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Measuring Consumers' Willingness to Pay for Each Attribute of a Product: A Review on Hedonic Pricing Model

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Abstract
The Hedonic pricing model requires that a good, per se does not provide utility; it is the characteristics of the good that gives rise to utility. The total amount of utility a consumer receives from the consumption of a good is subject to the total amount of the characteristics contained in a good purchased. The marginal monetary value of the good's characteristics is the product of the marginal unit of the characteristics in the good and the marginal implicit prices of the characteristics. In fact, this model reflects actual choices made by consumers, and they can adopt it to estimate their willingness to pay for a good's characteristics considering several possible interactions between the good's characteristics–both internal and external. It can be used in product innovation, product packaging, and designing additive services, which gives a producer a competitive advantage in the market. On the other hand, this model may be counterproductive in an environment where information asymmetry exists as it captures only the willingness to pay for perceived differences of attributes and their direct consequences. Therefore, the effective analysis of this model highly depends on the correctness of model specification and different functional forms.
Keywords: Hedonic pricing model, willingness to pay, revealed preference, equilibrium price, and regression analysis

1. Introduction

The basic principle of consumer behavior is the maximization of utility. In fact, consumers make a buy decision only when the marginal utility is positive. Now, the fundamental question is "What gives a consumer utility–the good itself or the good's characteristics?" A group of marketers will promptly reply that it is the good's characteristics that give consumers utility so the marketers have come up with the idea of value-based pricing-setting the price of a product or service based on the perceived benefits by the consumers. Traditional economic theories suggest that consumers purchase different goods in order to obtain utility. A prominent economist, though not highly appreciated by the mainstream economists, Kelvin J. Lancaster has come up with the idea that–the good, per se does not provide utility; it is the characteristics of the good that gives rise to utility. A good possesses more than one characteristic, and the same characteristics can be found in another good too; but the two goods in combination may possess completely different characteristics from the characteristics they contain separately.

> "We assume that consumption is an activity in which goods, singly or in combination, are inputs and in which the output is a collection of characteristics. Utility or preference orderings are assumed to rank collections of characteristics and only to rank collections of goods indirectly through the characteristics that they possess. A meal (treated as a single good) possesses nutritional characteristics but it also possesses aesthetic characteristics, and different meals will possess these characteristics in different relative proportions. Furthermore, a dinner party, a combination of two goods, a meal and a social setting, may possess nutritional, aesthetic, and perhaps intellectual characteristics different from the combination obtainable from a meal and a social gathering consumed separately" (Lancaster, 1966, p. 133).

However, Lancaster's concept was later brought to advancement by some other economists. Cowling & Rayner (1970) and Ladd & Suvannunt (1976) introduced this new concept in the field of economics, which is termed as "Hedonic Pricing Model". The Hedonic pricing model explains that a good's characteristics, not the good itself, give rise to utility. The total amount of utility a consumer receives from the purchase of a good is subject to the total amount of the characteristics contained in a good purchased. The equilibrium price[1] (P*) of a good can be decomposed as the sum of the marginal monetary value of the good's characteristics(C_j);$P^* = \sum P_i C_j$. The marginal monetary value of the good's characteristics is the product of the marginal unit of the characteristics in the good and the marginal implicit prices of the characteristics (Ladd & Suvannunt, 1976).

[1] The basic assumption of this model is that a product or service must have an efficient market that leads to an equilibrium price.

2. Hedonic Pricing Model

Let us consider a simple utility maximization model to establish the theoretical foundation of the Hedonic pricing[1]. Assuming that a consumer purchases n goods(q_i) and each good has certain characteristics (c_j), utility is a function of a good's characteristics as stated below.

$$U = u(c(q)) \quad \ldots \quad (1)$$

In the equation cited above, U is utility and q is a vector of the goods consumed by the consumer. The c depends on the quantity of each good consumed$(q_i)$and the quantity of characteristics in each good(c_{ij}); i $(1 \ldots n)$ represents goods and j represents characteristics. It is assumed that the consumer can only change the $q_i's$, that is to say, the magnitudes of the c_{ij}'s are exogenous to the consumer because these magnitudes are determined by the intrinsic quality of the good. A consumer maximizes his utility considering his budget constraint. The equation of budget constraint is as follows.

$$\sum_{i=1}^{n} p_i q_i = I \ldots \quad (2)$$

Where p_i represents the fixed price paid for ith good by the consumer and Irepresents his fixed money income. Let us maximize utility using lagrangian method as cited below.

$$L = U\big(c(q)\big) - \lambda\left(\sum_{i=1}^{n} p_i q_i - I\right) \ldots (3)$$

The differentiation of the equation of the ith good (q_i) results in the first order condition as put below.

$$\frac{\delta L}{\delta q_i} = \sum\left(\frac{\delta U}{\delta c_{ij}} X \frac{\delta c_{ij}}{\delta q_i}\right) - \lambda p_i = 0 \ \ldots \quad (4)$$

Hence, the lagrangian multiplier λ[2] in the above-cited equation represents the marginal utility of the money income. If we solve forp_i, we get:

$$p_i = \sum\left(\frac{\delta c_{ij}}{\delta q_i}\right)\left[\frac{\delta U}{\delta c_{ij}} \Big/ \frac{\delta U}{\delta I}\right] \ldots \quad (5)$$

The marginal yield of the jth good's characteristic in the i th good is given by $\frac{\delta c_{ij}}{\delta q_i}$. The term $\frac{\delta U}{\delta c_{ij}}$ represents the marginal utility derived from the jth good's characteristic and the term $\frac{\delta U}{\delta I}$ represents the marginal utility of income. The ratio $\left(\frac{\delta U}{\delta c_{ij}} \Big/ \frac{\delta U}{\delta I}\right)$ shows the marginal rate of substitution between income and j th good's characteristic. According to the equation (2), income equals total expenditure. Therefore, the bracketed term can be interpreted as the substitution between expenditure and jth good's characteristic, which is the implicit price paid for the jth good's characteristic. Hence, we can rewrite the equation (5) as stated below.

$$P_i = \sum\left(\frac{\delta c_{ij}}{\delta q_i} \ X \ \frac{\delta E}{\delta c_{ij}}\right) \ldots \quad (6)$$

The price of a good is the summation of the product of the marginal unit of each characteristic in the good and the marginal implicit prices of those characteristics (Gunatilake, 2003).

3. Empirical Studies with Hedonic Pricing Model

The Hedonic pricing model which has been widely used by researchers has achieved the credibility to be a suitable and reliable tool to analyze a good's attributes as well as seller and buyer attributes plus market conditions (Rosen, 1974; Ratchford, 1990; Uri & Hyberge, 1995). The Hedonic pricing model has been used in various sectors and for various products, e.g., in high-tech industry (mobile phone, car, and techno-based capital goods), agricultural sector, poultry sector, tourism sector, and real estate sector. In this section of the paper, we are going to link the theory with the empirical studies; their objectives, data sources, and findings will be highlighted.

3.1 Empirical Study on Mobile Phone

The study "Hedonic Prices in the Iran Market for Mobile Phones" by Nazari, Kalejahi, & Sadeghian (2011) was presented at the International Conference on Business and Economics Research in 2010. The paper applied Hedonic pricing in the mobile phone industry of Iran to provide a formal statistical analysis of different mobile phone prices. This paper enables us to know the preferred features of mobile phone and what additional amount the Iranian people are ready to pay for each feature. They collected the data of 111 different handsets of 5 manufacturers from daily newspaper on July 20, 2010. The newspaper "Donyaye-eghtesad" publishes daily price information along with other characteristics of mobile phone, i.e., weight, battery duration, Wi-Fi, guarantee, touch screen, GPS, radio availability, and camera features.

[1]The basic theoretical foundation of hedonic pricing method is largely drawn from Gunatilake (2003).

[2]$\frac{\delta L}{\delta I} = \frac{\delta U}{\delta I} - \lambda = 0 \implies \frac{\delta U}{\delta I} = \lambda$

Table 01: The Result of OLS Estimation

Variables	Unstandardized Coefficients		Standardized Coefficients
	B	Std Error	Beta
Constant	73	10,387.90	
isHTC	161	26,962.50	0.25378
isTouchScreen	44	14,619.51	0.14621
CameraInPixel	23	3,270.39	0.37649
hasWireless	102	18,626.22	0.33741
hasGPS	40	18,417.70	0.13364

The coefficient of *isHTC* variable is 161, which means that the mobile phone users pay $161 more for HTC brand compared to Nokia brand (Nokia brand is considered as the base brand). The coefficient for *isTouchScreen* variable is 44, which means that people pay $44 for having touch screen. Similarly, for every Megapixel of camera feature, people pay $23, for wireless network connectivity, people pay $102 and for Global Pointing System (GPS), users are ready to pay $40. However, the highest willingness to pay (WTP) for wireless connectivity is probably due to the wide usage of Wi-Fi service in universities, organizations, institutions, and other public places like restaurants and shopping malls.

3.2 Empirical Study on Olive Oil

The study titled "The Greek Olive oil Market Structure" by Karipidis, Tsakiridou, & Tabakis (2005) aimed to identify olive oil price structure and to estimate product specific attributes. In this paper, Rosen (1974) applied the Hedonic pricing approach that facilitates the analysis of the relationship between the price structure of a good and its attributes through estimating the shadow prices of the good's attributes. The variables included in this study were quality type (Extra virgin and Virgin), special characteristics of the product (e.g., improved variety or aroma and herb enrichment), organic aspects, temperature condition, package sizes, package appearance, quality control, advertisement, information on the label (such as producer and nutrition elements), vertical integration (like production, storage, wholesaling, retailing, and transportation), and two dummy variables (e.g., *purchased from hyper market or not* and *location of the retailer is in Athens or not*). During summer 2004, the data were obtained by observing product labels on the shelves of selected retail shops in the metropolitan areas of Athens and Thessaloniki. Finally, 805 reliable sets of observations were used in the analysis.

Table 02: Determinants of IC prices

Clusters	Variable	Provided Services	Coeff.	P value
	Constant		4.2213**	0.0000
Natural Characteristics	Extra virgin (Z1)	Nutrition	0.2777**	0.0000
	Virgin (Z2)	Nutrition	3.4817**	0.0000
	Special Character (Z3)	Image	0.2299	0.0574
Production/Processing conditions	Organic (Z4)	Nutrition/Environment	3.1152**	0.0000
	Without thermal processing (Z5)	Nutrition/Environment	0.2328*	0.0256
Packaging	Size of packaging (Z6)	Image	-0.1335**	0.0000
	Innovative package (Z7)	Image	0.5727**	0.0000
Quality system	ISO 9001, HACCP (Z8)	Uncertainty/Cost	-0.3640*	0.0260
	Individual system (Z9)	Uncertainty/Cost	0.0020	0.9728
	Protec. Design. Of Origin (Z10)	Uncertainty/Cost	0.2897	0.2007
Additional label information elements	Nutritive elements (Z11)	Uncertainty/Image	0.1052	0.4353
	Taste, aroma (Z12)	Uncertainty/Image	0.3186**	0.0064
	Product selection (Z13)	Uncertainty/Image	0.2237*	0.0255
Product information	Advertising (Z14)	Uncertainty/Image	0.1497	0.0863
	Customer line (Z15)	Uncertainty/Image	0.1105	0.3337
Vertical integration marketing via:	Super market (Z16)	Cost	-0.4766**	0.0006
	Cooperative (Z17)	Cost	-0.0935	0.4003
	Local firm (Z18)	Cost	-0.1936	0.0685
Type of retail supplier/retailer's location	Hypermarket (D1)		-0.3007**	0.0000
	Athens-Thessaloniki (D2)		0.0062	0.8934

R-squared 0.659 Adj. R-squared 0.651 F statistics 75.157 N=805

*Significant a 5% level; **Significant at 1% level

The study shows that the quality standard of olive oil affected the price positively; the higher the quality was, the higher the price was. The production process significantly affected the price of olive oil; organic nature of the product (Z_4) contributed the second highest on shadow price. The size of packaging (Z_6) negatively affected the olive oil price, whereas the innovative packaging (Z_7) positively affected the price. Quality system ISO 9001,

HACCP (Z_8) was found to have a significant positive influence on the price, but the individual system (Z_9) and Protec. Design. Of Origin (Z_{10}) were found to be insignificant. Among the bits of additional label information, the element's nutritive aspect was found insignificant, whereas taste (Z_{11}) and product selection information (Z_{12}) significantly affected the olive oil price. Advertisement (Z_{14}) reduced uncertainty and led to a higher price. In contrast, the vertical integration led to a lower price when marketed through supermarket (Z_{16}), but marketing activity through cooperative (Z_{17}) and local firm (Z_{18}) were found to have an insignificant impact on the shadow price. The Type of retail supplier hypermarket dummy (D_1) had a negative impact on the shadow price, while retail location Athens - Thessaloniki (D_2) dummy had no statistical significant impact on the olive oil price.

3.3 Empirical Study on Indigenous Chicken

The study "Hedonic Price Analysis to Guide in Breeding and Production of Indigenous Chicken in Kenya" carried out by Bett, Peters, & Bokelmann (2011) sought to determine whether socioeconomic factors and non-market factors attributed any price differentials for live indigenous chicken (IC). The Hedonic pricing model can be used in explaining the variations in prices, which eventually helps make breeding, production, and efficient marketing decision. Based on the number of chicken population, the study was conducted in 36 divisions from the 6 selected counties of Kenya. A structured questionnaire survey was conducted in all the towns and the market centers within the selected divisions whereby a total of 720 respondents' information plus major markets' information was collected. The data were collected on sources of live IC, prices (at the point of origin and at the market), transaction cost (transportation, storage, council charge, and disease control treatment), mode of transport, traits of chicken preference by buyers and sellers (e.g., weight, sex, age, size, body condition, genotype, and plumage color), type of bird (e.g., cock, breeding cock, hen, laying hen, cockerel, pullets, and chicks), purpose of purchase (e.g., slaughter or breeding), type of sellers and buyers (e.g., farmer, trader, and breeder), total number of chicken sold at market day, and total number of buyers operating in the market.

Table 03: Result of Regression Analysis

Variable	Definition	Mean	Coefficients
Dependent			
Lnpc	Natural log for price of live IC per kilogram(KES/kg)	5.75	
Independent			
C	Constant term		5.32
Age	Age of the household head (years)	33.4	-
Lnage	*Natural log of age*	3.44	0.024
Gender	1 if the respondent is male	0.74	0.022**
Educ_yrs	Number of years of formal education	11.5	-
Lneduc	Natural log of years of education	2	0.305
Market	1 if market status/level affects prices	0.68	0.018**
Pcolor	1 if plumage colour is considered	0.47	0.621***
Genotyp	1 if genotype is preferred when buying or selling	0.38	-0.12
Bodysi	1 if body size is preferred when buying or selling	0.65	-0.801***
Age_bu	1 if age of IC is preferred when buying or selling	0.58	0.03
Weight	1 if weight of IC is preferred when buying or selling	0.7	0.658***
Gbodyc	1 if general body condition is preferred when buying or selling	0.57	0.260**
Sex_ic	1 if sex of IC is preferred when buying or selling	0.7	0.306***
F_a_purc	1 if festival season affects purchase and sale of IC	0.84	0.419**
Lntransc	Natural log-transport cost of IC(KES per month)	6.52	0.022**
Lntreatc	Natural log-treatment cost of IC(KES per month)	5.99	-0.042
no_ictra	Number of IC traders(numbers)	16.3	-
lno_ictra	Natural log of number of traders	2.13	-0.516**
Ainfo	1 if information on IC supply and prices is available	0.76	-0.021**

** Significant at 10%; ** significant at 5%; *** significant at 1%*

The estimated result indicates that the gender of the seller *(Gender)* was statistically significant at 5 percent level and the coefficient was 0.022, which means that if the seller was a male, he received 2.22[1]*Kenya Shillings (KES)/Kg*[2] higher price than a female trader on an average, whereas the age and the education of the seller had no impact on the price. The *market* variable is significant, which suggests that there was price disparity between

[1] The model used in the analysis is log-lin. To explain the result of a dummy variable it needs to be transformed by using anti log equation – $[(e^{coefficient\ (\beta)} - 1) * 100]$

[2] *1$ = 76 Kenya Shillings (KES).*

rural and urban markets. The price went up about 20 KES/Kg based on the market level (local to onwards) compared to the local market. This disparity can easily be seen from the table 04.

Table 04: Summary of Price Distribution in Market Levels

	Primary/Local markets (KES/Kg)	Secondary Markets (KES/Kg)	Tertiary/terminal markets (KES/Kg)
Minimum	80	100	150
Maximum	400	500	550
Average price	183	210	244

**1$ = 76 Kenya Shillings (KES).*

The characteristics of the physical attractiveness of the IC like plumage colour, body size, weight, general body condition, and sex that were considered at the time of purchase by buyer had a mixed effect on the price. The plumage colour, weight, general body condition, and sex of the IC had a significant positive impact on the price; on the contrary, the body size of the IC negatively contributed to the price. The festival season caused the IC price to go up about 51 KES/Kg on an average, and this scenario was prevailing in both the urban and rural markets. The coefficient of transport variable signifies that if transport cost went up by 1 percent, the IC price went up by 0.022 percent. The effect of competition was also prevalent as the coefficient of the variable 'the number of IC traders' *(Lno_ictra)* was statistically significant. If the concentration of the sellers in the market ascended by 1 percent, the price waned by 0.52percent. The final variable holds the basic assumption of perfect market, suggesting that since information asymmetry in the market increased, the bargaining power of the buyer waxed and the price slumped down. If information on IC supply and prices was available (Ainfo), the price on an average came down by 0.021 percent.

3.4 Empirical Study on Computer Hard-disk Drive

The study "Hedonic Price Methods and the Structure of High-Technology Industrial Markets" conducted by Batlas & Freeman (2001) postulates the inter-firm differences for the price structure of high technology product market and strategies. They developed a Hedonic price model to empirically investigate the structure of a rapidly evolving industrial market. In the high technology market, the product changes rapidly because of technology change and, consequently, it creates the price distortion. They applied Hedonic price model to find out the heterogeneity of inter-firm for high technology market and implied some policy for marketing management. In this article, as a high technology product, they chose the computer hard-disk drive market for their empirical study.

For the empirical analysis of this study, the dataset was compiled from annual reports by Disk/Trend Inc., which is the standard information source for the disk drive market. The Disk/Trend reports provided information on all HDD models produced during the course of the previous year. All products were described in terms of physical (e.g., dimensions), engineering(e.g., recording medium), and performance characteristics (e.g., storage capacity).The dataset covers the decade 1980–1989 and provides more than 600 observations of new product introductions with full attribute and price information. The other two variables to be included in the Hedonic price function are year and segment specific intercepts.

Table 05: Estimates of the Generalized Hedonic Price Model

Variable	Coefficient	Standard Error
Capacity	0.001	0.000
Speed	0.037	0.002
8 inch	-0.431	0.067
5.25 inch	-0.898	-0.079
3.5 inch	-1.150	0.104
1981	0.123	0.070
1982	0.068	0.069
1983	-0.056	0.076
1984	-0.100	0.078
1985	-0.261	0.090
1986	-0.413	0.096
1987	-0.812	0.101
1988	-0.856	0.121
1989	-1.044	0.132

Auxiliary Statistics

Model	R2	Parameters	Degrees of Freedom
Generalized (5)	0.92	86	528
Specification (4)	0.85	15	599
Specification (3)	0.8	12	602

By testing their Hedonic model, they found that R^2 was 0.80, so their model suggests that segment and firm heterogeneity had a significant impact on the price. Therefore, the price was not determined completely by technical factors. From table 5, it can be noticed that the values of period intercepts fell over time, as expected, reflecting a decline in performance-corrected prices due to technological change. So, the premiums were charged for hard disk over the performance-adjusted prices and could be interpreted as implicit price discrimination schemes that exploited differences among segments. The study shows that the market-driven price for a new model could be determined by using the Hedonic model, and the actual price of a current product could be assessed vis-à-vis its predicted competitive level.

3.5 Empirical Study on Tourism

A study based on the Hedonic pricing model titled "Valuing Scenic Views in Coastal Tourism in Italy" by Amrusch (2007) endeavored to find out the relation of scenic value in tourism market in Italy. Apart from the estimation of environmental and cultural non-market values, this empirical study demonstrates how scenic views affected the demand for coastal tourism in Italy, and to investigate that, they incorporated relevant criteria like agri-tourism, natural parks, vicinity to the beach plus entertainments, and transportation. So, this paper indicates that the resorts with more favorable environmental characteristics displayed accommodation price differentials.

The Italian coast of about 8000 km is an important natural and economic resource. Based on the assumption of the similarity of tourists' tastes, Amrusch took the independent variable in the Hedonic regression as *the half-board accommodation cost for 2–5 star hotels during the peak season in August*. For the study, the data were collected in 2006 from major Italian tour operator catalogues. Then the market of Italy was segmented. After segmenting the Italian market into Sardinia, Sicily, northern, southern, and central Italy, the dummy variables were created for northern, southern, and central Italy.

Table 06: Result of Regressions Analyses

Variables	Constant and Coefficients	Standard Error
Constant	4.649	-126.9
Points of natural interest*central Italy	0.113	-2.1
Scenic view*central Italy	0.176	-2.3
Sanctuary*northern Italy	0.191	-2.6
Hotel entertainment*southern Italy	0.171	-3.1
Railway* central Italy	-0.265	-4.5
Railway* northern Italy	-0.351	-6.6
Railway* southern Italy	-0.097	-1.9
Agritourism* northern Italy	0.224	-5.8
R-squared	0.67	
Adj. R-squared	0.62	
F-statistic	14.65	
Sample	70	
Included Observations	68	
Dependent variable	Log (Accommodation price)	
Jarque-Bera Statistics	1.68	

The study shows that the tourists were willing to pay 11.3 percent higher rent of accommodation for their accommodation adjacent to a point of natural interest (i.e., natural park) in central Italy. The variable proximity to scenic view reflects that if the hotel was located close to a scenic view up to 2.5 km, the tourists were willing to pay on an average 17.6 percent higher rent in central Italy, whereas if a hotel was located close to 2.5-5 km, the tourists were willing to pay for a premium rent slump to 9 percent. In northern Italy, the tourists were likely to pay 19 percent higher rent for staying within 2.5 km distance from a sanctuary. In contrast to southern and central Italy, northern Italy is famous for traditional entertainments for which the tourists were likely to pay 17.1 percent higher rent. In northern Italy, the tourists were disposed to pay 22 percent (highest) premium rent for a hotel located within 2.5 km of an agri-tourism site. Interestingly, the beach distance given in meters and the proximity to the geographic tourist resort center had no impact on rent. The study shows that the railway line had a significant negative impact on the demand for accommodation in the coastal regions of Italy, by around 26 % in central, 35 % in northern and around 10 % in southern Italy, respectively.

4. Use of Hedonic Pricing Model

Hedonic pricing model is most frequently used in land market and real estate market. This paper highlighted studies conducted in some other sectors–agriculture, high-tech, and tourism. Careful analysis of literatures will help to infer the potential use of Hedonic pricing model in product innovation, product packaging, and designing additive services. As Hedonic pricing analysis covers a number of product attributes and measures the

willingness to pay for perceived differences of attributes, it helps to design products with features and innovations that give a producer a competitive advantage in the market. By knowing the valued attributes, a firm can direct its research and development (R&D) activities towards a tailored product that maximizes customer satisfaction. This model also addresses revealed preferences of consumers on product package and levels. It helps firms to identify packaging features like color & size of package, product elements and additional label information that consumers value most. This model also discovers that how market location and level affect consumer utility and helps to better locate retail outlets in different market levels.

5. Discussion

The Hedonic pricing model-based on a revealed preference theory-is used to estimate the extent that the price of and the demand for a marketed good are affected by certain external factors. The model implies that when people purchase a good, they value the characteristics, and the price will reflect that preference. The strength of this model is that it reflects actual choices made by the consumers, and it can be adopted to estimate consumers' willingness to pay for goods' characteristics considering several possible interactions between the goods' characteristics–both internal and external. Adopting this model may become counterproductive in an environment where information asymmetry exists as it only captures the willingness to pay for perceived differences of attributes and their direct consequences.

The model is inclusive as it covers a number of factors, which affects the willingness to pay for goods' characteristics. This feature may challenge researchers with estimation problems of two types: (i) multicollinearity problem that makes it impossible to precisely estimate the coefficient of a variable and (ii) model specification problem that comes from a wrong functional form due to existence of non-liner relationship between price and product attributes. The output of such a study heavily depends on the model specification. Therefore, different functional forms and the correctness of model specifications for the analysis must be considered. Researchers may face another challenge while adopting this model based on the assumption that consumers have freedom to select the combination of features of a good they prefer with their income. In fact, consumers are not free to select the combination of a good's features with their income because the income size of consumers is affected by some factors like taxes and interest rates.

6. Conclusion

The Hedonic pricing model which has been widely used by researchers has achieved the credibility to be a suitable and reliable tool to analyze a good's attributes as well as seller and buyer attributes plus market conditions (Rosen, 1974; Ratchford, 1990; Uri & Hyberge, 1995). The Hedonic pricing model has been used in various sectors and for various products, e.g., in high-tech industry (mobile phone, car, and techno-based capital goods), agricultural sector, poultry sector, tourism sector, and real estate sector. The model can be used in understanding consumer preference better and direct firms resources in more effective product and service designing. Firms can adopt Hedonic pricing model to better understand consumer preference and serve them better to gain competitive advantage.

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