

The Moderator Effects of Switching Costs and Customer Expertise in the Satisfaction-Repurchase Intention Relationship for Mobile Telecommunication Services

Ho Huy Tuu

Nha Trang University, Vietnam

Email: tuu_hohuy@yahoo.com

Abstract

This study discusses and tests the moderator role of monetary, time, effort, social ties and relational switching costs and their interactions with customer expertise in the satisfaction-repurchase intention relationship for mobile communication services. The authors use survey data of 516 customers from the three largest mobile communication providers in Vietnam. A moderated regression is used to test the hypotheses of both two- and three-way interaction effects on repurchase intention. The results show that monetary, time, effort and social ties switching costs have a negative moderating effect, but relational switching costs have a positive moderating effect on the satisfaction-repurchase intention relationship. Furthermore, this study contributes to the existing literature by providing empirical evidence supporting three-way interaction effects between satisfaction, switching costs and customer expertise on repurchase intention. Specifically, customer expertise reduces the moderating effects of social ties and relational switching costs on the satisfaction-repurchase intention relationship.

Keywords: Satisfaction; repurchase intention; switching costs; customer expertise; interactions.

1. Introduction

Marketing scholars emphasize the influence of customer satisfaction on loyalty (Fornell et al., 1996). However, what appear to be brand-loyal purchase patterns may reflect high switching costs (Kotler, 1997). Capraro et al. (2003) also found that the level of customer expertise has an effect on the likelihood of customer loyalty and defection. Thus a company must carefully interpret what is behind the observed purchase patterns and determine whether users are loyal, switchers, or emergent, and it must craft its marketing campaigns accordingly (Kotler, 1997, p. 228).

Different switching costs such as monetary, time, effort, relational, social ties and so on, are suggested to moderate the satisfaction-loyalty relationship (e.g., Jones et al., 2007; Patterson and Smith, 2003; Woisetschläger et al., 2011). However, previous studies about how switching costs influence the satisfaction-loyalty relationship provide mixed findings. For example, in the mobile telecommunication service context, some studies (Aydin et al., 2005; Ranaweera and Prabhu, 2003) find that switching costs negatively moderate the satisfaction-loyalty relationship. By contrast, Lee et al. (2001) find that switching costs positively moderate, while others fail to find empirical evidence to support a moderating effect of switching costs on this relationship (Burnham et al., 2003; Lam et al., 2004). Therefore, this study makes an effort to fill the gap by testing a combined moderator role of three important switching costs (monetary, time and effort - MTE, social ties and relational) in the satisfaction-repurchase intention relationship.

Moreover, previous research shows that cus-

tomers' expertise can influence customer loyalty and the satisfaction-loyalty relationship (e.g., Bell et al., 2005; Evanschitzky and Wunderlich, 2006). As customer-firm relationships extend, customers become more experienced with both their present firm (e.g., product/service attributes, procedures, rules, and norms) and competitive firms (Alba and Hutchinson, 1987). In addition, increased experience and attendant increases in customer expertise leads to an enhanced ability to evaluate service information and draw conclusions about performance relative to competing alternatives (Alba and Hutchinson, 1987). Thus expert customers are better able to understand the relative importance of product attributes, discarding those that have less importance in expecting satisfaction and making purchase decisions (Bell et al., 2005). In fact, customers often make specific investments in the relationship as relationships mature (e.g., learning about procedures, preferences, proprietary systems and so on). Because such investments are often a function of time and the stage of relationship development, they increase consumers' perceptions of the costs of switching between providers. Thus, customers' expectations of a relationship with a service provider or a brand will change as relationships evolve (Burnham et al. 2003; Jones et al., 2000). Therefore, this study investigates changes in the movement from satisfaction to repurchase intention when customers demonstrate greater expertise and perceive increased switching costs.

However, we know of only one study exploring how the interactions between customer expertise and switching costs (time and effort) affect the service quality-customer loyalty re-

relationship in the context of business customers (Bell et al., 2005). Therefore, the present study extends the literature and investigates the three-way interaction between satisfaction, different types of switching costs (MTE, relational and social ties) and customer expertise on repurchase intention by proposing that customer expertise may change the moderator role of switching costs on the satisfaction-loyalty relationship in the context of individual customers/consumers. This type of study is especially important for managers who want to gain a deeper understanding of the complicated relationship between satisfaction and loyalty and want to know more about which types of customers tend to be less loyal even though they may be highly satisfied (Oliver, 1999).

2. Theoretical framework

2.1. Customer satisfaction and repurchase intention

Satisfaction can be defined using the transaction-specific perspective or cumulative perspective (Johnson et al., 1996). The transaction-specific perspective assesses satisfaction based on a specific purchase occasion while cumulative perspective assesses satisfaction based on the total purchase and consumption experience (Johnson et al., 1996). Transaction-specific satisfaction may provide specific diagnostic information about a particular product or service encounter, but overall satisfaction is a more fundamental indicator of the firm's past, current and future performance (Lam et al., 2004; Vazquez-Casielles et al., 2009). In some contexts such as mobile phone or internet, services offered to subscribers are continuously in flux and customers' evaluations are not based on a particular service transaction, but on

all the service encounters involved in being a subscriber to date (Aydin et al., 2005). Therefore, in this study, we define satisfaction as a customer's accumulative overall evaluation of a given service (Aydin et al., 2005; Johnson et al., 1996).

For certain services (e.g., mobile phone or internet), customers are often tied to the service providers by a contract with a certain fee per time unit regardless of the usage levels. The customers also have a right to stop the contract suddenly once they feel dissatisfied with the provider. On the other hand, the service provider often wants their customers to remain in the contract as longer as possible by relational policies and so on. Therefore, this study defines repurchase intention as customer loyalty or as a customer's willingness to maintain the relationship with a particular service provider and to make his or her next purchase in the category from this service provider (Aydin et al., 2005; Bell et al., 2005; Vazquez-Casielles et al., 2009).

Because satisfaction reduces sensitivity to price and minimizes customer loss from fluctuations in service quality in the short term, the relationship between customer satisfaction and different aspects of customer loyalty is suggested to be positive (Aydin et al., 2005). In addition, most previous studies also propose that customers with a higher level of satisfaction tend to have a stronger intention to repurchase (e.g., Aydin et al., 2005; Ranaweera and Prabhu, 2003; Szymanski and Henard, 2001). Therefore, the following baseline hypothesis is suggested:

H1: Satisfaction has a positive effect on repurchase intention.

However, previous studies also show that the relationship between satisfaction and repurchase intention varies between products, industries and situations (Szymanski and Henard, 2001). For example, a review by Kumar et al. (2013) shows that while there is a positive relationship between customer satisfaction and loyalty, moderators, mediators, or other antecedent variables provide better predictors of loyalty or influence the relationship between satisfaction and loyalty. On the other hand, in the mobile phone industry, the effect of satisfaction on repurchase intention is about 0.30 because of *negative* moderators such as psychological, financial and procedural switching costs (Aydin et al., 2005). By contrast, Vazquez-Casielles et al. (2009) find that the relationship between satisfaction and repurchase intention in the mobile service context is very strong (about 0.8) thanks to some *positive* moderators such as benefits, personal relationship or brand relationship switching costs.

2.2. Switching costs

Switching costs elucidate the reason why customers remain with their existing service provider despite insufficient service experiences with the provider and its competitors' various marketing efforts (Jones et al., 2000). Existing literature distinguishes between three types of switching costs such as MTE, relational (Burnham et al., 2003; Jones et al., 2007) and social ties (Woisetschläger et al., 2011). MTE switching costs consist of the loss of quantifiable resources of money, time and effort (e.g., set-up fees, time, and effort, membership fees or deposits, sunk costs, transaction specific assets; Burnham et al., 2003; Jones et al., 2007). Relational switching costs involve psychologi-

cal or emotional discomfort due to the loss of identity and breaking of the bonds (e.g., the loss of close relationships with service officers or provider, special treatments; Vazquez-Casielles et al., 2009). A recent study by Woisetschläger et al. (2011) extends the concept of relational switching costs and argues that this switching cost is not only solely a beneficial relationship between customers and their service providers (Burnham et al., 2003; Jones et al., 2002, 2007), but also includes benefits resulting from relationships between customers - so-called social ties switching costs or social ties. Social ties switching costs are conceptualized as social ties relationships with "a sense of belonging to a community" and as a result of sharing service-usage within a family or community (Woisetschläger et al., 2011). Social ties switching costs can be relevant whenever more than one user shares a service such as a pay-TV channel, a newspaper subscription, or a telecommunications contract (Woisetschläger et al., 2011).

2.3. Moderating effects of money, time and effort switching costs

As mentioned above, the satisfaction-repurchase intention relationship exists because satisfaction reduces sensitivity to price and minimizes customer loss from fluctuations in service quality in the short term (Aydin et al., 2005). However, both total customer cost and loss will increase in the case of high MTE switching costs if a customer switches. When MTE switching costs exceed the individual's tolerance level, satisfaction can be susceptible, especially with the presence of the increased attractiveness of alternative suppliers that reduces attitudinal shifts and causes deleterious

effects on the strength of satisfaction to reduce sensitivity to prices (Oliver, 1999). Thus, it is reasonable to anticipate that when consumers perceive high levels of MTE switching costs, customers' satisfied feelings are formed with less stability, or the predictive strength of satisfaction on repurchase intention decreases when MTE switching costs increase.

For example, Jones et al. (2000) show that there is a weaker relationship between customer satisfaction and repurchase intention in market segments with high MTE switching costs than in those with low MTE switching costs. In the services of the mobile phone sector, banking and hairstyling, the relationship between satisfaction and repurchase intention is often diminished by the effect of high MTE switching costs (Jones et al., 2000; Lee et al., 2001). Thus, the positive effect of customer satisfaction on repurchase intention will decrease when MTE switching costs are high.

H2: *MTE switching costs weaken the satisfaction-repurchase intention relationship.*

2.4. Moderating effects of social ties switching costs

Similarly, analysis of social ties switching costs emphasizes that the decision to terminate a subscription, or to switch to another service provider, involves relations that extend beyond the subscribing customer (Woisetschläger et al., 2011). When social ties switching costs are high (e.g., highly shared strong group norms or a wide social network involving a service provider), a customer may tie with the provider to maintain tied social relationships rather than for his/her feelings of satisfaction. This is because his/her friends, colleagues or other members within his/her family stay with the present

provider. Consequently, satisfaction becomes a less important antecedent of repurchase intention when social ties switching costs are high. By contrast, when social ties switching costs are low, low-satisfied customers may feel it is easy to switch to another service provider without regretting sacrificed social relationships. Furthermore, high social ties switching costs also increase psychological cost and loss if a customer switches, which makes both total customer cost and loss increase (Kotler, 1997). Therefore, the negative moderator effect of social ties switching costs on the satisfaction-repurchase intention relationship is similar to the negative moderator effect mechanism of MTE switching costs on the relationship as mentioned above. This discussion implies that social ties switching costs are likely to have a negative moderating effect on the satisfaction-repurchase intention relationship. Empirical evidence also supports that social ties switching costs negatively moderates the satisfaction-loyalty relationship (Woisetschläger et al., 2011). Therefore, the following hypothesis is suggested:

H3: *Social ties switching costs weaken the satisfaction-repurchase intention relationship.*

2.5. Moderating effects of relational switching costs

Previous studies also provide mixed findings about the moderator role of relational switching costs (e.g., relational) on the satisfaction-repurchase intention relationship. For example, Jones et al. (2000) show that the satisfaction-repurchase intention relationship is weak in situations with strong interpersonal relationships and the relationship is strong in situations with weak interpersonal relationships. Patterson and

Smith (2003) also show that this relationship is stronger with low-switching costs than with high-switching costs. In his study switching costs of special treatment and interpersonal bonds were used besides setup costs to assess switching costs. However, some studies fail to find a significant moderating effect of relational switching costs on the satisfaction-repurchase intention relationship (e.g., Burnham et al., 2003). Others find a positive interaction between relational benefits and customer value/satisfaction on intentional loyalty (Blut et al., 2007; Vazquez-Casielles et al., 2009). These researchers argued that in a situation of high relational switching costs (e.g., special personal treatments), satisfied customers stay with a service provider because of the positive benefits they receive, which make them express a “want” to continue the relationship (Vazquez-Casielles et al., 2009). Furthermore, these positive benefits may increase customers’ tendency to stay with the service provider (Dick and Basu, 1994) and facilitate the movement from satisfaction to repurchase intention (Oliver, 1999). Thus, the positive effect of customer satisfaction on repurchase intention is likely to increase with high relational switching costs. The next hypothesis is suggested:

H4: *Relational switching costs strengthen the satisfaction-repurchase intention relationship.*

2.6. Customer expertise

In a general sense, customer expertise comprises overall knowledge levels of brands, product/service types, usage methods, performance, purchase information and so on in the product/service market and represents the ability to perform product/service and market-related tasks

successfully (Sharma and Patterson, 2000). Customer expertise in a service domain (e.g., mobile telecommunication service; Burnham et al., 2003) can include alternative experience (i.e., the breadth of customer’s prior experience with an alternative provider) and switching experience (i.e., the extent of the customer’s switching experience). While the breadth of customer expertise reflects consumer’s experience with the various products, features, and functions offered by a competing service provider, the extent of customer expertise reflects switching experience between providers in the past (Burnham et al., 2003). This study approaches customer expertise as a combination of both the breadth and extent of what the customer knows about the service category and how he/she is capable of using it for practical purposes (Sharma and Patterson, 2000).

Previous studies suggested that customer expertise could positively or negatively moderate the relationship between satisfaction and loyalty depending on the nature and contents of the measures of expertise (Chiou et al., 2002; Fabrigar et al., 2006; Capraro et al., 2003). Some previous studies (Capraro et al., 2003; Evanschitzky and Wunderlich, 2006) measure customer expertise as general market expertise and suggest a negative moderator effect of expertise on the relationship. However, this study expects that expertise as a service-related expertise could positively moderate the relationship. This is rational because satisfaction based on high market expertise versus service-related expertise as found, seems to be a weak versus strong attitude (Fabrigar et al., 2006).

Typically, consumer evaluative criteria change as customers gain expertise (Alba and

Hutchinson, 1987). Consumers with low expertise will have difficulty assessing service quality, thus their satisfied feelings are uncertainly formed (Chiou et al., 2002). In contrast, Moorthy et al. (1997) argued that as customers gain experience, they are better able to evaluate the different attributes of different service offerings. Customers with high expertise can more quickly and accurately evaluate options and learn new product/service-related information (Alba and Hutchison, 1987). In other words, such expert customers will be able to assess the attributes of the service more accurately. Therefore, it is expected that expert customers' satisfied feelings are certainly formed, which will enhance the relative importance of satisfaction in influencing consumers' loyalty to a provider (Bell et al., 2005; Tuu et al., 2011). This implies that increased expertise is likely to enhance the strength of satisfaction, which facilitates the translation of stated satisfaction into repurchase intention (Chandrashekar et al., 2007).

Some previous studies find empirical evidence supporting a positive moderating effect of relevant knowledge or expertise on the relationship between satisfaction and repurchase loyalty (e.g., Chiou et al., 2002; Tuu et al., 2011). Higher expertise is also found to enhance the predictive power of perceived service quality and/or satisfaction on customer loyalty (e.g., repurchasing intention, behaviors; Bell et al., 2005). Thus, the hypothesis is suggested:

H5: *Customer expertise strengthens the satisfaction-repurchase intention relationship.*

2.7. Three-way interaction effects of customer expertise and switching costs

Increased expertise with the service would

reduce the uncertainty associated with using a new provider and facilitate new products or services' evaluation (Alba and Hutchinson, 1987). Increased expertise also reduces perceptions of uniqueness of an existing provider, leading to weaker relational bonds with the provider (Bell et al., 2005). Switching experience also implies a reduced duration with the incumbent provider which means there has been less time to accumulate benefits that might be lost in switching (Burnham et al., 2003). Therefore, the possibility of the three-way interaction between satisfaction, switching costs and expertise arises from the fact that customers at any one time may have different combinations of expertise and perceived switching costs to make evaluations such as service quality or satisfaction, and to make the decisions of loyalty or switching (Bell et al., 2005). Consider, for example, that an expert mobile phone customer and a novice customer are both looking to switch to a new mobile phone provider. The expert mobile phone customer is likely aware of service attributes, prices, qualities, and so on, and thus switching costs are one of many things considered in the decision to stay with the same provider. By contrast, the novice customer has less information to consider and therefore when faced with a switching cost may have an immediate subconscious alteration of loyalty. This means that novice customers may feel locked into a relationship with a service provider far before they have had the chance to develop any service or provider-related expertise. Equally, expert customers may deliberately keep their distance from a given service provider, spreading their resources between alternative providers, while very quickly gaining relevant

expertise to evaluate the quality of the service they receive (Bell et al., 2005). Therefore, expert customers, despite perceiving increasing switching costs, are less likely to feel trapped and helpless within the relationship. They are more likely to see a deeply embedded relationship and may, in fact, attempt to remove the discomfort of switching costs by taking a more active part in the process of providing a service to improve their satisfaction (Wikström, 1996). This implies that customer expertise and switching costs in terms of MTE and social ties (as those two are associated with loss) may interact to influence the existing provider's evaluation and the relational bonds with the provider (e.g., the satisfaction-repurchasing intention relationship).

Only one study we know of includes customer expertise and switching costs and explores the three-way interactions between them and satisfaction/service quality affecting customer loyalty (Bell et al., 2005). This study extends Bell et al.'s study by including three other types of switching costs (MTE, social ties and relational) and exploring if and how the interactions between switching costs and customer expertise affect the satisfaction-repurchase intention relationship.

Switching costs are also considered as perceptions involving uncertainty with the potential for negative outcomes when adopting a new provider about which customers have insufficient information (Burnham et al., 2003). Previous studies show that when customers perceive high levels of potential outcomes associated with product/service quality, they often rely on their expertise and various sources of information to perform evaluations and

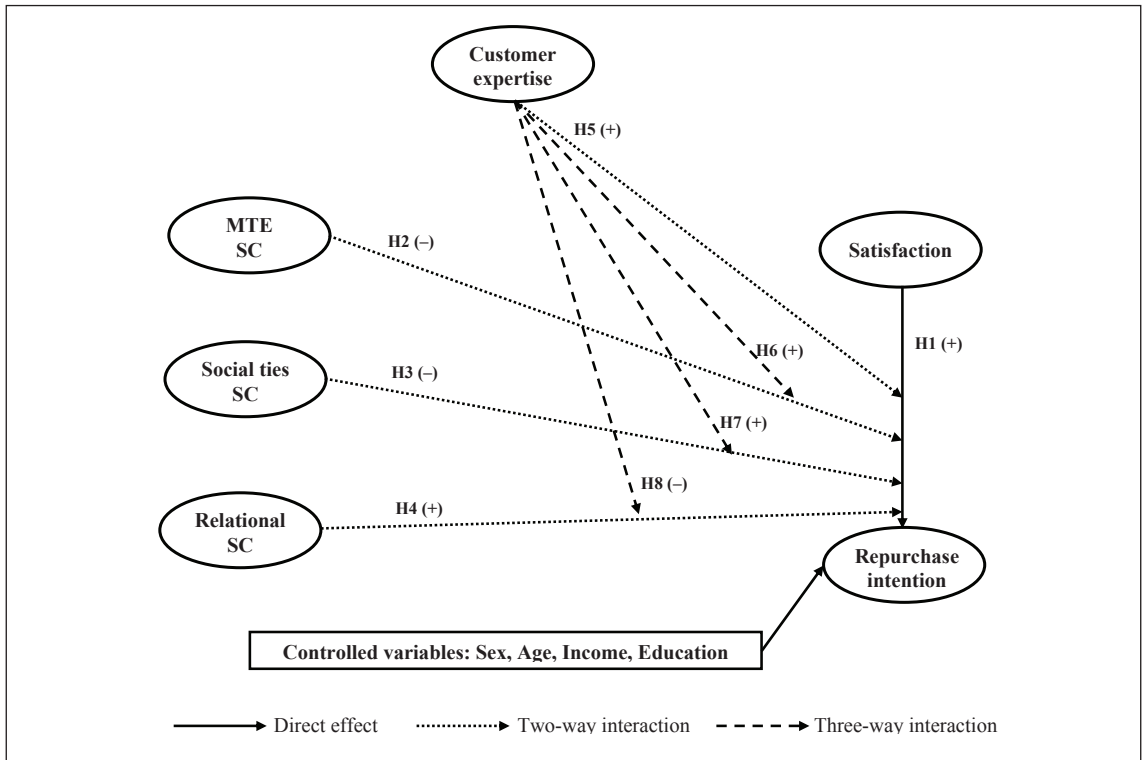
buying decisions about the products/services (Tuu et al., 2011). Customers can gain expertise about a service/product category when they have prior experience with alternative providers or switching experiences (Park et al., 1994). Therefore, it is rational to expect that consumers with a higher level of expertise have the ability to limit the negative consequences of switching costs of MTE and social ties better than those with a lower level of expertise. In other words, the negative moderating effects of MTE and social ties switching costs on the satisfaction-repurchase intention relationship are expected to be weaker for expert customers than for novice customers.

***H6:** The negative moderating effects of MTE switching costs on the satisfaction-repurchase intention relationship will decrease when customer expertise increases.*

***H7:** The negative moderating effects of social ties switching costs on the satisfaction-repurchase intention relationship will decrease when customer expertise increases.*

On the other hand, expert customers may have more skills in bargaining to obtain special treatments from a new provider which are at least equivalent or better than those of the present provider. In addition, if they have to choose a switching solution, for example if they feel displeased with the present provider, we also have reason to believe, with the extent to which other conditions are the same, a chosen new provider's reputation and promises are not worse than what they have with the present provider. Furthermore, although expert customers may lose closed relationships with employees and the present provider if they switch, their switching experiences may inform them

Figure 1: The theoretical model



of equivalent or better compensations they may receive from a new provider. This is rational when today's competitive providers often attract new customers by promising excessive additional value. Thus, if dissatisfied customers with high expertise want to switch, they may perceive relational switching costs (in terms of benefits to them) as having less importance than those with low expertise, even though both of them perceive the same level of costs. Consequently, regardless of high relational switching costs, the ability for dissatisfied customers with high expertise to switch (i.e., lower repurchase intention) is higher than the one for those with low expertise. Based on the discussions above, the following hypothesis is suggested:

H8: *The positive moderating effects of relational switching costs on the satisfaction-repurchase intention relationship will decrease when customer expertise increases.*

In summary, the proposed theoretical model and hypotheses are shown in Figure 1. It is worthy to note that in the theoretical model, demographical characteristics (e.g., sex, age, education, income) are included as controlled variables. This is because previous studies have proven that those characteristics can moderate the satisfaction-loyalty relationship (e.g., Evanschitzky and Wunderlich, 2006).

3. Method

3.1. Sample and procedure

The mobile phone service sector is often

selected for research to investigate the role of switching costs (Aydin et al., 2005; Lam et al., 2004; Lee et al., 2001; Vazquez-Casielles et al., 2009). Research on the satisfaction-loyalty relationship has become even more important in the context of mobile telecommunications due to the ubiquitous nature of mobile phones and the potential this creates to engage in interactive marketing for firms (Aksoy et al., 2013).

The competition between the three biggest providers of mobile telecommunication services in Vietnam (Vinaphone, Mobiphone and Viettel) has become fiercer with the entrance of new providers (e.g., EVN, S-Phone, and HT Mobile). This competition not only leads the providers to an uncompromising price war, but also forces them to build a wide range of strategies which increase customers' switching costs in order to keep their customers stay.

A sample including 516 contractual subscribers/customers from the three biggest mobile phone firms occupying about 90 % of the market share in Vietnam (170 from Vinaphone, 170 from Mobiphone, and 176 from Viettel) form the basis of the present study. While the first two firms are incumbent, Viettel is now the biggest provider. The data was collected by a survey-questionnaire at respondents' households on weekend days in Central Vietnam. The respondents were given a questionnaire by an interviewer and they completed it themselves. Respondents were clearly informed that this study focused on mobile phone services including calls and messages. The typical respondents were male (56.9 %), married (64.5 %), and aged from 20 to 40 (71.8 %). Mean duration of relationships with the service providers was 37 months.

3.2. Measurements

Respondents were asked to indicate the level of their *satisfaction* on a 7-point Likert-type scale which ranged from "Totally disagree" to "Totally agree" with three items: (1) I feel satisfied with the service quality of the present firm; (2) I am pleased with the service quality of the present firm; and (3) I feel happy that I chose the present firm (Lam et al., 2004).

To assess *repurchase intention*, this study used two items on a 7-point Likert-type scale: (1) I intend to continue with the present service provider in the future; and (2) If I had to choose again, I would choose this provider again (Lam et al., 2004; Vazquez-Casielles et al., 2009).

MTE switching costs were assessed by asking the respondents to indicate their evaluation on three general measures about MTE losses on a 7-point Likert-type scale: (1) If I switched, I might sacrifice all of my monetary investments in the present firm; (2) If I switched, it would cost me lots of time and effort to start a new relationship with another firm, and (3) If I switched, I have to abandon my favourite phone card with the present firm. These measures were adapted from previous studies (Bell et al., 2005; Burnham et al., 2003; Jones et al., 2007).

Relational switching costs were assessed by four statements about relational and benefit losses (Burnham et al., 2003; Jones et al., 2000; 2007; Vazquez-Casielles et al., 2009) on a 7-point Likert-type scale: (1) If I switched, I would lose close relationships with service employees of the present firm; (2) If I switched, I would feel regret because the firm's image will not go along with me; (3) If I switched, I would lose lots of special treatment from them; and

(4) If I switched, I would lose close relationships with the present firm.

Social ties switching costs, which focus on social bonds developed within the family, community, groups and the region, and on the resulting consequences (Woisetschläger et al., 2011), were operationalized with a three-item 7-point Likert-type scale adapted for this study: (1) The present provider I use is very common in my circle of friends; (2) If I switched, I would lose the connections with friends, communities, region that I live in; and (3) If I switched, I would feel disconnected from the outside world.

Consumer expertise, in this study is defined to include both customers' alternative and switching experiences related to a service category (mobile phone), is evaluated by three statements on a 7-point Likert-type scale: (1) "I know how to keep all things the same or better when I change between different firms"; (2) "I think I am an expert about mobile phone service"; and (3) "I have lots of experience and knowledge about how to change between different mobile service providers with less costs". This scale is adapted from previous studies (Burnham et al., 2003; Park et al., 1994).

3.3. Analytical procedures

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. The second stage used moderated regression analyses to test the proposed model or the relationships between the constructs (Aiken and West, 1991).

4. Results

4.1. Reliability and validity of the measures

The results, summarised in Table 1, indicate that the measurement model fits very well with the data ($\chi^2 = 308.5$, $df = 120$, $p < 0.001$; RMSEA = 0.055; GFI = 0.94; CFI = 0.94) (Browne and Cudeck, 1992). All the composite reliability exceeds the minimum value of 0.70 and, the variances extracted surpass the recommended threshold of 0.50 (Anderson and Gerbing, 1988). The individual item loadings on the constructs are all highly significant ($p < 0.001$: t -value > 12) with values ranging from 0.58 to 0.85, which show that the convergent validity and reliability of the constructs are acceptable.

As shown in Table 2, all the correlations are less than 0.45, and the squared correlations between each of the constructs (all < 0.20) are less than the average variance extracted from each pair of constructs (all > 0.50) which constitutes discriminant validity (Fornell and Larcker, 1981).

4.2. Testing hypotheses

First, all the individual items comprising each scale are averaged and changed by mean-centering to remove the nonessential correlations between the involved constructs and their interactions (Aiken and West, 1991). Then, the average scores of the indicators of constructs involved in the interactions are multiplied to form interactions. The following structural equation expresses the structure of the full model in Figure 1.

$$RI = \beta_0 + \beta_1 S + \beta_2 S \times MTEC + \beta_3 S \times STSC + \beta_4 S \times RSC + \beta_5 S \times CE + \beta_6 S \times MTEC \times CE + \beta_7 S \times STSC \times CE + \beta_8 S \times RSC \times CE + \beta_9 MTEC + \beta_{10} STSC + \beta_{11} RSC + \beta_{12} CE + \beta_{13} SEX + \beta_{14} AGE + \beta_{15} INCOME + \beta_{16} EDUCATION + \varepsilon$$

Table 1: Constructs and indicators

Constructs and indicators	Factor loadings	t-values	CR	EV
<i>MTE switching costs: If I switched...</i>				
I might sacrifice all of my monetary investments in the present firm	0.73	16.8	0.78	0.53
It would cost me lots of time and effort to start a new relation with another firm	0.75	17.0		
I have to abandon my favorite phone card/number with the present firm	0.72	16.4		
<i>Social switching costs</i>				
The present provider I use is very common in my circle of friends	0.77	18.5	0.82	0.60
If I switched, I would lose the connections with friends, communities, region that I live in	0.80	19.4		
If I switched, I would feel disconnected from the outside world	0.75	18.0		
<i>Relationship switching costs: If I switched...</i>				
I would lose close relationships with the present firm	0.74	17.7	0.82	0.53
I would lose close relationships with service employees of the present firm	0.76	18.4		
I would feel regret because the firm's image will not go along with me	0.71	16.9		
I would lose lots of special treatments from them	0.71	17.0		
<i>Customer expertise</i>				
I know how to keep all things the same or better when I change between different firms	0.73	15.6	0.75	0.50
I think I am an expert about mobile phone service	0.58	12.5		
I have lots of experience and knowledge about how to change between different mobile service providers with less costs	0.80	16.8		
<i>Customer satisfaction</i>				
I feel satisfied with the service quality of the present firm	0.78	18.8	0.81	0.59
I am pleased with the service quality of the present firm	0.87	21.2		
I feel happy that I chose the present firm	0.63	14.8		
<i>Repurchase intention</i>				
I intend to continue with this service provider in the future.	0.85	17.1	0.83	0.71
If I had to choose again, I would choose this provider again	0.84	16.9		

Notes: All factor loadings are significant at $p < 0.001$; CR: Composite reliability; EV: Extracted variance.

Table 2: Mean, standard deviation, correlations

Constructs	Mean	SD	1	2	3	4	5
1. MTE SC	4.57	1.19	1.00				
2. Social SC	5.07	1.26	0.35	1.00			
3. Relation SC	4.27	1.08	0.42	0.37	1.00		
4. Expertise	4.34	1.12	0.13	0.18	0.15	1.00	
5. Satisfaction	4.69	0.96	0.33	0.21	0.30	0.08 ^{ns}	1.00
6. Repurchase intention	5.43	1.22	0.34	0.29	0.26	-0.03 ^{ns}	0.38

Notes. ns: non-significant; SC: Switching costs.

RI: Repurchase intention; S: satisfaction; MTE SC: MTE switching costs; STSC: Social ties switching costs; RSC: Relational switching costs; CE: Customer expertise.

A hierarchical moderated regression analysis is used to estimate the effects of the variables and their interactions on loyalty (Aiken and West, 1991). The independent variables and interactions were entered in three blocks, thus three nested models were generated. The first model (Basic Model) estimates the effect of satisfaction, the baseline effects of switching costs, customer expertise, and controlled effects of sex, age, income and education on repurchase intention. The second model (Moderation Model) is added with four moderator effects of MTE, social ties and relational switching costs and customer expertise. The last model (Full Model) with three-way interaction effects is used to test the interactions between switching costs and customer expertise on the satisfaction-repurchase intention relationship. In testing the hypotheses, this study used a one-tailed test for significance when testing for the hypothesized main and interaction effects (two-way and three-way). The rationale for this

is that these hypotheses are directional in which either a positive or negative effect is proposed on the basis of strong theoretical grounds (Bell et al., 2005).

The results indicate acceptable fits for all the estimated models (all F statistics > 10 ; $p < 0.001$; Aiken and West, 1991). Table 3 presents the unstandardized weights for the predictor variables, the total R^2 at each step, and the ΔR^2 for steps 2–3. Because the estimating results are consistent with each other for the three models, the following conclusions are based on the third model (i.e., Full Model).

4.2.1. The main effect of satisfaction

Hypothesis 1 suggested that satisfaction had a positive effect on repurchase intention. This is a test of the main effect of satisfaction on repurchase intention. The results support this hypothesis by indicating a significant positive effect of satisfaction on repurchase intention ($\beta_1 = 0.23$, $t = 5.2$, $p < 0.01$). This result is necessary for testing further moderating effects on this relationship.

4.2.2. Baseline direct effects

Although we did not hypothesize direct ef-

fects along with moderating effects (Seiders et al., 2005), the results offer some inferences worth noting. There are significant effects of MTE switching costs ($\beta_9 = 0.13, t = 2.8, p < 0.01$) social ties switching costs ($\beta_{10} = 0.15, t = 3.5, p < 0.001$), and relational switching costs ($\beta_{11} = 0.08, t = 1.8, p < 0.05$). However, customer expertise has no significant effect on repurchase intention ($\beta_{12} = -0.06, t = -1.4, p > 0.10$).

4.2.3. Two-way interaction effects

With the main effect of satisfaction supported, we now turn our attention to the moderating effects that three switching costs and customer expertise have on the satisfaction-repurchase intention relationship. Hypothesis 2 and 3 proposed that the positive effect of satisfaction on repurchase intention would be weaker when MTE and social ties switching costs increase.

Table 3: Testing hypotheses by hierarchical moderated regression model

Variables/Hypotheses (Supported in bold)	Basic Model		Moderation Model		Full Model	
	Std. β	t -values	Std. β	t -values	Std. β	t -values
<i>Main effect</i>						
Satisfaction H1	0.23	5.3 **	0.22	4.9 **	0.23	5.2 **
<i>Two-way interaction effects</i>						
Sat x MTE SC H2			-0.10	-2.1 *	-0.12	-2.6 **
Sat x Social SC H3			-0.14	-3.0 **	-0.13	-2.8 **
Sat x Relation SC H4			0.09	2.1 *	0.11	2.7 **
Sat x Expertise H5			0.12	2.8 **	0.15	3.4 **
<i>Three-way interaction effects</i>						
Sat x MTE x Expertise H6					-0.04	-0.8 ns
Sat x Social x Expertise H7					0.12	2.2 *
Sat x Relation x Expertise H8					-0.17	-3.1 **
<i>Baseline effects</i>						
MTE SC	0.15	3.2 **	0.13	2.8 **	0.13	2.8 **
Social ties SC	0.15	3.5 **	0.14	3.3 **	0.15	3.5***
Relation SC	0.07	1.5 ns	0.08	1.8 *	0.08	1.8 *
Expertise	-0.09	-2.0 *	-0.09	-2.1 *	-0.06	-1.4 ns
<i>Controlled effects</i>						
Sex	-0.04	-1.00 ns	-0.05	-1.1 ns	-0.03	-0.7 ns
Age	0.09	1.9 *	0.07	1.5 ns	0.07	1.6 ns
Income	0.09	1.8 *	0.10	1.9 *	0.10	2.0 *
Education	0.00	0.0 ns	0.01	0.3 ns	0.02	0.4 ns
$F(df1, df2), p$	11.3 (9, 496), $p = .00$		9.6 (13, 492), $p = .00$		18.9 (16, 489), $p = .00$	
R^2 RI (%)	17.0		20.2		22.5	
ΔR^2 RI (%)	-		3.2		2.3	
Effect size (ES) (%)	-		18.8		11.4	

Notes. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; ns: nonsignificant; All VIF < 2.00; $ES = (R^2_{Y_{Mi+1}} - R^2_{Y_{Mi}}) / (1 - R^2_{Y_{Mi+1}})$; $Y =$ Repurchase intention, and $i = 1, 2, 3$ ($M_i =$ Model i); Hypotheses in bold are supported.

As expected, these hypotheses are supported by a significant negative effect of the interaction between MTE switching costs and satisfaction on repurchase intention ($\beta_2 = -0.12, t = -2.6, p < 0.01$), and a significant negative effect of the interaction between social ties switching costs and satisfaction on repurchase intention ($\beta_3 = -0.13, t = -2.8, p < 0.01$). By contrast, Hypothesis 4 suggested that the positive effect of satisfaction on repurchase intention would be stronger when relational switching costs increase. This calls for a positive interaction coefficient between satisfaction and relational switching costs. The results support Hypothesis 4 by showing that the positive effect of satisfaction on repurchase intention is bolstered for customers with higher levels of relational switching costs ($\beta_4 = 0.11, t = 2.7, p < 0.01$). Finally, Hypothesis 5 is also supported by a positive two-way interaction effect of satisfaction and customer expertise on repurchase intention ($\beta_5 = 0.14, t = 3.4, p < 0.01$). The addition of the four hypothesized interaction terms considerably increases the explained variance of repurchase intention (effect size $[ES] = 18.8\%$; in the Moderation Model).

4.2.4. Three-way interaction effects

Hypothesis 6 and 7 proposed that the negative moderating effects of switching costs (MTE and social ties) on the satisfaction-repurchase intention relationship would be weaker when customer expertise increases. This requires the three-way interactions of satisfaction, switching costs (MTE and social ties) and customer expertise to have positive effects on repurchase intention. Hypothesis 6 is not supported by a non-significant positive effect of the interaction between satisfaction, MTE switching costs and customer expertise on repurchase

intention ($\beta_6 = -0.04, t = -0.8, p > 0.10$). However, the results show a significant positive effect of the interaction between satisfaction, social ties switching costs and customer expertise on repurchase intention ($\beta_7 = 0.12, t = 2.2, p < 0.05$). Therefore, Hypothesis 7 is supported. By contrast, Hypothesis 8 suggested that the positive moderating effect of relational switching costs on the satisfaction-repurchase intention relationship would be weaker when customer expertise increases. This requires negative interaction coefficients between satisfaction, relational switching costs and customer expertise on repurchase intention. The results support this hypothesis ($\beta_8 = -0.17, t = -3.1, p < 0.01$). The inclusion of the three-way interaction effects generates additional explained variance of repurchase intention ($ES = 11.4\%$, in the Full Model).

5. Discussion

This study discusses and investigates the combined roles of three types of switching costs (MTE, social ties and relational) in interacting with customer expertise in the satisfaction-repurchase intention relationship in a Vietnamese mobile communication service context. It provides some explanation of why satisfied customers are not necessarily loyal, and why dissatisfied customers do not always defect (Oliver, 1999). Specifically, it has explored the moderator and three-way interaction effects of different types of switching costs (monetary, time, effort, social ties and relational) and customer expertise on the satisfaction-loyalty relationship. The proposed hypotheses are tested by moderated regression analyses (Aiken and West, 1991) using survey data from Vietnam. The results indicate the reliability and validity of the constructs in the model and the findings

support most of the proposed hypotheses. This study contributes to the existing literature by testing how a combination of three important switching costs (Burnham et al., 2003; Woisetschläger et al., 2011 for a review) as moderators in the interaction with customer expertise influence the satisfaction-repurchase intention relationship. Most previous studies include one or two types of switching costs (Bell et al., 2005; Jones et al., 2000; 2002; 2007; Vazquez-Casielles et al., 2009; Woisetschläger et al., 2011), and one study explores the interaction between service quality, switching costs (time and effort) and customer expertise to influence customer loyalty (Bell et al., 2005). By providing substantial guidance for effectively allocating resources to marketing variables that complement or substitute satisfaction (Voss et al., 2010), this study helps contribute to the existing literature by proposing customer expertise as a key determinant of the relationships among satisfaction, switching costs, and repurchase intention.

5.1. Theoretical implications

The present results confirm the positive relationship between satisfaction and repurchase intention (Szymanski and Henard, 2001) including previous studies about mobile phones (Aydin et al., 2005; Burnham et al., 2003; Lam et al., 2004; Lee et al., 2001; Ranaweera and Prabhu, 2003; Vazquez-Casielles et al., 2009). However, the association between satisfaction and repurchase intention is relatively weak. Therefore, it is necessary to include other variables besides satisfaction in order to understand the costs and motives to explain variation in repurchase intention/loyalty (e.g., Seiders et al., 2005). In particular, we extend previous studies (Bell et al., 2005; Burnham et al., 2003; Jones

et al., 2000; 2002; 2007; Vazquez-Casielles et al., 2009; Woisetschläger et al., 2011) by testing the combined moderator effects of MTE, social ties and relational switching costs and customer expertise on the satisfaction-repurchase intention relationship.

As noted above, this study did not hypothesize the direct effects of switching costs on repurchase intention. However, the findings show significant positive effects of MTE, social ties and relational switching costs. Generally, these findings are consistent with previous studies reporting positive effects of different types of switching costs on loyalty (Burnham et al., 2003; Jones et al., 2002; 2007; Patterson and Smith, 2003). It is also consistent with some studies which show weak or non-significant effects of switching costs on loyalty, especially when interactions are included in the model (e.g., Jones et al., 2000).

While MTE and social ties switching costs negatively moderate the relationship between satisfaction and repurchase intention, relational switching costs lead to a stronger predictive power of consumer satisfaction on repurchase intention. This empirical evidence supports the moderator role of switching costs in the satisfaction-loyalty relationship (Aydin et al., 2005; Burnham et al., 2003; Jones et al., 2007; Lam et al., 2004; Lee et al., 2001; Patterson and Smith, 2003; Ranaweera and Prabhu, 2003; Woisetschläger et al., 2011). This study is also among a few studies including social ties switching costs when investigating its moderating role on the satisfaction-repurchase intention relationship (Woisetschläger et al., 2011).

The findings are also supported by Vazquez-Casielles et al.'s (2009) perspectives that the negative or positive moderator role of switch-

ing costs on the satisfaction-repurchase intention relationship depends on their negative or positive nature (Jones et al., 2007; Vazquez-Casielles et al., 2009). The first type is associated with the customer's feeling of being "locked into" the relationship, while the second is associated with benefits and value for the customer (Vazquez-Casielles et al., 2009). Besides the negative or positive nature of MTE and relational switching costs are discussed in previous studies (Aydin et al., 2005; Jones et al., 2000; Jones et al., 2007; Vazquez-Casielles et al., 2009), the findings seem to support that social ties switching costs are a negative type of switching cost. This means that if customers switch to other service providers, they may receive penalties from social networks. For example, a customer may feel discomfort because he/she may think that his/her friends or shared community will think about him/her as a changeable person. Businessmen/women may face risks because their partners could not call them by their old cell phone numbers. Therefore, social ties switching costs become obstacles which keep them "having to stay" rather than "wanting to stay" with the service.

The consideration of both positive and negative moderator effects of different types of switching costs in the relationship provides a deeper insight into the mechanism forming repurchase intention from satisfaction, in which MTE and social ties switching costs act as inhibitors, while relational switching costs act as facilitators (Vazquez-Casielles et al., 2009). The findings show that when MTE and social ties switching costs are high, customers may stay with a firm regardless of their feelings of satisfaction levels with the firm. By contrast, when relational switching costs are high, customers' feelings of satisfaction are an import-

ant factor influencing their retention. This indicates that satisfaction may fail to predict repurchase intention under high MTE and social ties switching costs; for example, dissatisfied consumers with high levels of MTE and social ties switching costs may be spuriously loyal consumers (Dick and Basu, 1994). By contrast, satisfaction may be more successful in predicting repurchase intention when relational switching costs are perceived highly, or relational switching costs generated by a service itself or by a service provider may be factors helping to increase the predictive strength of satisfaction.

Customer expertise is found to moderate the satisfaction-repurchase intention relationship positively. This means that the relevant expertise based on which customers form their evaluations and make decisions to continue staying with the service plays an important role in narrowing the gap between satisfaction and repurchase intention (Tuu et al., 2011). Specifically, for low-expertise customers, the magnitude of the relationships between satisfaction and repurchase intention is weaker than for high-expertise customers. Our results are supported by some previous studies both in a service context (Chiou et al., 2002), a product category context (Tuu et al., 2011), and in general attitude strength theory (e.g., Fabrigar et al., 2006). However, our findings oppose those of previous studies in marketing which find customer expertise to have a negative moderating effect on the satisfaction-loyalty relationship (Caprao et al., 2003; Evanschitzky and Wunderlich, 2006).

This study is also among a very few exploring the interaction of switching costs and customer expertise influencing loyalty (Bell et al.,

2005). However, while Bell et al. (2005) test their interaction role on the service quality-loyalty relationship, this study investigates this role on the satisfaction-repurchase intention relationship. The results of the three-way interaction tests are partially supportive of the proposed hypotheses and provide a deeper insight into the moderating effects of different types of switching costs. Specifically, satisfaction has a reduced effect on repurchase intention when MTE and social ties switching costs increase, but this phenomenon should be true just for novice customers. By contrast, satisfaction has an increased effect on repurchase intention when relational switching costs increase, but this effect only occurs for novice customers as well. In other words, while MTE and social ties switching costs may be considered a mean of keeping customer retention, they become less effective when customer expertise increases. Similarly, relational switching costs generated by a firm to build the loyalty of satisfied customers are effective for expert customers. Thus, the results also imply that dissatisfied customers who defect are expert customers, or satisfied customers with high expertise may be true loyal ones.

5.2. Practical implications

Our findings, therefore, have several managerial implications. Customer management based on satisfaction has been confirmed as a vital strategy for companies, but it is not sufficient to keep customers' loyalty (Oliver, 1999). The results of the three-way interaction effects between satisfaction, different types of switching costs and customer expertise on repurchase intention shed light onto understanding how customers move from satisfaction to loyalty with a service provider. This knowledge may

help businesses better manage relationships with their customers.

To enhance consumer loyalty, management attention should focus on building switching costs (Jones et al., 2007). Specifically, service providers may need to realize when their customers are staying willingly and when they feel locked into their relationships (Vazquez-Casielles et al., 2009). For example, to increase repurchase intention, the service providers should attempt to influence the creation of social ties (Woisetschläger et al., 2011). This goal is achievable through a promotion strategy focusing on groups or organizational members. For instance, mobile firms can establish a special fee or an added service for an internal calling network of an organization or a community. This special treatment can not only increase close relationships of customers with the firms, but also increase the value for customers sharing the common networks; therefore, it can contribute to satisfaction for the social communities. However, the findings suggest that service providers should concentrate on aspects that originate relational switching costs, rather than ones that raise MTE and social ties switching costs further (Vazquez-Casielles et al., 2009). This means that although MTE and social ties switching costs allow firms to generate profits from their current customers, the competitive advantage obtained in this way is only temporary and is difficult to sustain in the long-term because MTE and social ties switching costs may have serious negative, long-term consequences for the firm (Burnham et al., 2003). By contrast, the provider can generate feelings of willing bonds with them by creating affective and psychological bonds between customers and the provider, offering special treatment according to each customer's indi-

vidual needs (Vazquez-Casielles et al., 2009).

The findings show that satisfied customers with high expertise are more loyal than customers with low expertise about the providers. Thus, increasing their satisfaction and educating them with relevant knowledge about the provider's services may be an appropriate strategy (Tuu et al., 2011). To the extent that customer expertise develops over time, they may increasingly value additional information about the focal service by consolidating their satisfaction feelings. Mobile firms could be customized to meet the varying levels of expertise among customers, such as by providing greater amounts of service information to expert customers and less to others, or designing different service packages that allow expert customers more insight into, and involvement with, the service (Bell et al., 2005). However, the firms should identify customers with high expertise and carry out a benefit-cost analysis for this segmentation to make appropriate decisions regarding whether they should keep them (retention) or push them to other firms. Because this study emphasizes the practical significance of combining switching costs and customer expertise, this strategy is expected not only to increase the movement from satisfaction to repurchase intention, but also increase the effectiveness of positive switching costs generated by the firm.

5.3. Conclusion, limitations and future research

In summary, this study confirms the combined moderator role of different types of switching costs (MTE, social ties and relational) and customer expertise in the satisfaction-repurchase intention relationship. The findings indicate that while MTE and social ties switching costs

moderate negatively, relational switching costs positively moderate the satisfaction-repurchase intention relationship. Customer expertise is found to moderate the satisfaction-repurchase intention relationship positively, and especially, it still interacts with the switching costs to influence the satisfaction-repurchase intention relationship in different directions depending on the nature of each switching cost.

Despite the above contributions, this study has several limitations. The present research is based on a sample of three Vietnamese mobile phone brands. Future research should expand to a more representative sample of a population and to other products or services, as well as testing them in other countries or markets. Other moderators of the satisfaction-loyalty relationship such as customer characteristics, situational characteristics (Evanschitzky and Wunderlich, 2006; Seiders et al., 2005), or other dimensions of switching costs (Burnham et al., 2003) can be considered for future studies. For example, Kumar et al. (2013) suggest in their recent review that commitment, trust and involvement are important factors in understanding the satisfaction-loyalty relationship. The results presented here are based on self-reported measures of satisfaction and repurchase intention; hence, erroneous inferences can be produced if common method variance inflates the estimates of the association between them. Behavioral loyalty differs from attitudinal loyalty (Kumar et al., 2013), and objective repurchase loyalty as a dependent measure may give other results (Seiders et al., 2005). The different definitions and measures of knowledge (e.g., objective versus self-reported) have been shown to have unequal effects on different outcome variables (Park et al., 1994; Tuu et al., 2011). Therefore, the results might change, for

example if an objective measure of knowledge was used. As with all studies using correlation methods, the nature of the relationships is problematic. Thus, experimental designs or differ-

ent functional forms of satisfaction-loyalty relationship (e.g., linear vs. nonlinear) should be used in order to address issues of causality in future studies (Tuu et al., 2011).

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