

## THE IMPACT OF PERFORMANCE RISK AND FINANCIAL RISK ON PERCEIVED VALUE – A CASE STUDY OF LANDSCAPED HOUSES

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### ABSTRACT

*This study investigates the factors that affect consumers' purchases of landscaped houses by applying the perceived value model and considering the perceived risk construct to study consumers' purchases of landscaped houses via a questionnaire survey. This study has distributed 350 questionnaires and recovered 324 questionnaires. After eliminating 18 invalid questionnaires, there were 306 valid questionnaires, for a valid return rate of 94.44%. The results show that a landscape's perceived price has a significant and positive impact on the landscape's perceived quality and perceived sacrifice. The landscape's perceived quality has a positive and significant impact on the landscape's perceived value. The landscape's perceived quality and perceived value have a positive and significant impact on consumers' purchase intentions. The landscape's perceived sacrifice has a negative and significant impact on financial risk. The financial risk, in turn, has a negative and significant impact on the landscape's perceived value.*

**Keywords:** Landscaped house, Perceived value model, Financial risk, Performance risk

### INTRODUCTION

With continuously rising living standards and residential quality, consumers often begin to pursue spiritual fulfillment after satisfying their material needs and desires. The concept of "visual aesthetics" has become a topical issue, ranging from product design to the spatial style of home environments. As consumers have increasing demand for landscapes, houses that feature a

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landscape are increasingly preferred. According to a study conducted by YC Realty Group, houses with landscaping are more expensive than general houses by 20–30%. Thus, a landscape is actually an advantage for the homeowner. The main task of marketing is to increase consumers' purchase intentions. Because customers are always value-oriented, perceived value has been considered an important factor in affecting purchase intentions (Zeithaml, 1988; Monroe, 1990; Dodds *et al.* 1991; Sweeney *et al.* 1999). Rust and Oliver (1994) argued that perceived value is a key factor in a consumer's decision-making process as the average consumer requires not only the maximum value (Monroe, 1990; Zeithaml, 1988) but also the minimal risk (Bauer, 1960). When selecting real estate, in addition to the conditions of the property itself, consumers also attach importance to spiritual satisfaction and will consider the surrounding landscape as a reference factor. However, all consumers' preferences are not necessarily the same; therefore, different consumers will have different preferences regarding landscape. This study suggests that landscape will evolve into an important factor that affects house purchase decision-making in the future real estate market.

Bauer (1960) first introduced the concept of perceived risk into the marketing field and argued that consumer behavior is a kind of risk taking since many consumers' behavior can be illustrated by the concept of perceived risk. Therefore, perceived risk has become an important factor affecting consumer behavior. Although the concepts of perceived risk proposed by researchers are not completely consistent, the five risk types proposed by Jacoby and Kaplan (1972) are the most commonly cited. Mitchell (1999) argued that a purchase decision includes various risk types and that the degree of impact of the risk types varies. Although there are a number of risk constructs, performance risk and financial risk have the most influential impact on a purchase decision (Dowling and Staelin, 1994; DelVecchio and Smith, 2005; Aqueveque, 2006). When discussing the perceived risk, most researchers only incorporated the risk constructs they needed for their study into their research framework. With landscape as the core of the research and, furthermore, based on the perceived value model proposed by Monroe and Krishnan (1985), this study investigated the mutual impact of the relationships between the landscape's perceived price, perceived quality, perceived value, and perceived sacrifice, as well as purchase intention. Moreover, this study explored whether a landscape's perceived quality and perceived sacrifice have any impact on the landscape's perceived value that may further affect consumers' purchase intentions. In addition, this study also included the performance risk and financial risk that are frequently discussed in marketing literature in the research framework to discuss whether they have any impact on a landscape's perceived value and consumers' purchase intentions.

## LITERATURE REVIEW

### Perceived value model

Marketing staffs strive to determine all the possible information that may affect consumer behavior in order to influence consumer behavior and thus make profits. Regarding the relationship between price, quality, perceived value, and purchase intention, the first conceptual framework was proposed by Monroe and Krishnan (1985) (see Figure-1). In the models of perceived price, perceived quality, perceived sacrifice, perceived value, and purchase intention, price is considered an objective external feature of the product representing the real price of the product (known as the objective price). Price is also the source of the perceptive stimulus of the consumer, and the price perception encoded by the consumer is known as the perceived price. The perceived quality consists of the benefits obtained by consumers. The perceived sacrifice is the cost the consumer is willing to pay to get the product. Therefore, the perceived quality is the consumer's evaluation of the overall advantage and sense of excellence of a product (Zeithaml, 1988; Drennan *et al.*, 2006). The price information is often regarded by the consumer as the product quality indicator. The consumer will assume the product's quality is determined by the force of supply and demand – in other words, if the price is higher, the product quality is presumably better. In addition to being the quality measurement indicator, price can also represent the monetary sacrifice to buy the product. When the price is high, it means there is a greater monetary sacrifice and a reduced evaluation and purchase intention associated with the product. Therefore, the perceived value model suggests that

the consumer's perceived price of the product is an indicator to measure perceived quality and perceived sacrifice. The comparison of perceived quality and perceived sacrifice can obtain the perceived value. If the perceived quality is greater than the perceived sacrifice, the consumer has a positive perceived value of the product or service and the perceived value will further affect the consumer's purchase intention.

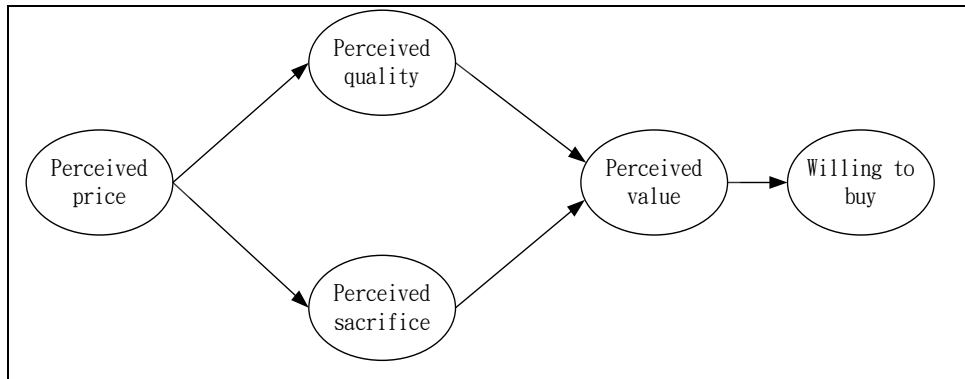


Figure 1: Perceived value model (Monroe and Krishnan, 1985)

### Perceived risk

Since Bauer introduced the concept of perceived risk in 1960 from the field of psychology to the marketing management field, researchers started to use the concept of perceived risk to discuss consumer behavior. The central idea of the perceived risk concept is that consumer behavior contains risk and it may lead to unexpected results; furthermore, consumers may not always be happy with the results that follow. Therefore, perceived risk is regarded as the negative perceptions of the unexpected and uncertain results generated by product purchase (Bauer, 1960). Bauer (1960) argued that consumer behavior is a kind of risk taking, and many consumer behaviors can be illustrated by the concept of perceived risk. Cox (1967) suggested that the perceived risk theory assumes that consumers are goal-oriented and that each consumer's purchase behavior features buying goals. When the consumer cannot decide which kind of purchase decision-making can best satisfy or meet the target level, or when the consumer finds the expected buying goals cannot be met after purchasing the product, it may result in adverse consequences to form perceived risk.

As for the type of perceived risk, many researchers proposed to explain perceived risk by constructs. Although the different types of risk are not completely the same, the five types of risk proposed by Jacoby and Kaplan (1972), including performance risk, financial risk, social risk, physical risk, and psychological risk are the most frequently. However, Mitchell (1999) indicated that a purchase decision may contain multiple risk types of varying degree. Dowling and Staelin (1994), DelVecchio and Smith (2005), and Aqueveque (2006) pointed out that performance risk and financial risk have the greatest influence on purchase decision and are thus the most frequently cited in the literature despite the many different constructs of risk type. Most studies concerning perceived risk only took into account the risk types they needed for the purposes of their research. This study explored performance risk and financial risk, both of which are frequently discussed in marketing literature (Bettman, 1973; Shimp and Bearden, 1982; Grewal *et al.*, 1994; Wood and Scheer, 1996). The performance risk refers to the possibility that the product does not function as expected or does not produce the expected benefits. The financial risk refers to the monetary loss caused when the product does not work properly or as a result of the maintenance or replacement of the product (Jacoby and Kaplan, 1972). Sweeney *et al.*, (1999) argued that, by definition, performance risk and financial risk are the derivations of future product quality and perceived price by the consumer in the purchase of the product. When the consumer perceives the quality is high, the perceived performance risk and financial risk are low. Perceived risk is a mediating variable of

perceived quality and perceived value. Therefore, this study includes and discusses “financial risk” and “performance risk.”

## **HYPOTHESES**

### **Relevant hypotheses of perceived value model**

#### **The relationships between perceived price, perceived quality, and perceived sacrifice**

Consumers tend to rely on easily available price information to judge product quality rather than collecting information from more difficult channels. Therefore, price is regarded as one of the most important messages related to product quality (Monroe, 1990; Dodds *et al.* 1991; Teas and Agarwal, 2000). With perceived price being the basis for perceived quality inference, when the perceived price is high, the product is regarded as more attractive. In other words, perceived price and perceived quality are positively correlated. In addition, with respect to the concept of perceived price, consumers have to sacrifice or give up a specific amount in exchange for the commodity and relevant benefits (Dodds and Monroe, 1985; Dodds *et al.*, 1991; Zeithaml, 1988). Erevelles *et al.* (1999) argued that perceived price is the consumer’s perception of “expensive” or “cheap” products. A higher perceived price suggests a greater perceived sacrifice. Based on the above literature, this study proposes the following H1 and H2:

H1: Perceived price has a positive impact on perceived quality

H2: Perceived price has a positive impact on perceived sacrifice

#### **The relationship between perceived quality and perceived sacrifice, and perceived value**

Monroe and Krishnan (1985) proposed a perceived value model and suggested that perceived value is determined by the balance of perceived quality and perceived sacrifice. Therefore, when consumers have relatively higher perceived quality, the perceived value is also higher. When the consumers’ perceived quality is high, the product’s perceived value is also higher (Monroe and Krishnan, 1985; Dodds *et al.*, 1991; Jeong and Lambert, 2001; Pertick, 2004). Monroe (1990) pointed out that traditional consumption behavior models are established on the assumption that consumers will behave reasonably when they possess all of the relevant information. However, in reality, the consumers only have incomplete information; therefore, consumer preference or selection will be made according to the evaluation of the product or service as well as the weighing of the quality, benefits, price, and sacrifice. Monroe argued that consumer-perceived value is a tradeoff relationship of perceived benefits and sacrifice. As a higher price often results in higher perceived quality, and thus further enhances consumer purchase intention, higher price often represents greater sacrifice. Therefore, higher price will reduce consumer purchase intention. In other words, when the price is higher, the perceived quality will be better and the perceived sacrifice will increase accordingly. When perceived quality is greater than perceived sacrifice, the consumer will have a positive perceived value about the product or service, and the perceived value will further affect the consumer’s purchase intention. Based on the above analysis, this study proposes the following H3 and H4:

H3: Perceived quality has a positive impact on perceived value

H4: Perceived sacrifice has a negative impact on perceived value

#### **The relationship between perceived quality and perceived value, and purchase intention**

The perceived value is the consumer’s overall evaluation of the product’s utility on the basis of perceived quality and perceived sacrifice (Zeithaml, 1988). Monroe and Krishnan (1985) and

Garretson and Clow (1999) argued that consumers' perceived quality of a product will affect the purchase intention. Dodds *et al.* (1991) suggested that purchase intention is the possibility of purchasing the product. A higher price will result in a higher degree of perceived quality and perceived value, and thus the purchase intention will be greater. Comparatively, a higher price represents more monetary sacrifice when purchasing the product, and thus the purchase intention will be reduced. Zeithaml (1988) measured the purchase intention by using perceived value. His study's findings suggested that when consumers perceived the value is higher, their purchase intention will be greater. Grewal *et al.* (1998) found that when the consumers perceived the value is higher, it can have a positive impact on purchase intention. Hence, this study proposes the following H5 and H6:

H5: Perceived quality has a positive impact on intention to buy

H6: Perceived value has a positive impact on intention to buy

### **Perceived risk-related hypotheses**

Sweeney *et al.* (1999) took perceived risk and perceived value into consideration at the same time and proposed the following: when making a purchase decision (in particular, purchasing durables), the product's price, quality, and service will affect the perceived value of the product. Furthermore, the consumer will consider the potential long-term loss in the evaluation of the product's value. Therefore, they argued that if the perceived risk can be incorporated in the perceived value model, it can help explain the perceived value. In the proposed model, the perceived quality has a direct impact on the perceived value and can affect the perceived value through the mediation of perceived risk. Sweeney *et al.* (1999) model combines the performance risk and financial risk into a concept without including the perceived sacrifice. Therefore, it is unable to provide an in-depth understanding of the role of the perceived risk in the decision-making process. The trade-off of perceived quality and perceived sacrifice forms the perceived value, and thus risk can be regarded as a kind of sacrifice. When the possibility of loss arising from a product or service is higher, the perceived value of the product or service will be lower (Snoj *et al.*, 2004). Agarwal and Teas (2001) adopted the viewpoints of Sweeney *et al.* (1999). When the consumer is making a purchase decision, the perceived benefits and cost of the product will affect the consumer's evaluation of the future benefits and cost of the product. Therefore, they regard quality and sacrifice as the indicators of benefits and cost when they "own" the product. Therefore, it is inferred that consumers will evaluate risk according to quality and sacrifice and the product's value according to risk. Agarwal and Teas (2001) categorized perceived risk into performance risk and financial risk, arguing that performance risk has a mediating relationship between perceived quality and perceived value, and that financial risk has a mediating relationship between perceived sacrifice and perceived value. This study thus proposes the following H7 to H10:

H7: Perceived quality has a negative impact on performance risk

H8: Perceived sacrifice has a positive impact on financial risk

H9: Performance risk has a negative impact on perceived value

H10: Financial risk has a negative impact on perceived value

## **RESEARCH METHOD**

### **Research framework**

With landscaped homes as an example, this study investigates the impact of landscape's perceived price on landscape's perceived quality, perceived value, perceived sacrifice, and purchase intention. This study also explores whether landscape's perceived quality and perceived sacrifice have any impact on landscape's perceived value to further affect consumers' purchase intentions. Afterwards, the variables of "performance risk" and "financial risk" are incorporated to explore

whether they have any impact on the landscape’s perceived value. The research framework is depicted in Figure-2.

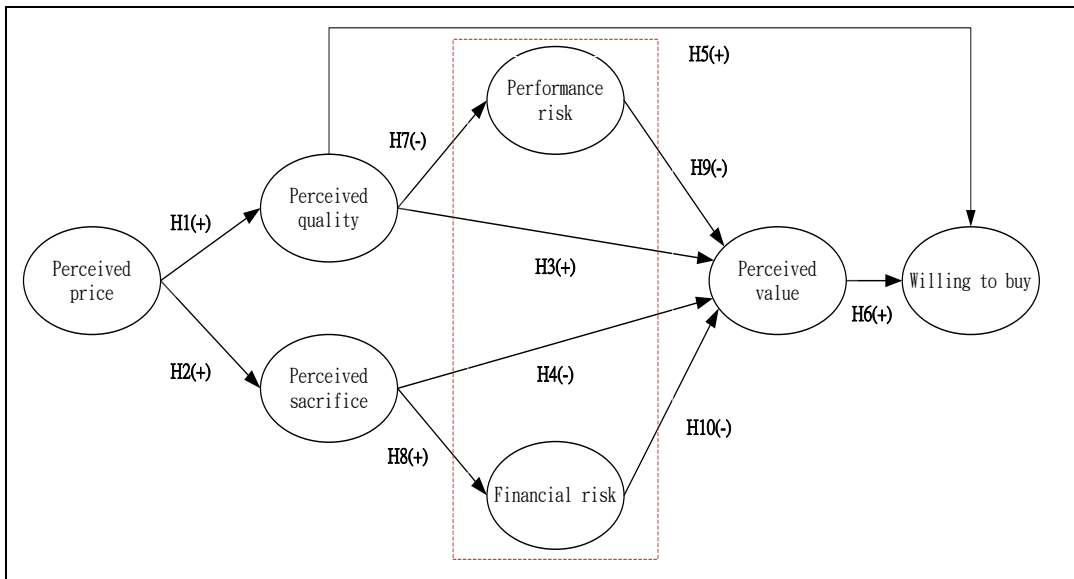


Figure 2: Research framework

**Questionnaire development**

The research questionnaire was designed based upon the literature review. The questionnaire is divided into the following eight sections: perceived price, perceived quality, perceived sacrifice, performance risk, financial risk, perceived value, intention to buy, and basic data. In addition to the basic data, the other seven sections are measured with a Likert-5 point scale, ranging from 5 (strongly agree) to 1 (strongly disagree). The section regarding perceived price contains items proposed by Voss *et al.* (1998) and Erelles *et al.*, (1999), including three questions. The section regarding perceived quality contains items proposed by Zeithaml (1988) for measurement, including four questions. The section regarding perceived sacrifice contains items proposed by Teas and Agarwal (2000) for measurement, including three questions. The section regarding intention to buy mainly contains items proposed by Zeithaml (1988), Dodds *et al.* (1991), and Grewal *et al.* (1998) for measurement, including three questions. The section regarding performance risk and financial risk contains items used by Wood and Scheer (1996) for measurement, including five questions. The detailed questionnaire items and references are included in the Appendix.

**SAMPLE DATA**

**Sample Data Collection and Descriptive Statistics of Samples**

This study used consumers intending to purchase a landscaped house in Kaohsiung city (Taiwan) as the subject of analysis. The research period was from July 1, 2012 to August 15, 2012. A total of 350 questionnaires were distributed, and 324 questionnaires were collected. After eliminating 18 incomplete or wrongly answered questionnaires, there were a total of 306 effective questionnaires, with a valid return rate of 94.44%. Among the respondents, 36.3% are male and 63.7% are female. Respondents aged below 30 accounted for 30.6% of the total respondents, followed by respondents aged 31–40 years old (24.0%), and respondents aged 41–50 years old (23.7%). Most of the respondents are married (58.0%); those respondents not married accounted for 39.7% of the group. Most of the respondents have college or university education level (71.1%), followed by high

school and or vocational high school (20.4%). Regarding average household annual income, most of the respondents have an income below 750,000 NTD, accounting for 36.8% of the total, followed by respondents with an income of 760,000–1 million NTD, accounting for 31.8%; and respondents with an income of 1.01 million–1.25 million NTD accounted for 16.7%. Regarding the number of family members, most respondents have 3–5 family members, accounting for 77.0%.

**Reliability and Validity**

SPSS/AMOS (v18) for Windows was used for data analysis. The structural equation model (SEM) was used for technical analysis and was divided into a measurement model and a structural model for descriptive purposes. DeVellis (1991) indicated that a reliability coefficient of 0.50–0.70 is acceptable. As shown in Table I,  $\alpha$  value of variables in various scales were all above 0.50. Overall, the questionnaire exhibited consistency and stability. This study used confirmatory factor analysis to test convergent validity and discriminant validity of various dimensions. It is shown in Table-1, the factor loadings of the measurement variables were mostly above 0.70 and reached a significant level, suggesting that the questionnaire exhibited the required convergent validity.

**Table 1: Measurement reliability, loading and AVE**

Variables	Loading (standardized)	CR	AVE	R <sup>2</sup>	Cronbach's $\alpha$
Perceived price		0.736	0.484	-	0.651
Price 1	0.593				
Price 2	0.569***				
Price 3	0.695***				
Perceived quality		0.876	0.640	0.376	0.781
Quality 1	0.645				
Quality 2	0.750***				
Quality 3	0.634***				
Quality 4	0.720***				
Perceived sacrifice		0.818	0.602	0.204	0.767
Sacrifice 1	0.760				
Sacrifice 2	0.796***				
Sacrifice 3	0.624***				
Perceived value		0.879	0.708	0.603	0.801
Value 1	0.739				
Value 2	0.804***				
Value 3	0.734***				
Performance risk		0.747	0.606	0.37	0.569
Performance 1	0.516				
Performance 2	0.773***				
Financial risk		0.786	0.554	0.421	0.705
Financial 1	0.624				
Financial 2	0.605***				
Financial 3	0.769***				
Intention to buy		0.927	0.809	0.624	0.885
Buy 1	0.775				
Buy 2	0.858***				
Buy 3	0.914***				

Notes: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Meanings of variables are shown in appendix.

**Table 2: Discriminant validity of individual measurements**

Constructs	Perceived price	Perceived sacrifice	Perceived quality	Financial risk	Performance risk	Perceived value	Intention to buy
Perceived price	0.695						

Perceived sacrifice	0.452	0.776					
Perceived quality	0.613	0.277	0.800				
Financial risk	0.293	0.649	0.180	0.744			
Performance risk	0.118	0.053	0.192	0.034	0.778		
Perceived value	0.480	0.260	0.758	0.053	0.19	0.842	
Intention to buy	0.424	0.219	0.675	0.069	0.157	0.779	0.900

**Note:** The square roots of the AVE individual construct values are displayed on the diagonal.

In terms of discriminant validity, according to Fornell and Larcker (1981), the square roots of the average variance extracted (AVE) of the latent variable must be larger than the correlation coefficients of the variables paired with the other variables. This suggests that all components exhibit good discriminant validity. As shown in Table-2, for example, the square roots of perceived price and perceived sacrifice AVE values were, respectively, 0.695 and 0.776, which were greater than the correlation coefficients of perceived price and perceived sacrifice at 0.452, suggesting discriminant validity. As summarized in Table-2, all the measurements in this paper showed significant discriminant validity. In addition, the latent variable's composite reliability (CR) is composed of the validity of all of its measurement variables, suggesting the internal consistency of the composite indicators. A higher level of validity suggests a higher level of consistency of these indicators. Fornell and Larcker (1981) suggest that the CR should exceed 0.6, and the CR of the latent variables in this research exceeds 0.6. The latent variable's AVE is used to compute the explanatory power of the various measurement variables of the latent variables on the latent variable. Therefore, a higher level of AVE indicates that the latent variable has a higher level of reliability and convergent validity. Also, Fornell and Larcker (1981) stated that the AVE should be larger than 0.5, except that for perceived price. As shown in Table-1, AVE values are higher than the acceptable level of 0.50. Overall, the internal consistency of the scale is acceptable.

#### **Analysis of the empirical results overall model fit**

Bagozzi and Yi (1988) pointed out that the model goodness of fit cannot be determined only by a single criterion or indicator and that the testing results of the overall model should be considered. Regarding the overall theoretical model fit analysis, the absolute fit indicator  $\chi^2 = 463.109$  ( $p < 0.001$ ) reached the 5% significant level, and the normal  $\chi^2 / df = 2.587$  is within the acceptable range. In addition, GFI = 0.861, AGFI = 0.821, NFI = 0.810, CFI = 0.873, IFI = 0.874, and RMR = 0.050, RMSEA = 0.077 are mostly acceptable standard values. Overall, the theoretical model fit is acceptable.

#### **Analysis of linear structural equation model**

##### **Results of linear structural equation model**

The empirical results of this study are as shown in Figure-3 and Table-4: the perceived quality is  $R^2 = 0.376$ , indicating that the perceived quality explained variation is 37.6%; the perceived sacrifice is  $R^2 = 0.204$ , indicating that the perceived sacrifice explained variation is 20.4%; the perceived value is  $R^2 = 0.603$ , indicating that the perceived value explained variation is 60.3%; the performance risk is  $R^2 = 0.370$ , indicating that the performance risk explained variation is 37.0%; the financial risk is  $R^2 = 0.421$ , indicating that the financial risk explained variation is 42.1%; the purchase intention is  $R^2 = 0.624$ , indicating that the purchase intention explained variation is 62.4%. As a whole, the model has considerably good explanatory power. It can be learnt from the



empirical results that the coefficient estimate of perceived price against perceived quality is 0.613, having reached 1% significance level in line with the prediction of this study. Therefore, H1 is supported. The coefficient estimate of perceived price against perceived sacrifice is 0.452, having reached 1% significance level in line with the expectations of this study, and thus H2 is supported. The coefficient estimate of perceived quality against perceived value is 0.734, having reached 1% significance level in line with the expectations, and thus H3 is supported. The coefficient estimate of perceived sacrifice against perceived value is 0.185, not having reached the significance level, and thus H4 is not supported. The coefficient estimate of perceived quality against purchase intention is 0.200, having reached 10% significance level, and thus H5 is supported. The coefficient estimates of perceived value against purchase intention are 0.628, having reached 1% significance level, and thus H6 is supported. The coefficient estimate of perceived quality against performance risk is 0.192, not having reached the significance level, and thus H7 is not supported. The coefficient estimate of perceived sacrifice against financial risk is 0.649, having reached 1% significance level, and thus H8 is supported. The coefficient estimate of performance risk against perceived value is 0.046, which is not in line with the expected symbol and has not reached 1% significance level. Therefore, H9 is not supported. The coefficient estimate of financial risk against perceived value is -0.201, having not reached 5% significance level as expected. Therefore, H10 is supported.

## DISCUSSION

The empirical results show that perceived price has a significant and positive impact on perceived quality. When the perceived price is higher, the consumer's perceived quality will be higher (Dodds *et al.*, 1991); that is to say, higher perceived price can result in an increase in perceived quality. The perceived price has a significant and positive impact on perceived sacrifice. Zeithaml (1988) argued that price is the sacrifice the consumer has to make in order to obtain the product. When the consumer regards the price of the landscaped house is higher than that of the general residence, it means the customer has to pay a higher cost. As a result, the consumer's perceived sacrifice of purchasing the landscaped house will be greater. Perceived quality has a significant and positive impact on perceived value. When the consumer is more satisfied with the quality of the landscaped house, in addition to the increase in the value of the landscaped house, this can increase the overall purchase intention. In other words, when the product or service's perceived quality is higher, the perceived value will be higher and the purchase intention will also increase accordingly. Monroe and Krishnan (1985) pointed out that consumer product perceived price is a factor to measure perceived quality and perceived sacrifice. By comparing perceived quality and perceived sacrifice, we can learn the perceived value. If the perceived quality is greater than the perceived sacrifice, the consumer will have a positive perceived value of the product or service and the perceived value will further affect the consumer's purchase intention. Therefore, when the consumer has higher perceived value of the landscaped house, the purchase intention will increase accordingly.

The perceived sacrifice has no significant impact on perceived value. The perceived sacrifice and perceived value are in a reverse relationship (Dodds *et al.*, 1991). Monroe (1990) also argued that consumers will make decisions or form preferences for the product or service according to perceptions and will further evaluate the obtained quality and benefits, as well as the price or sacrifice. If the consumer has to pay more costs in exchange for the house with landscaping, the sacrifice effect will be greater. As a result, the consumer's perceived value of the landscaped house will decrease. However, this hypothesis is not supported by the empirical results. Perceived quality has no significant impact on performance risk. Sweeney *et al.* (1999) pointed out that quality and sacrifice are indicators representing the benefits and cost of "owning" a product. The risk is the indicator representing the "future" benefits and cost. Therefore, it is inferred that the consumer will evaluate the risk according to quality and sacrifice before evaluating the product's value according to the risk. When the consumer-perceived quality is higher, the perceived performance risk will be

lower. However, the hypothesis is not supported by the empirical results. Perceived sacrifice has a positive and significant impact on financial risk, and the consumer will evaluate risk according to the perceived quality and perceived sacrifice of the landscaped house. The empirical results show that an increase in perceived sacrifice can result in an increase in financial risk. When the consumer pays higher perceived sacrifice in purchasing the landscaped house, for example, more financial expenditures and maintenance costs, it can result in increasing financial risk.

When the consumer perceives uncertainty during the purchase decision-making process, the perceived risk can increase, thereby affecting the level of behavioral intention (Garbarino and Strahievitz, 2004). Wood and Scheer (1996) pointed out that performance and financial risk are intangible costs and that sacrifice is regarded as the precedent of perceived value. The performance and financial risk have a negative impact on perceived value. The empirical results show that performance risk has no significant impact on consumer-perceived value. In theory, when the consumer purchases the landscaped house, if the doubt about satisfying the expected functional requirements is higher, the perceived value of the landscaped house will be relatively weaker. However, this hypothesis is not supported by empirical results, possibly because the real estate information is increasingly transparent. Many consumers purchasing a landscaped house or other high-priced residential houses will check urban planning program-related information. Therefore, this information can reduce the consumer's doubt about whether the expected performances of the landscaped house can be achieved. As a result, the impact of performance risk on consumer-perceived value is not significant. Finally, the empirical results show that financial risk has a significant and negative impact on perceived value. If the consumer believes the maintenance and cost after the purchase of a landscaped house are relatively lower, the financial risk will decrease. Consequently, the consumer's perceived value will increase.

**Table 4: hypotheses testing results**

Path	Expected sign	Coefficient	t-value	Hypotheses
H1 Perceived price-> perceived quality	+	0.613***	5.711	Supported
H2 Perceived price-> perceived sacrifice	+	0.452***	4.854	Supported
H3 Perceived quality-> perceived value	+	0.734***	7.681	Supported
H4 Perceived sacrifice-> perceived value	-	0.185	1.907	Not supported
H5 Perceived quality-> intention to buy	+	0.200*	1.949	Supported
H6 Perceived value-> intention to buy	+	0.628***	5.609	Supported
H7 Perceived quality-> performance risk	-	0.192	1.537	Not supported
H8 Perceived sacrifice-> financial risk	+	0.649***	6.587	Supported
H9 Performance risk-> perceived value	-	0.046	0.669	Not supported
H10 financial risk-> perceived value	-	-0.201**	-2.058	Supported

Notes: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ . Path coefficients are standardized coefficients

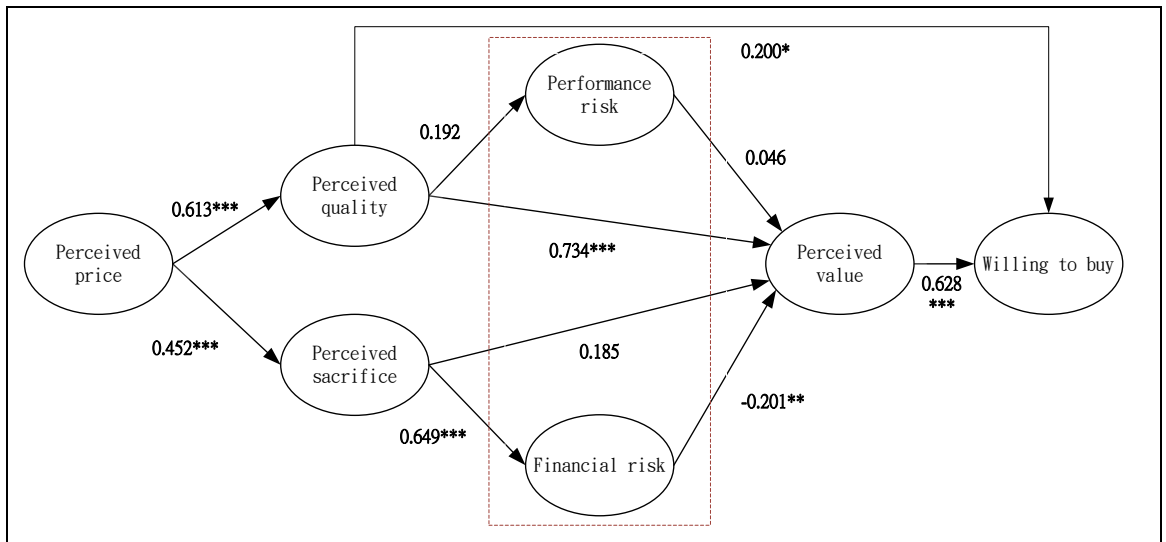


Figure 3: Structural equation modeling (Standardized Coefficient)

### CONCLUSIONS AND SUGGESTIONS

This study aims to understand the level of acceptance by consumers regarding the concept of a landscaped house by applying a perceived value model in empirical analysis and exploring consumer perceptions and purchase intentions regarding landscaped homes. The following can be learnt from the empirical results of this study: When the price of a landscaped house is higher, the quality is better. When the quality is better, the purchase intention will increase accordingly. When quality is higher, it implies that the landscaped house is of higher value, and thus it has a positive impact on consumer purchase intention. The perceived price has a significant and positive impact on perceived sacrifice, suggesting the consumer has to pay higher cost in purchase. The consumer-perceived sacrifice of purchasing a landscaped house will be greater. Increased perceived sacrifice can result in increased financial risk, indicating the perceived financial risk will be higher if the perceived sacrifice is greater in purchasing the landscaped house. In addition, financial risk has a significant and negative impact on perceived value. If the consumer finds the product cannot properly function or the product should be repaired or replaced, the resulting monetary loss will be smaller and thus the product’s perceived value can increase. Although landscape is not a necessary factor of real estate, the landscaped house becomes increasingly popular in the real estate market as consumers are increasingly concerned about spiritual satisfaction. Hence, landscaped homes are gradually becoming more popular among consumers, indicating the importance of landscape in the real estate market. The industry may focus on the product characteristics and evaluations of concern to consumers to create distinctive features and differentiation. In this way, it can increase the consumer’s subjective quality evaluation and thus the consumer can perceive higher value and the purchase intention will be enhanced.

Regarding the measurement constructs of perceived price, this study adopts the questionnaire survey of individual subjective orientation. Hence, it is relatively difficult to measure objectively the level of acceptance of landscaped house price. It is suggested that price construct can be measured by actual quantitative numbers to avoid the consumer perceptions of landscaped house prices. This study validates the inference of the studies by Dowling and Staelin (1994), DelVecchio and Smith (2005), and Aqueveque (2006) that performance risk and financial risk are factors affecting perceived value. However, as far as the tangible (visibility) product is concerned, in addition to the impact of perceived quality, perceived value may also be affected by psychological risk (Derbaix, 1983; Stone and Gronhaug, 1993). It is worth in-depth discussion of incorporating

different types of risk in subsequent studies. This study investigates the purchase intention of landscaped homes; however, intention is not equal to action. If the subsequent researchers can cooperate with the real estate brokerage industry in the future, they may take advantage of data to compare and validate those who actually purchased such landscaped homes and consumers intending to purchase a landscaped house. Such studies may produce more interesting and more in-depth results.

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## Questionnaire items and references

Constructs	Items	References
Perceived quality	<ol style="list-style-type: none"> <li>1. I think a [house's landscape] is an important factor to enhance residential quality.</li> <li>2. I think a [house's landscape] is worth considering.</li> <li>3. I think [houses with a landscape] are better in quality than general houses.</li> <li>4. I think a [house's landscape] can bring broad vision and enjoyment.</li> </ol>	Zeithaml (1988)
Perceived price	<ol style="list-style-type: none"> <li>1. I think the prices of houses with a landscape are reasonable.</li> <li>2. I am willing to pay the price set by the builder to get a house with a landscape.</li> <li>3. I think the price of a house with a landscape is higher than that of the general houses.</li> </ol>	Voss <i>et al.</i> (1998); Erevelles <i>et al.</i> (1999)
Perceived value	<ol style="list-style-type: none"> <li>1. I think houses with a landscape are worth buying.</li> <li>2. I think purchasing a house with a landscape can make me happy and satisfied.</li> <li>3. I think purchasing a house with a landscape can actually meet my needs.</li> </ol>	Parasuraman and Grewal (2000)
Perceived sacrifice	<ol style="list-style-type: none"> <li>1. Purchasing a house with a landscape will affect my expenditures in purchasing other commodities.</li> <li>2. I think purchasing a house with a landscape can cost me additional money.</li> <li>3. Purchasing a house with a landscape can reduce my spending on other commodities.</li> </ol>	Teas and Agarwal (2000)
Intention to buy	<ol style="list-style-type: none"> <li>1. I will consider purchasing a house with a landscape.</li> <li>2. The possibility of my purchasing a house with a landscape in the future is very high.</li> <li>3. My intention to purchase a house with a landscape is strong.</li> </ol>	Zeithaml (1988); Dodds <i>et al.</i> (1991); Grewal <i>et al.</i> (1998)
Performance risk	<ol style="list-style-type: none"> <li>1. I am uncertain about the landscape of the house.</li> <li>2. I am doubtful about the functions of the house's landscape as advertised.</li> </ol>	Wood and Scheer (1996)
Financial risk	<ol style="list-style-type: none"> <li>1. Considering the monetary investment, I think the purchase of a house with a landscape is risky.</li> <li>2. I think the cost for maintenance after the purchase of a house with a landscape will be very high.</li> <li>3. Considering the potential expenditure of purchasing a landscaped house, I think the overall financial risk of purchasing a landscaped house is very high.</li> </ol>	Wood and Scheer (1996)