

Investigating the Effect of Pre-Purchase Search and Ongoing Search on Post-Purchase Dissonance

Full papers

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Abstract

In the era of Internet, the issue of information search has obtained attention since the Internet provides more convenient search channel for consumers to change consumers' searching behaviours. The purpose of this study aims to understand how different types of information search influences consumers' post-purchase mental state while their amount of information search are influenced by the consumers' product knowledge. The result shows that consumer product knowledge has positive influence on different types of information search, and has negative influence on post-purchase dissonance. Meanwhile, online pre-purchase search and post-purchase search have negative influence on post-purchase dissonance.

Keywords

Consumer product knowledge, information search, ongoing search, pre-purchase search, post-purchased search, post-purchase dissonance.

Introduction

In order to make a good purchase, people searched to collect the needed information. In the era of web 2.0, information search becomes easier and convenient than in the past and attracts modern marketing researchers' interesting. Consumer's searching behaviors have been a hot topic during the past decades until now. Even there were many researchers investigated in this field already, consumer's information search had not been thoroughly explored yet. Especially with progress of Internet and communication technologies, consumers' searching behavior had changed significantly. With this background, we can raised up unprecedented new topics or reexamine the past studies.

In marketing, literatures proposed that pre-purchase search could help consumers to make a good purchase and increase purchase satisfaction (Punj & Staelin, 1983), or help consumer to solve the purchase problem (Bloch, Sherrell & Ridgway, 1986). In fact, psychologists provided different point of view. Thinking about other alternatives may trigger the thinking that lead consumers to experience regret (Kahneman & Miller, 1986). Indeed, recently there was study pointing out that the more consumers search, the more likely they will suffer from regret (Keaveney et al., 2007). There's also study showing that cognitive dissonance after impulse buying was lower than non-impulse buying. Such result was due to the strategy to avoid the surprises arising out of possible disconfirmation of expectations (George & Yaoyuneyong, 2010).

Another focus of our study is cognitive dissonance. Many of the researchers had investigated the dissonance after purchase decision. Quite a few researchers investigated the effect of information search on post-purchase regret. In our study, not only the relationship between information search and post-purchase dissonance, we also want to probe the different impacts on the dissonance from ongoing search and pre-purchase search. Beside the information search discussion, if we don't search at all before purchase, just buy with existing knowledge, or purchase without any prior knowledge (i.e. impulse

buying) would we still going to experience cognitive dissonance? Would consumer's prior product knowledge affect post-purchase search? Does consumer search after purchase and how does it affect post-purchase state of mind? These are the issues we want to investigate in this study.

From research background, we can see that searching extensively may not provide consumer greater satisfaction, sometimes search might bring negative impact to consumers buying experience, e.g. post-purchase regret and dissonance. Thence, we are going to investigate the effect of ongoing and pre-purchase search on dissonance together. There was a study showing that post-purchase external search would mediate the relationship between post-purchase dissonance and post-purchase satisfaction. Hence, how post-purchase search affect post-purchase dissonance is one of our concerns. The purpose of the study is investigating the impact of consumer product knowledge, pre-purchase search and ongoing search on post-purchase cognitive dissonance. In addition, this study is also investigating how consumer product knowledge affect consumer searching behaviors on pre-purchase search and ongoing search.

Literature Review

Consumer's product knowledge

Consumer's product class knowledge fall in to three categories: objective knowledge, subjective knowledge and the experience with the product (Brucks, 1985). Subjective knowledge can provide better understanding of decision maker's systematic bias and heuristics (i.e. cognitive shortcuts) than objective knowledge (Park & Lessig, 1981). Measures of subjective knowledge also can represent one's self-confidence as well as one's objective knowledge (Park & Lessig, 1981), and perceived self-confidence is closely related to one's decision making behaviors (Brucks, 1985). Hence we focus on subjective knowledge in this study.

Prior product knowledge and information search

In the field of consumer information search, how prior product knowledge affect the amount of external information search was many researchers' research subject. The results of prior researched could be roughly categorized into three types, positive (Brucks, 1985), negative (Punj & Staelin, 1983), and inverted U-shaped relationship (Bettman & Park, 1980). Every research finding was supported by reasonable explanations. Till now the relationship between prior knowledge and search remains controversial. However, reexamine this relationship is not our purpose. This study wants to explore the knowledge-search relationship in different aspect that is the influence of knowledge on pre-purchase search and ongoing search. Maybe it could give new interpretation of the knowledge-search relationship.

Information search

There are two phases of information search: internal information search and external information search (Schmidt & Spreng, 1996). Internal information search refers to the acquisition of information available in the memory, whereas external is the acquisition of information outside of memory (Bettman & Park, 1980). When the information in memory is deficient, consumers would change from internal to external search by seeking the information outside of memory. Among the external search, we use purchase intention and readiness to purchase to differentiate the external search into two types: pre-purchase search and ongoing search.

Pre-purchase search is "information seeking and processing activities which one engages in to facilitate decision making regarding some goal object in the marketplace" (Kelly, 1968), while ongoing search is "the search activities that are independent from specific purchase needs or decisions" (Bloch et al., 1986). According to Bloch's consumer information search framework, pre-purchase search and ongoing search are conceptually different in determinants, motives and outcomes. The most remarkable difference is the search motive. The main motive for the pre-purchase search is to enhance the quality of purchase outcome (Punj & Staelin, 1983; Bloch et al., 1986), whereas the motive for the ongoing search is pleasure and construction of information bank for future use (Bloch et al., 1986). That is, pre-purchase search comprises only portion of consumers' information search. If ongoing search is also part of external search, then only investigate pre-purchase search is insufficient. Ongoing search is as crucial as pre-purchase search. The importance of ongoing search should not be ignored.

Buyer regret and cognitive dissonance

Regret is defined as a cognitively based emotion that motivates one to think about how the negative event could have happened and how one could change it, or how one could prevent its future occurrence (Zeelenberg, 2007). Regret is not only a reaction to bad decision outcomes or processes, but also a powerful force in motivating and giving direction to behavior (Zeelenberg, 2007). Buyer's regret after bad purchase may contribute significant impact toward the service/product providers (Keaveney et al., 2007).

Cognitive dissonance is a social psychology theory developed by Festinger (1962). Festinger described dissonance as a psychological uncomfortable state due to the inconsistency between attitude and behavior, or the contradictory among values or beliefs that motives people reduce this inconsistency (Festinger, 1962). This definition also points out that post-purchase dissonance does not necessarily lead to bad purchase experience. Sometimes dissonant consumer just relieved from dissonance by convinced themselves that they have made the right decisions. Nevertheless, post-purchase dissonance contains uncertainty and unknown consequences.

In marketing and consumer psychology, cognitive dissonance was usually referred as post-purchase dissonance, sometimes also referred as buyer's remorse. Regret and remorse are synonyms and in some literatures they were regarded as the same thing (Rosenzweig & Gilovich, 2012), but we want to clarify that dissonance and remorse should not be considered as the same concept. By definition we've mentioned above, regret and dissonance are totally different things. Regret is an emotion but dissonance is a psychological state. Comparing with regret, dissonance is more complex and obscure. Although dissonance might include a bit of regret accompanied with several other kind of emotions, dissonance does not necessarily experience with regret. So in this study, we will not use the term buyer's remorse to avoid confusion and misleading.

Post-purchase search

In some studies, post-purchase search had been found to reduce dissonance and its negative influences (Keng & Liao, 2009). On the other hand, some researches demonstrated that dissonant consumers need reassurance to make sure they have made the wise decisions (Jacoby et al., 1987). We can see that dissonant consumers try to acquire support through post-purchase search within interpersonal sources and media. Not surprisingly, based on these literatures there's study seen post-purchase search as part of dissonance (Montgomery & Barnes, 1993). However, we want to separate dissonance and post-purchase search into two parts. Consumers who conduct post-purchase search are likely to experience dissonance, but consumers may still experience dissonance even without post-purchase search. When we measure the dissonant level of the two, the result might not be accurate due to the mediating effect of post-purchase search. We want to measure the dissonance on the same basis. So we separate post-purchase search and dissonance, and examine how post-purchase search influence post-purchase dissonance after ongoing search and pre-purchase search.

Methodology

Research model and hypotheses

We establish a research model to verify our research purposes. Completed research model with hypotheses are shown in Figure 1 and research hypotheses present as following.

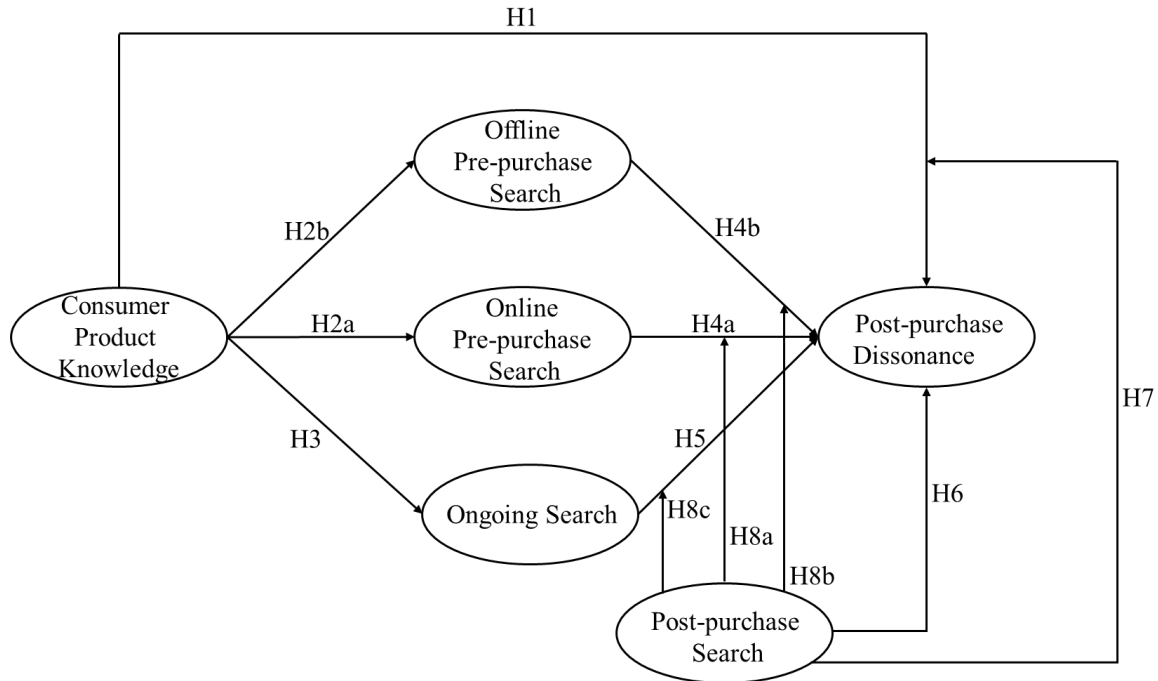


Figure 1. Research Model with Hypotheses

By conventional wisdom, it's not difficult to imagine that people with more product expertise would experience less post-purchase dissonance. This assumption is supported by literature, but in different aspect. Perceived self-confidence is influential to decision making abilities (Park & Lessig, 1981) and it can serve as a predictor of dissonance (Montgomery & Barnes, 1993). Consumers with high self-confidence are hard to be influenced by others and more certain to their decisions. Yet, consumers who are confident with their decision making ability and greater commitment to their decisions are found to be experience less dissonance. Based on these arguments, we hypothesize:

H1: Product knowledge is negatively related to post-purchase dissonance.

Based on Bloch's et al. (1986) consumer information search study, ongoing search is related to the enduring involvement, and heavy ongoing searchers are likely to be heavy spenders. Consumers who conduct ongoing search mostly are the people that interested in the product class and they acquire product expertise through their pleasurable searching. Thus we speculate these heavy ongoing searchers have high possibility to be knowledgeable consumers. These knowledgeable consumers continue to search on regular basis due to their passion with the product class. However, once they need to make the purchase, pre-purchase search might not be essential because the product information bank is already built. On the other hand, consumers those do not have passion for the product, they don't search in regular basis since they are not interested in the product. But when they need to make the purchase, they search to ensure a good decision. Due to these assumptions, we propose knowledge has positive influence toward ongoing search and has negative influence toward pre-purchase search. Past studies did not distinguish pre-purchase search and ongoing search. Thus we speculate that the inconsistency results of knowledge-search relationship from past studies might due to the difference of search. Moreover, in the era of Internet, consumers' searching behavior often occur on the Internet, but sometimes still occur with absence of Internet. We intended to compare the influence between online and offline pre-purchase search. However, we didn't intend to differentiate ongoing search into online and offline. Since ongoing search is an information gathering activity from variety of sources, it already includes online and offline search. Noting that product knowledge and information search are influencing each other. Hence we come out with following hypotheses:

H2a: Product knowledge is negatively related to online pre-purchase search.

H2b: Product knowledge is negatively related to offline pre-purchase search.

H3: Product knowledge is positively related to ongoing search.

In Keaveney's et al. (2007) research, they've mentioned that consumers are acquiring product information, as well as other available alternatives through the pre-purchase search process. In psychology's perspective, thinking about other possible alternatives would evoke people's counterfactual thinking that leads to regret (Kahneman & Miller, 1986). Though regret and cognitive dissonance are two different concepts, we suspect the circumstances that cause regret have high probability to cause dissonance as well. Since dissonance is the contradiction between beliefs, knowing there exists a better option other than the choice has made, certainly qualify the condition of dissonance. Therefore, we assert that search is followed by dissonance.

Until now, the relationship between ongoing search and regret remains unclear (Keaveney's et al., 2007). As long as consumers have made comparison between alternatives, there are possibilities to experience dissonance. However, we speculate that the dissonance comes with ongoing search would not as severe as the dissonance comes with pre-purchase search. For the consumers that conduct ongoing search more than pre-purchase search (or do not conduct pre-purchase at all), they build their product information bank through ongoing search and use their accumulated product knowledge to make their choices. This group of consumers might not pay much effort on comparing the alternatives before purchase. They already know what to buy base on their internal information. So we assume people who conduct ongoing search more than pre-purchase search will experience less dissonance. As we've mentioned in previous hypothesis, Bloch's et al. (1986) research result demonstrated that heavy ongoing searchers are likely to be heavy spenders and heavy spenders are likely to have high new product awareness and frequent contact with retailers. So we expect people who conduct ongoing search heavily to be more knowledgeable customers and more knowledgeable consumers may experience less post-purchase dissonance. This provides another cue to our assumption. Thus we hypothesize that:

H4a: Online pre-purchase search is positively related to post-purchase dissonance.

H4b: Offline pre-purchase search is positively related to post-purchase dissonance.

H5: Ongoing search is positively related to post-purchase dissonance.

Previous studies supported that dissonant consumers tend to conduct post-purchase search to support their decisions (Tsiros & Mittal, 2000). During their searching process, if customers only search and recognize the information that conforms to their purchase decisions, then they are having confirmation bias toward their searches. Confirmation bias refers to the situation that consumers "seek confirmatory evidence and fail to search for disconfirming information for desired outcomes or strongly held values" (Carter, Kaufmann & Michel, 2007). In other words, when the information they found contradict their beliefs, which are their purchase decisions, they either ignore them or interpret them in their desired way. In this case, consumers' confidence toward their decisions are being enhanced and that can ease the dissonance if they have any. We can see that it's possible for consumers to relieve their dissonance via biased post-purchased search, and biased post-purchased search might also ease the dissonance caused by knowledge level and searching. Hence we propose the following hypotheses:

H6: Post-purchase search is negatively related to post-purchase dissonance.

H7: The relationship between product knowledge and post-purchase dissonance is moderated by post-purchase search.

H8: The relationship between product information search and post-purchase dissonance is moderated by post-purchase search.

H8a: The relationship between online pre-purchase search and post-purchase dissonance is moderated by post-purchase search.

H8b: The relationship between offline pre-purchase search and post-purchase dissonance is moderated by post-purchase search.

H8c: The relationship between ongoing search and post-purchase dissonance is moderated by post-purchase search.

Statistical Analysis and Hypotheses Testing

The study used online survey platform mySurvey (<http://www.mysurvey.tw/>) to formulate and release survey. The survey was opened from May 15th to June 4th 2015 and yielded 542 valid responses. The demographic information is conducted using SPSS 20 software and reliability, validity and hypotheses are tested using Smart PLS 2.0 software (Ringle, Wende, & Will, 2005). The sample comprised of 234(43.2%) males, 302 (55.7%) females and 6 (1.1%) others. Majority of participants were residing in Taiwan, aged between 19 and 28 years old (70.3%). Most of the participants were students (52.6%).

Measurement model analysis reliability and validity testing

In measurement model assessment, we validated convergent validity and discriminant validity using factor loadings, composite reliability (CR) and average variance extracted (AVE) of each construct (Hair et al., 2010). Nunnally and Bernstein (1994) suggested that Cronbach's α greater than 0.7 indicates high reliability. Convergent validity is using to evaluate the consistency and correlations within items. In accordance with Fornell-Larcker criterion (Fornell and Larcker, 1981), standardized factor loading needs to greater than 0.4, CR greater than 0.6, and AVE greater than 0.5 to demonstrate convergent validity. The results showed in Table 1 indicating good convergent validity among constructs.

Fornell and Larcker also suggested that if square root of AVE is greater than any other correlation coefficient within the inter-construct, the construct has good discriminant validity. Table 2 showed that the square root of AVE on the diagonal line were all greater than the latent variables below, indicating good discriminant validity. Both convergent validity and discriminant validity had reached Fornell-Larcker criterion. Thus, this sample was appropriate for conducting subsequent structural equation model analysis.

Construct/Item	Factor loading	AVE	Composite reliability	R ²	Cronbach's α
Consumer product knowledge (CPK)					
CPK1	0.834	0.7213	0.9282		0.9035
CPK2	0.859				
CPK3	0.847				
CPK4	0.831				
CPK5	0.875				
Ongoing search (OGS)					
OGS1	0.614	0.5781	0.8703	0.4638	0.8173
OGS2	0.623				
OGS3	0.854				
OGS4	0.839				
OGS5	0.832				
Online pre-purchase Search (PPS_ON)					
PPS_ON1	0.833	0.5823	0.9169	0.1438	0.8959
PPS_ON2	0.861				
PPS_ON3	0.806				
PPS_ON4	0.648				

PPS_ON5	0.736				
PPS_ON6	0.818				
PPS_ON7	0.661				
PPS_ON8	0.713				
Offline pre-purchase Search (PPS_OFF)					
PPS_OFF1	0.842	0.7191	0.9534	0.0212	0.9445
PPS_OFF2	0.877				
PPS_OFF3	0.859				
PPS_OFF4	0.803				
PPS_OFF5	0.883				
PPS_OFF6	0.879				
PPS_OFF7	0.816				
PPS_OFF8	0.820				
Post-purchase dissonance (PPD)					
PPD1	0.869	0.6924	0.9401	0.2676	0.9252
PPD2	0.877				
PPD3	0.763				
PPD5	0.859				
PPD6	0.743				
PPD7	0.888				
PPD8	0.815				
Post-purchase search (PPS)					
PPS1	0.496	0.6652	0.8479		0.7641
PPS2	0.941				
PPS3	0.930				

Table 1. Latent Variables of Measuring Model

Construct	CPK	OGS	PPS_ON	PPS_OFF	PPD	PPS
CPK	0.849					
OGS	0.681	0.760				
PPS_ON	-0.361	-0.311	0.832			
PPS_OFF	0.292	0.423	-0.327	0.816		
PPD	0.146	0.344	-0.099	0.310	0.848	
PPS	0.379	0.483	-0.419	0.465	0.286	0.763

Table 2. Discriminate Validity and Latent Variable Correlations

Notes:

1. CPK=Consumer product knowledge; OGS=Ongoing search; PPS_ON=Online pre-purchase Search; PPS_OFF=Offline pre-purchase Search; PPD=Post-purchase dissonance; PPS=Post-purchase search
2. The numbers in bold on the diagonal are the square roots of the AVE. The off-diagonal elements are the correlations among the constructs.

Structural model analysis

In this study, we used structural model to examine the causality and explanatory power between latent variables of the overall research model. The causality path analysis was conducted using bootstrapping technique (Efron, 1979) in Smart PLS 2.0 (Ringle, Wende, & Will, 2005), resample 2000 samples from 542 original samples. The structural model and path coefficients are shown in Figure 2.

The analysis results show that the consumer product knowledge negatively and significantly affected post-purchase dissonance ($\beta=-0.236$, $p<0.001$); hence H1 was supported. The consumer product knowledge positively and significantly affected both online ($\beta=0.379$, $p<0.001$) and offline ($\beta=0.146$, $p<0.001$) pre-purchase search, which are contrary to our hypothesis; hence H2a and H2b are rejected. The consumer product knowledge positively and significantly affected ongoing search ($\beta=0.681$, $p<0.001$), hence H3 was supported.

The online pre-purchase search negatively and significantly affected post-purchase dissonance ($\beta=-0.304$, $p<0.001$), which was contrary to our hypothesis; hence H4a was rejected. The offline pre-purchase search insignificantly affected post-purchase dissonance ($\beta=0.052$, $p>0.05$), hence H4b was not supported. The ongoing search insignificantly affected post-purchase dissonance ($\beta=0.036$, $p>0.05$), hence H5 was not supported.

The post-purchase search negatively and significantly affected post-purchase dissonance ($\beta=-0.304$, $p<0.001$), hence H6 was supported. The post-purchase search insignificantly moderated the consumer product knowledge and post-purchase dissonance ($\beta=0.034$, $p>0.05$), hence H7 was not supported. The post-purchase search insignificantly moderated the online pre-purchase search and post-purchase dissonance ($\beta=-0.017$, $p>0.05$), the offline pre-purchase search and post-purchase dissonance ($\beta=-0.159$, $p>0.05$), and the ongoing search and post-purchase dissonance ($\beta=0.012$, $p>0.883$), hence H8a, H8b, and H8c were not supported.

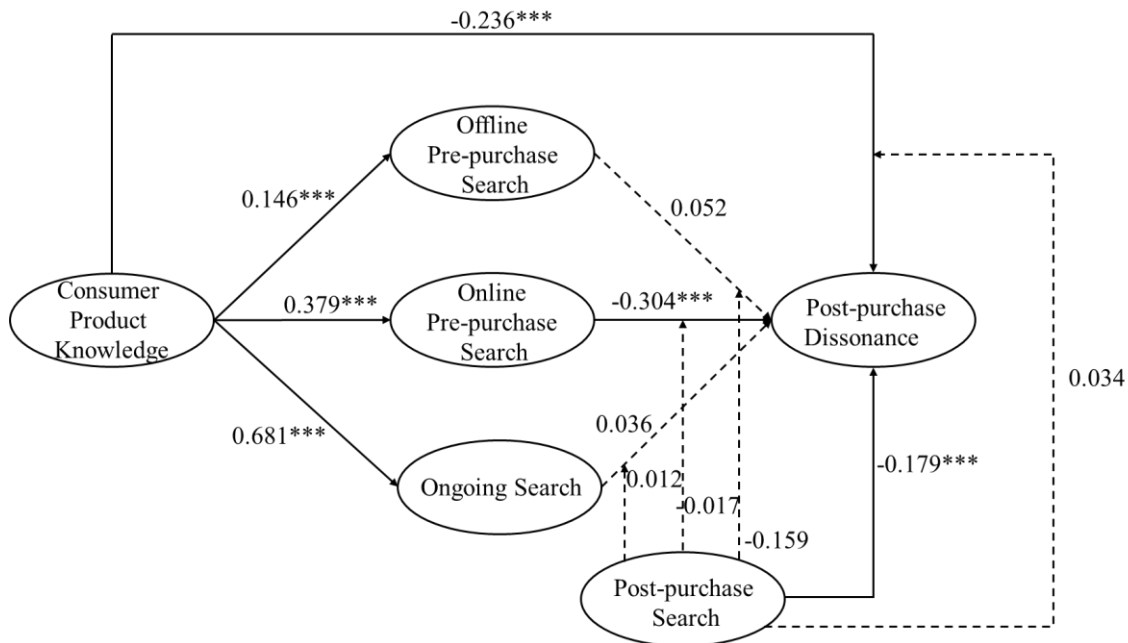


Figure 2. Result of Structural Model

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$. The value on the line is path coefficient (β); significant path is drawn by solid line, insignificant is drawn by dot line.

Conclusion and Suggestions

Conclusion

This study intends to explore how knowledge level affects different types of search, and how different types of search affect the post-purchase dissonance. Meanwhile, this study also considers the moderating effect of post-purchase search.

Past literature suggested that knowledge-search relationship might be positive, negative, or inverted U-shaped. This study investigated the relationship between product knowledge and different types of search separately. We differentiated search into online pre-purchase search, offline pre-purchase search, and ongoing search. Our research result demonstrated that consumers' product knowledge is positively related to these three types of search, meaning the more consumers know, the more they search. Based on this finding, we suggest the relationship between knowledge and search is positive.

Previous studies also suggested that pre-purchase search would lead to post-purchase dissonance. We further differentiate pre-purchase search into online and offline pre-purchase search, and found that only online pre-purchase search would influence post-purchase dissonance, but in different way. Contrary to literature and hypothesis, our result suggested that online pre-purchase search is negatively related to post-purchase dissonance. In addition, some researchers proposed that post-purchase search is a sign of post-purchase dissonance, and our research confirmed it again. Though post-purchase search does not have moderating effect on product information search and post-purchase dissonance, result showed that it is negatively related to post-purchase dissonance. Post-purchase search is indeed an indication of post-purchase dissonance.

Limitations and future research

Post-purchase dissonance is an uncomfortable state caused by the inconsistency between expectations and realities. We conducted cross sectional study and focus on measuring respondents' post-purchase state of mind. Although we ask respondents to recall their past purchase experience, as time goes by their memory may change over time, hence may not be reliable. Their true pre-purchase state was unknown to us. Duration of dissonance is another question. Dissonance may not last long. When consumers recall their purchase experience, dissonance may have already resolved and erased from their minds. Duration of post-purchase dissonance can also be a research topic in future studies. Based on these latent problems, if we want to measure consumers' dissonance precisely; longitudinal study may be a direction for future research. The survey data was obtained from consumers in Taiwan. Consequently, the data was limited in terms of region and population. Future study should confirm the result in different cultural region.

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