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Toward A Situational Technology Acceptance Model: Combining the Situational Theory of Problem Solving and Technology Acceptance Model to Promote Mobile Donations for Nonprofit Organizations

Yue Zheng
University of South Carolina

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Toward A Situational Technology Acceptance Model: Combining the Situational Theory of Problem Solving and Technology Acceptance Model to Promote Mobile Donations for Nonprofit Organizations

by

Yue Zheng

Bachelor of Arts
Renmin University of China, 2008

Master of Science
Iowa State University of Science and Technology, 2012

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University of South Carolina

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Accepted by:

Brooke W. McKeever, Major Professor

Andrea H. Tanner, Committee Member

S. Mo Jang, Committee Member

Daniela B. Friedman, Committee Member

Lacy Ford, Senior Vice Provost and Dean of Graduate Studies

DEDICATION

To my parents, who consistently support my career in academia.

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A dissertation cannot be finished by entirely one person. I take this opportunity to acknowledge those who have made efforts on my doctoral accomplishment.

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ABSTRACT

Using a nationwide survey of 994 respondents in February 2016, this study combines the situational theory of problem solving and technology acceptance model to refine the conceptual understandings of people's motivations to make a mobile donation benefiting health-related nonprofit organizations. Findings provide empirical support for the combined model and an emerging situational technology acceptance model. Mobile phone users' intentions to make a mobile donation are mostly influenced by their attitudes toward using technology and subjective norms. Practical implications are also discussed for nonprofit practitioners to better segment publics, design strategic messages, and disseminate communication campaigns to improve future fundraising.

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LIST OF ABBREVIATIONS

AMT…………………………………………………...Amazon Mechanical Turk

ARC……………………………………………………American Red Cross

CFI…..Comparative Fit Index

M……………………………………………………………….Mean

NFI…………………………………………………...Normed Fit Index

RMSEA…………………………………...Root Mean Square Error of Approximation

SD………………………………………………………..Standard Deviation

SEM…………………………………………………..Structural Equation Modeling

SMS……………………………………………………….Short Message Service

STOPS……………………………………………Situational Theory of Problem Solving

STP………………………………………………....Situational Theory of Publics

TAM……………………………………………...…Technology Acceptance Model

TRA…………………………………………………Theory of Reasoned Action

CHAPTER 1

INTRODUCTION

1.1 Text Messaging and Mobile Donation

In 2014, nearly 91.6% of Americans own a mobile phone, which is also called a cellular phone, cell phone, or hand phone (mobiForge, 2014). People use a mobile phone primarily for its mobility and immediate access (Leung & Wei, 2000). Nearly two-thirds of Americans own a smartphone (Pew Research Center, 2015), and besides making basic phone calls, they take advantages of the diverse mobile phone functions to take pictures, record videos, play games, access the Internet, play music, and send or receive text messages or emails. Among those functions, texting, also called text messaging or SMS (short message service), ranks as the second most popular function among all mobile phone owners; approximately 72% of mobile phone owners use it daily (photography is the most popular function, used by about 76% of owners). For mobile phone owners aged 18 to 29, texting ranks as the most popular function, utilized by 95% of these young owners (Smith, 2010). On a regular day, current American mobile phone owners send or receive an average of 41.5 messages; this number jumps to 109.5 messages for young users (Smith, 2011). In the first decade of the 21st century, the amount of text messages sent monthly by American mobile phone owners increased exponentially from 14 to 188 billion (Kluger, 2012).

The basic texting procedure includes the transmission of text-based electronic materials (up to 160 characters in length including spaces) from one mobile phone device to another. Reflecting the growth of mobile technology, text messages nowadays may contain pictures, audio files, and other attachments, and the messages can be transmitted between cell phone devices and Internet addresses (Ling, 2004).

In recent years, text messaging has been employed by an increasing number of nonprofit organizations in support of their charitable fundraising (Chen & Givens, 2013; Weberling & Waters, 2012; Weberling, Waters, & Tindall, 2012). Specifically, people can give small monetary donations (usually $5 or $10) to nonprofit organizations by texting a specific keyword to a related phone code, and the charge will be applied to their mobile phone bill once they receive the immediate confirmation text. The donation is a one-time charge and the amount of donation is determined by the nonprofits. Donors can also go online to confirm their donations or to obtain a receipt for tax records (Mobile Giving Foundation, 2015a). For example, to support the disaster reliefs organized by the American Red Cross, people could make a $10 donation by texting the word "REDCROSS" to the phone number "90999," and $10 would be charged one time via their cell phone bills the next month (see Figure 1.1). This type of donation via text message is known as a "mobile donation" (Chen & Givens, 2013, p. 197), which differs from a donation made through mobile Internet, a mobile application, or a mobile phone call.
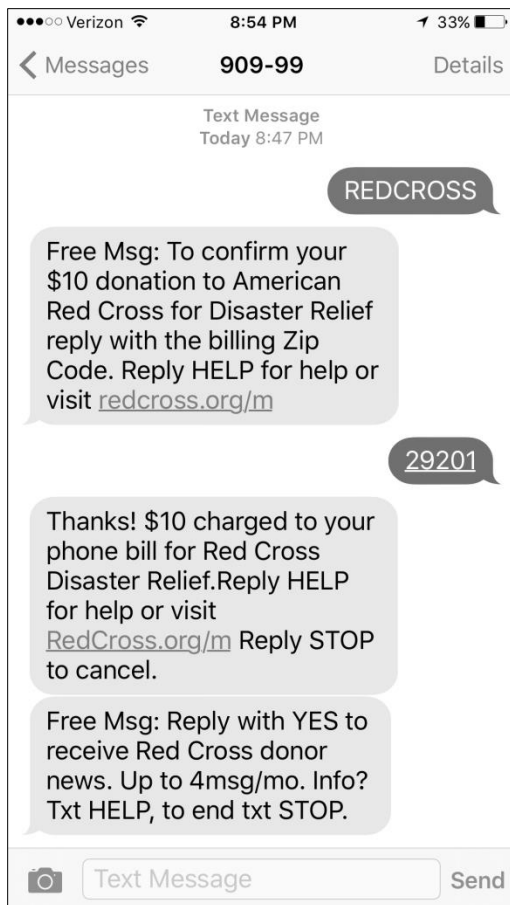
Figure 1.1 Screenshot of Mobile Donating Procedure

Compared with other fundraising approaches, mobile donations have the advantages of ubiquity, convenience, and low skill barrier：The text messaging function is provided by almost all kinds of mobile phones, ranging from the second generation mobile phone to the latest smart phone, and is easy enough to use by most mobile phone owners (Smith, 2010, 2011). In addition, the texting procedure does not require Wi-Fi service, which makes it competitive with other media technologies that consume heavy mobile data (Ling, 2004). In other words, people do not need to access any webpage or to learn how to download and use a mobile application. They do not need to hurry to grab the credit card or worry about the security of credit card information; all they need to do is type a couple of characters and then pay the regular phone bill.

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According to a nationwide survey conducted by the Pew Research Center in 2010, among the respondents who have ever made any mobile donation, 23% were Latinos, compared with 16% African-Americans and 7% Whites (Smith, 2010). While Pew (2010) indicated there were more young mobile donors than older ones in 2010, another survey shows that in 2014, Baby Boomers (people born between 1945 and 1965) comprised 46% of mobile donors (mGive, 2015). In this sense, mobile donation contributes to narrowing the digital divide by engaging mobile phone users from more diverse socioeconomic backgrounds (Chen & Givens, 2013). As a result, more and more nonprofit organizations are adopting some form of mobile donation program (Mobile Giving Foundation, 2015b).

During the February 2008 Super Bowl game in Glendale, Arizona, United Way launched a 10-second mobile donation campaign to encourage people to make a $5 donation for its youth fitness program; 2,000 donors responded immediately (Mobile Giving Foundation, 2015b). Although $10,000 in donations was seen as a fundraising failure for an initiative advertised during the Super Bowl (Weberling & Waters, 2012), it was a pioneering effort by a nonprofit to attract mobile donations in the U.S. Most people at that time were not familiar with this novel fundraising method and nonprofits also lacked experience in message development and campaign distribution. Nonprofits then started to examine and improve the mobile fundraising approach and achieved a series of successes including the following.

On January 12, 2010, a catastrophic magnitude 7.0 earthquake occurred in Léogâne, Haiti. To support earthquake relief, the American Red Cross conducted a series of mobile donation campaigns and distributed them through multiple media outlets including CNN, *The New York Times*, Facebook, Twitter, a live telethon called "Hope for

Haiti Now," and a public service announcement endorsed by First Lady Michelle Obama (Weberling, et al., 2012). That communication plan raised approximately $22 million in the first week (Heath, 2010) and eventually attracted four million American donors who contributed a total of more than $40 million, which accounted for 8% of the total donations the American Red Cross collected for Haitian earthquake relief (Chen & Givens, 2013). It was the first national mobile donation campaign in U.S. fundraising history that surpassed $1 million (Weberling, et al., 2012).

On August 24, 2013, Macy's also conducted a mobile donation campaign in its annual one-day event called "Shop for a Cause" day, which aimed to benefit a local charity or the March of Dimes, a national nonprofit organization focused on infant health. Specifically, if the customers texted "Shop" to a short code to make a $5 donation, they would receive an instant confirmation text along with a 25% off text coupon that was valid that day at any Macy's store. This campaign raised more than $3.8 million in a single day (DailyFinance, 2013).

In short, "Hope for Haiti Now" and "Macy's Shop for a Cause" are two successful mobile campaigns in mobile donation history that raised a huge amount of funds from geographically diverse regions within a limited time period.

1.2 Health-Related Nonprofit Organizations

Due to such successful mobile donation examples, combined with the fact that participation in one donating modality increases the likelihood of donating via other approaches (Chen & Givens, 2013), about 400 national nonprofit organizations have used mobile donation services to conduct more than 800 fundraising campaigns (Mobile Giving Foundation, 2015b). Donation patterns show that approximately 89% of mobile

donors prefer to contribute to disaster relief organizations like the American Red Cross, followed by human services organizations such as food banks and United Way (56%), animal welfare organizations like The Humane Society (40%), and health organizations such as hospitals and organizations focused on cancer prevention and research (39%) (mGive, 2015). These statistics indicate that health-related nonprofit organizations comprise the majority of beneficiaries of mobile donations.

With funds raised by different methods, health-related nonprofits help encourage healthy lifestyles, establish healthy communities, provide medical services and facilities, help promote health-oriented laws, and support scientific and medical research. Generally, nonprofit health care providers are more likely to target low income individuals/communities, provide unprofitable and affordable services, offer community-rated premiums, and treat uninsured patients and Medicaid patients; and they usually charge consumers less for services and administrative costs than their for-profit counterparts (Schlesinger & Gray, 2006; Zheng & McKeever, 2014).

Health-related nonprofits also support scientific research (Kiessling, 2008). For example, the American Cancer Society, a national health nonprofit that aims to fight against cancer, has supported 47 Nobel Prize winners that generated contributions in chemistry, physiology, and medicine, including the discovery of latent cancer genes and the first therapeutic vaccine for prostate cancer (American Cancer Society, 2015). In addition, nonprofit organizations provide as many jobs as the agriculture, mining, construction, and transportation industries combined (Kelly, 2012). Health-related nonprofits also help provide numerous job opportunities in hospitals, nursing homes, mental health centers, health insurers, and hospices.

In order to conduct this important work, health nonprofits often rely on contributions from individual donors. Indeed, individuals and households contributed approximately 72% of all donations in 2014 (GivingUSA, 2015). Thus it is very important for nonprofits to promote fundraising technology that can raise funds from individuals and households as effectively as mobile donations. Although mobile donors are contributing more money and they see an increasing need for news from nonprofits via text messages, they remain a small percentage of the potential donor pool; so far only 11% of Americans have ever made a mobile donation (Smith, 2010). That makes it very important for nonprofit organizations to explore the motivations behind mobile donation behaviors and to motivate the people who have never participated in or possibly never even heard about mobile donations to initiate their first mobile donation experience.

In 1988, the Public Relations Society of America (PRSA) added donors as the seventh public with whom public relations research has been concerned, along with media, employees, community, government, consumers, and investors. Some scholars posit that fundraising is a specialization of public relations and have suggested employing public relations theories to improve nonprofit fundraising (Kelly, 2012).

1.3 Situational Theory of Problem Solving (STOPS)

To explain "why publics communicate and when they are most likely to communicate," the situational theory of publics (STP) is well known in public relations history for its effectiveness in segmenting publics and predicting various communication behaviors (Grunig, 1997, p. 7). The original situational theory of publics employs three independent variables – problem recognition, constraint recognition, and involvement – to predict the dependent variable - information seeking and information processing

behaviors (Grunig,1997). Some public relations scholars have utilized STP to explore Americans' motivations to participate in national fundraising events benefiting health nonprofit organizations, and have contributed a plethora of practical implications for nonprofit practitioners to better develop messaging strategies and better design communication campaigns (McKeever, 2013; McKeever, Pressgrove, McKeever, & Zheng, 2016). Another study employed STP to examine how and why Florida and Illinois residents made mobile donations to support Haiti earthquake relief benefiting the American Red Cross (Weberling, et al., 2012). While providing insightful findings, this study focused on one specific mobile donation case and narrowed the mobile donors to only two states in the U.S. The authors recommended future research to explore more general mobile donation cases with a wider range of demographics.

Recently, Kim and Grunig (2011) extended the STP by expanding the dependent variable to "communicative action," which consists of six different information activities, and also by adding another independent variable – referent criterion, which was mentioned in the early STP model but dropped later for its minor effects. This extended model was named the "situational theory of problem solving (STOPS)" (Kim & Grunig, 2011) and has been used by public relations scholars to predict the communicative actions related to various social issues such as the Iraq war, gun possession, the elimination of affirmative action in higher education, the U.S. beef import issue in Taiwan and South Korea, and climate change, and health issues such as losing weight, bone marrow donation, egg donation, and organ donation (Chen, Hung-Baesecke, & Kim, in press; Kim & Grunig, 2011; Kim, Grunig, & Ni, 2010; Kim, Ni, Kim, & Kim, 2012; Kim, Shen, & Morgan, 2011; Lee, Oshita, Oh, & Hove, 2014). As an extended version of

the STP, however, the full STOPS model has not been employed to research mobile donations. It is still unknown whether STOPS could be as effective as STP in predicting people's motivations to make mobile donations. This dissertation thus employs STOPS to examine how and why people get involved in mobile fundraising.

1.4 Technology Acceptance Model (TAM)

Although many people are familiar with text messaging and use this mobile phone function intensively in their daily activities, many of them still perceive mobile donations as an innovation (Smith, 2010). To explore and enhance people's motivations to accept and use a novel technology, the technology acceptance model (TAM) is employed extensively across disciplines to explain why and how people determine to adopt different technologies (Davis, 1986; Lee, Kozar, & Larsen, 2003; Legris, Ingham, & Collerette, 2003). Several meta-analyses have confirmed TAM's validity and robustness in explaining diverse technology contexts (King & He, 2006; Ma & Liu, 2004).

The original TAM argues that people's actual use of a given technology could be predicted by their intentions to use this technology, which is associated with their affective attitudes toward using the technology. TAM also identifies two independent variables to predict the attitude - perceived usefulness and perceived ease of use; perceived usefulness typically has more influence in predicting the attitudes than perceived ease of use. In some cases, perceived usefulness is affected by perceived ease of use (Davis, 1993; Davis, 1986).

TAM was employed to explore people's motivations to make mobile donations to Haiti earthquake relief benefiting the American Red Cross in 2010 (Weberling & Waters, 2012). While that study provided empirical support for the application of TAM in the

mobile donation case, it indicated a non-significant association between perceived ease of use and attitude toward using. The authors attributed this to the small sample size (179 donors) and the single fundraising case, and thus called for future research employing a more representative sample and examining more mobile donation cases. Other TAM scholars have also called for more efforts to explore the impact of situational factors and to apply TAM to a more specific function of the technology rather than a general technology device (Lee, et al., 2003).

1.5 Significance

To fill the gaps mentioned above, this study aims to combine the situational theory of problem solving and technology acceptance model and propose a preliminary "situational technology acceptance model" to examine people's motivations to make mobile donations. To test the proposed model, this study uses a national survey distributed via a web-based platform, Amazon Mechanical Turk (AMT), which is well known for its quick and inexpensive recruitment of diverse respondents for survey research (Berinsky, Huber, & Lenz, 2012). The combination of STOPS and TAM is based on the assumption that people who intend to make mobile donations benefiting nonprofit organizations first must have some motivations to support the mission advocated by nonprofits, and second must be willing to accept and use the mobile donation technology. Therefore, STOPS is employed here to explore the motivations to support a situation, and TAM is employed to examine the motivations to use the mobile donation technology. The combined model is expected to have more theoretical explanations than either of the theories alone, and the findings aim to contribute practical

implications for nonprofit organizations to better develop messaging strategies and

mobile campaigns for future fundraising events.

CHAPTER 2

LITERATURE REVIEW

2.1 Situational Theory of Publics (STP)

The basic objective of public relations is "either to change or neutralize hostile opinions, to crystalize unformed or latent opinions, or to conserve favorable opinions by reinforcing them," and conserving favorable opinions is usually the fundamental goal of most public relations research and also the major effect of most public relations campaigns (Cutlip, Center, & Broom, 1985, p. 152). The "opinion" mentioned in public relations refers to people's "perceptions, cognitions, attitudes, and behaviors" related to a specific topic or social problem (Grunig, 1997, p. 7). Among the different dimensions of opinion mentioned above, information activity is an important dimension to public relations scholars because of the belief that people's attitudes and behaviors can be influenced by media content and communication campaigns (Bowen & Zheng, 2015; Entman, 1993; Gitlin, 2003; Grunig, 1997; Kim, Scheufele, & Shanahan, 2002; Scheufele, 1999). In other words, if publics access information presented by mass media, their opinions might be affected by strategic communications; but if they never seek or process any information from mass media, their opinions might never change, no matter how excellent the communication campaign designed by public relations practitioners. Thus,

information activity, including information seeking and processing behaviors, are vital to influencing downstream behaviors of various publics.

Hence the founder of the situational theory of publics – James E. Grunig – started to research the patterns and motivations of people's daily information activities in his doctoral dissertation in 1968 by exploring how and why Colombian farmers seek information to make decisions (Grunig, 2006). Grunig then refined and developed the theory based on a range of studies on how publics respond to a variety of issues (Grunig, 1997) (Figure 2.1).
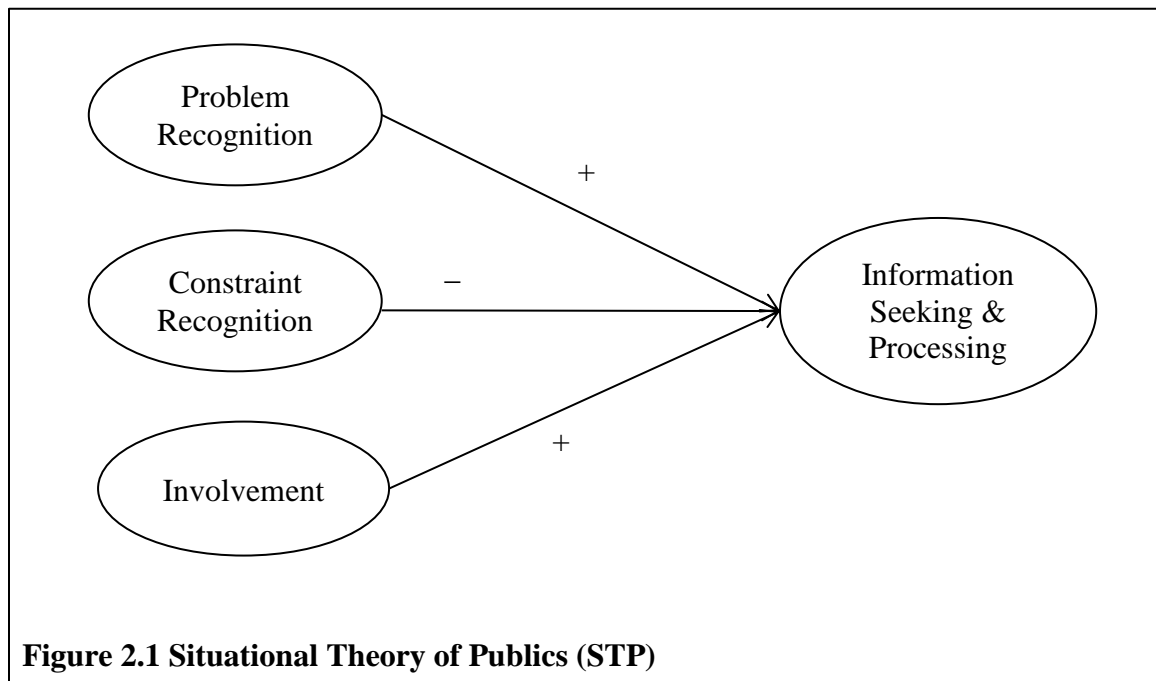
Figure 2.1 Situational Theory of Publics (STP)

Dependent variables of the situational theory of publics. Regarding the nature of information activity, the situational theory of publics identifies two different dimensions of information activity: information seeking, which means "the planned scanning of the environment for messages about a specified topic," and information processing, which means "the unplanned discovery of a message followed by continued

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processing of it" (Grunig, 1997, p. 9). In other words, information seeking is considered

an active communication behavior and information processing is considered a passive

communication behavior. Although information seeking has more effect in influencing

people's attitudes and behaviors (Grunig, 1989), people often do not have enough time,

motivation, or ability to intentionally seek information on all topics. Instead, they may

gather information via passive exposure to random messages and the consequent

processing of those messages. Some research has confirmed that in real life, the volume

of information obtained from information processing is actually larger than that obtained

by information seeking (Kelly et al., 2010). In addition, the current media environment is

increasingly complicated due to the influences of social media, mobile and other

technologies, and the active and passive communication behaviors are often fluid and

overlapping (Aldoory, Kim, & Tindall, 2010). Scholars have found that the publics who

are not very active on a social issue report some information processing but rarely have

information seeking experience; whereas active publics report both intentional and

unintentional information activities in the process of information acquisition, rendering it

very difficult to distinguish between their information seeking and information

processing behaviors (Kim, et al., 2010). As a result, some public relations scholars

combined the variables of information seeking and information processing and generated

a new variable called "information gaining" as the dependent variable of STP (Aldoory,

et al., 2010).

       While motivating people to seek and process information could help enhance the

effectiveness of communication campaigns, the ultimate goal of public relations is to

motivate the publics' actual participation to support a specific topic besides basic

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information gaining. Some studies, therefore, have explored the relationships between information gaining and participation intention. For example, one study found that the people active in seeking and processing environment-related information are more likely to join environment activist groups (Grunig, 1989). Another study found that people with a higher level of information seeking about bioterrorism were more likely to take such actions to prepare for unexpected bioterrorist attacks as storing food and water, preparing an emergency supply kit, developing a family communication plan, or consulting a specialist for assistance (Lee & Rodriguez, 2008). Other research that has connected information behaviors with other intentions will be discussed more below, along with explanation of the continued evolution of the situational theory of publics.

Independent variables of the situational theory of publics. In addition to information seeking and processing or information gaining, the situational theory of publics involves three independent variables that predict information seeking and processing behaviors: problem recognition, constraint recognition, and involvement (Figure 2.1). Specifically, problem recognition or awareness means "people detect that something should be done about a situation and stop to think about what to do" (Grunig, 1997, p. 10). Apparently, people usually do not have sufficient time and opportunity to seek and process all kinds of information. Rather, people care more about the issues that matter in their personal lives. For instance, some U.S. college students cared more about issues like losing weight and policy changes in higher education, rather than social issues like the war in Iraq (Kim & Grunig, 2011). Similarly, decades ago, some Illinois residents paid plenty of attention to economic development but expressed little interest in environmental issues (Major, 1993); these are two examples of how the problem

recognition variable has been operationalized in communication research. Constraint recognition means "people perceive that there are obstacles in a situation that limit their ability to do anything about the situation" (Grunig, 1997, p. 10). In other words, people might feel reluctant to know more about or help deal with an issue if they believe there are numerous barriers. Involvement refers to "the extent to which people connect themselves with a situation" (Grunig, 1997, p. 10). When people report a high level of involvement with an issue, they are more likely to engage in information seeking than information processing about that issue; whereas when they have a low level involvement, they might engage in information processing more often than information seeking (Cameron, 1992; Grunig, 1997; Hallahan, 2001; Sha & Lundy, 2005).

In general, problem recognition and involvement have a positive relationship with information gaining, and constraint recognition has a negative relationship with information gaining and other independent variables. Their effects in predicting the information gaining behaviors differ across situations according to previous research. For bioterrorism and some environment issues, problem recognition was the most powerful predictor and constraint recognition was the second most powerful one (Grunig, 1997; Lee & Rodriguez, 2008); for air pollution, problem recognition had the most powerful effects and constraint recognition and involvement tied for second most powerful effects (Major, 1993); for organ donation issues, the predictive power in order was problem recognition, involvement, and constraint recognition (Kim & Grunig, 2011); and for international financial issues, constraint recognition and involvement proved the most powerful predictors, and problem recognition showed a non-significant relationship with information behaviors (Kim et al., 2012).

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Segmenting publics using the situational theory. Besides predicting

information seeking and processing, the three independent variables of the STP can help

public relations practitioners segment publics into different activist groups. This is

important because public relations practitioners often have to prioritize limited resources

for developing a campaign or for cultivating relationships with stakeholders, and they

need to primarily target the publics that are most likely to support their missions. Those

publics, suggested by STP, are typically the ones that are most active in gaining

information (Cameron & Yang, 1991; Chen, et al., in press; Kim, et al., 2012). During the

normal seeking and processing of information related to the social problems that concern

them, people tend to organize together for a common social problem (Grunig, 1997). For

example, people who suffer from the same environmental issue tend to aggregate

together to complain about and discuss that problem, to search for more information, or

to share the available solutions. Those people might gradually evolve into a well-

organized environmental activist group that pressures the government to deal with that

environment issue or directly fight against the organizations that produce the problem.

The development of the Internet and media technologies, which helps with time and

geographic constraints, also helps individuals to quickly find others experiencing

common problems and organize together into an online activist group (Aldoory & Sha,

2007; Kim & Ni, 2010).

Grunig (1997) suggested segmenting publics based on their involvement with

different social problems and came up with terms to name various publics. For example,

all-issue publics are "active on all of the problems," while apathetic publics refers to "the

ones inattentive to all of the problems." Similarly, single-issue publics are "active on one

or a small subset of the problems that concerns only a small part of the population;" and hot-issue publics are "active only on a single problem that involves nearly everyone in the population and that has received extensive media coverage" (Grunig, 1997, p. 13). Grunig (1997) also found that most all issue publics are well educated, liberal, and have more income.

Other scholars have also suggested segmenting publics according to their problem recognition of a particular social issue. An active public, which refers to "a self-identified and self-organized group of people that arises in response to a problematic situation," generally have the highest level of problem recognition. An aware public means people who do perceive the existence of a problem but are not as active as the active public, because they either perceive constraints against supporting the situation or feel little personal connection with the problem. A latent public refers to people who "face a common problem but have not recognized it." For instance, an individual that has a breast tumor but has not yet received a medical diagnosis will have zero knowledge of it. This individual can thus be defined as a member of a latent public regarding breast cancer. Finally, nonpublic refers to people who face no problems and have little interest in any particular issue or organization (Kim, et al., 2011, p. 175).

Application of the situational theory in public relations research. Because of the effectiveness in predicting information gaining and segmenting publics, STP has been employed to explain and to predict publics' communicative responses to a number of social issues (Aldoory, et al., 2010; Lee & Rodriguez, 2008; Tkalac, 2007), business issue (Sriramesh, Moghan, & Wei, 2007), agricultural issues (Grunig, Nelson, Richburg, & White, 1988; Slater, Chipman, Auld, Keefe, & Kendall, 1992), health-related issues

(Cameron & Yang, 1991; Major, 1999), political issues (Atwood & Marie, 1991; Hamilton, 1992), campus issues (Cameron, 1992; Kruger-Ross & Waters, 2013; Sha, 2006), and environmental issues (Grunig, 1989; Grunig, et al., 1988; Major, 1993).

Situational theory of publics also has been used to address social and political issues happening off U.S. in explaining communication phenomena in Hong Kong (Atwood & Marie, 1991), Singapore (Sriramesh, et al., 2007), Croatia (Tkalac, 2007), and South Korea (Kim, et al., 2012). As a result, the situational theory of publics has been called the first "deep theory" in public relations research for understanding how and why publics communicate in certain ways related to various situations or problems (Aldoory & Sha, 2007, p. 339).

However, some scholars, including Grunig (1997) himself, believed that the situational theory of publics still suffers from several problems and needs to be improved for greater validity and generalizability. Thus a number of scholars have developed this theory to better explain different situations by either adding additional independent variables such as instrumental utility (Atwood & Marie, 1991), drive, habit (Hamilton, 1992), deference to authority, and collectivism (Sriramesh, et al., 2007), or by considering antecedents to the independent variables of STP, such as perceived similarity (Aldoory, et al., 2010) , avowed cultural identity (Sha, 2006), and health consciousness (Zheng & McKeever, 2014). Some scholars also combined the STP with other social science theories to explore various communication contexts. For example, Slater and other scholars (1992) combined it with cognitive response approaches to examine the different dimensions of information processing; Vasquez (1993) combined it with the symbolic convergence theory to explore the communications between organizations and

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publics; Sha and Lundy (2005) merged it with the elaboration likelihood model of persuasion to conceptualize a "situational processing model" to scrutinize cognitive responses; Mazzei (2010) merged it with the constructivist theory of communication to explore the organization's internal communication and to promote the employee's active communications; Lee and other scholars (Lee, et al., 2014) combined it with the spiral of silence theory to research people's willingness to express opinions in hostile social situations.

While explored in many different ways over the past several decades, the biggest changes to the situational theory of publics have come in the past few years with the development of the situational theory of problem solving (STOPS). The media environment nowadays is very different from 30 years ago, and the way people process information is also more complicated than in the pre-Internet age. Current active publics not only actively acquire information, but also actively filter, edit, and repost the information on their social media pages. Many people perform multiple types of information activities at the same time (Zheng, 2014). For example, a regular visit on Facebook may include information seeking, processing, and sharing. Therefore, to better explain publics' current information activities, some scholars said it was necessary to re-conceptualize communicative action beyond the basic information seeking and processing (Aldoory & Sha, 2007).

2.2 Situational Theory of Problem Solving (STOPS)

To deal with the problem mentioned above, Kim and Grunig (2011) developed the STP by re-conceptualizing the information seeking and processing variable into communicative action. They also made slight modifications to the independent variables,

Figure 2.2 Situational Theory of Problem Solving (STOPS)

Note. PR = Problem recognition, CR = Constraint recognition, IR = Involvement recognition, SM = Situational motivation in problem solving, RC = referent criterion, CA = Communicative action, ISK = Information seeking, IAT = Information attending, IFF = Information forefending, IPM = Information permitting, IFW = Information forwarding, and ISH = Information sharing.

and then proposed a new model called the situational theory of problem solving (STOPS) (Figure 2.2). Moreover, STOPS employs structural equation modeling, an advanced statistical analysis used to test and confirm the validity of the new model and its utility in situations related to health and politics (Kim & Grunig, 2011; Kim, et al., 2010; Kim, et al., 2012; Kim, et al., 2011).

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Dependent variables of the situational theory of problem solving. The premise

of STP is that communicative action works purposively and instrumentally as a tool for

solving problems (Grunig, 1997). The original STP describes a communicator as an

isolated and disconnected individual decision maker who seeks and processes

information to solve a problem in his/her personal life. However, the elimination of a

social problem cannot be accomplished by any single individual effort itself but needs the

collective actions from the broader masses. Hence, STOPS argues that, to deal with a

social problem at the societal level, besides gaining the related information, publics

should also filter the unrelated and useless information and share the helpful information

with others who face the common problem. Through the acquisition, evaluation, and

exchange of information with each other, publics can collaborate to mobilize resources

and eventually to eliminate a social problem (Kim, et al., 2010).

In detail, STOPS presents a full scope of communicative action in terms of how

and why publics employ different information tactics to solve a problem (Kim & Grunig,

2011; Kim, et al., 2010): When confronting a problem, people tend to initiate an internal

and cognitive search of prior experiences that might help address the problem. Any

experience, solution, or knowledge that was carried from previous situations and is

available and feasible to deal with the current situation is defined as a "referent criterion"

(Grunig, 1997; Kim & Grunig, 2011). An individual with a large amount of referent

criteria has little need to refer to external sources, because he/she can employ the pre-

obtained knowledge to figure out the solutions. Thus STOPS includes referent criterion

as another independent variable along with problem recognition, constraint recognition,

and involvement to predict communicative actions. For some situations related to organ

donation and bone marrow donation, referent criterion ranks as the most powerful predictor among the other independent variables in predicting publics' information activities (Kim, et al., 2011). The impact of cultural idiosyncrasy is also considered as one type of referent criteria that affects communicative actions in the areas outside of an Anglo-Saxon, liberal, and democratic political systems (Sriramesh, et al., 2007).

Nevertheless, if an individual has little referent criteria stored in the mind, he/she will be eager to search for a solution by seeking and processing information from external sources such as mass media. STOPS renames information processing as "information attending," in an attempt to distinguish it from the common cognitive information processing procedure. STOPS also categorizes information seeking and information attending as the passive and active forms of "information acquisition," which is defined as the first step of communicative action and is similar to the original dependent variables of information seeking and processing in the original STP model (Kim, et al., 2010).

In the next step of communicative action, as the publics consume more and more information, they will soon experience information redundancy and reach a saturation point. Publics further conduct communicative action by going through the "information selection" phase to help them manage information. Similar to information acquisition, information selection has two levels reflecting the proactiveness versus reactiveness rationale that was used in the initial STP. Proactiveness refers to publics who purposefully and actively initiate communicative actions, whereas reactiveness refers to the ones who passively "wait for others to initiate acts and behave in a random manner" (Kim, et al., 2010, p. 130). In this sense, the non-active or reactive publics tend to select information via "information permitting," which means "to permit any information if it is

related to a given problem-solving task" (Kim, et al., 2010, p. 138); whereas the active or proactive publics tend to select information via "information forefending," which means "to fend off certain information by judging its value and relevance in advance in a given problem-solving task" (Kim, et al., 2010, p. 136). Active publics often create many different rules to forefend information. For example, if publics aim to revise their prior expectations, they will ignore the information that is consistent with their prior beliefs and acquire the information that counters their prior beliefs; whereas if publics try to reinforce prior expectations, they will forefend the countering information and acquire the information that is consistent with expectations (Kim, et al., 2010).

In the final step of communicative action, publics have obtained sufficient expertise about the situation to become sophisticated in addressing that problem, and voluntarily share the information and educate others who are just now facing the problem and need knowledge and advice. This happens because generally, people believe that a problem will become easier to solve when it evolves from an individual problem to a group problem, and educating latent publics can help recruit new members to form an activist group to cope with the problem together (Kim, et al., 2010). Communicative action at this stage is called "information transmission," which also consists of proactive and reactive dimensions. "Information forwarding" represents the active or proactive process, which means publics "forward information about a problem even if no one solicits it;" and "information sharing" represents the non-active or reactive process, which means publics "share information only when someone else requests his or her expertise in problem solving" (Kim, et al., 2010, p. 139).

To conclude, STOPS extends the STP's dependent variable from basic information seeking and processing or information gaining to a more holistic concept of communicative action, which contains three domains of problem solving activities: information acquisition, information selection, and information transmission. STOPS then employs the proactiveness-reactiveness dichotomy to divide the three domains into six sub-dimensions: information seeking, information attending, information forefending, information permitting, information forwarding, and information sharing, respectively. In the early stage of problem solving, publics engage in searching, exploring, and composing a solution and they focus more on information acquisition and information permitting. As publics continue to work on a problem, they concentrate more on applying, replicating, refining, and broadcasting the solution, and their communicative actions gradually shift to information forefending and information transmission. This development of communicative actions treats publics as connected and sociological actors that engage in both individual information consumption and evaluation as well as collective information exchange to cooperate in solving a social problem, rather than as the isolated and disconnected economic actors who attempt to seek out solutions to satisfy their individual decision making and improve their personal lives (Kim & Grunig, 2011; Kim, et al., 2010).

Independent variables of the situational theory of problem solving. STOPS refines the STP's independent variables by the following efforts: first, STOPS includes the fourth independent variable that was originally part of STP – referent criterion. As mentioned before, prior experiences greatly determine whether an individual needs additional communicative actions to figure out solutions. Referent criterion was included

in the early model of STP, but it was abandoned later due to its insignificant impact on information seeking and processing (Grunig & Disbrow, 1977). Part of the reason might be that the study measured referent criterion via only one question: "do you know a solution to this problem?" (Grunig & Disbrow, 1977, p. 155). This operationalization of referent criteria fails to ask respondents whether the solution they knew could really help solve the problem in their own situations. It is possible that an individual knows plenty of solutions that work well in solving others' problems but none of them is accessible or applicable in his/her case, and he/she thus needs to acquire additional information to seek out a solution that is helpful to his/her situations. As a result, STOPS measured the referent criterion by emphasizing whether prior experiences could help address the current situation(s) instead of whether respondents had some experiences before.

In addition, the early STP model reported a negative relationship between referent criterion and information seeking and processing, with an assumption that an individual with abundant expertise and experience has no need to acquire more information (Grunig & Disbrow, 1977). However, in the current information-saturating society, social problems evolve day by day due to the development of media technology. Even if publics have been very familiar with a problem, they still need to obtain fresh information to keep up with the evolution of the problem. Also, many skilled problem solvers who possess extensive referent criteria actively filter relevant knowledge from the information chaos and share it with other problem solvers. Thus it is reasonable to argue that experienced individuals would report more intensive information activities. Therefore, STOPS reports a positive relationship between the referent criterion and communicative action (Kim & Grunig, 2011; Kim, et al., 2012).

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Second, STOPS refines the independent variables by re-conceptualizing their internal and external components. In many cases, the situation happening in reality (external component) is different from public perceptions of the situation (internal component). STOPS argues that it is the internal components that influence publics' communicative actions. For example, publics are willing to participate in an event that has many real obstacles so long as they do not realize the obstacles exist; contrarily, publics are reluctant to support an event if they believe there are many barriers, even if there actually aren't. Similarly, publics may have actual connections to a problem but do not realize it because friends or family suffering from the problem have not mentioned it. The latent connections with a problem are unlikely to affect publics' communicative behaviors because the individuals believe their lives are untroubled by the problem and there is no need to communicate about it. In short, STOPS re-conceptualizes "involvement" as "involvement recognition" and emphasizes that problem recognition, constraint recognition, and involvement recognition indicate the perceptual status of the situation instead of the real one (Kim & Grunig, 2011).

Third, STOPS re-conceptualizes problem recognition and adds a "situational motivation in problem solving" as the mediator bridging the independent variables and communicative action (Figure 2.2). The STOPS scholars believed that the original problem recognition in the STP model – "people detect that something should be done about a situation and stop to think about what to do" (Grunig, 1997, p. 10) – is the outcome of recognizing a situational problem and should be redefined as "situational motivation in problem solving," which serves as a mediator in STOPS. The authors also determined that problem recognition should be re-conceptualized as "one's perception

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that something is missing and that there is no immediately applicable solution to it" (Kim & Ni, 2010, p. 42).

2.3 Situational Theory and Philanthropy, Nonprofits, and Voluntary Sectors

Both the situational theory of publics and the situational theory of problem solving have been used to research philanthropy in the U.S. and to promote publics' voluntary participation in different kinds of charitable activities benefiting health-related nonprofit organizations. For example, as noted earlier, the situational theory of publics has been employed to examine how and why American Red Cross donors in the Florida and Illinois chapters responded to the mobile donation campaigns benefiting Haiti earthquake relief in 2010 (Weberling, et al., 2012). In this study, the STP worked effectively to segment the active publics and the aware publics and confirmed that the two different kinds of publics varied across the theory variables regarding their mobile donating experiences. In terms of predicting information seeking and processing, involvement played the most powerful role over problem recognition and constraint recognition, which could be explained by the issues of distance and proximity. Illinois is about 1800 miles from Haiti, whereas Florida is less than 250 miles from the earthquake epicenter and had around 1,000,000 Haitian residents at that time. It was thus not surprising that involvement had such an impact and that it varied by donors in the two different states. This study also found that donor's information gaining could further predict their mobile donating behaviors, which implied the campaign was effective in motivating publics' charitable support regarding the natural disaster.

Although this study seems to be one of the only that has applied situational theory to mobile donations, the results were somewhat skewed due to the limited sample size

and geographic bias. The study was based on a total of 271 respondents, of which only 179 (66.1%) actually contributed mobile donations, and the respondents came from only two states. In addition, the sample was drawn from American Red Cross' lists of donors and volunteers, neglecting mobile donors who may not have been on these lists. The authors acknowledged the challenge of accessing mobile donors for academic research, because nonprofits usually protect fundraising records as private contracts between donors and the organizations. The authors also called for future research to explore mobile donation situations using bigger and more demographically diverse samples (Weberling, et al., 2012).

The situational theory of publics was also combined with the theory of reasoned action to study publics' motivations for participating in national athletic fundraising events hosted by health nonprofit organizations, including March for Babies benefiting the March of Dimes, Race for the Cure benefiting Susan G. Komen for the Cure, and Relay for Life benefiting the American Cancer Society (McKeever, 2013; McKeever, et al., 2016). Specifically, the new model had five independent variables (attitude, subjective norm, problem recognition, constraint recognition, and involvement), and one dependent variable – situational support, which was conceptualized as a continuum ranging from information gaining to intention to participate. Among the five independent variables, attitude and subjective norm reported stronger effects on the dependent variable than did the situational theory variables. That can be explained by the nature of community fundraising events. Although the primary goal of most fundraising is to raise funds from individual donors, athletic fundraising events require additional participation from the donors such as relay running or walking, and the events also provide souvenirs

(such as T-shirts) in return. Unlike mobile donations, participation in athletic fundraising events are more observable by others, which explains why the influence of significant others, also called subjective norm, demonstrated such great predictive power. Many people may participate in these events with their family or friends or just for the recognition. Some participants might be influenced by getting a souvenir or the fun experience with friends, making attitude another important predictor. Also, some schools and companies require their students or employees to engage in community service. Hence some people might join an event to fulfill their mandatory duties. In short, various factors influence publics' intentions to participate in athletic fundraising events, and the authors thus concluded that it was necessary to evaluate the nature of different fundraising modalities before applying any social science theory, in order to make sure the applied theory can effectively explain various fundraising situations.

The situational theory of problem solving was also used to research the publics' intentions to donate organs for health nonprofit organizations. A study confirmed that communicative action could predict publics' behavioral intentions to donate organs (Kim, et al., 2011). This research also implied the extension of the STOPS model by considering communicative action's further influence on behavioral intention. In other words, based on this research and the other studies noted above (McKeever, 2013; McKeever, et al., 2016), rather than treating communicative action as the final dependent variable, communicative action might be more useful (in some contexts) as a mediating variable that connects the independent variables of situational theory to more supportive behavioral intentions.

In short, the situational theory of publics and the situational theory of problem solving work effectively in public relations, mass communication and nonprofit sector research to predict various behaviors. Based on the above literature, it is reasonable to infer that the situational theory would work in the same way to predict people's behavioral intentions to acquire, select, and transmit information related to mobile donation and to make a monetary donation by sending a text. This dissertation thus proposes the following hypotheses:

H1: There will be a positive relationship between problem recognition and the situational motivation in solving the problem that nonprofit organizations aim to support.

H2: There will be a negative relationship between constraint recognition and the situational motivation in solving the problem that nonprofit organizations aim to support.

H3: There will be a positive relationship between involvement recognition and the situational motivation in solving the problem that nonprofit organizations aim to support.

H4: There will be a positive relationship between the situational motivation in solving the problem that nonprofit organizations aim to support and communicative action related to mobile donation.

H5 (a-f): Communicative action will be comprised of six information activities including information seeking (a), information attending (b), information forefending (c), information permitting (d), information forwarding (e), and information sharing (f).

H6: There will be a positive relationship between communicative action and intention to make a mobile donation.

2.4 Technology Acceptance Model (TAM)

Mobile donation is a novel fundraising approach established and developed by nonprofit organizations in recent years. The donating process combines the utility of text messaging and effortless payment by cell phone bill. Although many people have been familiar with the texting function for decades, most use texting mainly to facilitate their interpersonal communications and they rarely communicate with organizational texting platforms. Some may feel some confusion about the procedure and the security of payment. Hence, mobile donation is currently viewed as an innovative technology and may take a while to be accepted by general publics. Some scholars thus have sought to study publics' acceptance of text donation technology by employing some technology-related theories (Weberling & Waters, 2012).

The technology acceptance model (TAM) is a leading theory in management of information systems research because of its effectiveness in examining and improving the development and implementation of innovative technology (Figure 2.3). The primary goal of most information systems is to employ the newest technology to enhance work performance in organizations. Information system developers believe that a new system has little success until people accept and use it. Thus the TAM founder – Fred D. Davis, Jr. – established the original theoretical framework in his doctoral dissertation to explore what motivated IBM employees to use electronic mail and the XEDIT file editor – a computer-based electronic system (Davis, 1986).

Figure 2.3 Technology Acceptance Model (TAM)
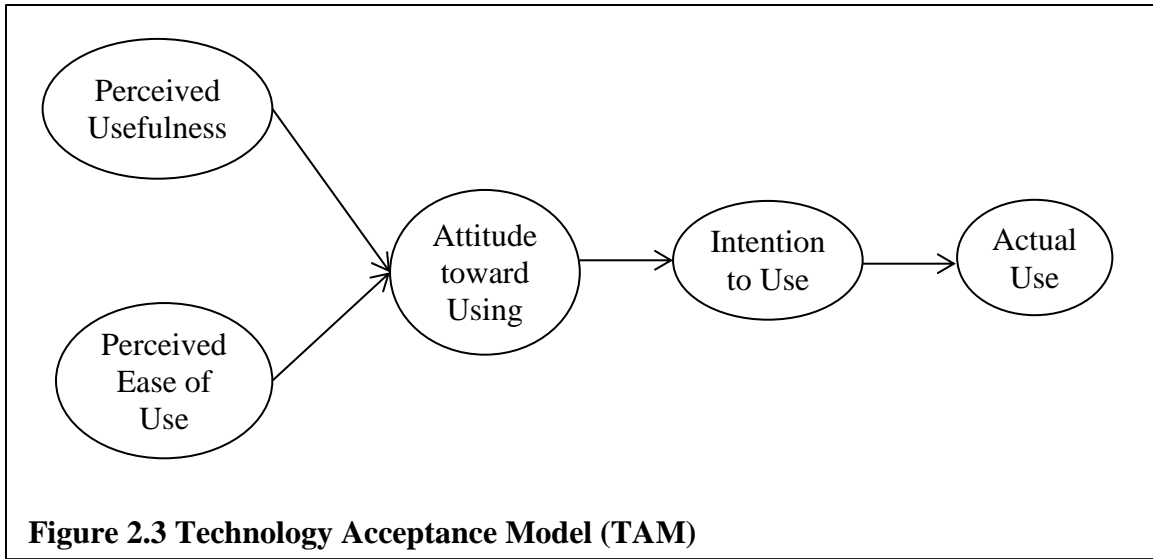
The technology acceptance model originated from the theory of reasoned action, developed by Fishbein and Ajzen in 1975, which is based on the premise that an individual's actual behavior is based on his/her behavioral intention. Behavioral intention is defined as "an individual's subjective probability that he or she will perform a specified behavior" (Davis, 1986, p. 16). Davis and other TAM scholars' original work conducted a 14-week longitudinal study to confirm that an individual's intention to use a new technology could well predict his/her later acceptance and adoption of this technology (Davis, Bagozzi, & Warshaw, 1989). These findings are very important for information system developers to test and refine immature technology based on users' intentions in the early development phase, before they formally launch new technology, which greatly reduces the risk of releasing unwanted products into market (Davis, 1986). The intention to accept a certain technology is thus viewed as the dependent variable in many TAM studies (Davis, 1989, 1993; Davis, et al., 1989; Davis, 1986; Lee, et al., 2003; Legris, et al., 2003).

The theory of reasoned action indicates that behavioral intention can be predicted by the attitude toward that behavior and subjective norms (Fishbein & Ajzen, 1975). This theory has been widely used to explore behavioral intentions in multiple disciplines (Madden, Ellen, & Ajzen, 1992; Sheppard, Hartwick, & Warshaw, 1988). Similarly, the technology acceptance model endeavors to explore the potential factors that drive people to accept or reject a technology and identifies two independent variables: perceived usefulness and perceived ease of use. TAM argues that people's decision to use or not use an application is mostly based on perceived usefulness, defined as "the degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1986, p. 26). TAM scholars also have found that people tend to accept a technology that is easy to use and to not accept a technology that is hard to learn. That is because ease of use makes people have more of a sense of efficacy and personal control about their ability to perform the behaviors required to operate technology (Davis, et al., 1989). Perceived ease of use is thus defined as "the degree to which a person believes that using a particular system would be free of physical and mental effort" (Davis, 1986, p. 26). In some instances, perceived usefulness has more influence than perceived ease of use in predicting the intention to use a technology, which means that people may be willing to overcome the difficulty of learning and using a technology if it provides critically important benefits in their jobs or lives (Davis, 1989, 1993).

TAM scholars have found that individuals' perceived usefulness and perceived ease of use are influenced by a range of antecedents including the system characteristics, such as the objective usability, implementation process, and the technical designs of icons,

menus, colors, and layouts (Davis, et al., 1989), as well as psychological factors such as computer self-efficacy and prior experiences (Venkatesh & Davis, 1996)

The technology acceptance model also includes attitude toward using a technology as a mediator connecting use intention, perceived usefulness, and perceived ease of use. Davis (1986) believed that when accessing a new technology, people tend to generate cognitive responses in the process of knowing, learning, and familiarizing themselves with this technology and then come up with the affective responses based on their cognitive perceptions of the usefulness and ease of use of that technology. Then the affective responses, or attitudes toward using the technology, sequentially influence the intentions to adopt the technology. Attitude is thus defined as "the degree of evaluative affect that an individual associates with using the target system" (Davis, 1986, p. 25).

After Davis (1986) established the early theoretical framework of TAM, a number of management information system scholars employed TAM to explore why many people and organizations insisted on using paper processing systems instead of computer systems. They found that while TAM originated from the theory of reasoned action, it reported more empirical advantages in predicting people's intentions to use different computer-based systems than the theory of reasoned action as well as the theory of planned behavior - the extended version of the theory of reasoned action (Davis, 1989; Davis, et al., 1989; Mathieson, 1991). That was because the theory of reasoned action and the theory of planned behavior include a social influence variable, but the use of a particular computer program or software is not very observable by others and thus is not likely to be influenced by others' attitudes and suggestions.

For its effectiveness in explaining and predicting the success of new technology, TAM has been applied across disciplines to examine various publics' acceptance of diverse technologies including computer-based information system (Davis, 1989; Davis, 1986; Venkatesh, Thong, & Xu, 2012); health information technology (Holden & Karsh, 2010); World Wide Web (Lederer, Maupin, Sena, & Zhuang, 2000; Mun & Hwang, 2003; Porter & Donthu, 2006; Shih, 2004); electronic commerce (Ha & Stoel, 2009; Pavlou, 2003; Vijayasarathy, 2004); email (Gefen & Straub, 1997); Internet banking (Lai & Li, 2005; Pikkarainen, Pikkarainen, Karjaluoto, & Pahnila, 2004); and online learning (Saadé & Bahli, 2005).

Scholars from diverse disciplines have also validated, extended, and elaborated TAM by adding or replacing the independent variables or antecedents to better explore different technologies (Lee, et al., 2003; Venkatesh, 2000; Venkatesh & Davis, 2000). Thus, scholars have concluded that it is necessary to refine the TAM according to the nature of different technologies and different external situations before applying TAM to promote the adoption of a given technology (Lee, et al., 2003; Legris, et al., 2003).

2.5 Technology Acceptance Model and Mobile Communications

The technology acceptance model is commonly used by mobile communication scholars to explain and predict people's acceptance and usage of different mobile devices and applications across diverse cultures, including the acceptance of text messaging in Hong Kong (Yan, Gong, & Thong, 2006), SMS advertising in mainland China (Zhang & Mao, 2008), mobile Internet in China and Korea (Cheong & Park, 2005; Hong, Thong, & Tam, 2006; Qi, Li, Li, & Shu, 2009), mobile banking in Kenya (Lule, Omwansa, & Waema, 2012), mobile commerce in Taiwan (Wu & Wang, 2005), multimedia

applications of 3g mobile phones in Italy (Pagani, 2004), and mobile learning services in

Korean and Taiwan colleges (Chang, Yan, & Tseng, 2012; Huang, Lin, & Chuang, 2007;

Park, Nam, & Cha, 2012; Son, Park, Kim, & Chou, 2012; Tsai, Wang, & Lu, 2011).

As a result of all of this research, mobile communication scholars have confirmed

the TAM's predictive potential in mobile-related contexts. People accept a mobile

technology primarily to improve their work performance or life quality. For example,

many Koreans intend to use mobile Internet because they believe that the mobile Internet

is applicable and beneficial to their job (Kim & Garrison, 2009; Kim, 2008; Son, et al.,

2012); also, many Korean students are willing to register for a class that distributes

learning materials via mobile devices and encourages mobile communications between

teachers and students, in part because they think this class is related to their major and is

able to boost their future career (Park, et al., 2012). Such research has found that

perceived usefulness usually played the most important role in predicting attitudes toward

using mobile technology, which is similar to research that employed TAM to study other

technologies (Legris, et al., 2003).

As suggested by TAM, people favor and adopt a mobile technology partially due

to perceived ease of use. Many times, people are more likely to use mobile technology

that they believe has easy input of a foreign language (Yan, et al., 2006), certain training

programs (Son, et al., 2012), great system quality (Cheong & Park, 2005), a low level of

technological complexity (Lu, Yu, Liu, & Yao, 2003; Son, et al., 2012), a high level of

use speed (Pagani, 2004), accessibility (Park, et al., 2012), compatibility (Lu, et al., 2003;

Schierz, Schilke, & Wirtz, 2010; Wu & Wang, 2005), and mobility (Amberg,

Hirschmeier, & Wehrmann, 2004; Huang, et al., 2007; Kim & Garrison, 2009; Schierz, et

al., 2010). This is because those characteristics provide people with convenience of time, place, and execution, and thus relieve a lot of physical and mental efforts in the use of mobile services (Chang, et al., 2012; Lu, et al., 2003).

In general, prior studies have found that TAM reported a higher model fit and explained more variance of the dependent variable than other technology-related theories, such as the expectation-confirmation model, in interpreting the adoption of mobile-based innovations (Hong, et al., 2006). As such, mobile communications scholars have also extended TAM by considering the particular characteristics of mobile devices and suggested adding more independent variables.

For example, research has suggested that people's attitude toward accepting a mobile technology would be greatly influenced by the perceived price. After all, it requires a certain financial capacity to support the adoption and the continued use of either the latest mobile devices or fashionable mobile applications. Perceived price refers to an individual's perceptions of the cost for using a given technology. The perceived price negatively influences people's attitudes and use intentions across diverse mobile technologies (Amberg, et al., 2004; Cheong & Park, 2005; Kim, Park, & Oh, 2008; Kim, 2008; Luarn & Lin, 2005; Pagani, 2004; Wu & Wang, 2005; Yan, et al., 2006). For instance, one study found that people tend to try and use the mobile Internet if their company is willing to fund the use, which would definitely reduce their perceived price of using the mobile Internet (Kim, 2008).

In addition, mobile donation involves payment through mobile devices, which people may feel concerned about for security, credibility and privacy reasons. Perceived credibility, as applied in the TAM, has thus been defined as the extent to which a person

believes that the use of a given mobile technology will have no security or privacy threats (Luarn & Lin, 2005, p. 880). Perceived credibility significantly predicted people's attitudes and use intentions of technologies that require mobile payments, such as mobile commerce (Wu & Wang, 2005), mobile banking (Luarn & Lin, 2005; Lule, et al., 2012), and mobile payment (Dahlberg, Mallat, & Öörni, 2003). Particularly, in the case of mobile banking adoption, perceived credibility was the most powerful independent variable in predicting people's attitudes, compared with the traditional TAM independent variables of perceived usefulness and perceived ease of use (Luarn & Lin, 2005; Lule, et al., 2012). It is thus reasonable to infer that perceived credibility would similarly influence people's attitudes toward making donations via texting. Although mobile donations do not require people's credit card information or bank account number, but just the charge is applied to their cell phone bill, people may still feel some concerns about whether the payment is really a one-time charge or will be charged repeatedly, requiring additional efforts to cancel.

Prior research has identified three other major independent variables that influence people's behavioral intentions to use mobile technology: past experience, subjective norm, and perceived behavior control. It is not surprising that people who have rich experience with using a certain mobile technology would be more likely to keep using it, because they have obtained the relative skills and have sufficient literacy to keep using it to benefit their job and life. Also, the more experience people have with a given technology, the easier they would perceive that technology to be to use (Cheong & Park, 2005; Kim, Park, & Morrison, 2008; Kim, 2008; Lu, et al., 2003; Qi, et al., 2009). Past experience here is similar to the concept of referent criterion in STOPS.

Subjective norm originates from the theory of reasoned action, and refers to "a person's perception that most people who are important to him think he should or should not perform the behavior in question" (Fishbein & Ajzen, 1975, p. 302). Mobile communication scholars believe that subjective norm could influence the acceptance and use of mobile technology for several reasons. First, many people, especially young adults, perceive mobile devices as part of fashion and believe the use of mobile devices can enhance their social status. Some people determine to use a given mobile device just to be cool among peers, which explains why their important others' opinions could influence their decision making in terms of whether or not to use a mobile device (Kwon & Chidambaram, 2000; López-Nicolás, Molina-Castillo, & Bouwman, 2008; Lu, et al., 2003). Second, some mobile phone applications, such as social networking sites and collaborative mobile learning systems, encourage interactions among other users; thus it makes sense that the adoption of some mobile applications will be influenced by the behaviors of important others (Cheon, Lee, Crooks, & Song, 2012; Lu, Yao, & Yu, 2005; Lu, Zhou, & Wang, 2009; Park, et al., 2012). Third, when people have scarce knowledge and experience of using a mobile technology, they usually refer to their friends/family for advice (Schierz, et al., 2010). Subjective norm is particularly important in affecting people's mobile phone use behavior in collectivism-dominated cultures such as that of mainland China (Zhang & Mao, 2008). In other words, even if people do not have much positive attitude toward an innovation, they may still want to take a shot just because their important others want them to use it. Generally, the subjective norms variable has been found to be important in terms of fundraising, and nonprofit organizations may encourage such norms in communication campaigns or media coverage of events

(McKeever, 2013; McKeever, et al, 2016; Weberling, 2010). However, in several mobile-related cases such as SMS advertising, subjective norms have not had a significant influence (Muk, 2007), mostly because the process of receiving and reading SMS advertising does not require much interaction with others.

Studies also have found a relationship between perceived behavioral control and intention to use mobile technology (Cheon, et al., 2012; Lu, et al., 2009; Lule, et al., 2012). Perceived behavioral control originates from the theory of planned behavior, and refers to "the subjective degree of control over performance of the behavior itself" (Ajzen, 1985, p. 668). In other words, people might not perform a given behavior even if they have very strong attitudes toward that behavior, because they do not believe they have the capacity to control their own behaviors. In some instances, people have more perceived behavioral control when they believe they possess more resources and opportunities to perform a given behavior (Madden, et al., 1992). Taking a closer look, although perceived ease of use and perceived behavioral control could both generate efficacy to use a given technology, the former generates internal efficacy to control the operation of the technology itself while the latter generates external efficacy to control the time, money, and other resources required to use the technology in real life.

Based on the above literature on the technology acceptance model, this dissertation proposes the following hypotheses:

H7: There will be a positive relationship between perceived usefulness and attitude toward using mobile donation technology.

H8: There will be a positive relationship between perceived ease of use and attitude toward using mobile donation technology.

H9: There will be a negative relationship between perceived price and attitude toward using mobile donation technology.

H10: There will be a positive relationship between perceived credibility and attitude toward using mobile donation technology.

2.6 Proposed Situational Technology Acceptance Model

To examine detailed motivations to make mobile donations, this study combines the situational theory of problem solving and technology acceptance model and proposes an emerging "situational technology acceptance model." Figure 2.4 shows the combined model and includes all hypotheses proposed by this study. Specifically, the situational technology acceptance model proposes ten independent variables and categorizes them as either cognitive responses or individual differences. The combined model assumes that when confronting a technology-related situation like mobile donations, individuals tend to have thoughts about the situation/social issue as well as thoughts about the technology. It is necessary to clarify here that it seems like constraint recognition and perceived ease of use are two opposite concepts that refer to the perceived barrier/ease of performing a behavior. However, constraint recognition refers to the subjective recognition of the situation, and perceived ease of use refers to the subjective recognition of the technology itself. The situational cognitions might then evolve to the affective motivations to deal with the situation, and the technology cognitions might evolve to the affective attitudes towards using the technology. Meanwhile, people have individual differences in terms of their referent criterion, subjective norms, and perceived behavior control. These variables are based on an individual's personal characteristics, and can have an impact on affective and behavioral responses.

In the next step, the situational motivations and technology attitudes, combined with the individual differences, work together to influence supportive behaviors. Regarding supportive behaviors, this study posits that the eventual behavioral intentions to make mobile donations will be mediated by communicative action. Suggested by some situational theory research (Grunig, 1989; Kim, et al., 2011; Lee & Rodriguez, 2008), people's intentions to support an issue are usually associated with their communicative actions. Recent research has confirmed that the relationships between the independent variables of situational theory and TRA and intentions to support an issue are mediated via their communicative actions towards that issue (McKeever, 2013; McKeever, et al., 2016). In other words, people's intentions to support an issue usually start with acquiring, selecting, and transmitting the information related to that issue. It is thus reasonable to infer that the relationship between people's intentions to make mobile donations and their attitudes, past experiences, subjective norms, and perceived behavior controls will be mediated via communicative actions about mobile donations. This study thus proposes the following hypotheses:

H11: There will be a positive relationship between attitude toward using mobile donation technology and communicative action related to mobile donation.

H12: There will be a positive relationship between referent criterion and communicative action related to mobile donation.

H13: There will be a positive relationship between subjective norm and communicative action related to mobile donation.

H14: There will be a positive relationship between perceived behavioral control and communicative action related to mobile donation.
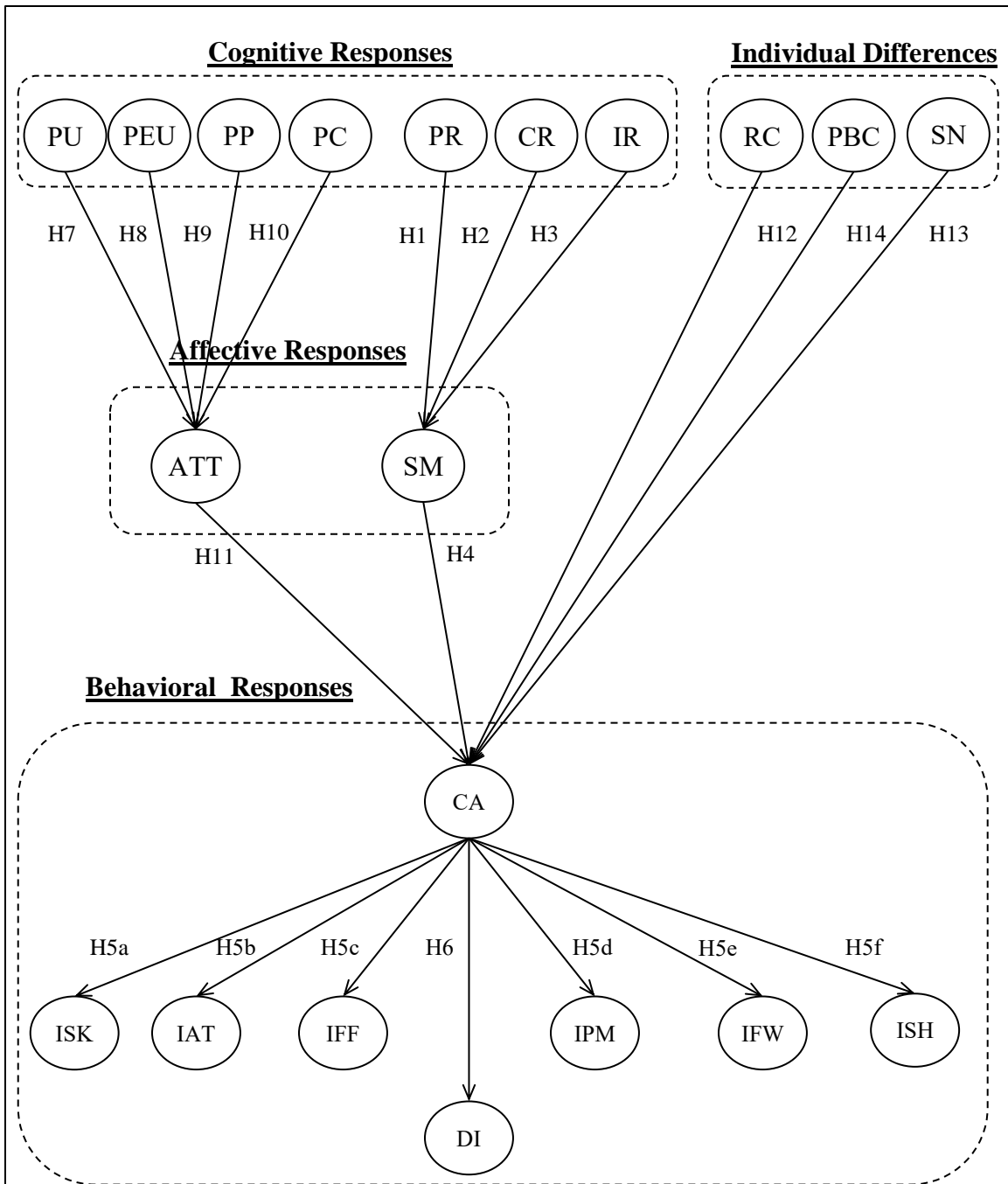
Note. PR = Problem recognition, CR = Constraint recognition, IR = Involvement recognition, SM = Situational motivation in problem solving, PU = Perceived usefulness, PEU = Perceived ease of use, PP = Perceived price, PC = Perceived credibility, ATT = Attitude toward using technology, RC = referent criterion, SN = Subjective norm, PBC = Perceived behavior control, CA = Communicative action, ISK = Information seeking, IAT = Information attending, IFF = Information forefending, IPM = Information permitting, IFW = Information forwarding, ISH = Information sharing, DI = Intention to make a mobile donation.

Figure 2.4 Proposed Situational Technology Acceptance Model

CHAPTER 3

METHODS

To test the hypotheses, this dissertation conducted an online survey aimed at reaching a national population using Qualtrics survey software. The questionnaire was reviewed and approved by the institutional review board (IRB) at the researcher's university before data collection began.

An online survey, a method well known for inexpensive recruitment of participants and effectiveness in overcoming time, geographic, and technical barriers, was thus utilized to access a nationwide respondent pool with diverse demographic backgrounds (Wimmer & Dominick, 2013; Zhou & Sloan, 2011). Although survey methods do not test the causal relationships between independent variables and dependent variables, most studies examining STP, STOPS, and TAM have employed survey as their primary research method (Grunig, 1997; Kim & Grunig, 2011; Legris, et al., 2003). Some mobile donation scholars also have called for future research that explores a wider range of demographics (Weberling & Waters, 2012; Weberling, et al., 2012). This study attempted to use an inexpensive and effective research method with a diverse sample to explore the basic motivations behind making a mobile donation and to test an explorative situational technology acceptance model. Future research could build on current findings and employ experimental design or other research methods to examine the causal relations among theory variables more deeply.

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3.1 Survey Procedure

To recruit respondents, this study employed a web-based platform, Amazon Mechanical Turk (AMT) where researchers can post multiple human intelligence tasks and recruit online users to complete their tasks. Some popular tasks at AMT include object classification, transcription, content review, content generation, and survey (Ipeirotis, 2010). Researchers, called "requesters" at AMT, can also specify how many individual "workers" they need, how many times a worker can undertake the task, and what kind of workers are eligible for the task.

Internet users have to be at least 18 years old to be eligible to register and serve as "workers" at AMT. The registered AMT workers can browse the task list and choose to finish any task for which they are eligible. They can also skip any task that they are eligible but not really interested in. Once workers accomplish the tasks, and researchers approve the tasks, workers receive compensations from researchers via AMT. The compensation is determined by the task content, time commitment, and the researchers (typically ranging from $0.25 to $2 per respondent for completing a survey). Amazon also charges researchers a 20% surcharge on all payments (Berinsky, et al., 2012).

The data collected through AMT is high quality, because first, prior research has confirmed the diversity of the AMT workers regarding the age, gender, income, education, region, and other demographic characteristics (Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010; Zheng & McKeever, 2014), and the respondents recruited via AMT were more representative of the U.S. population than student samples, in-person convenient samples, or online surveys posted on social media (Berinsky, et al., 2012; Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013).

Additionally, some scholars examining the motivations of participating in fundraising events initially used a college student sample and then replicated the study by recruiting AMT respondents. They found the results obtained from AMT were consistent with the original study (McKeever, 2013; McKeever, et al., 2016). Second, researchers have to review and approve the accomplishment of tasks before workers receive payment, which helps researchers identify and reject invalid responses, such as missing values or the same answers for different questions. And third, workers' approval ratings, the percentage of the tasks approved by requesters among the tasks they finished in total, could help researchers rule out the unreliable workers. A positive relationship has been confirmed between the workers' approval rate and the quality of tasks they finished (Buhrmester, et al., 2011; Peer, Vosgerau, & Acquisti, 2014).

Amazon Mechanical Turk therefore helps recruit national respondents in an effective and inexpensive manner, especially for the researchers that have limited funds and participant availability (Johnson & Borden, 2012). To begin data collection, the researcher posted the URL to the Qualtrics survey at AMT and defined the accomplishment of the entire survey as a task for which respondents will receive payment ($1 per respondent). Then the researcher set up the worker qualification as: only American workers could see and access this survey.

The survey started with a screening question that asked potential participants if they owned mobile phones: "Do you have a mobile phone with texting capability?" If they answered "no," they were ineligible for the study. If they answer "yes," they would be directed to the survey.

The survey started with a brief description of mobile donations: "In this study, mobile donation means giving small monetary donations (usually $5 or $10) to nonprofit organizations by texting a specific keyword to a related phone code (with the charge applied to your mobile phone bill once you receive the immediate confirmation text). The donation is a one-time charge and the amount of donation is typically determined by the organization. For example, you might be able to support the American Red Cross Disaster Relief by texting the word "REDCROSS" to the phone number "90999," and $10 would be charged one time to your cell phone bill." The survey then asked two questions regarding participants' mobile donation experience: "Based on the above description of mobile donations, have you ever heard of mobile donation? (Yes/No)"; and "Based on the above description of mobile donations, have you ever made any mobile donations? (Yes/No)."

For the question of "have you ever made any mobile donations," if respondents answered "yes," they would be directed to a couple of questions to explore the most recent mobile donation that respondents had experienced. Specifically, respondents were asked to, "think about the most recent mobile donation you made," and then answer several questions. Respondents were asked to enter the year, the beneficiary organization of that mobile donation, the issue they donated toward, and the media channel or context where they heard about the mobile donation: friends/family (in person or via interpersonal media technologies such as email, texting, Skype, phone call, etc.); newspaper (print, online, or mobile applications); magazine (print, online, or mobile applications); television or television websites; blogs; social media (Facebook, Twitter, Instagram, Youtube, LinkedIn, etc.); radio; flyer, poster, or brochure; nonprofit

organization's homepage; and others. In the next step, respondents were asked to "keep your most recent mobile donation experience in mind when answering the following questions." Then the survey specified: "In the following questions, the word 'issue' refers to the issue that you donated toward in your most recent mobile donation."

For the question of "have you ever made any mobile donations," if the respondents answered "no," which indicated that they had never participated in any mobile donations, they would be asked to think about potential organizations and issues that they would donate toward and answer open-ended questions: "If you were going to make a mobile donation, which organization and which issue are you most likely to donate toward?" Then the respondents were asked to "keep this issue in mind when answering the following questions." They were also told that "in the following questions, the word 'issue' refers to the issue you entered above."

3.2 Survey Measures

The measures in this survey were adapted from previous research on the situational theory of problem solving (Grunig, 1997; Kim, et al., 2011; McKeever, 2013) and the technology acceptance model (Cheon, et al., 2012; Davis, et al., 1989; Cheong & Park, 2005; Legris, et al., 2003; Luarn & Lin, 2005; Schierz, et al., 2010; Venkatesh, Brown, & Hoehle, 2012; Wu & Wang, 2005). All items were measured using 7-point Likert-type scales (Appendix A). Problem recognition was measured by asking respondents the extent to which they agreed or disagreed with the following items: "This issue needs some sort of resolution;" "I believe people need to pay more attention to this issue;" and "I consider this problem/issue to be serious."

Constraint recognition was measured by asking respondents the extent to which they agreed or disagreed with the following items: "Supporting this issue is too time-consuming;" "There are many constraints in the way of supporting this issue;" and "It is not convenient to participate in events to support this issue."

Involvement recognition was measured by asking respondents the extent to which they agreed or disagreed with the following items: "My life has been affected by this issue;" "I know many people who have been affected by this issue;" and "This issue has serious consequences for my life and/or for someone I care about."

Situational motivation in problem solving was measured by asking respondents the extent to which they agreed or disagreed with the following items: "I often stop and think about this issue;" "I often stop and think about what I can do to help with this issue;" and "I am very curious about this issue."

Communicative action was measured with 18 items (three items for each of the six information activities) that asked the extent to which respondents agreed or disagreed with the following statements. For information attending: "If I saw something on the news about the issue, I would click and read it;" "I pay attention to news reports about this issue;" and "I attend to news when people cover this issue."

For information seeking: "I actively search for information on the issue;" "I regularly check to see if there is any new information about the issue;" and "I often request information about this issue."

For information permitting: "I am interested in all views on this issue;" "I have listened to media reports on the issue even if I didn't agree with them;" and "I listen even to opposite views on this issue."

For information forefending: "I can easily judge the value of information related to the issue;" "I have a selection of trusted sources that I check for updates on the issue;" and "I know where to go when I need updated information regarding this issue."

For information sharing: "I talk about this issue when others bring up the topic;" "I would be willing to talk to someone about this issue if they asked me;" and "I would join in a conversation when I hear people talking about this issue."

And finally, for information forwarding: "I talk about this issue with my friends and coworkers;" "I bring this issue to the attention of people I know;" and "I make sure that my friends know about this issue."

Perceived usefulness was measured by asking respondents the extent to which they agreed or disagreed with the following items: "Mobile donation technology makes it easy to make a monetary donation;" "Mobile donation technology is helpful to enhance the effectiveness of making a monetary donation;" and "Mobile donations are useful."

Perceived ease of use was measured by asking respondents the extent to which they agreed or disagreed with the following items: "The procedure of making a mobile donation is easy to learn;" "The process of making a mobile donation is easy to operate;" and "It is easy for me to remember how to make a mobile donation."

Perceived price was measured by asking respondents the extent to which they agreed or disagreed with the following items: "Making a mobile donation costs me a lot of money;" "The price level of making a mobile donation is a burden to me;" and "Making a mobile donation is expensive overall."

Perceived credibility was measured by asking the extent to which they agreed or disagreed with the following items: "I am concerned that the charge of mobile donations

will reoccur in the future (reverse coded);" "I am concerned that my personal information will be misused by making a mobile donation (reverse coded);" and "I am concerned that my payment information will be misused by making a mobile donation (reverse coded)."

Attitude was measured with three items that asked the extent to which participants agreed or disagreed with the following statements: "Generally, I am in favor of making mobile donations"; "I feel good about making a mobile donation;" and "I think using mobile donation technology is beneficial."

Referent criterion was measured by asking the extent to which respondents agreed or disagreed with the following statements: "I know how to make a mobile donation to support this issue;" "I can provide people detailed instructions for making a mobile donation to support this issue;" and "I am confident about my knowledge about making a mobile donation to support this issue."

Subjective norm was measured with five items that asked the extent to which respondents agreed or disagreed with the following statements: "People who are important to me are making mobile donations;" "People who are important to me think I should make mobile donations to support this issue;" and "People who are important to me think my mobile donation to support this issue is good."

Perceived behavioral control was measured with three items that asked the extent to which respondents agreed or disagreed with the following statements: "If I wanted to, I could easily make mobile donations;" "I have a lot of control over whether or not to make mobile donation;" and "Making a mobile donation is entirely within my control."

Behavioral intention was measured by asking the extent to which respondents agreed or disagreed with the following statements: "If this issue happens again, I intend

to make a mobile donation;" "If this issue happens again in the near future, I will likely make a mobile donation;" and "To help deal with this issue, I would likely make a monetary donation by sending a text."

Typical demographics items, including age, gender, education, region, employment status, and income were also included in the survey questions. Media usage variables were measured by asking "how often do you use the following media?" Respondents have to provide answers via a 7-point Likert scale (1=yearly or less, 2 = monthly, 3= biweekly, 4 = weekly, 5 = multiple times per week, 6 = daily, 7 = multiple times per day) for newspaper (print, online, or mobile applications), magazine (print, online, or mobile applications), television or television websites, blogs, social media, radio, nonprofit organization's website, texting, phone call, email and flyer, poster or brochure. Media preferences were measured by asking "how likely are you to use the following media to seek, acquire, and communicate information related to mobile donation?" Respondents have to provide answers via a 7-point Likert scale (1 = very unlikely, 7 = very likely) for newspaper (print, online, or mobile applications), magazine (print, online, or mobile applications), television or television websites, blogs, social media, radio, nonprofit organization's website, texting, phone call, email and flyer, poster or brochure.

To check the validity of the response, two attention check questions with 7-point Liker scales were included in the survey as "this is an attention check, please select agree/strongly disagree."

3.3 Data Collection and Analysis

Figure 2.4 indicated that there were 47 parameters in the proposed model. Kline (1999) suggested that the minimum sample size of a structural equation model should be 10 times as many as the parameters, and the ideal sample size should be 20 times as many as the parameters. That meant the proposed model needed to recruit at least $47 \times 20 = 940$ respondents. Thus this dissertation rounded up and aimed to recruit 1,000 respondents.

Using the Qualtrics interface, a pretest was conducted with 77 undergraduate students in the researcher's university, and minor adjustments were made to the survey. The official survey link was distributed on Amazon MTurk in the middle of February, 2016.

SPSS was employed for data cleaning and preliminary analysis. AMOS was then adopted to evaluate the overall fit of the structural equation model using maximum likelihood estimation. To evaluate the proposed structural equation models, this study utilized the following goodness-of-fit statistics: Chi-square statistics, comparative fit index (CFI), normed fit index (NFI), and root mean square error of approximation (RMSEA). Based on these indices, a model is considered acceptable even if the X^2 statistic is significant when the $CFI \geq .90$, $NFI \geq .90$, and $RMSEA \leq .08$ (Bentler, 1992; Byrne, 1994), and a model is considered excellent when the $CFI \geq .95$, $NFI \geq .95$, and $RMSEA \leq .06$ (Hu & Bentler, 1999). It is generally believed that the lower the X^2 and RMSEA, the higher the CFI and NFI, the better the model fits the data.

CHAPTER 4

RESULTS

4.1 Demographic Characteristics of Respondents

The survey was launched in the second week of February 2016 and initially received a total of 1,033 responses from Amazon Mturk. The researcher then checked the validity of the data by 1) checking the two attention check questions; and 2) checking the two questions at the beginning of the survey: "have you ever heard of mobile donation?" and "have you ever made any mobile donations?" A response was invalid if the respondent had ever "made a mobile donation" but never "heard of any mobile donation." After ruling out the invalid responses, 994 valid responses remained viable for data analysis.

The respondents' demographic characteristics are shown in Table 4.1. The sample included 46.18% female ($n = 459$) and 53.82% male participants ($n = 535$). Regarding race and ethnicity, 73.34% participants were White Americans ($n = 729$), 11.97% were Asians ($n = 119$), 6.74% were African Americans ($n = 67$), 5.53% were Hispanics ($n = 55$), and 2.41% selected "other" ($n = 24$). The average age was about 33 years old ($SD = 9.86$). The annual household income was measured on an 8-point scale where 1 = less than US$20,000 and 8 = more than US$100,001, with the average being US$40,001 to US$50,000 ($M = 4.02$, $SD = 2.18$). Level of education was measured on an 8-point scale where 1 = less than high school and 8 = post-graduate degree or professional degree

including master's, doctoral, or medical degree. The average level of education among survey respondents was "some college, no degree" (*M* = 5.42, *SD* = 1.46).

4.2 Donors' Demographics and Mobile Donation Experiences

Among the total 994 respondents, almost 21% (*n* = 206) of respondents had made one or more mobile donations. The donors' demographics are shown in Table 4.2. There were 46.60% female (*n* = 96) and 53.40% male donors (*n* = 110). Regarding race and ethnicity, 71.36% of donors were White Americans (*n* = 147), 11.65% were Asians (*n* = 24), 8.25% were African Americans (*n* = 17), 6.80% were Hispanics (*n* = 14), and 1.94% selected "other" (*n* = 4). The average age was about 32 years old (*SD* = 8.86). The average annual household income was US$40,001 to US$50,000 (*M* = 4.12, *SD* = 2.01). The average level of education was "some college, no degree" (*M* = 5.39, *SD* = 1.34). Regarding the employment status, 76.21% of donors were full-time employed (*n* = 157), 9.71% were part-time employed (*n* = 20), 2.43% were unemployed (*n* = 5), 6.80% were students (*n* = 14), 0.49% were retired (*n* = 1), and 4.37% selected other (*n* = 9) including disability and can't work, stay home parent, refused, and don't know.

As shown in Figure 4.1, most donors made their last mobile donations earlier than 2010 or after 2015.

Regarding the issues and organizations supported by mobile donors, the researcher categorized the issues/organizations and recoded the qualitative responses to fit the corresponding pre-existing categories. Natural disasters (and nonprofit organizations associated with natural disasters) received the bulk of these donors' support. Donors' last mobile donations aimed to address the following issues: natural disasters (*n* = 114, 55.34%); health (*n* = 25, 12.14%); general humanitarian such as helping homeless,

poverty, orphan, and starving people ($n = 22$, 10.68%); animal welfare ($n = 4$, 1.94%); and political election ($n = 4$, 1.94%). And 17.96% of donors supported other issues or forgot the issues they donated toward ($n = 37$, 17.96%). Specifically, 55.34% of donors ($n = 114$) contributed their last mobile donations to American Red Cross, and 44.67% donors ($n = 92$) contributed to other organizations including the United Way, UNICEF, and World Wildlife Foundation, among others. The issues supported by mobile donations by year are shown in Figure 4.1.

In terms of where donors heard about the opportunity to make mobile donations, 37.86% ($n = 78$) of donors heard about the issue that was the target of their last mobile donations from social media, and another 37.86% of donors ($n = 78$) heard about it from television or television websites, followed by friends or family (9.71%, $n = 20$), nonprofit organizations' homepages (4.37%, $n = 9$), radio (2.91%, $n = 6$), flyer, poster, or brochure (1.94%, $n = 4$), newspaper (print, online, or mobile applications) (1.46%, $n = 3$), and other sources such as magazine, text ad, or event announcement (6.80%, $n = 14$).

4.3 Non-donors' Demographics and Donation Intentions

For those who had never made a mobile donation ($n = 788$, 79.3%), their demographics are shown in Table 4.3. There were 46.07% female ($n = 363$) and 53.93% male donors ($n = 425$). Regarding race and ethnicity, 73.86% donors were White Americans ($n = 582$), 12.06% were Asians ($n = 95$), 6.35% were African Americans ($n = 50$), 5.20% were Hispanics ($n = 41$), and 2.54% selected "other" ($n = 20$). The average age was about 33 years old ($SD = 10.09$). The average annual household income was US\$40,001 to US\$50,000 ($M = 3.99$, $SD = 2.23$). The average level of education was about "two-year associate degree from an university/college" ($M = 4.44$, $SD = 1.49$).

Regarding the employment status, 56.35% of non-donors were full-time employed (*n* = 444), 17.77% were part-time employed (*n* = 140), 10.03% were unemployed (*n* = 79), 6.47% were students (*n* = 51), 1.40% were retired (*n* = 11), and 7.99% selected other (*n* = 63) including disability and can't work, stay home parent, refused, and don't know.

Of those 788 non-donors, 622 respondents (78.93% of non-donors; 62.58% of the total respondents) had heard of mobile donations. Regarding the issues non-donors were most likely to donate toward, the researcher again recoded the qualitative answers to the corresponding categories. Indeed, 22.59% (*n* = 178) of respondents intend to support natural disaster rescue, followed by humanitarian (21.70%, *n* =171), health issues (20.9%, n = 165), animal welfare (14.21%, *n* = 112), the environment (6.22%, *n* = 49), education (2.03%, *n* =16), political election (1.40%, *n* = 11), religion (1.14%, *n* = 9), and other issues including arts and veterans' issues (9.77%, *n* = 77).

4.4 Use and Preference of Media Channels

Regarding general media use, this research asked all respondents how often they use the following media, with response options ranging from 1= yearly or less to 7 = multiple times per day. As showed in Figure 4.2, respondents use email most often (*M* = 5.97, *SD* = 1.46), followed by social media (*M* = 5.88, *SD* = 1.52), texting (*M* = 5.81, *SD* = 1.58), television or television websites (*M* = 5.04, *SD* = 1.78), phone (*M* = 4.8, *SD* = 1.84), radio (*M* = 4.08, *SD* = 2.00), newspaper (print, online, or mobile applications, *M* = 3.78, *SD* = 1.98), blogs (*M* = 3.78, *SD* = 1.87), magazine (print, online, or mobile applications, *M* = 3.17, *SD* = 1.74), flyer, poster, or brochure (*M* = 2.43, *SD* = 1.53), and nonprofit organization's homepage (*M* = 2.32, *SD* = 1.46).

This study then asked all respondents which media they were more likely to use (if any) to seek, acquire, or communicate information related to mobile donations. Again, response options ranged from 1 to 7 (1=very unlikely, 7=very likely). As shown in Figure 4.3, respondents tended to use nonprofit organizations' websites ($M = 4.98$, $SD = 1.86$), social media ($M = 4.72$, $SD = 1.82$), television or television websites ($M = 4.05$, $SD = 1.91$), texting ($M = 3.81$, $SD = 1.90$), email ($M = 3.75$, $SD = 1.89$), blogs ($M = 3.75$, $SD = 1.82$), newspaper (print, online, or mobile applications, $M = 3.67$, $SD = 1.89$), flyer, poster or brochure ($M = 3.38$, $SD = 1.758$), magazines (print, online, or mobile applications, $M = 3.33$, $SD = 1.81$), radio ($M = 3.30$, $SD = 1.85$), phone call ($M = 2.84$, $SD = 1.79$), and other media including direct mail or word of mouth.

4.5 Hypothesis Testing

This study proposed a series of hypotheses using motivational antecedents and mediation variables to predict mobile donation intentions. To test the hypotheses and the proposed situational technology acceptance model (Figure 2.4), this dissertation conducted a two-step structural equation modeling procedure (Kline, 1998). In the first step, the best items were selected for each latent variable by conducting a confirmatory factor analysis, checking residuals and item loadings, and dropping unnecessary items. The measurement model reported an excellent model fit: $X^2{}_{df}$ (805) = 2066. 67, $P < .001$; $CFI = .96$; $NFI = .93$; $RMSEA = .04$. The selected items' means, standard deviations, reliabilities, and standard factor loadings on their corresponding constructs are reported in Table 4.4. Table 4.5 shows the covariance matrix, and Table 4.6 shows the correlation matrix among latent variables.

In the second step, this dissertation used the items selected from step one and ran a full structural equation modeling (SEM) to test the proposed situational technology acceptance model in Figure 2.4. Although most hypotheses were statistically significant, the original structural equation model reported an acceptable model fit: $X^2\,_{df}$ (838) = 2930.55, $P < .001$; $CFI = .93$; $NFI = .90$; $RMSEA = .05$. Modification indices suggested several potential paths that could improve the overall model fit. However, modifications made to the model should be supported by theoretical frameworks instead of being driven entirely by statistical outcomes. Among the paths recommended by the modification indices, two conceptually meaningful paths were identified and added to the model to substantially improve the model fit: a direct path leading from attitude toward using technology to intention to make mobile donation and a direct path leading from subjective norm to intention to make mobile donation (Figure 4.4). While these two paths were not hypothesized in the initial model (Figure 2.4), there was theoretical justification for including this association in the model, because attitude was included in the original technology acceptance model to predict behavioral intention (see Figure 2.3) (Davis, 1989; Davis, 1986); and prior research has confirmed subjective norms' direct impact on intention to use mobile phones for making phone calls (Kwon & Chidambaram, 2000), for mobile learning (Cheon, et al., 2012; Park, et al., 2012), for instant messaging (Lu, et al., 2009), and for receiving and reading ads via text message (Zhang & Mao, 2008).

Given the statistical and theoretical support, a new structural equation model was calculated with the addition of the two paths and reported an excellent model fit: $X^2\,_{df}$ (836) = 2241.36, $P < .001$; $CFI = .95$; $NFI = .93$; $RMSEA = .04$. In total, the latent variables in the revised model (Figure 4.4) explained 62.8% of the variance in the

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intention to make mobile donations. Path coefficients are shown in Table 4.7, and

covariance among independent variables are shown in Table 4.8.

Taking a closer look at each path, as shown in Table 4.7, all of the proposed

hypotheses were supported except H8 (β = -.56, P < .001), H9 (β = .00, P = n.s.), and

H11(β = -.01, P = n.s.). Regarding the two paths added to the original model, attitude

toward using technology (β = .48, P < .001) and subjective norm (β = .42, P < .001) both

had significant, positive relationships with intention to make mobile donations.

The final model has been visually simplified by removing the hypotheses that

were not supported and paths that were not significant (see Figure 4.5).

Table 4.1 Demographic Characteristics of Respondents (*N* = 994)

Demographic Characteristics	Frequency	Percentage (%)	Mean	SD
Gender				
Female	459	46.18		
Male	535	53.82		
Age			32.79	9.86
Race				
White or Caucasian	729	73.34		
Asian or Pacific Islander	119	11.97		
Black or African-American	67	6.74		
Hispanic	55	5.53		
Others	24	2.41		
Annual Household Income (*n* = 977)			4.02	2.18
$20,000 or less (= 1)	160	16.38		
$20,001 to $30,000 (= 2)	141	14.43		
$30,001 to $40,000 (= 3)	124	12.69		
$40,001 to $50,000 (= 4)	119	12.18		
$50,001 to $75,000 (= 5)	199	20.37		
$75,001 to $90,000 (= 6)	95	9.72		
$90,001 to $100,000 (= 7)	40	4.09		
$100,001 or more (= 8)	99	10.13		
Highest Education			5.42	1.46
Less than high school (= 1)	1	.10		
Some high school (= 2)	14	1.41		
High school graduate (= 3)	116	11.67		
Two year associate degree from an university/college (= 4)	104	10.46		
Some college, no degree (= 5)	236	23.74		
Four year university or college degree/Bachelor's degree (= 6)	360	36.22		
Some postgraduate or professional schooling, no postgraduate degree (= 7)	46	4.63		
Post graduate degree or professional degree, including master's, doctoral, or medical degree (= 8)	117	11.77		
Region (*n* =883)				
Central	213	24.12		
Pacific	202	22.88		
Northern	191	21.63		
Southern	167	18.91		
Western	110	12.46		
Employment				
Employed full time	601	60.46		
Employed part time	160	16.10		
Unemployed	84	8.45		
Students	65	6.54		
Retired	12	1.21		
Others (disability and can't work; stay home parent; don't know/refused, among others)	72	7.24		

Table 4.2 Demographic Characteristics of Donors (*n* = 206)

Demographic Characteristics	Frequency	%	Mean	SD
Gender				
Female	96	46.60		
Male	110	53.40		
Age			31.78	8.86
Race				
White or Caucasian	147	71.36		
Asian or Pacific Islander	24	11.65		
Black or African-American	17	8.25		
Hispanic	14	6.80		
Others	4	1.94		
Annual Household Income (*n* = 201)			4.12	2.01
$20,000 or less (= 1)	21	10.45		
$20,001 to $30,000 (= 2)	31	15.42		
$30,001 to $40,000 (= 3)	35	17.41		
$40,001 to $50,000 (= 4)	19	9.45		
$50,001 to $75,000 (= 5)	44	21.89		
$75,001 to $90,000 (= 6)	27	13.43		
$90,001 to $100,000 (= 7)	10	4.98		
$100,001 or more (= 8)	14	6.97		
Highest Education			5.39	1.34
Less than high school (= 1)				
Some high school (= 2)	3	1.46		
High school graduate (= 3)	21	10.19		
Two year associate degree from an university/college (= 4)	17	8.25		
Some college, no degree (= 5)	61	29.61		
Four year university or college degree/Bachelor's degree (= 6)	77	37.38		
Some postgraduate or professional schooling, no postgraduate degree (= 7)	10	4.85		
Post graduate degree or professional degree, including master's, doctoral, or medical degree (= 8)	17	8.25		
Region (*n* = 178)				
Central	41	23.03		
Pacific	32	17.98		
Northern	49	27.53		
Southern	33	18.54		
Western	23	12.92		
Employment				
Employed full time	157	76.21		
Employed part time	20	9.71		
Unemployed	5	2.43		
Students	14	6.80		
Retired	1	0.49		
Others (disability and can't work; stay home parent; don't know/refused, among others)	9	4.37		

Figure 4.1 Amount of Mobile Donations Made Over Year
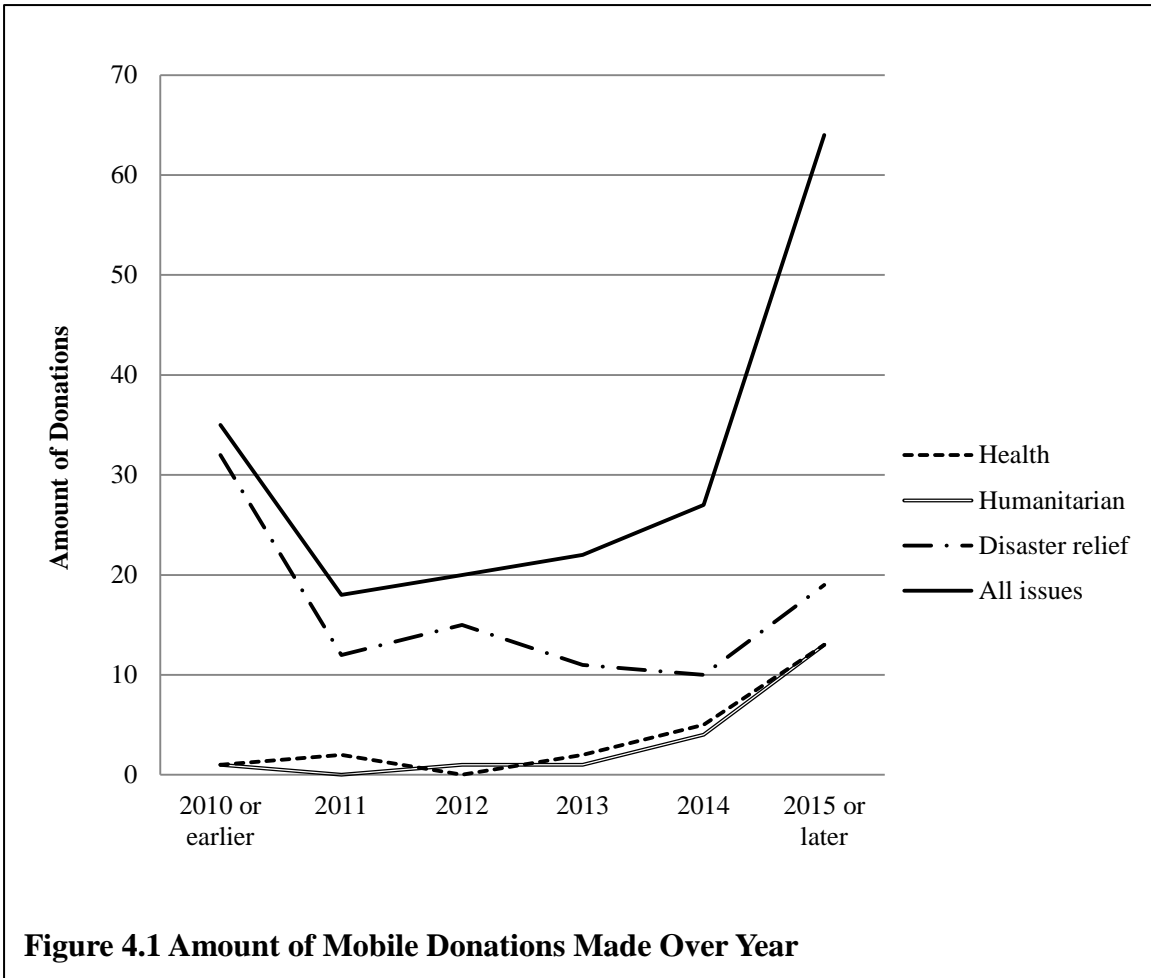
Table 4.3 Demographic Characteristics of Non-donors (*n* = 788)

Demographic Characteristics	Frequency	%	Mean	SD
Gender				
Female	363	46.07		
Male	425	53.93		
Age			33.06	10.09
Race				
White or Caucasian	582	73.86		
Asian or Pacific Islander	95	12.06		
Black or African-American	50	6.35		
Hispanic	41	5.20		
Others	20	2.54		
Annual Household Income (*n* = 776)			3.99	2.23
$20,000 or less (= 1)	139	17.91		
$20,001 to $30,000 (= 2)	110	14.18		
$30,001 to $40,000 (= 3)	89	11.47		
$40,001 to $50,000 (= 4)	100	12.89		
$50,001 to $75,000 (= 5)	155	19.97		
$75,001 to $90,000 (= 6)	68	8.76		
$90,001 to $100,000 (= 7)	30	3.87		
$100,001 or more (= 8)	85	10.95		
Highest Education			4.44	1.49
Less than high school (= 1)	1	.13		
Some high school (= 2)	11	1.40		
High school graduate (= 3)	95	12.06		
Two year associate degree from an university/college (= 4)	87	11.04		
Some college, no degree (= 5)	175	22.21		
Four year university or college degree/Bachelor's degree (= 6)	283	35.91		
Some postgraduate or professional schooling, no postgraduate degree (= 7)	36	4.57		
Post graduate degree or professional degree, including master's, doctoral, or medical degree (= 8)	100	12.69		
Region (*n* = 705)				
Central	172	24.40		
Pacific	170	24.11		
Northern	142	20.14		
Southern	134	19.01		
Western	87	12.34		
Employment				
Employed full time	444	56.35		
Employed part time	140	17.77		
Unemployed	79	10.03		
Students	51	6.47		
Retired	11	1.40		
Others (disability and can't work; stay home parent; don't know/refused, among others)	63	7.99		

Figure 4.2 Frequency of Media Use

Figure 4.3 Media Channels People Would Use to Seek, Acquire, or Communicate Information Related to Mobile Donations
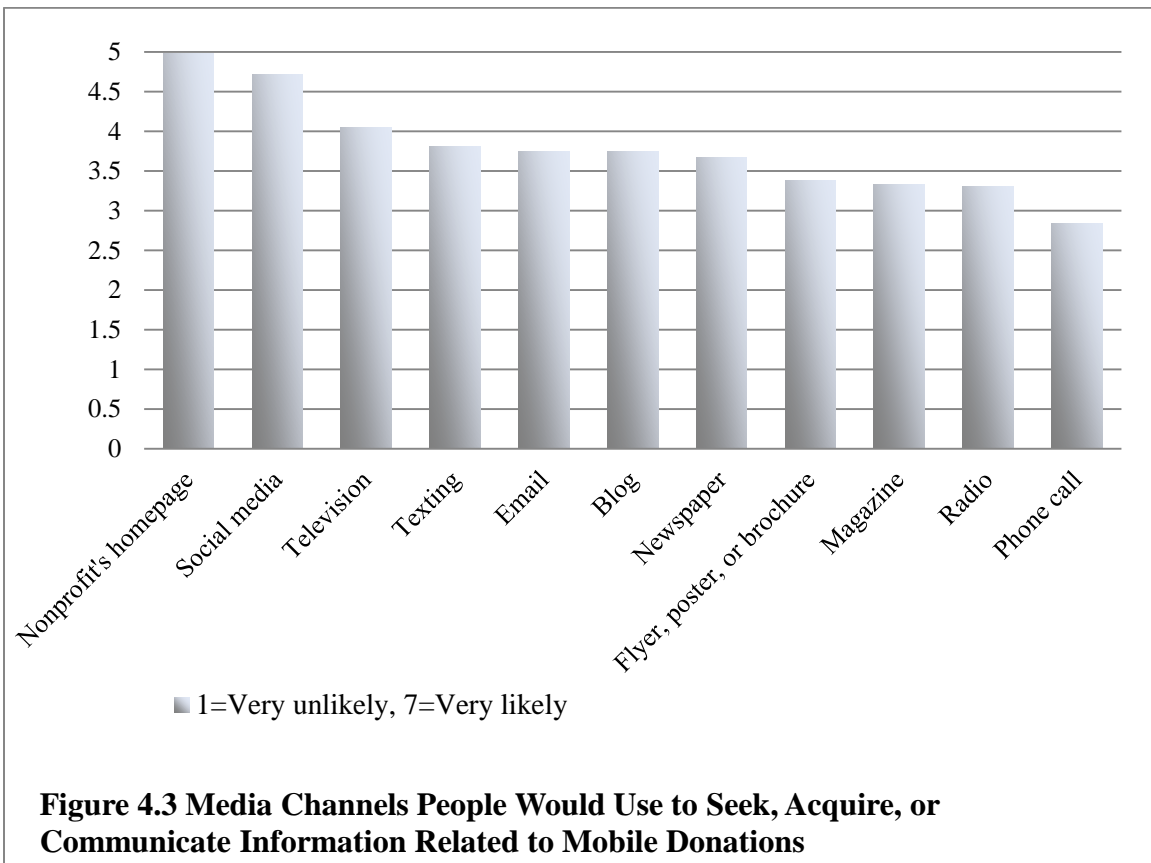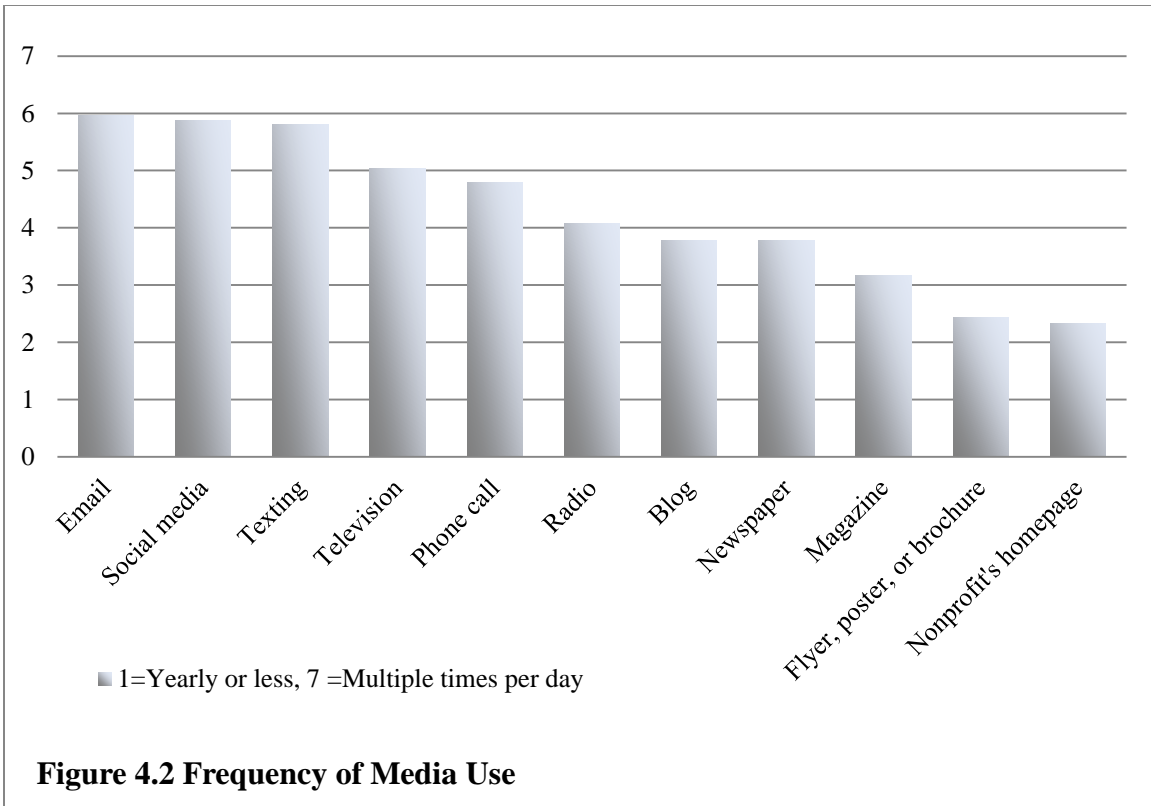
Table 4.4 Means, Standard Deviations, Reliabilities, and Standardized Factor Loadings

Second-Order Factor					
First-Order Factor					
Item	**Mean**	**SD**	**Factor Loading**	**Cronbach's Alpha**	**First-Order Factor Loading**
Problem Recognition				.78	
This issue needs some sort of resolution	5.71	1.23	.72		
I believe people need to pay more attention to this issue	5.80	1.14	.88		
Constraint Recognition				.72	
Supporting this issue is too time-consuming	2.81	1.47	.83		
There are many constraints in the way of supporting this issue	3.33	1.63	.68		
Involvement Recognition				.84	
My life has been affected by this issue	3.99	1.90	.86		
This issue has serious consequences for my life and/or for someone I care about	4.17	1.88	.83		
Situational Motivation in Problem Solving				.86	
I often stop and think about this issue	4.73	1.59	.88		
I often stop and think about what I can do to help with this issue	4.73	1.57	.87		
Perceived Usefulness				.80	
Mobile donation technology makes it easy to make monetary donations	5.86	1.10	.84		
Mobile donations are useful	5.74	1.11	.80		
Perceived Ease of Use				.88	
The procedure of making a mobile donation is easy to learn	5.97	1.05	.84		
The process of making a mobile donation is easy to operate	5.96	1.03	.89		
It is easy for me to remember how to make a mobile donation	5.83	1.10	.82		
Perceived Price				.88	
Making a mobile donation costs me a lot of money	2.92	1.51	.92		
Making a mobile donation is expensive overall	2.92	1.55	.86		
Perceived Credibility				.90	
I am concerned that the charge of mobile donations will reoccur in the future (reverse-coded)	4.02	1.79	.75		
I am concerned that my personal information will be misused by making a mobile donation (reverse-coded)	4.07	1.82	.92		
I am concerned that my payment information will be misused by making a mobile donation (reverse-coded)	4.04	1.82	.92		

Note. All factor loadings and first-order factor loadings are significant at $P < .001$. $X^2_{df}(805) = 2066.67$, $P < .001$; *CFI* = .96; *NFI* = .93; *RMSEA* = .04.

Table 4.4 Means, Standard Deviations, Reliabilities, and Standardized Factor Loadings (Continued)

Second-Order Factor

First-Order Factor

Item	Mean	SD	Factor Loading	Cronbach's Alpha	First-Order Factor Loading
Attitude Toward Using Technology				.88	
Generally, I am in favor of making mobile donations	5.12	1.43	.88		
I feel good about making a mobile donation	5.10	1.37	.90		
Referent Criterion				.88	
I know how to make a mobile donation to support this issue	4.83	1.63	.81		
I can provide people detailed instructions for making a mobile donation to support this issue	4.35	1.73	.83		
I am confident about my knowledge about making a mobile donation to support this issue	4.84	1.58	.89		
Subjective Norm				.78	
People who are important to me are making mobile donations	3.84	1.49	.81		
People who are important to me think I should make mobile donations to support this issue	3.99	1.46	.80		
Perceived Behavior Control				.80	
If I wanted to, I could easily make mobile donations	5.85	1.16	.89		
Making a mobile donation is entirely within my control	5.96	1.14	.76		
Intention to make mobile donation				.96	
If this issue happens again, I intend to make a mobile donation	4.40	1.62	.95		
If this issue happens again in the near future, I will likely make a mobile donation	4.42	1.60	.95		
To help deal with this issue, I would likely make a monetary donation by sending a text	4.44	1.64	.92		
Communicative Action in Problem Solving					
Information Seeking				.89	.84
I actively search for information on the issue	4.14	1.71	.90		
I regularly check to see if there is any new information about the issue	4.17	1.72	.90		
Information Attending				.88	.76
If I saw something on the news about the issue, I would click and read it	5.71	1.16	.83		
I pay attention to news reports about this issue	5.67	1.22	.89		
I attend to news when people cover this issue	5.33	1.39	.83		
Information Forefending				.68	.81
I have a selection of trusted sources that I check for updates on the issue	4.70	1.51	.78		
I know where to go when I need updated information regarding this issue	5.26	1.27	.68		

Note. All factor loadings and first-order factor loadings are significant at $P < .001$. $X^2_{df}(805) = 2066.67$, $P < .001$; $CFI = .96$; $NFI = .93$; $RMSEA = .04$.

Table 4.4 Means, Standard Deviations, Reliabilities, and Standardized Factor Loadings (Continued)

Second-Order Factor First-Order Factor Item	Mean	SD	Factor Loading	Cronbach's Alpha	First-Order Factor Loading
Communicative Action in Problem Solving					
Information Permitting				.74	.57
I have listened to media reports on this issue even if I didn't agree with them	4.92	1.44	.95		
I listen even to opposite views on this issue	4.62	1.58	.62		
Information Forwarding				.91	.85
I talk about this issue with my friends and coworkers	4.54	1.65	.83		
I bring this issue to the attention of people I know	4.43	1.64	.92		
I make sure that my friends know about this issue	4.50	1.62	.90		
Information Sharing				.82	.78
I talk about this issue when others bring up the topic	5.28	1.28	.89		
I would join in a conversation when I hear people talking about this issue	5.32	1.27	.79		

Note. All factor loadings and first-order factor loadings are significant at $P < .001$. $X^2_{df}(805) = 2066.67$, $P < .001$; *CFI* = .96; *NFI* = .93; *RMSEA* = .04.
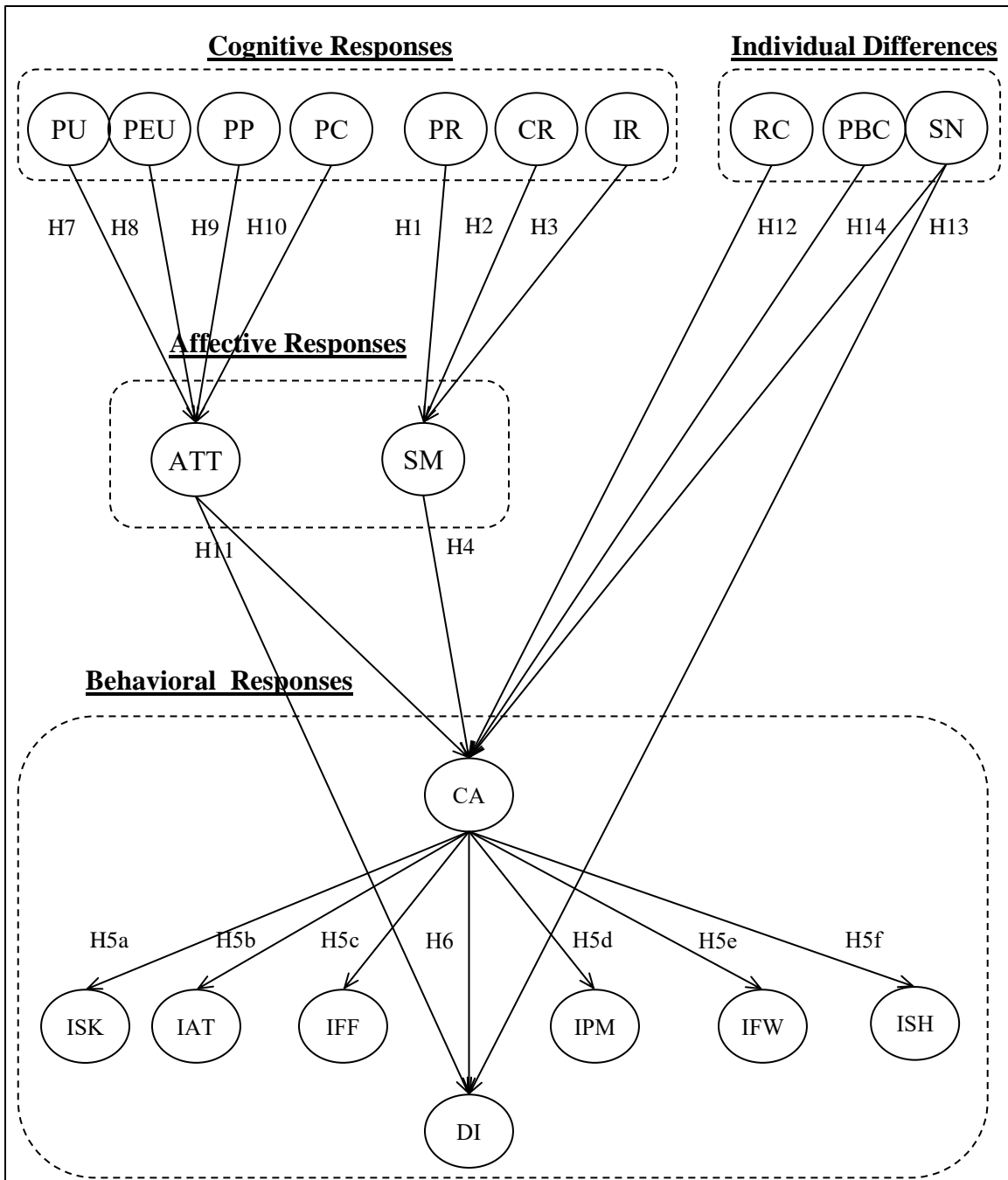
Table 4.5 Covariance Matrix among Latent Variables

Latent Variables	PR	CR	IR	SM	PU	PEU	PP	PC	ATT	RC	SN	PBC	CA	IT
Program Recognition	-													
Constraint Recognition	-.17***	-												
Involvement Recognition	.35***	.19*	-											
Situational Motivation	.69***	-.16*	1.30***	-										
Perceived Usefulness	.25***	-.22***	-.04	.13**	-									
Perceived Ease of Use	.29***	-.28***	-.07	.15***	.61***	-								
Perceived Price	-.20	.73***	.36***	.00	-.39***	-.40***	-							
Perceived Credibility	-.02	-.60***	-.52***	-.21*	.51***	.38***	-.89***	-						
Attitude Toward Using Technology	.25***	-.25***	-.01	.19**	.83***	.51***	-.50***	1.08***	-					
Referent Criterion	.09	-.17*	.02	.18*	.52***	.52***	-.24***	.53***	.82***	-				
Subjective Norm	.05	.10	.27***	.37***	.34***	.14***	-.03	.42***	.81***	.81***	-			
Perceived Behavior Control	.22***	-.48***	-.14*	.11*	.50***	.57***	-.48***	.28***	.36***	.46***	.080	-		
Communicative Action	.33***	-.14***	.55***	.79***	.15***	.17***	-.06	-.02	.213***	.28***	.30***	.16***	-	
Intention to make mobile donation	.18***	-.079	.138	.37***	.69***	.35***	-.43***	.85***	1.36***	1.00***	1.24***	.21***	.35***	-

Note. $* P < .05$; $** P < .01$; $*** P < .001$

Table 4.6 Correlation Matrix among Latent Variables

Latent Variables	PR	CR	IR	SM	PU	PEU	PP	PC	ATT	RC	SN	PBC	CA	IT
Program Recognition	-													
Constraint Recognition	-.16	-												
Involvement Recognition	.24	.10	-											
Situational Motivation	.56	-.09	.57	-										
Perceived Usefulness	.30	-.20	-.03	.10	-									
Perceived Ease of Use	.37	-.26	-.05	.12	.76	-								
Perceived Price	-.17	.45	.17	.00	-.32	-.34	-							
Perceived Credibility	.07	-.30	-.19	-.09	.33	.26	-.40	-						
Attitude Toward Using Technology	.22	-.16	-.01	.11	.72	.47	-.30	.51	-					
Referent Criterion	-.01	-.10	.01	.09	.40	.41	-.13	.22	.46	-				
Subjective Norm	.05	.07	.14	.22	.31	.14	-.02	.21	.53	.47	-			
Perceived Behavior Control	.24	-.38	-.08	.08	.53	.63	-.35	.16	.28	.31	.06	-		
Communicative Action	.51	-.16	.46	.78	.22	.26	-.06	-.02	.23	.26	.34	.21	-	
Intention to make mobile donation	.13	-.04	.06	.17	.49	.26	-.21	.33	.71	.46	.67	.14	.31	-

Cognitive Responses

Individual Differences

PU PEU PP PC PR CR IR

RC PBC SN

H7 H8 H9 H10 H1 H2 H3 H12 H14 H13

Affective Responses

ATT SM

H11 H4

Behavioral Responses

CA

H5a H5b H5c H6 H5d H5e H5f

ISK IAT IFF IPM IFW ISH

DI

Note. PR = Problem recognition, CR = Constraint recognition, IR = Involvement recognition, SM = Situational motivation in problem solving, PU = Perceived usefulness, PEU = Perceived ease of use, PP = Perceived price, PC = Perceived credibility, ATT = Attitude toward using technology, RC = referent criterion, SN = Subjective norm, PBC = Perceived behavior control, CA = Communicative action, ISK = Information seeking, IAT = Information attending, IFF = Information forefending, IPM = Information permitting, IFW = Information forwarding, ISH = Information sharing, and DI = Intention to make a mobile donation.

Figure 4.4 Revised Situational Technology Acceptance Model

**Table 4.7 Hypotheses Testing of Situational Technology Acceptance Model**

Hypothesis	Hypothesized Path	Hypothesized Relationship	Standardized Coefficient	Significant Level (P)	Accepted or Rejected
H1	Problem recognition → Situational motivation	Positive	.44	< .001	Supported
H2	Constraint recognition → Situational motivation	Negative	-.07	.027	Supported
H3	Involvement recognition → Situational motivation	Positive	.49	< .001	Supported
H4	Situational motivation → Communicative action	Positive	.75	< .001	Supported
H5a	Communicative action → Information seeking	Positive	.85	< .001	Supported
H5b	Communicative action → Information attending	Positive	.75	< .001	Supported
H5c	Communicative action → Information forefending	Positive	.81	< .001	Supported
H5d	Communicative action → Information permitting	Positive	.57	< .001	Supported
H5e	Communicative action → Information forwarding	Positive	.85	< .001	Supported
H5f	Communicative action → Information sharing	Positive	.77	< .001	Supported
H6	Communicative action → Intention to make mobile donation	Positive	.07	.004	Supported
H7	Perceive usefulness → Attitude toward using technology	Positive	1.16	< .001	Supported
H8	Perceived ease of use → Attitude toward using technology	Positive	-.56	< .001	Rejected
H9	Perceived price → Attitude toward using technology	Negative	.00	N.S.	Rejected
H10	Perceived credibility → Attitude toward using technology	Positive	.25	< .001	Supported
H11	Attitude toward using technology → Communicative action	Positive	-.01	N.S.	Rejected
H12	Referent criterion → Communicative action	Positive	.10	.003	Supported
H13	Subjective norm → Communicative action	Positive	.16	< .001	Supported
H14	Perceive behavior control → Communicative action	Positive	.12	< .001	Supported
	Subjective norm → Intention to make a mobile donation		.42	< .001	Supported
	Attitude toward using technology → Intention to make mobile donation		.48	< .001	Supported

Note. $X^2{}_{df}$ (836) = 2241.36, $P < .001$; *CFI* = .95; *NFI* = .93; *RMSEA* = .04.

Table 4.8 Covariance Matrix among Independent Variables

Latent Variables	PR	CR	IR	PU	PEU	PP	PC	RC	SN	PBC
Program Recognition	-									
Constraint Recognition	-.18***	-								
Involvement Recognition	.35***	.19*	-							
Perceived Usefulness	.26***	-.21***	-.01	-						
Perceived Ease of Use	.28***	-.28***	-.08	.62***	-					
Perceived Price	-.20***	.77***	.38***	-.40***	-.42***	-				
Perceived Credibility	-.02	-.60***	-.52***	.50***	.38***	-.92***	-			
Referent Criterion	.10*	-.17*	-.04	.60***	.51***	-.25***	.53***	-		
Subjective Norm	.07	.10	.30***	.42***	.12**	-.05	.42***	.82***	-	
Perceived Behavior Control	.22***	-.48***	-.14*	.46***	.57***	-.50***	.27***	.45***	.06	-

Note. * $P < .05$; ** $P < .01$; *** $P < .001$. X^2_{df} (836) = 2241.36, $P < .001$; *CFI* = .95; *NFI* = .93; *RMSEA* = .04.
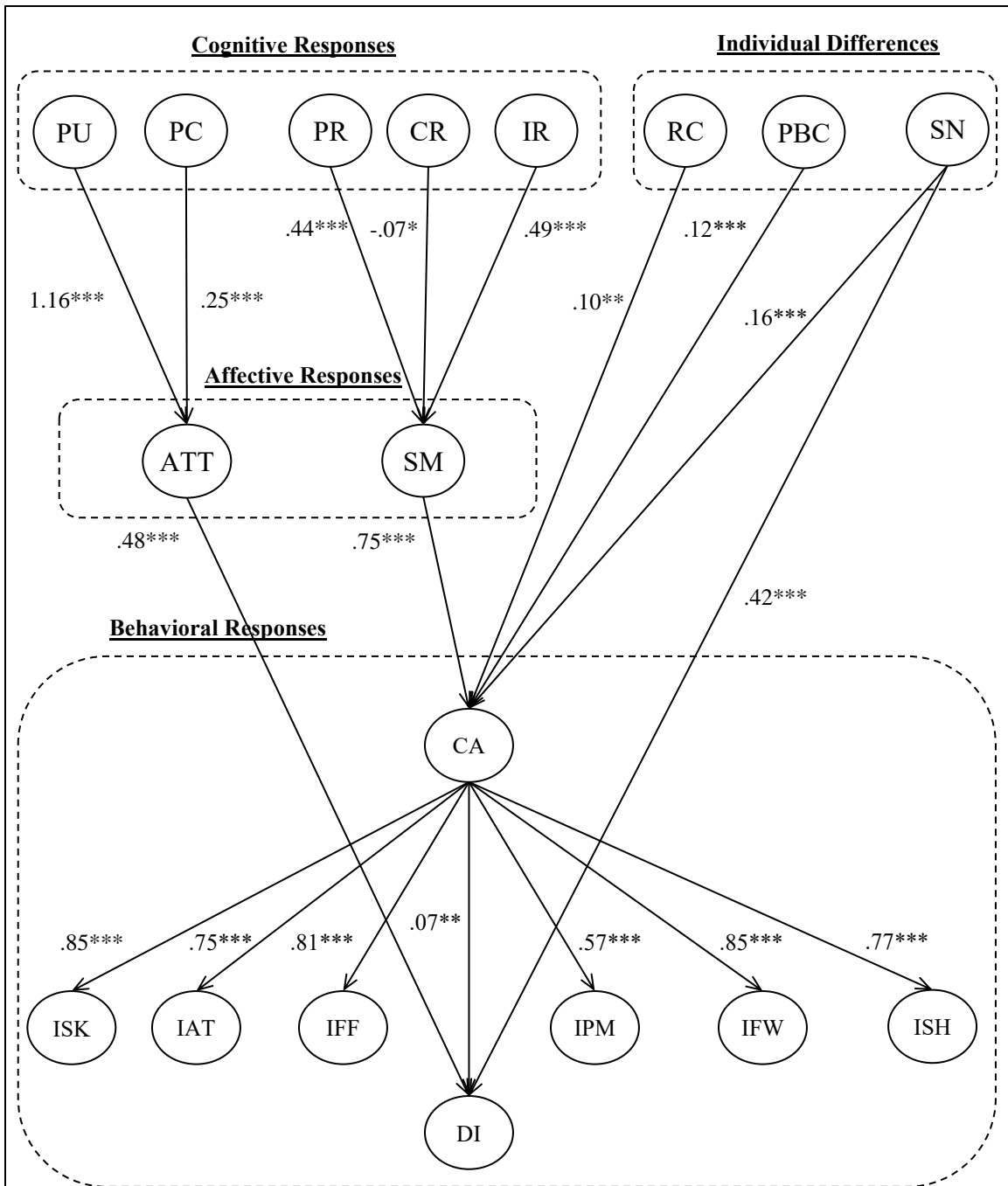
Note. Insignificant paths and unsupported hypotheses are not shown. The paths are standardized coefficients. PR = Problem recognition, CR = Constraint recognition, IR = Involvement recognition, SM = Situational motivation in problem solving, PU = Perceived usefulness, PEU = Perceived ease of use, PP = Perceived price, PC = Perceived credibility, ATT = Attitude toward using technology, RC = referent criterion, SN = Subjective norm, PBC = Perceived behavior control, CA = Communicative action, ISK = Information seeking, IAT = Information attending, IFF = Information forefending, IPM = Information permitting, IFW = Information forwarding, ISH = Information sharing, and DI = Intention to make a mobile donation. * $P < .05$, ** $P < .01$, * $P < .001$. X^2 $_{df}$ (836) = 2241.36, $P < .001$; CFI = .95; NFI = .93; RMSEA = .04.

Figure 4.5 Final Situational Technology Acceptance Model

CHAPTER 5

DISCUSSION

Using a nationwide survey of 994 respondents in February 2016, this dissertation combined the situational theory of problem solving and technology acceptance model to examine people's motivations to make a mobile donation benefiting health-related nonprofit organizations. The contribution of this research can be assessed in four ways. First, it draws a more comprehensive picture of mobile donation behavior in the United States, which distinguishes it from prior research that studied only one mobile donation campaign or sampled only a couple of states (Weberling & Waters, 2012; Weberling, et al., 2012). Second, the study combines two well-developed social science theories and provides empirical support for an emerging situational technology acceptance model that could be employed to explore the effectiveness of using mobile technologies to improve communication. Third, the findings contribute a range of practical implications for nonprofit organizations to motivate key publics and improve future fundraising by better segmenting publics, developing strategic messages, and disseminating communication campaigns. Finally, the study suggests directions for future research that would build upon the current findings and add to a growing body of existing research in the areas of nonprofit communication, health communication, and mobile technologies. These contributions will be discussed below and summarized as they relate to theory, methods, and practice.

5.1 Mobile Donation Market

Mobile donation status. The survey results showed that as of February 2016, almost 21% of American mobile phone users that responded to this survey had ever made a mobile donation. Of the 788 non-donors surveyed in this research, 78.93% of non-donors ($n = 622$) have heard of mobile donations, which seems to indicate that mobile giving campaigns managed previously by nonprofits have effectively reached mobile phone users and improved their awareness of mobile donation possibilities. Table 4.4 also shows that both donors and non-donors expressed some intentions to make a mobile donation in the near future (M ranged from 4.40 to 4.44 out of 7; SD ranged from 1.60 to 1.64). These data show that while the present mobile donation adoption status may still be somewhat disappointing for nonprofit organizations, the mobile donation market still has great potential in the U.S. because of the high awareness among mobile phone users. It is unclear, however, whether nonprofit organizations would benefit from implementing more mobile donation campaigns, or whether the campaigns need to do a better job of motivating potential donors/mobile phone users (or both).

Donors' demographic characteristics. Taking a closer look at the demographic characteristics of donors (Table 4.2) and non-donors (Table 4.3) in this study, donors and non-donors seem to be fairly similar across age, gender, race/ethnicity, income, education, and region. That is inconsistent with some prior research that found age was the only factor, among other demographic variables, to predict the use of new media technologies such as blogs (Chou, Hunt, Beckjord, Moser, & Hesse, 2009) and social networking sites (Kontos, Emmons, Puleo, & Viswanath, 2010). It is not hard to understand from the technology perspective: even though most people believe mobile donation is a new

technology that has not been adopted by many mobile phone users, it is based on texting, a mobile phone function that has been used for decades by many Americans including senior adults (Smith, 2010). The process of making a mobile donation is exactly the same as sending a text and receiving a text of confirmation receipt. To make a mobile donation, a donor needs to learn only how to send and receive a text message. It is also possible that both donors and non-donors surveyed in this research are all AMT workers that own a mobile phone and thus have similar demographic characteristics.

Among various demographic characteristics, employment status might be the only factor that influences mobile donation behaviors: for mobile donors, 76.21% were employed full time, 9.71% employed part time, and 2.43% unemployed; for non-donors, 56.35% of the respondents were employed full time, 17.7% employed part time, and 10.03% unemployed (Tables 4.2 & 4.3). It is not surprising that those who have a full-time job and consistent income are more likely to contribute money; part-time or unemployed people likely have less resources to contribute and may be focused on other concerns.

Issues and nonprofits benefitting from mobile donations. This research found the three most popular issues supported by donors' last mobile donations to be: natural disaster (supported by 55.34% donors), health issues (12.14%), and general humanitarian issues such as relieving homelessness, poverty, and hunger (10.68%). These three issues all relate to human health in some way, which confirms the prior conclusion that health-related nonprofit organizations receive the majority of mobile donations (mGive, 2015).

Considering when donors most recent mobile donations happened, the issues that were supported varied over the years. Figure 4.1 shows that, in the past five years, the

total amount of donations made by mobile donors dropped sharply in 2011, grew steadily from 2012 through 2014, and then increased again in 2015 and later. In 2010 and earlier, data from this study show that natural disasters received the most donations followed by health and humanitarian issues: 91.43% of mobile donations benefited natural disaster relief (32 out of 35 donations made in 2010 or earlier). This is likely because the American Red Cross achieved such great success with its mobile giving campaign following the 2010 Haiti earthquake (the ARC raised more than $40 million, accounting for 8% of the total donations) and became a milestone in mobile donation history (Chen & Givens, 2013). But it seems nonprofit practitioners did not follow up on that successful example or figure out why it succeeded and how to generate similar successful mobile donation campaigns. Hence, according to data from this study, the number of mobile donations fell off after 2010 and then improved at a slow pace for the next four years (see Figure 4.1).

It seems like nonprofit organizations and practitioners started paying attention to mobile donations and implemented campaigns to raise funds more since 2014, and donations increased as a result. In 2015 and later, of the total 64 mobile donations made, 29.69% of donations ($n = 19$) benefited natural disaster relief, 20.31% ($n = 13$) benefited health issues, and 20.31% ($n = 13$) benefited humanitarian issues. Although natural disasters still dominated during this time, in general, the number of donations benefiting natural disaster relief decreased over the years, while health and humanitarian issues have received an increasing number of donations. Of course, this likely has to do with the events that happened during this time (or lack thereof), the types of mobile donation

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campaigns that were launched, and the issues and nonprofit organizations benefiting from those campaigns.

Regarding the nonprofit organizations that mobile donors supported, 55.34% of donors contributed to the American Red Cross, and the rest contributed to nonprofits such as the United Way, UNICEF, World Wildlife Foundation, and some local nonprofit organizations, among others.

This study also asked mobile phone users who had never made any mobile donations which issue they were most likely to donate toward. The top five issues were natural disasters (22.59%), humanitarian (21.70%), health (20.9%), animal welfare (14.21%), and environment (6.22%). Besides natural disasters, humanitarian, and health issues, which have received the majority of mobile donations in the past few years, it seems nonprofit organizations whose missions include animal welfare or a focus on the environment have earned the attention of some mobile donors and are thus encouraged to start using mobile donation technology to raise funds.

To conclude, in the past five years, only a few national nonprofit organizations, such as the American Red Cross, have effectively utilized mobile donation technology for fundraising. Although most mobile phone users are aware of mobile donations, the number of actual mobile donations seems to be growing very slowly, with natural disaster relief efforts receiving the most funds. Donating behavior appears to be influenced by mobile phone users' employment status, though not by other demographic characteristics.

5.2 Theoretical and Methodological Contributions

Through combining two well developed theories from public relations and management of information systems research, this dissertation used a nationwide survey

with 994 respondents to explicate and refine the conceptual understanding of the cognitive, affective, and motivational antecedents that might lead to behavioral intentions to make mobile donations.

By running a confirmatory factor analysis, this research first confirmed the validity of indicators to measure corresponding latent variables from the situational theory of problem solving and technology acceptance model (Table 4.4). The indicators and methods used in this study could guide future research using variables from the situational theory or technology acceptance model.

The confirmed validity of indicators, combined with the diverse demographic backgrounds of the respondents (Table 4.1), speedy recruitment of nationwide participants (1033 responses within 3 days), affordable cost of data collection ($1 per response), and 96.22% valid response rate (994 valid responses out of 1033 total responses), all seem to justify the continued use of Amazon Mturk as a reliable and effective platform to distribute surveys and recruit valid and diverse responses.

Perhaps most importantly, this study proposed a model combining STOPS and TAM and then ran a two-step structural equation modeling procedure that provided empirical support for the situational technology acceptance model with excellent model fit statistics (Figure 4.6: X^2_{df} (836) = 2241.36, $P < .001$; $CFI = .95$; $NFI = .93$; $RMSEA = .04$). The situational technology acceptance model includes both types of motivational antecedents - motivations to solve a problem and motivations to use a technology - and both types of motivational antecedents were proven to have significant impacts on behavioral responses. All antecedents combined explained 62.8% of the variance in donating intentions.

Regarding STOPS, this research adds to existing research (Kim & Grunig, 2011; Kim, Morgan & Shen, 2011; McKeever, 2013; McKeever et al., 2016) by extending the theory to consider communicative action's further influence on donating intentions. Regarding TAM, this study further developed existing models (Davis, 1989, 1993; Lee, et al., 2003; Legris, et al., 2003) by adding the antecedents of perceived credibility, referent criterion, subjective norm, and perceived behavioral control in a mobile technology context and also by adding communicative action as a mediator connecting the independent variables to donating intentions. The combined model could be used in future research to explore the effectiveness of using other mobile technologies to communicate, raise funds or solve a specific problem.

Table 4.7 showed that almost all hypotheses in the proposed model were supported except H8, H9, and H11. H8 aimed to test the positive relationship between perceived ease of use and attitude toward using mobile donation technology. While perceived ease of use reported a significant impact on attitude for most mobile technologies (e.g. Chang, et al., 2012; Huang, et al., 2007; Cheon, et al., 2012, among others), its impact became contrary to the hypothesis and reported a negative path coefficient for mobile donation technology ($\beta = -.56$, $P < .001$). A prior study also indicated an insignificant relationship between perceived of ease of use and attitude toward using mobile donation technology (Weberling & Waters, 2012). Perhaps mobile phone users believe mobile donations are just an advanced version of texting instead of a new technology and, thus, do not get excited about making mobile donations. This unsupported hypothesis confirmed conclusions made by prior scholars that reviewed the TAM literature: before applying the original TAM (Figure 2.3) to study a new technology,

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it is necessary to develop the model by adding or replacing some factors based on evaluations of the nature of the technology, because the motivations to try and use a new technology really vary. It is unreasonable to use the same theoretical framework to explain all different kinds of technologies (Lee, et al., 2003; Legris, et al., 2003).

H9 attempted to test the negative relationship between perceived price and attitude toward making mobile donations. The SEM result showed that the relationship was not significant ($\beta = .00$, $P = $ n.s.). Unlike other mobile options that may be somewhat expensive, mobile donations are one-time contributions that typically charge either \$5 or \$10. Thus, perhaps the amount of a mobile donation is not seen as a financial burden for most mobile phone users and would not influence their attitudes toward making a mobile donation. As a result, perceived price was removed from the final model (Figure 4.6).

H11 aimed to test the positive relationship between attitude toward making mobile donations and communicative action. The SEM result reported an insignificant path coefficient ($\beta = -.01$, $P = $ n.s.). This finding could be explained by the different subjects that were the focus of the attitude and communicative action measures. In this study, attitude referred to mobile phone users' responses toward the technology, but communicative action referred to users' behavioral responses toward the issues advocated by nonprofits rather than the technology. Thus it makes sense that the relationship between attitude and communicative action is not significant and why attitude's impact on donating intention is not mediated by communicative action. While past research has demonstrated the mediating role of communicative action between attitude and behavioral intention (McKeever, et al., 2016), the attitude, communicative action, and behavioral intention in that study were all related to the same issue.

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Paying attention to the final model (Figure 4.6), the intention to make a mobile donation was predicted by attitude toward using technology ($\beta = .48$, $P < .001$), subjective norm ($\beta = .42$, $P < .001$), and communicative action ($\beta = .07$, $P < .01$), with attitude toward technology showing the strongest impact. In other words, when deciding whether to make a monetary donation by texting, it seems mobile phone users care about the technology aspect of mobile donations and their significant others' opinions (or the norms of those who are important to them) more than the issues their donations aim to support. This could be because of the relative ease and low cost of mobile donations (as mentioned above) as opposed to a large gift, which would likely require more involvement with the issue or the nonprofit organization.

According to this study's findings, attitude toward using technology, as the primary factor influencing donation intention, was predicted by perceived usefulness ($\beta = 1.16$, $P < .001$) and perceived credibility ($\beta = .25$, $P < .001$). This means mobile phone users have favorable attitudes toward mobile donation technology mostly because they believe this technology can make the procedure of making donations easier and/or more convenient. Their favorable attitudes also seem to be influenced by whether they believe the payment process is secure and reliable.

Regarding the information activities, all six dimensions reported a significant positive factor loading to the second-order latent variable of communicative action in problem solving. Generally, proactive/active information activities (information seeking, information forefending, and information forwarding) had stronger path coefficients than reactive/passive information activities (information attending, information permitting, and information sharing). These findings indicate that mobile phone users have more

active than passive behaviors during their acquisition, selection, and transmission of information related to the issues to which they donate.

Mobile phone users' communicative actions were mostly predicted by the situational motivations of problem solving ($\beta = .75$, $P < .001$), which was influenced by involvement recognition ($\beta = .49$, $P < .001$), problem recognition ($\beta = .44$, $P < .001$), and constraint recognition ($\beta = -.07$, $P < .05$), with involvement recognition having the strongest impact. Mobile phone users clearly have motivations to support a social issue mostly because they have been made aware of the issue and believe their lives (or the lives of those they know) have been or will be affected by this issue. Although constraint recognition showed a significant coefficient as well, the impact was not that high compared with problem and involvement recognitions. In other words, respondents do not perceive much of a barrier to support the relative social issues. It could be that because this survey focused on mobile donations (even though the constraint recognition items focused on the issue and not the technology), there were few constraints in the minds of respondents related to mobile donations for the issues that they cared about; this has practical implications for nonprofit organizations, which will be discussed below.

Compared with situational motivations of problem solving ($\beta = .75$, $P < .001$), the influences of referent criterion ($\beta = .10$, $P < .01$), perceived behavior control ($\beta = .12$, $P < .001$), and subjective norm ($\beta = .16$, $P < .001$) on communicative action were small, even though all of them were significant. That means mobile phone users' communicative actions about a social issue do not really vary across their individual differences but more on their motivations to alleviate the issue. Additionally, subjective norms had a direct effect on donating intention ($\beta = .42$, $P < .001$), meaning this variable

directly influenced mobile phone users' donating intentions as well as their communicative action.

It should be noted that the situational technology acceptance model does not replace either model of STOPS or TAM. STOPS works well to explain individuals' motivations to solve certain problems, and the procedure of problem solving does not necessarily involve the use of new technology. Similarly, TAM works well to explain the use of a new technology, and the use of technology is not always done for the purpose of solving problems. Instead, the situational technology acceptance model works best to explain the use of a technology that attempts to help alleviate problems, such as mobile donation, a technology that helps nonprofit organizations with the various issues they support.

Besides contributing to theoretical and methodological development, the findings from this study also suggest a range of practical implications for nonprofit organizations and practitioners that aim to employ mobile donation technology to benefit future fundraising efforts.

5.3 Practical Implications

The ultimate goal of this dissertation was to conduct research that may help nonprofit organizations encourage more mobile phone users to make monetary donations by texting. In addition to providing theoretical value by combining STOPS and TAM to explore and help explain mobile fundraising, this study provides practical suggestions for nonprofit public relations practitioners to improve their public segmentation, messaging strategies, and campaign dissemination. For example, knowing that attitude toward using technology and subjective norm are two major factors to predict the intention to make a

mobile donation, nonprofit practitioners should consider enhancing mobile phone users'

favorable attitudes toward making mobile donations or target individuals or communities

with high levels of subjective norms. Also, when practitioners have limited resources to

target all variables from the situational technology acceptance model in their

communication efforts, attitude toward using technology and subjective norms could be

two of the easier variables to target to help predict behavioral intention to make a

charitable donation using new technology. Examples of message development and public

segmentation strategies are discussed in the following paragraphs.

Messaging strategy and public segmentation. Public relations scholars have

suggested segmenting publics according to the situational theory variables and then

designing different messaging tactics for different publics (Grunig & Hunt, 1984; Kim, et

al., 2011). This research followed these scholars and developed a segmenting strategy by

evaluating respondents' awareness of mobile donations and intentions to make a mobile

donation as two key dimensions to segment respondents into four groups: active, aware,

latent, and nonpublic (Figure 5.1).

Active publics refer to "a self-identified and self-organized group of people that

arises in response to a problematic situation" (Kim, et al., 2011, p. 175). In this research,

active public refers to people who have experience making a mobile donation. Active

publics were thus identified by the question at the beginning of the survey that asked

about respondents' prior mobile donation activities: "have you ever made any mobile

donation?" There were 206 respondents (20.72% of the total respondents) that answered

"yes" and, thus, were identified as active publics. In this study, the active individuals

have experience at making a mobile donation and are familiar with the technology and

the donating procedure. They have a high level of both awareness and donating intentions. There is thus no need to educate them about what mobile donations are or about how to make them.

Intentions to Make a Mobile Donation ↑	
Latent Public (8.75%) • Incorporate more mobile donation ads in fundraising campaigns • Improve communicative actions about the issue(s) supported by nonprofits by releasing visuals or information that is easy to share on social media	**Active Public** (20.72%) • Emphasize personal connections to the issue(s) that they have not supported previously • Mention the potential of a donor's employer making a matching gift • Encourage individuals to help publicize a mobile giving campaign and/or educate others about mobile donations
	Awareness of Mobile Donations → **0**
Non-public (7.95%) • Communicate how many people in the community have already made donations • Emphasize the urgent need of support to address the issue • Focus on the easy process of making a mobile donation	**Aware Public** (62.58%) • Demonstrate the usefulness of mobile donations • Clarify the security of the payment process • Explain the step-by-step donating process • Target individuals or communities where people have high levels of subjective norms

Figure 5.1 Public Segmentation and Communication Strategies to Promote Mobile Donation

Instead, public relations practitioners should make every endeavor to conserve these active publics and encourage continued donations. Current mobile donation campaigns typically involve a one-time charge for one issue that a nonprofit supports. Nonprofit organizations typically have multiple issues or needs, though, and each issue

could have unique phone codes to collect donations. Currently, there does not seem to be a way to donate more than one time for the same issue toward the same nonprofit. But mobile donors can donate toward multiple issues or campaigns. Therefore, practitioners could try motivating active publics to donate toward various issues by developing strategic messages to improve situational motivations to solve the various issues. The situational technology acceptance model (Figure 4.6) indicated that the situational motivations of problem solving were predicted mostly by involvement recognition and problem recognition. As a result, messages and campaigns should primarily try to increase the active public's awareness of the issue and also emphasize the active public's personal connections to the issue, including how their lives have been affected by the issue and/or how their lives would improve once the issue is resolved.

In addition, active publics are often engaged in voluntary information forwarding and sharing (Kim & Grunig, 2011; Kim, et al., 2010). Subjective norm's strong impact on donating intention also implies the role active publics could play as experienced mobile donors to help publicize a mobile giving campaign and/or educate others about mobile donations. Mobile campaigns could include a message encouraging active publics to share donation-related information with their friends and family or rewarding mobile donors who successfully refer another mobile phone user to make a donation via text.

Also, most active individuals in this study are employed full time, which means practitioners could create additional messages that mention the potential of a donor's employer making a matching gift, a common practice in which companies donate matching funds to a nonprofit organization based on an employee's support of that same organization.

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Aware publics are people who "do perceive the existence of a problem but are not as active as the active public" (Kim, et al., 2011, p. 175). In this study, aware public refers to people who indicated being aware of mobile donations but whom had never made a mobile donation. Aware publics were thus identified by the survey question: "have you ever heard of mobile donation?" There were 828 respondents that answered "yes." Excluding the 206 respondents who had made a mobile donation, 622 respondents (62.58% of the total respondents) had heard of but never made a mobile donation, and these individuals could be categorized as aware publics in this research. They reported a high level of awareness but a low level of donating intentions. Aware publics have not tried to make a mobile donation previously, possibly because they do not know much about the advantages of this technology or have some concerns about the security of the payment process.

To motivate aware publics, public relations practitioners should focus on developing favorable attitudes toward mobile donation technology. The situational technology acceptance model (Figure 4.6) shows that attitudes were influenced by perceived usefulness and perceived credibility. Strategic communications from nonprofits could have more success if they included messages demonstrating the usefulness of mobile donations in terms of raising funds from a geographically diverse population within a short time and/or clarify that the payment procedure will not lead to a recurring charge nor abuse of personal or billing information. Mobile campaigns could also explain the step-by-step donating process by providing a brief tutorial or a screenshot as shown in Figure 1.1, in order to decrease the aware public's perception that the donating process is too complex.

Additionally, because of the influence of subjective norm on donating intention, nonprofit practitioners could segment the aware public into high-subjective-norm publics and low-subjective-norm publics and then target individuals or communities where people have high levels of subjective norms by developing messages noting that mobile donation behaviors are common and would be encouraged or applauded by individuals who are important to them.

Latent public refers to people who "face a common problem but have not recognized it" (Kim, et al., 2011, p. 175). For example, an individual who has skin cancer but has not yet received a diagnosis, or even individuals who have the possibility of developing skin cancer in the future could be considered latent publics regarding skin cancer. Latent publics in this study refer to the people who had never heard about mobile donations but indicated that they would like to make a mobile donation after learning about the technology. This study followed the method of prior research (Grunig & Hunt, 1984; Kim, et al., 2011) to isolate 87 individuals (8.75% of the total respondents) by averaging the three indicators of donating intention (Table 4.4) and selecting the respondents who had never heard of mobile donations and also reported higher than four points of the donating intention scale; this group is the latent public. They have a low level of awareness but high level of donating intentions.

In this study, the latent public expressed interest in mobile donations and intentions to donate to nonprofits in the near future, but they lacked prior knowledge about the technology. To motivate latent publics, public relations practitioners should increase awareness of mobile donation technology by incorporating more mobile donation ads in fundraising campaigns. Because donating intentions were affected by

communicative actions, practitioners could also develop tactics to improve latent publics'

communicative actions about the issue(s) supported by nonprofits. The more that latent

publics acquire information related to an issue, the more they are likely to access

information about multiple approaches to help address the issue, including making a

mobile donation.

Non-publics refer to people who do not face the problem or issue at all and have

little interest in any organization (Kim, et al., 2011, p. 175). Non-public in this study

refers to people who had never heard of mobile donation and had little interest in making

a mobile donation even after learning about it. Perhaps they were not interested in any

mobile technology nor any kind of charity. This research identified 79 individuals (7.95%

of the total respondents) by selecting the respondents who had never heard of mobile

donations and also reported four or fewer points on the donating intention scale; this

group represents the non-public in this study. They have a low level of both awareness

and donating intentions.

Non-publics are usually excluded by public relations practitioners from the target

audiences of communication campaigns due to limited resources. Considering the impact

of subjective norm in this study, again, organizations with substantial resources that aim

to engage non-publics could develop messages communicating how many friends, family,

neighbors, colleagues, or people living in the same community had already made

donations; this might motivate non-publics to send a donation text simply because they

want to be part of the community.

Some non-publics might have some donating intentions but feel reluctant to take

action to donate, because they feel a lack of control or perceive constraints to donating. If

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this is the case, practitioners could target perceived behavioral control or constraint recognition and utilize messaging or tactics that emphasize the urgent need of support to address the issue or focus on the easy process of making a mobile donation.

To conclude, this dissertation focused on awareness of mobile donations and intentions to make a mobile donation as two dimensions to segment the four major publics (Figure 5.1). These segmenting strategies could be used by practitioners to segment publics in other ways as well, such as by focusing on awareness of a new media technology and the intention to use the technology, and develop different tactics to motivate different publics according to organizational goals and campaign strategies.

Media channel. Regarding the dissemination of strategic communications, it is very important to select an appropriate media channel, since different people usually have different preferences of media to acquire health-related information (Tanner, Bergeron, Zheng, Y., Friedman, Kim, & Foster2016). In additional to the message design and public segmentation, findings from this study also produced some practical implications for nonprofit practitioners to choose effective media channels to disseminate strategic communications. Specifically, mobile donors in this study mentioned that most had heard about the subject of their most recent mobile donations from either social media (37.86% of the total donors) or television (37.86%), followed by friends or family (9.71%) and nonprofit organizations' homepages (4.37%). In other words, social media, television, and nonprofits' homepages have been the most effective media channels for distributing mobile campaign messages thus far. This research also found that in general, mobile phone owners use email ($M = 5.97$, $SD = 1.46$), social media ($M = 5.88$, $SD = 1.52$), and texting ($M = 5.81$, $SD = 1.58$) most often, but they prefer to seek, acquire, and

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communicate information about mobile donations through nonprofit homepages (M = 4.98, SD = 1.86), social media (M = 4.72, SD = 1.82), and television (M = 4.05, SD = 1.91). This implies that nonprofit practitioners should keep using their homepage, social media, and television as the primary media channels to communicate mobile donation needs. Particularly, social media were the only media listed as both the "most used" and "most likely used to seek, acquire, and communicate" mobile donation information. The importance of social media is clear; practitioners should use social media to update timely information and to interact with target audiences and potential donors. Additionally, the social media content could gain the attention of television journalists and could later be developed into a television report (Tanner, Friedman, & Zheng, 2015).

Moreover, current media convergence enables practitioners to share news conveniently between different media modalities. Besides posting the information on various media, practitioners should also repurpose the messages for different digital platforms to maximize the salience of their content. For example, they could use social media platforms to share the news published on homepages or the videos released on television. Similarly, they could also highlight the icons of social media on their homepages or integrate the links or hashtags of social media on television programs. This type of integration is especially valuable for nonprofit organizations, which often have limited time and resources to focus on communications activities.

5.4 Limitations and Future Research

While making numerous contributions, this study's limitations must be acknowledged and addressed through future research. Firstly, this research was limited to only one fundraising technology. To improve the model's validity, future research should

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apply the model to other new fundraising technologies, such as existing or new social media platforms (depending on the organization's current level of sophistication in communication) and/or some mobile fundraising applications such as "Google One Day," "Charity Miles," and "Check-in for Good." Additionally, because of this model's focus on text messaging, perhaps it could be applied to study other communication campaigns that involve text messaging, such as health communication or emergency messaging systems.

Secondly, this study was limited to the U.S. population. Previous STOPS studies proved that the situational theory worked differently with Asian populations in South Korea and Hong Kong (Chen, et al., in press; Kim, et al., 2012). Future research should improve this model's generalizability by replicating the model to study philanthropic participation in other countries and compare the results between the U.S. and other countries.

Thirdly, while Amazon Mturk recruited an acceptable nationwide pool of respondents, it only included Internet users who were registered with AMT, which obviously leaves out many people who have mobile donating experience but have never registered as an AMT worker. Also, the respondents recruited through AMT are not a random sample but based on AMT workers' voluntary participation. Future research should replicate the model with additional populations by using a random sampling technique.

Finally, this study included an open-ended question at the end of the survey asking respondents' if they had additional questions or concerns about mobile donations, and received an unexpected answer: one respondent said the reason he refused to make a

mobile donation was that his phone was included in his parents' family plan and his

parents paid for the monthly phone bill. He did not want to explain to his parents about

the charge and felt like his parents would not support his mobile donating behaviors.

Therefore, future research should employ qualitative methods, such as in-depth

interviews or focus groups, to explore additional considerations involved in the complex

decision-making process of making charitable donations by using new technologies.

Additionally, future research should employ other methods such as experiments to further

examine the effectiveness of different messaging strategies for different publics and the

causal relationships between donating intentions and the related variables of interest.

5.5 Conclusions

In conclusion, this dissertation explored current mobile donation use in the U.S.,

and contributed to the understanding of how mobile phone users' cognitive, affective, and

personal differences work together to predict behavioral responses about making a

mobile donation. The findings generated theoretical, methodological, and practical

contributions, and suggested potential directions for future research. More research in this

area will help expand the generalizability of this study and the situational technology

acceptance model.

Mobile donations were invented at least seven years ago. Although many mobile

phone users know about mobile donations, it has not been widely used by charitable

organizations or by donors in the U.S. The relief effort for the 2010 Haiti earthquake was

a major success in terms of the amount of funds raised and the number of donors; no

other mobile donation campaign has come close to matching it. This campaign, and other

potential future fundraising successes, should be studied closely so that nonprofit

organizations can use the model employed in this research to obtain similar results to the success of Haiti earthquake relief.

To improve the effectiveness of mobile campaigns, nonprofit organizations should focus on holding on to their active publics, engaging their latent publics by incorporating more mobile donation ads, and motivating their aware publics by developing strategic messages on social media to improve attitudes toward using technology and to target communities with high subjective norms. Public relations practitioners should also employ the situational technology acceptance model to determine how to incorporate other new media technologies in their communications to enhance future fundraising.

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Q1. Thank you very much for participating in this survey. I am currently working on a project that attempts to understand mobile donations to nonprofit organizations. This survey will take about 10-15 minutes. If you choose to participate, your answers will be held with the utmost confidentiality. The only people having access to the individual data will be me, the researcher of this study. If you complete the survey and your responses are approved by me, you will receive the $1 payment via Amazon Mturk.

Q2. Do you have a mobile phone with texting capability?
❍ Yes
❍ No
If No Is Selected, Then Skip To End of Survey

Q3. In this study, mobile donation means giving small monetary donations (usually $5 or $10) to nonprofit organizations by texting a specific keyword to a related phone code (with the charge applied to your mobile phone bill once you receive the immediate confirmation text). The donation is a one-time charge and the amount of donation is typically determined by the organization. For example, you might be able to support the American Red Cross Disaster Relief by texting the word "REDCROSS" to the phone number "90999," and $10 would be charged one time to your cell phone bill.

Q4. Based on the above description of mobile donations, have you ever heard of mobile donations?
❍ Yes
❍ No

Q5. Based on the above description of mobile donations, have you ever made any mobile donations?
❍ Yes
❍ No
If No Is Selected, Then Skip To Q12

Q6. Think about the most recent mobile donation you made, then answer the following questions:

Q7. When was the last time you made a mobile donation?
- ○ 2010 or earlier
- ○ 2011
- ○ 2012
- ○ 2013
- ○ 2014
- ○ 2015 or later
- ○ Don't remember

Q8. Which organization did this mobile donation benefit?

Q9. Which issue did this mobile donation support?

Q10. Where did you hear about this mobile donation?
- ○ Friends or family (in person or via interpersonal media technologies such as email, texting, Skype, phone call, etc.)
- ○ Social media (Facebook, Twitter, Instagram, Youtube, LinkedIn, etc.)
- ○ Flyer, poster, or brochure
- ○ Television or television websites
- ○ Radio
- ○ Newspaper (print, online, or mobile applications)
- ○ Magazine (print, online, or mobile applications)
- ○ Nonprofit organization's homepage
- ○ Blogs
- ○ Others, please specify _____

Q11 Keep your most recent mobile donation experience in mind when answering the following questions. Also, in the following questions, the word 'issue' typically refers to the issue that you donated toward in your most recent mobile donation.
- ○ OK, I understand

If OK, I understand Is Selected, Then Skip To Q15

Q12. If you were going to make a mobile donation, which issue are you most likely to donate toward?

Q13. If you were going to make a mobile donation, which organization are you most likely to donate toward?

Q14. Keep this issue in mind when answering the following questions. Also, in the following questions, the word 'issue' typically refers to the issue you entered above.
- ○ OK, I understand

Q15. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
This issue needs some sort of resolution.	❍	❍	❍	❍	❍	❍	❍
I believe people need to pay more attention to this issue.	❍	❍	❍	❍	❍	❍	❍
I consider this issue to be serious.	❍	❍	❍	❍	❍	❍	❍

Q16. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Supporting this issue is too time-consuming.	❍	❍	❍	❍	❍	❍	❍
There are many constraints in the way of supporting this issue.	❍	❍	❍	❍	❍	❍	❍
It is not convenient to participate in events to support this issue.	❍	❍	❍	❍	❍	❍	❍

Q17. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My life has been affected by this issue.	❍	❍	❍	❍	❍	❍	❍
I know many people who have been affected by this issue.	❍	❍	❍	❍	❍	❍	❍
This issue has serious consequences for my life and/or for someone I care about.	❍	❍	❍	❍	❍	❍	❍

Q18. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I often stop and think about this issue.	○	○	○	○	○	○	○
I often stop and think about what I can do to help with this issue.	○	○	○	○	○	○	○
I am very curious about this issue.	○	○	○	○	○	○	○

Q19. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
If I saw something on the news about the issue, I would click and read it.	○	○	○	○	○	○	○
I pay attention to news reports about this issue.	○	○	○	○	○	○	○
I attend to news when people cover this issue.	○	○	○	○	○	○	○

Q20. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I actively search for information on the issue.	○	○	○	○	○	○	○
I regularly check to see if there is any new information about the issue.	○	○	○	○	○	○	○
I often request information about this issue.	○	○	○	○	○	○	○

Q21. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I am interested in all views on this issue.	○	○	○	○	○	○	○
I have listened to media reports on this issue even if I didn't agree with them.	○	○	○	○	○	○	○
I listen even to opposite views on this issue.	○	○	○	○	○	○	○

Q22. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I can easily judge the value of information related to the issue.	○	○	○	○	○	○	○
I have a selection of trusted sources that I check for updates on the issue.	○	○	○	○	○	○	○
I know where to go when I need updated information regarding this issue.	○	○	○	○	○	○	○

Q23. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I talk about this issue when others bring up the topic.	○	○	○	○	○	○	○
I would be willing to talk to someone about this issue if they asked me.	○	○	○	○	○	○	○
I would join in a conversation when I hear people talking about this issue.	○	○	○	○	○	○	○

Q24. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I talk about this issue with my friends and coworkers.	○	○	○	○	○	○	○
I bring this issue to the attention of people I know.	○	○	○	○	○	○	○
I make sure that my friends know about this issue.	○	○	○	○	○	○	○

Q25. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Mobile donation technology makes it easy to make monetary donations.	○	○	○	○	○	○	○
Mobile donation technology is helpful to enhance the effectiveness of making a monetary donation.	○	○	○	○	○	○	○
Mobile donations are useful.	○	○	○	○	○	○	○

Q26. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
The procedure of making a mobile donation is easy to learn.	○	○	○	○	○	○	○
The process of making a mobile donation is easy to operate.	○	○	○	○	○	○	○
It is easy for me to remember how to make a mobile donation.	○	○	○	○	○	○	○

Q27. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Making a mobile donation costs me a lot of money.	○	○	○	○	○	○	○
The price level of making a mobile donation is a burden to me.	○	○	○	○	○	○	○
Making a mobile donation is expensive overall.	○	○	○	○	○	○	○

Q28. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I am concerned that the charge of mobile donations will reoccur in the future.	○	○	○	○	○	○	○
I am concerned that my personal information will be misused by making a mobile donation.	○	○	○	○	○	○	○
I am concerned that my payment information will be misused by making a mobile donation.	○	○	○	○	○	○	○

Q29. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Generally, I am in favor of making mobile donations.	○	○	○	○	○	○	○
I feel good about making a mobile donation.	○	○	○	○	○	○	○
I think using mobile donation technology is beneficial.	○	○	○	○	○	○	○

Q30. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I know how to make a mobile donation to support this issue.	❍	❍	❍	❍	❍	❍	❍
I can provide people detailed instructions for making a mobile donation to support this issue.	❍	❍	❍	❍	❍	❍	❍
I am confident about my knowledge about making a mobile donation to support this issue.	❍	❍	❍	❍	❍	❍	❍

Q31. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
People who are important to me are making mobile donations.	❍	❍	❍	❍	❍	❍	❍
People who are important to me think I should make mobile donations to support this issue.	❍	❍	❍	❍	❍	❍	❍
People who are important to me think my mobile donation to support this issue is good.	❍	❍	❍	❍	❍	❍	❍

Q32. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
If I wanted to, I could easily make mobile donations.	❍	❍	❍	❍	❍	❍	❍
I have a lot of control over whether or not to make a mobile donation.	❍	❍	❍	❍	❍	❍	❍
Making a mobile donation is entirely within my control.	❍	❍	❍	❍	❍	❍	❍

Q33. Please indicate the extent to which you agree or disagree with the following statements:

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
If this issue happens again, I intend to make a mobile donation.	❍	❍	❍	❍	❍	❍	❍
If this issue happens again in the near future, I will likely make a mobile donation	❍	❍	❍	❍	❍	❍	❍
To help deal with this issue, I would likely make a monetary donation by sending a text.	❍	❍	❍	❍	❍	❍	❍

Q34. How likely are you to use the following media to seek, acquire, or communicate information related to mobile donations?

	Very Unlikely	Unlikely	Somewhat Unlikely	Neutral	Somewhat Likely	Likely	Very Likely
Social media (Facebook, Twitter, Instagram, Youtube, LinkedIn, etc.)	❍	❍	❍	❍	❍	❍	❍
Flyer, poster, or brochure	❍	❍	❍	❍	❍	❍	❍
Television or television websites	❍	❍	❍	❍	❍	❍	❍
Radio	❍	❍	❍	❍	❍	❍	❍
Newspaper (print, online, or mobile applications)	❍	❍	❍	❍	❍	❍	❍
Magazine (print, online, or mobile applications)	❍	❍	❍	❍	❍	❍	❍
Nonprofit organization's homepage	❍	❍	❍	❍	❍	❍	❍
Blogs	❍	❍	❍	❍	❍	❍	❍
Email	❍	❍	❍	❍	❍	❍	❍
Texting	❍	❍	❍	❍	❍	❍	❍
Phone call	❍	❍	❍	❍	❍	❍	❍
Others, please specify (If nothing to add, please leave below blank and check "Very Unlikely")	❍	❍	❍	❍	❍	❍	❍

Q35. You are almost at the end of this survey. Now we are interested in your demographic characteristics.

Q36. What is your gender?
❍ Male
❍ Female

Q37. What is your age?

Q38. Which state are you currently live in?

Q39. What is your race/ethnicity?
❍ White or Caucasian
❍ Black or African-American
❍ White Hispanic
❍ Black Hispanic
❍ Native American
❍ Asian or Pacific Islander
❍ Other (please specify) _____

Q40. What is your highest level of education?
❍ Less than high school (Grades 1-8 or no formal schooling)
❍ Some high school (Grades 9-11 or Grade 12 with NO diploma)
❍ High school graduate (Grade 12 with diploma or GED certificate)
❍ Two year associate degree from a college/university
❍ Some college, no degree (includes some community college)
❍ Four year college or university degree/Bachelor's degree
❍ Some postgraduate or professional schooling, no postgraduate degree
❍ Postgraduate or professional degree, including master's, doctorate, or medical degree

Q41. What is your current employment status?
❍ Employed full-time
❍ Employed part-time
❍ Unemployed and currently seeking employment
❍ Unemployed and not seeking employment
❍ Student
❍ Retired
❍ On disability and can't work
❍ A homemaker or stay at home parent
❍ Don't know/Refused

Q42. What is your annual family income?

❍ Less than $20,000
❍ $20,000 to less than $30,000
❍ $30,000 to less than $40,000
❍ $40,000 to less than $50,000
❍ $50,000 to less than $75,000
❍ $75,000 to less than $90,000
❍ $90,000 to less than $100,000
❍ $100,000 or more
❍ Don't know/Refused

Q43. How often do you use the following media?

	Yearly or less	Monthly	Biweekly	Weekly	Multiple times per week	Daily	Multiple times per day
Social media (Facebook, Twitter, Instagram, Youtube, LinkedIn, etc.)	❍	❍	❍	❍	❍	❍	❍
Flyer, poster, or brochure	❍	❍	❍	❍	❍	❍	❍
Television or television websites	❍	❍	❍	❍	❍	❍	❍
Radio	❍	❍	❍	❍	❍	❍	❍
Newspaper (print, online, or mobile applications)	❍	❍	❍	❍	❍	❍	❍
Magazine (print, online, or mobile applications)	❍	❍	❍	❍	❍	❍	❍
Nonprofit organization's homepage	❍	❍	❍	❍	❍	❍	❍
Blogs	❍	❍	❍	❍	❍	❍	❍
Email	❍	❍	❍	❍	❍	❍	❍
Texting	❍	❍	❍	❍	❍	❍	❍
Phone call	❍	❍	❍	❍	❍	❍	❍
Others, please specify (If nothing to add, please leave below blank and check "Yearly or less")	❍	❍	❍	❍	❍	❍	❍

Q44. Do you have any comments/questions related to this survey?

Q45. To verify your completion of this survey, please create a 5-digit number as your security code (please do not use consecutive digits such as 55555), and enter it in both the box below and in the HIT. Make sure the number you generate below is the same as the one you enter in the HIT.