Research on the Influence Mechanism of Contextualized Card Payment on Donation Intention

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Abstract: Charitable donations represent a key component of cause-related marketing strategies. This research formulates relevant hypotheses and employs experimental methods to test them. Findings reveal that the use of contextualized card payments significantly increases donors' willingness to contribute, with donor engagement and social presence serving as partial mediators in the relationship between contextualized payment methods and donation intentions.

1. Introduction

Donation is essentially an exchange process in which donors contribute resources and recipients address challenges, thereby fulfilling the needs of both parties. Monetary donation remains one of the most common ways for individuals to support charitable causes. Whether conducted online via digital payment platforms such as online banking, WeChat, or Alipay, or offline through traditional methods like cash or card payments—often accompanied by a sense of ritual—the act of donating is primarily manifested through the donor's payment behavior. However, feedback regarding the outcomes ofthe donation project is often minimal.

To address this issue, the German non-profit organization Misereor introduced an innovative interactive poster titled "The Social Swipe," which leverages interactive technology to enhance the donation experience. In this approach, the act of card swiping visually represents the impact of the donation. The poster features a central black stripe and two dynamic images: one depicting hands bound by ropes, and the other showing a whole wheat loaf. When a donor inserts their credit card at the top of the stripe and swipes it downward, 2 euros are deducted from their account. As this occurs, the visual narrative unfolds: the ropes break and the hands are freed; simultaneously, a thick slice of bread is cut from the loaf, and a slightly weathered hand takes it away. Through this human- computer interaction, donors experience a sense of joy and ease while performing a good deed, and the poster conveys that children in the developing world have gained both freedom and sustenance.

This form of contextualized donation transforms abstract philanthropy into a tangible, perceptible, and shareable embodied interaction, effectively enhancing donors' sense of participation and increasing their intention to donate. Yet, the question remains: why does the contextualization of card-swiping payment in donation settings improve donation intention?

Contextualization refers to embedding actions or concepts within a "contextual framework" composed of specific environments, characters, behaviors, and experiences. In the context of charitable giving, donation contextualization involves presenting donation needs through constructed scenarios, enabling potential donors to intuitively perceive the necessity and impact of their contributions. Empirical studies have shown that visual representations of beneficiaries can increase donation rates by 30%–40% [1], and post-donation feedback—such as photos or progress reports—can boost repeat donation rates by approximately 50%. These findings underscore the significant influence of contextualization on donation intention.

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However, research specifically examining the contextualization of card-swiping-based donation mechanisms remains limited. This study aims to investigate how the contextualization of card-swiping donation payment affects donors' intention to give, and to identify the underlying mediating mechanisms. To this end, we address the following research questions:

(1) Does the level of contextualization in card payment influence donation intention?

(2) What are the mediating mechanisms through which the level of contextualization in card payment affects donation intention?

2. Literature Review and Hypotheses

2.1. Charitable Donation and Donation Intention

Charitable donation encompasses two fundamental concepts: charity and donation . Charity refers to the act of offering assistance to individuals or groups without direct personal interest, whereas donation denotes the voluntary transfer of valuable resources—such as money, goods, or services—to others for charitable purposes.

Donation intention reflects an individual's internal disposition toward engaging in donation behavior within a specific context. It represents a subjective assessment of the likelihood that one will participate in a charitable initiative [2]. As a key precursor to actual donation behavior, donation intention encapsulates the willingness to contribute financial resources, material goods, time, or effort, and serves as a reliable predictor of prosocial action. A range of factors has been identified as influencing donation intention, including individual psychology, moral emotions, cognitive evaluation, attitudes, subjective norms, and perceived behavioral control.

Contextualized donation refers to the integration of donation behavior into a purposefully designed scenario, environment, or event in order to enhance donors' willingness to contribute. This approach involves elements such as situational embedding, contextual triggers, behavioral facilitation, meaning construction, emotional and social connection, and technological support. In contrast to traditional forms of donation, contextualized donation emphasizes seamless integration into the donor's immediate context, thereby rendering the act more intuitive, relevant, and even enjoyable

Empathy has been identified as a central driver of charitable giving [1], while awareness of others' donation behaviors—reflecting social norms—has been shown to significantly influence both donation willingness and the amount donated [3]. Although these insights have informed the development of contemporary donation strategies, empirical research specifically examining the contextualization of card-swipe-based donation mechanisms remains limited.

2.2. The Impact of Contextualized Card Payment on Donation Intention

Monetary donation represents one of the most prevalent forms of charitable giving. Common payment methods include cash, credit or debit card, bank transfer, and mobile digital wallets such as WeChat Pay and Alipay. Although the prevalence of mobile electronic payments has risen significantly in recent years, card payment remains a widely adopted international method and continues to be frequently used in the context of charitable donations.

Research indicates that cash payments evoke a greater sense of pain of paying and deeper psychological engagement compared to card payments [4]. Payment contextualization refers to a design strategy that links financial transactions with meaningful contexts, thereby enhancing their emotional and symbolic significance. Within the domain of charitable giving, contextualized card payment —as exemplified by initiatives such as The Social Swipe —serves as an intervention mechanism that embeds empathy and connects financial behavior with specific emotions or social values. This is achieved through contextual embedding, concrete meaning attribution (e.g., "1 euro = 1 loaf of bread"), and immediate visual feedback during the payment process.

Ritualized payment actions—such as swiping a card within a charitable setting—are associated with prosocial behavior and have been shown to enhance donation intention [5]. High-context card payment transforms abstract monetary amounts into tangible outcomes (e.g., "2 euros = freeing a child's hands"), thereby reducing cognitive load while increasing moral clarity. Visual feedback in high-context settings (e.g., animated depictions of ropes breaking and hands being freed) directly activates empathy and reinforces donors' moral identity. Additionally, real-time feedback mitigates the phenomenon of moral licensing by enhancing the perceptibility of the impact of one's action and strengthening perceived self-efficacy.

In contrast, low-context payment methods—such as standard point-of-sale (POS) machines—merely confirm transaction success and deduct the specified amount (e.g., 2 euros), lacking any emotional or symbolic connection to the cause. Consequently, they exert minimal influence on donation intention. Building upon these insights, this study proposes the following hypothesis:

H1: The level of contextualization in card payment will significantly influence donation intention; specifically, high-contextualized card payment will elicit higher donation intention than low-contextualized card payment.

2.3. The Mediating Role of User Engagement

User engagement refers to the extent and quality of physical, cognitive, emotional, and behavioral resources that users invest during their interaction with a system or object, as well as the persistence of such investment over time. The underlying mechanisms of user engagement can be effectively analyzed and interpreted through established theoretical frameworks, including the S-O- R (Stimulus-Organism-Response) paradigm, customer participation theory, self-determination theory, flow theory, social exchange theory, and community of practice theory.

In the case of the high-context group , the card payment process is embedded within an interactive and emotionally evocative design environment. The visual presentation and ritualistic nature of the swiping action enhance users' emotional involvement in the donation process, thereby fostering more positive attitudes and stronger intentions to donate [5]. Secondly, the card-swiping interaction in high-context settings provides immediate feedback. By setting clear goals and delivering timely responses, this design facilitates a state of focused attention and enjoyment—commonly associated with flow —which enhances the overall level of engagement and further reinforces donation intention [6]. Moreover, high contextualization encourages users to engage in central route information processing, allowing for deeper understanding of the purpose and impact of the donation [7], which in turn increases donation intention. Finally, the card payment interface in the high-context condition satisfies key psychological needs outlined in self-determination theory , including autonomy (voluntary control), competence (ease of use), and relatedness (a strong connection to social values). These factors collectively stimulate intrinsic motivation, leading to higher levels of participation and commitment [8].

In contrast, in the low-context group , the card payment process merely confirms transaction success without offering meaningful contextual or emotional cues. The ritualistic value is minimal, the sense of immersion is low, and users are not prompted to engage in deep cognitive processing. As a result, donors fail to fully grasp the significance of their actions, and their autonomy and emotional connection to the cause remain limited. This leads to lower engagement and correspondingly reduced donation intention compared to the high-context group. Based on the above reasoning, this study proposes the following hypothesis:

H2: The degree of contextualization in card payment influences donation intention through the user engagement.

2.4. The Mediating Role of Social Presence

Social presence refers to the extent to which an individual perceives another party as a real, socially aware entity during interaction through a communication medium. It reflects the sense of immediacy, closeness, and interpersonal connection that the medium enables, allowing users to experience interactions as if they were engaging in face-to-face communication.

In the case of the high-context group, the card payment process incorporates contextualized visual elements—such as images of beneficiaries or symbolic representations of collective action (e.g., children being rescued)—which evoke a sense of social interaction and create a co-presence scenario akin to face-to-face engagement with the recipient [9]. This experience enhances individuals' identification with prosocial group norms and fosters a perception that others (including peers or friends) have also participated. As a result, donors' altruistic identity is activated, which in turn strengthens their donation intention. Furthermore, media-based social cues—such as avatars, real-time feedback, or interactive visuals—have been shown to significantly enhance users' sense of social presence [10].Conversely, for the low-context group, such as when using a standard POS machine, the card payment process is limited to basic transactional functions. The absence of meaningful social cues limits the transmission of interpersonal signals, making it difficult for users to perceive a psychological connection with the beneficiary. Consequently, the impact on donation intention remains relatively weak[9]. Based on the above analysis, this study proposes the following hypothesis:

H3: The degree of contextualization in card payment influences donation intention through the social presence.

3. Experimental Design and Hypothesis Testing

3.1. Pilot Experiment

Donation Stimulus Material: "*In a corner of the world, there are children living in resource–deprived regions. These children suffer from chronic hunger, resulting in severe malnutrition and emaciation. We invite you to lend them a helping hand. A donation of just ¥2 can provide food and hope, allowing you to share in their journey toward warmth and sustenance. Please swipe your card to pay.*"

Scene 1 is the high-context group, and the card payment uses the animation of The Social Swipe; Scene 2 is the low-context card payment using the POS machine picture. The reason why 2 yuan is chosen as the donation amount in the stimulus material is that (1) the combination of a small amount and a concrete goal can significantly increase the participation rate, (2) the small amount of painless donation range has small decision-making resistance [4].

Forty-two students were recruited via the Xuexitong platform (57% male; Mage=22.3, SD=5.61) and randomly assigned to Scenario 1 or Scenario 2. At the beginning of the experiment, participants were asked to read the donation stimulus materials before being randomly allocated to the two scenarios. Two questions were administered: (1) "How likely are you to donate?" and (2) "How much do you prefer this payment method?" Responses were measured on a scale of 1–100.

A paired-samples t-test was used to compare the observed differences between the two scenarios.

The grouping variable was scenario type (Scenario 1: High—The Social Swipe; Scenario 2: Low— POS), and the dependent variables were donation likelihood and payment method preference. The t- test results indicated that compared to low-contextualized card payment, high-contextualized payment significantly increased donation intention ($t(20)=2.085$, $p=0.023$) and payment method preference ($t(20)=2.086$, $p=0.045$). Specifically, the high-contextualized group exhibited higher donation intention ($M_H=88.66$, $SD=5.80$) than the low-contextualized group ($M_L=75.56$, $SD=7.28$) and a stronger preference for the payment method ($M_H=85.62$, $SD=7.93$ vs. $M_L=74.23$, $SD=13.31$). These findings confirm the successful manipulation of the stimulus materials and suggest that contextualization meaningfully enhances both perceived donation willingness and user experience.

3.2. Research Design and Procedure

The experiment adopted a between-subjects, single-factor design (High vs. Low contextualization). A total of 320 university students (Mage= 20.68; 41% female) were recruited. All participants first viewed the stimulus materials and were then randomly assigned to either the high- contextualized group (The Social Swipe; 49.2%) or the low-contextualized group (POS; 50.8%). Finally, participants completed scales measuring user engagement, social presence, donation intention, and demographic information (e.g., gender, age, education level).

3.3. Measures

Three core variables were assessed using well-established scales with high citation rates in relevant fields. The User Engagement Scale [11] has 6 items. Social Presence [10] has 4 items. The donation intention [12] consists of 4 items. The scales all use a 5-point Likert scale, and the response format uses 1-5 to represent "strongly disagree" to "strongly agree".

The quality of measurement based on reliability and validity. Cronbach's α coefficients were 0.922 (user engagement), 0.904 (social presence), and 0.894 (donation intention), indicating high internal consistency (all > 0.7). Mplus modeling showed standardized factor loadings ranging from 0.754 to 0.869 (all > 0.5), composite reliability (CR) values between 0.78 and 0.93 (all > 0.7), and average variance extracted (AVE) values of 0.64—0.71 (all > 0.5), confirming convergent validity. The square roots of AVEs exceeded inter-variable correlations, supporting discriminant validity.

3.4. Hypothesis Testing

This study uses a one-way analysis of variance to analyze whether the degree of contextualization of card payment (High VS. low) has a significant impact on donation intention. During the questionnaire filling process, random assignment was used to assign 160 people to the high-context group (The Social Swipe) and 160 people to the low-context group (POS). The analysis of variance results showed that the average donation intention of the high-context group (MH=3.437) was higher than that of the low-context group (ML=2.603); the ratio of between-group variance to within-group variance, the F statistic was 20.376, and the P value was less than 0.0001, indicating that the degree of contextualization of card payment significantly affected the donation intention. Specifically, the higher the degree of contextualization of card payment, the higher the donor's donation intention, and Hypothesis H1 was supported.

This study uses the Bootstrap analysis method to test the mediating effect [13]. The relevant variables are set as follows: the independent variable is the degree of contextualization of card payment (high VS. low), the dependent variable is donation intention, the mediating variables are engagement and social presence, and the control variables include gender and age. In Hayes' regression analysis plug-in, Model 4 was selected, and 5000 repeated samples were used to construct a 95% bias-corrected confidence interval for mediating effect testing. If the confidence interval corresponding to the mediating variable does not include 0, it indicates that the mediating effect is significant; otherwise, there is no mediating effect. The Bootstrap mediation analysis results are: (1) The direct effect of the degree of contextualization of card payment on donation intention was significant (the confidence interval was -0.9114 ~ -0.2774, excluding 0), and H1 was supported again; the mediating effect of the degree of contextualization of card payment on donation intention through engagement was significant (the confidence interval was -0.4577 ~ - 0.0493, excluding 0), and H2 was supported. Since the direct effect of the degree of contextualization of card payment was significant in the mediation analysis, engagement showed a partial mediating role between the degree of contextualization of card payment and donation intention, that is, with the effect of engagement, the degree of contextualization of card payment still had a significant impact on donation intention. (2) The direct effect of the degree of contextualization of card payment on donation intention was significant (the confidence interval was -0.9578 ~ -0.3025, excluding 0), and H1 was supported again; the mediating effect of the degree of contextualization of card payment on donation intention through social presence was significant (the confidence interval was -0.4022 ~ -0.0301, excluding 0), and H3 was supported. Since the direct effect of the degree of contextualization of card payment was significant in the mediation analysis, social presence showed a partial mediating role between contextualized card payment and donation intention, that is, with the effect of social presence, the degree of contextualization of card payment still had a significant impact on donation intention.

4. Research Conclusions

The degree of contextualization of card payment can significantly enhance donation intention.

User engagement and social presence plays a mediating role in the process of contextualized card payment enhancing donation intention.

Based on the research findings, enterprises should promote the contextualized design of card payment. Design charitable projects with high participation. Enterprises can design charitable projects that allow donors to participate deeply through various channels such as social media and online activities.

The study's sample was limited to university students, potentially restricting the generalizability and external validity of the findings. Future research could expand the sample to include broader age groups, backgrounds, and regions to enhance representativeness.

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