrument was based on in-depth interviews with a few fundraisers who adopted the model from previous stages of the research. This analysis was also complemented with descriptive statistics of a wider group of adopters of the model.

4. Results and Discussion

4.1. Qualitative Analysis

The first-order coding of the thematic analysis at the qualitative stage of the study was aimed at the initial finding of points frequently cited by the participants of both the UK and Nigerian target groups. This included the identification of the most commonly mentioned crowdfunding-related approaches, expectations and challenges. Such information allowed the interviewers to ask additional and more specific questions in order to take a closer look at each of those points and establish emergent themes, which received the second-order (axial) codes. These were then categorised into a few major themes that, according to the interviewees, define the success or failure of crowdfunding adoption (third-order coding). These included but were not limited to the Internet penetration, level of poverty, technological maturity, etc.

This process has led to a range of constructs essential to the social media-based crowdfunding approaches adopted by both the UK and Nigerian fundraisers. In particular, four important themes emerged as a result of the qualitative stage. These themes are not constant as they are a major determinant in ascertaining the workability of crowdfunding models in developing countries. This section discusses these four major aspects of social media-based crowdfunding. These are then used to develop hypotheses assuming these factors are major contributors to (i) the low success rate experienced by crowdfunding in the developing world, and (ii) the lack of compatibility between the models currently being implemented in the developed world and in the developing countries. These factors have also been taken into account for the design of a crowdfunding model for developing countries in Section 5 of this work.

Specifically, the four major variables that affect the feasibility of formulating a crowd-funding framework in developing countries are identified in this research. They include the following, as shown in Table 2.

Sustainability **2022**, 14, 9333 11 of 21

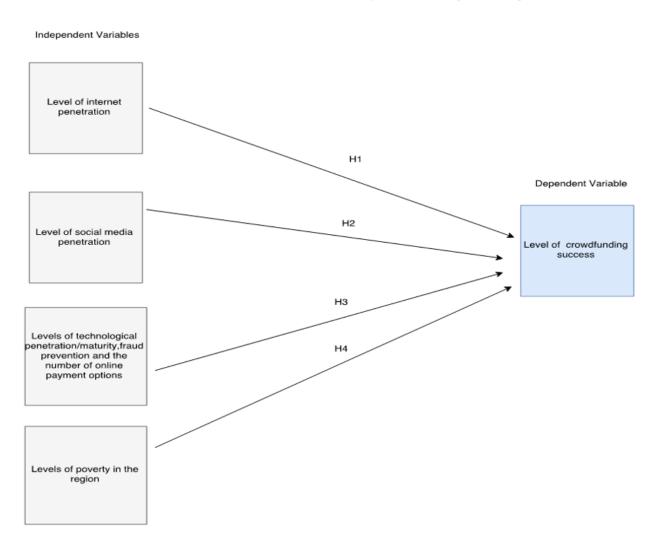
No.	Identified Theme Relevant to the Facilitation of Crowdfunding	Perceptions of the UK Participants	Perceptions of the Nigerian Participants
1	Internet penetration	The level of Internet penetration is high. Internet access is available at low costs.	The level of Internet penetration is low. High costs of data plan packages and Internet access.
2	Social media penetration	High penetration of social media.	Low penetration of social media.
3	Technological level of maturity, fraud prevention and options of online payment	Technological maturity and ample options of online payment. The extent of concerns related to fraud and its risks is low.	Poor choice of online payment options result- ing from immaturity of technological infra- structures. The levels of risks and fraud concerns are very high.
4	Level of poverty in the region	Economic prosperity	Poverty found in broad population strata

Table 2. Key themes related to crowdfunding based on social media.

- (1) Level of the Internet penetration. In Nigeria, it is estimated that over 70% of its population cannot access the Internet due to a myriad of factors, including huge data costs, endemic poverty and poor infrastructure. People that are based far away from city centres are completely left out from Internet usage. Our research highlights the need for the development and implementation of a policy and framework that improves the Internet penetration throughout the country.
- (2) Level of social media penetration. According to the data released by Statista, the social media giant Facebook had only 36 million users in Nigeria as of March 2022, which reveals the alarming fact that only 16.5% of the country's population are involved with its platform [56]. A wide range of factors had contributed to this outcome, ranging from the indifference of consumers to the use social media and the poor Internet connectivity experienced across the country, as mentioned above. According to [57], the most essential factor that guarantees the crowdfunding success is the social network. The data gathered in the research further validates the above point. Poor social media penetration is the single biggest reason for the failure of crowdfunding in developing countries as fundraisers find it difficult to exploit the wide array of benefits offered by social media.
- (3) Levels of technological maturity, fraud prevention, and a wide array of available payment options. The 21st century has experienced the greatest technological advancement in the history of mankind. Almost everything being used daily is based on the deployment of appropriate technology. The absence of popular payment platforms, e.g., Stripe, in the developing region has made it difficult for banks to develop robust platforms that make online crowdfunding fundraising easy. Without a massive development of online payment platforms, the true potential of crowdfunding may never be fulfilled in developing countries.
- (4) Poverty across all sections of the population. In a situation in which both the funders and founders find themselves below the poverty line, it begs the question where the money will come from. This further re-emphasises the need to eliminate poverty in developing countries by creating conducive environments where people can work and earn decent pay which will eventually trickle down to the crowdfunding sector of the economy.

4.2. Quantitative Analysis

As a result of the qualitative analysis of crowdfunding in the UK and Nigeria, the following system of hypotheses has been formulated, as shown in Figure 2.



Variables & Factors that affect the efficacy of a crowdfunding model in Nigeria

Figure 2. Hypotheses model explaining facilitation of crowdfunding.

- **H1.** There is a relationship between the level of Internet penetration and crowdfunding activities in Nigeria.
- **H2.** There is a relationship between the level of social media penetration and crowdfunding activities in the region.
- **H3.** There is a relationship between the levels of technology penetration, fraud prevention and the range of available options of online payment, and online fundraising in Nigeria.
- **H4.** There is a relationship between poverty of wide strata of population and fundraising efforts in Nigeria.

Although these relationships should be expected in the most general situation, there are studies showing that the considered factors are not necessarily the predictors of the adoption of digital tools, such as crowdfunding. For instance, the authors of [58–60] have argued that the level of Internet penetration is not always correlated with the gap of exploiting digital platforms. The actual correlation, in our view, strongly depends on a particular regional setting as well as the demographic and social features of the target groups

of crowdfunding participants. Hence, it was important to analyse our hypothesised relationships for statistical significance in the particular case of Nigerian entrepreneurs. The results of this analysis are presented in Tables 3–6, respectively.

Table 3. Outcomes of testing the impact of Internet penetration on crowdfunding
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Variable -		Resp	Chi Square	Df	*			
variable	High	Medium	Low	Total	Chi Square	Critical	DI	p *
Level of Internet penetration								
and its impact on crowdfund-	140	40	20	200	339.200	43.773	30	0.00
ing in the region.								

^{*} Calculated p < 0.05. X^2 critical $< X^2$ computed at df 30.

The outcome of the X^2 analysis above indicates that the low level of Internet access has a substantial impact on crowdfunding in the region, the reason being the critical value of X^2 equal to 43.773 at df 30 is lower than the computed X^2 value of 339.200. The calculated p value of 0.000 falls within the 0.05 confidence level. From this, it can be deduced that the poor growth in crowdfunding in Nigeria is strongly linked to the low level of Internet penetration. The null hypothesis, which argues that there is no relationship between crowdfunding in the region and low levels of Internet penetration is hereby rejected. So the alternate hypothesis, which states that crowdfunding in the region is significantly affected by the low level of Internet penetration, is hereby accepted and retained.

Table 4. Outcomes of testing how crowdfunding is affected by social media penetration.

Variable		Re	sponse C	Chi Square	Df	v *		
variable	High	Medium	Low	Total	Chi Square	Critical	DI	P
Level of social media pene-								
tration and its impact on	12	20	168	200	337.705	43.773	30	0.001
crowdfunding in the region.								

^{*} Calculated p < 0.05. X^2 critical $< X^2$ computed at df 30.

The outcome of the X^2 analysis above demonstrates that the extent of penetration of social media critically affects the adoption of crowdfunding in the region, the reason being the critical value of X^2 equal to 43.773 at df 30 is lower than the computed X^2 value of 337.705. The calculated p value of 0.001 also falls within the 0.05 confidence level. This further supports the idea that the growth of crowdfunding is greatly influenced by the extent of social media penetration. Therefore, the null hypothesis, which argues that crowdfunding is not influenced by the penetration level of social media, is rejected, while the alternate hypothesis that posits that social media penetration is a critical factor in the growth of crowdfunding in the region is hereby accepted and retained.

Table 5. Outcomes of testing how crowdfunding is affected by the availability of alternative online payment options and the extent of technology penetration.

	Cross Ta							
Count								
		Availability	of Payment Options	- Total	Chi Square	n *	D 1 .	
		Available	Not Available	Total	Computed	p	Remarks	
levels of technological penetration,	High	70	26	96	22.105	0.001	Relationship exist	
fraud prevention and the number of online payment options	Low	22	82	104				
Total		73	127	200				

^{*} X^2 critical = 3.841, X^2 computed = 22.105.

The results of the X² nominal cross tabulation statistics showed that there is a strong relationship between the extent of technology penetration, fraud prevention and the range of available options for online payment. This is because the X² computed value, equal to 22.105, is above the critical value, which is 3.841 at df 1. The resulting *p*-value is 0.00, which is below the significance level of alpha of 0.05. As can be seen from the table, the level of technology penetration is correlated with the extent of availability of online payments. This is exemplified by the London-based respondents and the Nigerian-based respondents, as the former has a high level of technological penetration and an equally high number of payment options and the latter has a low level of technology penetration and a very low number of available payment options. Consequently, the null hypothesis which states that there is no significant relationship between the level of technology penetration and the availability of online payment options is hereby rejected.

Table 6. Outcomes of testing the impact of poverty of wide population strata and its influence on fundraising efforts in Nigeria.

Variable	N	Mean	Std.Dev	Df	Correlation Index *	р	Remarks
Poverty	200	12.5414	0.6874	198	-0.892	0.005	
							Significant influence exist
Fund raising efforts	200	13.246	1.0032				

^{*} Correlation is significant at 0.06 level.

The PPMC test was used in this stage to quantify the poverty and fundraising efforts in order to obtain numerical values for statistical analysis. The results indicate that a significant relationship exists between poverty and the fundraising efforts of respondents. This is due to the fact that the calculated p value of 0.005 is below the 0.05 alpha level of significance at a correlation index r level of -0.892. The relationship between the two variables is inversely proportional. This shows that the increasing poverty levels lead to a drop in the fundraising efforts, and vice versa. This means that the level of poverty influences the fundraising efforts of the respondents. For instance, poor individuals lack Internet facilities, such as computers, power supply, awareness about fundraising capabilities, etc [61]. Therefore, the null hypothesis which states that the poverty of wide strata of the population does not have a significant influence on fundraising efforts is hereby rejected.

5. Proposed Crowdfunding Model for Developing Countries

Proposed Model

It is evident from the analysis presented in the previous section that the identified key factors affecting crowdfunding, specifically, the low levels of Internet and social media penetration, the lack of online payment systems and trust in those, the general technological immaturity as well as the situation of poverty in Nigeria, all result in the low utilisation of social networks for fundraising activities. Hence, an approach to facilitating crowdfunding in the country until the aforementioned issues are resolved could be based on the inclusion of persons through the offline crowdfunding campaigns. It can be expected that in a scenario where crowdfunding is supported through a hybrid online/offline model, the number of social media users participating in fundraising would be in an inverse relationship with the offline dimension. In other words, the lower the social media utilisation, the more critical is the need to rely on offline crowdfunding activities, and vice versa. As such, the proposed model is based on a combination of offline and online crowdfunding strategies. This model is a product–market fit for the country in question due to the unique factors that affect the local applicability of crowdfunding frameworks. The model is the result of a comprehensive empirical study carried out in the target market.

With this model, the offline crowdfunding dimension is designed to serve those large segments of Nigerian population that are most affected by the identified variables (analysed in H1–H4), in particular, poverty, the unavailability of the Internet and the low level

of trust in digital infrastructures, while the online dimension is aimed at social media users and functions in a way similar to that in the developed countries.

The conceptual diagram of the proposed crowdfunding model is presented in Figure 3 as the product of the themes identified at the qualitative stage and tested in the quantitative stage of this study. It captures the major challenges that, as per the previous section, affect the applicability of social media-based crowdfunding in the target market and in developing countries that share similar characteristics with the market in question. The model is designed to function despite the presence of these challenges in the target market owing to the balance between the online and offline crowdfunding dimensions.

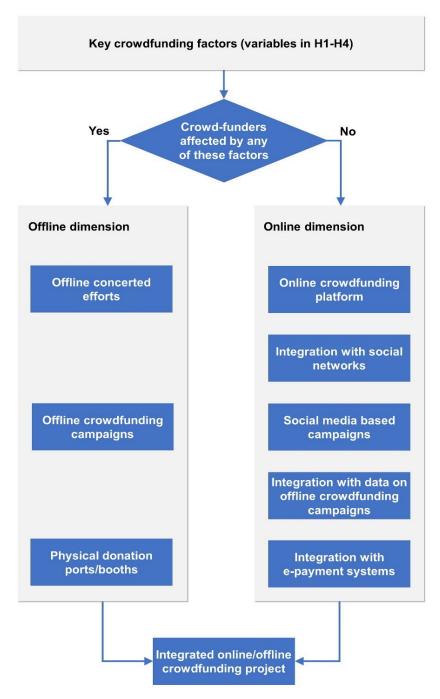


Figure 3. The proposed crowdfunding model/activities for the developing countries.

Offline Dimension: The offline dimension of the model provides an enabling environment for fundraisers to coordinate all crowdfunding efforts offline. These offline activities will include but are not limited to: advertising the campaign via traditional outlets, such as street corners, public places, television networks and radio stations that are readily available and accessible to a great number of Nigerians on a daily basis. The second stage will involve coordinating an offline face-to-face crowdfunding campaign in which fundraisers and their various representatives can reach out to members of the general public and potential donors, offline and in real-time, whilst the third stage will involve setting up local payment booths or some form of donation ports where funders can make donations by cash or bank cheques (bearing in mind that Nigeria is still a predominantly cash based society). Each campaign becomes visible to the crowd due to the strong offline campaign structure, i.e., the use of well-designed display banners or the impact made by fundraisers' distributing leaflets and details of the project on members of the general public.

Online Dimension: Although social media-based crowdfunding is perceived as an online-only form of fundraising, the primary purpose of launching a crowdfunding campaign is to achieve a successful fundraising target [62]. This means that fundraisers can take advantage of the offline dimension to consolidate the online dimension of social media-based fundraising in a developing context. In the online dimension, the use of the available social media tools will be very instrumental in pooling-in potential donors who have access to the Internet and various online payment infrastructures. For instance, users who bank with financial institutions, such as Union Bank Nigeria Plc, First Bank of Nigeria Plc, Guaranteed Trust Bank, Zenith Bank, etc., which provide numerous options for online payments, or users who have access to online payment processors, such as GTPay, can take advantage of the online dimension of the fundraising campaign. Social media will be utilised to spread the fundraising campaign across a variety of online social networks with a target of incorporating family members, friends, colleagues and friends of friends and motivating them to pull in their social network ties, thus, activating the social network effect and ultimately tapping the social capital that is embedded within the specified social networks of the fundraisers and their friends and family. These potential donors can make donations to the campaign in one of two ways:

- (1) In a situation in which a donor joins the fundraising campaign online, but does not have access to online payment facilities, such donors can be redirected to the closest offline donation port/booth nearest to them or be provided with the details of the specified bank account of the fundraisers or the account provided by the crowdfunding platform hosting the campaign, where cash or wire transfer deposits can be channelled to.
- (2) Donors who are fortunate enough to have access to online banking and/or Internet-based payment options can easily complete the donation process by making direct debit payments and/or Internet transfers towards the project right on the crowdfunding platform hosting the campaign. This is the dimension of social media-based crowdfunding practiced in the developed crowdfunding marketplace.

The aforementioned evidence gathered in this research indicates that such an offline/online approach could be a viable CF model for the country. Fundraisers can choose either of the two approaches and/or options, for example, launching the campaign online and consolidating it with the offline dimension or vice versa. Social media in either case becomes the core conduit that energises the crowdfunding effort. A notable advantage of this model is that it eliminates the effects of the barriers affecting the applicability of crowdfunding models in the region and it helps build trust between fundraisers and project backers, thus further alienating fraud concerns as relationships built offline can easily translate to support for the project online. Sustainability **2022**, 14, 9333 17 of 21

6. Validation Considerations

With a view of validation, the proposed crowdfunding model was applied to certain cases studied at stages 2 and 3. The validation instrument was based on in-depth interviews with a few fundraisers who adopted the model from previous stages of the research. This analysis was also complemented with descriptive statistics of a wider group of adopters of the model. The results of the validation indicated that the proposed model is a market–product fit as illustrated in Table 7 below. Responses from the early adopters of the model indicate that the model is useful to fundraisers in the market in question. Future research could include assessing the reach of the model in the target market longitudinally, i.e., over a certain period of time.

Table 7. Brief quotes from the validation stage.

	Element of the Proposed Crowdfunding Model	Evidence from the Validators
Off	Off-line concerted efforts	"By including the offline dimension of the model in my CF campaign, I was able to raise 60% of my funding goal from my local community"
Off-line d	Off-line crowdfunding campaigns	"The offline campaign consolidated the online campaign brilliantly. The fundraising was inclusive and dynamic"
dimension	Physical donation ports/booth	"The offline crowd who have no access to the Internet proved to be very useful as they donated via the donation ports/booths. Without the use of donation ports/booth, we would have lost 40% of donations received via this channel"
Online dimension	Online crowdfunding platform	"The online crowdfunding platform still played a key role as a good percentage of donors donated directly through the crowdfunding platform that hosted our crowdfunding campaign."
	Social media integration with physical do- nations	"Integrating our social media network with our offline strategy ensured that some donors who discovered the project online and could not donate due to a lack of online payment options were directed towards the nearest payment booth where donations were made physically and vis-à-vis"
	Online payment options	"Both users who discovered the campaign offline and online and had the means of donating via Internet-based payment options, found the online payment options convenient. However, the most effective strategy was a combination of the online and payment crowdfunding models"

A total number of five participants were selected for this stage by the researchers. This is because from the total population of fundraisers who participated in the study, only five fundraisers have engaged in crowdfunding activities or sought to raise funds using the proposed offline/online model. Whilst the researcher is positive that many more participants and/or several other fundraisers will embrace the proposed model in the near future, the fundraisers who have adopted the model provide a clear indication regarding the practicability and efficacy of the model.

7. Conclusions

7.1. Key Contributions

In investigating the efficacy of introducing a viable crowdfunding model for developing countries as an alternative fundraising mechanism for entrepreneurs and SMEs, the following key findings were reached.

This paper justifies why the current models currently in place in the developed world cannot work in the developing world. Factors such as the absence of an adequate ICT

infrastructure, increased fraud risks, poor Internet penetration, lack of robust Internet-based payment platforms and low levels of social media penetration, amongst others, are the major contributors to the poor disposition of citizens of developing countries to crowdfunding. As all the above discussed factors significantly affect the crowdfunding market in developing countries, it seems a better option would be to combine an offline and online framework to obtain greater fundraising efficiency in such regions.

The offline/online model proposed in this paper is an innovation in the crowdfunding industry as the model guarantees that entrepreneurs, regardless of their geo-locations and/or access to technology-based infrastructure, i.e., online payment options, can participate in crowdfunding activities.

The Nigerian government and a number of other governments in developing countries appreciate the model as it encapsulates the unique challenges within such environments, whilst making the concept of crowdfunding more participatory, engaging and open to all interested fundraisers and donors.

7.2. Implications for Theory

The implications for theory include a validation of the relationships that exist between a number of key independent variables and fundraising via crowds as the key interest dependent variable. The independent factors include the level of Internet penetration, social media activity and penetration level, and technological factors, including access, security and fraud prevention as well as the range of online payment options. The paper also addresses the sensitive issue of the poverty trap. As argued in [63], financial inclusion is crucial to eradicate extreme poverty and hunger and is crucial in sustaining an inclusive economic growth. As such, crowdfunding for SMEs in developing countries is crucial to addressing the issue of poverty.

7.3. Implications for Practice

The practical implications of this work are very significant in the context of the times we live in. The Cop26 summit in Glasgow [55] detailed the implications of impending climate change for the poorest nations. In addition to campaigning for direct aid to drive projects that will help such nations to prepare for what is coming, it strongly urged all nations to take measures to implement self-help solutions. This paper emphasises the importance of crowdfunding as a vital source of capital to enable such actions to be taken at the local level.

7.4. Limitations

The research was undertaken with a particular geographical focus in mind. In that vein one considers that the results, while generalisable at a high level, would have some culture- and nation-specific factors at play. The solution presented however does have a strong rationale that makes it generalisable across a broad range of nation-states with similar characteristics.

7.5. Directions for Future Research

In addition to the limitation mentioned in 7.4, future research should be directed toward the question of how crowdfunding initiatives, such as those proposed here, can be made more attractive and more socially and environmentally oriented [56]. This would be especially challenging in countries where poverty trap issues exist [57].

Another key area of research stemming from the outcomes of this study is the formulation of policies towards the implementation of secure digital infrastructures in developing countries. As shown in [58], the factors key to facilitating a large-scale crowdfunding adoption include the provision of trust in the supporting platform as well as information security, quality and protection. As such, an approach to meeting these expectations especially in the presence of fundraising-related issues in Nigeria, highlighted by

the outcomes of our research, would be critical for the adoption of the proposed crowdfunding model.

Whilst this research was based on the comparative analysis of two countries with contrasting economic conditions, i.e., the UK and Nigeria, it would also be relevant to investigate the similarities and differences of alternative finance in the latter and other developing countries, such as Egypt, South Africa, Tanzania, Ethiopia, etc.

One of the benefits of crowdfunding is that if a large number of people invest a small amount of disposable income, then the aggregate can be significant and provide the capital to address substantial projects. The challenge that is present, however, is how to get this message across in a convincing way so that behaviour patterns will shift and overcome the poverty trap obstacle.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/su14159333/s1.

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Sustainability **2022**, 14, 9333 21 of 21

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