Plant Novices and Experts Differ in Their Value of Plant Type, Price, and Perceived Availability[1]

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──────────── **Abstract** ────────────

Individuals with greater plant knowledge likely differ in purchase behavior compared to those with less plant knowledge. The goal of this study was to investigate consumer preferences for plants based on availability, price, and type, comparing plant experts with novices. Researchers employed an online survey and sub-contracted with a survey panel to recruit participants, yielding 1,010 complete and useful responses. Participants responded to a 10-item plant knowledge test adopted from Knuth et al. (2020). The number of correct answers to the knowledge test was used to categorize respondents into plant novice and expert groups (those intermediate in plant knowledge were excluded from analyses) and differences were explored. Experts had a slightly higher percentage of females compared to novices, were eight years older, and were slightly more educated compared to novices. Experts spent nearly twice as much on plants in 2021 as novices and bought more plants but from fewer plant categories. Plant type was the most important contributor to the expert's purchase decision, followed by price, and then availability. Novices valued more (had a higher mean utility score) plants that were moderately common when compared to experts, while experts valued rare plants more than novices.

Index words: purchase behavior, survey, plant knowledge.

Significance to the Horticulture Industry

Sales of horticultural products have increased, especially since the onset of the COVID-19 pandemic (Behe et al. 2022). In particular, demand for interior foliage plants considered to be rare has increased exponentially (Bryant 2022), in part due to consumers desire for less commoditized plants (Halleck 2021), as well as being fueled by social media exposure of more unique or rare plant options (Airhart 2019, Chapman 2019). Foliage plant buyers increased from 11% of American households in 2016 to 16% in 2020 (Whitinger and Cohen 2021), accompanied by increased expenditures on the category from 2020 to 2021 (Knuth et al. 2021a). Yet, researchers do not understand well the role that plant knowledge has on plant purchases. A better understanding of plant novices (those with less knowledge about plants) compared to experts (those with greater plant knowledge) could provide valuable marketing insight to horticultural marketers. Knowing that plant experts spent nearly twice as much money on plants and bought more plants (but fewer kinds of plants) compared to plant novices makes them more desirable targets for marketing and communication efforts. An increased understanding of who values rare plants (plant experts more than novices) and which group values moderate prices more (plant novices) can help growers, wholesalers, and retailers better communicate with their target market(s).

Introduction

Production (USDA 2020) and demand (Whitinger and Cohen 2021) for many types of ornamental and edible plants has increased in the past decade. In particular, plant sales have greatly increased since the onset of the COVID-19 pandemic (Behe et al. 2022). Nearly 75% of American households (95.8 million) participated in some type of lawn and gardening activity in 2020, with 65% spending as much or more money on most plant-related categories investigated than in the year prior to the study (Whitinger and Cohen 2021). Foliage plant buyers increased from 11% of American households in 2016 to 16% (Whitinger and Cohen 2021), with houseplant purchasers reporting increased expenditures from 2020 to 2021 (Knuth et al. 2021a).

Decades ago, Affolter (1997) stated that the horticulture industry would benefit in many ways from both protecting and, separately, marketing interior foliage plants perceived as unusual or rare. This facet of the horticulture industry is currently experiencing explosive demand (Chapman 2019, Halleck 2021). Many rare plants are slow growing, hard to propagate, or uncommon in the wild (McDonald 2020) and generally less available, which often results in higher retail price points. Airhart (2019) and Chapman (2019) reported that the demand for rare plants also has been fueled by social media exposure. Yet, high demand puts rare plants in graver danger of extinction (Holden and McDonald-Madden 2017) since many rare plants come from illegal harvests (Hinsley et al. 2018). Still, little is understood about the consumers who are keen to buy rare and unusual plants.

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Research has documented consumers use a small number of informative cues to make a purchase decision (Hansen 1969, Olson and Jacoby 1972). Cowan (2000) suggested that the number of information bits used in the decision process was only four, meaning identifying the important information and making that information prominent in the purchasing environment could aid consumers when making choices. Some argue that the information used by consumers to select a product includes only brand and price (Dodds and Monroe 1985, Jacoby et al. 1974, Kardes et al. 2004, Olson and Jacoby 1972). Many researchers maintain that salient cues, especially brands, are the real drivers in the decision to buy (Chandon and Wansink 2002, Ehrenberg et al. 1997, Keller 2013 Nedungadi 1990), because they save the shopper valuable cognitive energy and time.

Price has had a prominent and persistent influence on many types of purchases, including plants. Chandon et al. (2009) noted that processing by consumers of visual information at the point of purchase was mostly driven by packaging rather than price, and they documented a positive relationship between visual activity (number of eye fixations) and brand choice. Behe et al. (2014) showed that price-conscious consumers viewed price faster and longer compared to plant-oriented and production-method-focused consumers. Reports show that outrageous prices have recently been paid for rare or unusual foliage plants: one *Monstera adansonii* Schott sold for $2,700 in 2019 (Chapman, 2019). This may imply that for rare plants, price is less influential on purchasing behavior than it is for more commonly available plants.

Researchers define expertise as an instinctive response of trained practice and/or information learned about a particular topic (Hoffman 1998, Mylopoulos and Regehr 2007). Experts know more, and their knowledge influences their behavior. Being an expert merges training and practice; expertise plays a role in the difference between a person's degree of capability in a certain area (Park and Lessig 1981, Selnes and Howell 1999). Prior research showed expertise also exists as a characteristic of an individual who knows more, uses that information, and solves problems faster (Herling 2000) compared to those lacking expertise (Tanaka and Taylor 1991).

Several studies have included self-reported plant knowledge. Behe et al. (2018) reported individuals interested in water conservation had greater plant expertise compared to those who were disinterested in water conservation. King et al. (2015) showed all types of plant purchasers had greater self-reported plant knowledge compared to non-purchasers. Kelley et al. (2010) found that more arboreta members reported they were "skilled and knowledgeable" compared to non-members. Wehry et al. (2007) reported "Avid Gardeners" had greater knowledge and expertise compared to "Novice" or "Casual" gardeners. Carson et al. (2018) found teachers over-estimated self-reported knowledge compared to actual knowledge. Given the low to moderate correlation between perceived knowledge and actual knowledge [ranging from 0.05 to 0.45 in Radecki and Jaccard (1995)], actual knowledge may be a better metric. Knuth et al. (2020) found "Big Spenders" scored higher in actual plant knowledge compared to "Plant Buyers" who scored higher than "Ambivalents".

Information processing varies by expertise level. Alba and Hutchinson (1987) and Shanteau (1992) found that consumers with greater expertise were more selective of the information they examined before making a choice because they had a better understanding of what pertinent product attributes. Park and Lessig (1981) showed that a low expertise group chose extrinsic information (brand name) as the only product attribute of significance compared to moderate or higher expertise groups. Hinsley et al. (2015) reported that a small group of male hobbyist growers who bought their orchids online were willing to pay significantly more for rare species. Those hobbyists may have had substantial plant knowledge, such that they could be considered experts. Given that plants have specific cultural requirements (e.g., light, water, nutrition, etc.) to grow and stay alive, expertise may play a stronger role in situations where plants have an increased risk of not surviving (i.e., are rare). Given the dearth of information regarding plant experts and novices as well as a lack of the consumer perspective that is driving demand for plants that are perceived to be less common, researchers set out to investigate the role of plant price, type, and perceived demand between individuals who have greater (or lesser) actual plant expertise.

Materials and Methods

Researchers developed an online survey following widely accepted market research protocols to ensure a greater degree of accuracy and speed, while reducing human error and survey expenses (McCullough 1998, Cobanoglu et al. 2001, Dillman et al. 2009). Online surveys have a number of disadvantages, especially when the sampling database contains duplicate panelists who may appear under different accounts. To help mitigate this bias, researchers contracted with Toluna, Inc. (Dallas, TX), which maintains a panel of several million persons and has control mechanisms to eliminate duplicate panelists. The company recruited individuals $\geq$ 18 years of age in the U.S. and distributed invitations to them. Both the survey instrument and protocol were approved by the Texas A&M University committee involving research with human subjects (2019-1754M Category: Exempt 2).

Consumer product choices are influenced by how much they value products and researchers can estimate this value statistically. Conjoint analysis is one statistical technique that facilitates the estimation of how much consumers value a product attribute with several attribute levels. It is a widely used method to characterize consumer preferences and the relative importance of product attributes. This method has been used to investigate purchase drivers and willingness to pay for attributes for a wide range of horticultural products, including Christmas trees (Behe et al 2005b), landscapes (Behe et al. 2005a), mixed flowering annual containers (Mason et al. 2008), impatiens alternatives (Getter and Behe 2013), and sustainable and eco-friendly plant production (Behe et al. 2010, Behe et al. 2013b, Rihn et al. 2015, Rihn et al. 2016), as well as vegetable and herb plant brands (Behe et al. 2016). By

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Table 1. Knowledge questions, available responses, and percentage of respondents giving the correct response to an online survey[z].

Question	Available responses				Percent Correct Responses
How long does it take for an annual plant to produce seed?	One growing season[*]	Two growing seasons	Three or more growing seasons	Don't know or unsure	54.10%
True or false: in northern climates, annual plants should be planted after the danger of frost has passed.	True[*]	False	Don't know or unsure		83.61%
Which of the following is not an annual plant?	Hosta[*]	Impatiens	Marigold	Petunia	50.90%
Most annual plants generally grow best in which type of soil?	Clay	Sand	Sandy loam[*]	Don't know or unsure	43.27%
True or false, some annual plants make good cut flowers like zinnias, snapdragons, and celosia.	True[*]	False	Don't know or unsure		75.22%
Annuals are most often started from what?	Budding	Grafting	Seed[*]	Don't know or unsure	59.90%
Many annual plants need how much direct sunlight in order to grow and flower?	Generally, only 2-4 hours of direct sunlight per day	Generally, only 6-8 hours of direct sunlight per day[*]	Generally, 24 hours of direct sunlight per day	Don't know or unsure	62.57%
Which of the following is not an annual plant?	Apple[*]	Watermelon	Squash	Don't know or unsure	49.59%
Which of the following is not a perennial plant?	Begonia[*]	Coreopsis	Day Lily	Don't know or unsure	21.51%
How much water do most annual plants need to thrive in summer?	Very little, less than 1" of rain per month	Some, about 1" of rain per week*	A lot, about 1" of rain per day	Don't know or unsure	59.23%

[z]* Indicates the correct answer to the quiz question.

assessing consumer's valuation on each product attribute, researchers can quantify the related level of part-worth utility associated with each attribute, as well as the product as a whole.

In the online survey, researchers showed subjects a series of nine plant scenarios in a randomized order to minimize order bias. Each scenario asked participants to determine their likelihood to buy a plant with the stated attributes. The scenarios varied three plant attributes (plant type, price, and availability). Each attribute had several levels, including: four plant types (flowering plant, foliage plant, herb, or succulent was species identified), three price points ($9.99, $19.99, or $29.99), and three availability levels (generally considered to be commonly, moderately common, or rarely available). We used only words, no images, for the attributes and levels. For each scenario, participants were asked to indicate their likelihood to buy on an 11-point Likert scale where 0 equaled "0 or no chance in 10" or certain that they would not buy the plant, 5 indicated "5 chances in 10", and 10 indicated "10 chances in 10" or 100% certain that they would buy that plant.

The survey also elicited participants' actual plant knowledge, recent plant purchases, and socio-demographic information. The plant knowledge portion consisted of 10 items related to plant knowledge which was adapted from Knuth et al. (2020). Eight of the questions were multiple choice while the remaining two were true or false questions.

Participant responses were used to classify them by knowledge level. Regarding current purchasing behavior, participants viewed a list of 12 different plant types and selected those they had purchased in the past year. The 12 plant types included: annuals, vegetables, herbs, perenni-als, flowering shrubs, evergreen shrubs, fruit trees, evergreen trees, shade trees, flowering plants, foliage plants, and succulents. The list was based on previous research of the most commonly grown plant types in the U.S. (Behe et al. 2014, Knuth et al. 2018). Additionally, participants indicated their plant expenditures and new plant categories purchased in 2021. Lastly, the socio-demographic questions included age, gender, household income, education level, number of adults and children in the household, and ethnicity. Data were analyzed using STATA Software (Version 16.0, College Station, TX).

Results and Discussion

The total sample consisted of 1,010 useful and complete responses. The mean number of correct responses to the 10-item actual plant knowledge scale was 4.18 (sd=1.83). There were 18.1% of the respondents with 0 to 3 correct responses, 45.7% with 4 to 7 correct responses, and 36.2% with 8 to 10 correct responses. We classified participants as either novice (with 0-3 correct responses), moderately knowledgeable (4-7 correct responses), or expert (with 8-10 correct responses), given the normal distribution of the knowledge scores. Since marketers would primarily be interested in the contrast between novices and experts, we omitted the moderately knowledgeable respondents (n=462) and utilized n=183 novice responses and n=365 expert responses in subsequent analyses. The plant knowledge scale was examined for validity and reliability, which produced an acceptable Cronbach's α (0.6988) as per Hair et al. (2019) and individual scores for plant knowledge were used for subsequent analyses.

Demographically, novices and experts were different (Table 2). Experts had a slightly higher (1%) percentage of

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Table 2. Demographic and plant purchase comparison of novices and experts from an online survey.

Characteristic	Novices mean (s.d.) n=183	Experts mean (s.d.) n=365	t-value (p value)	Significance[z]
Gender (percent female)	51.49 (0.500)	52.54 (0.499)	-1.7324 (p=0.0832)	*
Household income 2021 (dollars)	65,409 (45,376)	65,426 (42,117)	-0.0329 (0.9738)	ns
Age (years)	55.38 (15.754)	63.88 (12.280)	-51.9566 (p=0.0001)	***
Education (years)	14.60 (0.024)	15.11 (0.017)	-17.3515 (p=0.0001)	***
Percent achieving bachelor's degree	44.87 (0.494)	51.27 (0.500)	-10.603 (p=0.0001)	***
Percent White	75.40 (0.004)	90.92 (0.002)	37.4941 (p=0.0001)	***
Percent Latin	49.91 (0.050)	55.60 (0.497)	-9.4637 (p=0.0001)	***
Percent Urban	42.70 (0.497)	20.91 (0.407)	41.1631 (p=0.0001)	***
Percent Suburban	38.46 (0.487)	52.00 (0.500)	-22.6156 (p=0.0001)	***
Percent Rural	18.84 (0.391)	27.09 (0.444)	-15.9641 (p=0.0001)	***
Plant expenditures 2021 (dollars)	85.01 (105.27)	156.95 (138.21)	-46.056 (p=0.0001)	***
Number of plant categories from which they purchased	1.85 (2.25)	2.92 (2.09)	-41.3766 (p=0.0001)	***
Number of new plant categories from which they purchased in 2021	1.21 (2.041)	0.61 (1.158)	32.4939 (p=0.0001)	***
Percent who collected plants as a hobby	0.23 (0.426)	0.24 (0.428)	=0.6776 (p=0.4980)	ns

[z]Significance: * at p ≤ 0.10, ** at p ≤ 0.05, at p ≤ 0.001.

females compared to novices. Experts were on average eight years older than novices and had slightly more education. It makes intuitive sense that older and more educated persons might have more plant knowledge and be classified as an expert compared to younger or less educated persons, given that these demographic characteristics align with the historical core consumer of plants and gardening activities (Whitinger and Cohen 2021). The percentage of urban residents was greater for novices compared to experts, while a higher percentage of experts lived in either suburban or rural areas. To our knowledge, this is one of the first times that plant novices have been identified more predominantly as urban dwellers than suburban or rural residents. Experts spent nearly twice as much on plants in 2021 as novices. Interestingly, experts bought more plants but from fewer plant categories than novices. Their only similarity demographically was that household income was similar for experts and novices.

Traditionally, "horticultural consumers" have been more likely white, older, affluent women (Whitinger and Cohen 2021). Because of the underlying implications of the expert demographic information, we believe that a more "traditional horticultural consumer" is more likely greater in representation in the expert category.

Not surprisingly, a greater percentage of experts purchased plants compared to novices in each category, except for flowering plants and evergreen shrubs (Table 3).

For annuals, vegetables, perennials, foliage plants, and succulents, nearly twice the percentage of experts made purchases in those categories compared to novices.

However, for flowering shrubs and shade trees, the percent of experts who made a purchase in those categories was only slightly higher than novices. Novices frequently exhibited a greater level of purchases of woody landscape plants (i.e., evergreen trees, evergreen shrubs, fruit trees) than experts, which may reflect new homeownership or updating their landscapes. These purchases of woody landscape plants may be more reflective of backbone or staple components of a landscape that may be purchased less frequently. Experts made more purchases in categories where plants are expected to die after one season and could be replaced (e.g. vegetables and annuals).

The conjoint analysis showed that the type of plant was the most important attribute among the three attributes, and one percent more important to experts compared to novices (Table 4). The high relative importance of plant type in this study is consistent with prior research (Behe et al. 2010, Behe et al. 2013b, Rihn et al. 2015, Rihn et al. 2016). Price was the second most important attribute, which was also consistent with previous studies where price was not the most important product attribute. Experts placed one more percentage of relative importance on price compared to novices.

Table 3. Percent of online respondents who purchased 12 different plant types experts in an online survey .

Type of plant	Novices mean (s.d.) n=183	Experts mean (s.d.) n=365	t-value (p value)	Significance[z]
Annuals	28.18 (0.500)	58.45 (0.493)	-52.3081 (p=0.001)	***
Vegetables	28.16 (0.450)	47.98 (0.500)	-33.9167 (p=0.0001)	***
Herbs	22.40 (0.417)	36.43 (0.481)	-25.2052 (p=0.0001)	***
Perennials	13.02 (0.337)	36.80 (0.482)	-44.818 (p=0.0001)	***
Flowering shrubs	12.30 (0.328)	18.04 (0.385)	9.5362 (p=0.0001)	***
Evergreen shrubs	8.68 (0.281)	5.79 (0.234)	9.5362 (p=0.0001)	***
Fruit trees	9.42 (0.291)	7.94 (0.270)	4.3847 (p=0.0001)	***
Evergreen trees	8.67 (0.281)	5.05 (0.219)	12.372 (p=0.0001)	***
Shade trees	4.36 (0.204)	5.76 (0.233)	-5.1831 (p=0.0001)	***
Flowering plants	21.67 (0.412)	22.00 (0.414)	-0.6845 (p=0.4936)	ns
Foliage plants	13.74 (0.344)	22.36 (0.417)	-18.1194 (p=0.0001)	***
Succulents	13.72 (0.344)	24.89 (0.432)	-22.7919 (p=0.0001)	***

[z]Significance: * at p ≤ 0.10, ** at p ≤ 0.05, at p ≤ 0.001.

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Table 4.   Conjoint results comparing novice and experts from an online study.

Relative importance

	Novice mean (s.d.) n=183	Expert mean (s.d.) n=365	t-value (p value)	Significance[z]
Price	34.2585 (17.906)	35.3726 (16.489)	-5.4068 (p=0.0832)	*
Availability	29.4055 (12.788)	27.5025 (12.143)	12.6811 (p=0.0001)	***
Type of plant	36.3360 (19.809)	37.12492 (17.996)	-3.4905 (p=0.0005)	***
Utility score				
Price				
$9.99	0.7007 (1.338)	1.1119 (1.392)	-24.632 (p=0.0001)	***
$19.99	0.2336 (1.992)	-0.1733 (2.185)	15.7813 (p=0.0001)	***
$29.99	-0.9343 (1.840)	-0.9386282 (1.832)	0.194 (p=0.8462)	ns
Availability				
Common	0.0633 (1.167)	0.0710 (1.088)	-0.5717 (p=0.5675)	ns
Moderately common	0.4136 (2.360)	-0.1781 (2.571)	19.4691 (p=0.0001)	***
Rare	-0.4769 (1.816)	0.1071 (0.1071)	-24.5899 (p=0.0001)	***
Type of plant				
Flowering	0.0018 (1.821)	0.5027 (1.815)	-22.7004 (p=0.0001)	***
Foliage	0.1624 (1.166)	0.1922 (1.375)	-1.8762 (p=0.0606)	*
Herb	0.2427 (2.560)	-0.5695 (2.541)	26.2623 (p=0.0001)	***
Succulent	-0.4069 (1.827)	-0.1255 (1.998)	-11.9306 (p=0.0001)	***

[z]Significance: * at p ≤ 0.10, ** at p ≤ 0.05, at p ≤ 0.001.

Availability ranked third in relative importance. Novices valued greater availability two percent more when compared to experts; in other words, the availability of a plant was slightly more important to novices compared to experts.

Experts valued (had higher mean utility) flowering and foliage plants more than novices. However, novices valued (had a higher mean utility score) for herbs compared to experts. Succulents were the least valued (had the lowest mean utility score) for both groups, but novices valued succulents less compared to experts. This is counterintuitive given the media attention that has focused on the popularity of succulents among Millennial and younger cohorts (Whitinger and Cohen, 2021). Perhaps novices are exploring new plants in general (e.g., herbs), because the mean number of new plant purchase categories was greater for novices compared to experts.

Generally, lower prices were preferred to higher prices, consistent with prior research (Table 4). However, there was no difference between the utility score for the highest price point for novices compared to experts; both groups disliked the highest price point to a similar extent. Experts valued the lowest price more than novices, which may indicate that experts are more price sensitive or have an existing plant reference price compared to novices. Novices reported, on average, higher utility for the moderate price point compared to experts, potentially indicating their lack of price sensitivity and greater receptiveness to a moderate price point. For instance, if novices do not have an existing reference price for plants, their estimates may be slightly higher than experts who may have more experiences shopping for plants. This finding merits more investigation.

Lastly, availability of the plant impacted choices more for novices compared to experts. Novices valued (had a higher mean utility score) for moderately common plants compared to experts, while experts valued rare plants more than novices. Availability, especially for rare plants, should

be targeted toward more experienced plant buyers. Yet, this runs slightly contrary to the experts valuing lower priced plants compared to moderately priced plants. Rare plants often come with higher price points and perhaps the expert gardener could be looking for a value or bargain for that rare plant. This result aligns with the fact that experts purchased a greater variety of plant types and, therefore, there may have been a wider variety of price points. Moderately common plants should be used to entice and encourage novice plant purchasers to explore less common plants. We found no difference in value (mean utility score) for common plants for novices and experts, indicating a similar level of interest. This may imply that common plants are positively perceived, but not as enticing as less common plants to consumers with different knowledge levels. Additionally, though, there is not a difference in perception for commonly available plants, this is still a positive message for firms that commonly available plants are still desired at all levels of expertise.

In conclusion, plant type remains the most important factor when consumers made a product choice, with results here consistent with prior work (Behe et al. 2010, Behe et al. 2013b, Behe et al. 2016, Rihn et al. 2015, Rihn et al. 2016). Logically, consumers preferred lower prices to higher prices. The novel contribution of this work is that plant availability was less important than price for both novices and experts, and at the same time experts valued rare plants (mean utility score =0.107) far more than novices (-0.477). Given the social media exposure for many rare or unusual plants (Airhart, 2019; Chapman, 2019), it would be difficult to imagine that some of the exorbitant prices of those rare and unusual plants went unnoticed, especially by plant experts. Experts indicated far less utility for the plants at the moderate ($19.99) or high ($29.99) price points compared to novices, indicating some price sensitivity and potential inelasticity of demand. So, experts value rare plants more, but are less willing to pay the intermediate price for the

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plants in this study (the highest price was equally disliked by both novices and experts).

These findings may indicate that it is not plant experts who are driving the demand for rare or unusual plants; in fact, it may be the less experienced, less knowledgeable consumer who is driving up demand for the rare or unusual plants. This may also be consistent with the social media exposure fueling awareness among younger consumers, which was supported by novices being nine years younger than experts in this study. Implications for future marketing efforts include targeting less knowledgeable consumers with plant care and quality of life information to increase their plant expertise.

The actual knowledge plant measure is one that could be utilized in subsequent research. The scale showed reasonable validity and reliability and was relatively short (10 items). Given the difference between perceived (or self-reported) knowledge and actual knowledge, this study contributes further to the literature through the use of this scale.

This research focused on four plant categories, so a logical extension in the future would be to investigate other plant types important to consumers. The implications of this and future research would, of course, be interesting from a marketing perspective in terms of how unique and rare plants are differentiated from plants in general. In marketing terms, differentiation exists when customers [under conditions of competitive supply and faced with a range of choices]: (a) perceive that product offerings do not have the same value and (b) are prepared to dispose of unequal levels of resource (usually money) in acquiring as many of the available offerings as they wish. End consumers generally use five major attributes in making a decision about what plants to buy and from whom to buy them from, including quality, price, service, convenience, and selection (Palma et al. 2012, Knuth et al. 2021a). Value represents the tradeoff between the benefits derived from this varying mix of attributes relative to the sacrifices (dollars) made in getting them. So, the key for firms growing and selling unique and rare plants would be to provide greater value to customers. The interesting thing is that this difference in customer value can either be real or perceived through various signals relayed through marketing efforts.

Economists characterize demand by a concept called the "price elasticity of demand," which measures the nature and degree of the relationship between changes in the quantity demanded of a good and/or service and changes in its price. An important relationship to understand is the one between elasticity and total revenue. The demand for a good and/or service is considered relatively inelastic when the quantity demanded does not change much with the price change. Therefore, when the price is raised, the total revenue of the firm increases; likewise, when prices are lowered, revenue decreases. What this effectively means is that firms can actually raise their prices, and though they might sell fewer units, total revenue for the company still goes up. This is an important consideration for firms selling unique and rare plants in terms of their pricing strategy.

However, the only way in which all of this makes sense economically is if the firm successfully differentiates itself in the mind of the customer in terms of the types of products or services offered and the segment(s) of customers it targets. Of course, what matters most is the message that is being communicated through a firm's marketing tools. Across all demographic segments, quality of life is a higher order need that is important to them. Firms selling unique or rare plants should focus on the unique ways in which quality of life is improved for their customer base.

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