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Abstract

The Food Traceability System has been introduced in many countries to provide information on the entire food process from farm to table for the quality and the safety of the food. The main goal of this study is to find out whether reduced uncertainty really pays for adopting the food traceability system. We will also analyze the factors and mechanisms to explain consumer behavior within the system.

We have modified Pavlou et al. (2007)'s uncertainty model from the principal-agent perspective, in order to fulfill our research objectives. Through a survey research we found that consumers not only bought more food but also paid more for it when they used the traceability system. The results find mitigated uncertainty to play a key role in price premium and purchase intention. Mitigated uncertainty has a larger impact on purchase intention than price premium, implying that consumers are inclined to buy more than pay more.

We also found that mitigated uncertainty is due to reduced fear of seller opportunism originating from trust, and reduced information asymmetry originating from product diagnosticity, informativeness, and trust. The reduced fear of seller opportunism has a stronger impact than reduced information asymmetry on mitigated uncertainty.

Keywords

Food Traceability Systems, Uncertainty, Pavlou's TAM

Introduction

Traceability of food is an emerging issue in many developed countries. After facing serious food safety incidents including mad cow disease and bird flu, consumers have been increasingly concerned with the quality and safety of the food they eat. They want to acquire sufficient information in order to make their shopping decisions about food, but in most cases they cannot because information asymmetry exists between buyers and sellers. This asymmetry is considered to be the consumers' perceived risk. Bauer noted that "consumer behavior involves risk in the sense that any action of a consumer will produce consequences which one cannot anticipate with anything approximating certainty, and some of which are likely to be unpleasant." He also suggested that consumers develop decision strategies and ways of reducing the perceived risk.

To reduce the perceived risk associated with food consumption, many countries have introduced the Food Traceability System, which provides all relevant information about the food process, from farm to table. Consumers have easier access to verify how the food is produced, processed, and delivered. This system allows them to have more control over the food they eat as well as more certainty in terms of the quality and the safety. Although the Food Traceability System is not intended to change consumer behaviors directly, the certainty provided by the system must have positive influences on them. Very a few papers have tried to measure the positive consumer reaction in terms of price premium and increased purchase (Dickinson and.Bailey 2005). Moreover, no studies have addressed questions about the sources of uncertainties and the mechanisms of the uncertainty reduction through the Food Traceability System. It also needs to explain how the system facilitates food transaction by reducing uncertainty.

The main goal of this study is to find out types of uncertainties in food consumption and how the Food Traceability System reduces consumer’s uncertainty and facilitates food transaction. This study also tries to explain whether reduced uncertainty really pays for adopting the food traceability system. Do consumers buy and pay more for the food with the traceability system? If so, what kind of psychological and behavioral factors are involved in such activities? To answer these questions, this study establishes a structural model based on Pavlou et al.'s (2007) model with the principle–agent perspective. The study verifies that the Food Traceability System provides mitigators and mechanisms to reduce various type of perceived uncertainty on food consumption. The study also finds the more consumption of food with traceability.

This study begins with the definition and current evolution of the Food Traceability System. We then provide a theoretical background and the research design, including hypothesis development. Description of methodologies for this study will be followed by the data analysis stage using data collected from consumers. The findings of the current study will be useful for producers, marketers, and policy makers in designing and using the Food Traceability System.

Evolution of the Food Traceability System

There are several definitions of the term "traceability." In the new ISO (International Organization for Standardization) 9000:2000 series of Quality Management Standards, it is defined as the "ability to trace the history, application or location of that which is under consideration." In practice, traceability is a system for record keeping of a product or ingredient through all steps of business processes related to supply chain procedures. The Task Force on Foods derived from Biotechnology defines traceability as "a system which guarantees a continuous flow of appropriate information at all stages of placing on the market of foods" (draft ALINORM 01/34, page 10). The EU (European Union) General Food Law Regulation defines it as "the ability to trace and follow a food, feed, food-producing animal or substance through all stages of production and distribution." Stages of production and distribution mean any stage including import, from and including the primary production of food, up to and including its sale or supply to the final consumer and, where relevant to food safety, the production, manufacture and distribution of feed.

According to the Food Standards Agency, "the basic characteristics of traceability system are Identification of units/batches of all ingredients and products, information on when and where they are moved or transformed, and system linking these data." Traceability should prohibit missing information in the food chain and keep the product from losing its identity. The Food Traceability System can also provide detailed information on food production, processing, transfer, and distribution, such as birthplace of animal, feeding, medication, date of sale, slaughtering information, and other supply chain related information.

World wide, people have started to show more concern about food safety due to the break out of mad cow diseases. As such, the traceability system was at first adopted for meat products and then scope widened to other agro-products. Countries which adopted the traceability system on their own products are requiring imported products to also be managed with traceability systems.

France was the first country to enact the livestock individual identification law and introduced a registration system for cattle, pigs, lambs, and goats in 1969. In 1998 they made it an obligation to adopt the traceability system in the production process from farm to slaughterhouse. This system was expanded to the distribution process of beef and the government has been managing the database of whole systems nationwide since 2000. Since January 2005, all food and feed related information has to be under the control of a traceability system. All information, including origin, lot, slaughtering, processing, packing places, date, expiration, and price, is provided on the package. Most EU countries and Canada have adopted similar systems.

After a break out of a series of mad cow disease, in 2004, Japan made it an obligation to adopt a traceability system from the production process to the after-slaughtering distribution process. They have adopted a similar cattle identification system from EU and have experimented with RFID (Radio Frequency Identification) tag systems. Japan also developed the Food Traceability System for other food products, called the safety system. They provide detailed information on food safety and quality to all participants of the food chain, including consumers through the internet. The web-based Food Traceability Systems have been adopted in Australia and Korea. In addition, the Chinese government now prepares similar systems for some food products.

As we have reviewed, the Food Traceability System was born to reduce the risk associated with the food system. The system is evolving fast to provide on-line information to consumers about the quality and the safety of the food. The number

of countries adopting the Food Traceability System is also growing rapidly.

Research Model and Hypothesis Development

What is the perceived risk of consumer behavior that the Food Traceability System intends to reduce? Gronhaug and Stone (1995) identified six inherent properties of the perceived risk and pointed out that the perceived risk stems from uncertainty due to lack of declarative knowledge, or lack of knowledge of the outcome of the consumption act. The perceived risk perspective assumes limited cognitive capacity of the individual consumer. In this sense, Chung et al.(2006) and De Figueiredo (2000) argued that the consumer's perceived risk must be high if the product quality is heterogeneous and difficult to judge. As a general view, Bauer defined perceived risk as a two dimensional characteristic: uncertainty and negative consequences. Thus, we focus on perceived uncertainty which is sole source of perceived risk. Our question is whether the Food Traceability System decreases the perceived uncertainty and hence has positive influences on consumer behavior. We also address questions about the mechanisms of uncertainty reduction and the types of positive consequences associated with using the system.

To answer these questions, this study establishes a structural model based on Pavlou et al.'s (2007) model. They have integrated the principal-agent perspective with information systems, marketing, and sociological theories to identify the sources of perceived uncertainty and mitigating factors on B2C e-commerce. The principal-agent perspective has been extended to virtually all types of transactional exchanges that occur in a socio-economic system where information asymmetry, fears of opportunism, and bounded rationality exists (Milgrom and Roberts 1992). The food transaction, vulnerable to high uncertainty, fits well for the system description. However, we have modified the model since the Food Traceability System does not have actual purchase transactions online.

As illustrated in Figure 1, information asymmetry and fear of seller opportunism are the sources of the perceived uncertainty of consumers. Product diagnosticity, informativeness, and trust are the mitigators of the uncertainty sources. The uncertainty mitigators provided by the Food Traceability System should result in reduced information asymmetry as well as reduced fear of seller opportunism. The positive consequences from mitigated perceived uncertainty are the price premium and increased purchase intention. Two uncertainty sources, information privacy concerns and information security concerns are deleted from Pavlou et al (2007)’s model since the Food Traceability System does not require user identity. Social presence as a uncertainty mitigator is also not considered since the Food Traceability System does not sell food online.

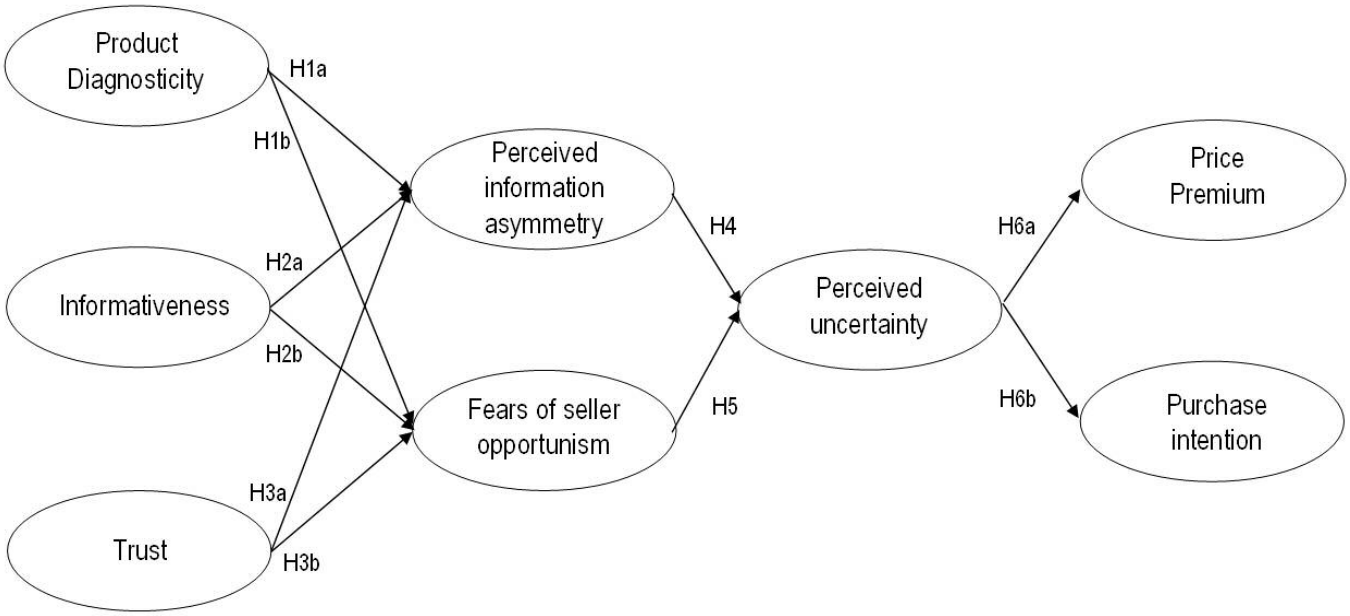

Figure 1. Research Model and Hypothesized Relationships

Product Diagnosticity

In an online purchasing situation, product diagnosticity is defined as the extent to which a buyer believes that a website is helpful in terms of fully evaluating a product (Kempf and Smith 1998). In the traceability system, it refers to the degree to which the traceability system is believed to be helpful in the evaluation of the product. Pavlou et al. (2007) aruged that product diagnosticity alleviates the selection of low-quality or incorrect products, and it thus reduces perceptions of product-related information asymmetry. Also, because of potential legal ramifications, enabling superior product diagnosticity through extensive product information also creates an incentive for sellers not to reduce product quality. Product diagnosticity makes sellers provide more information to buyers and the fear of the sellers decreases accordingly.

H1a: Product diagnosticity reduces information asymmetry

H1b: Product diagnosticity reduces fears of seller opportunism

Informativeness

Informativeness in the traceability system is defined as the degree to which the information provided to the consumers through the traceability system will actually be helpful. This could include information such as breeding, origin, usage of chemicals, processors, and inputs, among others. Sellers signal buyers with more information and higher quality information, which reduces perceived information asymmetry. According to Pavlou et al. (2007), when consumers can effectively assess

the true signals from high-quality sellers and screen out false signals from low-quality ones, they feel more comfortable predicting if sellers will act opportunistically. By receiving more information from the sellers, perceived risk and fears of seller opportunism that buyers feel are also reduced.

H2a: Informativeness reduces information asymmetry

H2b: Informativeness reduces fears of seller opportunism

Trust

Trust is defined as the intention of the buyer to accept the vulnerability of the transaction, believing that the seller will not act opportunistically (Pavlou and Gefen 2004, Rousseau et al. 1998). Trust-building signals include reputation, size, sales history and third-party accreditations, among others (Jarvenpaa et al. 2000), revealing the seller's hidden information. Thereby, trust reduces perceived information asymmetry.

The seller's competence, integrity, and benevolence lead to the buyer's confidence that the expected transaction will take place. It has been shown that trust facilitates buyer-seller relationships (Swan and Nolan 1985). By enabling buyers to overcome their fears of seller opportunism with effective incentives, trust is proposed to mitigate buyers' fears of seller opportunism by overcoming hidden action (Pavlou et al., 2007). Thus, It is hypothesized that trust will reduce perceived information asymmetry and fears of seller opportunism (Singh and Sirdeshmukh 2000).

H3a: Trust reduces information asymmetry

H3b: Trust reduces fears of seller opportunism

Information Asymmetry

Due to the inherent physical and temporal separation between buyers and sellers in online environments (Pavlou et al., 2007), the agency problem of information asymmetry dominates (Huston and Spencer 2002). According to the principal-agent perspective, information distribution between principals and agents is asymmetric. In most cases, agents (sellers) have more information than principals. Perceived information asymmetry is defines as "the buyer's perception that the seller has a greater quantity or quality of information about its products, characteristics, and selling practices" (Pavlou et al. 2006). Under information asymmetry conditions, buyers cannot easily distinguish among high and low quality products. In most cases it is almost impossible for buyers to detect the full aspects of a product before purchasing and receiving the product. As the degree of information asymmetry a customer feels increases, the uncertainty he/she feels will also increase.

H4: Information asymmetry increases perceived uncertainty.

Fears of Seller Opportunism

The buyer's fear of seller opportunism is defines as "the buyer's concerns that the seller may act opportunistically" (Pavlou et al. 2006). Based on the principal-agent perspective, both principals and agents have the tendency to act in accordance with their self-interest. Principals, however, cannot fully monitor the action of agents, which leads to seller act opportunistically to pursue their own self-interests in the presence of goal incongruence.

Uncertainty arises since buyers transact with unfamiliar sellers due to the buyer's difficulty in predicting whether the particular seller will act opportunistically (Pavlou et al. 2004).

H5: Fears of seller opportunism increases perceived uncertainty.

Perceived Uncertainty, Price Premium, and Purchase Intention

In all types of transaction lie uncertainty factors, which could negatively alter the predicted expectations of the transaction. Perceived uncertainty refers to "the degree by which the outcome of a transaction cannot be accurately predicted" (Pavlou et al. 2006).

Price Premium is defined as the monetary amount above the average price received by multiple sellers from a certain matching product (Ba et al. 2002).They argued that buyers are willing to compensate reputable sellers with price premiums to assure safe transactions.

Buyers have a tendency to overestimate the probability of potential losses caused by uncertainty and this leads to perception of risk, which refers to the buyer's own subjective probability of suffering a loss (Kahneman and Tversky 1979, Chiles and McMackin 1996). This perceived risk have been shown to erode exchange relationships in general (Rousseau et al. 1998) and it negatively influences consumer purchase intention (Jarvenpaa et al. 2000). Thus, uncertainty mitigation, which reduces risk, will result in more purchase intention and price premium from consumers. Dickinson and Bailey (2005) have mixed results on the impact of traceability on the food value, depending on income, region, and type of products.

H6a: Perceived uncertainty negatively affects price premium.

H6b: Perceived uncertainty negatively affects purchase intention.

Data Collection and Analysis

Instrument Development and Data Collection

The empirical model and 10 hypotheses raised in the previous sections are empirically tested through survey research. This study uses a cross-sectional design via a survey questionnaire composed of measures based on a literature review. The latent variables in Figure 1 are operationalized on a 5 point Likert scale. Most measures were taken directly or adapted from Pavlou et al. (2007). The survey questionnaire items are provided in Appendix A.

Data was collected from randomly selected consumer organization members who have used used various Food Traceability Systems on-line. A paper-based survey questionnaire is used and resulted in a total of 274 usable responses. The sample may not represent and bias the responses of whole population of food consumers. However, it is hard to target all food consumers for survey since only 6 percent of them recognize the Food Traceability System. The Korean government provides two major Food Traceability Systems. The Atrace is for non-meat food products (www.atrace.net) and the Mtrace is for meat products (www.mtrace.net). The system provides detailed information on food quality and safety through the supply chain. Free access is guaranteed to anyone, including consumers, producers, and merchants. Several local Food Traceability Systems are also provided, but these are not as popular as the two major systems. All survey respondents answered that they are knowledgeable about food traceability systems. 21.9% of subjects were male (n=60) and 79.1% were female (n=214). The average age was 38.44 years old.

Methods

Data analysis was performed using PLS-graph based on the Partial Least Squares (PLS) method for the assessment of a measurement model and a structural model. We used a measurement model to test the composite reliability and AVE (Average Variance Extracted) and investigated the convergent validity, cross-loading matrix and correlation matrix with square root of AVE.

The composite reliability and AVE of each latent variable used in this study are provided in Table 1. All composite reliability of the latent variables was higher than 0.80 and AVE was higher than 0.60. These results support that the measurement model has strong convergent validity.

Next, cross-loadings of each item were explored and compared across all latent variables. The cross-loading matrix is provided in Appendix B, which indicates that both strong convergent validity and discriminant validity exist in the measurement model.

Table 1.Composite Reliability and AVE

Latent Variable	Composite Reliability	Average Variance Extracted
(1) Product Diagnosticity	0.888	0.725
(2) Informativeness	0.937	0.882
(3) Trust	0.919	0.792
(4) Reduced information asymmetry	0.907	0.829
(5) Reduced fears of seller opportunity	0.932	0.829
(6) Mitigated uncertainty	0.941	0.889
(7) Price Premium	N/A	N/A
(8) Purchase intention	0.952	0.868

In addition, Table 2 examines the ratio of the square root of AVE of each latent variable over the correlations of this variable with respect to all the other variables. The diagonal elements in parenthesis are correlations of each construct with its own measure, which is the square root of AVE. Off-diagonal elements are correlations between constructs. Each construct is more highly correlated with its own measures than with any other constructs. This indicates that strong discriminant validity exists among the constructs.

Table 2.Correlations of the Latent Variables and the Square Root of AVE

Latent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)
(1) Product Diagnosticity	(.851)							
(2) Informativeness	0.679	(.939)						
(3) Trust	0.383	0.476	(.890)					
(4) Reduced information asymmetry	0.617	0.605	0.469	(.910)				
(5) Reduced fears of seller opportunity	0.301	0.382	0.637	0.434	(.906)			
(6) Mitigated uncertainty	0.394	0.406	0.542	0.423	0.583	(.943)		
(7) Price Premium	0.131	0.090	0.193	0.180	0.209	0.247	(1.000)	
(8) Purchase intention	0.477	0.370	0.449	0.441	0.279	0.417	0.173	(.932)

*Note: The number in parenthesis is the square root of AVE

Results and Implication

Figure 2 illustrates the results of model testing.

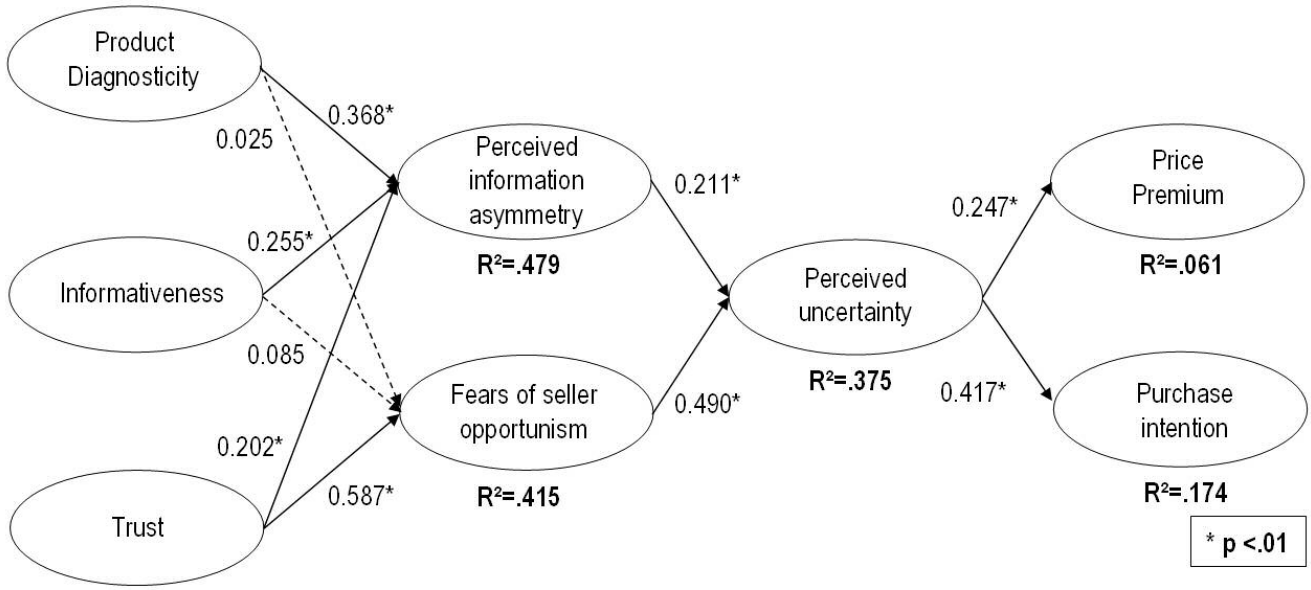

Figure 2.Data Analysis Results

All hypotheses, except for H1b and H2b, are statistically significant. 47.9% of the variance of the consumers 'reduced information asymmetry' is accounted for by 'product Diagnosticity' (β=0.368), 'informativeness' (β=0.255), and 'trust' (β=0.202), and all path coefficients are significant at the level of 0.01. Therefore, H1a, H2a, H3a are supported. Product diagnosticity has a stronger impact on reducing the fears of seller opportunism, compared to other mitigators, in terms of the path coefficient.

41.5% of the variance of consumers 'reduced fear of seller opportunity' is explained by 'Diagnosticity' (β=0.025), 'informativeness' (β=0.085), and 'trust' (β=0.587). However, the path coefficient from 'trust' to 'fears of seller's opportunism' is significant and the others are not, at the level of 0.01. Therefore, H1b and H2b are not supported and H3b is supported. Trust is the only mitigator to reduce the fears of seller opportunism.

R2 of the consumers' 'mitigated uncertainty' is 0.375, which is medium high, and causal relationships from 'reduced information asymmetry' and 'reduced fears of sellers opportunity' turned out to be significant. Therefore, H4 and H5 are supported and path coefficients are 0.211 and 0.490, respectively. Thus, we find that reduced fears of seller opportunism has a stronger impact than reduced information asymmetry on mitigated uncertainty

The path coefficient from 'mitigated uncertainty' to 'price premium' turned out to be significant (β=0.247) at the level of 0.01; thus, H6a is supported. Finally, it was found that the consumers' 'purchase intention' through the food traceability system is significantly influenced by their 'mitigated uncertainty' about the system (β=0.417). As such, H6b is also supported. Mitigated uncertainty has a larger impact on purchase intention than price premium. With mitigated uncertainty, consumers are inclined to buy more food with their information provided in the traceability system than pay more for them. The results imply that consumers may switch their consumption of food from non-traceable to traceable.

The test result provides useful implications for both government and market participants. Consumers find the Food Traceability System useful, as it provides product diagnosticity (an average rating of 4.01 on a 5 point scale), informativeness (average of 3.89), and trust (average of 3.52). Reduced information asymmetry and fears of seller opportunity follow after, which mitigates uncertainty. Consumers would buy and pay more with the mitigated uncertainty about food quality and safety.

Indeed, the data reveals that more than 90 % of consumers are willing to pay a premium price. They also intend to buy more with use of the Food Traceability System (average of 3.59 on purchase intention). Consequently, the producers and merchants of food products would benefit from the increased sales and prices. The increased welfare of all market participants provides rationale for the Food Traceability System for the government.

In designing the Food Traceability System, most emphasis should be given to build trust between the seller and consumer, since it is found to be the most important mitigator. Thus, it is important to provide truthful information about food safety and quality through the Food Traceability System. The government or managers of the system should provide a means to check the authenticity of the information. Indeed, the Korean government provides several mechanisms to verify the information, including DNA tests, licenses, and thirty party audits. Producers and sellers of food with traceability should not rigorously pursue the price premium. Rather, they should focus more on expanding the sales volume.

Conclusion

Traceability of food is an emerging issue worldwide. Many countries have introduced the Food Traceability System, which gives consumers more control over the food they eat, as well as more certainty in terms of the quality and the safety of the food. This study investigates whether the reduced uncertainty really pays for adopting the food traceability system. We have also analyzed the factors and mechanisms to explain consumer behavior with the Food Traceability System.

Pavlou et al. (2007)'s uncertainty model is modified to fulfill our research objectives. Data collected from 274 consumers in Korea are fitted to the research model using the PLS method. The questionnaire items deal with the particants' previous experience using the traceability system, and it was found that consumers have bought more food and paid more on for it when they used the traceability system. The results indicate that the measurement model has strong convergent validity and that discriminant validity exists in the measurement model.

Mitigated uncertainty turned out to play a key role in price premium and purchase intention. It has a larger impact on purchase intention than price premium, implying that consumers are inclined to buy more than pay more. The mitigated uncertainty is due to fears of seller opportunism originating from trust, and reduced information asymmetry originating from product diagnosticity, informativeness, and trust. We found that reduced fears of seller opportunism have a stronger impact than reduced information asymmetry on mitigated uncertainty.

The results of this study provide useful implications for both government and market participants. Consumers find the Food Traceability System useful, as it provides product diagnosticity, informativeness, and trust, which mitigate uncertainty through reduced information asymmetry and fears of seller opportunism. Consumers buy and pay more with mitigated uncertainty about food quality and safety. The producers and merchants of food products would benefit from the increased sales and price. The increased welfare of all market participants provides rationale for the Food Traceability System for the government.

In designing the Food Traceability System, most emphasis should be given to build trust. Thus, information on food safety and quality provided by the Food Traceability System should be truthful. Government or managers of the system should provide a means to check the authenticity of the information. Indeed, the Korean government provides several mechanisms to verify the information, including DNA tests, licenses, and thirty party audits. Producers and sellers of food within the

traceability system should not rigorously pursue the price premium. Rather, they should focus more on expanding the sales volume.

This study has several limitations to interpret. First, the sample from consumer group may not represent whole population of food consumers using the Food Traceability System. As the traceability system become popular, we will be able to reduce the sample bias. Second, the Pavlou et al (2007)'s uncertainty model, developed for online consumers, may not be the best to reveal the behavioral relationship of food consumers. Further analysis with real market transaction data and various other models could lead to the Food Traceability System benefiting all players in the food market. There has not been much of an academic approach toward the food traceability system. The present research suggests the course this type of study to other researches in the field.

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Appendix A. Questionnaire Items

Diagnosticity

I expect traceability system to help me carefully evaluate agro-products.

Being able to carefully evaluate agro-products would make it much easier for me to purchase agro-products.

I expect traceability system to help me get a real feel for agro-products.

Informativeness

Traceability system would give me quick and easy access to large volumes of information.

I would learn a lot from using traceability system.

Perceived Information asymmetry

Traceability system reduces the degree of information gap on the "quality of agro-products" between the producers and the consumers.

Traceability system reduces the degree of information gap on the "circulation process of agro-products" between the producers and the consumers.

Trust

Traceability system provides objective information on agro-products sufficiently.

Information provided by Traceability system is trustworthy.

I expect traceability system to provide accurate information trustfully.

Fears of Seller Opportunism

The producers of agro-products who sell through traceability system will not cheat on consumers.

The sellers of agro-products who sell through traceability system will not counterfeit the period of circulation

Traceability system will reduce the possibility of illegal production.

Perceived Uncertainty

Purchasing agro-products through traceability system will decrease the degree of uncertainty associated with the products.

Purchasing agro-products through traceability system will decrease the degree of uncertainty that occurs as a post-purchasing reaction.

Purchase Intention

I plan to keep purchase agro-products through Traceability system

I intend to increase the size of agro-products purchase through traceability system.

I intend to increase the frequency of purchasing through traceability system.

Price Premium

How much more are you willing to pay for agro-products through Traceability systems than usual?

Appendix B. Cross-loading Matrix

	Diag.	Informat.	Asym.	Trust	Fears	Uncertainty	Intention
dia1	0.891	0.671	0.590	0.436	0.396	0.439	0.418
dia2	0.868	0.594	0.544	0.334	0.218	0.321	0.467
dia3	0.798	0.470	0.449	0.203	0.150	0.246	0.338
info1	0.645	0.940	0.553	0.424	0.369	0.400	0.376
info2	0.655	0.943	0.588	0.472	0.351	0.367	0.323
asym1	0.577	0.585	0.910	0.403	0.399	0.354	0.368
asym2	0.561	0.518	0.913	0.453	0.392	0.419	0.438
trust1	0.374	0.432	0.407	0.863	0.513	0.431	0.443
trust2	0.304	0.392	0.409	0.888	0.597	0.500	0.366
trust3	0.386	0.449	0.438	0.922	0.593	0.516	0.394
fears1	0.303	0.378	0.389	0.605	0.919	0.519	0.268
fears2	0.255	0.318	0.378	0.598	0.924	0.535	0.253
fears3	0.306	0.342	0.412	0.529	0.875	0.529	0.238
unce1	0.385	0.393	0.429	0.512	0.538	0.944	0.384
unce2	0.381	0.371	0.370	0.511	0.558	0.942	0.402
int1	0.483	0.343	0.442	0.406	0.229	0.389	0.915
int2	0.491	0.377	0.424	0.432	0.302	0.407	0.956
int3	0.368	0.313	0.370	0.416	0.251	0.374	0.927