

EXPLAINING REPURCHASE INTENTION TOWARDS IN VIETNAM: THE EXTENSION OF THE THEORY OF PLANNED BEHAVIOR

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ABSTRACT

The purpose of this study is to apply the extensive framework of theory of planned behavior (TPB) to explain repurchase intention towards fish of Vietnamese families. Specifically, we seek to understand the role of past behavior and habit in explaining repurchase intention besides satisfaction, social norm, and perceived behavioral control (PBC), and explore further the moderator effects of these variables on the satisfaction-repurchase intention relationship. The data is formed by a survey sample of 466 consumers in Khanhhoa, a coastal province in Central of Vietnam. A model development strategy in structural equation modeling with six nested models is used to test hypotheses. The estimating results indicate that satisfaction, social norm, PBC have a positive effect on repurchase intention, which supports the reasons of the original TPB model. Especially, both past behavior and habit have significant influences on repurchase intention and increase considerably in the explained variance of the criterion. More interestingly, the results also indicate that except for PBC, habit, past behavior, and social norm moderate negatively the effect of satisfaction on repurchase intention. These findings emphasize the importance of past behavior and habit as well as moderators within the TPB framework, which increase over twice in predictive ability of repurchase intention towards fish in Vietnam.

Keywords: TPB theory, past behavior, habit, moderators, fish, Vietnam.

INTRODUCTION

The promotions of healthy eating have been increasing during the last few decades, in which fish has showed excessive advantages relative to other foods (Verbeke and Vackier, 2005). Fish is the most common food in Vietnam and having meals at home are the traditional characteristics of the families (Tuu et al., 2008). However, regardless of the increasing attraction of this market with the population approximately ninety millions, very few studies we know explain motivations, behaviors or loyalty toward eating fish in this market (Thong and Olsen, 2009; Tuu et al., 2008). This study extends previous studies to seek additional explanations for consumers' repurchase intention towards fish basing on the satisfaction-loyalty framework and an extensive version of the Theory of Planned Behavior (TPB) to include social norms, perceived behavioral control (PBC), and especially both past behavior and habit strength besides attitudes/satisfaction.

Satisfaction has proved as a key determinant for customer loyalty (Oliver, 1997), however, a meta-analysis by Szymanski and Henard (2001) reveals that the predictive power of consumer satisfaction for consumer's (re)purchase intention is just at modest level with the explained variance of (re)purchase intention basing on satisfaction only about 25 %, which says that lots of satisfied consumers defect (Jones and Sasser, 1995). This is in the case for the Vietnamese seafood/fish market with the correlations found between attitude and intention or loyalty from 0.40 to 0.57 (Thong and Olsen, 2009; Tuu et al., 2008). Therefore, understanding why, how and when satisfaction develops into repurchase intention/loyalty in different market situations and especially for this market is important (Oliver, 1997).

Many different models have been proposed to explain consumer behavior, however the Theory of Planned Behaviour (TPB) (Ajzen, 1991) has been used widely in the identification of determinants of a wide range of behaviors (de Bruijin et al., 2007), including fish consumption (Bredahl and Grunert, 1997; Olsen, 2001; 2007; Verbeke and Vackier, 2005; Tuu et al., 2008). The TPB proposes that behavioral intention is the function of three constructs, namely, attitude, social norm and perceived behavioral control (PBC). An important postulation of this theory posits the independence of these three constructs (Ajzen, 1991). However recent theoretical discussions (Armitage and Conner, 2001; Conner and Armitage, 1998; Eagly and Chaiken, 1993) as well as several studies in some social behaviors, such as using drugs, have challenged this postulation and proposed that social norm, PBC may interact with attitude to influence on behavioral intention and behavior (Conner and McMillan, 1999; McMillan and Conner, 2003; Umeh and Patel, 2004), however very few empirical evidences are provided.

Notwithstanding the supportive evidence from systematic reviews and meta-analyses for the use of TPB in understanding human health behavior (Armitage and Conner, 2001), recent calls have been made to extend the TPB to include additional factors (Conner and Armitage, 1998). Past behavior and habit is the variables received a special interest of many researchers in a wide of areas (Aarts et al., 1998; Cheng et al., 2005; de Bruijin et al., 2007; Trafimow, 2000; Verplanken and Orbell, 2003). Ajzen (1991) suggests that habit, if defined independently by the past behavior, would presumably capture the residues of past behavior that have established a habit or tendency to perform the behavior on future occasion. Habit and past behavior are also found to play an important role in the context of food choice when consumption of food is frequently performed (Honkanen et al., 2005; Saba and Di Natale, 1999; Saba et al., 2000; Verbeke and Vackier, 2005). Several studies suggest that habit and past behavior may play as a moderator in the TPB framework (de Bruijin et al., 2007; Norman et al., 2000; Norman and Conner, 2006; Trafimow, 2000). Therefore, if food consumption has habitual qualities, then this should have consequences for the persuasion strategies that should be used to influence people's eating habits (Honkanen et al., 2005).

Consistence with recent studies which have tried to find additional explanations for the formation of consumer loyalty by including other antecedents and moderators between satisfaction and loyalty (Bloemer and de Ruyter, 1998; Fournier and Mick, 1999; Homburg and Giering, 2001; Johnson et al., 2001; Nijssen et al., 2003), as well as in accordance with traditional research in the area of explaining or predicting human behavior in general (Ajzen, 1991), this study intends to discuss and test the relative importance of satisfaction compared with social norms (Fournier and Mick, 1999), control variables (Notani, 1998; McMillan and Conner, 2003; Umeh and Patel, 2004), past behavior and habit strength (de Bruijin et al., 2007; Honkanen et al., 2005; Saba and Di Natale, 1999; Saba et al., 2000; Verbeke and Vackier, 2005) as well as explore the moderator effects of these variables on the satisfaction-repurchase intention relationship. This study may give a more pragmatic picture and a deeper and more comprehensive understanding of the complicated relationship between satisfaction and loyalty (Olsen, 2007). In the following sections, the conceptual framework and research methods are described. The findings would have direct implications for the TPB and the development of interventions (Honkanen et al., 2005; Umeh and Patel, 2004).

THEORETICAL FRAMEWORK

The theory of planned behavior

The TPB (Ajzen, 1991) is a cognitive model of human behavior, in which the central focus is the prediction and understanding of clearly defined behaviors. According to Ajzen (1991), the principal predictor of behavior is intention. People tend to act in accordance with their intention to engage in a behavior. Intention can be regarded as a motivation to engage in a particular behavior and represents an individual's expectancies about his/her behavior in a given setting. Intention is influenced by attitude, subjective norm, and perception of control over the behavior.

The satisfaction-repurchase intention relationship

The satisfaction-repurchase intention relationship is within the TPB framework. This study defines individual satisfaction as a consumer's personal overall evaluation of satisfaction and pleasure with a given product category—and as a cumulative rather than a transaction-specific construct (Oliver, 1997; Olsen, 2007). Thus, consumer satisfaction in this study taps the most aspects of attitude which is often defined as a psychological tendency that is expressed by evaluating a particular entity (e.g., a food product) with some degree of favor-disfavor, like-dislike, satisfaction-dissatisfaction or good-bad polarity (Eagly and Chaiken, 1993). Fishbein and Ajzen (1975) operationalized intention as the likelihood to act. According to Kuhl (1987), intention is often defined as a commitment to perform an activity, and although people may feel committed to perform activities requested by them or others, they may also need to identify the commitment as something part of themselves to be motivated to implement an intention. Thus, in this study, repurchase intention is defined as repurchasing commitments and probability to rebuy a product category.

Satisfaction is suggested to be one of the main determinants of explaining repurchase intention and consumption behavior/loyalty (Shepherd and Raats, 1996), including seafood (Bredahl and Grunert, 1997; Olsen, 2001; Tuu et al., 2008), in which a positive association between attitude/satisfaction and repurchase intention/loyalty is often suggested. However, the relationship is found to vary between products, industries and situations (Szymanski and Henard, 2001) or may be affected by moderators (Homburg and Giering, 2001; Mittal and Kamakura, 2001; Seiders et al., 2005). In this study, we want to investigate the satisfaction-repurchase intention relationship within TPB framework and argue that social norm, PBC (Olsen, 2007) and extensive TPB variables such as past behavior and

habit strength (de Bruijin et al., 2007; Knussen et al., 2004; Ouellette and Wood, 1998; Triandis, 1980; Verplanken and Aarts, 1999) may give additional explanations for repurchase intention and moderate the satisfaction-repurchase intention relationship. Before going further, the following hypothesis is suggested:

H 1: Satisfaction has a positive effect on repurchase intention.

Social norms within the satisfaction-repurchase intention relationship

Social norm is normally supposed to capture the individual's perception that important others in his or her social environment wish or expect him or her to behave in a certain way (Ajzen, 1991). In this study social norm is defined as approval of others' expectations, such as family norms (Olsen, 2001). The findings within the literature are mixed, but most studies report that social norms are an independent and important variable in explaining consumer intention (Ryan, 1982). Social norms have shown as an important factor in explaining the motivations toward eating fish (Olsen, 2001; Thong and Olsen, 2009; Tuu et al., 2008; Verbeke and Vackier, 2005).

The viewpoint of social norms as moderator for the attitude–intention–behavior relationship is argued by Eagly and Chaiken (1993) that social pressure to enact a behavior would have little impact if that behavior is viewed negatively, but increase intentions if the behavior is positively evaluated, and similarly, a positive attitude may facilitate a behavior only to the extent that significant others approve, but have little or no impact if there is a hostile social context. Their proposition is supported by others by a call for adding social norms as a moderator in considering the attitude–intention–behavior (Conner and Armitage, 1998). However, few studies test the moderating effect of social norm on the attitude–intention relationship (Conner and McMillan, 1999; McMillan and Conner, 2003; Umeh and Patel, 2004) and find weak or nonsignificant empirical evidences. In food area, Olsen (2001) has proved that the effect of attitude on involvement is decreased considerably when different aspects of social norm are included into the model because differences and conflicts between family members in consuming seafood.

Within the satisfaction-loyalty relationship, social norm is also suggested as an important antecedent to have a positive effect on consumer loyalty (Olsen, 2007). The moderator role of social norm in the satisfaction-loyalty is first suggested by Dick and Basu (1994) that social norms if contrary to an attitude might render it unrelated to behavior. For example, a teenage consumer may have a high relative attitude towards a fashion boutique but may feel reluctant to patronize it due to his perception that his parents disapprove of the high price level of the store (Dick and Basu, 1994). Their proposition is supported by others by a call for adding social norms as antecedent or moderator in considering the satisfaction-repurchasing loyalty/behaviors (Conner and Armitage, 1998; Fournier and Mick, 1999; Olsen, 2002). Consistent with previous studies, the following hypothesis is proposed.

H2: Social norm has (a) a positive effect on repurchase intention and (b) moderates negatively the satisfaction–repurchase intention relationship.

Perceived behavioral control within the satisfaction–repurchase intention relationship

Ajzen (1991) focuses on PBC as the person's beliefs as to how easy or difficult performance of the behavior was likely to be. The more resources and opportunities an individual thinks he or she possesses, the fewer obstacles or impediments they anticipate, the greater should be their perceived control over the behavior. He also suggests that control factors may be either internal to the person (e.g., skills, abilities, power of will, compulsion) or external to the person (e.g., time, opportunity, dependence on others). PBC is defined in this study as an integrated measure of internal and external resources that make it easy to act upon the motivation to consume (Olsen, 2007; Tuu et al., 2008).

Several studies have proved that the inclusion of PBC construct improves the TPB model's ability to predict or explain intention (Armitage and Conner, 2001; Notani, 1998; Thong and Olsen, 2009; Tuu et al., 2008; Verbeke and Vackier, 2005). Most studies suggest a positive effect of PBC on intention, however, PBC fails to predict intention in quite many cases (Eagly and Chaiken, 1993; McMillan and Conner, 2003) which reasons partly come from the interactions between the TPB variables (Ajzen and Fishbein, 2005; Eagly and Chaiken, 1993).

The role of PBC as moderator in the attitude–intention relationship is indicated by an interaction between attitude and perceived behavioral control in several studies involving using drugs (Conner and McMillan, 1999; Umeh and Patel, 2004). From attitudes perspective, people who assume they have control over a behavior would not necessarily act if the behavior were negatively evaluated; controllability may facilitate a behavior only to the degree that one has a positive attitude toward the behavior (Eagly and Chaiken, 1993). For example, Conner and McMillan (1999) find when attitudes are neutral or negative, PBC predicts intentions negatively, in contrast, when attitudes are

positive, PBC is no longer significant. Furthermore, there is also empirical evidence that, for positively evaluated behaviors, greater PBC predicts stronger intention (McMillan and Conner, 2003; Umeh and Patel, 2004). Alternatively, PBC may inhibit a behavior if it is appraised negatively and this interaction can also be viewed from the perspective of attitude that positive evaluations may instigate or have no effect on a behavior given strong and weak perceptions of control, respectively (Umeh and Patel, 2004).

Although no studies we know test the moderator effect of PBC on the satisfaction-loyalty relationship, we expect that in the extent to which satisfaction taps important aspects of overall attitudes, PBC may interact with satisfaction to have a negative effect on repurchase intention. The following hypothesis is proposed:

H3: Perceived behavioral control has (a) a positive effect on repurchase intention and (b) moderates negatively the satisfaction–repurchase intention relationship.

The concept of habit as distinct construct with past behavior

Triandis (1980) defined habit as “... situation–behavior sequences that are or have become automatic, so that they occur without self–instruction” (p. 204). Verplanken and Aarts (1999) describe habits as “... learned sequences of acts that have become automatic responses to specific cues, and are functional in obtaining certain goals or end states” (p. 104). A major problem is the way habit has been conceptualized and measured, in which, habit is usually measured as repetition as past behavioral frequency (Cheng et al., 2005; Ouellette and Wood, 1998; Triandis, 1980). However, repetition is only a necessary condition to develop a habit, habit should be distinguished from behavioral frequency (Honkanen et al., 2005). Because it cannot be assumed that past behavior is a valid measure for habitual behavior, only when habit is defined independently of past behavior can it legitimately be added as an explanatory variable to the TPB (Ajzen, 1991). In addition, Wood, Tam and Guerrero Witt (2005) explain habit as the cognitive, neurological and motivational changes that occur when behavior is repeated. Therefore, in this study, habit is defined as automatic or unconscious responses to behave to future behaviors, which is the same as past behaviors, and as the learned consequences of repetition (Verplanken and Aarts, 1999; Triandis, 1980). The automaticity concept is further broken down into facets that people may easily reflect on, i.e. a lack of awareness, lack of control, and mental efficiency which show good psychometric properties about convergent as well as discriminant validity (Honkanen et al., 2005; Verplanken and Aarts, 1999).

The role of habit and past behavior in the satisfaction–repurchase intention relationship

In separate reviews of the attitude literature, Eagly and Chaiken (1993) and Ajzen (2000) both acknowledge the role of habit and past behavior within the context of TPB. Overall, the salience of TPB constructs, including potential interactions, may be attenuated somewhat when juxtaposed against these background variables, especially habit and past behavior (Ajzen, 2000; Eagly, and Chaiken, 1993).

Habit has been shown to impact on intentions, irrespective of TPB variables (Conner, and McMillan, 1999). The addition of habit significantly increased explained variance in fruit intake intention (Brug et al., 2006) as well as intention to consume fish (Honkanen et al., 2005; Verbeker and Vackier, 2005). Some evidences supported the proposed moderating effect of habit of the attitude/satisfaction–repurchase intention/loyalty relationship (de Bruijn, 2007; Honkanen et al., 2005) basing on the fact that the automaticity of behavior lessens the need to access intention (Aarts et al., 1997). Generally, almost studies find that the relationship between attitude and intention is typically weaker when the behavior is habitual than when the behavior is not habitual (de Bruijn et al., 2007; Knussen et al., 2004; Ouellette and Wood, 1998). The reason may be that people who have well–developed intentions (that is they base their intention on their attitude) will show a relatively strong relationship between attitude and intention, by contrast, those who do not have well–developed intention may use their habit as a basis for their response (Honkanen et al., 2005). Furthermore, if a person is in the habit of performing a behavior, there would seem to be no need to perform the reasoning assumed by the theory of reasoned action (Aarts et al., 1998). By contrast, when people are not in the habit of performing a behavior, attitude should predict intention; but when people are in the habit of performing a behavior, the predictive power of attitude should be attenuated (Trafimow, 2000). Basing on above discussions, the following hypothesis is suggested:

Similarly, the habit literature maintains that the best predictor of behavioral intention is the frequency of a past behavior (Eagly and Chaiken, 1993; Ouellette and Wood, 1998). Studies have shown that past behavior may predict intention independent of TPB variables (Cheng et al., 2005; Honkanen et al., 2005; Ouellette and Wood, 1998; Verbeker and Vackier, 2005) and that the addition of past behavior can lead explain more of the variance in

behavioral intention than attitude, subjective norm, and PBC can (Norman et al., 2000; Ouellette and Wood, 1998; Verbeker and Vackier, 2005).

In their studies, a strong positive association between past behavior and intention is often found. In addition, Verplanken et al. (1997) propose that repeatedly performing a behavior leads to a reduction in the amount of deliberative processing. Therefore the importance of attitude in determining intention decreases as the frequency of past behavior increases (Norman et al., 2000). Several evidences are found to support the hypothesis of a moderating role for past behavior on the attitude/satisfaction–repurchase intention/loyalty relationship in such a way that as the frequency of past behavior increases, the strength of the attitude/satisfaction–repurchase intention/loyalty relationship decreases (Anderson and Srinivasan, 2003; Jolley et al., 2006; Norman et al., 2000; Norman and Conner, 2006; Ouellette and Wood, 1998). Thus, the hypothesis is as follows.

H4: Habit has (a) a positive effect on repurchase intention and (b) moderates negatively the satisfaction–repurchase intention relationship.

H5: Past behavior (a) a positive effect on repurchase intention and (b) moderates negatively the satisfaction–repurchase intention relationship.

The theoretical model

Basing on our proposed hypotheses and theoretical discussions, the theoretical model is given in the Figure 1. The model is first structured basing on the satisfaction-loyalty relationship and the model of the theory of planned behavior (Ajzen, 1991) with habit and past behavior as additional variables besides satisfaction, social norm and PBC (Cheng et al., 2005; Honkanen et al., 2005; Verbeke and Vackier, 2005). Then the moderating effects of social norm, PBC, habit and past behavior on the satisfaction–repurchase intention relationship (Conner and McMillan, 1999; de Bruijin et al., 2007; Knussen et al., 2004; McMillan and Conner, 2003; Normann et al., 2000; Ouellette and Wood, 1998; Umeh and Patel, 2004) are added with dotted lines as a response to the call for testing the interactions within TPB framework (Armitage and Conner, 2001; Conner and Armitage, 1998; Eagly and Chaiken, 1993).

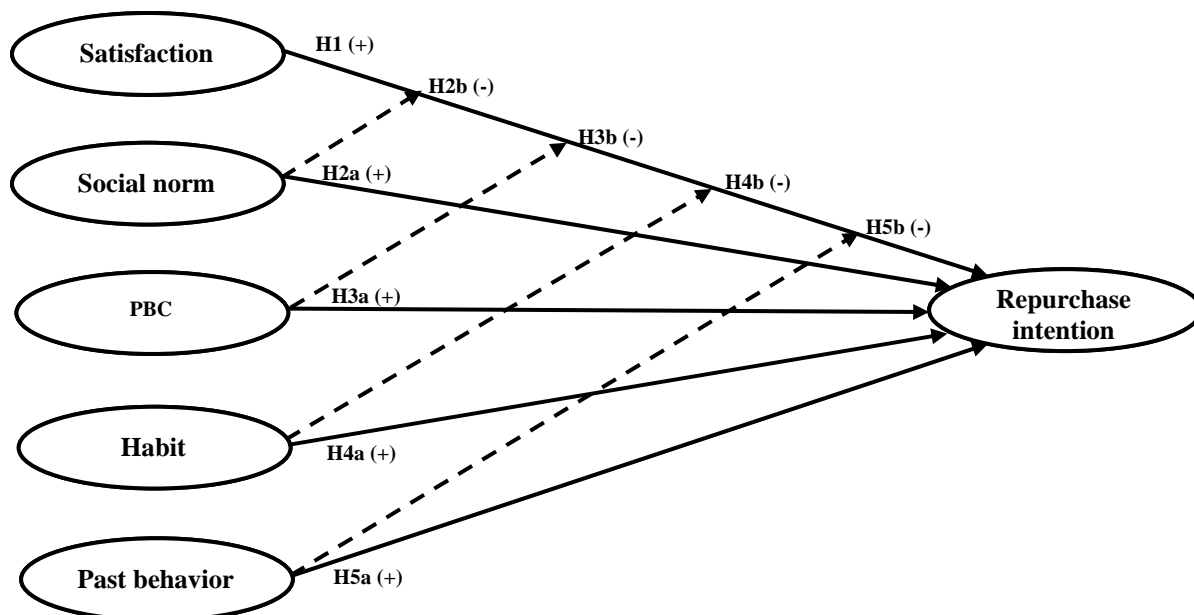


Figure 1. The theoretical model

METHODS

Sample and procedure

A convenient sample including 466 consumers at three areas (Nhatrang city, Dienkhanh and Camranh towns) of Khanhhoa province in the Central of Vietnam forms the empirical basis of the present study. Consumers with the age from 18 and eating fish at least once a week are selected. The data are collected by face to face interview using questionnaires at their houses to gain information from the person mainly responsible for shopping, preparing and cooking meals for their families. Respondents are clearly informed that this study only focuses on fish as a product

category. The typical respondents are female (72.5 %), married (73.4 %), educated within the age of 15 years (78.5 %), and are 44 years of age (range 18–76 years).

Measurement

Repurchase intention is assessed by a 7–point scale consisting of three items, indicating how likely the subjects “intend”, “want” and “are willing to” to buy and eat fish as a meal during the three coming days, coded from Totally unlikely (1) to Totally likely (7) (Tuu et al., 2008).

Satisfaction is measured by three statements of attitudinal evaluations and fish preferences on a 7–point bipolar scale as follows: “When I eat fish as the everyday main meal, I feel”: Unsatisfied (1) to Satisfied (7), Unpleasant (1) to Pleasant (7); and Disliking (1) to Liking (7). These items cover general positive feeling statements often used to assess attitudes towards food–objects and/or food behavior (Shepherd and Raats, 1996).

Social norm construct is addressed to include only the family as a reference group (Kallgren, Reno, and Cialdini, 2000; Terry and Hogg, 1996) and measured by three statements: “My family encourage me to eat fish regularly”, “My family want me to eat fish regularly”, and “My family think that I should eat fish regularly” on a 7–point Likert–scale anchored by disagree strongly (–3), neither disagree nor agree (0), and agree strongly (+3).

Perceived behavioral control is measured by three items on the same 7–point Likert–scale in the forms: “It first and almost up to myself whether or not I eat fish or not”, “It is entirely up to me to what extent I will eat fish or not”, and “It is within my principles to eat fish”. These items are frequently used to assess the perceived behavioral control within consumer and/or social psychology including food behavior (Notani, 1998).

Habit is measured by three items of the self–report index of habit strength scale (Verplanken and Orbell, 2003). The above 7–point Likert scale is used starting with the stem: “Eating fish for me is something: I do without much thinking about doing it; I do without any plan; I do without having consciously remembered about having done”. These three items represent the facets of lack of awareness, lack of control, and mental efficiency of the habit (Honkanen et al., 2005).

The measure of past behavior uses a one–year time frame and is addressed by a 7–point scale of the form, “How many times on average during the last year have you eaten fish as a meal?”: 1 = 1–2 times a week, 2 = 3–4 times a week, 3 = 4–5 times a week, etc., up to 7 = more 12 times a week”. The variance of this scale is fixed to 0. This measure is adapted from previous studies assessing consumption frequency and habit (Cheng et al., 2005; Ouellette and Wood, 1998).

Analytical procedure

First, the study assesses the intended constructs to ensure the internal consistency and the convergent and discriminant validity of the constructs (Anderson and Gerbing, 1988) by performing a confirmatory factor analysis using AMOS 7.0. Second, to test the proposed hypotheses and model, we use a development strategy in model testing by comparing the proposed model with a rival structure (Bagozzi and Yi, 1988). Specifically, this study wants to test a range of hierarchical models (Anderson and Gerbing, 1988) to satisfy the criteria for moderating effects (Baron and Kenny, 1986). The first step tests the direct effects of satisfaction, social norm and PBC on intention to consume fish. Then, habit and past behavior are added. Next, the moderating effects of social norm, PBC, habit and past behavior on the satisfaction–intention relationship are in turn added into the model in a range of hierarchical regression analyses (Baron and Kenny, 1986) using structural equation by AMOS to examine the margin of the explained variance of repurchase intention. The study reports the fit statistics – the chi–square fit test, root mean square error of approximation (RMSEA), goodness of fit index (GFI) and comparative fit index (CFI). Either a *p*–value of chi–square statistics exceeding 0.08 or GFI and CFI values exceeding 0.90 and RMSEA values below 0.08 indicate an acceptable model fit (Browne and Cudeck, 1992).

RESULTS

Reliability and validity of the measures

Our first goal is to confirm that each measure reflects the intended latent constructs (convergent validity) and that the constructs are distinct from each other (discriminant validity). An analysis of the a priori measurement model

including six constructs (satisfaction, social norm, PBC, repurchase intention, habit and past behavior) are conducted.

Table 1. Constructs and indicators

Constructs	Factor Loadings	t-values	CR	EV	Mean	S.D	1	2	3	4	5
Intention	0.83-0.89	21.2-23.8	0.89	0.74	5.09	1.46	–				
Satisfaction	0.74-0.92	18.1-25.1	0.90	0.75	5.22	1.40	0.06 ^{ns}	–			
Social norm	0.89-0.95	24.2-26.9	0.94	0.83	5.75	1.22	0.13	0.17	–		
PBC	0.59-0.89	13.0-20.4	0.82	0.60	4.73	1.62	–0.03 ^{ns}	0.18	0.14	–	
Habit	0.80-0.84	19.3-20.7	0.86	0.67	5.41	1.42	0.46	0.20	0.22	0.25	–
Past behavior	1.00 (fixed)	30.5	–	–	3.89	1.62	0.15	0.04 ^{ns}	0.04 ^{ns}	0.25	0.47

All factor loadings are significant at $p < 0.00$; ^{ns} nonsignificant; CR: Composite reliability; EV: Extracted variance

The standardized factor loadings (Lambda), construct reliabilities and variances extracted for the measurement model are presented in Table 1. The analysis of our measurement model resulted in a good fit with a χ^2 -value of 220.0 ($df = 90$, $p < 0.000$); RMSEA = 0.06; GFI = 0.94; and CFI = 0.97. The individual item loadings on the constructs were all highly significant ($p < 0.001$, all t -values > 12) with factor loadings ranging from 0.59 to 0.95. The individual indicators have substantial variance attributed to the underlying latent construct (convergent validity). All the individual scales exceeded the recommended minimum standards proposed by Bagozzi and Yi (1988) in terms of construct reliability; composite reliability greater than 0.70 and variance extracted greater than 0.50.

As shown in Table 1, all the correlations are not exceed 0.50, and the squared correlation between each of the constructs (the highest value at 0.22) is less than the average variance extracted from each pair of constructs (the lowest value at 0.60), which constitutes discriminant validity (Fornell and Lacker, 1981).

Testing direct effects

Table 3. Predicting intention to repurchase

Variables/Hypotheses		Step 1:	Step 2:	Step 3:	Step 4:	Step 5:	Step 6:
1. Satisfaction	H1	0.43*** (8.4)	0.38*** (8.2)	0.38*** (8.4)	0.38*** (8.4)	0.42*** (9.4)	0.42*** (9.6)
Social norm	H2a	0.16*** (3.6)	0.13 ** (3.1)	0.13 ** (3.2)	0.13 ** (3.2)	0.12 ** (3.0)	0.12 ** (3.1)
PBC	H3a	0.13 ** (2.8)	0.11 ** (2.6)	0.11 ** (2.7)	0.11 ** (2.6)	0.08 ^{ns} (1.9)	0.09 * (2.3)
2. Habit	H4a	–	0.13 ** (3.0)	0.13 ** (2.8)	0.12 ** (2.8)	0.15*** (3.5)	0.11 ** (2.6)
Past behavior (PB)	H5a	–	0.37*** (8.8)	0.37*** (8.8)	0.37*** (8.8)	0.30*** (7.2)	0.29*** (7.3)
3. Satisfaction*Norm	H2b	–	–	–0.14*** (-3.6)	–0.14*** (-3.5)	–0.09 * (-2.3)	–0.09 * (-2.5)
4. Satisfaction*PBC	H3b	–	–	–	–0.00 ^{ns} (-0.1)	0.05 ^{ns} (1.2)	0.05 ^{ns} (1.2)
5. Satisfaction*Habit	H4b	–	–	–	–	–0.27*** (-6.1)	–0.19*** (-3.8)
6. Satisfaction*PB	H5b	–	–	–	–	–	–0.19*** (-4.0)
R ² intention (%)		25.1	42.2	44.1	44.1	51.2	54.2
Chi-square (df)		97.5 (49)	187.9 (94)	305.5 (141)	472.5 (194)	667.0 (255)	779.5 (326)
P		0.000	0.000	0.000	0.000	0.000	0.000
GFI		0.97	0.95	0.94	0.91	0.90	0.89
CFI		0.99	0.98	0.97	0.96	0.95	0.95
RMSEA		0.05	0.05	0.05	0.06	0.06	0.06

Notes. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ns: nonsignificant; t-values in parentheses.

A hierarchical regression analysis using structural equation modeling is used to estimate the effects of the variables and their interactions on repurchase intention. The independent variables are entered in two blocks: (1) satisfaction, social norm and PBC, (2) habit and past behavior. In this way, it is possible to examine the predictive utility of the

TPB variables as well as the additional predictive utility of habit and past behavior after controlling for the effects of TPB variables. The results indicate the acceptable fits of all estimated models (GFI = 0.89–0.97; CFI = 0.95–0.99; RMSEA = 0.05–0.06). The standardized coefficients, *t*-values, fit statistics are shown in the Table 3.

The estimate results supports our main hypotheses that satisfaction (H1: $\beta = 0.38\text{--}0.43$, $t = 8.2\text{--}0.96$, $p < 0.001$), social norm (H2a: $\beta = 0.12\text{--}0.16$, $t = 3.0\text{--}3.6$, $p < 0.01$), PBC (H3a: $\beta = 0.08\text{--}0.13$, $t = 1.9\text{--}2.8$, $p < 0.05$) have direct positive effects on repurchase intention. Satisfaction, social norm and PBC are able to explain 25.1 % of the variance in repurchase intention, with all TPB variables emerging as significant independent predictors, except for only one case (step 5) in which PBC has a nonsignificant effect on repurchase intention.

Habit (H4a: $\beta = 0.11\text{--}0.15$, $t = 2.6\text{--}3.5$, $p < 0.01$) and past behavior (H5a: $\beta = 0.29\text{--}0.37$, $t = 7.2\text{--}8.8$, $p < 0.001$) have proved as important predictors for repurchase intention with relatively strong evidences to support for the hypotheses H4a and H5a. The addition of habit and past behavior leads to a substantial increase in the amount of variance explained in repurchase intention by 17.1 % ($42.2\% - 25.1\% = 17.1\%$). It is worthy to note that the addition of habit and past behavior besides the TPB variables only results in little changes in the beta weights of satisfaction, social norm and PBC. Furthermore, in all cases satisfaction proves as the strongest predictor of repurchase intention.

Testing moderating effects

In order to assess the moderating role of social norm, PBC, habit and past behavior on the satisfaction–repurchase intention relationship, interaction terms are constructed between each of these variables and satisfaction and entered into the moderated regression analysis using structural equation modeling in order to predict repurchase intention to consume fish (Baron and Kenny, 1986). Testing the moderating effects is based on indicant product analysis (Kenny and Judd, 1984) by multiplying the items of two involved constructs to generate indicators of their interacting term. Then these indicators are grouped into three composite items by averaging arbitrarily among these indicators (Joreskog and Sorbom, 1982). In addition, before generating indicant products, all the constructs are changed the origins of scales by mean–centering to reduce the correlations between the involved constructs and their interactions (Aiken and West, 1991). A number of researchers have commented on the low power of moderated regression analyses to detect moderation effects, which may stem from a range of factors such as sample size, intercorrelations between the predictors, and measurement error (see Norman and Conner, 2006). As a result, the interaction terms are entered using a stepwise procedure with four steps (from 3 to 6) in the hierarchical regression analyses reported above in the Table 3. A significant increment in the amount of variance explained in repurchase intention would indicate that the interactions have the impacts on repurchase intention.

The results in the Table 3 indicate that except for the interaction between satisfaction and PBC has no effect on repurchase intention (H3b: $\beta = 0.00\text{--}0.05$, $t = -0.1\text{--}1.2$, $p > 0.05$), that is the hypothesis H3b is rejected. The rest of interactions have significant effects on repurchase intention in a right direction as expected, which means that the hypotheses H2b, H4b and H6b are supported.

The interaction between satisfaction and social norm has a significant negative effect (H3b: $\beta = -0.09$ to -0.14 , $t = -2.3$ to -3.6 , $p < 0.05$) on repurchase. This means that the satisfaction–repurchase intention relationship becomes weaker as consumers perceive higher social norm/expectations from their family. The including of this interacting effect increases in the variance of repurchase intention by 1.9 % (step 3: $44.1\% - 42.2\% = 1.9\%$).

When the interactions of satisfaction by habit and satisfaction by past behavior are added in to the analysis, the variance of repurchase intention increases considerably with 7.1 % ($51.2\% - 44.1\% = 7.1\%$) and 3 % ($54.2\% - 51.2\% = 3.0\%$), respectively. These increases in the variance of repurchase intention are explained by the significant effects of these interactions (H4b: $\beta = -0.19$ to -0.27 , $t = -3.8$ to -6.1 , $p < 0.001$; H 5b: $\beta = -0.19$, $t = -4.0$, $p < 0.001$, respectively) which support the hypotheses H4b and H5b. These findings indicate that both habit and past behaviour moderate the relationship in the negative direction.

DISCUSSION

The purpose of this study is to extend the theory of planned behavior by including habit and past behavior besides satisfaction, social norm and PBC as well as examines the interaction effects of these variables with satisfaction to

explain the repurchase intention towards fish in Vietnam. The analyses are based on a survey data and uses structural equation modeling for testing the hypotheses in a model development strategy with a range of hierarchical models. The moderating effects of social norm, PBC, habit and past behavior on the satisfaction–repurchase intention relationship are analyzed by moderated regression models using indicator product analysis (Kenny and Judd, 1984), then multiple group analysis are used to explore more details the change in slopes of the effect of satisfaction on repurchase intention (Baron and Kenny, 1986). By means of confirmatory factor analysis, reliability and validity of the constructs are supported in the model.

Consumers' satisfaction is the most important predictor of repurchase intention in the sample. The average mean of the satisfaction score is high (5.09 on a scale from 1 to 7) indicating quite positive attitudes toward fish in this population. This finding supports earlier studies suggesting that attitudes are the most important antecedent of intention in the TPB (Conner and Armitage, 2001; Norman and Conner, 2006). Additional support for these results is also suggested in studies of fish and seafood in Norway (Olsen, 2001) and Belgium (Verbeke and Vackier, 2005). However, our finding is different from recent studies (Honkanen et al., 2005; Verbeke and Vackier, 2005) including habit and past behavior besides satisfaction to explain repurchase intention in which satisfaction is positively related to repurchase intention as well, but the relationship is much weaker than those of past behavior–repurchase intention and habit–repurchase intention relationships.

Social norm fails to predict intention in 10 out of 19 investigations summarized by Ajzen (1991). The present study with a measure focusing on family wants and expectations (Kallgren et al., 2000; Terry and Hogg, 1996) confirms a significant relationship between social norm and repurchase intention (Olsen, 2001; Thong and Olsen, 2009; Tuu et al., 2008). The tradition of having a shared meal in most Vietnamese households gives reasons for the “housewife” not only to listen to her family, but take them seriously and incorporate their attitudes into her motivational aspect (Olsen, 2001; Tuu et al., 2008). However, the exploratory power of social norms on repurchase intention is weaker than satisfaction, which is consistent with studies on intention to eat health food (Conner, Norman and Bell, 2002), seafood/fish (Thong and Olsen, 2009; Tuu et al., 2008; Verbeke and Vackier, 2005) and several other behaviors (Armitage and Conner, 2001).

Response to the calls for reexamining the simple postulations within TPB framework (Armitage and Conner, 2001; Conner and Armitage, 1998; Eagly and Chaiken, 1993), this study finds that social norm not only influences directly on but also interacts with satisfaction to affect on repurchase intention. In a recent study, Umeh and Patel (2004) include an interaction between attitude and social norm and show a positive influence on intention to use cannabis, however they fails to indicate a significant effect. Thus, our study has first provided empirical evidence about this role of social norm in the satisfaction–repurchase intention framework. Furthermore, social norm is found to moderate negatively the satisfaction–repurchase intention relationship which may be that reference differences and conflicts between family members in consuming fish (Olsen, 2001) cause the vulnerability in the housewife's attitude and they have to make decisions in choosing foods to fulfill the pleasure of all members in the family. Therefore, consuming fish in Vietnamese families may be a reconciling process.

Our result is consistent with the TPB (Ajzen, 1991) and an empirical test of this theory suggesting that the inclusion of perceived behavioral control may have an independent effect on intention after controlling for attitude and norms (Armitage and Conner, 2001; Notani, 1998). However, PBC is found as the weakest predictor of repurchase intention towards fish which is consistent with findings of Thong and Olsen (2009, in press) and Verbeke and Vackier (2005) when habit is included. The reasons may be that the motivation to consume fish is under volitional control (Thong and Olsen, 2009) or in the others words the consumers' repurchase intention is driven significantly by their general attitude and family expectations over fish consumption. This is also consistent with the discussions by Ajzen (1991) that in situations where attitude is strong, or where normative influences are powerful, PBC may be less predictive of repurchase intention. These reasons may also help to explain why PBC does not interact significantly with satisfaction to affect on repurchase intention towards fish in this study.

Previous studies in consuming fish suggest that the inclusion of habit helps to increase in the explained variance of behavioral intention (Honkanen et al., 2005; Saba et al., 2000; Saba and Di Natale, 1999; Verbeke and Vackier, 2005). This study finds a significant positive effect of habit on repurchase intention towards fish. However it is not consistent with their studies, the magnitude of habit effect is much weaker than satisfaction. The consumption of fish occurs so frequently in this market that we can suppose that consumers' repurchase intention may be formed at least

partly based on habit, but does not necessarily mean that no reasoning precedes their intention. This reasoning may simply not be repeated every time the fish products are bought (Verbeke and Vackier, 2005).

Interestingly, this study finds a strongly negative moderating effect of habit on the satisfaction–repurchase intention relationship. Thus, this finding is consistent with previous studies (de Bruijn et al., 2007; Honkanen et al., 2005; Knussen et al., 2004; Trafimow, 2000). This seems that consumers manage to reduce cognitive efforts involving frequent decisions of rebuying fish by development of habit as a short-cut, thus the predictive power of satisfaction on repurchase intention is attenuated (Trafimow, 2000). However, the results in the Table 4 indicate that satisfaction has a significant positive effect on repurchase intention in both cases of low- versus high- scores of habit. Therefore, the forming of repurchase intention towards fish in this market may have reasons or not have reasons, even with the presence of strong habit. This finding is consistent with the viewpoints of Verbeke and Vackier (2005) in the consumption of fish in Belgium, but inconsistent with the ones of Trafimow (2000) who proposes that “reasoned” processes may only be valid for people who do not habitually perform the behavior of concern. It may be that the diversity of food categories (e.g., fish, shrimp, squid, bivalves, meat, poultry, eggs, even birds and so on) in this market which make housewives more difficult in choosing are factors underlying this situation.

Consistent with previous studies, past behavior has proved as the strong predictor to repurchase intention (Cheng et al., 2005; Eagly and Chaiken, 1993; Honkanen et al., 2005; Ouellette and Wood, 1998; Verbeker and Vackier, 2005). But more importantly, past behavior is found to moderate negatively the satisfaction–repurchase intention relationship which is consistent with previous studies (Normann et al., 2000; Norman and Conner, 2006) and support the idea that repeatedly performing a behavior leads to a reduction in the amount of deliberative processing (Verplanken et al., 1997). As a consequence, there is a reduction in the importance of attitudes in determining intention as the frequency of past behavior increases (Norman and Conner, 2006). In comparison with habit, the role of past behavior is almost the same in this study, which may indicate that people with strong habits base their expression of repurchase intention on a reflection of their past behavior (Honkanen et al., 2005). These findings are interesting because they support the viewpoint of using frequency of past behavior as a measure of habit strength (Triandis, 1980), especially in the context of behaviors occurring frequently and in a stable environment (Ouellette and Wood, 1998), like eating fish. However, in the other hand, the findings have also proved that the frequency of past behavior fails to capture all of the defining features of a habitual response (Ajzen, 2002). This means that the habit of eating fish in Vietnamese market can be expressed as behaviors which are not only performed frequently, but also performed automatically, efficiently, and with little effort or conscious awareness (Verplanken and Orbell, 2003). Thus, our findings fulfill well the calls for developing and comparing alternative measures of habit in order to assess the direct effect of habitual processes on repurchase intention and behavior as well as the moderating role of habit in relation to the TPB framework (Norman and Conner, 2006).

Our findings have two important implications. First, the role of TPB variables in explaining repurchase intention towards fish in Vietnamese seafood/fish market seems more complex than is previously thought, especially the role of social norm. These findings support the criticism of ignorance of important interactions between the proximal determinants of behavioral intentions (Eagly and Chaiken, 1993; Norman and Conner, 2006). An attention should focus on the context of Vietnamese families where closed relations between family members affect strongly on the forming of consumers’ motivations. Second, understanding the theoretical bases of habit is important for practitioners who wish to maintain or change behavior or behavioral intention including eating habits (Honkanen et al., 2005). The presence of strong habit of eating fish as healthy food is good news for seafood/fish companies, but communication campaigns should be carried to consolidate the positive attitude toward fish as the strongest predictor for motivation to eat fish in this market. More specifically, communication campaigns which focus on weak habit segments may be more efficient. Generally, from a theoretical as well as from a practical perspective, habit is an important construct to consider in the food domain (Honkanen et al., 2005).

This is one of very few studies including both habit and past behavior as well as examining interactions between these constructs and TPB variables with satisfaction affecting on repurchase intention by applying the TPB in the food area, to our knowledge, the only one in the area of fish or seafood. However, some limitations of this study are noticed. The present research is based on a convenience sample from the one province in Vietnam, so the result cannot refer to the whole of population. Future study should expand to a more representative sample in Vietnam and to other food products. Next, our study does not measure actual behavior, thus the gap between repurchase intention and future behavior is problematic in inference and a longitudinal design is encouraged. Furthermore additional variables (e.g., moral norms, self-identity, and so on) could also be included (Conner and Armitage, 1998). As with

any study using correlation methods, the nature of the relationships is problematic. The results presented here are based on cross-sectional data, and the measures utilized in this study were self-reported, hence, causal effects cannot actually be inferred. Experimental designs should be used in order to meet issues of causality in future studies.

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