



Why Do Consumers Switch in Food Safety Crisis? A View of Regulatory Focus Theory

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Abstract: In recent years, food quality safety has gained widely attention of citizens and government because reports of food crisis frequently accrued in all sorts of media. As a negative event, food quality problem has aroused trust crisis on food industry and even the inspection departments of government. The study attends to reveal how and why consumer will switch food products in the crisis. By using analysis of data from 646 consumers in supermarkets of 4 megalopolises in China, the research showed that consumer switching behavior will be influenced by regulatory focus and perceived risk, which makes implication for food industry managers and governors.

Keywords: food quality safety, switching behavior, regulatory focus, perceived risk

1 Introduction

Recently, with the rapid development of public health consciousness and the constant improvement of the level of living in our country, food quality safety has gained great attentions from citizens, government, scholars, and stakeholders. Especially, food quality safety events appear constantly in our daily life, such as “milk powder containing melamine”, “dyed steamed bread”, etc., which has led consumers to doubt on the reliability of entire food industry and even the public trust of government. Thus, consumers might switch from one food product or

brand to another in response to the food quality crisis. According to this problem, more and more experts and scholars began paying attention to investigating the psychological process of consumer switching behavior during food quality safety crisis.

Generally speaking, considerable researches on consumer in food quality mainly contain three domains, i.e. cognition of safe food, purchasing behavior and payment intention, and the results suggested that population characteristics, market information and product price indicators such as sex, age, income, education, race, family size, region, etc., might influence the cognition of safe food, purchasing behavior and payment intention [1-4]. In recent years, with the frequent appearance of food quality safety both in China and world while the improvement of econometrics methods used in marketing study, several progress has been made in the aspect of consumer cognition of food quality safety and buying behavior, but many issues, viewed from the research point, need to be proven by further study, such as, consumer psychological mechanism induced by food quality risk and management absence of government, consumer trust mechanism on food quality because of the difference between internal and external food quality, and so on.

This study tends to find the reasons why consumer switch product when they are facing with food quality safety crisis, analyze the consumer psychological mechanism driving by regulatory focus theory, and then give suggestion for managers and governors. In the following sections, we first proposed research hypotheses based on literature review and the research model (see Fig.1), and described the research design. Subsequently, the study tested the hypotheses. Discussions on the practical implications and limitations of the study will be presented in the final section.

2 Literature review and hypothesis

Consumer switching behavior is critical for corporate performance reduction. However, in prior

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findings, there are few studies to provide insight into the psychological mechanism of switching behavior in food quality crisis. We develop the conceptual framework in four aspects: perceived food quality, perceived risk, regulatory focus and switching behavior. The relevant theories and hypotheses are as follow.

2.1 Perceived food quality

The perceived quality is the one of the fundamental pillars in recent marketing research. Quality can be defined broadly as superiority or excellence. By extension, perceived quality can be defined as the consumer's judgment about a product's overall excellence or superiority^[5]. Perceived quality is (1) different from objective or actual quality, (2) a higher level abstraction rather than a specific attribute of a product, (3) a global assessment that in some cases resembles attitude, and (4) a judgment usually made within a consumer's evoked set. Here, we will only focus on consumer perceptions of quality of food rather than its actual quality^[6].

Since holding the view that the perceptions of quality is different from the actual quality and according to the research on antecedences of perceived quality, researcher argued that the source of consumer's perceptions of quality could be divided into internal and external clues^[6]. The internal clues pertain to the physical attribute, taking soft drink as example, such as taste, color, sweet degree, and so on. External clues are price, brand and advertisement. In terms of this study, consumers generally estimate the food quality according to the internal clue, that is to say the physical attribute of food, such as appearance, taste, production date, and producing area, which we define as perceived dominant food quality.

For as much as the actual quality of food often concealed by the physical quality, consumers could not insight into the internal quality and thus lack enough information to judge the harmful additive, sanitary conditions of food production process, pesticide residues in food, which is the fundamental exhibition of food quality crisis. Hence, we define the perceived implicit food quality as the invisible element contained in food, such as pesticide residues, additive, sanitary conditions, and so on.

2.2 Perceived risk

Bauer introduced the concept of "perceived risk" to the marketing literature, and he viewed the consumer behavior as a risk assumption, namely before buying product or service, consumer could not confirm the usage results, so he/she would perceive the exist of risk^[7]. Subsequently, considerable studies devoted to investigating the relationship between perceived quality, especially food quality, and perceived risk. For example, Brewer et al. found some quality factors have effect on consumer perceived risk. Such as chemical risk, healthy risk, pollution risk and so on^[8]. Kutznesof & Ritson concluded that the attitude of consumers to the risk and the degree of acceptance of genetically modified food

depends on multifold factors, of which perceived quality and pollution extent of food are most significant ones^[9]. Meanwhile, a survey on consumer attitude to food quality in American showed that 49% of informants believed pollution risk is an ultimate threat to food quality safety^[10]. Therefore, we hypothesize:

H1: The perceived dominant food quality is negatively related to perceived risk.

H2: The perceived implicit food quality is negatively related to perceived risk.

2.3 Regulation focus

Higgins & Silberman^[11-13] argued that individuals can pursue two different kinds of regulatory goals: promotion and prevention, which are highly relevant in consumption contexts.

Promotion focus entails striving to achieve an ideal self, and so produce sensitivity to the presence or absence of positive outcomes; strategies for achieving promotion goals involve the eager pursuit of gains or advancements^[14].

When consumer perceived highly risk in purchasing process, it would change his/her psychological state and consumption attitude, which might finally influence the decision orientation^[15]. Risk could cause one to have emotional difficulties and psychological inhibitions, and thus reducing risk would effectively lower one's constriction and anxiety and accordingly lead to conducting positive actions^[16]. Besides, a few experts hold the points that perceived risk is the antecedent factor of regulation focus, and one could make adjustment according to the extent of the risk he/she perceived and then adjust his/her action orientation^[17]. Therefore, we arrive to the compelling hypothesis:

H3: The perceived risk is negatively related to promotion focus.

Compared to promotion focus, prevention focus entails striving to avoid disasters, and so produce sensitivity to the presence or absence of negative outcomes; strategies for achieving prevention goals involve the vigilant avoidance of losses or failures^[18-19]. In contrast, highly risk would arouse one's psychological disorder, and sure to result in conservative attitudes and actions by minimizing errors of commission. Thus, we argue that:

H4: The perceived risk is positively related to prevention focus.

2.4 Switching behavior

Review of the services and product literatures reveals a variety of potential, and sometimes conflicting, reasons that consumer might switch product or services^[20-24]. For example, consumer switching has been related to perceptions of quality of product or services in many industries^[25]. The service and psychology literature also examine behavioral intentions variables, such as "intention to switch" or "intentions to repatronize a service"^[26-28]. Although service or product quality failures and dissatisfaction represent some of the reasons

that customers switch services, they do not account for all of them [29]. Thus, Prentice suggested that psychological and psychological factors, such as convenience, availability, and positive emotion, might enhance customer satisfaction and ultimately affect behavioral intentions [30]. Specifically, Higgins & Silberman found that regulatory focus would psychologically affect one's switching and loyalty behavior. When individual was confronted with success or failure he/she would maintain or adjust his/her action by manipulating self-psychological state, i.e. promotion focus or prevention focus [13]. Thus, we presume:

H5: The promotion focus will negatively influence consumer switching behavior.

H6: The prevention focus will positively influence consumer switching behavior.

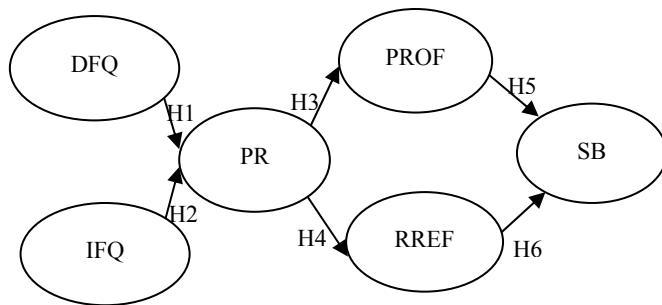


Fig.1 Theory model

Note: DFQ = Dominant food quality, IFQ = Implicit food quality, PR= Perceived risk, PROF= Promotion focus, RREF= Prevention focus, SB= Switching behavior

3 Methodology

3.1 Data collection

To test the hypotheses, we designed an instrument to collect data on the constructs mentioned above. The questionnaire contained the measurement of perceived dominant food quality, perceived implicit food quality, perceived risk, promotion focus, prevention focus, and consumer switching behavior. Specifically, the scales of perceived dominant food quality and perceived implicit food quality were developed on the basis of measurement of perceived product quality proposed by Parasuraman, Zeithaml, Berry^[31] and the results of depth interviews conducted before the survey. All items were measured on a seven-point Likert scale that ranged from “very agreement” to “very disagreement”. Before the formal survey, the pilot study was employed to test the reliability and convergent validity of the questionnaire. According to the results of pretest, the construct of each variable indicated an acceptable level of reliability and convergent validity.

We collected consumer responses on their experience with buying food. The sample was randomly drawn from the consumers in supermarkets, which is located in Shanghai, Guangzhou, Shijiazhuang and

Tianjin in China. All respondents answered the formal questionnaire during their process of buying food, and received a present as encouragement. A total of 823 subjects submitted their answers, of which 102 questionnaire were unusable because of missing values, which resulted in an effective response rate of 87.6%.

3.2 Reliability and validity test

The confirmatory factor analysis was conducted and the construct validity was examined by following the procedures of Fomell and Larcker [32], results in Tab.1 showed that our measurements had good discriminatory validity and convergent validity^[33]. Moreover, the multiply-scales were expected to measure constructs as perceived dominant food quality, perceived implicit food quality, perceived risk, promotion focus, prevention focus, and consumer switching behavior, and the Cronbach α of each construct is reasonably high, i.e., 0.829, 0.876, 0.856, 0.883, 0.845, and 0.892, all of which are above the cut-off point of 0.7 [34]. In addition, the standardized factor loadings for all items were above the suggested cut-off point of 0.60 (with a minimum of 0.7873 for an item of perceived dominant food quality), and all were significant with strong evidence of convergent validity. Furthermore, the average variance extracted (AVE) of each construct in the model was more than 0.50, which met the criterion that a construct's AVE should be at least higher than 50% [35]. In addition, high discriminate validity was demonstrated by the square root of AVE of each construct being generally higher than the correlation coefficient between it and any other constructs in the model (see Tab. 2).

3.3 An analyses and results

Following with the reliability and validity test, the study simulated and calculated the path coefficients and corresponded T value between each construct by using PLS-graph, which is one kind of structural equation modeling software based on least square method. The results by PLS-graph suggest that coefficients of each path, besides that between perceived risk and promotion focus, i.e., -0.097 T = 1.6383), are above the 0.05 significance level, which is the lowest accepted standard. The statistical number reported in Tab.3 shows that the results strongly support hypothesis1, 2, 4, 5 and 6. However, H3 was not passed the T-test, which represents that perceived risk does not significantly influence promotion focus tendency when consumers are facing with food quality crisis, and all of other hypothesis are reasonably in the statistical sense. Moreover, as a value for describing the structural equation modeling explanatory power, R^2 of endogenous variables are between 0.136-0.325, besides that of promotion focus is 0.069 which is below the cut-off point 0.100. In one word, the research model can be effectively explained by collected data in statistical sense (see Fig.2).

Tab.1 Results of factor loading and reliability analysis

Variable	Cronbach α	AVE	Item	Loading	T value
DFQ	0.829	0.689	DFQ1	0.895	23.330
			DFQ2	0.846	31.234
			DFQ3	0.881	18.461
IFQ	0.876	0.794	IFQ1	0.900	49.259
			IFQ2	0.889	47.310
			IFQ3	0.821	11.124
PR	0.856	0.743	PR1	0.823	13.128
			PR2	0.882	25.496
			PR3	0.856	35.514
			PR4	0.874	20.141
PROF	0.883	0.721	PF1	0.832	24.794
			PF2	0.851	19.057
			PF3	0.813	12.877
PREF	0.845	0.676	PEF1	0.829	13.235
			PEF2	0.835	13.956
			PEF3	0.787	11.234
SB	0.892	0.735	SBE1	0.893	25.356
			SBE2	0.932	49.123
			SBE3	0.856	35.569

Note: DFQ = Dominant food quality, IFQ = Implicit food quality, PR= Perceived risk, PROF= Promotion focus, PREF= Prevention focus, SB= Switching behavior

Tab.2 Correlation coefficient and discriminate validity

Variable	1	2	3	4	5	6
1. DFQ	0.830					
2. IFQ	0.353	0.891				
3. PR	-0.313	-0.490	0.862			
4. PROF	0.146	0.155	-0.082	0.849		
5. PREF	-0.136	-0.199	0.374	-0.127	0.822	
6. SB	0.292	0.242	0.279	-0.412	0.550	0.735

Note: data on the diagonal are square root of AVE, and below the diagonal are correlation coefficients between each construct. DFQ = Dominant food quality, IFQ = Implicit food quality, PR= Perceived risk, PROF= Promotion focus, PREF= Prevention focus, SB= Switching behavior

Tab.3 Path coefficient and hypotheses test

hypothesis	Path coefficient	T value	Result of test
H1	-0.221	7.784***	Accepted
H2	-0.322	8.053***	Accepted
H3	-0.097	1.638	Refused
H4	0.306	9.131***	Accepted
H5	-0.341	9.757***	Accepted
H6	0.517	15.414***	Accepted

Note: **p<0.01; ***p<0.001

4 Discussions and conclusion

4.1 Theoretical implications

According to the statistical analysis of data from common consumers in four big cities in China, this research revealed that consumers now have paid more attention to food quality safety, and the conclusions

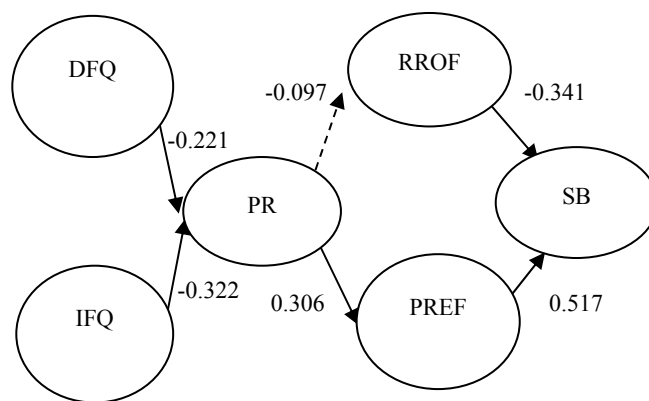


Fig.2 Consumer switching behavior model

Note: DFQ = Dominant food quality, IFQ = Implicit food quality, PR= Perceived risk, PROF= Promotion focus, PREF= Prevention focus, SB= Switching behavior

are as follow:

Firstly, with regard to the food quality safety, customers are mainly anxious about the implicit food quality other than dominant food quality, which incorporates that consumers are not satisfied with the pesticide residues in vegetable and fruit, safety of food package, and usage and label of food additives. Meanwhile, the empirical study represents that the score of perceived implicit food quality is significantly lower than perceived dominant food quality, which is one of the most important reasons why consumer always perceive high food risk in daily life.

Secondly, in facing with severe food quality safety crisis, Chinese consumers generally hold a defensive and preventive psychological state, and not trust in the food safety, which suggests that, based on the internal attribution theory, consumers have had the intention and ability to identify the quality of food with the growing cognition level and risk consciousness; while on the basis of external attribution theory, the governments lack necessary supervision and management of food production, and the self-discipline of food industry could not completely guarantee the high safety of food quality, which makes the consumer switching behavior intensified.

Thirdly, the consumer intentions and actions of diversity choice is gradually upgrading. With the rapid development of the food industry, food types and colors available in the market has been greatly enriched, and thus in the face of the status of a product quality and safety crisis arising, consumers can more easily switch to alternative foods. But we must clearly recognize that consumer diversity choice behavior has positively direct relations with consumer psychology and defense actions. It is often the passive behavior accompanied by food quality and safety crisis.

4.2 Managerial implications

For the managers, there are as followed, on the one hand, as the main supervisor and administer, the

governments will need to constitute the precise and rational food production regulation, and while impose tougher punishment on criminal activities referring to food quality in order to frighten any food corporate which intent to disrupt our economic order; on the other hand, being the subject of food industry, enterprises should more cherish their honor and social value, and supply consumers with safer and more various food. All in all, only when consumers do not need to switch from one product or brand to another because of unsafe food quality, could the Chinese food industry lead to sound and sustainable development.

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