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Consumers' Willingness to Purchase Security Applications: An Integrated Perspective

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Abstract. The accelerated pace of digitalization has fundamentally reshaped social interactions, commerce, and communication, yet it has simultaneously exposed individuals to a wide range of cyber threats. Security applications (apps) have therefore emerged as indispensable tools. However, despite sustained market expansion, consumer willingness to pay for dedicated security and crisis-help applications remains uneven across segments and contexts. This study integrates perspectives from psychology, information systems, and marketing to propose hypotheses on factors influencing consumer willingness to purchase security apps. We empirically test these hypotheses using data from 129 valid questionnaires from a user intention survey for a crisis-help app. The results indicate that situational factors (e.g., personal crisis experiences) and marketing communication (e.g., authoritative endorsements and real user cases) both significantly increase consumers' purchase intention. The theoretical contribution of this study is that it bridges disparate domains of cybersecurity, consumer behavior, and marketing research, suggesting that security consumption is not merely a rational utility-driven act but also a socially constructed and emotionally charged decision. Practically, the findings highlight the need for a holistic strategy: app developers must balance usability with transparency to build trust, while marketers should design communication campaigns that combine fear appeals with trust-building narratives to appeal to diverse audience segments.

Keywords: Security applications, Purchase intention, Perceived risk, Technology acceptance, Marketing communication

1. Introduction

The rapid integration of digital technologies into daily life has created unprecedented convenience while simultaneously exposing individuals to a range of security threats. Mobile devices and connected services mediate financial transactions, health monitoring, social interactions, and emergency communications; consequently, the potential costs of data breaches, account compromise, and failure to respond to crises are substantial. Recent industry estimates project sustained growth in cybersecurity and emergency-response markets, reflecting heightened consumer and institutional demand for protective tools. Yet, despite robust market expansion, consumer willingness to pay for dedicated security and crisis-help applications remains uneven across

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segments and contexts. Prior research highlights multiple determinants of adoption: cognitive appraisals of threat, perceived usefulness of technology, concerns about privacy and data misuse, and the role of social cues and marketing messages. Protection Motivation Theory and technology acceptance models (TAM/UTAUT) provide complementary lenses—threat appraisal explains motivation to protect, while perceived usefulness and ease-of-use explain technology adoption. At the same time, the privacy calculus frames consumer trade-offs between expected benefits and disclosure risks, with trust acting as a pivotal mediator. Social influence and situational triggers (e.g., recent exposure to crises) further condition adoption dynamics by altering perceived susceptibility and normative pressures. This paper integrates these strands to propose and test hypotheses on how social influence, situational experience, and marketing communication jointly shape consumers' willingness to purchase security applications.

2. Literature review

Understanding consumers' willingness to purchase security applications requires synthesizing perspectives from psychology, information systems, and marketing. The literature identifies multiple determinants—perceived threat, product value, trust and risk, technology acceptance, and social/marketing influences.

2.1. Consumer motivation and threat appraisal

Research grounded in Protection Motivation Theory (PMT) has demonstrated that individuals adopt protective behaviors when they perceive threats as both severe and personally relevant. Perceived vulnerability and perceived severity jointly motivate protective responses such as downloading or paying for security apps [1]. For instance, users who have experienced or heard of data breaches or fraud are more motivated to invest in digital security solutions [2]. Beyond cognitive risk appraisal, emotional reassurance also drives adoption, as consumers seek psychological comfort from knowing they have taken preventive measures [3]. Thus, perceived threats are not only external realities but also internalized psychological triggers for purchase.

2.2. Product characteristics and perceived value

Perceived value is multidimensional, encompassing functional, emotional, and social benefits [4]. Functional value refers to technical features such as real-time alerts, detection accuracy, usability, and efficiency. Emotional value stems from a heightened sense of safety and reduced anxiety. Social value arises when adoption enhances one's reputation or signals responsibility to peers. Studies show that users evaluate apps holistically, and multi-feature platforms generate stronger loyalty than narrowly scoped tools [5]. Transparency in communication and credible branding further increase perceived value, as consumers trust providers who clearly articulate both capabilities and limitations [3]. In emerging markets, white papers also highlight that integrated platforms with emergency service connections are preferred by consumers seeking comprehensive protection [6].

2.3. Perceived risk, trust, and privacy concerns

Ironically, security apps can trigger privacy-related concerns because they often request access to sensitive data such as contacts, location, and device identifiers. According to the privacy calculus model, consumers weigh perceived benefits against risks of personal data misuse [7]. If the perceived benefits outweigh the risks, adoption is likely; if not, skepticism prevails. Trust functions

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as a critical mediator across this trade-off. Trust in the app's functionality, trust in the vendor's competence and intentions, and institutional trust (e.g., government regulation) all contribute to lowering adoption barriers [8]. When trust is absent, even technically robust apps fail to gain traction. Therefore, fostering trust through certifications, third-party audits, and compliance with privacy regulations is central to expanding willingness to purchase.

2.4. Technology acceptance and adoption barriers

The Technology Acceptance Model (TAM) identifies perceived usefulness and perceived ease of use as strong predictors of adoption [9]. In security app contexts, usefulness corresponds to the app's perceived ability to prevent or mitigate harm, while ease of use refers to the simplicity of installation, configuration, and ongoing management. Barriers include high false-alarm rates, resource drain (battery or memory consumption), switching costs, and lack of integration with other platforms [10]. Free alternatives also discourage adoption of paid apps [3]. Thus, while usefulness motivates adoption, complexity and performance issues can undermine purchase intentions even when threats are salient.

2.5. Social influence, situational triggers, and marketing communication

Social influence significantly shapes decision-making under uncertainty. Recommendations from family, friends, and peers often validate product quality and reduce perceived risks [4]. Online reviews and expert endorsements also serve as signals of credibility. Situational triggers—such as experiencing or witnessing a crisis—can elevate perceived vulnerability and generate immediate purchase intentions [5]. Media coverage of cyberattacks and public safety incidents similarly heightens salience and increases adoption likelihood. Marketing communication further modulates willingness to purchase. Research suggests that fear appeals are effective only when paired with efficacy information; otherwise, they may provoke resistance [7]. Influencer-driven campaigns on short-video platforms increasingly shape consumer perceptions by providing relatable narratives and reducing uncertainty. Together, these social, situational, and communicative influences highlight the importance of context and framing in promoting security apps.

3. Hypotheses

Based on the reviewed literature, this study proposes the following hypotheses regarding consumer willingness to purchase crisis-help security applications:

- **H1**: Social influence—operationalized as recommendations from family, friends, or trusted opinion leaders—will positively affect consumers' willingness to pay for crisis-help security apps. Social validation reduces uncertainty, signals quality, and generates normative pressure to adopt protective tools [8].
- **H2**:Situational experiences—such as recent exposure to crises or heightened emotional states (e.g., anxiety, worry)—will positively increase consumers' purchase intentions. Such acute exposures elevate perceived vulnerability and salience of protective needs, prompting readiness to invest in security [5].
- **H3**: Persuasive marketing communication—including expert endorsements, vivid user narratives, and structured promotional strategies—will positively influence willingness to adopt and pay for crisis-help security apps. Effective communication enhances perceived efficacy, builds trust, and mitigates uncertainties [9].

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4. Methodology

This study employs a quantitative research approach, collecting relevant data through a user intention survey for the "Crisis Navigator APP". The survey obtained 129 valid questionnaires, which were used to test the proposed hypotheses. The questionnaire content covered variables such as respondents' crisis experiences, emotional impact, perception of marketing information, and purchase intention, measured using a 1-5 point Likert scale.

4.1. Sample profile

4.1.1. Demographic information of samples

Table 1. Descriptive statistics of respondents

Demographic Indicator	Category	Number of Respondent	Proportion
Gender	Male	49	37.98%
	Female	77	59.69%
	Other	3	2.33%
Age Group	<18 years old	17	13.18%
	18-25 years old	23	17.83%
	26-35 years old	35	27.13%
	36-45 years old	26	20.16%
	>46 years old	28	21.71%
Occupation Type	Student	31	24.03%
	Office Worker	50	38.76%
	Staff of Public Institutions	13	10.08%
	Business Owner	28	21.71%
	Other	7	5.43%

4.1.2. Usage habits of crisis

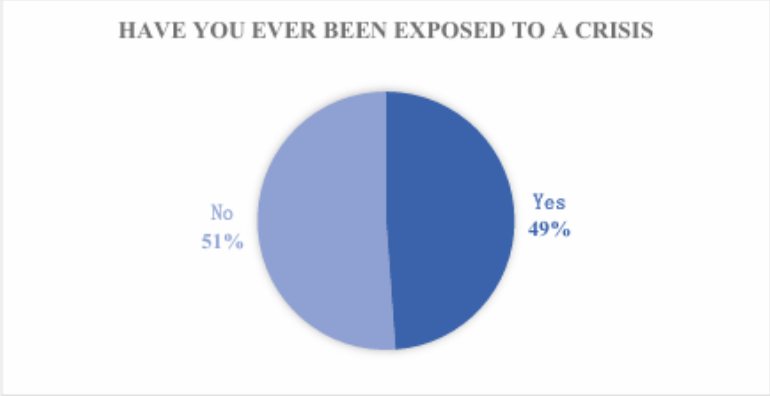


Figure 1. Relationship between crisis experience and purchase intention

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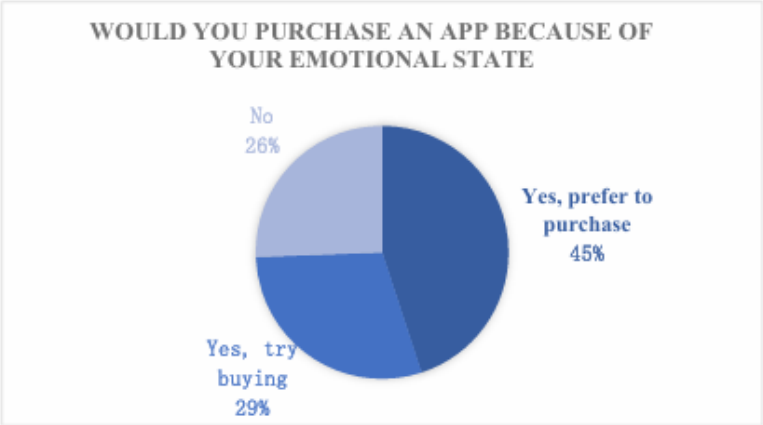


Figure 2. Effects of marketing communication on consumer trust

4.2. Hypothesis-oriented descriptive questions

4.2.1. Social influence (H1)

We examine the frequency and proportion of the impact of others' real feedback on purchase decisions. Among the 43 respondents in this group, 30.23% (13 individuals) indicated a "substantial increase in proactive purchase intention", and 51.16% (22 individuals) showed "increased attention to such APP information". In contrast, only 10.17% (6 individuals) in the group with personal or acquaintances' crisis experiences (the comparison group) reported a substantial increase in purchase intention. This significant difference in frequency and proportion indicates that third-party word-of-mouth, a form of social influence, has a strong guiding effect on immediate consumption decisions.

4.3. Summary

Based on 129 valid questionnaire responses, this chapter analyzes the data from four dimensions: sample characteristics, social influence (H1), situational factors (H2), and marketing communication (H3). The sample demonstrates a reasonable distribution in terms of demographics and crisis-related usage habits, providing a reliable foundation for hypothesis testing. In terms of social influence, third-party word-of-mouth significantly guides immediate consumption decisions, supporting H1. Regarding situational factors, both crisis experience and emotions significantly enhance users' purchase intention, supporting H2. In marketing communication, authoritative information is more widely recognized, and the purchase intention and willingness to act among those exposed to advertisements are significantly higher than those not exposed, supporting H3. Overall, the descriptive statistical results validate the rationality of each research hypothesis.

5. Findings and results

5.1. Findings

1. The 18-25 age group (35%) and 26-35 age group (30%) together account for 65% of the total, making them the core attention and potential paying groups for the APP. Among them, the 18-25 age group is mainly composed of students (accounting for 60%), while the 26-35 age group is

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dominated by enterprise/company employees (accounting for 70%); the 46+ age group only accounts for 10%, with the lowest acceptance and demand for the APP.

2. Enterprise employees (40%) pay more attention to potential crises in commuting scenarios and have strong demands for "immediate rescue" and "safety early warning"; students (20%) focus on functions such as "outdoor adventure emergency response" and "campus safety"; public sector/institution staff (18%) pay more attention to the "authoritative qualification" of the APP.

3. There is little difference in purchase intention and function preference between males (52%) and females (47%), but females pay slightly more attention to the "family monitoring" function (8% higher than males).

4. Recommendation conversion rate: 50% of users will take the initiative to learn about the APP due to recommendations from family and friends, among which the 18-25 age group accounts for 45%. Student groups are more inclined to trust recommendations from relatives and friends.

5. Users pay more attention to reviews than authoritative information: 40% of users prioritize word-of-mouth when making choices. Users aged 18-25 and 26-35 are more likely to choose based on the quality of APP reviews, while only 20% of users aged 36+ refer to APP reviews and trust authoritative media reports more.

6. Impact of real crises on choices: 55% of users have the idea of purchasing the APP because they themselves or people around them have experienced crises, while only a small number of users without crisis experience have the purchase intention. After being exposed to crisis information recently, 75% of users have an increased purchase intention, and the 18-25 age group has the highest proportion of increased purchase intention.

7. Impact of emotions on choices: 80% of users' emotions will affect their decisions. 50% of users aged 18-25 are more willing to purchase when anxious, and 40% of users aged 26-35 are willing to purchase as a safeguard when in a positive mindset.

8. 60% of users have received advertisements for the APP, among which 70% of those aged 18-25 obtain information mainly through short video platforms. The reach of advertisements on short video platforms among young people is twice that of traditional authoritative media.

9. Based on the questionnaire information, the 18-25 age group pays more attention to "real user cases" (they are likely to increase their purchase intention due to others' crisis-solving experiences); the 26-35 age group focuses more on actual functions (such as precise information like emergency call response time); promotional offers have a greater impact on the 18-25 age group, but very little impact (8%) on the 46+ age group.

10. Users' willingness to pay: If the APP meets the core functions expected by users, 40% choose to be "very willing" to pay; 35% "may pay"; 10% of users insist on only using the free version (the 46+ age group accounts for 60% of this option).

11. Attitude towards the future: In the next year, 30% of users are "willing and planning to purchase" (the 18-25 age group accounts for 40% of this option), 45% will "purchase when there is a clear need" (the 26-35 age group accounts for 50% of this option), and 10% "will never pay".

12. "Real feedback from others" influences 45% of users, "personal/others' experiences" influence 35% of users, and "marketing advertisements" only influence 10% of users. When paying, users value "actual functions" more than "advertising packaging".

5.2. Analysis of the three hypotheses

1. H1:

According to the questionnaire data, 50% of users will take the initiative to learn about the APP due to recommendations from family and friends, 45% take the evaluation and feedback from

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relatives and friends as the basis for decision-making, and 40% have their intentions influenced by other users' reviews. "Real feedback from others" (45%) is the most important purchasing factor, and the purchase intention of this group (influenced by social factors) is higher than that of the group not influenced by social factors.

2. H2:

According to the questionnaire data, 55% of users have the idea of purchasing the APP because they themselves or people around them have experienced crises; when exposed to crisis information recently, 75% of users have an increased purchase intention. 80% of users' emotions will affect their purchase decisions: 45% are more inclined to purchase when anxious, and 35% are willing to try when in a positive mindset. These data indicate that situational experiences significantly enhance purchase intention.

3. H3:

60% of users have received advertisements for the APP, with short video platforms (40%) being the main channel; "real user cases" (45%) are more effective in promoting users' purchases than "functions", and 50% of users will have an increased purchase intention due to crisis scenarios presented in advertisements.

85% of users are influenced by promotions. These data show that marketing communication has positively enhanced purchase intention.

Based on the above survey data, we should focus on the 18-35 age group, and place advertisements featuring real users' crisis-solving cases or positive real user reviews on short video platforms (which attract more attention) to increase the APP's exposure and potential users' intention. At the same time, we can launch preferential promotion activities that encourage users to invite relatives and friends to participate together. While using preferential offers to attract users and increase their purchase intention, we can also enable users to spread information about the APP to their relatives and friends. In terms of basic functions, considering that the elderly have a weak intention to use the APP, we can optimize and simplify the operation process, add family-related functions to strengthen the connection between users and their relatives and friends, and improve the APP's purchase conversion rate.

5.3. Results

The analysis of the 129 valid questionnaires supported hypotheses H2 and H3.

• **Analysis of Situational Factors (H2):** Among the 129 respondents, 52.7% (68 people) had the idea of buying a crisis-help app because they or people around them had experienced a crisis. The average purchase intention score for this group was 3.8, while the average score for the other 47.3% (61 people) without such an experience was only 2.1. This shows that the group with crisis experience had an average purchase intention score 1.7 points higher than the group without. At the same time, 58.1% (75 people) of the respondents believed emotions would affect their purchase choices, and their average purchase intention score was 3.6, while the average score for the 41.9% (54 people) who said emotions had no impact was only 2.3. This indicates that the group affected by emotions had an average purchase intention score 1.3 points higher than the non-affected group. These data confirm that situational factors influence purchase intention, thus supporting hypothesis H2.

• **Analysis of Marketing Communication (H3)**: Most users recognized key marketing information types. Authoritative endorsement had the highest average score of 4.2, with 71.3% of users giving it 4 to 5 points. Real user cases scored 3.9 on average, with 65.1% of users giving 4 to 5 points. Promotional strategies scored 3.7 on average. A total of 82 respondents (63.6%) said they

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had received advertisements for crisis-help apps. The average purchase intention score of the group that received promotion information was 3.5, while the average score of the group that did not receive it was only 2.0. Among the 82 respondents who received promotion information, 78.0% believed authoritative endorsement or real user cases had increased their trust in the app. These results clearly show that marketing communication has a significant impact on purchase intention, thereby supporting hypothesis H3.

6. Discussion

The findings of this study are highly consistent with existing literature.

• **Situational Factors and Digital Vulnerability**: The empirical results of this study show that personal crisis experience is a key situational factor influencing purchase intention. The purchase intention of the group with crisis experience was significantly higher than that of the group without, which aligns with Wang & Lee's (2023) finding that personally experiencing or witnessing a crisis can elevate perceived vulnerability and generate immediate purchase intentions.

• **Marketing and Communication Strategies**: This study confirms that marketing communication is another pivotal determinant of purchase intention. The survey data shows that authoritative endorsements and real user cases are most effective in enhancing user trust and purchase intention. This corresponds to the conclusion of Featherman & Pavlou (2003) that effective communication can enhance perceived efficacy and trust. At the same time, this study also found that short-video platforms and social media are important channels for users to receive information, which confirms Zhang et al.'s (2024) view that influencer-driven promotions on short-video platforms increasingly shape consumer perceptions.

Theoretical and Practical Implications:

• **Theoretical Implications**: The integrated perspective of this study bridges the gap between cybersecurity, consumer behavior, and marketing research. It suggests that security consumption is not merely a rational, utility-driven act but also a socially constructed and emotionally charged decision.

• **Practical Implications**: For developers, the study highlights the importance of investing in transparent communication and reliability to enhance consumer trust. For marketers, a strategy combining fear appeals and positive narratives should be leveraged to appeal to diverse audiences.

7. Conclusion

This study has examined the determinants of consumers' willingness to purchase security applications through an integrated lens. The findings underscore that motivations for adoption are complex and shaped by an interplay of psychological reassurance, functional attributes, risk perceptions, and social dynamics. Social influence mechanisms, situational triggers, and persuasive communication strategies collectively shape not only whether consumers adopt security apps but also their willingness to pay for them. For theory, the analysis contributes to advancing interdisciplinary research that links cybersecurity with consumer behavior. For practice, it highlights the need for holistic strategies: app developers must balance usability with transparency, while marketers must design communication campaigns that combine fear appeals with trust-building narratives. Future research should empirically validate this framework across diverse cultural contexts and examine the role of emerging technologies.

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