sustainability

MDPI

Article

Determinants of Actual Purchase Behavior in Farmers' Markets

Bi-Kun Tsai [1], Ku-Yuan Lee [2], Chi-Ming Hsieh [3,*] and Pimpinan Somsong [4,5,*]

[1] Graduate Institute of Bio-Industry Management, National Chung Hsing University, 145 Xingda Rd., South Dist., Taichung City 40227, Taiwan; pktsai@dragon.nchu.edu.tw
[2] College of Intelligence, National Taichung University of Science and Technology, No.129, Sec.3, Sanmin Rd, North Dist., Taichung City 40227, Taiwan; howkaka@hotmail.com
[3] International Bachelor Program of Agribusiness, National Chung Hsing University, 145 Xingda Rd., South Dist., Taichung City 40227, Taiwan
[4] School of Agricultural Resources, Chulalongkorn University, Bangkok 10330, Thailand
[5] Emerging Process for Food Functionality Design Research Unit, Chulalongkorn University, Bangkok 10330, Thailand
* Correspondence: hsiehch9@nchu.edu.tw (C.-M.H.); b1b20715@yahoo.com (P.S.); Tel.: +886-4-2284-0849 (ext. 622) (C.-M.H.); +66-2-218-9838 (P.S.)

Received: 11 August 2019; Accepted: 29 September 2019; Published: 3 October 2019

Abstract: Farmers' markets in Taiwan advocate for the sustainable consumption of locally produced food to support sustainability and social justice goals. Institutional trust and interpersonal trust are critical determinative factors in sustaining farmers' farm-to-consumer venues for the long-run. The purpose of this research was to investigate determinants of customers' actual purchase behaviors, and the relationships between trust, purchase intention, and actual purchase behavior in the context of farmers' markets. A questionnaire approach with closed-ended survey questions was conducted with customers in farmers' markets in different parts of Taiwan. The results revealed that both institutional and interpersonal trust could serve as driving forces influencing a consumer's purchase intentions, which in turn reinforces their actual purchase behavior. Specifically, the interpersonal trust between consumers and producers includes positive interactions and sufficient communication, enabling producers to share the value and concepts underlying their production processes with the consumers, enhancing customers' purchase intentions and intensity. Institutional trust generated from a producer's endeavor to improve the quality of their own products by meeting market standards would impress consumers and build loyalty. It is recommended that farmers' market farmers or managers continually examine both the institutional and interpersonal needs of customers (e.g., food safety, face-to-face interactions between farmers and consumers) to earn customers' trust, and to accommodate their expectations by providing sufficient products and services.

Keywords: farmers' market; institutional trust; interpersonal trust; purchase intention; actual purchase behavior

1. Introduction

The advantages of simplifying the actors in the food supply chain and requiring shorter food miles, compared with a global food system, have led to local food systems being regarded as a more sustainable way to purchase food. Farmers' markets, which are a sustainable format for purchasing food, have flourished all over the world in recent years. Numerous literature sources have indicated that farmers' markets can boost the sustainability of agricultural production and consumption through the reconnected relationship between the producers and the consumers. Farmers' markets are capable of enhancing three aspects of sustainability: social, economic, and environmental [1,2]. For instance,

by providing platforms for individuals in the food industry to contact each other directly, farmers' markets are able to enhance local knowledge, promote local identity, and build trust in relationships with their partners or customers, all of which benefit social sustainability. Furthermore, the usage of environment-friendly farming methods supports the producers' and consumers' growing concerns about their co-responsibility in environmental conservation and are beneficial for environmental sustainability. Since farmers' markets have the above-mentioned features, i.e., social and environmental sustainability, consumers are willing to pay a premium price, which increases the farmers' income, develops the local economy, and contributes to economic sustainability [3]; in other words, enhancing social, economic, and environmental sustainability are the greatest concerns of farmers' market consumers. These concerns influence farmers' markets consumers' purchase intentions. Therefore, the main research question for this study was to examine whether farmers' markets in Taiwan have established appropriate requirements or standards, and delivered prompt communication to customers to match their needs and desires, which in turn would establish their loyalty. Exploring the determinants of actual purchase behavior in farmers' markets allowed us to obtain the answers for the above research question.

The global agri-food value chain primarily runs through supermarket-oriented channels; in light of this, farmers' markets and community-supported agriculture can be seen as an intersection point between the terminal channel of the local agri-food value chain [4] and the consumers. A farmers' market is defined in this paper as a farmer-run market set at a distinct location in which the producers of agricultural products sell directly to the general consumer population [5]. Transactions that occur at farmers' markets take the form of face-to-face interactions, providing a close link between the consumer environment and the consumers and producers. This link offers opportunities for the kind of mutual interaction and social embeddedness that allows consumers to understand the producers and the production process from farm to table; this enhances consumers' understanding and trust in agricultural products and their safety, all the while accruing social capital [6].

The interaction that occurs at a farmers' market between producers and consumers is a demonstration of the trust and reliance between the two parties. The interaction opens up a channel for both sides to participate in discussion, which maintains and strengthens institutional trust. Farmers' markets and similar operations increase the benefits reaped by both the consumer and producer [7]. Related studies have shown that the social capital generated from the transparent exchange between consumers and producers at farmers' markets demonstrates the opportunity for trust in and accountability of the institution, which benefits consumers and their understanding of said system's conventions. Through face-to-face interaction, consumers can find out more about the product's origins, other food items, and food safety. This allows them to form a sense of reliance on and trust in the producer, thereby lowering barriers to purchasing and increasing the intensity of the intention to buy or re-buy a product [8,9].

In marketing research, consumers' purchase intentions are a major research topic. Trust theory is typically applied to examine factors affecting purchase intentions [10]. Some studies on consumer trust in food products have focused on the effects of new food products, new processing technology, new policies, and food safety crises on such trust [11–14]. Few studies have investigated how different types of trust in local food systems affect consumers' purchase intentions. Regarding local food systems, local production for local consumption or for selling on farmers' markets has increased. The quality and safety of agricultural products are ensured through standards established by the local market. Farmers directly sell and explain the products to consumers. This enables farmers to interact and establish connections with consumers, thus developing an interpersonal trust relationship. We consider that understanding interpersonal trust, institutional trust, and consumer groups' purchase intention is beneficial in managing a direct-sales model of agricultural products. The primary purpose of the research was to examine the relationship between institutional trust, interpersonal trust, consumers' purchase intentions, and actual purchase behavior from the consumers' perspective in the context of

farmers' markets. Moreover, we attempted to integrate and extend research on this topic and provide implications for the sustainable management of farmers' markets.

2. Literature Review

2.1. Institutional Trust

Institutional trust is built on the foundation of non-individualistic societal conventions and institutions. The trust that is created with another in this discussion is not generated by the relationship and familiarity between people, but is rather the evaluation of trust based on objective non-interpersonal elements such as professional qualifications, laws, and regulations. Zucker (1986) suggested that three primary factors contribute to institutional trust: the social distance between the two parties, meaning that transactions can take place across groups; the geographical distance, which means that the transaction under institutional trust is not limited by the geospatial restrictions; and lastly, the inseparable nature of transactions in a social system in that both the buyer and seller rely on each other for inter-network transactions [14]. In the field of food research, institutional trust is the consumer's degree of faith in the food's safety regulations and system. Institutional trust is usually the degree of confidence based on the intentions, capabilities, and fairness of the parties involved in the operation of the system, as well as the efficiency and consistency of said system [15].

Previous studies have shown that consumer trust in the institution has a demonstrable influence on consumers' decision-making. A study on consumer decision-making for agricultural products by Lobb et al. has shown that institutional trust, risk awareness, and attitudes have a significant effect on each other such that the consumers' perception of risk will be altered by the level of trust they have in the institution. The trust they have in the official authority of the institution will also lower the perception of risk towards the consumption of agricultural products [16]. Janssen and Hamm pointed out that institutional trust is particularly important in consumer acceptance of the seals of approval awarded to organic food [17].

Two important aspects of institutional trust are "competence trust" and "goodwill trust." Competence trust refers to consumers' expectations of the performance of the technical capabilities on the supply side; goodwill trust is manifested in the social relationships of consumers. The producers are especially attentive to such relationships, as reflected in their moral and ethical duty to the consumer [18].

Considering all of the above, this study believes that institutional trust goes beyond the most basic characteristics of intrinsic professional competence; consumer expectations of institutional reliability also incorporate the consumer's own responsibility to be proactive. The farmers' market operates on face-to-face buy–sell transactions between a producer and consumer. When operating under the mindset of "you are responsible for what you produce," building institutional trust between a buyer and seller becomes possible through mutual communication and understanding of each other's actions, values, and ways of thinking.

2.2. Interpersonal Trust

The definition of trust within interpersonal relations proposed by Rosseau refers to the relationship of trust between individuals [19]. The one doing the trusting has a sense of security with the one being trusted, and although this may sometimes lead to negative outcomes, the one doing the trusting will not be able to change their foundation of trust [20]. In this context, there is a trust mechanism of emotional recognition. The foundation of trust built by both sides is formed from long-term interactions, which allows both sides to understand and acknowledge each other's emotions. In short, interpersonal trust is built on the interaction between people and furthered by the experience and familiarity of both parties, which can reduce communication costs and improve the efficiency of cooperation. In this study, interpersonal trust is created at the farmers' market when producers speak directly to consumers face-to-face, allowing both parties to interact and get to know one another on a more familiar level.

This is sometimes followed by the building of friendships. It is upon this foundation that interpersonal trust is built.

The farmers' market can be conceptualized as a form of food transaction and networking between the producer and consumer. It is a closer and more direct consumer environment for consumers and producers. The concept of the embeddedness of a social relationship within interpersonal interaction gives consumers the opportunity to become familiar with the producers. Concurrently in this connection, consumers develop a deeper understanding and trust in the safety of agricultural products; furthermore, both sides accumulate mutual benefit from the interpersonal interaction [6,7].

An important feature of the farmers' market is the interpersonal interaction element with which the dimension of interaction can be assessed by the degree of mutually beneficial exchange and interactions between partners. Continuous interaction acts like a social adhesive by maintaining partnerships that facilitate the exchange of information and interpersonal relationship-building. Establishing close interactions helps organizations deal with conflicts and crises as they arise and come up with joint-effort solutions to deal with them. The interpersonal interaction between producer and consumer provides a foundation for the accumulation of relationship capital, which is executed with the intrinsic reciprocity of benefit and trust. The farmers' market not only supplies local fresh agricultural products, but also a network for the exchange of distinct preference, needs, and supply-related information, which directly translates into reductions in prices and in the transactional costs of gathering information. Many studies on farmers' markets have shown that consumers patronize farmers' markets due in part to the abundant interpersonal interactions that occur [21].

2.3. Purchase Intention and Actual Purchase Behavior

Ajzen claimed that "behavioral intention is an indication of an individual's readiness to perform a given behavior, which is assumed to be an immediate antecedent of behavior"; "[b]ehavior is an individual's observable response in a given situation with respect to a given target." In behavioral science theory, behavioral intention could shape personal attitude and predict individual behavior [22]. Consumer intention has received considerable attention in consumer behavior research. A consumer's purchase intention could be an important causal predictor of their behavior [23]. Some studies on consumers' food purchasing behavior have indicated that a consumer's purchase intention is their subjective behavioral tendencies when purchasing a product and that it is a measure of the consumer's likelihood of purchasing a product [24,25]. In addition, previous research revealed that purchase intention can be represented by consumer loyalty and purchase likelihood as indicators of purchase intention [26]. Purchase intention could refer to what consumers think they will buy [27]. According to Brown [5], customers who have intentions to purchase a product will show higher actual purchasing rates than those who have a lower intention to buy. Specifically, the customers of our farmers markets in this study having intentions to purchase products could be the first step in developing the demand for agricultural products.

Purchasing behavior refers to a process through which people seek, choose, purchase, use, evaluate, and handle products or services to satisfy their needs and wants. These actions are part of consumers' decision-making processes because purchasing behavior can reflect the degree of consumers' willingness to pay for a product or service [28]. In fact, purchase intentions do not always result in actual purchase behavior, and a gap exists between this intentional and real purchase behavior [29]. Prior studies investigated the actual purchase behavior in consuming organic food products. For instance, Niessen and Hamm's study identified that 50% of customers say they would buy organic products, but only 15% bought what they said in the end. The products in the farmers markets in this study are produced in an environmentally friendly way in the small-scale farms [29]. Most of them are fresh, safe, and taste good, so the average price is higher than those adopting traditional farming. We consider that when consumers generally show willingness to purchase a high-priced product frequently, their actual purchase behavior for the product is high.

Aside from the above discussion, the theory of reasoned action (TRA) claims that "people's actual behavior is determined by their intention to perform the behavior; this intention, in turn, is predicted by their attitude toward behavior and subjective norms" [30]. Attitude represents "the person's general feeling of favorableness or unfavorableness for the behavior" [31]. Institutional trust adopted by this study may represent the meaning of attitude. In other words, if a consumer has positive beliefs or trust in a farmers' market's standards of quality and safety for agricultural products, he/she has a favorable attitude and purchase intention. Subjective norms could refer to a consumer's perception that "the importance of people around him/her and their opinions on how he or she should act will determine the behavioral outcome" [31]. Similarly, interpersonal trust could mean subjective norms: a two-way communication exists between a consumer and farmer to build trust.

This study adopted the TRA and modified attitude and subjective norms with institutional trust and interpersonal trust, respectively. Moreover, the study employed structural equation modeling (SEM) based on the empirical research to validate the hypothetical relationships between four constructs in this study, as suggested by Hair et al. [32]. Either the theory of planned behavior or TRA could explain consumer decisions to engage in sustainable agricultural practices [33]. We thus conclude that the farmers' market is characterized by sustainability features, just as Arabska [34] claimed: "farmers' markets are considered as a sustainable business model of networking which encourages production and consumption of local food of healthy origin adhering to high standards for quality and safety, building society and trust and encouraging development of rural regions."

2.4. Relationship between Institutional Trust, Interpersonal Trust, Purchase Intention, and Actual Purchase Behavior

The definition of trust is diverse. Hobbs and Goddard [15] reviewed previous studies and proposed that consumers believe that they can rely on someone or an organization to accomplish their goals. This is because from the consumers' perspective, the person or organization has the ability to help consumers and because the person's or organization's values and intentions are consistent with those of the consumers. According to research related to food consumption, trust is a major factor affecting consumers' decisions to purchase food. Trust is also a crucial factor affecting consumers' attitudes toward food production processes, production information, and safety policies [35–37]; considerable attention has been paid to institutional trust—the factor related to food regulation—and interpersonal trust—the factor emphasizing human interaction and communication to create trust [38]. We compared these two types of trust and examined their relationship with consumers' purchase intentions. Therefore, we proposed that interpersonal trust and institutional trust in farmers' markets are correlated. We hypothesized that interpersonal trust and institutional trust are positively correlated in farmers' markets (Hypothesis 1).

Regarding institutional trust, competence and trustworthiness are considered the primary constitutive factors of institutional trust; they emphasize food source information and professionalism in regulation and monitoring and provide explanations to consumers [15]. The literature suggests that when consumers cannot understand the various steps involved in food production, are unfamiliar with the food producer and seller, or encounter risk factors associated with food production (such as new food production technology or the formulation of food safety policies), their purchase intentions and decisions can be enhanced by cultivating institutional trust [39]. In current food production systems, transparency and traceability in the formulation of institutional standards are considered major factors toward improving institutional trust and strengthening consumers' purchase intention [40]. On the basis of previous studies, we examined the relationship between institutional trust related to farmers' markets and consumers' purchase intentions. We hypothesized that institutional trust related to farmers' markets would positively affect consumers' purchase intentions (Hypothesis 2).

As for interpersonal trust, during a product-purchasing process, interpersonal trust is created when the buyer and the seller communicate face-to-face about the production process, value, and concepts underlying the product [41,42]. Farmers' markets emphasize a buyer–seller relationship. In such

markets, a buyer's trust in the seller is created through the interaction and communication between the buyer and the seller [43]. Such communication not only provides information to the consumer about the food producer but also enlightens the consumer about the value and concepts underlying the production process, thereby affecting the consumer's purchase intention [43]. We also conducted the study to elucidate how farmers can gain recognition and enhance consumers' purchase intentions through strengthening interpersonal trust. Accordingly, we hypothesized that interpersonal trust in farmers' markets would positively influence consumers' purchase intentions (Hypothesis 3).

In this study, customers' purchase intentions had a mediating effect on purchase behavior and purchase antecedent's variables, such as attitude, emotion, or trust proposed in this study. On the basis of the described studies, we conducted the present study to examine the relationship between consumers' purchase intentions and actual purchase behavior for products in farmers' markets. In the context of farmers' markets, consumers' purchase intentions can be a crucial indicator for consumers' purchasing behaviors. We hypothesized that in farmers' markets, consumers' purchase intentions would positively influence their actual purchase behaviors (Hypothesis 4)

A farmers' market is comparable to the concept of relationship marketing. Communication and exchange between the buyer and the seller lead to two outcomes. First, the seller increases the quality of the product in order to meet the market standard and consumer expectations. Second, the consumer's trust in the seller increases, thereby increasing the consumer's loyalty and repurchase intention [8,44]. Prior studies show that perceived consumer effectiveness positively affects their attitude toward consuming sustainable dairy products, which in turn influences consumers' intention to buy.

On this basis, the following four hypotheses are proposed and illustrated in Figure 1.

Hypothesis 1 (H1). *Institutional trust is related with interpersonal trust.*

Hypothesis 2 (H2). *Institutional trust positively affects purchase intention.*

Hypothesis 3 (H3). *Interpersonal trust positively affects purchase intention.*

Hypothesis 4 (H4). *Purchase intention positively affects actual purchase behavior.*

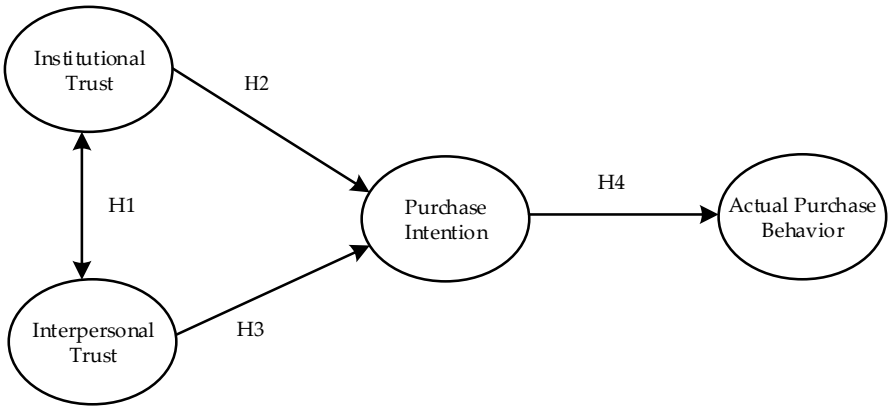

Figure 1. Proposed hypothetical model.

3. Methods

3.1. Participant

In this study, we selected farmers' markets in the northern, central, and southern parts of Taiwan. Specifically, we selected three of the most iconic farmers' markets in Taiwan, including: Taipei 248

Farmers' Market in northern Taiwan, the National Chung Hsing University (NCHU)–affiliated Farmers' Market in central Taiwan, and Breeze Market in southern Taiwan. These markets emphasize that most of their farmers adopt organic farming or natural farming. We conducted the investigation and collected data during the business hours of the farmers' markets. The study survey was administered over a ten-month period, from July 2017 to April 2018. Participants were selected through convenience sampling, with all participants informed that they would receive an incentive to increase their participation. Finally, we distributed 394 questionnaires to consumers choosing agricultural products, and 358 valid responses were collected, giving a response rate of 90.9%. Among the 358 participants, 101 were from the Taipei 248 Farmers' Market, 125 were from NCHU Farmers Market, and 132 were from the Breeze Market. This study employed descriptive analyses to present the socio-demographic characteristics among all participants. As shown in Table 1, among the 358 viable samples, the majority were women (236 samples, representing 65.9%). In terms of age, the majority was represented by the age groups of 41 to 50 years old and 51 to 60 years old (99 samples (27.7%) and 95 samples (26.5%), respectively). Regarding marital status, married participants comprised the majority with 253 samples (70.7%). In terms of education level, university graduates took up the majority with 216 samples (60.3%).

Table 1. Sample characteristics.

Sample Characteristics	n	%
Gender		
Female	236	65.9
Male	122	34.1
Age		
30 years old or under	62	17.3
31 to 40 years old	59	16.5
41 to 50 years old	99	27.7
51 to 60 years old	95	26.5
61 years old or above	43	12.0
Marital status		
Married	253	70.7
Unmarried	105	29.3
Educational background		
Senior high school or lower	59	16.5
University or junior college	216	60.3
Graduate school or higher	83	23.2

3.2. Measurement and Analysis Methods

The measurement scale of trust mainly refers to the empirical study of Zucker [14], supplemented by the scale of organizational trust from Mayer, Davis, and Schoorman [45], and the scale of trust in relationship quality by Roberts, Varki, and Brodie [46]. Specifically, institutional trust was evaluated using the following four items: "The farmers' market maintains strict requirements for participating farms," "The farmers' market maintains stringent standards for the quality of agricultural products," "The farmers' market has a sufficient number of food safety seals/certifications," and "The farmers' market is recommended by experts." A higher total score indicated higher consumer institutional trust. Interpersonal trust was evaluated using the following four items: "Farmers sell to customers directly and engage in more face-to-face interactions," "Consumers can get to know the producers via direct communication," "Consumers can engage in mutual learning with farmers," and "Consumers can develop friendships with farmers." Next, the measurement items of consumers' purchase intentions in the farmers' markets of this study were adopted and modified from a study by Grewal, Monroe, and Krishnan [47]. Purchase intention was evaluated using the following three items: "I intend to increase my number of visits to this farmers' market," "I will come to this market again to purchase agricultural products," and "Relative to other sales channels, I prefer to buy agricultural products

at this market." The above items were rated on a five-point Likert scale with anchors ranging from 1 (strongly disagree) to 5 (strongly agree). Finally, the actual purchase behavior was assessed using the following two items: "I often buy agricultural products at this market to support local farmers," and "The amount of money I usually spend each time at this farmers' market." For the second item, this study used the price level to measure the amount of money spent on shopping in the farmers' market.

Structural equation modeling (SEM) and maximum likelihood estimation were employed using SPSS 22 and AMOS 20 to test the research hypotheses. According to Bollen [48], the SEM incorporates two structures, including a measurement model and a structural model, in which multiple equations can be estimated simultaneously. In this study, confirmatory factor analysis (CFA) was first executed to test the overall fit of the measurement model among four latent constructs (institutional trust, interpersonal trust, purchase intention, and actual purchase behavior). The results of the CFA were examined with overall fit index scores, including chi-square statistics, the adjusted goodness of fit index (AGFI), the non-normed fit index (NNFI), the comparative fit index (CFI), the standardized root mean residual (SRMR), and the root mean square error of approximation (RMSEA). The structural model was also examined to determine any significance of the causal relationships. In addition to the variables described above, we used two control variables, including age and educational background, which were considered to be continuous variables, for checking whether they had a certain impact over endogenous variables that cannot be ignored. In our research model, two control variables were treated as moderators to see if there was any change in the direction or magnitude of the relationship between exogenous variable (i.e., institutional trust or interpersonal trust), and the endogenous variable (i.e., purchase intention), respectively. To test moderation that could imply an interaction effect, the hierarchical multiple regression was used to assess the interaction effect "exogenous variable × controlled variable" (e.g., "institutional trust" x "age") for any significance in predicting "purchase intention."

4. Results

The results show that the Cronbach's alphas of measurement reliability with three constructs were higher than 0.7 [49]: (1) institutional trust scale, $\alpha = 0.90$; (2) interpersonal trust scale, $\alpha = 0.89$; (3) purchase intention scale, $\alpha = 0.85$; this demonstrated that these constructs and items were reliable. This study utilized AMOS 20 for the testing of the measurement and structural models. CFA was first manipulated to test the measurement model among three constructs. Table 2 shows that all standardized factor loadings were in the range of 0.71 to 0.92, which were above the threshold level of the 0.7, and *t*-values were statistically significant at the level of 0.01, achieving the convergent validity [50]. The valid range of the composite reliabilities were from 0.85 through 0.90, which were above the minimum of 0.70, indicating appropriate internal consistency reliability [50]. The average variance extracted (AVE) values were in the range of 0.66 to 0.79, which were all higher than 0.50, implying that the 13 observed variables had a high accuracy in determining the five latent variables [50]. Comparing with the square root of the AVE for a given construct with the correlation coefficients between the construct and the other four constructs, this study achieved the discriminant validity (Table 3). The results supported the convergence validity and discriminant validity, meaning the study had construct validity and reliability.

The model fit indexes for the structural model reached an acceptable standard [51], with $\chi^2/df = 1.69$, the adjusted goodness of fit index (AGFI) = 0.94, the non-normed fit index (NNFI) = 0.98, the comparative fit index (CFI) = 0.99, the incremental fit index (IFI) = 0.99, the standardized root mean residual (SRMR) = 0.031, and the root mean square error of approximation (RMSEA) = 0.044. Overall, the results revealed that the proposed model was determined to have high goodness of fit, including AGFI, NNFI, CFI, and IFI, which exceeded the 0.90 threshold in each case; a lower value indicates greater model fitness for SRMR and RMSEA [52]. A summary of the model fit indexes comprising both the measurement and structural model is presented in Table 4.

Finally, the testing results of the four hypotheses, which are summarized in Table 5, indicated that most hypotheses were supported with a positive relationship.

Table 2. Measurement Model (n = 358).

Construct and Indicators	SFL	*t*-Value	CR	AVE
Institutional Trust (InsT)			0.90	0.70
1. The farmers' market maintains strict requirements for participating farms.	0.87	15.51		
2. The farmers' market maintains stringent standards for the quality of agricultural products.	0.92	16.10		
3. The farmers' market has a sufficient number of food safety seals/certifications.	0.83	14.82		
4. The farmers' market is recommended by experts.	0.71	14.85		
Interpersonal Trust (IntT)			0.89	0.67
1. Farmers sell to customers directly and engage in more face-to-face interactions.	0.76	10.92		
2. Consumers can get to know the producers via direct communication.	0.87	12.02		
3. Consumers can engage in mutual learning with farmers.	0.88	18.71		
4. Consumers can develop friendships with farmers.	0.75	11.02		
Purchase Intention (PI)			0.85	0.66
1. I intend to increase my number of visits to this farmers' market.	0.82	14.14		
2. I will come to this market again to purchase agricultural products.	0.88	14.38		
3. Relative to other sales channels, I prefer to buy agricultural products at this market.	0.72	14.25		
Actual Purchase Behavior (APB)			0.88	0.79
1. I often buy agricultural products at this market to support local farmers	0.85	15.74		
2. The amount of money I usually spend each time at this farmer market [1]	0.92	17.43		

Note: SFL—standardized factor loading (λ), CR—composite reliability, and AVE—average variance extracted. [1] The price level includes: (1) less than NT$500, (2) NT$501–$1000, (3) NT$1001–$1500, (4) NT$1501–$2000, (5) more than NT$2001 ("NT$" indicates New Taiwan Dollar).

Table 3. Results of Discriminant Validities and Correlations.

Construct	Institutional Trust	Interpersonal Trust	Purchase Intention	Actual Purchase Behavior
Institutional trust	**0.84** [1]			
Interpersonal trust	0.51 ***	**0.82**		
Purchase intention	0.30 ***	0.38 **	**0.81**	
Actual Purchase Behavior	0.054	0.061	0.18 ***	**0.98**

[1] The bold values of the diagonal indicate the square root of average variance extracted (AVE), correlations are the values off the diagonal, ** $p < 0.01$, *** $p < 0.001$.

Table 4. Goodness-of Fit Indexes of Measurement and Structural Models.

Model	χ^2/df	GFI	AGFI	NNFI	CFI	IFI	SRMR	RMSEA
Measurement model	1.76	0.96	0.94	0.98	0.99	0.99	0.032	0.046
Structural model	1.69	0.96	0.94	0.98	0.99	0.99	0.031	0.044
Recommended level	<3.00	≥0.90	≥0.90	≥0.90	≥0.90	≥0.90	<0.08	<0.07

Note: Recommended level: χ^2/df < 3 [51], the adjusted goodness of fit index (AGFI) ≥ 0.90 [51], the non-normed fit index (NNFI) ≥ 0.90 [51], the comparative fit index (CFI) ≥ 0.90 [51], the incremental fit index (IFI) ≥ 0.90 [51], the standardized root mean residual (SRMR) < 0.080 [51], and the root mean square error of approximation (RMSEA) < 0.07 [51].

Table 5. Results of Tested Hypotheses H1~H4.

Research Hypothesis	Hypothesized Path	Path Coefficient	*t*-Value	Results
H1	Institutional trust ←→ Interpersonal trust	0.52	6.82 ***	Supported
H2	Institutional trust → Purchase intention	0.15	2.19 *	Supported
H3	Interpersonal trust →Purchase intention	0.32	4.39 ***	Supported
H4	Purchase intention →Actual purchase behavior	0.33	5.86 ***	Supported

* $p < 0.05$, *** $p < 0.001$.

Next, we conducted SEM to test the study hypotheses. The results revealed a significant positive correlation between institutional trust and interpersonal trust ($\beta = 0.52$, $p < 0.001$); therefore, Hypothesis 1 was supported (see Figure 2). Institutional trust ($\beta = 0.15$, $p < 0.05$) and interpersonal trust ($\beta = 0.32$, $p < 0.001$) positively affected purchase intention; therefore, Hypotheses 2 and 3 were supported. Furthermore, purchase intention had a significant positive effect on actual purchase behavior ($\beta = 0.33$, $p < 0.001$); hence, Hypothesis 4 was supported. These analysis results suggest that both institutional trust and interpersonal trust were major factors affecting consumers' purchase intentions. Particularly, interpersonal trust had a higher driving force toward determining customers' purchase intentions. Lastly, the results of moderating or interaction testing were not statistically significant ($p > 0.05$) with two controlled variables (age and educational background) using a hierarchical multiple regression approach. These findings indicated that both age and educational background variables had no influence on consumers' purchase intentions and actual purchase behavior.

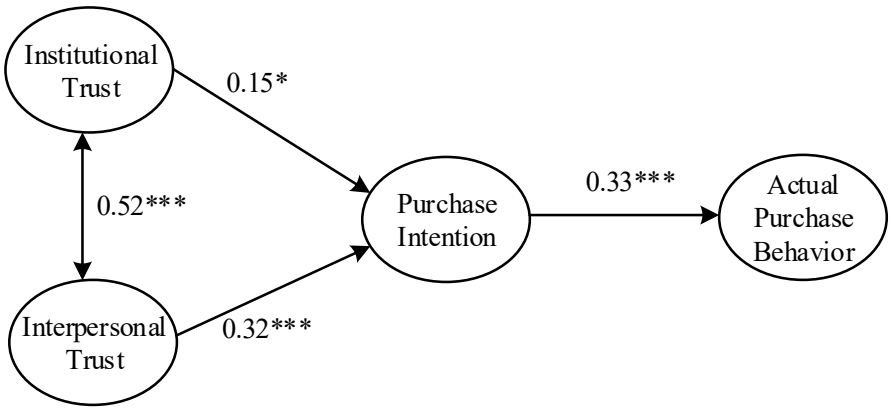

Figure 2. Summary of testing results. (+) refers to the sign of the proposed hypotheses as positive. * $p < 0.05$, *** $p < 0.001$.

5. Conclusions and Suggestions

Since the number of farmers' markets is growing rapidly in Taiwan and other countries, the need for traceable and certified agricultural products among consumers is increasing in the farmers' markets. Although the management of farmers' markets varies by country, most farmers' markets feature economic interactions between consumers and producers who sell their agricultural products directly to consumers, and involve a social interaction that occurs when the two sides communicate and converse during the transactional process. The economic factors that are considered when consumers shop at the farmers' market, such as freshness, quality, taste, price, and food safety, affect their purchase intentions and actual purchase behaviors. On the other hand, factors related to social interactions and social embeddedness between consumers at the market and producers, such as social capital and trust, also affect consumers' purchase intentions and actual purchase behaviors.

In this study, we examined and showed the relationship between interpersonal trust, institutional trust, purchase intention, and actual purchase behavior by administering questionnaires to consumers in farmers' markets in different parts of Taiwan. Specifically, the results revealed that both institutional trust and interpersonal trust in the respective farmers' markets positively influenced the consumers' purchase intentions. This study verifies the existence of a positive correlation between interpersonal trust and institutional trust. This shows that interpersonal trust and institutional trust complement each other, which was similar to a previous study [38]. In addition, the simultaneous influence of institutional and interpersonal trust on purchase intention was validated, consistent with previous studies [39–43]. Furthermore, consistent with numerous studies [23,29,53], the consumers' purchase intentions significantly affected their actual purchase behaviors. In short, most research merely refers to the level of purchase intention in the farmer markets; however, this study demonstrates that both interpersonal and institutional trust could be critical determinants that affect consumers' purchasing behaviors, which then reinforces their actual purchasing behaviors. To wit, this study verifies the study hypotheses that the consumers' trust in farmers' markets and their purchasing actions can indeed be influenced by their purchase intentions, contributing to reducing the gap in the literature.

Managerial implications and suggestions for further study in the context of farmers' markets are addressed here. First, most farmers' markets are community meeting places that engender trust between local farmers and residents with a face-to-face interaction and socialization. In the long-term, this social communication will lead to a sense of camaraderie, and a stronger relationship between a sellers and regular patrons, allowing for the sustainable development of a farmers' market. A well-established institution can increase the interactions between consumers and farmers, and their interactions can also enhance their understanding and trust in the institution. Offering farmers and consumers opportunities to communicate well could enhance consumers' institutional and interpersonal trust in the farmers' markets. Next, interpersonal trust between consumers and producers enables the producers to share the value and concepts underlying production processes with the consumers, while institutional trust generated from the producer's endeavor to improve the quality of their own products by meeting market standards wins the consumers' trust in the farmers' market. Market managers should focus on strategies for the creation of an atmosphere that is conducive for interactive communication between producers and consumers. This would include stimulating direct dialogue and face-to-face communication between the farmers who provide the produce and the consumers who buy from them. A further step would be to encourage interactions that promote the cultivation of friendship between the farmer and consumer, through which, they can learn from one another and increase social capital and enhance purchase behavior. A comprehensive institutional and interpersonal trust could provide consumers with security and quality, and offer a reference for purchasing choices of local agricultural products and services in accordance with the seasonality of farmers' markets. For instance, the farmers could offer delivery services to their customers with a membership akin to e-commerce or door-to-door delivery with seasonal vegetables and fruits. By structuring a complete value chain in the farmers' market, markets or famers could turn occasional buyers into loyal customers with a delivery or membership program for farmers' businesses based on mutual trust and benefits.

In addition, the transparency and traceability standards of products on display and the direct marketing environment between the producers and the consumers in the farmers' market increased the institutional and interpersonal trust of the consumers. Thus, sound policies and supervisory mechanisms of agricultural products that are consistently followed and honestly managed are the basis for customers' trust and confidence in the farmers' markets. This suggests that market managers should establish effective networks of communication channels such as membership in the NCHU farmers' market to update periodic inspection of fertilizers and pesticides usage to maintain food safety certifications issued by governmental departments or impartial third-party authorities. Moreover, farmers' markets could invite experts or agribusiness entrepreneurs to give talks on the present status and future developments of organic agriculture or food and farming education. Getting recommendations from professionals who are highly trusted by the public could also enhance consumer

trust in the farmers' market and increase their retention in visiting farmers' markets. Last but not least, the farmers' markets should provide an open space for the neighborhood leisure, agricultural activities, local food transactions, and abundant resources and experiences different from the general markets. It hence could meet the diverse and heterogeneous demand of farmers' markets consumers. Families with children are one of the primary target markets for most farmers' markets. Thus, the managers or marketers in the farmers' markets could design workshops, family activities, and children's programs to disseminate agricultural knowledge. To enhance the shopping experience in a farmers' markets, the marketers could accommodate a wide variety of exhibitions or events showcasing agriculture, such as special events of "Food and Farming Education," "From the Field to the Table," or "From the Mud to the Mouth."

This study has some limitations concerning the study sites (only three farmers' markets), and the selection and adaptation of the constructs (only four constructs). Aside from demographic variables, farmers' market consumers may consider other factors, such as social, economic, and environmental sustainability during the decision-making process, which could affect their purchase intentions. Moreover, future research could investigate other factors (e.g., product quality or obstacles) that engender consumer trust, and other significant predictors of consumers' purchase intention (or switching behavior) in the farmers' markets.

Author Contributions: Four authors contributed to this research: B.-K.T. acted as the first author throughout the manuscript drafting and the data analysis; K.-Y.L. contributed to revising the method, results, and conclusions; C.-M.H. reviewed and revised the paper; and P.S. contributed to revising the results, as well as the conclusion and suggestions. All authors read and approved the final manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflicts of interest.

References

1. Forssell, S.; Lankoski, L. The sustainability promise of alternative of food network: An examination through "alternative" characteristics. *Agric. Hum. Values* **2014**, *32*, 63–75. [CrossRef]
2. Mundler, P.; Laughrea, S. The contributions of shot food supply chains to territorial development: A study of three Quebec territories. *J. Rural Stud.* **2016**, *45*, 218–229. [CrossRef]
3. Giampietri, E.; Koemle, D.; Yu, X.; Finco, A. Consumers' sense of farmers' markets: Tasting sustainability or just purchasing food? *Sustainability* **2016**, *8*, 1157. [CrossRef]
4. Opitz, I.; Specht, K.; Piorr, A.; Siebert, R.; Zasada, I. Effects of consumer-producer interactions in alternative food networks on consumers' learning about food and agriculture. *Morav. Geogr. Rep.* **2017**, *25*, 181–191. [CrossRef]
5. Brown, A. Counting farmers markets. *Geogr. Rev.* **2001**, *91*, 655–674. [CrossRef]
6. Hinrichs, C.C. Embeddedness and local food systems: Notes on two types of direct agricultural market. *J. Rural Stud.* **2000**, *16*, 295–303. [CrossRef]
7. Carson, R.A.; Hamel, Z.; Giarrocco, K.; Baylor, R.; Mathews, L.G. Buyingin: The influence of interactions at farmers' markets. *Agr. Hum. Values* **2016**, *33*, 861–875. [CrossRef]
8. Conner, D.; Colasanti, K.; Ross, R.B.; Smalley, S.B. Locally grown foods and farmers markets: Consumer attitudes and behaviors. *Sustainability* **2010**, *2*, 742–756. [CrossRef]
9. Bianchi, C.; Mortimer, G. Drivers of local food consumption: A comparative study. *Br. Food J.* **2015**, *117*, 2282–2299. [CrossRef]
10. Kantsperger, R.; Kunz, W.H. Consumer trust in service companies: A multiple mediating analysis. *Manag. Serv. Qual.* **2010**, *20*, 4–25. [CrossRef]
11. Grebitus, C.; Steiner, B.; Veeman, M.M. The roles of human values and generalized trust on stated preferences when food is labeled with environmental footprints: Insights from Germany. *Food Policy.* **2015**, *52*, 84–91. [CrossRef]
12. Fritz, M.; Martino, G. Short food supply networks: Expectations, experiences, trust in the case of farmer markets. In *System Dynamics and Innovation in Food Networks*; Fritz, M., Rickert, U., Schiefer, G., Eds.; University of Bonn: Bonn, Germany, 2009.

13. De Krom, M.P.M.M.; Mol, A.P.J. Food risks and consumer trust. Avian influenza and the knowing and non-knowing on UK shopping floors. *Appetite* **2010**, *55*, 671–678. [CrossRef] [PubMed]
14. Zucker, L.G. Production of Trust: Institutional sources of economic structure. *Res. Organ. Behav.* **1986**, *8*, 53–111.
15. Hobbs, J.E.; Goddard, E. Consumers and trust. *Food Policy.* **2015**, *52*, 71–74. [CrossRef]
16. Lobb, A.E.; Mazzocchi, M.; Traill, W.B. Modelling risk perception and trust in food safety information within the theory of planned behavior. *Food Qual. Prefer.* **2007**, *18*, 384–395. [CrossRef]
17. Janssen, M.; Hamm, U. Governmental and private certification labels for organic food: Consumer attitudes and preferences in Germany. *Food Policy* **2014**, *49*, 437–448. [CrossRef]
18. Nooteboom, B. Trust, Opportunism and Governance: A Process and Control Model. *Organ. Stud.* **1996**, *17*, 985–1010. [CrossRef]
19. Rousseau, D.M.; Sitkin, S.B.; Burt, R.S.; Camerer, C. Not so different after all: A cross-discipline view of trust. *Acad. Manag. Rev.* **1998**, *23*, 393–404. [CrossRef]
20. Mcknight, D.H.; Cummings, L.L.; Chervany, N.L. Initial trust formation in new organizational relationships. *Acad. Manag. Rev.* **1998**, *23*, 473–490. [CrossRef]
21. Hunt, A. Consumer Interactions and Influences on Farmers' Market Vendors. *Renew. Agr. Food Syst.* **2007**, *22*, 54–66. [CrossRef]
22. Ajzen, I. Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior. *J. Appl. Soc. Psychol.* **2002**, *32*, 665–683. [CrossRef]
23. Morwitz, V.G.; Schmittlein, D. Using segmentation to improve sales forecasts based on purchase intent: Which "intenders" actually buy? *J. Mark. Res.* **1992**, *29*, 391–405.
24. Paul, J.; Rana, J. Consumer behavior and purchase intention for organic food. *J. Consum. Mark.* **2012**, *29*, 412–422. [CrossRef]
25. Yadav, R.; Pathak, G.S. Intention to purchase organic food among young consumers: Evidences from a developing nation. *Appetite* **2016**, *96*, 122–128. [CrossRef] [PubMed]
26. Parasuraman, A.; Zeithamal, V.A.; Berry, L.L. The behavioral consequences of service quality. *J. Mark.* **1996**, *60*, 31–46.
27. Vermeir, I.; Verbeke, W. Sustainable food consumption: Exploring the consumer "attitude–behavioral intention" gap. *J. Agric. Environ. Ethics* **2006**, *19*, 169–194. [CrossRef]
28. Kotler, P. Marketing management: The millennium edition. *Mark. Manag.* **2000**, *23*, 188–193.
29. Niessen, J.; Hamm, U. Identifying the Gap between Stated and Actual Buying Behaviour on Organic Products Based on Consumer Panel Data. In *Cultivating the Future Based on Science, Proceedings of the 2nd Conference of the International Society of Organic Agriculture Research, ISOFAR, Modena, Italy, 18–20 June 2008*; Unpublished, 2008.
30. Fishbein, M.; Ajzen, I. *Intention and Behavior: An Introduction to Theory and Research*; Addison-Wesley: Reading, MA, USA, 1975.
31. Ajzen, I.; Fishbein, M. *Understanding Attitudes and Predicting Social Behavior*; Prentice Hall: Englewood Cliffs, NJ, USA, 1980.
32. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. *Multivariate Data Analysis*, 7th ed.; Prentice Hall: Englewood Cliffs, NJ, USA, 2010.
33. Fielding, K.S.; Terry, D.J.; Masser, B.M.; Hogg, M.A. Integrating social identity theory and the theory of planned behaviour to explain decisions to engage in sustainable agricultural practices. *Br. J. Soc. Psychol.* **2008**, *47*, 23–48. [CrossRef] [PubMed]
34. Arabska, E. Farmers' markets as a business model encouraging sustainable production and consumption. *Visegr. J. Bioecon. Sustain. Dev.* **2018**, *7*, 2–6. [CrossRef]
35. Ding, Y.; Veeman, M.M.; Adamowicz, W.L. Functional food choices: Impacts oftrust and health control beliefs on Canadian consumers' choices of canola oil. *Food Policy* **2015**, *52*, 92–98. [CrossRef]
36. Kriege-Steffen, A.; Boland, H.; Lohscheidt, J.; Schneider, F.; Stolze, M. Transparent food and consumer trust. In *4th International European Forum on System Dynamics and Innovation in Food Networks*; Schiefer, G., Fritz, M., Rickert, U., Eds.; AgEcon Search: Innsbruk, Austria, 2010.
37. De Jonge, J.; Van Trijp, J.C.M.; Van der Lans, I.A.; Renes, R.J.; Frewer, L.J. How trust in institutions and organizations builds general consume confidence in the safety of food: A decomposition of effects. *Appetite* **2008**, *51*, 311–317. [CrossRef] [PubMed]

38. Lindgreen, A. Trust as a valuable strategic variable in the food industry: Different types of trust and their implementation. *Br. Food J.* **2003**, *105*, 310–327. [CrossRef]
39. Meijboom, F.L.B.; Visak, T.; Brom, F.W.A. From trust to trustworthiness: Why information is not enough in the food sector. *J. Agric. Environ. Ethics* **2006**, *19*, 427–442. [CrossRef]
40. Papadopoulos, A.; Sargeant, J.M.; Majowicz, S.E.; Sheldrick, B.; McKeen, C.; Wilson, J.; Dewey, C.E. Enhancing public trust in the food safety regulatory system. *Health Policy* **2012**, *107*, 98–103. [CrossRef] [PubMed]
41. Doney, P.M.; Cannon, J.P. An examination of the nature of trust in buyer-seller relationships. *J. Mark.* **1997**, *61*, 35–51.
42. Orth, U.R.; Tatiana, B.; Kathrin, B. Trust during retail encounters: A touchy proposition. *J. Retail.* **2013**, *89*, 301–314. [CrossRef]
43. Higgins, V.; Dibden, J.; Cocklin, C. Building alternative agri-food networks: Certification, embeddedness and agri-environmental governance. *J. Rural Stud.* **2008**, *24*, 15–27. [CrossRef]
44. Baker, D.; Hamshaw, K.; Kolodinsky, J. Who shops at the market? Using consumer surveys to grow farmers' markets: Findings from a regional market in Northwestern Vermont. *J. Ext. Educ.* **2009**, *47*, 1–9.
45. Bollen, K.A. *Structural Equations with Latent Variables*; Wiley: New York, NY, USA, 1989.
46. Mayer, R.C.; Davis, J.H.; Schoorman, F.D. An integrative model of organizational trust. *Acad. Manag. Rev.* **1995**, *20*, 709–734. [CrossRef]
47. Roberts, K.; Varki, S.; Brodie, R. Measuring the quality of relationships in consumer services: An empirical study. *Eur. J. Mark.* **2003**, *37*, 169–196. [CrossRef]
48. Grewal, D.; Monroe, K.B.; Krishnan, R. The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value, and behavioral intentions. *J. Mark.* **1998**, *62*, 46–59.
49. Fornell, C.; Larcker, D.F. Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* **1981**, *18*, 39–50. [CrossRef]
50. Chin, W. The partial least squares approach to structural equation modeling. In *Modern Methods for Business Research*; Marcoulides, G.A., Ed.; Lawrence Erlbaum Associates, Inc.: Mahwah, NJ, USA, 1998; pp. 295–336.
51. Hu, L.; Bentler, P. Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Struct. Equ. Model.* **1999**, *6*, 1–55. [CrossRef]
52. Hayduk, L.A. *Structural Equation Modeling with LISREL: Essentials and Advances*; Johns Hopkins University Press: Baltimore, MD, USA, 1987.
53. Wee, C.S.; Ariff, M.S.B.M.; Zakuan, N.; Tajudin, M.N.M.; Ismail, K.; Ishak, N. Consumers perception, purchase intention and actual purchase behavior of organic food products. *Rev. Integr. Business. Econ. Res.* **2014**, *3*, 378–397.

© 2019 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).