Telephone survey results show that home landscapes are important to consumers

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Introduction

To find the latest plant-related trends and educational information, consumers are visiting traditional nurseries and garden centers. As plants and their popularity continue to increase, more consumers are shopping at home improvement stores for gardening products. In 2000, forty-one million households purchased their lawn and garden products at these stores with an additional 33 million shopping at garden centers, and 20 million purchased their lawn and garden goods through mass merchandisers. Kmart, capitalizing on Martha Stewart's expanding product-line to compete in the lawn & garden market, attracts new customers who are not currently shopping the discount channel. To compete, independent businesses have been relying on service and selection to entice consumers to shop at their nurseries and garden centers.

Methods

Four hundred and twenty-five households in Grand Rapids-Muskegon-Holland Michigan Region, with an estimated population of 1,060,500, were contacted by Team Telcom Inc., East Lansing, Michigan, on December 7, 2000. Households were selected at random from the following counties: Allegan, Kent, Muskegon and Ottawa to comprise a sample representative of the market area. The household contact was then asked a total of seven gardening and plant purchasing questions and six demographic questions. Each survey took two to five minutes to complete.

Results and discussion

The majority of participants said they bought annuals and perennials with 28 percent purchasing plant material in garden centers, greenhouses or nurseries and 12 percent purchasing from large chains. Participants were asked why they chose to shop at a particular store. Selection or variety ranked highest at 16 percent, with participants rating the importance of a combination of reasons (selection or variety, product quality, service or knowledge, price and location) slightly less at 15 percent. Product quality alone ranked third at ten percent. When tested for significance, several differences between demographic groups were apparent with regards to outdoor plant purchases in 2000. Of those who responded, women were more likely to purchase outdoors plants (83 percent of women versus 66 percent of men). Similarly, households with more than two adults were more likely to purchase outdoor plants (82 percent) than households with only one adult resident (71 percent).

Of the 90 percent of participants who stated that they owned their own home, they were more likely to purchase outdoor plants (86 percent) than those who rented their home (33 percent). Homeowners were also more likely to spend more than $200 on lawn and garden supplies than those who rented (50 percent versus 18 percent). Results were similar for participants who had income levels of more than $75,000 a year. More of these participants purchased outdoor plants than those with a lower income (90 percent versus 77 percent) and spent more than $200 on lawn and garden supplies (65 percent versus 44 percent) Participants with a higher income were also more likely to spend more than $75 on outdoor plants (64 percent versus 42 percent) than participants with an income of less than $75,000. Those participants with 13 or more years of education indicated they were very likely to know a lot about home gardening (56 percent) than their counterparts with 12 or less years of education (46 percent). While larger families, with more than three in the household, were more likely to spend more than $75 on outdoor plants (56 percent) than families of two or less individuals (41 percent)

Based on survey results, few differences were apparent, other than purchasing outdoor plants or amount spent on these plants and related supplies, when responses were analyzed by demographic characteristics. We saw the greatest number of these differences for participants from households with higher income levels. Intuitively, those with an income of more than $75,000 spent more on plants and lawn and garden supplies than their counterparts.

Other than examining whether participants knew "a lot about home gardening," there were no differences in participants with answers to questions about knowledge, interest and attitudes concerning gardening and outdoor plant care. A difference was apparent for participants with varying levels of education. Those with more than 13 years of education were more likely to respond with a positive answer. If participants had an initial gardening interest, a higher level of formal education may have encouraged them to also have a better understanding of home gardening.

Using these survey results, marketers can better focus on participant responses to questions regarding outdoor plant purchases and knowledge about gardening. By analyzing data segmented by demographic responses we can identify people who would be "very likely" to purchase landscape goods. Marketers who use these results can better identify individuals who have a high level of interest in their products and new concepts on the cusp of development.

Consumer perceptions of product and service quality attributes in six U.S. states

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Introduction

The addition of mass merchandisers to the green goods marketplace and the expansion of large independent garden centers have resulted in a highly competitive market for landscape plants and related products. Strategies that could potentially help businesses achieve a competitive advantage include delivering high quality customer service, providing high quality merchandise and offering a large variety of merchandise selections. Assessing the product and service quality of a retail outlet can be crucial to an effective marketing strategy. SERVQUAL (a survey instrument) is a widely used tool to assess service quality that consists of 22 pairs of questions. Half of each pair measures expectations and half measures perceptions. Expectations are defined as what the customer would expect from the "ideal" outlet. Perceptions are defined as what the customer receives at his or her current chosen shopping outlet. The 22 questions can be combined to represent five dimensions of service quality: tangibles (the appearance of trucks, employees, bills and advertisements), reliability (the ability to provide consistent service over time), responsiveness (the ability to respond promptly to customer needs or requests), assurance (the ability of employees to convey accurate knowledge), and empathy (caring, individualized customer service). The level of service quality delivered is then defined as the perceptions of the customer on those five dimensions (measured by 22 questions) minus the expectations of the customer on those five dimensions.

Materials and methods

In this study, expectations and perceptions of customers at 14 garden center outlets (11 traditional garden centers and three mass merchandisers) in six states were compared. Researchers in six states contacted local garden centers to schedule survey distribution. Surveys were distributed at 14 garden centers on Saturdays in May 1997. We received over 600 completed responses were divided into two groups based upon the store from which they received the survey form. Traditional retail (TR) customers obtained a form from freestanding retailers who primarily sold garden-related products (11 outlets). Mass-merchandise (MM) customers had purchased plants or related products and received the survey form from retailers whose primary product line was not horticultural (three outlets).

Results

Of seven dimensions contributing to any type of garden center's product & service quality, customers ranked plant quality as the most important dimension (30%), responsiveness and assurance as half as important (15%). The other dimensions (tangibles, reliability, empathy, quality of non-plant products)

Table 1. Comparisons of mean expectations, perceptions, and gaps of service and product quality for survey participants at mass merchandisers and traditional retailers in three U.S. market areas.

	Expectations			Perceptions			Gaps		
Dimensions	**MM**	**TR**	**Sig.**	**MM**	**TR**	**Sig.**	**MM**	**TR**	**Sig.**
Tangibles	4.1	4.1	NS	3.7	4.0	*	-0.4	-0.1	*
Reliability	4.6	4.8	*	3.7	4.2	*	-0.9	-0.5	*
Responsiveness	4.6	4.7	NS	3.6	4.3	*	-1.1	-0.5	*
Assurance	4.5	4.7	*	3.7	4.3	*	-1.1	-0.4	*
Empathy	4.6	4.7	*	3.5	4.2	*	-1.0	-0.4	*
Product	4.7	4.7	NS	3.6	4.2	*	-1.2	-0.5	*
Overall	4.5	4.6	0	3.7	4.2	*	-0.9	-0.4	*

* Significant at α<5% using Wilcoxon Rank-Sum test.

were slightly less important (10%). Plant health and condition (32%) was the most important plant or product characteristic, followed by price (22%) and assortment and variety (21%).

Comparison of mean expectations scores from TR and MM garden center customers revealed four differences: reliability, empathy, assurance, and overall service quality expectations. In all instances, TR customers had higher mean expectation scores than MM garden center customers. Expectations were similarly high for tangibles, responsiveness and product quality dimensions. So, TR customers expect a slightly higher level of service quality when they shop at their retailer.

When we examined customer perceptions, we found differences on each factor evaluated. Consistently, TR customers had higher mean perception scores on all factors when compared to MM customers. The differences ranged from eight (tangibles) to 20 percent (empathy). This meant that in every case, customer perceptions of what the TR retailer was delivering to customers in terms of product and service was better than what the MM garden center customers felt they were receiving.

We calculated gap scores for each respondent by subtracting perceptions from expectations on each factor. When we compared TR and MM garden center customers, mean gap scores were consistently negative for both retail outlets. For responsiveness, assurance, empathy and product quality the gap was 1.0 or more, or 20 percent or more, on the scale. In these cases, the retailers fell far short of customer expectations. Mean gap scores for TR were -0.50 or less, or ten percent or less, on the scale. While both retailers fell short of customer expectations, TR were better at meeting the customers' expectations than MM outlets.

Conclusions

Garden centers should focus on stocking and maintaining only the healthiest plants. Respondents placed the highest priority on plant health and condition and most retailers were unable to meet this expectation. Another way to address plant health is to offer a guarantee in case the plant does not survive. Garden centers could better meet customer expectations by providing plant guarantees. Plant assortment and variety was also fairly important to respondents, but garden centers are doing a better job of meeting customer expectations in this category. An additional area for improvement is plant labeling, especially with the price. For inexperienced customers or ones who spend little, this factor is important.

Garden centers differ in their customers' perceptions of their quality of service. People expect a high level of service quality when they enter a retailer, regardless of their characteristics or the retailers. But there were significant differences in perceptions of specific outlet performance in all service and product quality dimensions. There appears to be a fairly consistent expectation for service and product quality among customers throughout the county. But there are differences among outlets' perceived abilities to meet these expectations. Individual outlets should conduct this type of research to determine how their customers perceive their effectiveness in providing both service and product quality. We cannot conclude that garden centers in general should pay more attention to one area of service quality. In fact, there is room for improvement in all areas of service quality.

Customers of both TR and MM outlets had similarly high expectations, except for reliability, responsiveness and assurance. However, TR had smaller, less negative service quality gaps. This should indicate a competitive advantage for these retailers. While there was no significant difference in the importance of plant price between TR and MM customers, there were differences between individual garden centers. Since none of the MM surveyed was among the group where customers placed a lower emphasis on price, we can assume price was more important to MM customers than to some TR customers. MM customers have some lower service quality expectations and lower perceptions in all dimensions; therefore, they appear to be willing to trade service for price. MM fall short of meeting their customers' expectations. They could adopt policies that allow them to improve service without impacting price.

Examining consumer perceptions about selected flowering perennial plants

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Significance

Sales of redesigned products can profitably restart sales when they mature or lag. However, launching new or redesigned products into an existing market creates difficulties. Gaining a better understanding of customers' product perceptions and preferences can help marketers anticipate necessary changes.

Growth in the value of flowering potted plants has been slow. Wholesale value increased from $210 million in 1980 to $662 million in 1995 and to $701 million in 2000, or four percent growth annually over the last 20 years, slowing to merely 0.3 percent annual growth in the last five years when adjusted for inflation. New products could help lagging sales. Perennials, however, are quite popular and experiencing tremendous growth in sales.

Some perennials can be forced into flower on a specific date. Some of these forced perennials have good post-harvest life and good garden performance, even after forcing. One research method that could help marketers understand how to position perennials as new flowering plants is perceptual mapping. Because no information about consumers' perceptions of flowering plants exists, we wanted to develop a perceptual map to provide marketers with some fundamental information on which to base decisions regarding positioning forced perennials as new flowering potted plants. This would help researchers identify plants that might be positioned as "dual use" plants for enjoyment both indoors and then subsequently outdoors in the landscape.

Materials and methods

We chose nine flowering plants based on their differences in use (indoor or outdoor), plant habit or form and flower-color. Six plants were traditional outdoor garden plants: *Aquilegia x hybrida* 'Blue Bird' (blue and white), *Campanula carpatica* 'Blue Clips' (blue), *Delphinium grandiflorum* 'Blue Mirror' (blue), *Oenothera fruiticosa.* var. *Youngii-lapsley* (yellow), *Oxalis crassipes* 'Rosea' (pink), and *Sedum spectabile* 'Brilliant' (pink). Three plants were traditional potted flowering plants: *Kalanchoe blossfeldiana* (yellow), *Rhododendron* sp. (pink) and *Saintpaulia ionantha* (purple).

The complete design to compare all nine plants would require consumers to make 38 comparisons. We divided the 38 comparisons into two separate surveys to reduce participant fatigue. Each survey contained 20 comparison questions with a repeat of the first pair at the end of the survey form to serve as an anchor in analyses. Participants completed only one survey form. We interspersed eight gardening behavioral questions, seven demographic questions and 13 plant preference questions throughout the survey to reduce boredom.

Plants were photographed to maintain consistency over the survey period, showing plants with no visible container against a black background. These were displayed on three black 3 ft by 3 ft boards. Two boards contained eight pairs of photographs, and the third board contained four pairs of photographs as well as individual photographs of the nine plants.

We asked participants to evaluate perceived similarities in pairs of flowering plants. When pairs were most similar, they received a rating of 1, and

Table 1. Survey sample responses to use preference of three traditional indoor and six traditional outdoor flowering plants. Use choices were indoor, outdoor, or both indoor and outdoor.

Species	Traditional use	Outdoor %	Indoor %	Both %
Aquilegia	Outdoor	79	6	15
Campanula	Outdoor	52	6	42
Delphinium	Outdoor	82	5	13
Kalanchoe	Indoor	28	20	52
Oenothera	Outdoor	79	4	17
Oxalis	Outdoor	52	7	41
Rhododendron	Indoor	20	14	66
Saintpaulia	Indoor	4	75	21
Sedum	Outdoor	69	4	27

dissimilar plants received a rating of 7. We selected Detroit as a site to administer the survey because its population is similar demographically to the entire nation on average and is a viable test market. Detroit has an annual flower show, Bloomfest, which was a venue where researchers could intercept consumers with a range of interests in flowers and plants.

Results and discussion

Two hundred completed surveys were obtained with an average completion time of ten minutes. Participants were predominantly female (78.2%) and had completed an average of 15.4 years of formal education. Households included a mode of two adults (63.4%) and zero children (61.7%). The average 1999 household income category for participants was $50,001 to $75,000. Participants had an average age between 47 and 48 years, while the mode was 54 years old (6.4%). (**Editor's Note:** Mode refers to the most frequent value in the range, while median refers to the middle value in the range.)

This sample was mainly composed of women in their late forties who were likely college educated and had a middle- to upper-income household.

Participants gave a wide range of responses when asked how much time and money they spent in or on their lawns and gardens in 1999. The average spent was $360, the mode was $200 (17.1%) and the median was $200. Based on a National Gardening Association survey (2000), the national average for lawn and garden expenditures was somewhat higher in 1999 at $532. More specifically, participants were asked how much they spent on annual plants in 1999. Answers ranged from $0 to $3000 with a mode of $100 (21.9%).

Participants were asked to view a plant photograph and indicate where the plant should be used: indoors, outdoors or both. In every question regarding use of perennials, a majority of participants indicated those plants should be used outdoors (Table 1). However, there was a large group of the sample that identified campanula and oxalis for both indoor and outdoor use. When asked about traditional indoor plants, responses were not as definite (Table 1). The majority of participants identified Saintpaulia for strictly indoor use. Slightly more participants identified Kalanchoe and Rhododendron for outdoor use rather than indoor use; however, the majority identified those plants for dual use.

A perceptual map (not shown) is depicted in two dimensions, indicating the two most significant attributes of the objects. The main map dimensions were characterized as use (indoor traditional flowering potted plants versus herbaceous perennials traditionally used outdoors) and flower color. When both the x and y axes were examined, groups of plants emerged. The most distinct group was composed of plants with similar use and color: Aquilegia and Delphinium. The next noticeable grouping was composed of Oxalis and Campanula. Because of their closeness to the center of the axes, the sample group may have had the opinion that these two plants were not exclusively for either indoor or outdoor use. The clustering toward the center may indicate there is a willingness to accept these types of plants for dual use: both indoors and out. Rhododendron and Saintpaulia loosely clustered in the upper left quadrant. These plants are slightly similar in form and use; however, Rhododendron fell much closer to the center of the x-axis indicating it was perceived for use outdoors. Kalanchoe and Sedum loosely grouped in the lower left quadrant. These plants are similar in form and both are succulent plants. More than one-quarter of the sample showed a willingness to use Sedum and Kalanchoe both indoors and outdoors (Table 1).

Campanula and Oxalis were identified as usable indoors and outdoors by at least 41 percent of the sample. These plants were also preferred for use as a decoration in the home by a total of 17 percent of the sample. Campanula has trendy blue flowers, which may be more profitable in the market-place if it is in high demand. It can also be produced as a flowering potted plant and positioned for use both indoors and out, benefiting growers who are looking for ways to improve sales of potted flowering plants while maintaining sales of bedding plants.

The market for indoor flowering potted plants could benefit from the introduction of new products, stimulating sales and profitability. With no relationship identified here between indoor potted plant purchases and expenditures on annuals and perennials, introducing either Campanula or Oxalis as new potted flowering plants would not detract from existing sales of perennials. Surveyed individuals in this sample from upper-income households or who expressed a high level of garden experience spent more on perennials. Positioning these two plants as dual use may increase overall sales of flowers, regardless of where they are used and enjoyed. Future studies should expand the number and type of plants included in the perceptual map to identify additional candidates for dual-use positioning.

Consumer preferences for plant size, type of plant material and design sophistication in residential landscaping

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Significance

Commercial landscaper's observations and experience suggest that certain landscape design features impart more value to a client. "Will I like it?" and "Is it worth the money?" are questions clients considering landscaping may ask themselves. Understanding which landscape features provide the most value can be a powerful tool to help landscape professionals anticipate and accurately address consumer's questions. If professionals knew the relative increase in price or value an individual features (or combinations of features) added, they could be better prepared to address client's desires.

Project objectives

To measure consumer perception of plant size, design sophistication and plant material type as factors contributing to the value of a home. Our hypothesis was that plant size, design sophistication and plant material type were three measurable factors that together, most accurately and completely defined a landscape. We expected that as each of the three chosen factors moved up through defined levels the amount that a factor added to the value of the home would increase. Additionally, we hypothesized that the least preferred combination would be a foundation design using small evergreen plants and the most preferred would be a sophisticated design using large plants of diverse types and incorporating hardscape. Based on previous observations, we expected that as the factor level combinations moved from the least preferred to the most preferred, the value of the home would increase between 10 percent and 17 percent.

Materials and methods

The respondent's overall preference for a particular landscape was defined as the dollar value assigned to the home. For each of three factors a set of levels was identified. The plant size levels were defined as being (1) small, (2) medium or (3) large. Design sophistication levels were defined as being (1) foundation planting only, (2) foundation planting with one large, oblong island planting and one or two single specimen or shade trees in the lawn, or (3) a foundation planting with adjoining beds and two or three large island plantings, all incorporating curved bedlines.

The type of material used in the landscapes included woody evergreen trees and shrubs, groundcover plants, woody deciduous trees, color from flowering annuals and hardscape in the form of a brick-paved walkway. The material levels were defined as being (1) evergreen and groundcover only, (2) evergreen, groundcover and deciduous plants, (3) evergreen, groundcover and deciduous plants with 20 percent of the visual area of the landscape beds planted in annual color, or (4) evergreen, groundcover, deciduous plants, 20 percent annual color and colored hardscape.

A two story, newly built home was the test home. A commercially employed landscape architect prepared 16 flat plans incorporating only plants whose hardiness extended from USDA zones 4 to 7. Computer generated color images of the home and landscaping were prepared from each flat plan. Each photograph depicted the home and landscaping as viewed from the street, the perspective from which the photo was taken.

A display table was erected at Bloomfest in Detroit in April 2000, where we administered the survey. Approximately 500 visitors were recruited to participate in the survey as they passed the table. The survey consisted of three parts. First, participants were asked to examine a photograph of the survey home with only a lawn and a straight poured cement walk and driveway. The estimated value of the home was established at $192,000, hypothetically located in Oakland County, Michigan. Researchers also stipulated that it was in a subdivision with similar new homes. The home was described as a 4 bedroom, 2-½ bathrooms two-story structure located on a half-acre lot (approximately 100 ft by 200 ft). Participants were verbally asked to look at the 16 additional photographs. Considering the price of the home assigned by realtors and the landscaping and features around the homes, they were asked to assign a value to each home. A photo with one of the landscape designs is on page A-2.

Results

For the landscapes presented, the factors of plant size, design sophistication and plant type were good measures of the value added to the home by the landscape. Results suggests that 40.2 percent of the value added by the landscape to the predicted base price of the home is due to the size of the plants, followed by design sophistication accounted (36.5 percent of the additional value) and plant material type (23.3 percent of the additional value). Over 95 percent of the respondents stated that any level of landscaping increased the value of the home over the suggested base value of $192,000. Analysis predicted that the pictured home with a hypothetical "average" landscape would have a ten percent increase perceived value (from $192,000 to $202,621). Moving from the least valued combination of factors to the highest valued combination, we observed a 12.7 percent increase in the perceived value of the home.

Plant size was the most important factor in our study. Its importance outweighed that of design sophistication by 3.7 percent. Our model predicted that, holding all other factors equal, moving from the smallest size plant defined in our study to the largest defined size will increase the perceived value of the home by 5.0 percent. Large size alone can offset the effects of a foundation planting. Conversely, small size can negate the value gained by using a sophisticated design.

Design sophistication was the second most important factor in our study. Holding other factors equal, upgrading from a foundation only planting to a sophisticated design increased the perceived value of the home by 4.5 percent. Adding curved beds and peninsulas (sophisticated design level) to a landscape already containing one or two island beds (island design level) increased the perceived value of the home by 2.0 percent. This suggests that preference for design sophistication, as measured in this study, is a function of both the style and visual density of the landscape.

The type of plant material used was the least important factor in our study. Its importance was 16.9 percent less than that of plant size. As a factor in the overall value added to the home by the landscape it was almost half as important as plant size and over 40 percent less import than design sophistication.

Landscape designers should emphasize plant size over plant type and make design and budget decisions accordingly. It also suggests that much of the perceived value is obtained when plant size is increased or when a simple island design is amended with more sophisticated design features. For some clients, paying for increased plant size will take precedence over paying for a diversity of plant types. If a designer or landscaper wishes to increase the perceived value of a landscape job, adding annual color is a cost-effective, quick method.