The Impact of Mobile Technology on Consumers' Charitable Behaviors: a Research Protocol

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Abstract
Mobile sales have increased over the past decade. In today's online retail environment, the mobile channel has the added potential to bring greater value to the retail value chain. While researchers have examined a number of factors contributing to the success of mobile technology in the context of for-profit businesses, the benefits of the mobile channel remain largely untapped by organizations in the third sector – those outside the public and private sectors. Such organizations known as non-profits include voluntary and community organizations, cooperatives, and registered charities. Focusing specifically on charities, this article explores the impact of mobile technology on individuals' charitable intentions. Because the design of mobile apps influences both usability and functionality, we believe that their successful implementation can help charities not only increase their visibility but also attract more donations. This research proposes the use of the color green in a mobile app as a way to improve user browsing time on the charity's application. It is also proposed that the best time to target donors (existing and potential) is when they go to bed, otherwise known as "bedtime". Accordingly, the use of the color green in the conceptualization of a charity's mobile app significantly improves the user's attention when navigating the app and ultimately positively affects their intention to donate. To illustrate this

research protocol, we developed a conceptual framework for improving donation behavior; this framework will be tested through online studies.This research proposal has the potential to add much to the existing literature on multi-channel marketing and, in particular, on the impact of the mobile channel on consumers' donation behaviors towards charitable organizations.

1.   Introduction

The diversity of channel distributions has been proven to add value to retailers. Nowadays, consumers can order products using their PC/Laptops, mobile devices, catalogs, or walking from in physical stores. The terms "multi-channel" and "omni-channel" have been extensively investigated in marketing research. However, one particular channel has attracted more interest from researchers; that is the mobile channel. This focus can be explained by many factors but the most probable one is the fact that today, each adult possesses a mobile phone and this by itself is a major opportunity for marketers since the mobile device always follows the potential consumer target. Marketers have the opportunity to pass their messages and communicate with consumers synchronously. Mobile channel promises to add more value to the value chain in the retail domain. Mobile sales have grown exponentially in the last decade. Scholars have studied a variety of factors that explain mobile success. Surprisingly, not all organizations take advantage of the derived benefit of the mobile channel. Charities are one of these organizations. Charities use of the mobile channel is in its infancy (The Giving Report, 2020). Charities vary in terms of scope and purposes. Most charities serve and add value to communities. This research borrows from the existing findings in multi-channel marketing and applies them to charities. Such charitable organizations run and operate from an individual, corporate, and government donations. Charities lack behind in marketing (e.g., Siemens, Raymond, Choi, & Choi, 2020; The Giving Report, 2020). It is the widespread belief that marketing is always associated with profit that refrains charities from applying marketing initiatives.

Our research model which will be described in more detail in this research proposal can be interpreted as follows. A charity may add a mobile channel in addition to its offline channel. Generally speaking, the transaction between a charity and a donor is completely different from the traditional transaction that occurs between a retailer and a consumer. In the latter case, the consumer receives a product/service from a retailer and pays money in return. When a donor donates to a Charity, he does not receive any tangible

product/service in return. Donor / Charity transactions involve more emotion and feeling than tangible and transactional thinking. Building on these assumptions, we argue that the more convenient the environment of the donation the more likely the donor may give or at least commit to the charity brand. We argue that charities may benefit from the value of adding online channels such as a mobile channel to attract donors. Mobile app design impacts Mobile use and utility. We argue that the use of the color green in the mobile app may increase the user focus and browsing time on the app. The color green has been proved to attract the eyes, relax the brain and help in memorizing. Green offers a calming and stress-free environment. I also argue that the best time to target donors is bedtime (when people go to bed). It becomes the norm that when a person goes to bed, he or she would pick up the mobile and browse for a few minutes before they or fall asleep. This browsing time does not last very long because the user's psychological state is at the lowest level in terms of energy. Thus, when the user browses a charity app that smartly and wisely use the color green may increase the time spent on the app (user attention) which in turns may impact the user's intention to donate, especially at bedtime. User intention to donate is defined as the user request for additional information from the charity personnel prior to making a decision. Moreover, offline personnel characteristics has been proven to influence online consumer behavior (e.g., Verhagen, Dolen, & Merikivi, 2018). When the personnel of the charitable organization call up the potential donor who intended to donate, he or she may commit to donate. When the purpose(s) of the charity matches the potential donor preferences for donation, he or she may donate.

This research proposal may bring tremendous value to the existing literature in multi-channel marketing. It also put emphasis on the importance of the donation environment. The expected findings may benefit charities by increasing the donor's segments and attract more people to support them. In particular, this study investigates the impact of mobile technology on consumers' donation behaviors and the following are the research questions: (1) How does the green color design in a charity's mobile app, *during bedtime*, affect consumer session duration (i.e., browsing time of the app visit)? (2) To what extent the (bedtime) moment in which consumers visits a mobile app influences the relationship between session duration and consumers' donation intentions? (3) How does consumer commitment mediate the relationship between consumers' donation intentions and behaviors? (4) How do charity personnel characteristics (i.e., friendliness) moderate the relationship between consumer intention and commitment towards the charity brand? (5) How do consumers' donation preferences moderate the relationship between consumer commitment and donation?

The rest of the paper is structured as follows: section 2 provides a brief literature review; section 3 shows our proposed conceptual framework; section 4 presents our hypotheses; section 5 discusses upon our research methodology; and sections 6 and 7 offer discussions and conclusions along with potential theoretical contributions and managerial implications for the charitable sector.

2.   Literature Review
2.1.   *Charities*

Charities complement the role of the governments by supporting and strengthening   communities and societies (Siemens et al., 2020). Charites have a huge impact on the lives of Canadians. According to The Giving Report 2020, in Canada alone, there are approximately 86,000 registered charities, and most of them (80%) are small (i.e., they make less than $500, 000 in revenue a year).

The most recent data concerning the Canada's charitable sector shows that the number of Canadian who give to charities is decreasing each year, and this has been consistent since 2006 (The Giving Report, 2020). Despite this unfortunate reality, the online charitable sector in Canada is rapidly growing. In fact, the charities and non-profit organizations are still trying to make additional efforts, especially for the purposes of keeping up with changes in technology. The online charitable sector in Canada is rapidly growing. For instance, based on the most recent data from federal tax filings, "online giving grew to $144.8 million in 2017, a 17% increase in total giving in Canada" (The Giving Report, 2020, p.9).

Although desktop users accounted for 79% of donations revenue in 2019, mobile donations are rapidly increasing, e.g., 33% of mobile users in 2019 versus 25% for desktop users (The Giving Report, 2020). In addition, "Canadian charities continue to improve the ease of making online donations via mobile devices" (The Giving Report, 2020, p.10).

In most marketing and consumer behavior studies that have examined the effectivess of mobile technology, either from a business of consumer perspective, researchers have most often conducted their investigations by collecting data from the for-profit sector, i.e., from businesses whose primary goal is to generate profits. However, the potential role of mobile technology in the non-profit sector has been largely overlooked, an unfortunate lack of consideration given the rise of mobile giving.

While charities use a varity of channels and techniques to connect with the public, retaining existing donors and attracting new ones has become the most challenging goal for all charities (The Giving Report, 2020). This is especially important because these organizations rely solely on public funding to operate and survive.

Charities use different channels and techniques to communicate with the public and the potential donors. Research has shown that the nature of the

message that calls for donations impacts people's intention to give (Merchant, Ford, & Sargeant, 2010). According to Siemens et al. (2020) "deeper research on the social motivation behind donation behavior is needed" (p.2). However, very few, if any, studies have examined how mobile app effectiveness – and specifically the use of green colors in the app design) influences consumers' charitable behavior. We therefore build in this research a set of hypotheses based on multi-channel marketing theories. We hope that our results will help charities and non-profit organizations reduce the challenges they face by guiding them toward a new way of attracting donors.

2.2. *Value of the Multi-, Cross-, and Omni-channel Models*

Although the concepts of cross-channel (CC) and multi-channel (MC) are used interchangeably in the literature (Hübner, Wollenburg, & Holzapfel, 2016), in the retail environment, these two concepts are distinct. Specifically, while both MC and CC retailers sell goods and/or services through multiple channels, MC retailers do not control channel integration, while CC retailers do; and MC consumers cannot trigger channel integration as opposed to CC retailers (Beck & Rygl, 2015).

The concept of omni-channel (OC) has been conceptualized by several scholars in different research contexts. Beck and Rygl (2015) built a taxonomy of the multiple retail channels and conceptualized OC as one integrated and unified system, in which all possible channels, online and offline, are merged together to create a unique and customized consumer shopping experience. Payne, Peltier, and Barger (2017) examined the marketing and communication functions of OC marketing. The authors argued that in the MC environment, marketers aim to get the best from each channel, whereas in the OC environment, "the most important interaction is not with the channel, but with the brand" (Payne et al., 2017, p.189).

Consequently, in the OC environment, the focus takes a holistic perspective where the ultimate goal is profitability (i.e., overall consumer profitability across all channels). As Payne et al. (2017) pointed out, "OC marketing follows a holistic shopping experience, one in which a consumer's buying journey is smooth and seamless, irrespective of the channel used" (p.189). Payne et al. (2017) offered an integrated omni-channel marketing communication framework to guide future research directions in three specific areas: brand engagement, touchpoints (Wagner, Schramm-Klein, & Steinmann, 2020), and consumer profitability (Chang & Zhang, 2016; Cambra-Fierro, Kamakura, Melero-Polo, & Sese, 2016), all three of which are key elements of their proposed framework. The theoretical rationale is that consumer touchpoints impact consumer engagement which in turn would affect consumer profitability. Consumers interact with retailers through a variety of touchpoints that can be in person or virtual. According to Payne et al. (2017), "one

consequence of this increasingly diverse array of personal and electronic touchpoints is the need to seamlessly integrate messaging strategies and tactics across multiple channels and the consumer life cycle" (p.186).

More recently, Shi, Wang, Chen, and Zhang (2020) has responded to Payne et al.'s (2017) research calls to further expand OC research on consumer decision-making process. Drawing on Rogers' (1995) diffusion of innovation theory, Shi et al. (2020) examined consumers' intention to adopt OC shopping in three distinct stages: first, consumers form a set OC shopping expectations (first stage); second, they observe the characteristics of their OC shopping experience (second stage); and finally, they adopt or reject OC shopping (third and final stage).

Retailers communicate with consumers using many different channels, such as physical stores, websites and mobile apps. Nowadays, combining online and offline channels is becoming a common practice among consumers. This diversity of channels has also led to the emergence of two major activities in consumer behavior: webrooming and showrooming. Webrooming involves searching for information online and then buying offline, while showrooming involves gathering data and reviewing products in physical stores and then purchasing online.

The effects of webrooming and showrooming behaviors have been largely studied in the retail sector (Hult, Sharma, Morgeson, & Zhang, 2019; Kang, 2018). For instance, Flavián, Gurrea, and Orús (2020) explored how webrooming and showrooming may impact customer experience, especially the feeling and the perception of being a smart shopper. According their findings, compared to showroomers, webroomers consider themselves smart shoppers because they feel they are saving time and effort and making the right purchase (Flavián et al., 2020). In other words, webroomers express stronger feelings of smart buying than showroomers. Flavián et al. (2020) also found that consumers, regardless of their shopping behaviors (webrooming or showrooming), rely on the mobile channel, making it a particularly promising medium.

Furthermore, many studies have investigated the impact of the addition of mobile channel on the firm's performance. For instance, Liu, Lobschat, Verhoef, and Zhao (2019) found that adding a mobile app tends to cannibalize purchases in existing channels (mobile websites) and that the marginal benefit created by the new channel is probably weaker than the cannibalization effect in existing channels, thus leading to a total negative effect on consumers' spending and retailers' revenue. On the other hand, Zhang, Pauwels, and Peng (2019) found that adding a O2OSP (i.e., online to offline service platform), notably a mobile app, hurts offline and total profits in the short term, but in the long run, O2OSP boosts offline and total sales by 23% and 34%, respectively. Accordingly, Zhang et al. (2019) strongly suggested that when introducing

O2OSP channels, managers should take a long-term view, as O2OSP channels complement the sales of traditional offline channels and attract more consumers to purchase both online and offline, thus improving total sales and profits. To a similar extent, Shakir Goraya, Zhu, Akram, Shareef, Malik, and Bhatti (2020) found that consumer switching behaviors (webrooming and showrooming) can implicitly contribute to an increase in profit by encouraging consumers to purchase more.

As to what drives consumers to use the mobile channel, Li (2018) suggested that usefulness (i.e., the possibilities to pinpoint location), transaction convenience (i.e., complement the purchase transaction directly without using a credit card or cash), economic benefits (i.e., acquire savings in terms of discounts, vouchers, and free gifts), and gamification (i.e., enjoy game-like activities), are prominent determinants that motivate consumers use mobile app. Liu et al. (2019) suggested additional Mobile attributes affecting consumers' purchase decisions namely, flexibility, greater convenience, better experience and lower risk. Van Heerde, Dinner, & Neslin (2019) suggest that convenience and superior digital engagement as some benefits of the retailer Mobile app. Among the factors that prevent consumers from using mobile apps is perceived inertia, which is defined as "a nonconscious process where consumers simply buy the same brand out of habit" (Li, 2018, p.174). Consumer perceived inertia acts as a situational constraint or barrier that discourages consumers from switching their behaviors, as they tend to stay with the same channel and do not like to change their habits (Li, 2018). Similarly, as suggested by Van Heerde et al. (2019), the learning process and the habit change required to use a mobile app are perceived by consumers as costs.

To conclude, the use of mobile app promises more growth in the future and more and more consumers tend to shop on mobile than other channels (e.g., Grewal, Noble, Roggeven, & Nordfalt, 2019; Wagner et al., 2020).

2.3.   *Benefits of the Color Green in App Design*

In this section we focus on one specific attribute of the mobile device; that is the use of color in the app design. Research has demonstrated that the psychology of color increases website conversions through the use of human emotions and attitudes (Whitfield & Wiltshire, 1990; Khandelwal, 2020). When the eyes perceive color, they communicate with the brain which then sends signals of emotion, mood, and behavior throughout the body. People change behaviors based on the color they are viewing. Colors attract the attention of users and increase brand recognition, memory, and participation (Bonnardel, Piolat, & Bigot, 2011; Dzulkifli & Mustafar, 2013). The color green is excellent at creating feelings of comfort and calming emotions relaxing, calming effect as it can be associated with nature and trees (Kaya & Epps, 2004). In fact, this color has been found to have such strong associations with nature and being

environmentally friendly that the colour alone can send a message that a company is ethical (Chu & Rahman, 2010).

Similarly, researchers have found that individuals are less anxious when exposed to green, especially due to the fact that the color of green is capable of evoking feelings of tranquility (Akers, Barton, Cossey, Gainsford, Griffin, & Micklewright, 2012). Additionally, research has found that perceiving color for a certain time frame (i.e., short periods of time) can have positive effect upon mood or affective and cognitive psychological functions (Akers et al., 2012).

Bonnardel et al. (2011) suggested that colors have an impact on the website's appeal and users' cognitive processes and that the choice of color in website design can have significant impact on users' perceptions, judgements and willingness to navigate through websites. Moreover, Elliot (2015) argued that consumers evaluated online interfaces (e.g., websites) featuring blue (relative to green) as more trustworthy. Colour has been found to affect the relationship between arousal and memory. For instance, Kaya and Epps (2004) discovered that most participants (i.e., college students) associate green colour with "the feelings of relaxation, followed by happiness, comfort, peace, and hope" (p.32). Similarly, Lee, Srinivasan, and Rao (2010) suggested that cooler colors, such as green have a positive and pleasant effect on the human's brain.

Green is also the easiest color for the eyes to process, which explains why many brands use the color green in their logos. For example, the Starbucks brand incorporated the color green into its logo as it represents freshness. Green draws the eye to the most important areas of a screen, whether small or large, and sustains visual interest. Another example is Spotify, a music streaming service, which uses a calming/soothing green button with contrasting backgrounds (e.g., purple) to achieve the highest click-through rate and recruit new mobile users (BrandCrowd, 2020).

Color can often be the sole reason someone purchases a product. Bytyci (2020) added that psychological adaptive color, such as green, plays a major role influencing consumer purchase decisions. Well-chosen colors significantly attract consumer attention, and persuade acquisition (Bytyci, 2020). Additionally, green is also the colour of money, and "it a common choice in financial sectors and for utilitarian apps like Messages, Facetime and Evernote" (McDiarmid, 2015, para.7).

3.   Conceptual Framework

The development of the model mainly draws on color theories (e.g., dual dimensional models or embodied versus referential meaning color model), the theory of resonated action (Fishbein & Ajzen, 1975), and the analogical transfer paradigm (Gregan-Paxton, Hibbard, Brunel, & Azar, 2002).

First, we will refer to color theories related to marketing and psychology to highlight the importance of color on consumer behavior (cognitive, affective

components). For instance, previous research (e.g., Labrecque & Milne, 2012; Labrecque, 2020; Lee, Noble, & Biswas, 2018) has proposed the embodied versus referential color meaning model to better understand consumer reactions to color. Second, we will refer to the theory of resonated action (TRA) to explain the intention-donation relationship. According to the TRA model, consumers tend to be more engage in a behavior (e.g., donation) if they view the action as being positive. Fishbein and Ajzen (1975) have emphasized the importance of intention more than the reality of usage, which is why this model is appropriate when it comes to charitable behaviors. Third, we will adopt Verhagen et al.'s (2018) theoretical foundation to examine the impact of offline charity personnel (e.g., friendliness) on consumer commitment. The analogical paradigm theory has been found to be useful to understand the interference that guide consumer decision-making (Verhagen et al., 2018). Based on these aforementioned theories, we will explain the relationships between the color of green on mobile app design and consumer behavioural intentions (i.e., commitment and donation).

In the following section, we introduce our conceptual model along with a set of proposed hypotheses (Figure 1). Specifically, we expect that mobile app with green color design increases the amount of time spent browsing on the app (hypothesis 1). Then, we expect that consumers' session duration on the app is positively associated with their intentions towards the charity brand (hypothesis 2), especially when consumers visit mobile apps at bedtime (hypothesis 3). Furthermore, we expect that consumer intention increases donation behavior (hypothesis 4), and that commitment explain this main effect (hypothesis 6). Finally, we include in our model charity personnel characteristics and charity cause preferences as key moderators of the relationships between intention and commitment (hypothesis 7), and commitment and donation behavior (hypothesis 8), respectively
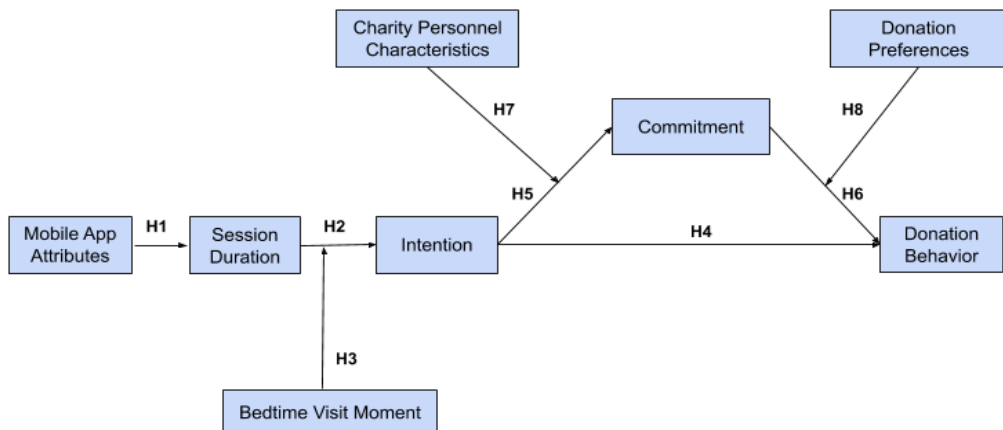

Figure 1: Proposed Conceptual Model

4. Hypotheses Development

4.1. *Mobile App Attributes: Green Color*

Mobile apps with green color design may positively influence the duration of the consumer session on the mobile app. In other words, we expect that consumers will spend more time with their mobile devices, especially when the mobile app design color is green. In other words, because the color green catches the eyeballs, we expect consumers to be attracted by the proper use of the green color design, leading them to browse the app for longer period. Thus, we hypothesize:

H₁: Mobile apps with proper use of the green color will increase consumers' duration session on the charitable app.

4.2. *Relationship between Session Duration and Consumer Intention*

We suggest that the more time spent on the mobile app (i.e., longer session duration), the more tempted the consumer will be to request additional information on the charity brand (i.e., high intent consumers).

When consumers start navigating and searching in the app, they showed some kind of interest towards the app. Moreover, session duration (i.e., the amount of time spent on the app) is a measure of user engagement (Anurag, 2020). We expect that the longer the consumer session duration on the app is, the higher the likelihood of requesting more information about the charity brand. Thus, we hypothesize:

H₂. Consumer session duration has a positive effect on consumer intent to donate.

4.3. *The Moderating Role of Bedtime Visit Moment*

We infeelingedtime Visit Moment" as a moderator variable that strengthen the effect that session duration (independent variable) has on consumer intention (dependent variable). We focus on *bedtime moment* as a specific time frame to conceptualize the moments in which consumers visit a mobile app. The bedtime moment begins when a consumer goes to bed. During this period, consumers used their mobile devices for different purposes (i.e., pre-bedtime activities).

We propose that the effect of session duration on consumer intention to take part in charitable donations is stronger (i.e., more positive), when consumers visit the charity app at bedtime. Therefore, we hypothesize:

H₃: Bedtime visit moment moderates the effect that the session duration has on consumer intention.

4.4.   Donation behavior

H₄. Consumer intent to seek information on the charity brand has a positive impact on donation behavior.

4.5.   *The Role of Commitment in the Intention-Donation Relationship*

Consumers with high donation intent will be more likely to commit towards the charity brand (hypothesis 5) and will subsequently make financial donations to charitable organizations. We suggest that the relationship between intention-donation is better explained by consumer commitment (hypothesis 6). Once consumers have high intent to donate, they will be more likely to exhibit positive attitude, such as brand commitment. In other words, high-intent mobile users (i.e., those who seek additional information about the charitable organization) will be more likely to commit towards the charity cause. Also, consumers with a high commitment towards the charity brand will be more likely to donate. In sum, the above leads us to the following hypothesizes:

H₅. Consumer intent to seek information on the charity brand has a positive impact on commitment towards the charitable organization.

H₆.   Commitment mediates the impact of intention on donation behavior

4.6.   The Moderating Roles of Consumer Perception of Personnel Characteristics and Consumer Charity Cause Preferences
4.6.1.   Consumer Perceptions of Charity Personnel Friendliness

For determining key personnel characteristics influencing consumers' commitment, Verhagen et al.'s (2018) research approach was adopted as a theoretical foundation, focusing on offline store personnel competence and friendliness characteristics. Our study will focus on personnel friendliness as a key characteristic that may impact the intention-commitment relationship. Offline store personnel friendliness is defined as "the extent that store personnel and consumers like each other, and consumers have the feeling that they are cared for and have a pleasant conversation (Verhagen et al., 2018, p.3).

We expect that consumer intent on consumer commitment will be stronger when consumer perceptions of charity personnel are positive, i.e., consumers perceived that charity personnel is being friendly. The stronger (i.e., more positive) the perceptions toward charity personnel are, the stronger the relationship becomes between the consumer's intent to take part in charitable donations (e.g., requesting additional information) and commitment

towards the charitable organization. Taken together, this study advances the following hypothesis:

H7. Consumer perceptions of charity personnel friendliness moderate the relationship between intention and commitment.

4.6.2. Fit between Consumer Donation Preferences and Charity Purposes

We expect that highly committed consumers will be more prone to solicit actual donation behavior. A committed potential donor may not necessarily be a donor. The committed donor may change his/her mind at any time. We argue that the fit between the donation preferences of the potential donor and the purposes of the charity will likely motivate the potential donor to donate. Thus, we hypothesize

H8. Consumer donation preferences moderate the relationship between commitment and donation behavior.

In sum, we argue that the mobile app design (i.e., the use of the color green) will lock the consumer's attention on the app, especially when consumers visit the charity's app during bedtime (i.e., relaxing time), This approach of combining the use of color green in app design and bedtime moments creates a convenient environment, which may motivate the consumer to build an intention to helping and supporting charitable causes in the future. Furthermore, the consumer's intent to donate may be expressed by his/her request for additional information before he/she makes up his/her mind to commit to donating. We argue that the quality of charity personnel, expressed in terms of friendliness (Verhagen et al., 2018) will likely motivate the consumer to commit to the charity brand. Finally, when the potential donor's donation preferences fit with the purposes of the charity, the likelihood of moving from commitment to actual donation will be high.

5.   Method

For this research, two online studies will be conducted to test the above hypotheses. To begin, Hypotheses 1-3 will be tested through an initial study that will serve as a preliminary data collection. Essentially, Study 1 is designed to identify potential donors, i.e., individuals who may be interested in charitable giving, for inclusion in the second study. Study 2 is designed to examine giving behaviors (i.e., Hypotheses 4-8) and will include both respondents who have previously donated to a non-profit organization (i.e., existing donors) and those who demonstrated favorable giving intent in Study 1 (i.e., potential donors). In the following paragraphs, we discuss each of these two studies.

Study 1: Identifying potential donors (H₁, H₂, and H₃)

In Study 1, we aim to examine the effect of green color design in a charity mobile app on consumers' donation intentions, thus testing Hypotheses 1-3. We will collect data using an online survey, an effective quantitative approach to test the mediating effect of "bedtime visit moment" (H_3), a variable difficult to measure with other methods, such as laboratory user experience or online scenario-based experiments.

Our sample will consist of millennials and Generation Z respondents. According to Beresford Research, the generational age range for adults in 2022 is 18 to 25 for Generation Z (Gen Z) and 26 to 41 for Millennials. Two reasons can explain the sampling choice of these younger generations, namely their shopping habits and their donation behaviors. First, Millennials and Gen Z shoppers are more eco-conscious of the environmental and social impact of their purchase decisions and are most likely to spend 10% more on sustainable products from brands that resonate with their values and principles (Petro, 2021).

Second, as reported by RenPSG, a leading independent philanthropic solutions provider, Gen Z and millennials are revolutionizing the philanthropic world (Fisher, 2021). Despite a slight reluctance to donate at the start of the coronavirus pandemic, these younger generations donated the most in the US and the UK, with millennials having the highest giving rate, followed by Gen Z. According to Zelle's 2020 September Consumer Payment Behaviors report, nearly 3 out of 4 millennials in the US have sent financial aid to family or friends or donated to a non-profit since the start of the coronavirus pandemic (Leonhardt, 2020). Consistent with these findings, a new report from a fundraising technology provider, Enthuse, revealed an increase in digital donations in the UK, reporting 62% for Gen Z donors and 64% for millennials, with nearly half having donated to three or more causes in the last quarter of 2021 (Tullin, 2021). These two reasons demonstrate the economic power and expansive generosity of Millennials and Gen Z.

With the approval of Laval University, email invitations will be sent to students, staff, and faculty (N=150). Email recruitment is an effective method of accessing the integrity of the university community. This email will include the following eligibility criteria: the respondent must be at least 18 years old, specifically in the 18-41 age range, which corresponds to Gen Z adults (18-25) and Millennials (26-41), and must understand English.

Additionally, in the recruitment email, participants will be informed that this study is being conducted at a late hour, i.e., 7:00-9:00 p.m., to measure the mediating effect of the "bedtime visit moment" on the relationship between session duration on the app and intention to donate (H_3). Specifically, if the participant clicks on the link sent to them during these late hours, and remains active on the app for a relatively long period (i.e., longer session

length), or wishes to obtain additional information, then we will consider that participant a potential donor, and he or she will be selected for the main study (Study 2).

In sum, to examine the impact of green color design in mobile apps on consumers' donation intentions *(H₁, H₂, and H₃)*, participants that meet the eligibility criteria and confirm their participation in the research, will receive an email between 7 and 9 p.m. with a link to an online survey that will take about 8 minutes to complete.

Finally, participants whose session on the app lasted longer and/or those who requested more information about the charity during their session will be invited to participate in our second study.

Study 2: Consumers' donation behaviors (H₄, H₅, H₆, H₇, and H₈)

In study 2, we first examine the mediating role of commitment in the relationship between intention to donate and donation behavior *(H₄, H₅, and H₆)*. Then, the moderating effects of charity personnel characteristics (i.e., charity personnel's friendliness) and consumer donation preferences are investigated *(H₇ and H₈)*.

A sample size of at least 400 participants will be required to ensure that the analyses can be performed without constraints (Brysbaert, 2019). Participants for Study 2 will be recruited using Prolific Academic, a UK-based online platform designed for surveys and experiments. This platform gives access to more diverse and representative respondents (Peer, Brandimarte, Samat, & Acquisti, 2017; Vladasel, Parker, Sloof, & Van Praag, 2020). Recently, researchers analyzed data quality in online behavioral research and suggested that, unlike participants on the Amazon Mechanical Turk (MTurk) platform, Prolific respondents provided high-quality data in terms of attention, comprehension, honesty, and reliability (Peer, Rothschild, Gordon, Evernden, & Damer, 2021). Also, to ensure high-quality answers, we will consider participants with prior approval rates higher than 90% on Prolific (Vladasel et al.,2020).

Non-profit organizations, including charities and social enterprises, are an established organizational form in the UK and an online study allows us to reach a broad population of potential consumers (Vladasel et al.,2020).

As with Study 1, qualifying criteria regarding participation in Study 2 are that respondents must be at least 18 years old, specifically in the 18-41 age range (Gen Z adults and Millenials), and must understand English. Moreover, to ensure the presence of donors, we will include in Study 2 an additional inclusion criterion that requires participants to have made online donations to a non-profit organization in the past five years. There will be no additional restrictions on psychographic or demographic criteria. In summary, in Study

2, our potential pool of respondents will include both potential donors – who were screened in Study 1 – as well as existing donors.

5.1.   *Measurement development*

Our online design questionnaire will be pre-tested with marketing professors, and experienced professionals majoring in strategic marketing for a non-profit organization and electronic commerce. For this study, we will be adapted scales primarily and whenever possible from previously validated questionnaires.

5.1.1.   *Variables*

Construct	Definition
Mobile App Attribute	Green color design in mobile app
Donation Behavior	Donation refers to the actual act of giving (voluntary) donations, financial contributions, for charitable organization causes.
Intention	to donate is expressed by the request for additional information made by the potential donor. For this study, consumer intent is a purpose or reason behind an action, (i.e., to commit in the future towards the charity brand), as part of a consumer's journey toward a donation, which is a financial contribution to charitable causes.
Session Duration	Session duration is the amount of time the app is in front of the user (Schneider, 2020). It is a measure of app engagement. A session begins the moment a visitor arrives at your mobile app and ends when they exit or remain inactive for a predetermined period. As long as the visitor interacts with the charitable app, the session continues.
Bedtime Visit Moments	Bedtime are mindful and peaceful moment when consumers use their mobile devices just before they close their eyes.
Commitment	Donor commitment towards the charity brand is defined as the consumer's willingness to commit to the charity brand. He or she checks the amount of donation on the app.
Charity Personnel Characteristics	Charity personnel's friendliness is described as a relevant in-store personnel characteristic in today's multi-channel retail environment (Verhagen et al., 2018)
Donation Preferences	Fit between the charitable organization cause and the donor cause preferences. Donors have different interests when they donate. Some donate to fight hunger and poverty, others to support education.

6.   **Discussion**
6.1.   *Theoretical contributions*

This research relies on recent research findings in the area of multi-channel marketing. Research studies have largely demonstrated that the diversity of channels in retailing may add value to retailers (Cao, Liu, & Cao,

2018; Li, 2018; Liu et al., 2019; Van Heerde et al., 2019). We have noticed that the majority of these studies focus on for-profit organizations in their investigations. At the same time charities, a particular type of non-profit organization which plays a major role in supporting communities and societies have not been intensively targeted by marketers despite the reality that charities do not sell products and services. Instead, non-profit organizations and charities completely rely on donors and government funding to operate and survive. They, therefore, must double efforts to retain and maintain existing donors, while attracting potential donors and motivating them to give recurrently. Unfortunately, many charitable organizations still believe that applying marketing initiatives and techniques may imply financial investments and resources. This belief is somehow changing, and we see many charities start shifting towards the use of Information technology and marketing techniques to reach out to potential donors.

We aim to contribute to the existing knowledge in multi-channel marketing by investigating the external validity of existing theories and models. We propose a conceptual model with a set of hypotheses that will be tested. Our research model relies on a combination of existing theories namely, the theory of reasoned action (Fishbein & Ajzen, 1975), the analogical transfer paradigm (Gregan-Paxton et al., 2002), and psychological theories.

6.2.   *Managerial implications*

Today the majority of donors and potential donors use mobile devices. It makes more sense for charities to build mobile apps to reach out to their supporters. Charities may benefit from our findings by using our model in their fundraising efforts. The use of convenient devices such as a mobile channel is part of the consumers' pre-bedtime activities. At these particular moments, consumers are in a stress-free state of mind and will be more emotionally willing to help and support, which in turn will increase people's intention to donate. Moreover, we advise using the most relaxing color in the mobile app to attract the attention of the consumers, and therefore increase their duration of session journeys on the app.

Finally, we suggest that the effectiveness of the model depends largely on the qualities of the personnel, such as friendliness and trustworthiness, and who will follow up with the potential donors to motivate them to commit to charitable donations. For managers of multi-channel charities, we propose that having friendly and trustworthy personnel may have positive effects, as it may not only benefit the charity brand but also lead consumers to make financial contributions towards the charity brand. We proposed that the probability that a consumer commits to the charity brand is positively associated with in-store personnel characteristics.

Conclusion

People can either transact with a vendor or support a cause. In the first case, the consumer satisfies a need when purchasing a product/ service. In the second case, he or she purchases self-satisfaction by supporting a charitable organization. More emotions and feelings are involved with a donation than with a traditional transaction. Our goal is to demonstrate that the use of information technology has the potential to add value to the online non-profit sector.

Essentially, our genuine research protocol aims to extend current theories and models that investigate consumer decision-making and behavioral intention in the context of non-profit organizations. Specifically, the goal of this work is to develop a conceptual framework that would explain how charities can increase their online donations through their mobile app.

On the one hand, the research framework includes key determinants expected to generate higher donation intent from existing donors and potential donors. Specifically, the green color of the charity's mobile app should induce a longer session duration (i.e., prolonged usage of the app). This can be justified by the calming and restful effect that the color green can provide to the user. In this way, the session duration seems to be a good indicator of the user's attention and interest in the charity app.

On the other hand, our study should shed light on the value of the moderating roles of charity personnel characteristics and donation preferences. Ultimately, it is first proposed that the relationship between individuals' charitable intentions and their giving commitment is more conducive when the charity's staff is friendly. In addition, it is proposed that the relationship between individuals' commitment and their donation behavior is more favorable when individuals' donation preferences have been met/satisfied.

We believe that charities can benefit from lower budgets for mobile app marketing while achieving better results, maintaining positive relationships with their current and prospective donors, and targeting more important marketing goals. The research evidence will offer beneficial results for charity executives regarding the vital importance of effective mobile app design – in this case, the use of the color green. In addition, our study will provide practical recommendations to assist charity executives and marketers in their decision-making processes. Most importantly, we hope that charity executives will incorporate the color green into their mobile app to further attract user attention and, recognize the importance of charity staff friendliness and donation preferences. These are intended to improve the level of commitment of their current and potential donors and, ultimately, to generate more donations in order to achieve their social missions and maintain their financial viability.

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