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# QR code-based food traceability and consumer behavior toward food safety in Vietnam

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**Abstract**--Food safety has become an increasingly important concern in Vietnam due to repeated food safety incidents and growing consumer awareness. In this context, QR code-based food traceability has been promoted as a digital tool to improve transparency and strengthen consumer confidence. This study examines how QR code-based food traceability influences consumer behavior toward food safety in Vietnam. Using survey data collected from 400 urban consumers in Hanoi and Ho Chi Minh City, the study analyzes the effects of QR code usage on consumer trust, perceived food safety risk, and food safety-oriented purchasing behavior. Econometric results show that QR code usage significantly increases consumer trust and reduces perceived food safety risk. Both trust and risk perception play important roles in shaping consumers' preferences for traceable food products. The findings also reveal socio-demographic heterogeneity, with stronger effects observed among younger, higher-income, and more educated consumers. Overall, the study highlights the potential of QR code-based traceability as an effective consumer-facing information mechanism for enhancing food safety governance in emerging economies.

**Keywords**--QR code traceability, food safety, consumer trust, risk perception, purchasing behavior, Vietnam.



## 1. Introduction

Food safety has become a critical public concern worldwide due to the increasing complexity of agri-food supply chains, frequent food safety incidents, and rising consumer awareness of health risks associated with unsafe food consumption (World Health Organisation, 2023; Jaffee et al., 2019). Numerous food scandals related to contamination, food fraud, and mislabeling have undermined consumer confidence and exposed vulnerabilities in modern food systems (Layton & Miroff, 2009; Barrere et al., 2020). As a result, ensuring food safety has become a priority for governments, international organizations, and supply chain stakeholders, with traceability increasingly recognized as a key instrument for improving transparency and accountability (Golan et al., 2004; Hobbs, 2004; Ringsberg, 2014).

Food traceability is commonly defined as the ability to track and trace food products and related information throughout all stages of the supply chain, from primary production and processing to distribution and final consumption (European Union, 2002; Pizzuti & Mirabelli, 2015). From an economic perspective, traceability systems play an important role in reducing information asymmetry between producers and consumers, particularly for credence attributes such as food safety, origin, and production methods that cannot be directly verified at the point of purchase (Lancaster, 1966; Hobbs, 2004). A growing body of empirical evidence shows that consumers value traceability and are often willing to pay a price premium for traceable food products, especially in contexts where food safety risks are salient (Dickinson & Bailey, 2005; Wu et al., 2016; Liu et al., 2019).

Recent advances in digital technology have significantly transformed traditional food traceability systems. Digital traceability tools enable faster data transmission, greater accuracy, and direct access to information for consumers (Badia Melis et al., 2015; Farooq et al., 2016). Among these tools, QR codes have emerged as a practical and cost-effective solution for communicating traceability information at the consumer level. By scanning QR codes with smartphones, consumers can access detailed information on product origin, production processes, certification status, and safety controls, which can enhance transparency and perceived credibility of food products (Rijswijk et al., 2008; Testa et al., 2024). Compared with conventional labels, QR code-based traceability systems allow for more comprehensive and frequently updated information, thereby strengthening the informational link between producers and consumers.

Vietnam provides a particularly relevant context for examining consumer responses to QR code-based food traceability. Rapid urbanization, income growth, and changing dietary patterns have increased demand for safe and high-quality food, especially in major urban centers such as Hanoi and Ho Chi Minh City (Ha et al., 2019; Ehlert & Faltmann, 2019). At the same time, repeated food safety incidents and concerns about the misuse of safety labels, including cases involving VietGAP-certified products, have weakened consumer trust in existing food safety assurances (World Bank, 2020). In response to these challenges, Vietnamese authorities have actively promoted the adoption of digital traceability

solutions, particularly QR code systems, as part of broader efforts to improve food safety governance and supply chain transparency.

Although a substantial literature has examined consumer preferences for food safety labels, certification schemes, and traceability attributes in Vietnam and other emerging markets (Dang et al., 2020; My et al., 2017; Tran et al., 2022), relatively limited empirical research has focused specifically on QR code-based traceability as a digital and interactive information tool. Moreover, the behavioral mechanisms through which QR codes influence food safety-oriented purchasing decisions, such as enhanced trust, reduced perceived risk, and improved information accessibility, remain insufficiently explored in the Vietnamese context.

Against this background, the present study investigates how QR code-based food traceability influences consumer behavior toward food safety in Vietnam's two largest urban markets. Using survey data from urban consumers in Hanoi and Ho Chi Minh City combined with econometric analysis, this study aims to examine consumer awareness and use of QR codes, assess the role of trust and food safety concerns in shaping purchase decisions, and identify heterogeneity in preferences across socio-demographic groups. The findings are expected to contribute to the literature on digital food traceability and to provide policy-relevant insights for strengthening food safety management and promoting transparent food supply chains in emerging economies (Lassoued & Hobbs, 2015).

## **2. Theoretical Background and Literature Review**

### ***2.1. Information Asymmetry and Consumer Choice in Food Markets***

Food markets are characterized by a high degree of information asymmetry between producers and consumers, particularly with respect to food safety, quality, and production processes. Many food attributes are credence attributes, meaning that consumers cannot directly verify them even after consumption (Lancaster, 1966; Fernqvist & Ekelund, 2014). In such contexts, imperfect information may lead to adverse selection and reduced market efficiency, thereby increasing the risk of unsafe or low-quality food entering the market (Hobbs, 2004; Resende Filho & Hurley, 2012).

Economic theories of consumer choice suggest that consumers derive utility not only from physical product characteristics but also from information signals that reduce uncertainty and perceived risk (Lancaster, 1966; McFadden, 1974). Traceability systems function as informational mechanisms that help bridge the information gap by providing verifiable data on product origin, handling, and safety controls. By improving transparency, traceability can mitigate information asymmetry and enhance consumer confidence in food products (Golan et al., 2004; Pouliot & Sumner, 2008).

### ***2.2. Food Traceability as a Governance and Risk Management Tool***

Food traceability has been widely recognized as a key component of modern food safety governance. Regulatory frameworks such as the European Union General

Food Law explicitly require traceability to ensure rapid response to food safety incidents and effective product recalls (European Union, 2002). From a supply chain perspective, traceability enables better coordination among actors, improves accountability, and supports quality assurance throughout production and distribution stages (Canavari et al., 2010; Ringsberg, 2014).

Beyond regulatory compliance, traceability also plays an important role in managing reputational and economic risks associated with food safety failures. Studies show that effective traceability systems can reduce the scale and cost of recalls, limit damage to brand reputation, and create incentives for firms to invest in higher safety standards (Pouliot & Sumner, 2013; Saak, 2016). As a result, traceability is increasingly viewed not only as a technical requirement but also as a strategic tool for enhancing supply chain resilience and sustainability (Beske et al., 2014; Sun et al., 2017).

### ***2.3. Digital and QR Code-Based Food Traceability***

Recent technological advances have transformed traditional traceability systems into digital and consumer-facing platforms. Digital traceability technologies allow for real-time data sharing, greater accuracy, and enhanced integration across supply chain stages (Badia Melis et al., 2015; Farooq et al., 2016). Among these technologies, QR codes have gained prominence due to their low implementation cost, ease of use, and compatibility with smartphones.

QR-code-based traceability systems enable consumers to directly access detailed product information, including origin, production methods, certification status, and safety inspections, at the point of purchase. This interactive form of information provision has the potential to strengthen transparency and perceived credibility compared with traditional static labels (Rijswijk et al., 2008; Testa et al., 2024). Empirical evidence from recent studies suggests that QR code-based and blockchain-enabled traceability can positively influence consumer trust and willingness to pay for food products with enhanced transparency (Collart et al., 2025; Tran et al., 2024).

### ***2.4. Consumer Trust, Risk Perception, and Food Safety Behavior***

Consumer trust plays a central role in shaping responses to food safety information. Trust in producers, regulators, and information systems influences how consumers interpret safety signals and whether they incorporate such information into purchasing decisions (Henson & Reardon, 2005; Liu et al., 2019). When trust is low, even certified labels or traceability information may fail to affect consumer behavior (Larceneux et al., 2012; Moussa & Touzani, 2008).

Food safety risk perception is another key determinant of consumer behavior. Studies consistently show that higher perceived food safety risks increase demand for safety assurances, including traceability and certification labels (Ha et al., 2019; Yu et al., 2018). In emerging markets, where regulatory enforcement may be uneven and food safety incidents more visible, consumer concern about food safety is often particularly pronounced (Ortega & Tschirley, 2017; World Bank, 2020). As a result, traceability systems that enhance trust and reduce perceived

risk are more likely to influence food-safety-oriented purchasing behavior in such contexts.

### ***2.5. Empirical Evidence on Consumer Preferences for Traceability and Safety Attributes***

A substantial body of empirical literature has examined consumer preferences for food safety and traceability attributes using stated preference methods, particularly discrete choice experiments. Studies in developed and developing countries alike indicate that consumers are generally willing to pay a premium for traceable food products, although the magnitude of willingness to pay varies across products, markets, and consumer segments (Dickinson & Bailey, 2005; Zhang et al., 2012; Wu et al., 2016).

In Vietnam, existing research shows strong consumer interest in food safety labels, certification schemes, and traceability attributes, especially for fresh produce such as vegetables and rice (My et al., 2017; Dang et al., 2020; Tran et al., 2022). However, several studies also highlight persistent challenges related to consumer trust, misuse of labels, and limited understanding of certification systems (Ngo et al., 2020). These findings suggest that simply providing labels may be insufficient unless accompanied by credible and accessible information systems.

Despite growing attention to digital traceability, empirical evidence on how QR code-based systems affect consumer behavior remains limited, particularly in the Vietnamese context. Most studies focus on general traceability or certification attributes, while fewer explicitly examine the behavioral effects of QR code usage, information accessibility, and digital trust mechanisms. This gap underscores the need for further research that integrates digital traceability into models of consumer food safety behavior (Horst et al., 2007).

## **3. Conceptual Framework and Hypotheses**

### ***3.1. Conceptual Framework***

This study is grounded in the assumption that food safety-related consumer behavior is shaped by information availability, perceived risk, and trust. In food markets, consumers often face uncertainty regarding product origin, production processes, and safety assurance. QR code-based food traceability is conceptualized as a digital information mechanism that reduces such uncertainty by providing accessible and verifiable product information at the point of purchase.

The proposed conceptual framework posits that QR code-based traceability influences consumer behavior toward food safety both directly and indirectly. Directly, access to traceability information through QR codes can enhance consumers' confidence in product safety and increase their likelihood of choosing traceable food products. Indirectly, QR code usage affects key psychological constructs, particularly consumer trust in food information systems and

perceived food safety risk, which in turn shape purchasing decisions (Rana & Paul, 2017).

Within this framework, consumer behavior toward food safety is reflected in outcomes such as purchase intention, choice of traceable products, and willingness to pay for food with enhanced traceability attributes. The framework also acknowledges that consumer responses to QR code-based traceability are not homogeneous. Socio demographic characteristics such as income, education, age, and place of residence are expected to moderate the relationship between traceability information and food safety-oriented behavior.

Overall, the conceptual framework integrates digital traceability, consumer trust, and risk perception into a unified structure that explains how QR code-based information systems shape food safety related decision making in urban food markets.

### **3.2. QR Code-Based Traceability and Consumer Trust**

Consumer trust is a central mechanism through which QR code-based traceability is expected to influence food safety behavior. When consumers can easily access detailed and transparent information about food products, their confidence in the integrity of the supply chain is likely to increase. QR codes allow consumers to verify claims related to origin, certification, and safety controls, which can strengthen trust in both the product and the information provider.

Higher levels of trust reduce skepticism toward food safety claims and increase consumers' willingness to rely on traceability information when making purchasing decisions. Therefore, QR code-based traceability is expected to positively influence consumer trust in food safety information systems.

Hypothesis 1 (H1): *QR code-based food traceability has a positive effect on consumer trust in food safety information.*

### **3.3. QR Code-Based Traceability and Perceived Food Safety Risk**

Perceived food safety risk plays an important role in shaping consumer behavior. Consumers who perceive higher risks associated with food consumption are more likely to seek additional information and safety assurances. QR code-based traceability provides detailed product-level information that can reduce uncertainty and alleviate perceived risk by making safety-related attributes more transparent.

By improving information accessibility and credibility, QR code-based traceability is expected to lower consumers' perceived food safety risk. As a result, consumers may feel more confident in purchasing food products that offer QR code-based traceability.

Hypothesis 2 (H2): *QR code-based food traceability has a negative effect on consumers' perceived food safety risk.*

### **3.4. Trust, Risk Perception, and Food Safety-Oriented Consumer Behavior**

Consumer trust and perceived food safety risk are expected to directly influence food safety-oriented purchasing behavior. Higher trust in food information systems increases the likelihood that consumers will choose traceable food products and show stronger purchase intentions. Conversely, higher perceived food safety risk is expected to motivate consumers to favor products that provide credible safety assurances, including traceability features.

Trust may also partially mediate the relationship between QR code-based traceability and consumer behavior, as consumers who trust the information provided through QR codes are more likely to act upon it. Similarly, reduced risk perception may reinforce positive purchasing decisions toward traceable food.

Hypothesis 3 (H3): *Consumer trust in food safety information positively influences food safety-oriented purchasing behavior.*

Hypothesis 4 (H4): *Perceived food safety risk positively influences consumers' preference for traceable food products.*

### **3.5. Socio-Demographic Heterogeneity in Consumer Responses**

Consumer responses to QR code-based traceability are likely to vary across socio-demographic groups. Consumers with higher income and education levels may be more familiar with digital technologies and more capable of interpreting traceability information. Younger consumers and urban residents may also be more inclined to use QR codes and incorporate digital information into their purchasing decisions.

Accordingly, socio-demographic characteristics are expected to moderate the effects of QR code-based traceability, trust, and risk perception on food safety-oriented behavior.

Hypothesis 5 (H5): *The effects of QR code-based food traceability on consumer behavior toward food safety differ across socio-demographic groups.*

## **4. Research Methodology**

### **4.1. Research Design**

This study employed a quantitative research design to examine the effects of QR code-based food traceability on consumer behavior toward food safety in Vietnam. A cross-sectional survey approach was adopted to collect primary data from urban consumers, focusing on their awareness and use of QR codes, perceptions of food safety risk, trust in traceability information, and food purchasing behavior.

The research design was structured to align with the proposed conceptual framework and hypotheses. Key constructs were operationalized using multiple observed variables measured on Likert-type scales. The analytical strategy combined descriptive statistical analysis with econometric modeling to identify relationships between QR code-based traceability, consumer trust, perceived food safety risk, and purchasing behavior. This approach allowed for both an overall

assessment of consumer attitudes and a rigorous examination of behavioral determinants.

#### **4.2. Data Collection**

Data were collected from 400 urban consumers in Hanoi and Ho Chi Minh City, representing Vietnam's two largest consumer markets. These cities were selected due to their high population density, diverse retail food systems, and relatively widespread adoption of digital technologies such as QR codes.

A structured questionnaire was administered to respondents through direct interviews and online survey distribution. The questionnaire consisted of four main sections: socio-demographic characteristics, awareness and usage of QR code-based food traceability, perceptions of food safety risk and trust in traceability information, and food purchasing behavior related to traceable products. Respondents were screened to ensure that they were responsible for at least part of their household's food purchasing decisions.

Before the main survey, the questionnaire was pilot tested with a small group of consumers to ensure clarity, reliability, and relevance of the measurement items. Based on the pilot results, minor adjustments were made to wording and question order. The final sample included respondents with varied ages, incomes, and education levels, enabling analysis of heterogeneity in consumer responses.

#### **4.3. Econometric Model**

To test H1–H5, ordered logit models were used because the main constructs were measured on Likert scales. QR code-based traceability ( $QR_i$ ) was the key explanatory variable,  $Trust_i$  and  $Risk_i$  were the main mechanisms,  $(PI_i)$  represented purchase intention for traceable food, and  $X_i$  included socio-demographic controls (income, education, age, city).

##### **Trust model (H1)**

$$\text{Risk } Trust_i^* = \alpha_0 + \alpha_1 QR_i + \alpha_2 X_i + u_i \quad \text{model (H2)}$$

$$Risk_i^* = \gamma_0 + \gamma_1 QR_i + \gamma_2 X_i + v_i \quad \text{Purchase intention model (H3-H4)}$$

$$PI_i^* = \beta_0 + \beta_1 QR_i + \beta_2 Trust_i + \beta_3 Risk_i + \beta_4 X_i + \varepsilon_i$$

**Heterogeneity (H5)** was examined by adding interaction terms such as  $QR_i \times X_i$ . All models were estimated by maximum likelihood, and average marginal effects were reported for interpretation.

## 5. Results

### 5.1. Descriptive Statistics

Table 1 reports the socio-demographic characteristics of the respondents. The sample included 400 urban consumers from Hanoi and Ho Chi Minh City, with balanced representation across gender and city of residence. A majority of respondents were of working age and had at least a college-level education, indicating a consumer group with relatively high exposure to digital technologies and food safety information.

Table 1. Socio-demographic characteristics of respondents (N = 400)

Variable	Category	Percentage (%)
Gender	Male	47.5
	Female	52.5
Age	Under 30	34.0
	30–45	41.8
	Above 45	24.2
Education	High school or below	18.5
	College	46.0
	University and above	35.5
Income	Below average	27.0
	Average	44.5
	Above average	28.5
City	Hanoi	50.0
	Ho Chi Minh City	50.0

The diversity of socio-demographic characteristics provides a suitable basis for examining heterogeneity in consumer responses to QR code-based food traceability, as proposed in Hypothesis 5. Table 2 presents descriptive statistics for key constructs in the conceptual framework, including QR code usage, consumer trust, perceived food safety risk, and food safety-oriented purchasing behavior.

Table 2. Descriptive statistics of key variables

Variable	Mean	Standard deviation
QR code usage	3.45	0.96
Trust in food safety information	3.76	0.84
Perceived food safety risk	3.88	0.79
Purchase intention for traceable food	3.69	0.87

Overall, respondents reported relatively high levels of food safety concern and moderate to high trust in traceability information. These patterns suggest favorable conditions for examining how QR code-based traceability influences trust, risk perception, and purchasing behavior.

## 5.2. Model Estimation Results

To test Hypotheses 1–4, logit-based models were estimated. Table 3 presents the results examining the determinants of consumer trust and food safety-oriented purchasing behavior.

Table 3. Logit model results

Variable	Consumer trust	Purchase intention
QR code usage	0.421***	0.482***
Trust in food safety information	–	0.537***
Perceived food safety risk	-0.298**	0.291**
Income	0.176**	0.214**
Education	0.163**	0.198**
Age	-0.058	-0.063
City (HCMC = 1)	0.141*	0.156*
Constant	–	-1.742***

Notes: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.10$

The results provide strong support for Hypothesis 1, showing that QR code usage had a positive and statistically significant effect on consumer trust in food safety information. In line with Hypothesis 2, QR code usage was associated with a significant reduction in perceived food safety risk, indicating that access to QR-based information helped alleviate consumer uncertainty.

Consistent with Hypothesis 3, consumer trust positively influenced food safety-oriented purchasing behavior. Hypothesis 4 was also supported, as perceived food safety risk increased consumers' preference for traceable food products, suggesting that risk concern motivates demand for credible safety assurances.

## 5.3. Socio-Demographic Heterogeneity and Marginal Effects

To examine Hypothesis 5, marginal effects and subgroup analyses were conducted. Table 4 presents average marginal effects for key explanatory variables on the probability of choosing QR code traceable food.

Table 4. Average marginal effects on purchase intention

Variable	Marginal effect
QR code usage	0.118
Trust in food safety information	0.132
Perceived food safety risk	0.071
Income	0.054
Education	0.049

The marginal effects indicate that increases in QR code usage and trust produced the largest changes in purchase probability. Additional analysis showed that the effects of QR code usage and trust were stronger among higher-income and more educated consumers, as well as among younger respondents, confirming the presence of socio-demographic heterogeneity in line with Hypothesis 5.

Overall, the results demonstrate that QR code-based food traceability influences consumer behavior through two key mechanisms: increasing trust in food safety information and shaping responses to perceived food safety risk. These effects are not uniform across consumers, highlighting the importance of considering socio-demographic differences when designing and implementing digital traceability systems.

## **6. Discussion**

The results of this study provide empirical evidence on how QR code-based food traceability shapes consumer behavior toward food safety in urban Vietnam.

First, the positive and significant effect of QR code usage on consumer trust supports Hypothesis 1. This finding suggests that when consumers can easily access detailed and transparent product information through QR codes, their confidence in food safety information systems increases. The result highlights the importance of information accessibility and transparency in strengthening consumer trust, particularly in food markets where concerns about fraud and mislabeling persist. QR code-based traceability appears to function as a credibility-enhancing mechanism that allows consumers to verify food safety claims and reduces skepticism toward product information.

Second, the negative relationship between QR code-based traceability and perceived food safety risk provides support for Hypothesis 2. The findings indicate that access to QR-based information helps alleviate uncertainty and reduces consumers' perceived risk associated with food consumption. This result is particularly relevant in the Vietnamese context, where food safety incidents and inconsistent enforcement of safety standards have heightened consumer anxiety. By offering verifiable and detailed information, QR codes help consumers feel more confident in their purchasing decisions.

Third, the strong positive effect of consumer trust on food safety-oriented purchasing behavior confirms Hypothesis 3. Consumers who trusted food safety information systems were significantly more likely to choose traceable food products and express stronger purchase intentions. This result underscores trust as a key behavioral mechanism linking traceability information to actual market behavior. It also suggests that investments in traceability systems will be most effective when accompanied by measures that enhance the credibility and reliability of the information provided.

Fourth, the positive effect of perceived food safety risk on preference for traceable food products supports Hypothesis 4. While higher perceived risk reflects consumer concern, it also motivates demand for products that provide credible safety assurances. This finding indicates that risk perception does not necessarily

deter consumption but rather shifts consumer preferences toward safer and more transparent food options. Traceability systems, therefore, play an important role in responding to consumer risk concerns by offering mechanisms for reassurance.

Finally, the analysis reveals significant heterogeneity in consumer responses to QR code-based traceability, supporting Hypothesis 5. The effects of QR code usage and trust were stronger among consumers with higher income and education levels, as well as among younger respondents. These differences suggest that familiarity with digital technologies and the ability to interpret traceability information influence how consumers respond to QR code-based systems. As a result, uniform traceability policies may generate uneven outcomes across consumer groups unless complemented by targeted communication and education strategies.

Taken together, the findings suggest that QR code-based food traceability influences consumer behavior through a dual pathway. It enhances trust in food safety information while simultaneously shaping responses to perceived food safety risk. These mechanisms jointly contribute to stronger food safety-oriented purchasing behavior in urban food markets. The results also highlight the importance of considering socio-demographic differences when designing and implementing digital traceability systems.

From a policy and managerial perspective, the discussion implies that promoting QR code-based traceability alone may be insufficient if the information provided is incomplete, unreliable, or poorly communicated. To maximize the behavioral impact of traceability systems, policymakers and supply chain actors should focus on improving data quality, standardization, and oversight, while also enhancing consumer awareness and digital literacy. Such integrated efforts can strengthen the effectiveness of QR code-based traceability as a tool for improving food safety governance and consumer confidence in emerging economies.

## **7. Conclusion**

This study investigated the role of QR code-based food traceability in shaping consumer behavior toward food safety in Vietnam's two largest urban markets. Based on survey data from 400 consumers and econometric analysis, the findings provide clear evidence that QR code-based traceability positively influences food safety-oriented consumer behavior.

The results indicate that QR code usage enhances consumer trust in food safety information and helps reduce perceived food safety risk. Both trust and risk perception were found to be significant determinants of consumers' intentions to purchase traceable food products. These findings confirm that QR code-based traceability affects consumer behavior through both informational and psychological channels, strengthening confidence while alleviating uncertainty related to food safety.

In addition, the analysis revealed notable socio-demographic differences in consumer responses. Younger consumers and those with higher income and education levels were more responsive to QR code-based traceability. This

suggests that digital familiarity and information processing capacity play an important role in determining the effectiveness of traceability systems.

From a policy perspective, the findings imply that promoting QR code-based traceability can contribute to improved food safety governance and consumer confidence in Vietnam. However, technological adoption alone is not sufficient. The credibility, accuracy, and accessibility of traceability information are essential for building trust and influencing consumer behavior. Efforts to improve data verification, standardization, and consumer awareness are therefore crucial.

Despite its contributions, this study has limitations. The focus on urban consumers and the use of cross-sectional data limit the generalizability of the findings and preclude causal inference. Future research could extend this work by including rural consumers, employing longitudinal or experimental designs, and examining the integration of QR codes with advanced digital technologies such as blockchain. Overall, the study demonstrates that QR code-based food traceability has significant potential to support safer food consumption and more transparent food systems in Vietnam and similar emerging economies.

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