Understanding Digital Fundraising in Kenya

A Case Study with M-Changa

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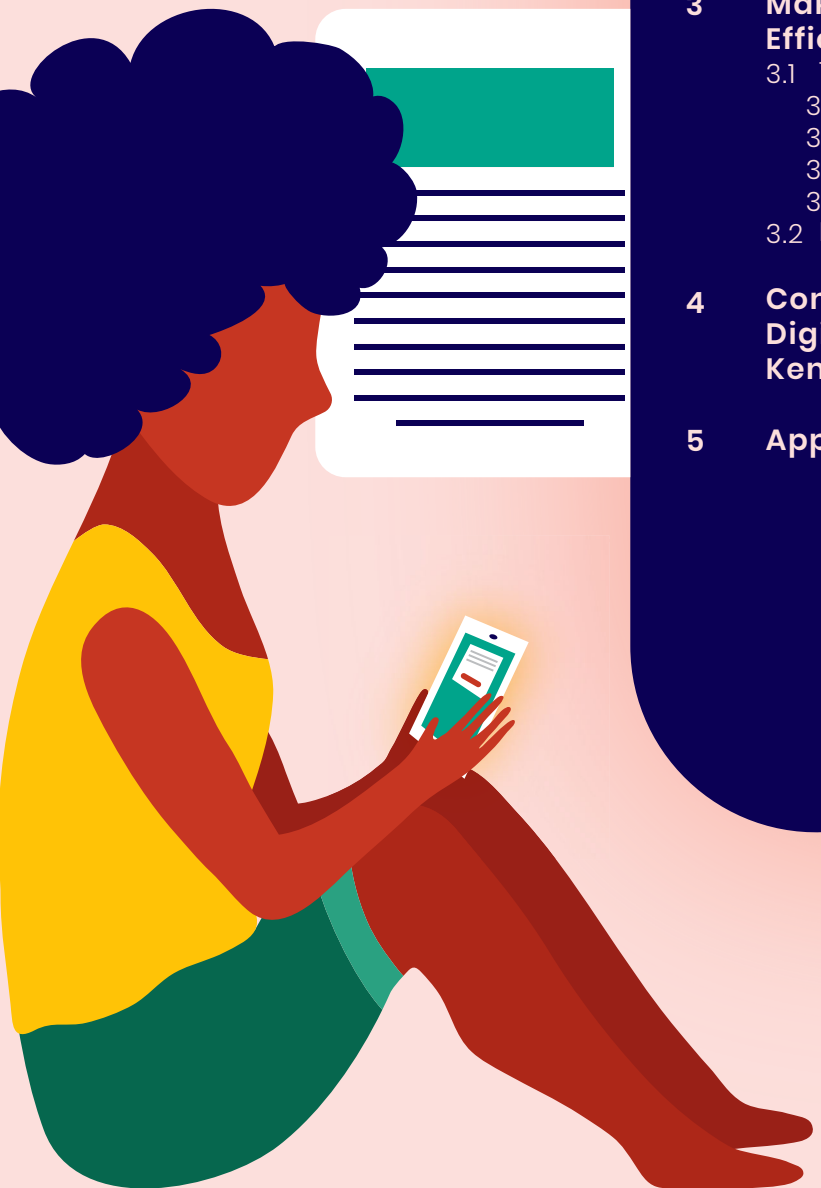


Introduction

Harambee (meaning to 'all pull together' in Swahili) is an important aspect of Kenyan culture. Indeed, anyone who has spent time in East Africa is familiar with the importance of fundraising events which are considered a social institution. Ranging from informal one-day events to established, multi-day affairs, Harambee gatherings are organized by individuals seeking to raise funds for unexpected or difficult to meet expenses such as funerals, emergency medical treatments, weddings or school fees. Most Kenyan adults participate in several fundraisers each year to raise money for such causes and the 'Harambee Spirit' is widely encouraged to pull together ideas, time and resources for the community.

M-Changa, founded in 2011, is a digital platform which enables users to conduct Harambee fundraising online. The platform aims not only to simplify the fundraising process for fundraisers who might seek to avoid the upfront investments of time and money required for a traditional Harambee; it also seeks to broaden the potential base of donors by harnessing the network effects that inevitably develop on online platforms.

Changa Labs commissioned The Busara Center for Behavioral Economics and ThinkPlace to increase understanding of the drivers of uptake and engagement on the fundraising platform. In the course of our engagement, we:

1. Studied how people engage with online platforms
2. Created a model predicting the success of campaigns
3. Studied users in a variety of settings identifying pain points, needs and motivations
4. Undertook a series of experiments to test what changes to the platform might increase fundraiser engagement and average contributions to each campaign

The engagement yielded a number of insights that both contribute to and refine the body of research on fundraising and contributions in both the online and offline spheres. With specific regard to M-Changa, we found that:

1

Medical campaigns are the most common and most contributed towards, with an average of 81 different donors per campaign. The next highest category was funerals with an average of 49 donors.

2

Fundraisers are overly optimistic about their campaign's ability to succeed and rely heavily on defaults set by the system. The majority of finished campaigns reached between 0 and 25% of their goals.

3

The first three days of a campaign are very important, with campaigns that raised more than KES 1,000 from five different contributors in the first three days standing a much better chance of meeting their goals.

4

"Big donors" are fundamental to campaign success; for campaigns that reached more than 50% of their targets, "big donors" were more than half of their donor base.

5

Online crowdfunding does not substitute traditional Harambee; instead, the majority of online donations were made on Monday to Friday, with traditional Harambee fundraising conducted over the weekend.

6

Timing matters, with donations lower during the rainy season. A potential explanation is that donors were more likely to give and in greater amounts in harvest months.

7

Online donations are key to reach the target, with average donation amounts made with PayPal and credit card.

8

There has been a substantial increase in the number of campaigns initiated on the M-Changa platform over the last 3 years, with 200 to 500 new campaigns initiated every month in 2017.

9

From Kenyans to Kenyans: most of the donations on the platform are made by Kenyans to help fellow citizens.

The following insights led to the development of behavioral interventions designed to increase either the total amount raised in a campaign, the average donation size, or the number of contributions. While the behavioral experiments conducted did not show significant effects in this particular study, we have acquired significant insights into a variety of behaviors and preferences on the M-Changa site.

This report provides a detailed account of these findings and our engagement with M-Changa.

1 Background

1.1 Global context

Crowdfunding has emerged as an important area of financial technology or "Fintech". Crowdfunding typically describes a method of financing where small amounts of funds are raised from a large number of individuals to support campaigns, needs or ideas. For example, crowdfunding websites in the United States such as GoFundMe, Kickstarter, and Indiegogo help users support fundraising for creative projects, personal needs, charitable causes and entrepreneurialism. From a behavioral perspective, the motivations behind crowdfunding are wide ranging, including empathy, self-improvement, financial gain, reputation, commitment to a creative, social or artistic cause, and more.

Nowadays, the fundraising sector is a substantial and competitive market: Crowdfunding websites have raised more than 35 billion dollars globally and are projected to raise about 300 billion dollars by 2025. This increased competitiveness, combined with the digitalization of customers' experience is prompting research into crowdfunding participation. If we want to understand how we can make a difference, it is time we understand the social, cultural meanings and values which motivate people to participate in fundraisers.

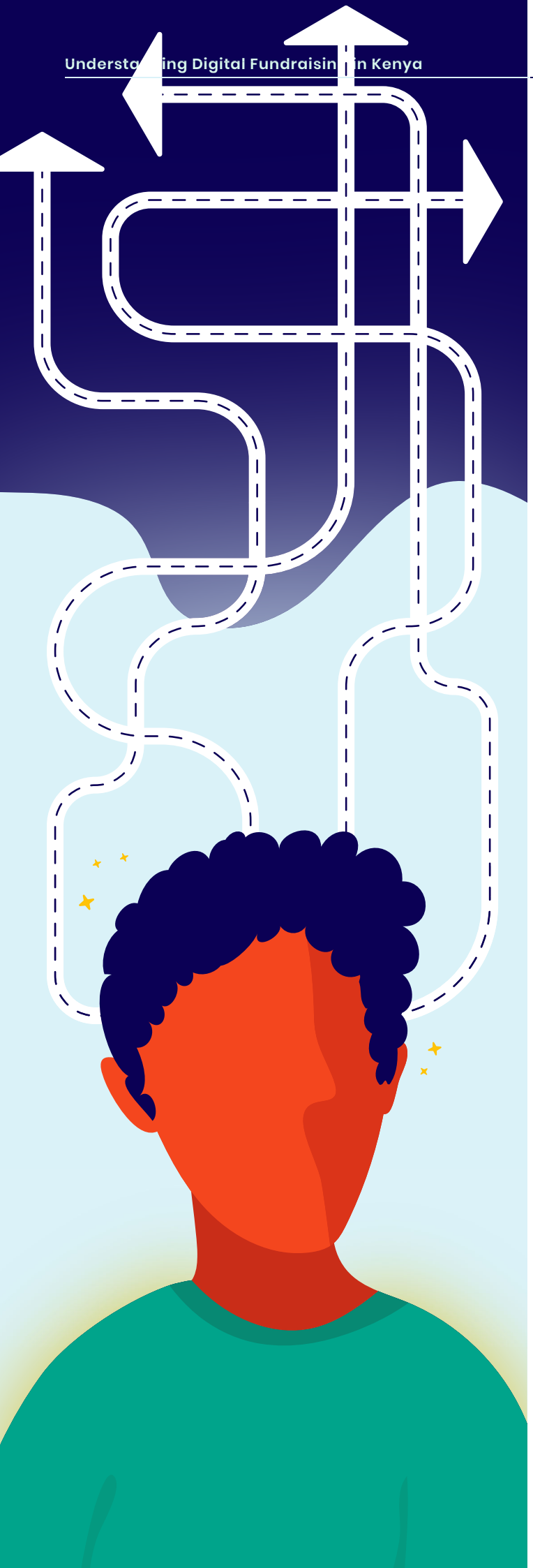
1.2 M-Changa history

M-Changa is a digital platform for online fundraising in Kenya. The Nairobi-based private company was founded in 2011 by Dave Mark and Kyai Mullei. M-Changa's users initiate and contribute to fundraising campaigns for charitable and humanitarian organizations, churches, NGOs as well as for a variety of personal causes, including medical needs, ceremonies such as weddings and funerals, school fees, entrepreneurship, and local infrastructure projects. The M-Changa platform collects donations from across several different payment channels and shares fundraiser progress and information with participants. It offers safe, temporary digital storage of the raised amount and charges a 4.25% fee when funds are withdrawn.

While traditional fundraising involves face-to-face meetings, M-Changa users can start a fundraising campaign directly on the website or by sending an SMS. They provide their name, personal details and invite friends or peers to support their cause by donating. These donors can donate via mobile money (M-Pesa and Airtel), as well as via PayPal and credit card. M-Changa's purpose is to make fundraising quick, easy, cheap and transparent. By leveraging digital technology, M-Changa has the potential to enhance traditional fundraising, by connecting fundraisers to a wider network of donors and increasing the chances to achieve their goal.

Historically, M-Changa has been successful with a primarily urban clientele. Since 2012 they have raised over US $5 million in 28,000 fundraisers. In 2015, the company began a project supported by the Bill and Melinda Gates Foundation to redesign the product for a more low-income clientele. As the low-income sector comprises a large portion of Kenyan society, the goal of this was also to develop a product that would scale to a larger group of customers. Finally, many informal financial practices with money transfer services involve mobilizing social networks. An additional goal of the M-Changa redesign was therefore to explore ways to make informal fundraising more efficient or faster.

1 InfoDev, "Crowdfunding's Potential for the Developing World", last accessed: 16/11/2018
2 Due to the increase in online giving, most fundraising organizations are shifting away to traditional ways of fundraising to digitizing the whole user interaction with the campaigns



1.3 Methodology and partners

The Busara Center for Behavioral Economics was commissioned by Changa Labs to help with this project by providing an understanding of the drivers of fundraising behavior, identify strategies to increase donations on the platform and encourage uptake of digital payments. This engagement leveraged Busara's expertise in behavioral economics and data analytics to study how people engage with the M-Changa platform and unpack key user archetypes. Busara used this to develop a model which predicts the success of campaigns. This translated in to a set of recommendations to M-Changa to identify and support fundraisers in need. Busara then leveraged its expertise in applied experimentation to test interventions designed to increase efficiency and maximize the success of fundraising on the M-Changa platform.

In addition, the engagement also leveraged ThinkPlace and Dr. Sibel Kusimba's expertise to help better contextualize and understand fundraising practices. ThinkPlace Inc. is a design firm that provided the human-centered design perspective. They profiled potential users in both rural and urban areas and uncovered pain points, needs and motivations around fundraising. Dr. Sibel Kusimba is an anthropologist who studies the social and cultural contexts around digital finance in Kenya. She undertook an ethnographic study for M-Changa of fundraising practices using digital money transfer services in Nairobi and Bungoma, Kenya.

1.4 Behavioral biases and fundraising

Research suggests that behavioral biases such as small barriers to actions and behaviors like procrastination and avoidance may stand in the way of people making donations to fundraising campaigns, even if they have the desire to do so.[3] However, behavioral economics principles can be used to nudge people to donate by reducing these barriers to giving. A few examples include;[4]

1

To overcome **inertia**, it is useful to break down fundraising targets into smaller goals and make sure achievements are acknowledged. According to the online platform Just Giving, breaking down fundraising campaign into ten steps can improve fundraising.

2

Prime and anchor ideas.[5] The choices we make are influenced by unconscious response to previous experiences, and our first impressions often influence the rest of our experience. For example, if potential givers are given the information that the average gift from previous donors is $50, they will be inclined to give more than if the average gift was presented as $20.

3

We tend to focus on **information that is most available, silent and vivid**[6], e.g. headlines are more memorable than statistics. We also seek information that confirm what we already know, and filter out what does not fit well with our mental models (confirmation bias). It is important to find out what information matter to donors, and only give them what they need to decide: offer fewer choices, compare information with something they know, endorse information from someone they trust.

4

Choices are often triggered by **unconscious emotional response.**[7] Emotional reaction is stronger when we're told about one person, than about a million (the so called 'identifiable victim effect'). Making sure potential supporters perceive they have something in common with those who are asking them to help increases donations. With this in mind, fundraisers with pictures on their page raise 14% more per photo, presumably as the recipient becomes more identifiable[8].

5

Social contagion is a key dynamic of human behavior.[9] Using social proof (what others are doing) and reciprocity (the need to give back) increases donations. It is important to also be conscious of the so called 'bystander effect' - individuals are less likely to offer help to a victim when other people are present; make sure people feel they have individual agency, and that the challenge is not perceived as overwhelming.

3 Ideas42, "Behavior and Charitable Giving", last accessed: 16/11/2018
4 Bernard R, Mahmoud O, Change for Good: Using behavioural economics for a better world (2018, The Management Centre)
5 Bernard R, Mahmoud O, Change for Good: Using behavioural economics for a better world (2018, The Management Centre)
6 Bernard R, Mahmoud O, Change for Good: Using behavioural economics for a better world (2018, The Management Centre)
7 Psychologist World, "Unconscious Ideas and Emotions", last accessed: 18/11/2018
8 JustGiving, "JustGiving Top 10 Fundraising Tips", Last Accessed: 18/11/2018
9 Christakis NA, Fowler JH, "Social contagion theory: examining dynamic social networks and human behavior", Stat Med. 2013 Feb 20; 32(4)

2
Fundraising & Donations in Kenya

Fundraising events in Kenya play a very important role. With a significantly limited access to formal financial services such as credit or insurance, financial shocks of any kind leave people at risk, exposed to disproportionately more difficulty than before the event. The informal social giving institution in Kenya is therefore an effective solution to this problem, providing a quick way to mobilize emergency funds. However, the lack of behavioral research on this topic leaves unanswered questions: what makes people donate? How do fundraisers use digital platforms? Which behavioral nudges could improve campaign effectiveness? These are questions we seek to answer, specific to the Kenyan context.

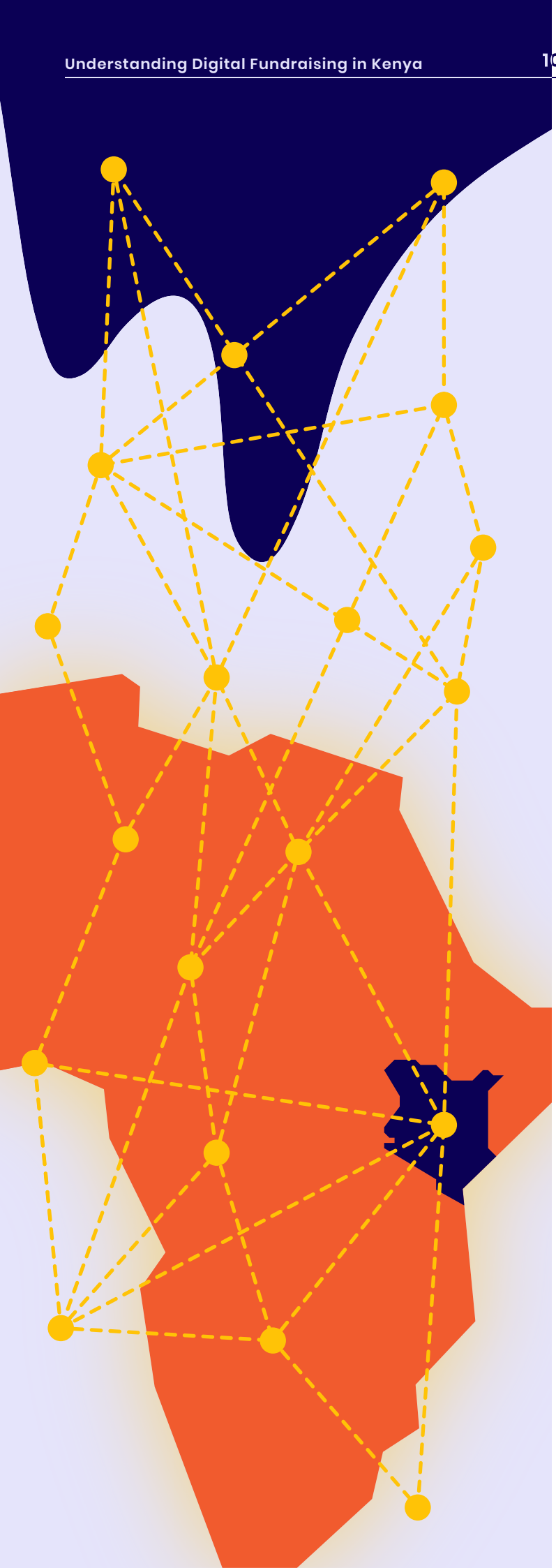
2.1 Overview

Social networks are key in meeting unexpected financial shocks

In Kenya, people tend to be heavily reliant on their social networks to cope with financial shocks. This is especially true for low-income people in Kenya, who have many competing needs but very limited access to formal financial products and services.[10] Soliciting funds from their social network is a common way of raising finances: fundraising events called Harambees[11] were popularized by President Jomo Kenyatta, who advocated community self-help as part of nation-building[12]. They have since become means of personal and family fundraising. The nature of Harambees varies from informal affairs lasting a few hours in which invitations are spread by word of mouth, to formal, multi-day events advertised in newspapers. In addition to collecting donations, these events may include additional activities such as auctions, selling products at inflated prices or raffles to raise additional funds. Organizers sometimes leverage "lead donors", who help them nudge and incentivize participants to contribute more. "Lead donor" roles are numerous: they are usually well respected in the community and are expected to significantly contribute themselves, as well as serve as custodians to rally new resources if the campaign does not meet its goals.

Harambees represent an important lifeline, helping individuals to cope with immediate liquidity needs, thus making up for the lack of surplus income and savings, as well as access to formal credit and insurance.

10 FSD-Kenya, "Struggling to Thrive", Last accessed: 18/11/2018
11 Harambee is a Swahili word meaning pulling together
12 A.V. Noreh, "Harambee in Kenya", University of Nairobi



There is a slight shift towards online giving

Whilst Harambees are still predominately in-person events where donations are collected face to face, there is a slight growth towards using social media and crowdfunding platforms to raise funds. This has been mirroring the global landscape, where there has been a spike in online giving: while total giving increased by 1% in 2016, online giving increased by eight percentage points the same year.[13]

Kenya has favorable conditions to support the digital shift in online giving

In the transition to a more digital economy, the Kenyan consumer is becoming more technologically included: Kenya has an internet penetration of approximately 89% which is significantly higher than in its neighboring countries, Uganda and Tanzania[14]. With M-Pesa, Kenya also has one of the longest histories of mobile money, with approximately 29.1 million active mobile money subscribers.[15] Kenya (although disproportionately in urban areas) is therefore strategically placed to switch to use digital donations and online fundraising.

Access to online fundraising platforms could help fundraisers reach a wider pool of potential donors and cut down on the logistical needs and costs associated with physical Harambees. Online fundraising could therefore make fundraising more cost efficient and effective.

13 Winscape, "2017 Online Giving Trends", Last accessed: 18/11/2018
14 Internet World Stats, "Kenya Internet Usage Stats and Market Reports", last accessed: 18/11/2018
15 Communications Authority of Kenya, "Sector Statistics Report Q3 2017/2018", last accessed: 18/11/2018

2.2 Locally-relevant research

Social networks are key in meeting unexpected financial shocks

Most of the published research on donating and fundraising has a WEIRD problem: it is done based on subjects who are Western, Educated, Industrialized, Rich, and Democratic (WEIRD). These studies have tended to focus on concepts like charitable giving as a longstanding institutionalized practice, which cannot and should not be applied to Kenya. Indeed, in Kenya fundraising takes place in social and family networks and emphasizes strong relationships among participants. Kenyan crowdfunding is particularly successful when a strong sense of mutual benefit unites a social network around a particular cause, and both donors and receivers benefit alike.

Busara, ThinkPlace and Dr. Sibel Kusimba conducted qualitative and quantitative research in Kenya to understand fundraising beliefs, practices, and experiences.

Here is some of what we have learned:[16]

Harambees: Many Kenyans still participate in Harambees. However, Harambees are perceived as a high-risk fundraising method. This is mainly due to the high set-up costs involved in the preparation and organization of events, and the risk of getting low returns due to no-shows (after pledging). Moreover, the safety of the money raised is another concern: Fund-raisers have a strong preference for channels that offer relatively more security on raised funds compared to others (e.g. mobile money instead of cash).

Indirect benefits: Additional positive externalities of fundraising include gaining new friends, and building stronger networks.

Campaigns: There is a sense of urgency for campaigns where contributors are able to personally verify where the money is going (e.g. medical expenses, school fees etc.). In particular, medical and funeral expenses are considered high priority in terms of fundraising, and attracts a lot of contributions.

Cultural and social reasons are important for contributors. Donations are based on trust and reflect expectations of reciprocity, reputation, and social commitments. In particular, for family events, members are expected to participate and contribute in order to demonstrate belonging to the group in question. For funerals, donations indicate respect and appreciation of the person lost and his family.

The importance of networks: Globally, most people prefer to contribute to people and causes they feel closer to, and this has also been seen to be true in the Kenyan context, as Kenyans prefer to donate to people in their social network. Moreover, most of Kenyans' social and financial network circulation occurs through savings group participation and friend and family borrowing through everyday contacts, such as face-to-face conversations and phone calls.

Trust: Fundraisers trust the closest members of their families; appointing them as treasurers in the fundrais-ing committee.

Participants: These vary according to where the fundraiser lives. Fundraisers from urban areas prefer inviting friends and family to their fundraising. Those who live in peri-urban areas, instead, strategize to invite prominent people like their local MPs to their fundrais-ing activities. People in rural areas prefer to invite their religious leaders and political leaders with prominent positions in the area.

Acts of giving create a record of participa-tion and of generosity that can become an important part of engaging with the technology. For example, M-Changa fundraisers can share a link to the record of contributions. For many donors, this record creates transparency and trust around the shared fundraising account - a distributed ledger of sorts where everyone can verify how the campaign progress-es[17]. Similarly, contributors value the ability to see how their fundraising efforts influence others.

16 Findings from this section were obtained from the qualitative study that we did with both users and non-users of M-Changa from both urban and peri-urban areas

17 Kusimba, S. It is Easy for Women to Ask: Gender and Digital Finance in Kenya. Economic Anthropology 5(2):247-260.

ThinkPlace - HCD Research Findings

Knowing there is strength in numbers, how can we expand existing networks and forge new ones?
To answer this question, ThinkPlace took an exploratory, divergent approach to research. Over five days and across three locations (Nairobi, Banana Hill and Larii), they conducted 40 semi-structured interviews and participant-observations. The target population was new and potential M-Changa users, specifically from the relatively untapped low-income user bracket across urban, rural, and peri-urban areas in Kenya.

They explored various themes and insights to distinguish the latent motivators and de-motivators that drive people's behavior in fundraising activities. The key themes explored in the research were around the importance of networks, the desire to be recognized, the importance of "good storytelling" to drive contribution, giving individually vs giving in groups and perception of debt.

The main findings of the research were:

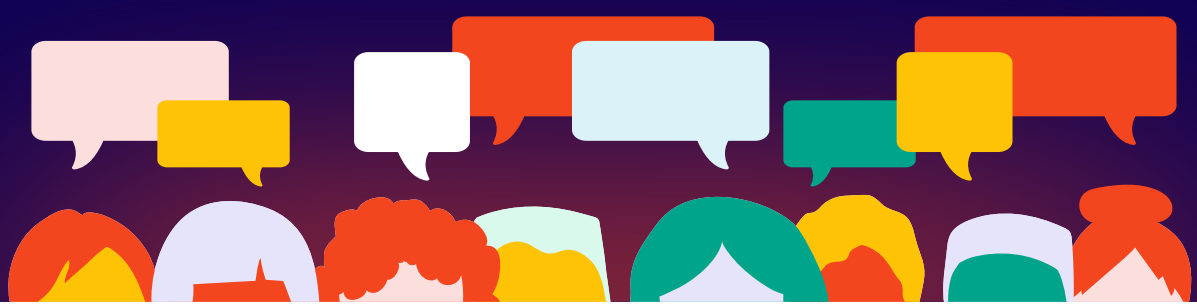
Online engagement: Online engagement with fundraising increases the chances of reaching the target because it allows for passive, anonymous, and continuous/ongoing engagement. With in-person (or 'traditional' offline) Harambees, giving occurs during a discrete event where the target may or may not be reached.

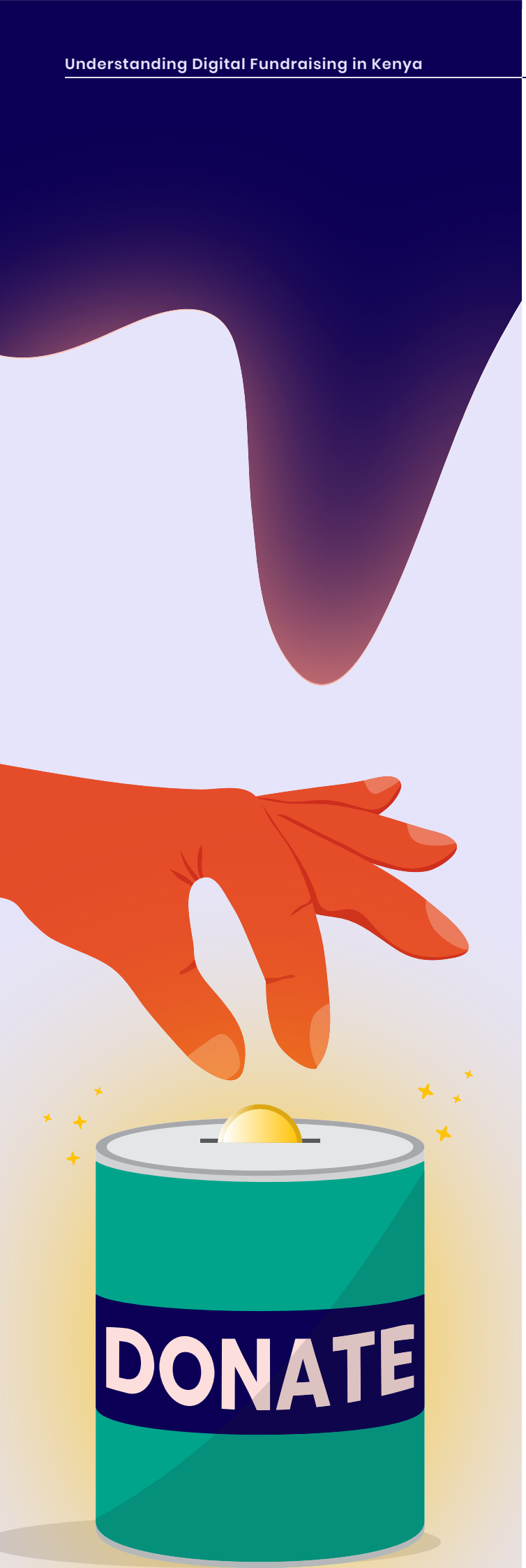
Defining success from different perspectives: Success within a fundraiser has different meaning according to someone's role within that fundraiser, and success does not always seem to be tied so much with a functional goal as much as with an emotive desire.

Surplus or excess: The entire amount of money raised through a fundraiser, including funds exceeding the original target, is given to the person in need with no obligations. It is their prerogative what to do with the money.

Fundraising for school fees: Fundraising for school fees to support children going to primary and secondary school is perceived as shameful, since there is an expectation that families manage this need internally. Fundraising for university or college-level fees, however, is perceived as a worthy cause.

This Initial Research provided ThinkPlace with a strong foundation to develop and test prototypes to improve M-Changa and make it more accessible to low income users. Further details are in Appendix 2.





2.3 Why do Kenyans donate?

2.3.1 Literature review

People participate in crowdfunding campaigns for a variety of reasons. Research on crowdfunding has documented that givers are motivated by a combination of:

Empathy: A sense of identification with another person's need.

Reciprocity: Donors may donate because they expect to receive indirect returns in the future, for example through tax breaks, or rewards conferred by a higher power.

Reputation: Donating might led to a reputation for responsiveness, affluence or generosity for the donor.

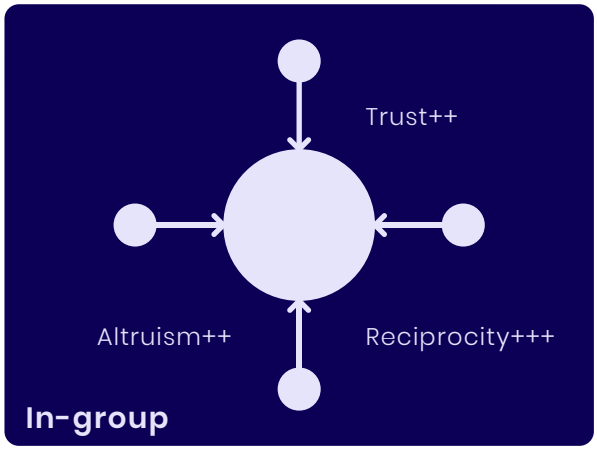
Social Betterment: A desire to work towards creating a better society for the common good. The donor will benefit as a member of an improved society.

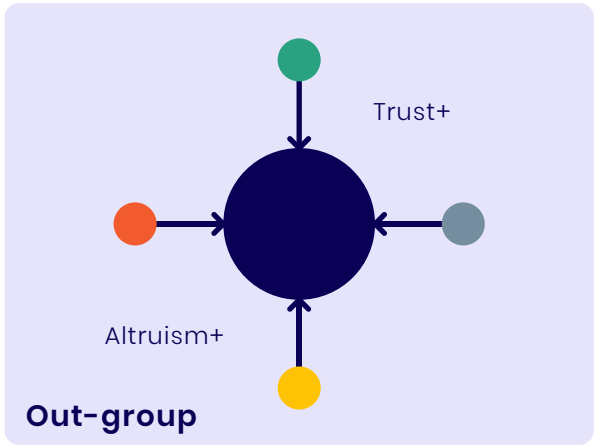
Project Commitment: The donor sees a benefit to society from the campaign they are contributed toward, for example by supporting a particular artistic, creative or entrepreneurial project.

Informal Finance: Donors may contribute to a recognized financial need, with the expectation of receiving back a tangible benefit in the short or long term.

Community Solidarity and Belonging: Donors may contribute to support the creation of a family or community identity and establish their belonging in a group, for example by contributing to weddings and funerals but also through responses during crises or other times of need. These rituals of family and life cycle have long been important financial and social institutions and more recently are an important time for mobile money contributions especially in Kenya.[18]

18 Kusimba, S. 2018 Money, Mobile Money and Ritual In Western Kenya. African Studies Review 61(2):158-182.





2.3.2 Findings from our research

While the benefits of receiving money through Harambees are evident, the factors that drive low-income individuals who are themselves cash-strapped to contribute money to communal fundraisers are worth exploring further. To do this, we invited 664 low-income individuals from the Kibera informal settlement in Nairobi to participate in a series of behavioral experiments at our research lab, also located in Nairobi.[19] The motivation for this study was to test and measure to what extent feelings of altruism, reciprocity, and trust influence giving in a Kenyan context.

The results from the experiment confirm that pro-social preferences (for altruism, reciprocity and trust) play a strong role in driving charitable giving within in-group social identities (where the contributor and the fundraiser have shared social identities). When social identity is shared, trust plays a very large role with regards to the amount of contribution made, and reciprocity is high. Alternatively, amongst out-group social identities, people's decision to give is mainly driven by their individual level of trust and altruism.

This study also confirmed additional insights:

Similarities between givers and recipients affect contribution decisions. Individuals who perceive a shared social identity with a fundraiser and see themselves as part of the same social group (part of an in-group) exhibit higher levels of altruistic, reciprocal and trusting giving behavior.

Peer effects also play a role. Contribution amounts are higher for recipients who are part of givers' existing social networks. Amounts given to a close family member or friend are higher than those given to a stranger, suggesting that fundraisers rely heavily on their social networks for contributions. We also find higher contribution amounts given by others made givers revise their initial amounts upwards.

Communication between givers and recipient foster trust and giving. Group discussions between contributors and a fundraiser prior to making a giving decision builds trust, possibly due to the group identity-inducing effect that such discussions might have. Trust, in turn, encourages contribution decisions.

19 Participants played 3 games:
1) The Trust Game: the First mover is endowed with Ksh. 250 and asked what amount of their endowment they would like to transfer to a second mover. Player 1 is informed this amount is tripled and delivered to Player 2, who then is asked what amount of their endowment, including what they received from Player 1, they would like to return.
2) The Dictator Game: First mover is endowed with Ksh. 250 and asked what amount of their endowment they would like to transfer to a Player 2. Player 1 is informed this amount is tripled and delivered to Player 2, but will not be returned.
3) Triadic Game: First mover (Player 2) is endowed with some amount inherited from the second mover (Player2) in the Trust Game. They're asked what amount of this endowment they would like to transfer to Player 1. Player 2 is informed this amount will not be returned.

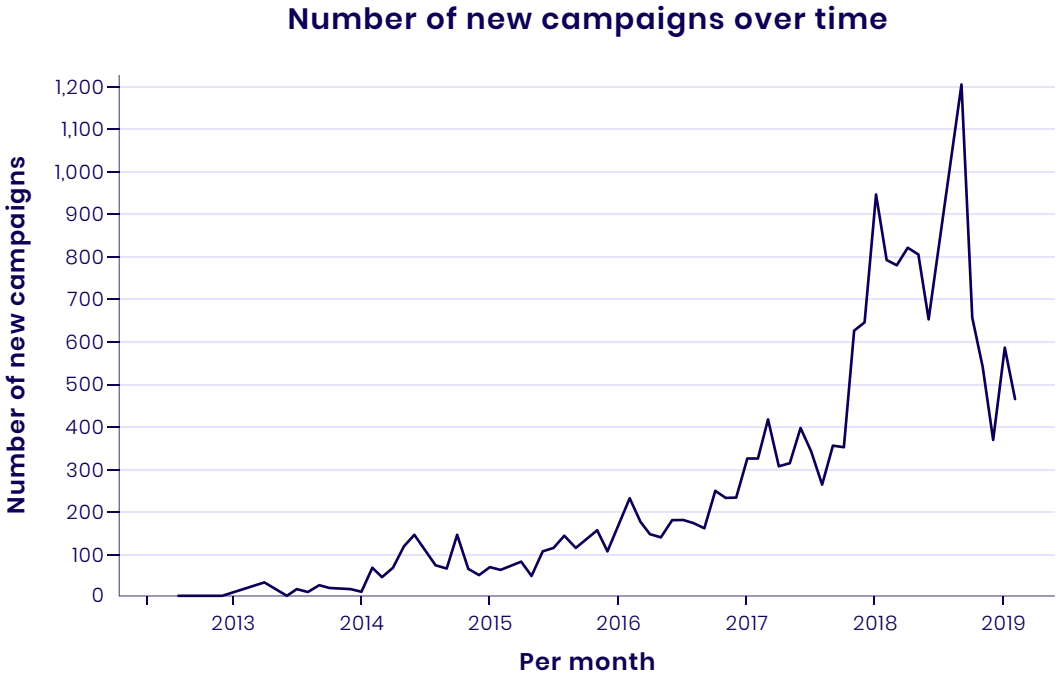
2.4 Fundraising trends with M-Changa

Even though they represent a minority of fundraising behavior (much of it still being face-to-face or by directly transferring money), digital platforms such as M-Changa allow us to start monitoring trends, patterns, and the overall scale of digital fundraising in Kenya. Campaigns on the M-Changa platform are diverse and wide-ranging from medical procedure payments and wedding fees, to funding for social entrepreneurs and non-profit organizations.[20]

Busara analyzed close to 9,000 campaigns conducted on M-Changa. Here is what we found:

Insight 1: There has been a substantial increase in the number of campaigns initiated on the M-Changa platform over the last 3 years.

M-Changa has registered a steady increase in its users in the last year; with 2017 indicating an impressive increase in the uptake of the product (from 200 to 500 new campaigns a month). In 2018 alone, M-Changa received more than 155,000 donations. This reflects the overall trend in people shifting from traditional fundraising methods to the digital fundraising platforms.



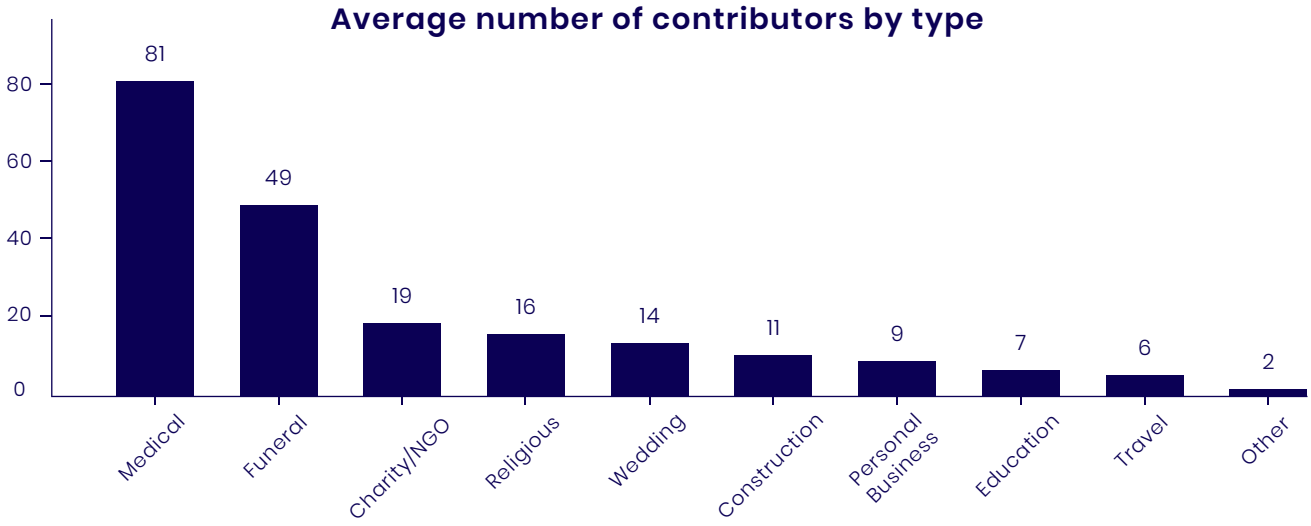
Source: M-Changa Data, from August 2012 to December 2018

20 For example, the ASIDE Non-profit Organisation put out a campaign on M-Changa to support the needs of the LGBT community - https://secure.changa.co.ke/myweb/share/8036

Insight 2: Medical campaigns are the most common and most contributed towards.

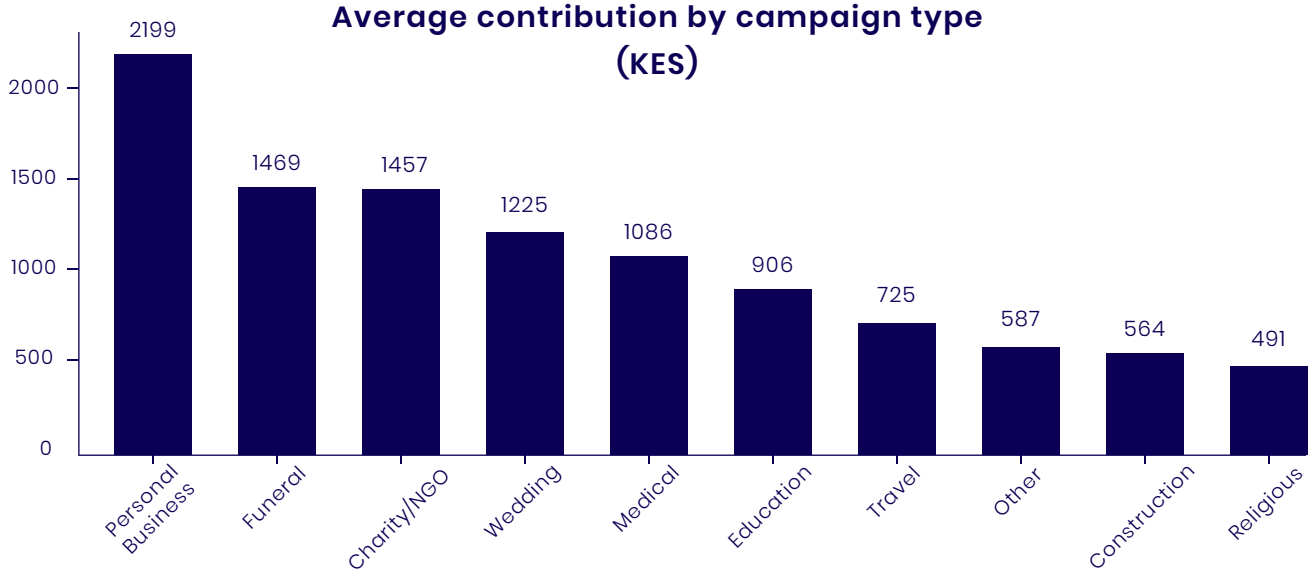
As of July 2018, there are 8,956 campaigns and 174,745 unique contributors on the M-Changa platform. Of these current campaigns, 18% of them aim to raise funds for medical emergencies, followed by campaign to support personal business (15%) and education (15%).

Medical campaigns are also the ones that attract the highest number of donors, with an average of 81 different donors contributing to each campaign, followed by funeral campaigns with an average of 49 donors. This supports our findings from the qualitative interviews, that these types of campaign are considered high priority.



Source: M-Changa Data, from August 2012 to August 2018.

Surprisingly, despite having a low number of average contributors, campaigns that raise money for personal business have the highest average donation amount. This may be because these campaigns attract only donors who really believe in the business product and are willing to invest heavily to see the idea succeed.

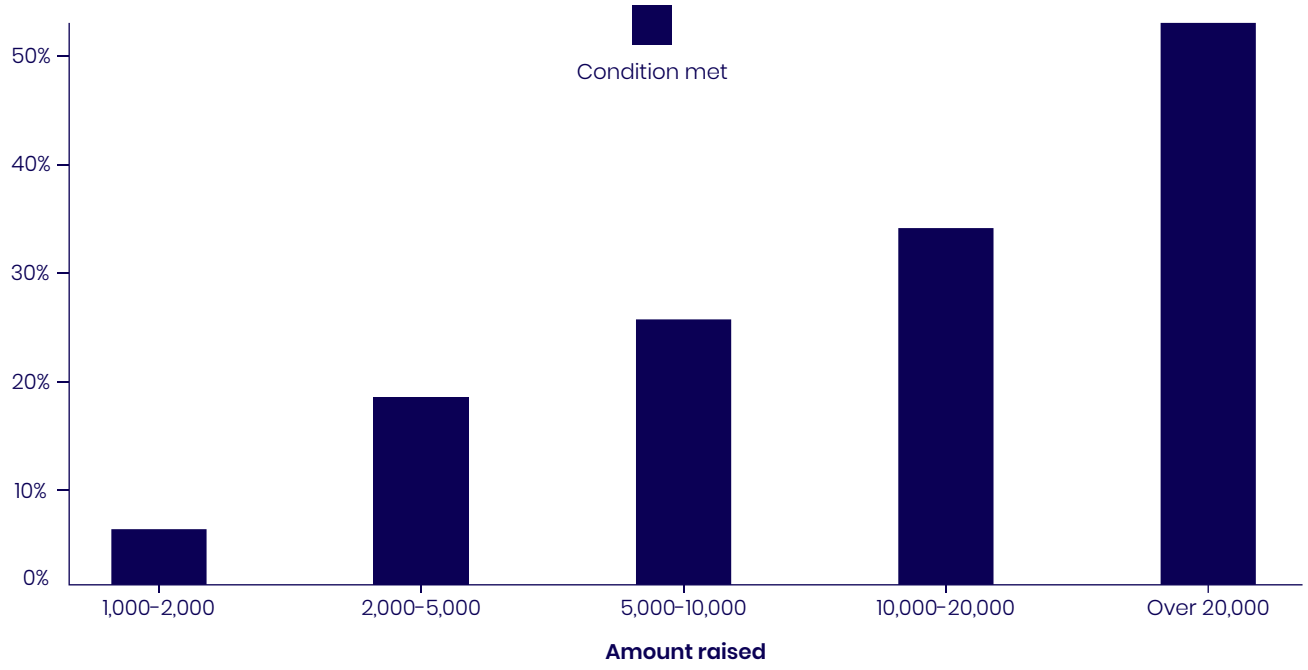


Source: M-Changa Data, from August 2012 to August 2018.

Insight 3: Initial momentum is very important for campaign success.

Initial momentum is very important: campaigns that raise over KES 1,000 from 5 different contributors in the first 3 days have a higher chance of achieving their goal. This may suggest that these campaigns are able to rely on extended and active networks.

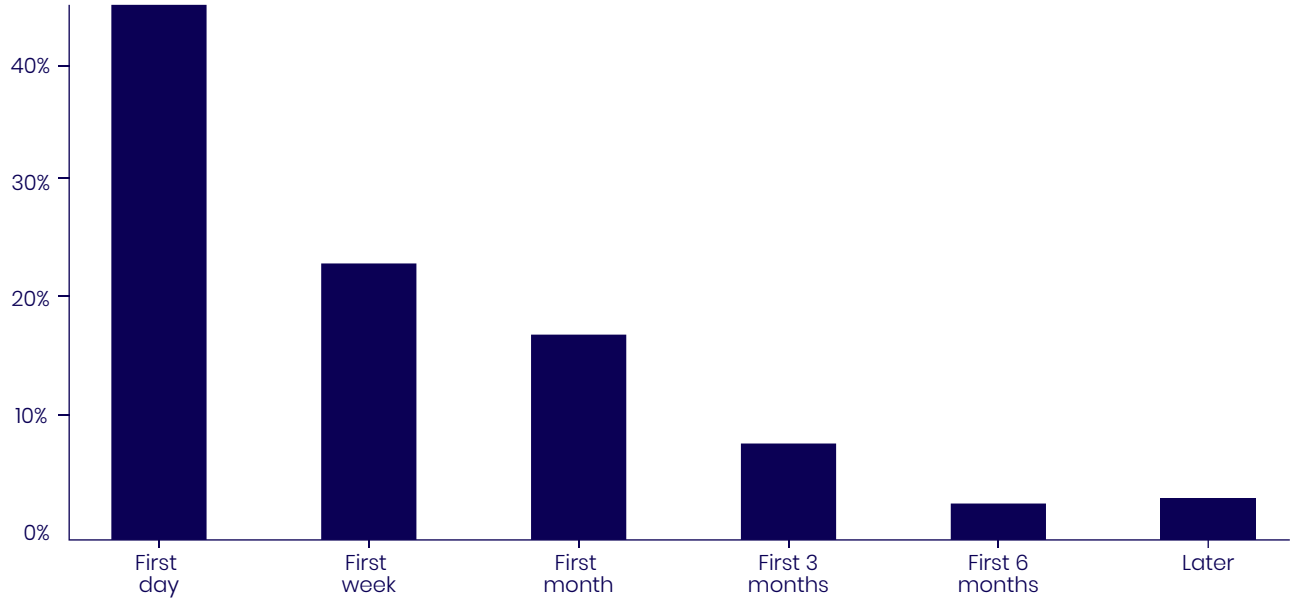
Campaigns which raised KES 1,000 from 5 contributors



Source: M-Changa Data, from August 2012 to August 2018.

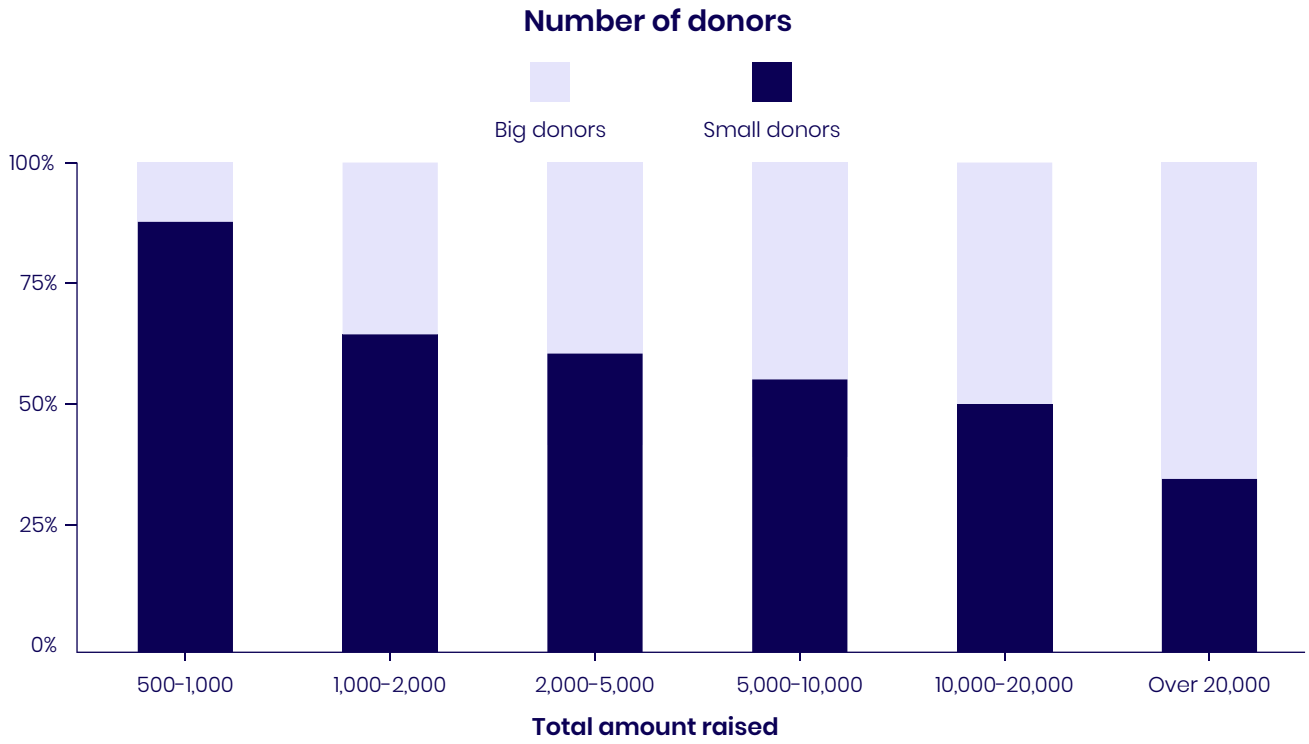
In fact, the majority of campaigns (over 40%) receive their highest donation within the first day, but 7% of campaigns received their biggest donation more than 3 months after they had been set up.

Day when the campaign receives the highest contribution



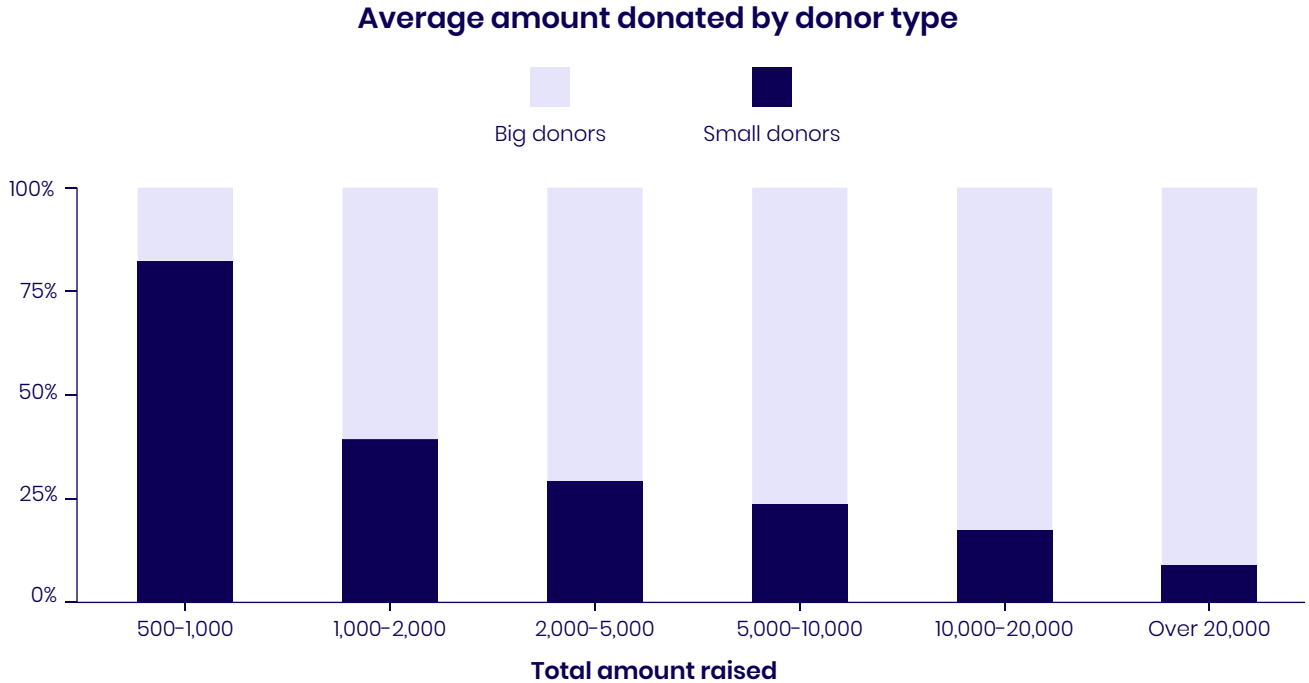
Insight 4: "Big donors" are fundamental to campaign success.

The number of "big donors" (contributors who donate at least KES 500) a campaign has is a key determinant to the success of the campaign. In fact, in campaigns that reached more than KES10,000, "big donors" represent more than half of the donors.



Source: M-Changa Data, from August 2012 to August 2018.

In addition, "big donors" are responsible for donating over 75% of the total amount raised by campaigns who raise more than KES 5,000.

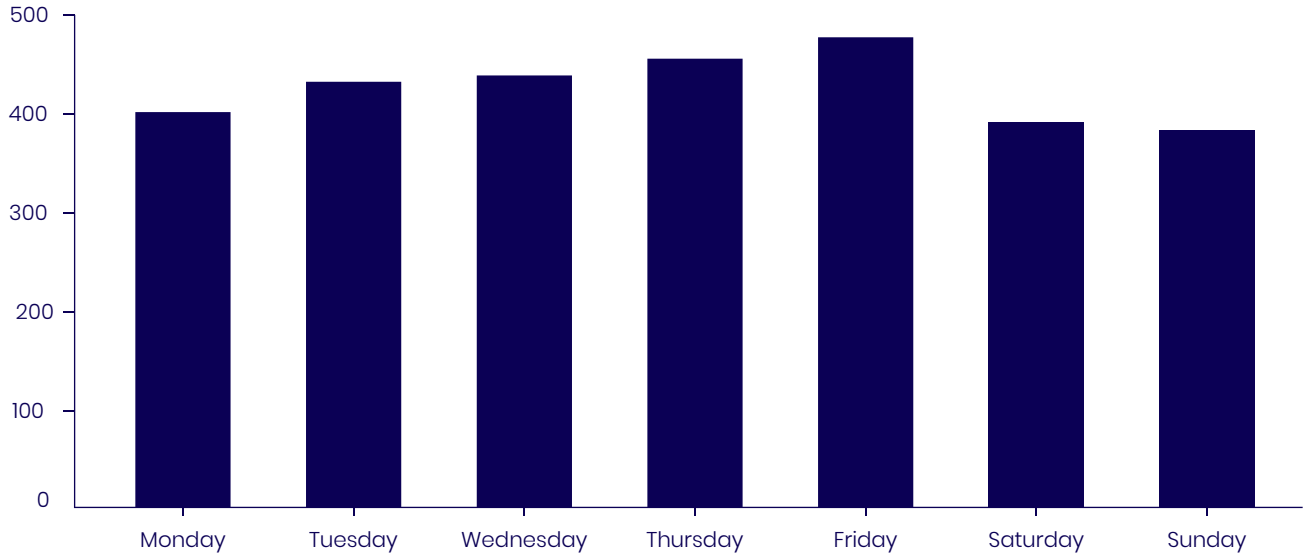


Source: M-Changa Data, from August 2012 to August 2018.

Insight 5: Online crowdfunding does not substitute traditional Harambee.

The majority of donations are made during weekdays (Monday to Friday). This may suggest that M-Changa does not substitute traditional forms of giving, such as Harambee, which are often done over the weekend.

Average number of donations per day of the week

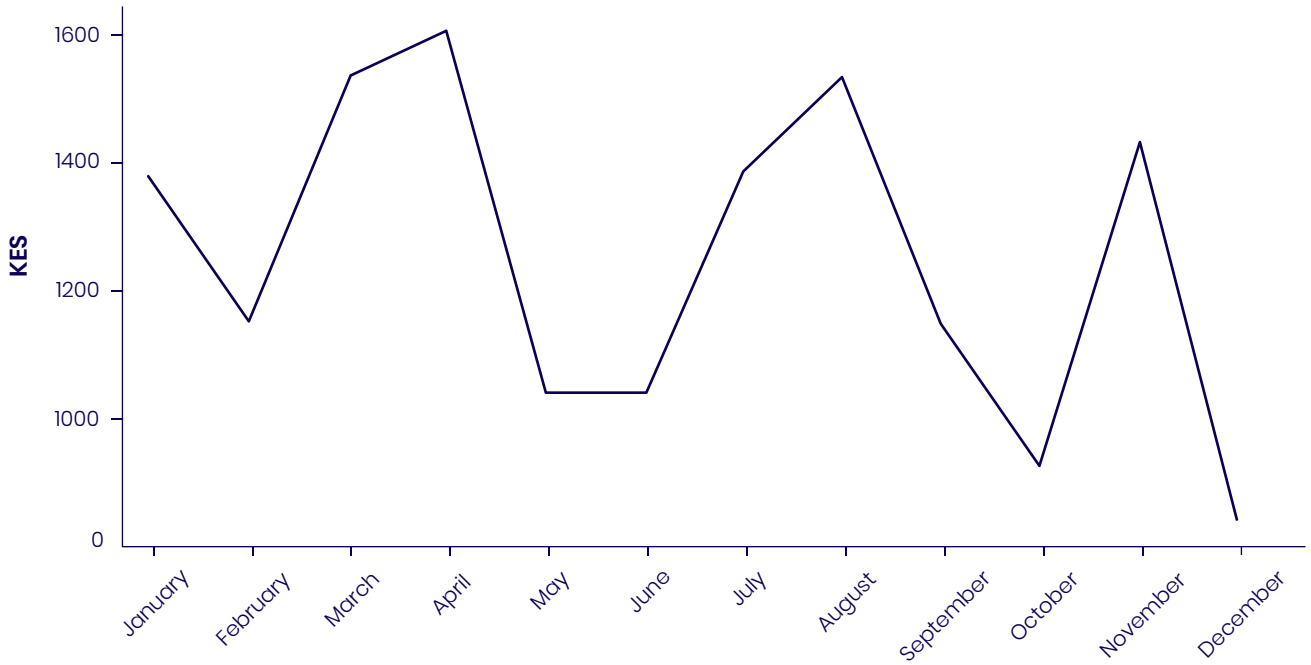


Source: M-Changa data, 2018 only

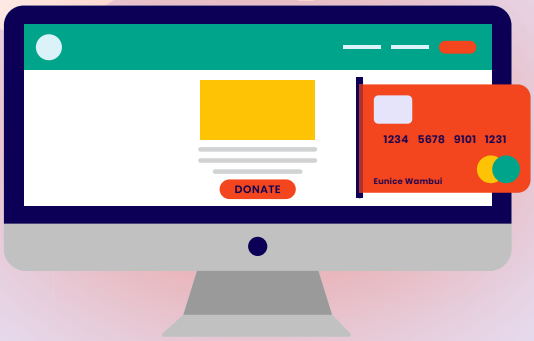
Insight 6: Donations seem to follow the Kenyan agricultural cycle.

Donations amounts are higher during the harvest months and lower during the rainy seasons. Donations are also higher at the beginning of the months (between the 30th and the 7th days of the month, right after salaries get paid).

Average donation per month



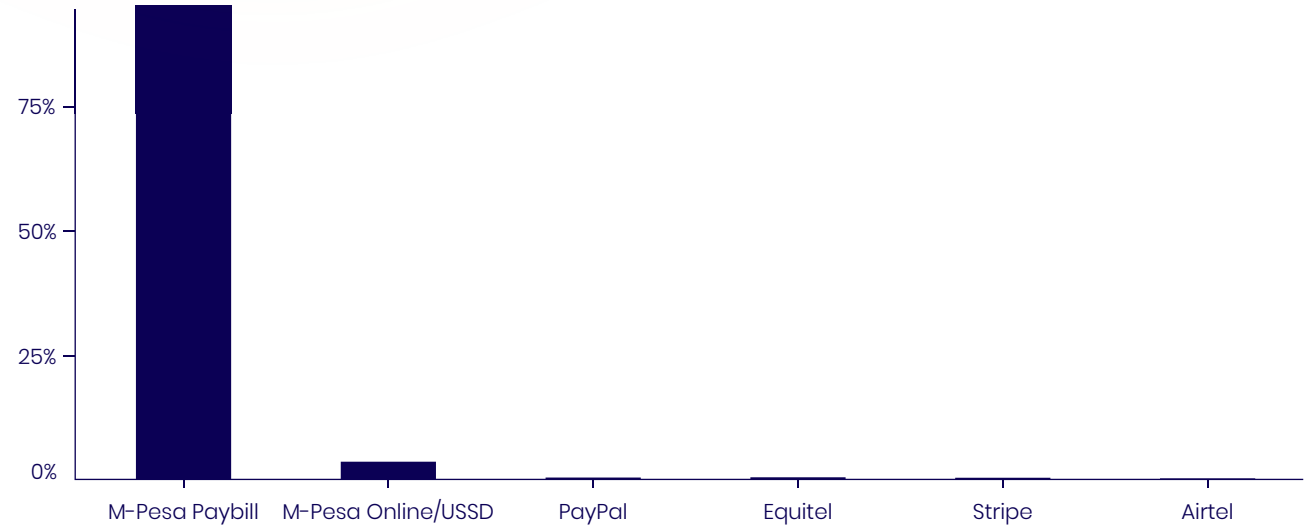
Source: M-Changa Data, from August 2012 to August 2018.



Insight 7: Online donations are key to reach the target.

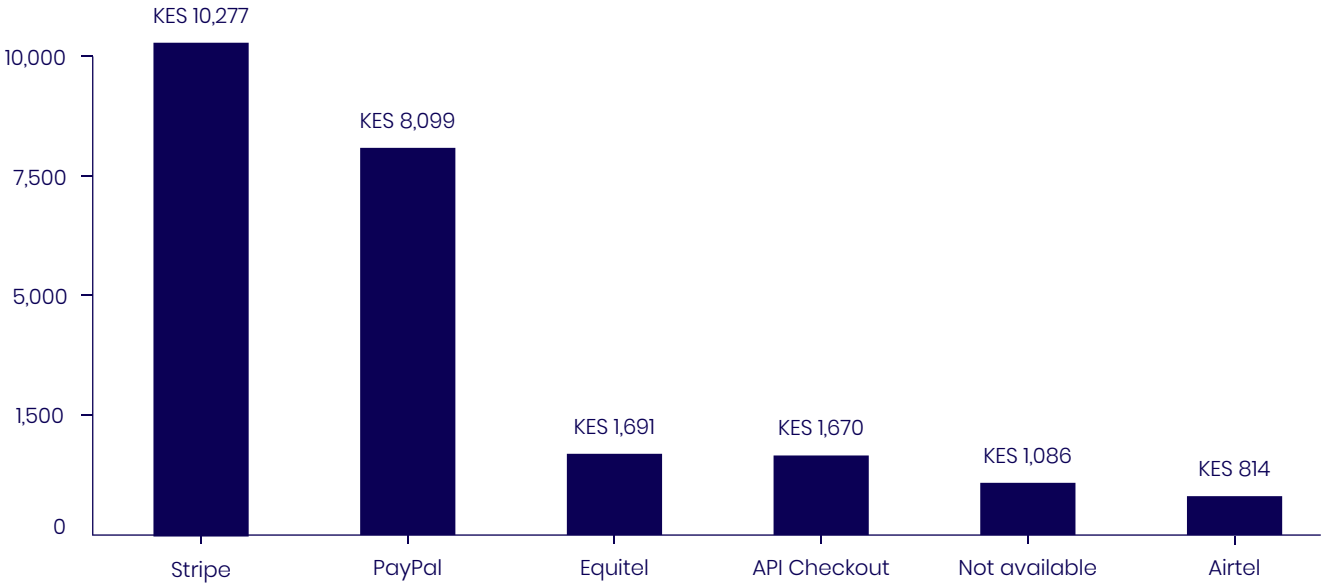
The vast majority of donations (over 95%) are made through M-Pesa, suggesting that these are Kenyans to Kenyans donations. However, the average donation amount through M-Pesa is quite small when compared to donations made online (through PayPal and or Credit Card). Interestingly, 91% of PayPal donations and 83% of Credit Card donations come from outside of Kenya. This is a testimony to the outreach and power of Digital Fundraising.

Donations made by payment type



Source: M-Changa data, 2018 only

Average amount donated by payment type



Source: M-Changa data, 2018 only

2.5 What predicts successful fundraising with M-Changa?

One of the questions we set out to answer in this engagement was:

How can we proactively support fundraisers to succeed?

Our approach was to develop a dynamic model that uses M-Changa fundraising data and machine learning (Random Forest[21]) to predict the probability of fundraising success. This allows us to identify those campaign that could benefit from direct interventions at key points in time.

The model uses fundraisers and campaign information as well as donation information (in particular frequency and amount of donations to the campaign) to generate a prediction score of success. The final model has a prediction accuracy of 80% (based on our test dataset).

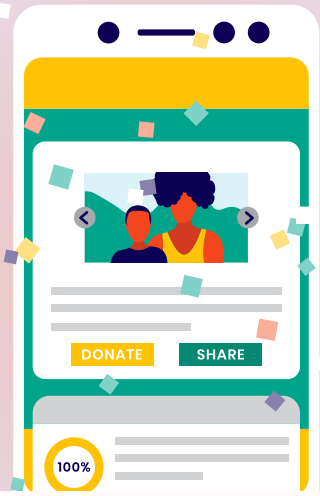
The model has helped us further explore what makes a campaign successful:

The importance of trust: Verified campaigns (where the fundraiser uploads their ID and Supporting Documents to so that M-Changa can verify the authenticity of the campaign) have a significant higher chance of success. Similarly, having a "Treasurer", which is separate person from the beneficiary of the campaign, increases the chance of the campaign meeting its goal.

Momentum is important: Momentum seems to be strongly correlated with fundraiser success: The most successful campaigns are the one where donations happen in quick succession. Moreover, even if a campaign goes dormant for a while, it can still succeed if donations were to pick up again at a later stage (i.e. it's never too late to receive donations!)

Personal messages are important: Campaigns where the beneficiary has invited potential donors to contribute by phone, perform significantly better than the ones where they used emails as the main communication tool.

The higher the donation, the better: Unsurprisingly, higher donations amount are more likely to lead to successful campaign. Moreover, the lower the variance in donations size (so the more similar the donation amounts), the higher the chances of success.

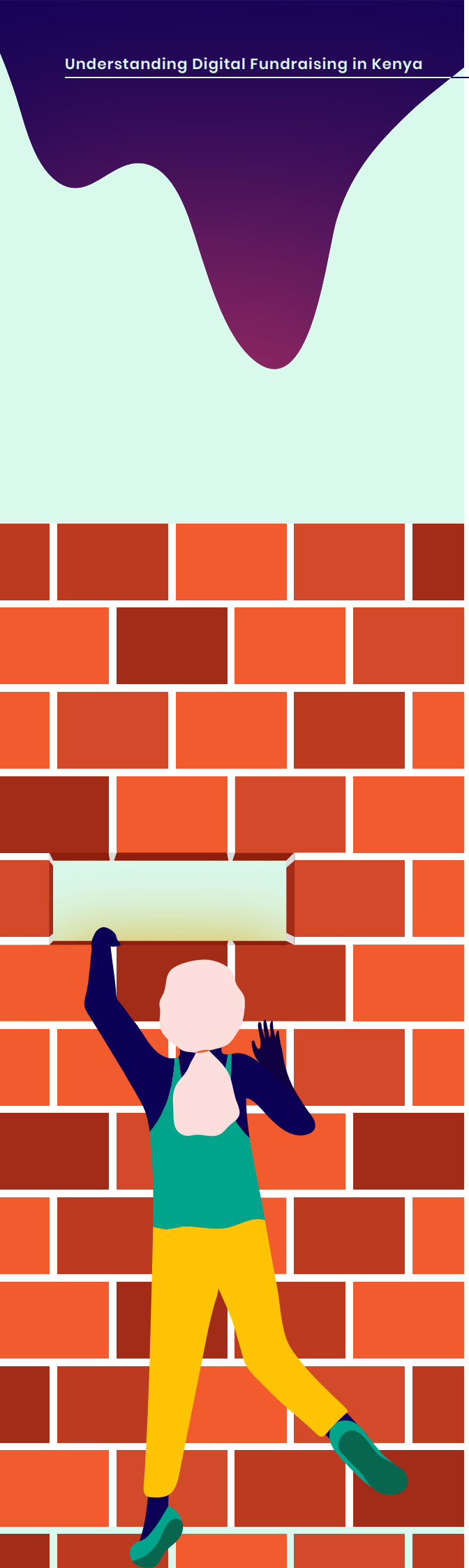


21 Random Forest is a machine learning algorithm that operate by constructing a multitude of decision trees based on a training dataset and using the mean prediction (regression) of the individual trees to predict the output.

3
Making Fundraising More Efficient

Our initial analysis of 9,000 campaigns conducted on the M-Changa platform enabled us to identify trends (Section 2.4) and build a prediction model (Section 2.5). Following the results of that first phase, we reached a good understanding of M-Changa users and the Kenyan fundraising context. Keen to take this work a step further, we wanted to explore in Phase 2 ways in which we could make fundraising more efficient using by designing 4 interventions to test on the M-Changa platform. These were informed by the qualitative and quantitative work done to understand M-Changa users' motivations and behaviors.

Based on the insights collected, we applied principles from behavioral economics to nudge fundraisers and their supporters to act in ways that would optimize their campaigns, and we tested new ways to incentivize users to donate more frequently, faster, and in greater amounts.



3.1 Treatment designs

Based on the qualitative and quantitative work we conducted, we identified the following behavioral barriers that were preventing customers to get the most out of M-Changa:

Salient recognition: While M-Changa users indicated that they had a strong preference for digital fundraising channels, they were still more likely to use cash or send money by M-Pesa. For contributors, this is because they valued the instant and personal recognition from the fundraisers. Fundraisers, instead, prefer to receive cash contributions because they do not want to pay the M-Changa withdrawal fees. Overall, the cumulative effect is to reduce the momentum of contributions on the M-Changa platform.

Mistaking the platform for a campaigner: Additionally, we found out that there was some misunderstanding of the role of M-Changa. In particular, most fundraisers believe that it is M-Changa's responsibility to mobilize active contributors for them. Consequently, a considerable number of campaigns have not started their actual fundraising activities (for example, they have not invited anyone to contribute yet). If not sufficiently nudged to activate their campaigns, these accounts were likely to turn into dormant accounts.

One-time contributors: The majority of fundraisers felt that contributors "owed them" only one contribution. Similarly, contributors feel that they have done their part by giving their first contribution and they do not feel obliged to make repeat contributions. This is because the majority of contributors were not kept informed on the progress towards the fundraising goal. Additionally, there are no incentives in place to encourage repeat contributions, for example recognition does not increase with increase in contributions.

The role of key contributors: Campaign success is highly correlated with the number of "Bundlers" (contributors who have contributed more than twice in a single campaign or whose contribution is very high) and "Influencers" (contributors who deeply care about the campaign goal and actively try to mobilize more funds using their network). However, their role is often not clearly acknowledged or recognized on the fundraising profile.

We applied principles from behavioral economics to design interventions which could help mitigate these challenges. The final selection of interventions we tested were:

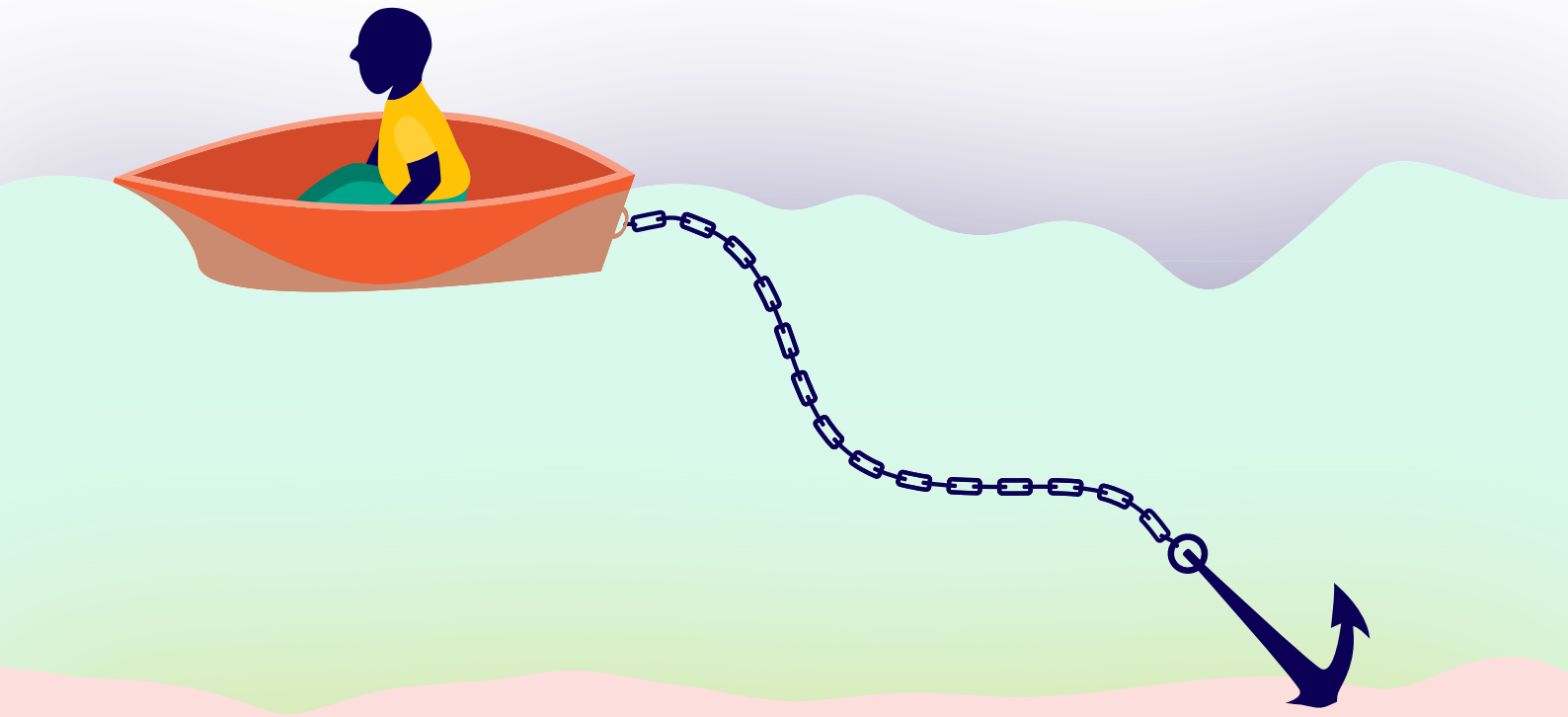
Incentives: New campaigns will receive KES 100 bonus if they raise KES 1,000 within the first 3 days from 5 different donors. This is communicated to the fundraiser using a Robocall, by SMS and email. The aim of this intervention is to reduce "abandoned campaigns".

Anchoring: M-Changa will suggest an amount to donate instead of leaving it open to donors. This will act as an anchor for contributors.

Patrons: The fundraiser can select some people to be "patrons" of their campaign. Patrons are expected to contribute substantially to the campaign, both in terms of amount donated, as well as by engaging their own network.

Calls to top-up: After receiving the fundraisers permission, M-Changa would re-contact all contributors of a specific campaign, sending them an update on the campaign status and prompting for a second contribution (Top-Up).

These interventions were ultimately aimed at providing a framework that enhanced campaigns by ensuring that contributors were encouraged to donate more, faster, more frequently and in greater amounts as well as ensure optimum utilization and expansion of the fundraising networks.



3.1.1 Incentives

The aim of this intervention was to address the misunderstanding about the role of M-Changa, where new fundraisers would mistakenly believe that M-Changa would proactively seek donations on their behalf. To address this, every new fundraiser was invited to participate in a "challenge" where they had to reach a certain donation target as well as get at least 5 people involved from the get-go of the campaign to generate momentum.

When thoughtfully designed, goal settings can focus attention and inspire action. For example, research from Dupas and Robinson (2013) shows that setting a target goal helps the fundraiser to think more critically about their role in the success of the campaign. This study showed that providing a commitment device (such as a safe box where the money was earmarked for a specific purpose) was sufficient to increase health savings by 66%[22]. Therefore, getting fundraisers to reach campaign goals that are aligned to their contribution network sizes can lead to an increase in the total amount contributed.

In practice, our intervention requires the fundraiser to raise KES 1,000 from 5 contributors within the first three days of starting a new campaign. The goal is to get fundraisers to activate their campaign by immediately sharing it with potential contributors. To reward participation, these campaigns received a KES 100 incentive if they met these conditions.

Results

The Incentives treatment did not have any significant effect on the outcome measures we were monitoring (total amount raised by campaigns, average donation size and number of contributors). Moreover, the treatment did not have any significant effect in increasing the amount raised in the first 3 days or the number of contributors in the first 3 days.

One possible explanation is that the requirement to get the incentive was too ambitious and may have discouraged fundraisers. In fact, out of all 3086 campaigns, only 298 campaigns met the conditions to receive the incentive (raised KES 1,000 from 5 contributors within the first three days). In future testing, we would suggest to try and increase the incentive amount (perhaps KES100 was too little to push people to really activate their network) or remove one of the two conditions (so giving the incentive to those who raised either KES1,000 or received money from 5 different contributors in the first 3 days). By doing so, we would be able to isolate what was the main obstacle to achieve this target – maybe respondents don't have a large network or the amount to raise was too high.

Another possibility is that the treatment could have actually backfired: there is some literature showing that in some situation giving monetary incentives can have a detrimental effect on prosocial behavior[23]. In this instance, fundraisers may exert less effort in promoting their campaign as they don't want their contributors to think they are only doing it for the money (ie. receive the incentive).

22 Dupas, P., S. Green, A. Keats, and J. Robinson, "Why Don't the Poor Save More? Evidence from Health Savings Experiments", American Economic Review, American Economic Association, vol. 103(4)

23 Dan Ariely & Anat Bracha & Stephan Meier, 2009. "Doing Good or Doing Well? Image Motivation and Monetary Incentives in Behaving Prosocially," American Economic Review, American Economic Association, vol. 99(1), pages 544-555, March.

3.1.2 Anchoring

One of the predictors of success for a campaign is the average size of contributions. As expected, the higher it is, the more likely it is for the campaign to reach its goal. However, it can be uncomfortable, or even counterproductive, to directly ask donors to increase their donations.

Behavioral economics studies show us that we can be subconsciously influenced by background information, even when that information is random or irrelevant to the decision we are making. Anchoring is a particular form of priming whereby the initial exposure to any particular issue serves as a reference point, influencing subsequent decisions. Anchoring has been shown to impact decisions in many contexts (Ariely, Loewenstein, and Prelec, 2003; Tversky and Kahneman, 1974), by serving as a starting point for deliberation.

In most instances, the majority of the people are likely to select the anchor as their contribution.[24] In the context of charitable giving, a single, visible donation of around £60 or more on websites that help people raise money for charity will encourage others to give more than they might have done in the absence of such an anchor.[25]

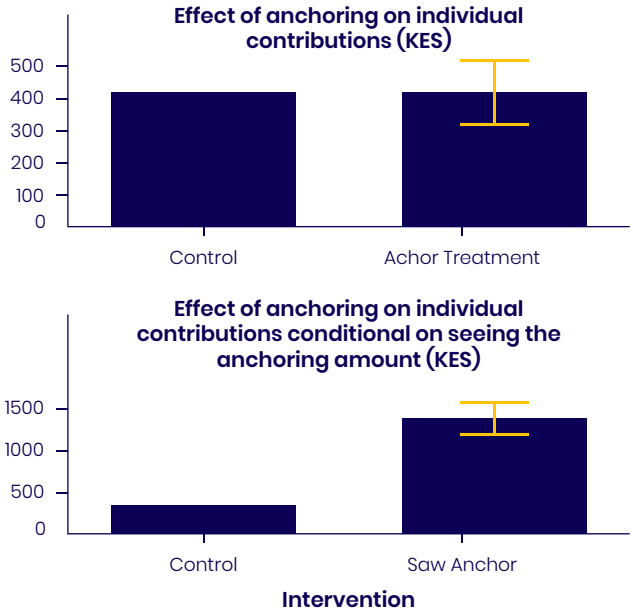
Indeed, it is important to recognize that the level at which the anchor is set is critical to achieving a positive impact.

This was demonstrated in a study in which visitors to a Costa Rican national park were asked to make donations. It found that when people were told about previous, high donations ($10), they increased their donations, but that when the information was about a low donation ($2), their donation decreased significantly.[26]

To test this intervention, M-Changa suggested a default donation amount to donors, making it more salient than the alternatives. The anchoring amount selected was the average donation size of the contributions to date, plus 20%. This has the additional benefit of nudging donors to donate slightly more than the average, thus gradually increasing the average donation over time.

Results

While the overall effect of the anchoring treatment was not significant, a likely reason is that only a small number of contributors were exposed to the treatment. In fact, the "anchored (suggested) amount" was only visible to contributors who donated through the M-Changa website. As a result, only 211 campaigns out of the 1228 which received the anchoring treatment actually received at least one donation from contributors who saw the "suggested" amount. These campaigns appear to have received on average higher individual donations than the rest. On the back of these encouraging results, M-Changa has decided to implement Anchoring as a standard feature of all new campaigns



Source: Source: M-Changa Data, from July 2018 to November 2018

24 I. Goswami, O. Urminsky, "When Should the Ask Be a Nudge? The Effect of Default Amounts on Charitable Donations", Journal of Marketing Research: October 2016, Vol. 53, No. 5, pp. 829-846

25 Smith, Windmeijer, & Wright. "Peer effects in charitable giving: Evidence from the (running) field", CMPO Working Paper, 12/290.

26 Alpizar, Carlsson, & Johansson Stenman, "Anonymity, reciprocity, and conformity: Evidence from voluntary contributions to a national park in Costa Rica", Journal of Public Economics, 92(5), 1047-1060.

3.1.3 Patrons

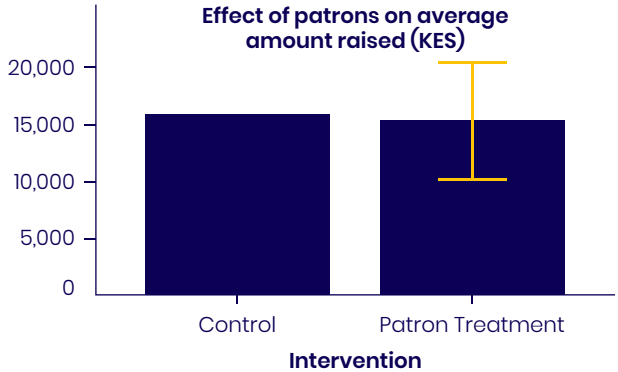
The aim of this intervention was to leverage the network of high donors in a campaign, as well as give credit/recognition to these contributors. Our analysis has shown that there are on average 6 high potential donors who can act as promoters for the campaigns. Research indicates that social ties play a strong causal role in the decision to donate as well as on the average amounts donated. The effect is greater if the donor shares similar characteristic with the fundraiser.[27] As such, onboarding and leveraging the social network of these "promoters" can help increase the numbers of people who contribute to the campaign.

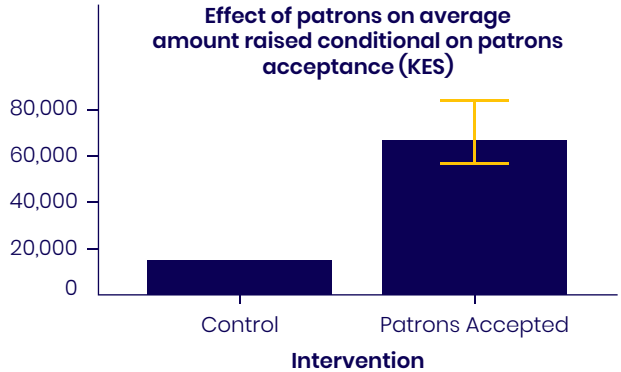
In practice, fundraisers can select up to 5 people to be "patrons" for their campaign; once they accept, these people are expected to contribute substantially to the campaign. Ideally these patrons are high network individuals who can mobilize others and donate bigger amounts repeatedly, making them critical to the success of a campaign. This treatment is designed to help donors recognize these individuals as well as make salient their expectations of them.

Results

While the treatment had no significant effect overall, a possible reason is that take up of the option to invite patrons was very low. In fact, out of 1233 campaigns who were eligible to invite patrons, only 91 actually did invite at least one. Of these, only in 66 campaigns did the invitee accept the patron role.

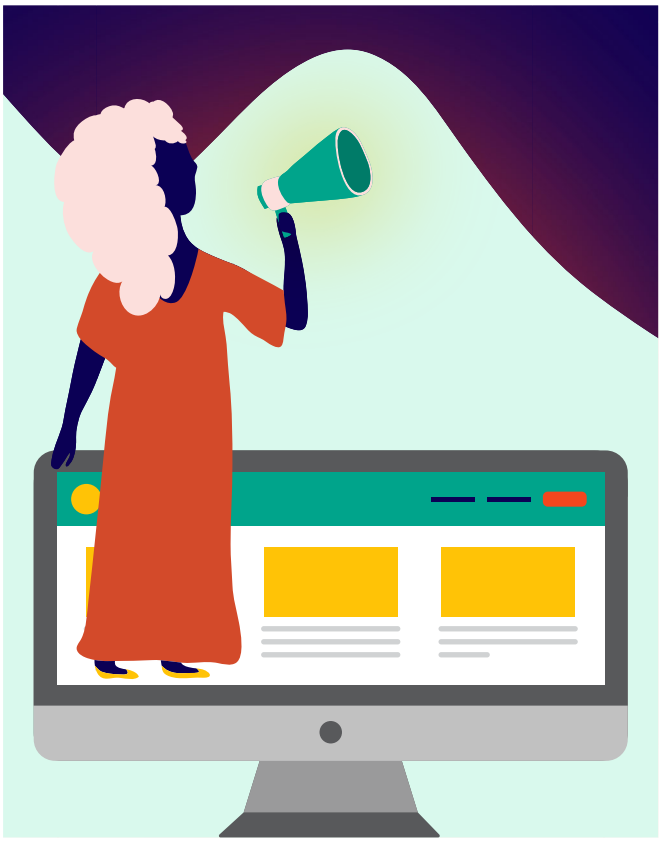
In these instances where patrons accepted the invitation, the campaigns raised significantly more than the other campaigns. This result may be driven by self-selection: the campaigns that actually invited and had a patron onboard are likely to be those campaigns where fundraisers are more active and invested in the campaign's success. Leveraging the promising aspects of this result, M-Changa has introduced Patrons as a new feature on all campaigns





Source: Source: M-Changa Data, from July 2018 to November 2018

27 J.Meer, "Can be retrieved from: Brother, can you spare a dime? Peer pressure in charitable solicitation", Journal of Public Economics 95(7-8):926-941



3.1.4 Top-ups

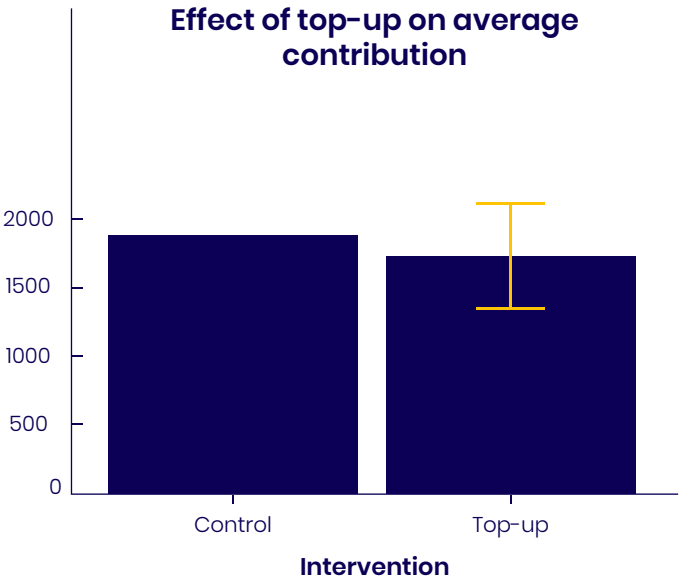
The aim of this intervention is to address the "culture of single contributions" whereby after the contributor has made the first contribution, they feel content and obliged not to give anything else. Similarly, fundraisers feel that contributors only owe them that first contribution. Yet, some of these donors have potential to become influencers and repeat contributors if they feel they have some agency in the campaign process.

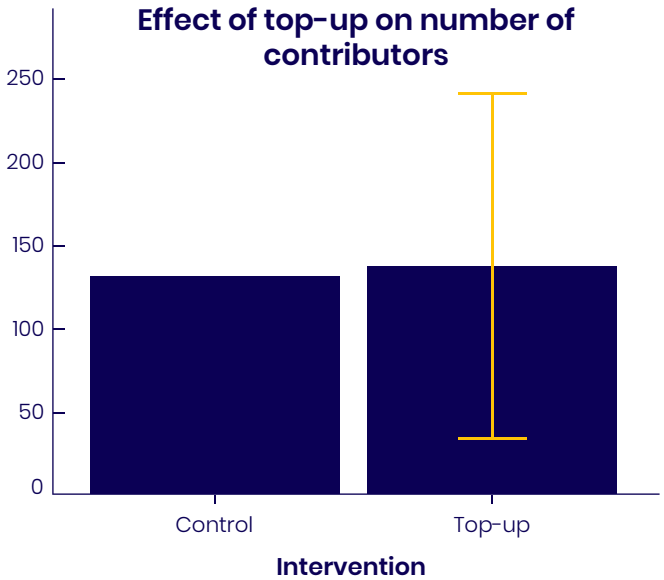
To encourage more people to make repeat contributions, we have tested a call to action to top-up contributions. After receiving the fundraisers permission, M-Changa would re-contact all contributors of a specific campaign, sending them an update on the campaign status and prompting for a second contribution equal to 50% of what they have previously donated. Giving contributors a default suggested donation has been proved to be an effective way to nudge donors to contribute.

Results

Finally, the Top-Up treatment did not have any significant effect on any outcome measures we were monitoring as well. Similar to other treatments, this could be because uptake was very low: out of 512 campaigns who were eligible to invite additional "top-up" donations, only 15 campaigns actually did.

A possible explanation for this low uptake is that fundraisers may have felt uncomfortable to contact people who have already donated to ask them for more money: as we know, reciprocity is an important reason why people donate and it may be harder to ask for more money than what was donated in the first place.





Source: Source: M-Changa Data, from July 2018 to November 2018

3.2 In summary

Incentives
Intervention: Incentivizing donations by matching contributions for a given donation size

This intervention required the fundraiser to raise KES 1,000 from 5 contributors within the first three days of starting a new campaign. The goal was to generate momentum right from the campaign inception by getting fundraisers to immediately share it with potential contributors. To reward participation, campaigns which met these conditions received a KES 100 incentive. This intervention did not appear to have any effect on donor behaviour which may be because the condition for receiving the incentive was too high. Alternatively, there is a possibility that the overt focus on maximizing financial value is at odds with the community-facing and pro-social nature of Harambee, whether conducted online or in person.

Anchoring
Intervention: Donors were presented with higher suggested amounts for donations.

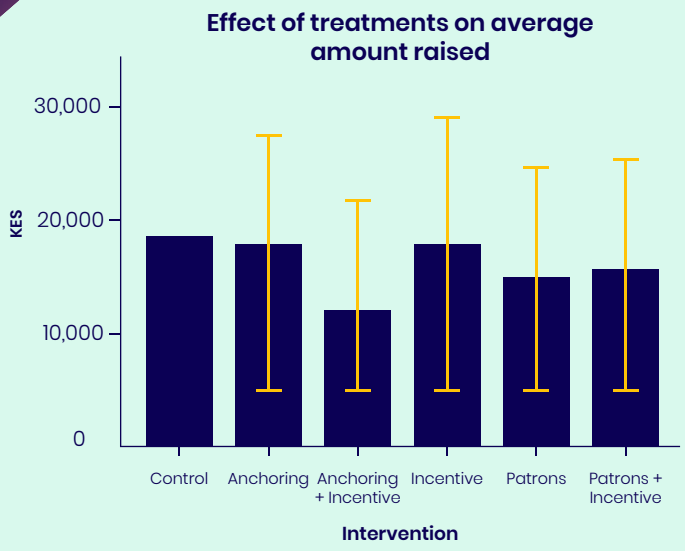
Behavioral Science teaches us that initial exposure in any situation serves as a reference point that influences all subsequent decisions. To test whether priming or anchoring M-Changa users to a higher donation amount leads to higher donations, we suggested a default donation amount to donors that was 10% higher than the average donation size of the contributions to date. In this treatment, only donors paying on the website were exposed to the anchoring effect (excluding M-PESA donations), so there was not enough data to lead to a definitive conclusion. However, the treatment campaigns did receive higher average individual donations than control campaigns. On the back of this encouraging result, M-Changa has decided to implement Anchoring as a standard feature of all new campaigns.

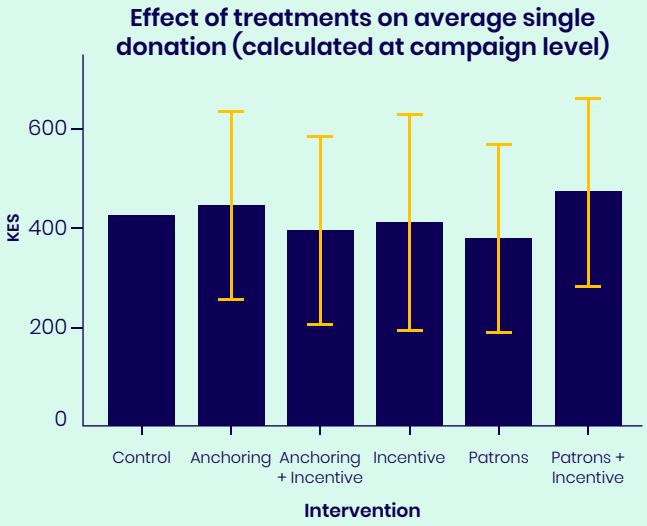
Patrons
Intervention: Fundraisers were invited to select patrons amongst their donor base.

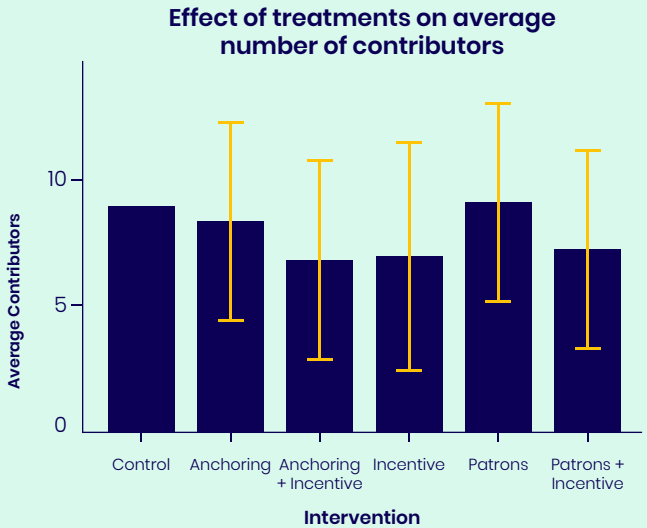
These "patrons", or significant donors, were highlighted as such to give them credit and recognition for their large contribution. As patrons, they were expected to continue promoting the campaign to their own network. However, few fundraisers accepted the invitation to select and work with patrons, which led to a small sample size for this treatment. While we saw no significant effects in the treatment, we did see that where there were patrons, campaigns were noticeably more successful. It will be important to explore further whether this was due to the activity of patrons or due to self-selection: i.e. fundraisers who were sufficiently motivated to invite patrons would also be overall more active in promoting their campaign. Leveraging the promising aspects of this result, M-Changa has introduced Patrons as a new feature on all campaigns.

Top-Ups
Intervention: One-time donors were prompted to top-up their donation

This intervention was designed to encourage donors to make repeat contributions. After receiving the fundraisers permission, M-Changa re-contacted all contributors of a specific campaign, sending them an update on the campaign status and prompting for a second contribution equal to 50% of what they had previously donated. This tested whether giving donors a sense of agency in the campaign process would lead donors to become influencers and repeat contributors. However, of the 512 campaigns eligible to invite top-up donations, only 15 fundraisers agreed to reach out to single contributors, making the sample size of this treatment too small to come to a conclusive finding. Nonetheless, the 15 top-up treatments showed no significant improvements over the control group, suggesting that requesting top-ups is a violation of the reciprocity and altruism implicit in Harambee fundraising.







Source: Source: M-Changa Data, from July 2018 to November 2018

We observed no significant effects on the three outcome measures we were monitoring (total amount raised by campaigns, average donation size and number of contributors).

Overall, these 4 interventions tested did not make any statistical significant difference in increasing the total amount raised in a campaign, the average donation size, or the number of contributions. This does not mean that the interventions made no difference at all (indeed, M-Changa has decided to implement Patrons and Anchoring on all new campaigns), but the results were not as positive as we hoped they would be. These results remind us that testing is important because ideas that are intuitive don't always work the way they are intended.

Additionally, the low-uptake of treatments aimed to increase campaign effectiveness (such as patrons and top-ups) is in itself a finding, suggesting that the very approach of "effectiveness" is contradictory to the nature of Harambees, where donors and fundraisers alike may be just as motivated by activating their network and feeling socially connected as they are to raise significant sums of money.

Another important learning from this work is that digital nudges are, by nature, perhaps not the most effective way to improve fundraising.

Online campaigns are a complement, not a substitute, for traditional fundraising.

What we've learnt from studying giving on M-Changa is that the platform can enable safer, more efficient fundraising, but doesn't change the overall behavior of fundraising. This might help to explain why digital nudges on the platform don't have big impacts on the total sum of money campaigns manage to raise.

Indeed, some of the ideas we tested may work better in analog form, as this is where most of the decisions and behaviors around donations are made. Being such social events, we believe that testing, for example, the effect of anchoring at the physical Harambees themselves (as supposed to on the platform) might drive more impact.

4
Conclusion: Understanding Digital Charitable Giving in Kenya

M-Changa came to the market with an innovative purpose: to make fundraising quick, easy, cheap and more transparent. By leveraging digital technology, M-Changa has the potential to enhance traditional fundraising, by connecting fundraisers to a wider network of donors and increasing the chances to achieve their goal.

However, transitioning from the traditional way of raising money ("Harambees") to a new digital platform isn't without its challenges. In fact, despite the obvious advantages of using M-Changa, the traditional Harambees are much more than just fundraising: they are events where the whole community comes together to help those in needs. It is therefore difficult to recreate the cultural and social aspects of donating through an online platform. This lack of social and human contact may explain why most of our treatments had very low uptake.

In fact, while our treatments were aimed at making the M-Changa platform more effective and efficient and had been proven to work in other context, the real problem was changing the underlying behaviour of fundraisers themselves. As we nudged them to invite contributors and raise momentum, they may have found it difficult to formalise and promote online the behaviour they usually exhibit in face-to-face Harambes.

We also know that donations are based on trust and reflect expectations of reciprocity, reputation, and social commitments. Fundraisers may have found it uncomfortable to approach (even if virtually) donors and ask them to contribute to their campaign, either by donating more money or by becoming a patron.

Finally, as online campaigns are a complement, not a substitute, for traditional fundraising, further research may be needed to understand the interaction between the two ways of raising money. Whilst fundraisers rely a lot on their social contacts for contributions, online users may have a weaker network and are therefore using the internet to implement something they couldn't implement successfully offline/in-person. While M-Changa has the potential to connect those users to a wider contributors base, we know that contribution amounts are higher for recipients who are part of givers' existing social networks. Hence, fostering a greater sense of community on the fundraising platform is likely to increase use and donations.

Understanding the drivers of traditional giving is a first step toward designing better digital fundraising solutions. The next (and harder) step is to use technology to maintain the core social elements that have traditionally driven use while reducing costs and expanding networks. By recreating the traditional social interactions with a modern twist, M-Changa can deliver products that meet people's needs and are actively used.

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1

Using Behavioral and Data Science to Understand & Predict Campaign Success

M-Changa and Busara leveraged traditional research and innovative analytical tools to understand how fundraisers behave on the M-Changa platform and to create a predictive model that will help M-Changa understand how fundraisers are performing in real time, and which factors influence their progress towards success.

Specifically, Busara developed a set of proprietary and dynamic models to segment funders, their networks and campaigns into a set of representatives “personas” (archetypes). These archetypes helped us to identify which fundraiser characteristics are likely to impact fundraising success and we used these findings to predict the likelihood of a fundraisers success.

1.1 Who are M-Changa's users?

A data-driven model is only as good as the data that is fed into it. Therefore, in order to create robust and powerful dynamic models that accurately defines archetypes and measures campaign success, it was important to have quality data on the drivers of funding behavior and a deep understanding of who the M-Changa users are and how do they differ from non-users. To this end, we collected, assessed and analyzed M-Changa's existing data on fundraising networks and campaigns and followed this by in-depth qualitative interviews and quantitative data collection. The quantitative research was conducted on a target of 600 participants across three geographic areas: rural (Machakos), peri-urban (Kikuyu), and urban (Kibera).

The main findings from the qualitative research were:

M-Changa fundraisers prefer digital fundraising channels, as they feel it's more transparent and they feel they do not have to spend time and resources mobilizing people for a fundraising campaign.

Whilst M-Changa fundraisers rely a lot on their social networks for contributions, **they emphasized the importance of spreading the word and make the campaign public**. Awareness of the campaign is made possible by reaching out to friends, family, and making posts on social media (specifically on Facebook).

For M-Changa donors, **the purpose, urgency and target amount of the fundraising campaign are some of the major factors** that influence their decision on whether or not to donate to a particular campaign.

We then used analytical techniques (such as Factor Analysis and Cluster Analysis[28]) to isolate relevant variables and identify natural patterns in the data collected. We identified three clusters of users based on demographic features, social network use, financial status and fundraising behaviors:

Cluster 1: A young, literate, tech-savvy (comfortable using digital credit facilities such as M-Shwari) and moderate income/asset levels (relative to the sample). Members of this cluster are also likely to be primary financial decision makers of the household; presumably men and be a member of a welfare association.

Cluster 2: This cluster was characterized by elderly, illiterate, income/asset poor and financially vulnerable. Members were likely to be women above the age of 48 as well as most likely to live in the rural areas. Members expressed low comfort levels using digital credit solutions.

Cluster 3: Characterized by members with high income and asset levels, large and diverse social networks (with high fundraising potential) and literate. Members of this group largely came from the peri-urban region.

28 Factor analysis and Cluster analysis are statistical methods of data analysis. The main goal for cluster analysis is to identify subgroups within a larger dataset and thus create profiles for intervention design. However, the goal of factor analysis is to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors.

1.2 Predicting success

Following the initial data collection, we set out to answer a more difficult question: what predicts a campaign success?

Our approach was to develop a dynamic model that uses M-Changa fundraising data to and machine learning (Random Forest[29]) to predict the probability of fundraising success. The model uses fundraisers and campaign information as well as donation information (in particular frequency and amount of donations to the campaign) to generate a prediction score of success. The final model has a prediction accuracy of 80% (based on our test dataset). this end, we collected, assessed and analyzed M-Changa's existing data on fundraising networks and campaigns and followed this by in-depth qualitative interviews and quantitative data collection. The quantitative research was conducted on a target of 600 participants across three geographic areas: rural (Machakos), peri-urban (Kikuyu), and urban (Kibera).

The model has helped us further explore what makes a campaign successful:

1

The importance of trust: Verified campaigns (where the fundraiser uploads their ID and Supporting Documents to so that M-Changa can verify the authenticity of the campaign) have a higher chance of success. Similarly, having a Treasurer increases the chance of the campaign meeting its goal.

2

Momentum is important: Momentum seems to be strongly correlated with fundraiser success: the most successful campaigns are the ones where donations happen in quick succession. Moreover, even if a campaign goes dormant for a while, it can still succeed if donations were to pick up again at a later stage (i.e. it's never too late to receive donations!)

3

Personal touch is important: Campaigns where the beneficiary has invited potential donors to contribute by phone perform better than the ones where they used emails as the main communication tool.

4

The higher the donation, the better: Unsurprisingly, higher donations amount are more likely to lead to successful campaign. Moreover, the lower the variance in donations size (so the more similar the donation amounts), the higher the chances of success.

29 Random Forest is a machine learning algorithm that operate by constructing a multitude of decision trees based on a training dataset and using the mean prediction (regression) of the individual trees to predict the output.

1.3 What value is there in predicting success?

Prediction in itself is interesting, but the real value added is to use these models to help those who are predicted to be in difficulty. Hence, we developed a recommendations system based on network modeling, which identifies existing networks in a campaign and recommends to fundraisers in need potential contributors or people connected by social ties.

This recommendation system operates in two different ways:

Contributor networks

Shows the number of connections (common campaigns) an individual donor has in relation to other contributors in the system. This information is used to get the degree of connectivity to other contributors in the system. Closely connected contributors can then be invited to contribute on another campaign.

Bundlers

The system identifies "Bundlers", defined as those contributors who have contributed more than twice in a single campaign or whose contribution amount is three standard deviations from the mean amount contributed. Bundlers are likely obtaining donations from offline supporters, and present a unique opportunity for converting offline donors and onboard them on the platform.

2

Using Human Centered Design to Improve User Experience

Whilst the prediction model is useful in telling us which fundraisers were trending towards success, it did not answer the question “how do we help those who are not succeeding”?

To fully realize the promise of M-Changa’s predictive models, M-Changa and Busara collaborated with Think-Place, Human Centered Design (HCD) specialists, to develop, prototype and evaluate new features that could be added to the M-Changa platform to improve user experience and increase fundraising activities.

The areas ThinkPlace decided to focus were appreciation, telling the story and different forms of contribution.

2.1 Appreciation

For the purpose of this experiment, ThinkPlace defined "appreciation" as an expression of admiration, approval, or gratitude in response to contributing to a campaign. To determine how to make contributors feel more appreciated, they experimented with different factors such as the nature of the message (generic vs. personalised), means used in communicating the message (digital vs. tangible), the privacy preference in the delivery and receipt of the message, the impact (whether it lasts forever or it is temporary) as well as the value of the appreciation (symbolic vs. the market value).

What we learned:

1

Users particularly appreciated **human interaction**, such as physical touch and presence, as well as the use of voice through face to face conversations or over the phone

2

There was a strong preference for **personalized messages and thank you** notes that showed that both time and effort were put into the crafting of the message

3

Users preferred tokens of appreciation that had a **long-lasting presence**, such as certificates that could be hang on the wall

4

Users valued ways of showing appreciation that incorporated **religious undertones** in their messaging, leveraging their faith and beliefs

5

However, users discouraged the spending of **unnecessary money** on ways to show appreciation

2.2 Telling the story

ThinkPlace tested different ways in which M-Changa displays information (visual versus textual) and the impact that these has on the fundraising behavior. They varied the way that the fundraising message is conveyed, such as the tone, how formal the language was, the appearance (imagery vs. text only) and the complexity of the language.

What we learned:

Contributors were more likely to contribute to causes that generate empathy, in that they have personally raised money for a similar cause in the past or have experienced the challenge themselves. They are more likely to contribute to these causes than to ones based on personal connections to others.

2.3 Forms of contribution

The aim of these experiments was to better understand the context in which people give, the variety of forms in which they donate and the expectations they have after donating. To test these, ThinkPlace tested different contribution dynamics (individual vs. team), timing of the fundraiser (immediate vs. delayed), level of relatability as well as either having a centralised fundraiser collecting all the donations.

What we learned:

Users prefer to fundraise by **leveraging their different networks independently of each other,** instead of combining raising money from a single event or activity.

Ideas and connections are offered to fundraisers and are welcomed but are never considered a replacement for monetary contributions.

It is common and typical for a user to **contribute non-monetary items**, such as livestock, to a fundraiser.

2.4 Product concepts and testing

Based on their research findings and insights, ThinkPlace decided to take a balanced portfolio approach by proposing to move forward with the following four product concepts:

What we learned:

Humanizing the way we say thank you
Improving reciprocity by making the way we shows thanks more personalized, interpersonal, and enduring.

Leveraging your network to exceed target
Targeting specific groups within your personal, professional, and religious networks to raise more money.

Keeping money in the system
Increasing circulation of money raised within the platform by encouraging successful fundraisers to 'pay it forward' by giving to another fundraiser.

Fundraising without money
Allowing users to convert their goods, connections and expertise to money on a new platform.

Based on these priorities areas, 7 products were then developed and tested:

1

Fee Structure
We decided to send text messages to new fundraisers at key milestones (when the fundraiser reaches 2K, 5K, 7K and 10K). At the time, M-Changa didn't remind fundraisers of the fees (they only got a phone call at the beginning and get reminded) but we found that that there was a demand for more information on the progress of a fundraiser. We found that converting the fee percentage to a dollar value did create more trust with M-Changa and users and it improved users understanding of what they were being charged.

2

Changa Points
For this prototype, we decided to reward fundraisers and new contributors at key moments of a campaign (such as when they contribute or share the fundraiser) by awarding them points that they could spend on M-Changa. This was very successful as fundraisers could quickly see opportunities to invest these points. The preference was to redeem points not to stimulate fundraising activity, but rather to offset costs and charges.

3

Non-Monetary Contributions
In this clickable prototype, users were able to choose between giving money and other things (goods, time, share fundraiser, etc.). We wanted to test whether this would be something that users wanted as well as whether the options we prototyped were relevant. Users liked the idea of being able to donate non-monetary goods but some were blocked by the process. A lot of users asked why they would donate goods/animals/etc when they could sell it and give the money to the fundraiser.

4

Registration Redesign
In this prototype, we redesigned the registration so that users could create groups from their contacts (using either Facebook, email or phone numbers).

5

Pay it Forward/Surplus

In this prototype, we added an extra step to the registration to test users' willingness to keep the surplus within the system and donate it to other campaigns.

6

Warm Glow

In this prototype, we were testing whether people would be willing to donate altruistically to others (Kiva-style).

7

Changa Dogo

Changa Dogo was a new service where fundraisers could reach their small and urgent target goals faster through the creation of groups.

We further iterated this by testing the desirability of contributing small amounts of money within a given time limit. Various aspects of the prototype such as reversal of funds if the target was not met and specified number of contacts were also tested to understand potential user's behaviors, attitudes and feelings. However, there were negative reactions to the time limit: participants mentioned it was "forced" and "imposed". Moreover, fundraisers felt that they had spent time and effort raising this money and did not understand why they would have to give the money back. Participants mentioned that as a contributor, when you give, you don't expect to have the money back. They did not understand why the money would be returned as they had sacrificed to help.

Another prototype of Changa Dogo was aimed at testing the desirability of contributing small amounts of money with small groups, with an instantaneous boost from M-Changa to address urgent needs. Various features in the prototype such as sharing contacts with M-Changa and loan-like allocation of funds were tested to understand potential users' needs, behaviors and attitudes towards the service. Whilst this was the preferred prototype, users were confused and thought this was a tool to access loans. Also, limiting the users to only 10 contacts did not work for participants: a third asked if the limit could be increased and if they could invite or replace friends if they did not contribute.

3
Helping Low-Income Users

3.1 Who did we target?

When it came to testing new features, we prioritized testing among low-income users, who are the most vulnerable group of any population, and who have the most to gain from using a quick, easy, cheap, and transparent platform that optimizes fundraising.

In order to conduct a rigorous test on improvements to the M-Changa platform, we needed at least 600 respondents from low-income areas. Our strategy was to identify and prioritize interactions with "early adopters": individuals who are in immediate need of fundraising, use mobile money and have a large social network. By targeting this group, we were able to increase sign up rates by 45%.

This success, however, did not spill over to account usage: these new recruits had low activity on the platform, leading to low total amount raised and single digit numbers of contributors.

As such, we paused lead generation due to lack of meaningful account engagement by fundraisers. However, this experience taught us important lessons on how to engage low-income area respondents:

1

Our recruitment strategy was more push than pull: We tried to "disrupt" respondents' habits with a new product that re-invents traditional face-to-face fundraising. However, this strategy was not successful. Instead of trying to push the product, we should have adopted a "pulling" approach, attracting customers by building product salience and making it easier for fundraisers to get product information.

2

We targeted early adopters because we thought they were high potential: These individuals are in immediate need of fundraising, use mobile money and have a large social network. Thus, they stood to benefit more from the product.

3

Our first critical problem point was sign up: To prevent the intentions-action gap for potential fundraisers (where they show potential interest in using the platform, but then don't follow through), M-Changa should offer on the spot sign up to customers who go to M-Changa's referral agents.

4

Our second critical point problem account usage: The majority of the fundraisers on the platform are on the pre-launch stage of their campaign and they have not started their actual fundraising activities on M-Changa. To motivate a more meaningful product engagement, community opinion leaders and past M-Changa fundraisers can be used to promote the platform, and deploy a performance-based pay to reward productive referrals.

3.2 PMT

Since getting new low-income customers to engage on M-Changa was proving challenging, we instead pivoted to testing interventions to support those fundraisers that already use the M-Changa platform. To identify low-income fundraisers on the platform, we first built a proxy means test (PMT). A PMT allows us to estimate households' income using observable characteristics and demographics, without having to rely on self-reported (and therefore often unreliable) measures of income or other income data. The PMT has the clear advantage that, since it does not require assets or income verification, it can be administered remotely, both online or on the phone.

To calibrate the PMT, we collected self-reported income data from 148 active M-Changa users, which we used to create a machine learning predictive model that predicts the probability that a person meets a low-income criterion, which we defined as KES 800 per day. Whilst this is about 4 times the national poverty line in Kenya, we felt it captures direct beneficiaries who would benefit from financial smoothing and risk sharing support provided by the M-Changa products.

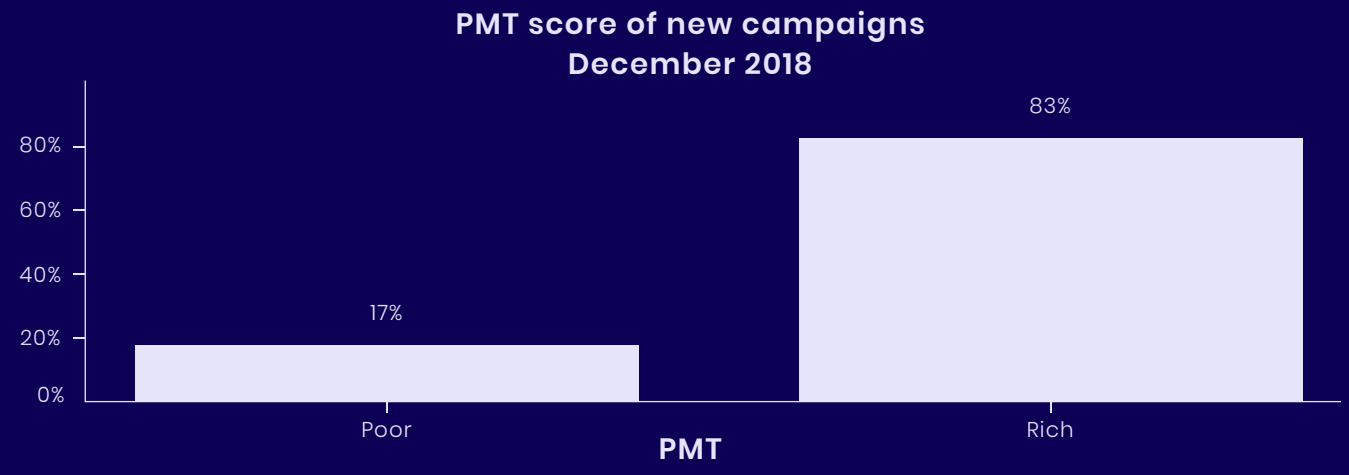
After calibration, we fitted several models to determine which was the best at predicting self-reported income. After several iterations, we found 11 variables which combined are highly predictive of income[30]. The final model accuracy is 80% at predicting whether a respondent is from a low-income area.

Whilst the primary purpose of the PMT is to help M-Changa to determine the ratio of low-income users among existing fundraisers, we have also learned some important insights when fitting the model:

Fundraisers that meet the low-income criteria are slightly better at mobilizing their supporters, but receive smaller average contribution amounts. For the most part, they have the same fundraising momentum (in terms of average contributions per day) as fundraisers who do not meet the low-income criteria.

Fundraisers who meet the low-income criteria mobilize smaller average amounts from their supporters compared to fundraisers that do not meet the low-income criteria.

Fundraising efforts run by low-income fundraisers are less efficient as they take longer to mobilize the same number of total contributions as fundraisers that do not meet the low-income criteria.



30 These are: gender, age, location, province, status as household head, education of household head, household size, number of hospital visits in the last 12 months, number of working women in the households, number of dependants and livestock ownership.

4
Treatment Randomization

The aim of the randomization design is to ensure a sufficient level of rigor to the testing without adding too much complexity to the M-Changa system. Given that most of the treatments are applied at the campaign level (incentives, top-ups), we have decided to randomize at the campaign level rather than at the contributor level. While this allowed us to test which treatment makes a campaign more efficient and effective, it doesn't fully answer the question how we make the individual contributors contribute more, as the most treatments (with the exception of anchoring) are aimed to the campaigner itself.

4.1 Randomization design

In order to keep the randomization technically simple, we assigned campaigns to a treatment group based on the **last digit of the campaign ID number**: every new campaign whose ID ends with 1 was assigned to group 1, ending in 2 in group 2 and so on. This ID is allocated automatically to every campaign by M-Changa and is not showed to the campaign creator; hence allocation it is both random and difficult to game. In addition, the simplicity made it easier for the programming team to develop and debug the algorithm. The incentive allocations for each group are as followed (these do not include the top ups treatment as it will be applied to a different sample):

Last digit	Incentive	Anchoring	Patron	Treatments
0	No incentive	No anchoring	No patrons	Control (no treaments)
1	Incentive	Anchoring	No patrons	Incentive + Anchoring
2	No incentive	Anchoring	No patrons	Anchoring only
3	Incentive	Anchoring	No patrons	Incentive + Anchoring
4	No incentive	Anchoring	No patrons	Anchoring only
5	Incentive	No anchoring	Patrons	Incentive + Patrons
6	No incentive	No anchoring	Patrons	Patrons only
7	Incentive	No anchoring	Patrons	Incentive + Patrons
8	No incentive	No anchoring	Patrons	Patrons only
9	Incentive	No anchoring	No patrons	Incentive only

Since the incentive treatment is specifically designed to give an initial boost to new campaigns whilst the anchoring and patrons ones are more geared towards more established campaigns, we combined it with another treatment. (For example, the anchor treatment may only be effective once a campaign has “matured” and hit a critical mass of donations, hence the incentive treatment may provide the necessary initial push for it to work).

With regards to the **top-ups treatment**, as it is designed to act as a boost on “mature” campaigns and is expected to work best on later stages of a campaign, it made little sense to apply it to new campaigns. Instead, we have used existing active campaigns which were at least 30 days old and had at least 15 contributors on the 1st of July 2018. Of these, campaign with an ID ending with an odd number received the treatment, while campaign ending with an even number were used as the control group.

4.2 Sample size and duration

The experiment ran from mid-July to the end of November 2018.

In this period, 3,086 new campaigns were randomly assigned to the treatment or the control group as follows:

Control group	Anchoring	Incentives	Patrons	Anchoring + Incentives	Patrons + Incentives
312 campaigns	610 campaigns	313 campaigns	615 campaigns	618 campaigns	618 campaigns

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Control group	Top-ups
476 campaigns	512 campaigns


M-Changa

Changa
Labs
Digital Philanthropy for a Developing World

CGAP

ThinkPlace

BUSARA
CENTER FOR
BEHAVIORAL
ECONOMICS

FSD Kenya
Financial Sector Deepening

AFRICAN
CROWDFUNDING
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