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The impacts of the food traceability system and consumer involvement on consumers' purchase intentions toward fast foods

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ABSTRACT

This study aims to ascertain whether or not the Food Traceability System (FTS) can decrease an individual's perceived uncertainty and strengthen his/her purchase intention regarding fast foods. A website-based questionnaire study was conducted in Taiwan and a total of 435 valid subjects collected. The empirical results of structural equation modeling (SEM) analysis indicate that when a fast food store adopts FTS then consumers' perceived uncertainty can be reduced because both their perceived information asymmetry and fears of seller opportunism are also reduced, which in turn strengthen their purchase intentions regarding fast foods. In addition, with FTS, not only are both consumers' perceived product diagnosticity and informativeness are increased but consumers' trust in the farmer's records kept for this system is also increased, which in turn mitigate both consumers' perceived information asymmetry and fears of seller opportunism. Finally, the higher the degree of involvement an individual has and the more FTS mitigates his/her perceived uncertainty, the higher his/her purchase intention regarding fast foods than otherwise. Based on the findings from this study, attempts are made to provide some suggestions to the public health sector and the fast food marketers to promote FTS.

1. Introduction

With the advancement of information technology, the Food Traceability System (FTS) has been introduced in many countries to reduce the uncertainties originating in the food purchasing process by providing information about the whole process from farm to table in terms of quality and safety (Choe, Park, Chung, & Moon, 2009). Such a system has the ability to trace and follow a food, feed, food-producing animal, or substance through all stages of production and distribution. Though FTS itself cannot preclude the possibility of food safety crises, it can help a business discover the crux of a food safety problem promptly and lessen the harmful consequences later by investigation and recalling (Karlsen, Sorensen, Foras, & Olsen, 2011; Regattieri, Gamberi, & Manzini, 2007; Ruiz-Garcia, Steinberger, & Rothmund, 2010; Saltini & Akkerman, 2011) to mitigate or avoid the damage to the market, potential illnesses, or even loss of life (Liao, Chang, & Chang, 2011). In addition, FTS can be used to distinguish the credence attributes from average products (Golan, Krissoff, & Kuchler, 2004) such as organic, non-genetically modified, or point-of-origin foods to charge a price premium (Liao et al., 2011). According to Hobbs (2004), to remedy information asymmetry of food safety and food quality is the main incentive to the implementation of FTS.

In recent years, a series of food scares occurring in Taiwan have cast doubt on Taiwan's food safety and decreased trust in the food supply system (Chen, 2008). The Taiwanese government introduced the Taiwan Agriculture and Food Traceability (TAFT) program in 2004 (Liao et al., 2011) and enacted legislation for this program in 2007, thereby incorporating CAS (Certified Agricultural Standards) and GAP (Good Agriculture Practice) into TAP (Traceable Agriculture Product) as the new marks of official verification. The TAFT program provides a channel for the producers and sellers who want to certify the places of origin for their agro-products. A record of the food traceability may help producers to deal with food crises and to assign personal responsibilities. Moreover, such a system increases the efficiency of a producer's business, considerably reducing management costs and promoting the quality of products. Those producers and sellers who comply with the rules and participate in the TAFT program can thus win their competitive advantages. After a change in government in 2008, the food traceability policy was altered; the system was optional rather than mandatory, though CAS and GAP were still valid. The policy shift that the government brought not only interrupted the ongoing food traceability operation but also confused most consumers in Taiwan.

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Personal involvement refers to the degree of the perceived significance, interest, relevance induced by the stimulus, which is evoked by the product, service, product type, brand, purchasing decision, advertisement, and so on (Beharrell & Dennison, 1995; Juhl & Poulsen, 2000; Mitchell, 1979; Zaichkowsky, 1985). In recent years, more and more consumers believe that foods contribute directly to their health (Mollet & Rowland, 2002) and healthiness becomes one of the frequently mentioned motivations behind food choices (Lappalainen, Kearney, & Gibney, 1998; Steptoe, Pollard, & Wardle, 1995). Thus, the function of consumer involvement in food choice is a topic worth further investigation.

Consumers' acceptance of the concept of FTS and a better understanding of its impact on consumers' intentions to purchase foods will have a strong effect on the popularity of this system. Previous studies (e.g., Dalvit, De Marchi, & Cassandro, 2007; Gellynck, Verbeke, & Vermeire, 2006; Karlsen et al., 2011) focus on the topic of how FTS can be applied to main food categories such as meat, fish, and oil while some even explore the effect of such a system on consumers' purchase intentions (Loureiro & Umberger, 2007). Choe et al. (2009) found that Korean consumers were willing not only to purchase greater quantities of, but also to pay more for, food covered by the traceability system, indicating that the mitigated uncertainty brought about by the traceability system plays a key role in price premiums and purchase intentions.

Because of the convenience provided and the taste of fast food offered, many people carve for such food and treat it as a favorite meal. For some people, it is hard to resist the temptation from fast food meals, though fully aware of the harm they can do to human health. Oily and rich in sodium, they may lead to obesity and high cholesterol, resulting in diabetes, strokes, and heart attacks. Recently, some fast food franchises in Taiwan were confronted with a series of food safety issues regarding the food ingredients. For example, in early July of 2009, consumer protection officials in Taiwan announced that high levels of arsenic were found in the frying oil used at McDonald's and Domino's restaurants (Taipei Times, 2009), causing perspective consumers to hang back though no casualties have been reported since the crisis erupted. How to clear up people's uncertainty has become a cause for concern. Given the health risks related to the repeated use of arsenic-contaminated oil in cooking, Taiwan's Department of Health (DOH) made more frequent inspection of edible oil used by fast food restaurants as well as by night market vendors to ride out the crisis (Taiwan News, 2009). In addition, for fear of 'mad cow' disease, Taiwan's government vetoed the resumption of the import of American beef in 2010, causing trade tensions between the US and Taiwan. To allay consumers' concerns about food safety, some fast food stores began to emphasize that their beefs were imported from Australia.

Will FTS be a good approach to mitigating consumers' uncertainty so as to strengthen their purchase intentions to consume fast foods? Based on Choe et al.'s (2009) research model, this study aims to explore whether or not FTS can decrease an individual's perceived uncertainty, thereby leading to the formation of his/her purchase intention to consume fast foods in Taiwan. In addition, it is believed that if an individual's degree of involvement in the fast foods is higher than the other's then he/she may show more concern about whether or not the ingredients of his/her fast food cuisine are traceable to ensure food quality and safety. Therefore, it is of significance to investigate whether or not consumers with varying degrees of involvement will show variations in the relationship between perceived uncertainty and purchase intention to consume fast foods offered by stores adopting FTS. Based on the findings from this study, attempts are made to provide some suggestions to the fast food marketers to improve their performance in meeting the consumer's need for safe and quality foods and to the policy makers in the public health sector to help them formulate more effective communication strategies.

2. Research framework and hypotheses development

The impacts of the antecedents, such as perceived information asymmetry and fears of seller opportunism, on consumers' perceived uncertainty in adopting FTS by the fast food stores are examined. Moreover, the moderating role of consumer involvement in the relationship between his/her perceived uncertainty and purchase intention is also investigated. The research framework of this study is depicted in Fig. 1.

2.1. The impact of perceived uncertainty on purchase intention

The underlying psychological assumption driving the linkage between intentions and behavior is that most human behavior is under volitional control (Ryan, 1970). Fishbein and Ajzen (1975, p. 288) have defined intention as a "a person's location on a subjective probability dimension involving a relation between himself and some action." In other words, behavioral intention reflects a person's decision to perform a behavior. Intentions are the single best predictor of planned behavior and they are also an unbiased predictor of action (Bagozzi, Baumgartner, & Yi, 1989).

Whenever there is incomplete information in buyers or sellers (mostly buyers), there emerges uncertainty in buyers' mind before making purchase decisions (Singh & Sirdeshmukh, 2000), and such uncertainty may lead to their subjective possibility of going to suffer a loss (Chiles & McMackin, 1996). Perceived uncertainty refers to the degree to which the outcome of a transaction cannot be accurately predicted by buyers because of many uncertain factors

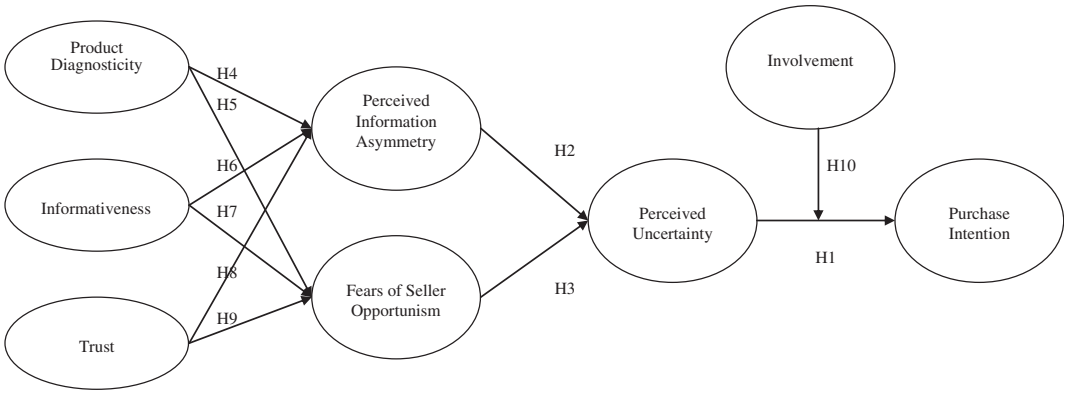

Fig. 1. A research framework of consumer's purchase intention of fast foods with food traceability system.