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# META-ANALYSIS OF PERCEIVED PRODUCT VALUE

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## ABSTRACT

Heightening Perceived Product Value (PPV) can help increase economic outcome of an organization. The marketing campaign should use effective strategies to enhance PPV among their customers. The current study primarily aimed to construct the model with all variables related to PPV, and to evaluate the effect size, which is Pearson's correlation, between each pair of PPV and its related variable. Thirty-four articles regarding PPV across various kinds of products were chosen, yielding 295 pairs of PPV-related variables to be used in the major analyses. Linear regression analysis, t-test, and descriptive analysis were employed, and their results indicated that endorsement, attitude, and satisfaction are the most influential predictors of PPV, and there are strong links between PPV and both behavioral intention and brand loyalty. The findings of the current study suggest that future studies should investigate the link between PPV and perceived risk, because of the small number of studies of which has been studied so far. PPV and the constructed model in this study should also be tested with other unexplored products, such as products from media production industry, e.g., films, music, and video games.

**Keywords:** Attitude; brand image; marketing; Perceived Product Value

## 1. INTRODUCTION

Perceived Product Value (PPV) is one of the most important factors that bring about marketing outcome. PPV could strongly predict both purchase intention (Chen and Chang, 2012) and repurchase intention (Pramoj Na Ayudhya, 2016) for green product. The same causal relationship has broadly found in many other products and services (Amirpur, 2017; Wang, 2015). Therefore, it is very important to construct a full model including both predicting or independent and outcome of dependent variables related to PPV. Meta-analysis would be employed to construct the particular model in the current study.

Perceived product value or PPV refers to consumers' perception that the benefit of using a product is larger than the money invested to purchase it. Pradhan et al. (2018) described that PPV is the consequence after the consumers weigh between perceived benefits and perceived risks. This perception might be generated by the actual usage, and it is sometimes mixed with social influences such as praising and admiration from peers and family (Pramoj Na Ayudhya, 2016). The actual usage allows the consumers to evaluate the quality of product in order to compare it with the price. The satisfaction regarding product quality or perceived product quality becomes one of the most common significant predictors of PPV in various research studies (Calvo-Porral and Lévy-Mangin, 2017; Hardeck et al., 2019).

Not only the quality of product should the organization concern in order to improve consumers' PPV, the aesthetic of packaging and design could also motivate the customers to buy the product (Halabi and Hands,

2018). Hence, customers might highly perceive product design value prior to the actual usage, and this contradicted the aforementioned definition that people would perceive product value after they experience it.

Corporate social responsibility or CSR is commonly used to improve corporate and product image, leading to customers' trust and loyalty (Potepkin and Firsanova, 2017). Epistemic value, a sub-type of PPV may arise when the customers understand and believe in corporate value and goodness. According to Bhaat and Kim (2016), three types of PPV were stated as follows: (1) epistemic value, (2) hedonic value which is about positive emotion, aesthetic, and pleasure, and (3) utilitarian value which is caused by actual experience after using the product. The next sections reviewed common dependent variables and predictors found in the PPV-related studies.

### 1.1 Dependent variables

As mentioned earlier, PPV could bring about positive marketing outcomes. This section would present two major dependent variables predicted by PPV.

(1) Behavioral Intention

Behavioral Intention or BI was found as a dependent variable of many quantitative studies in marketing area. BI could be purchase intention, repurchase intention, intention to use a service, intention to watch a TV show, or intention to spread positive information about the product. PPV was found to inflict a strong positive influence on purchase intention (Wang, 2015). In online service business, Internet users would repurchase the service if the prior experience could heighten their PPV (Amirpur, 2017). In some models, PPV was separated into two sub-types, utilitarian and hedonic value and both of which could cause repurchase intention (Chiu et al., 2014). Hedonic value alone could also cause positive word of mouth (Turel et al., 2010), which helps increase the number of new customers or visitors (Arunrangsiwed, 2013). Because of the link between PPV and BI, PPV could be used to indicate the competition capacity of brand and products (Meraz-Rodríguez et al., 2019).

(2) Loyalty

Customers' loyalty could influence their purchasing choice when they have to decide or compare between two similar products of different brands (Xu and Hu, 2019). Yoon et al. (2013) found the direct link from customers' satisfaction onto their loyalty. Diaconu (2012) concluded that products with low price and moderate quality could consequently enhance customers' loyalty. In the similar manner, PPV could come forward after people use the product and compare its quality to the invested money.

Diaconu (2012) suggested that PPV might be the mediator between product attribution and customers' loyalty. The mentioned process was already tested with made-in-China products sold in Nigeria (Halliru et al., 2018). These previous findings pointed out that sub-type of PPV that could heighten the level of loyalty is utilitarian value. Because CSR is one of the important variables that cause consumers' loyalty (Phrapratanporn and Wangkananon, 2015) and epistemic value (Potepkin and Firsanova, 2017), epistemic value might be another sub-type of PPV that could improve customers' loyalty, too.

### 1.2 Predictors of PPV

The independent variables or predictors of PPV which were commonly explored in previous research studies are brand or product image, endorsement, perceived risk, attitude or satisfaction, consumers' knowledge, and also demographic data.

(1) Brand Image

Brand image is consumers' and public's perception toward brand related to positive quality such as interesting, richness, or responsibility (Xu and Hu, 2019). CSR could heighten PPV and customers' loyalty, and CSR activities are used to improve brand and corporate image (Alcantara, 2016). According to Arli and Tjiptono (2018), CSR will have an effect on PPV only when the consumers have a positive attitude toward ethics and positive religious beliefs. Not only such the beliefs, Miranda (2018) also explained that CSR would be able to improve brand image and purchasing intention if the characteristics of activities matched consumers' belief and expectation. In the cell phone business, perception regarding corporate practices could help increase PPV, trust, and purchasing intention respectively (Kim and Lee, 2018). For the election campaign, people's perception toward expertise of candidate is related to the image of that particular candidate, and this might lead to their future voting choice (Zanotelli et al., 2019).

(2) Endorsement

Based on the previous review, expertise and trust were found to correlate with brand image. These two variables are the dimensions of source credibility which has been used to evaluate the endorsement. Consumers' trust toward a product endorser could be transformed to be trust toward the product itself, leading hence to consumers' purchase intention (Pairoa and Arunrangsiwed, 2016). While celebrity endorsement may not be an effective strategy to motivate fans to health-related exercise (Arunrangsiwed et al., 2017), many scholars identified the direct positive influence of endorsement on PPV (Chi et al., 2011; Younus et al., 2015). Therefore, endorsement would also be included in the model of current study.

(3) Perceived Risk

Unlike brand image, perceived risk would diminish consumers' trust toward brand (Chen and Chang, 2012). Perceived risk is a significant problem of e-commerce, because internet users may worry about products with low quality and fake traders, and these substantially reduce their purchase intention (Na Songkhla, 2014). While Wang (2015) reported a weak but significant effect of perceived risk on PPV, Ye et al. (2017) indicated that perceived risk could directly decrease purchase intention. Generally, utilitarian value would occur after the consumers start using a product, but perceived risk in online purchasing could initially predict utilitarian value right before the actual usage (Chiu et al., 2014). Some product strategies, like money-back guarantees could help reduce perceived risk (Larson, 2016).

(4) Attitude and Satisfaction

Satisfaction is the variable basically found in marketing studies in Thailand. Tourists' satisfaction is repeatedly explored with regards to marketing mix in floating market (Arunrangsiwed, 2020a; 2020b) such as satisfaction about aesthetic of place and culture-related products (Rassamitat, 2015). Satisfaction refers to pleasure and positive experiences which are better than the prior expectation (Dilokwilas and Chaipoopirutana, 2015). Satisfaction is similar to the positive attitude after using a product, and perceived product quality is a part of it (Calvo-Porral and Lévy-Mangin, 2017).

The review of related literature stated a positive effect of satisfaction on PPV. For example, positive attitude toward a software after the first usage was found to predict BI to continue using it (Duangekanong and Duangekanong, 2019). Similarly, for e-commerce, users' satisfaction and enjoyment during products ordering could bring about repurchase behaviors through the same website or application (Najmi and Ahmed, 2018). Calvo-Porral and Lévy-Mangin (2017) also found that positive attitude has a stronger influence than price on purchase intention. In this manner, when a consumer can satisfy his/her emotional needs, the "emotional value" will emerge, and it results in positive feeling which is similar to hedonic value (Kyao, 2018).

(5) Consumers' Knowledge

Although satisfaction is a very important predictor of both BI and PPV, Yoon, Hostler, Guo, and Guimaraes (2013) found no relationship between satisfaction and consumers' knowledge about products. Without such a relationship, consumers' knowledge could nonetheless describe much variance in PPV (Younus et al., 2015), and consequently increase purchasing intention (Yoshihiro et al., 2019). Pelixo (2018) found that YouTube video could cause users' confidence before purchasing a product, but YouTube is not their major influence leading them to make a purchase. Some kinds of products or services, like websites, software, or applications, requires users' knowledge prior to use. Intention to use alone could not lead to the actual usage (Nitsche, 2014). This shows that consumers' knowledge is one of the important predictors especially for the products with complexity.

(6) Demographic Data

Demographic data were normally reported in the method or the beginning of research finding section of a paper, but only few analyses include these variables into the major research model. Reviews of related literature indicated that demographic data were related to PPV regarding packaged water and purchase intention (Mishra and Mohanty, 2018).

Consumers' education level was found to predict BI to avoid food waste (Aschemann-Witzel, 2018), while income could significantly cause purchase intention (Ratana-Ubol, 2014). This might be the reason that product with low price and certain quality could increase consumers' PPV (Diaconu, 2012). Occupation and social status were also related to people's behavior and life style when people had to purchase and consume alcoholic drinks in their social meeting (Calvo-Porral et al., 2018). Moreover, race could similarly predict PPV, especially in consumers with high-ethnocentric characteristics. Their PPV would be high if the products were made in their hometown, but low for the imported products (Rakić et al., 2018).

Many aforementioned studies in the literature review included PPV and its related predictors and outcome variables in their research model. It is therefore important to construct a complete model based on these variables, since the direction of future studies in this field should be clearly highlighted. This would eventually result in the contribution of knowledge in the marketing area.

A meta-analysis will help identify the strongest or weakest links among existing variables in past studies. The pair of variables with small effect sizes would be considered to be replaced by other undiscovered variables, or researchers might collect or analyze the data with different methods. As a result, organizations would be able to use the model derived from the current study to predict their marketing outcomes and enhance customers' loyalty. This process will definitely benefit the economy as a whole, and that will bring about life stability for employees.

A meta-analysis was used in the current study to examine both enabling independent and dependent variables related to PPV. There were a number of meta-analyses conducted in this particular area, such as the meta-analysis of the economic-value of wetland service (Woodward and Wui, 2001) and group cohesiveness as the predictor of new product development (Sivasubramaniam et al., 2012). However, none of these included perceived product value and product-related variables in the social science and marketing area.

In marketing area, Leonidou et al. (2002) used a meta-analysis to investigate the effect size of the variables in export performance. The findings of Geyskens et al. (1998)'s meta-analysis revealed that consumer trust can generate satisfaction, and trust together with economic outcome can result in marketing achievement. Another study with meta-analysis showed that objective performance was the most effective variable on relationship quality (Palmatier et al., 2006). In the area of food industry, a meta-analysis confirmed that the advertising exposure could heighten children's unhealthy food intake (Sadeghirad et al., 2016). Finally, the relationship between sales promotion and brand preference after the promotion was confirmed by the meta-analysis study of DelVecchio et al. (2006). Nevertheless, none of the studies used meta-analysis to primarily investigate overall PPV across various types of products. The current study would analyze the relationship of variables found in the previous studies regarding PPV.

The objectives of the current study were (1) to construct a full model regarding PPV, and (2) to indicate the effect sizes, calculated from Pearson's correlation, between PPV and related variables. The studies to be meta-analyzed would range from 2015 to 2019. This would be able to help confirm the findings of past studies and suggest the direction for future research.

## 2. RESEARCH METHODOLOGY

### 2.1 Samples and cases

Thirty-four studies published from 2015 to 2019 were selected as the samples of the current study. The inclusion criteria of the selected studies were that (1) the full articles could be downloaded, (2) the research findings needed to contain Pearson's correlation or correlation matrix, and (3) one of the variables had to be perceived product/service value (PPV). The researcher used Google Scholar as the tool to search for these articles. There were 612 results shown after using "perceived product value" as the keyword and filtering with the year 2015-2019. The researcher used a computer at Suan Sunandha Rajabhat University to go through this process. In these 612 studies, 157 studies could be downloaded, whether publicly free or from the databases available at the university. For these downloaded 157 files, 34 studies contained a correlation matrix or the value of Pearson's correlation within paragraphs. Therefore, these 34 studies were used in the final analysis.

A total number of 295 cases were input in a code sheet, listed down from all pairs of variables related to PPV in these 34 studies. By using G*Power to calculate the minimum number of cases with medium effect sizes conventions, a linear regression analysis with 8 predictors requires at least 160 cases. Hence, 295 cases in the current analysis is larger than the given number of 160 cases.

### 2.2 Variables

The dependent variable of the current study was the value of Pearson's correlation. Two raters were assigned to code all 295 cases as follows: (1) types of variables related to PPV, (2) Pearson's correlation - regardless both direction, positive or negative, and statistical significance, (3) PPV position in the causal model (PPV as predictor = 1; PPV as dependent variable = 0), (4) types of product or service, and (5) types of papers (thesis or dissertation = 1; published article = 0). When the results of two raters were not matched, the researchers would look at the article to determine to code the right value into the final code sheet.

There were more than 100 names of variables related to PPV, and they were grouped into 9 types as mentioned in literature reviews. The following list stated 9 types of variables, and the examples of each type are also provided.

*Behavioral Intention:* re/purchasing intention, word of mouth, and willingness to use the service

*Brand/Product Loyalty:* customer loyalty, brand loyalty, and attitudinal loyalty

*Attitude and Satisfaction:* customer satisfaction, perceived usefulness, product packaging, preference, and also negative attitude or irritation

*Brand/Product Image:* brand image, product image, perceived corporate image

*Perceived Risk:* perceived risk, perceived privacy risk, social commerce risk

*Demographic Data:* income, gender, and also some personality traits, like, sociability

*Consumers' Knowledge:* knowledge for health, environmental concern, and perceived skills

*Endorsement:* source credibility of endorsers including attractiveness, trustworthiness, and expertise

Other Types of Perceived Value: aesthetics value, emotional value, functional value, green value, hedonic value, and utilitarian value (sub-type of PPV)

Types of variables related to PPV were firstly coded as a nominal variable (1, 2, 3, …, 9). To prepare the cases and variables for further analyses, these nominal variables were recoded into 9 dummy variables. Since the 9 dummy variables were built from 1 nominal variable, only 8 of them could be added into regression analysis model to avoid the incident where one dummy variable could completely be predicted by other 8 dummy variables, which would

violate the assumption of regression, that an independent variable must not be perfectly described by other independent variables (Warner, 2012).

### 2.3 Analysis

Linear regression was used to examine the overall influence from the related variables on the Pearson's correlation or *r*-value. All dummy variables were added into the model as predictors, except the "other types of perceived value". The researcher decided to exclude this dummy variable because it could be either a predictor or a dependent variable of PPV, while the other 8 dummy variables have been obviously identified as either a predictor or a dependent variable.

Next, the independent-samples t-test was used to compare the *r*-value between theses and published articles, and between PPV as a predictor and PPV as a dependent variable. Descriptive statistical analyses were also used to investigate the overall average *r*-value(s), and *r*-value(s) across all 7 categories of products found in the selected studies, which are general products, e-commerce-related products, clothes, food and drink, electronic devices, big-ticket items, and services.

## 3. RESULTS

The regression model with 8 dummy variables representing types of variables related to PPV as the predictor, and the effect size calculated from Pearson's correlation as dependent variables, is statistically significant ($F = 3.505$; $p = .001$; $R = .299$; $R^2 = .089$). Consumers' knowledge has a significantly weak correlation with PPV (Beta = -232; p <. 001), followed by demographic data (Beta = -.194; p <. 01), and perceived risk (Beta = -.178; p <. 01). This suggests that there might be some mediators between these variables and PPV, or they might actually be the less influential predictors of PPV. The regression model is shown in Figure 1.

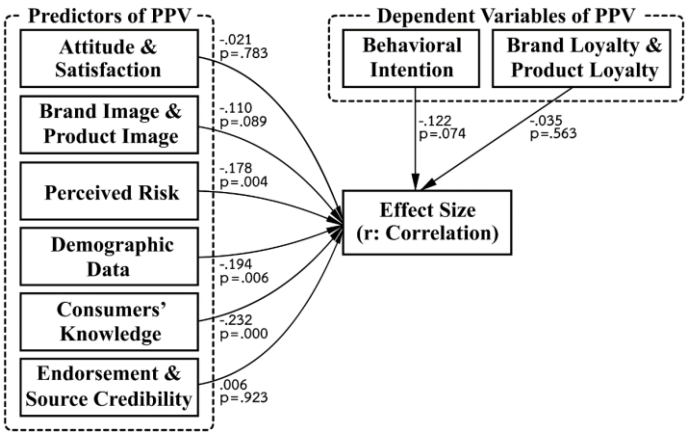


**Figure 1:** Regression Model with *r*-value as Dependent Variable

The first independent-samples t-test was to compare the effect size, or the r-value(s), between theses and published articles. The results revealed a significant difference between r-value(s) of both types of studies ($t = 2.523$; $p < .05$). Published articles in journals (Mean = .510; SD = .174; $N_{studies} = 24$; $N_{cases} = 227$) were found to have higher correlations than theses and dissertations (Mean = .438; SD = .216; $N_{studies} = 10$; $N_{cases} = 68$). This implies that publication bias might somehow exist.

For the second independent-samples t-test, no significant difference was found between r-value(s) of PPV as predictor and PPV as dependent variable ($t = -.070$; $p > .05$). When PPV performed as the predictor (Mean = .483; SD = .211), its r-value was slightly larger than when it was the dependent variable (Mean = .481; SD = .192).

Descriptive analyses (Figure 2. and Table 1.) showed similar results as in the linear regression analysis. Consumers' knowledge, demographic data, and perceived risk were reported as the predictors of PPV with the lowest correlation. The pair of variables with highest correlation was the endorsement (Mean = .570; S.D. = .141). However, only 7 studies investigated this group of variables.

The next predictor of PPV that provided a high correlation was attitude and satisfaction (Mean = .536; SD = .172). This variable was tested across all types of products in 34 research studies used in the current study. For the dependent variables of PPV, PPV could bring about more customers' brand loyalty (Mean = .509; SD = .154) than their BI (Mean = .470; SD = .226).

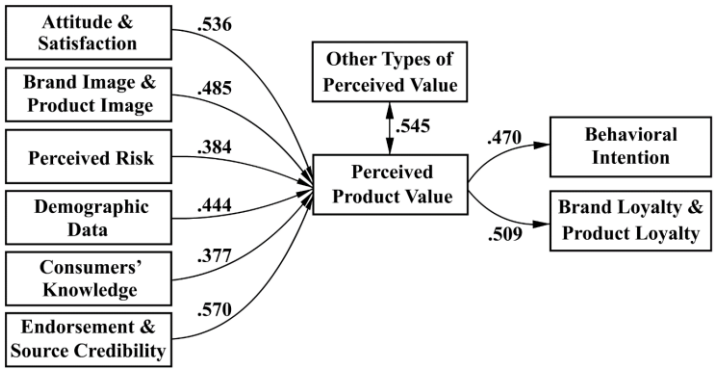


**Figure 2:** Full Model Constructed from 34 Studies with Averaged *r*-values

**Table 1:** Descriptive Data of *r*-values by Pairs of Variables

| Pairs of Variables | Mean | SD | Min | Max |
|---|---|---|---|---|
| PPV ↔ Behavioral Intention | .470 | .226 | .032 | .920 |
| PPV ↔ Loyalty | .509 | .154 | .242 | .836 |
| Attitude and Satisfaction ↔ PPV | .536 | .172 | .047 | .884 |
| Brand and Product Image ↔ PPV | .485 | .272 | .009 | .890 |
| Perceived Risk ↔ PPV | .384 | .193 | .007 | .680 |
| Demographic Data ↔ PPV | .444 | .160 | .060 | .690 |
| Consumers' Knowledge ↔ PPV | .377 | .140 | .119 | .590 |
| Endorsement ↔ PPV | .570 | .141 | .312 | .800 |
| Other kinds of Value ↔ PPV | .545 | .130 | .208 | .785 |

The products, which were the subjects in all selected studies, were grouped as 7 types as seen in Table 2. It is noticeable that most studies (N = 10) tested the model with PPV in general, not specific for one single product. The averaged correlation of these studies was moderately high (Mean = .535; SD = .167), compared with e-commerce, cloth, big-ticket item, and service. As shown in Table 3, brand image was obviously the enabling predictor of PPV for general products (Mean = .641; SD = .188). Electronic device, such as cell phone and laptop, was the product with the highest correlation related to PPV (Mean =. 558; SD = . 146). However, there were only 3 studies exploring the electronic device, and none of them investigated the variables of loyalty, brand image, and consumers' knowledge.

The next variable related with PPV with a relatively high correlation was food and drink (Mean = .552; SD = .139). In Table 3, it could be seen that attitude and satisfaction had an ability to predict PPV (Mean = .571; SD = 130), which could exert an influence on BI (Mean = .569; SD = 114) and loyalty (Mean = .539; SD = .420).

**Table 2:** Descriptive Data of *r*-values by Types of Products

| Types of products | $N_{paper}$ | Mean | SD | Min | Max |
|---|---|---|---|---|---|
| General Products | 10 | .535 | .167 | .123 | .920 |
| E-commerce | 4 | .503 | .113 | .250 | .690 |
| Clothes | 3 | .312 | .301 | .021 | .900 |
| Food and Drink | 6 | .552 | .139 | .242 | .840 |
| Electronic Device | 3 | .558 | .146 | .280 | .800 |
| Big-Ticket Items | 2 | .296 | .150 | .128 | .600 |
| Services | 5 | .393 | .211 | .007 | .740 |

**One paper is about election campaign, so it is not listed in this table.*

Table 2 and Table 3 illustrated more gaps of knowledge to be explored in future studies. In Table 2, only few studies were conducted regarding clothes, electronic devices, big-ticket items, and services. For Table 3, cloths, electronic devices, and services were tested by using only 4 groups of variables, and big-ticket items were tested by only 3 groups of which. Because of the small numbers of studies and few observed variables based on these products, the gaps of research in PPV were identified.

**Table 3:** Descriptive Data of r-Values by Types of Products and Variables Related to PPV

| | **Mean** (SD) *Min - Max* | | | | | | |
|---|---|---|---|---|---|---|---|
| **Pairs of Variables** | **General Products** | **E-commerce** | **Cloth** | **Food and Drink** | **Electronic Device** | **Big-Ticket Items** | **Service** |
| PPV ↔ Behavioral Intention | **.509** (.226) *.123 - .920* | - | **.345** (.348) *.032 - .900* | **.569** (.114) *.426 - .667* | **.470** (.028) *.450 - .490* | **.372** (.050) *.315 - .410* | - |
| PPV ↔ Loyalty | **.517** (.059) *.427 - .573* | - | - | **.539** (.420) *.242 - .836* | - | - | - |
| Attitude and Satisfaction ↔ PPV | **.614** (.134) *.387 - .884* | **.514** (.120) *.312 - .690* | **.496** (.293) *.047 - .750* | **.571** (.130) *.334 - .840* | **.605** (.140) *.390 - .770* | **.147** (.021) *.128 - .169* | **.490** (.191) *.160 - .724* |
| Brand and Product Image ↔ PPV | **.641** (.188) *.291 - .890* | **.455** (.064) *.410 - .500* | **.040** (.021) *.021 - .062* | **.497** (.158) *.384 - .769* | - | - | **.375** (.517) *.009 - .740* |
| Perceived Risk ↔ PPV | - | **.361** (.148) *.250 - .680* | - | - | **.450** (.165) *.280 - .640* | - | - |
| Demographic Data ↔ PPV | **.425** (.112) *.291 - .615* | **.554** (.059) *.460 - .690* | - | - | - | - | **.356** (.187) *.060 - .648* |
| Consumers' Knowledge ↔ PPV | **.361** (.132) *.166 - .503* | **.492** (.079) *.390 - .590* | **.179** (.084) *.119 - .238* | **.455** (.033) *.432 - .478* | - | - | - |
| Endorsement ↔ PPV | **.508** (.143) *.312 - .650* | - | - | - | **.632** (.121) *.480 - .800* | - | - |
| Other kinds of Value ↔ PPV | **.569** (.126) *.306 - .785* | **.521** (.096) *.357 - .650* | - | **.527** (.034) *.488 - .553* | - | **.404** (.277) *.208 - .600* | **.383** (.090) *.279 - .437* |

## 4. CONCLUSION AND DISCUSSION

The full model built based on 34 past studies (Figure 2) showed that attitude and satisfaction, brand image, and endorsement had been the influential enabling predictors of PPV, and PPV was the effective predictor of both BI and loyalty. These findings revealed that PPV could perform as the mediator between three mentioned predictors and two dependent variables. There was also a moderately strong correlation between PPV and other kinds of value. Undoubtedly, some variables in this group, such as hedonic, utilitarian, epistemic, or emotional value were sub-types of PPV, but the researchers of these studies might separate them to see the effect of each part of PPV.

With this research findings, the given model (Figure 2) might be retested with meta-analysis in the future when more studies about PPV are tested with such products as clothes, electronic devices, and big-ticket items. As shown in Table 3, many important variables were not initially tested with three mentioned products. In the meantime, marketing researchers should conduct quantitative studies to fill in the missing part of data in the particular table. Demographic data and consumers' knowledge, for instance, should be added into the model of the research about cars and housing or big-ticket items. This is because people need to have a certain level of income to purchase this kind of products, and for people with low income, they might have self-motivation to gather more information to increase their knowledge before making a purchase.

The linear regression analysis revealed that consumers' knowledge, perceived risk, and demographic data were weakly correlated to PPV. This might be explained that mostly PPV could mostly occur after using a product, because people would weigh between the benefit and their invested money (Pradhan et al., 2018). Lack of knowledge and perceived risk might prevent consumers from initially purchasing the products, then

they would not have a chance to be high in PPV regarding the particular product. This would suggest future studies to redraw a causal model by adding these three predictors – consumers' knowledge, perceived risk, and also demographic data - as the first independent variables predicting the mediators, such as brand image and satisfaction, which affected PPV and BI, respectively.

Perceived risk could be found in only the studies about two types of products, (1) products sold by using e-commerce, and (2) electronic devices. In fact, perceived risk should be tested in food products and service business, such as hotel and house installation. These kinds of products are different from others because even after purchasing or during the use of products or services, people could still be able to perceive risk. For example, people may perceive hotel image before booking, and they might be satisfied during staying in the hotel. However, they might perceive risk or insecurity, if they found that there were only few security guards working at night.

Similarly, for food products, people may perceive the risk both before and after purchasing or consuming the products. Some with nutrition knowledge might be high in perceived risk when they are choosing a high-calorie product in a supermarket (Arunrangsiwed et al., 2018a). On the other hand, some may just be high in perceived risk after food intake, which might inflict a negative effect on their health, such as vomit and diarrhea.

To consider PPV as predictors, PPV could describe approximately 20 percent of variances for BI ($r_{averaged}$ = 0.470; $R^2_{approximate}$ = 0.221) and consumers' loyalty toward brand ($r_{averaged}$ = 0.509; $R^2_{approximate}$ = 0.259). This implies that if the marketers could heighten PPV in their customers, their BI and loyalty would also be increased. The mentioned links have been explored in various areas of marketing including both general tangible products and services. However, few of them were found in the products about entertainment, such as TV shows (Kim and Kim, 2018), films, animation, music, and video games.

As the researcher has been teaching media production and studying prosocial media effect (Arunrangsiwed and Chaloemboon, 2019; Arunrangsiwed et al., 2018b), she previously stated that prosocial media might increase audiences' perceived media value (Arunrangsiwed and Meenanan, 2016). Therefore, it is possible for researchers of future research studies to test media audiences' PPV toward media object or their perceived epistemic value toward the media production company. Ratchatakorntrakoon (2019) found that Thai films still consist of much patriarchy, and reducing it might help improve perceived media value (Seedoung and Arunrangsiwed, 2019).

As presented in Table 3, the variables, such as customers' knowledge, loyalty, BI, perceived risk, and endorsement, have not often been determined testing with PPV regarding service business. Perceived service value should be explored with the mentioned variables. It is important to note that services could be both real-world services, such as transportation, banking, healthcare, etc., and online service, such as social network, web hosting, and webmail. Moreover, another gap which was coincidentally found during literature review and data collection process is that lack of location-based predictor was used to describe PPV. Reputation of tourist attractions, for instance, might be able to improve PPV for the products and services within the places.

### 4.1 Limitation

The major limitation of the present study is that the selected papers were not from the randomization method, but they were retrieved from free download and available database within a university. Future researchers with supporting fund might test the model with a true randomization across all the studies about PPV published online. This would reduce the bias and bring about more accurate results.

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