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AN ANALYSIS OF THE PERFORMING ARTS CONSUMER: DEVELOPING MARKET SEGMENTS BY USING CHI-SQUARED AUTOMATIC INTERACTION DETECTION (CHAID)

By

Sung Hee Park

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ABSTRACT

AN ANALYSIS OF THE PERFORMING ARTS CONSUMER:
DEVELOPING MARKET SEGMENTS BY USING CHI-SQUARED AUTOMATIC INTERACTION DETECTION (CHAID)

By

Sung Hee Park

Performing arts organizations have long been considered as an important element to provide enjoyable and educational experiences in societies and communities. Due to the current economic climate and potential issues, most performing arts organizations have experienced revenue shortfalls and financial deficits, along with declining audiences.

The purpose of this study was to examine the performing arts market by identifying and profiling performing arts consumers. By categorizing these consumers into segments using Chi-squared Automatic Interaction Detection (CHAID) analysis (Kass, 1980), this study explored how the interactions between consumers' characteristics and art-related experiences were associated with: 1) number of tickets purchased; 2) donation activity; and 3) out-of-state and/or out-of-country performing arts attendance. Three decision trees were developed using Exhaustive CHAID, which increas ed the likelihood of finding optimal association between predictors and a dependent variable.

Data were collected through an online survey of E-club members of the Wharton Center for Performing Arts at Michigan State University who had purchased a ticket at least once from the Wharton Center and were on its email list. The E-club newsletter announcing the online survey and providing the link to the survey was sent to a total of 39,011 valid email addresses. Approximately 13,503 of the E-club members opened the

electronic newsletter, and a total of 4,744 members responded to the survey for a response rate of 35.1% during 12 days in January - February 2007.

This study focused on the heavy consumers (those who purchased 10 or more tickets during the last 12 months), who represented approximately 30% of the performing arts market and accounted for over 50% of actual spending on tickets. The results identified important predictors of performing arts consumers, based on number of tickets purchased, and distinguished ten segments of heavy consumers. In addition, viable sub-segments from two different decision tree models were identified for 'the propensity to donate to arts, heritage or cultural organizations' and 'the inclination to travel out-of-state and/or out-of-country to attend live performances' among heavy consumers. Chi-square tests and one-way ANOVAs were conducted to examine statistically significant differences among derived segments with regard to their characteristics and behaviors toward the performing arts and cultural pleasure trips.

The results of this research support previous empirical studies indicating that socioeconomic characteristics are important predictors of consumers' behavior patterns toward the performing arts. This study provides crucial information about performing arts consumers, as well as developing a useful approach that could permit performing arts organizations to identify valuable consumers effectively. The identified target segments and their profiles will be essential in building effective communication and promotion strategies for various marketing purposes.

This work is foremost dedicated to my Lord who led the way and makes me be strong.

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CHAPTER 1

INTRODUCTION

Performing Arts

Performing arts organizations have long been considered as an important element to provide enjoyable and educational experiences in societies and communities. A performing arts organization is a public or private, non-profit or for-profit entity that facilitates exchanges between artists and audiences through creative, educational, and performance opportunities (Hager & Pollak, 2002). Performing arts organizational characteristics differ from their exploring variations among programs and managerial styles. The primary objectives of performing arts organizations are to increase profitability and performance by increasing ticket sales and developing audience loyalty (Rentschler et al., 2002). The concept of performing arts organization marketing is explained as "achieving organizational goals based on the needs and wants of target markets, and delivering the desired satisfactions better than competitors" (Kotler & Armstrong, 2006, p.10). The application of marketing theories by arts organizations implies an exchange relationship between consumers and organizations (Mejón et al., 2004).

Today's consumers have unlimited interests and partake of a variety of sectors of cultural life. It is hard for performing arts organizations to survive if their service offerings are based solely on the subjective motivations of loyal customers (Cuadrado & Molla, 2000). Generally, performing arts organizations use attendance levels, venue occupancy rates, subscription purchases and the number of members or friends as important performance measures (Rentschler et al., 2002). However, this information is

not sufficient to attract and satisfy performing arts consumers and build customer-centered marketing management. Understanding the performing arts consumers—who they are, what they purchase and why and how they process decision-making—is essential for performing arts organization marketers and operators. Thus, performing arts organizations could make effective marketing decisions and develop efficient strategies to increase high levels of consumer satisfaction and retention (Clopton et al., 2006; Colbert, 2003). This study widens understanding of performing arts consumers using a relatively new method of market segmentation.

Definition

The term "performing arts" is described as "theater, music, opera, and dance from the traditional high arts to the popular arts, including live arts performed in all venues and non-live arts through all forms of mass media" (McCarthy & Jinnett, 2001, p. 5-6). Performing arts include all combinations of these genres and can be referred to as the high, popular, and folk arts aspects of the performing arts market. This market is aimed at a wide range of interests, attracting consumers who expect enjoyable and educational experiences. Performing arts primarily provide a show-like experience while fulfilling the cultural and artistic goals of attendees, contributing to education, tourism, and the overall economy and well-being of the community (Hume & Mort, 2008; Caldwell &Woodside, 2003).

According to the New Zealand Framework for Cultural Statistics (2003), the performing arts can be broken into three sub-categories: (1) performing arts, which include theatrical performance, dance, opera, theatrical music, and the performing arts of other ethnic and cultural groups; (2) music, which includes primary music creation,

popular music performance, classical music performance, and the recording, publishing, and retailing of music; and (3) services to the performing arts, which include venues and other support services. In sum, performing arts provide virtuosity, artistry, aesthetics, and interpretation of art experiences in the most intimate way – through the bodies and creative intelligences of performers (Royce, 2004).

History

The classical period of performing art began with the tragic poets starting in Greece during the 6th-century B.C. During the Dark Ages, performing art was limited to religious historical enactments and morality plays, which were organized by the Western church. As the Renaissance began, the arts were revived and spread throughout Europe. European plays incorporating dance were performed, and the ballet form was created. Several other types of art were introduced in the 16th-17th centuries, including theatrical companies, opera, and the Elizabethan masque, which featured music, dance and elaborate costumes. Also during this time, the traditional theater form was established and formal dance instruction was introduced by the French. After performing arts appeared in the English language during the 18th century, they were developed for all social classes; this led to the establishment of several variety theaters, such as the Boston Symphony Orchestra in the U.S. during the 19th century.

In the 1930s, Jean Rosenthal introduced modern stage lighting, changing the nature of the stage Broadway musicals became a U.S. phenomenon. After World War II, performing arts were highlighted by the resurgence of both ballet and opera in Europe and in the United States. Since postmodernism dominated the performing arts in the 1960s, there was an unprecedented proliferation in the number of performing arts

organizations, the sizes of their audiences, and the level of contributions to the arts. Performing arts continued to grow in these aspects until the mid-1980s: the number of professional orchestras had increased from 58 to more than 1,000; the number of opera companies increased from 27 to more than 110; the number of dance companies increased from 37 to 250; and the number of professional resident theater companies increased from 12 to more than 400 (Kotler & Scheff, 1997). By 1987, ticket sales to non-profit performing arts events had exceeded those of sport events.

Growth dropped in the mid-1990s, and many performing arts organizations lost ground in their efforts to attract and retain customers due to competition for leisure activities and lifestyle changes. There were spiraling expenses, deficits of critical proportions, shrinking contributions, and stagnant audience sizes (Kotler & Scheff, 1997). Since the turn of the 21st century, performing arts organizations have devoted themselves to offering high arts by broadening their socio-demographic base, improving customer service, and making greater use of the internet and marketing information systems in order to attract more potential audiences (Colbert, 2003). Performing arts have not only provided an opportunity for the local community and enthusiastic fans to attend events, but have also attracted various cultural tourists willing to spend time and money on cultural festivals and special arts events. In order to satisfy consumers' needs and preferences in a broader environment, the performing arts must continue to move and change (Bernstein, 2007).

Current Status

According to the Arts & Economic Prosperity III Report (2007), the nonprofit arts and culture industry grew by 24% during 2000-2005, from $134 billion to $166.2 billion

in economic activity: spending by nonprofit arts and cultural organizations grew by 19% during the same period, from $53.2 billion to $63.1 billion. Arts and cultural attendees generated an estimated $103.1 billion in event-related spending for local merchants and their communities in 2005 – a 28% increase from $80.8 billion in 2000. Specifically, the average spending of non-local attendees was $40.19 per person, compared to $19.53 per local attendee in 2005.

The Performing ARTS Research Coalition's (PARC) extensive 2003 research, conducted in ten communities across the United States, indicated that attendance at professional live performing arts events was an activity enjoyed at least occasionally by a significant majority of adults (61-78% of respondents) (Burnstein, 2007). According to Nichols (2005), 65 million U.S. adults attended some type of live performing arts activity in 2002. Specifically, 35 million attended a musical stage play or operetta, 25 million saw a non-musical stage play, 24 million attended classical music performances, 22 million attended jazz performances, 13 million saw other types of dance events, 8 million attended ballets, and 7 million saw operas.

The Consumer Expenditure Survey reports that U.S. households spent an average of $2,218 on entertainment and paid $92 for admissions to movies, theater, opera, and ballet in 2004. The same year, households spent an average of $36 on sports admissions, of $18 on video game hardware and software, and $43 on videotapes and disks (Nichols, 2006a). According to a report of the National Endowment for the Arts (Nichols, 2006a), consumer expenditures on arts performances reached $12.7 billion, and spending on admissions to performing arts totaled $42.80 per person in 2005. When adjusted for inflation, year-over-year spending held fixed, and real spending on performing arts

admissions in 2004 moved slowly by 0.9%, followed by no growth in 2005 (Table 1). Although consumers spent less on arts performances, total recreation spending grew, and consumers spent amply on other forms of entertainment such as books, audio, and visual goods.

Table 1. U.S. Spending on Admission to Performing Arts from 2001 to 2005

Year	Spending on Admission to Performing Arts (in billions of dollars)		Per Capital Spending on Admissions to Performing Arts		Percentage change in Real GDP and Consumer Spending on Admissions to Performing Arts Events
	Nominal	Real	Nominal	Real	
2001	$10.9	$10.5	$38.2	$36.8	1.9%
2002	$11.7	$10.9	$40.6	$37.8	3.8%
2003	$11.9	$10.6	$40.9	$36.4	-2.8%
2004	$12.4	$10.7	$42.2	$36.4	0.9%
2005	$12.7	$10.7	$42.8	$36.1	0.0%

Source: U.S. Department of Commerce, Bureau of Economic Analysis and U.S. Census Bureau (http://www.census.gov/svsd/www/services/sas/sas_data/71/2006_NAICS71.pdf)
Notes: "Real" refers to estimates measured in chained 2000 dollars to control for inflation.

On the other hand, The Economic Census shows that there were 9,303 performing arts companies in the U.S. in 2002 (Nichols, 2006b). Of these, 3,753 were classified as individual musicians or music groups and 3,222 were theaters; together, these two groups represented nearly 75% of all performing arts companies. Symphony orchestras and chamber groups constituted 9% of the total, and dance and opera companies made up 6% and 1.9% of the total, respectively. More than 500 organizations (5.5%) were other performing arts companies (excluding circuses). There were also a noteworthy geographical concentration of the performing arts companies, namely, - there were 1,659 and 1,330 such companies in California and New York, respectively; representing nearly 32.1% of all performing arts companies nationwide (Nichols, 2006b).

Wharton Center for Performing Arts

The Wharton Center for Performing Arts (Wharton Center) is a not-for-profit performing arts center that has been affiliated with Michigan State University since 1982. Containing 2,500 seats, the Wharton Center is one of the largest performing arts venues both in Michigan and among Big Ten institutions. The Center presents a diverse selection of performing arts experiences, providing lifelong learning programs for people of all ages. The mission of the Wharton Center is "to enrich the lives of Michigan residents and strengthen the value of the arts in everyday life by serving as a leading resource for renowned arts entertainment and education programs" (Wharton Center for Performing Arts, 2008).

According to the Wharton Center's 2007-2008 Annual Report (2008), there were 264 ticketed events during this time period, including approximately 259,000 in ticket sales and $11.6 million in total revenue. Specifically, $7.9 million was generated from ticket sales, $1.3 million from donations/sponsorship/grants, $1.2 million from rental/box office fees, and the remainder from other listed revenue sources. The center has five major venues for selling tickets: internet sales (44%), subscription sales (26%), phone sales (13%), lobby sales (10%), and group sales (7%). During 2006-2007, internet sales increased by 6% and lobby sales decreased by 6%. Moreover, Wharton Center's eClub membership expanded dramatically from 39,700 members in 2007 to over 72,000 members in 2008. In addition, more than 1.4 million targeted e-commerce messages were sent to consumers throughout the season (2007-2008).

In 2007-2008, the Wharton Center's Advisory Council, whose members enabled fundraising and contributions, was comprised of 35 mid-Michigan business and

community leaders committed to the arts. Furthermore, the Wharton Center received gifts from individuals, corporations, and foundations, which accounted for 15% of the budget. Private gifts (including identified bequests to the center) exceeded $5.2 million. Specifically, annual gifts totaled nearly $1.4 million, endowment gifts totaled more than $3.1 million, and gifts dedicated to facilities for the capital campaign equaled $720,000. Furthermore, the center's 323 volunteer members contributed more than 9,700 hours in operating and serving as an integral part of the Wharton Center.

For marketing and promotion, the Wharton Center has implemented a comprehensive multimedia advertising program and direct-mail campaign which target subscribers, group leaders, and single-ticket buyers. In addition, these advertising mechanisms facilitate creative promotions with television and radio partners, increasing the value and exposure of the center's media buys while creating a dynamic outdoor advertising.

The question raised is whether it is possible to identify important variables to predict ticket purchases of performing arts consumers at the Wharton Center. If so, what is the most effective way to define the performing arts market segments? How can these segments be linked to behaviors of arts consumption? Are there any significant differences among segments in their behaviors and characteristics?

Problem Statement

The performing arts industry currently faces several challenges and issues. Performing arts organizations often confront significant barriers in attracting, developing, and maintaining consumers (Roan et al., 2006). Attendees are becoming more diverse, and organizations are sometimes unprepared for the wide variety of art consumers.

Performing arts organizations often try to market themselves to everyone in the general market, failing to identify proper target segments for their products. Consumers are more spontaneous in choosing their entertainment options, and many are unsatisfied with pre-selected performance packages offered by organizations. Young people in particular are less likely to commit to an entire performance series or to specific dates months in advance. As a result, the role of the arts as cultural capital is in decline (DiMaggio & Mukhtar, 2004).

Furthermore, performing arts organizations is faced the significant decrease in audiences among traditional presentation genres, such as classical music and ballet (Kotler & Scheff, 1997). This may be caused by changing consumer tastes, massive demographic shifts, and long-term neglect in arts education. The idea of attending live performances requires specialized knowledge, which is a barrier to attend for many people. One factor is that potential consumers spend the same amount of money on other entertainment, such as sports, movies, and cuisine – all of which are often more appealing than performing arts (Hume et al., 2006). Without understanding customers' needs and preferences, or how the broader market drives satisfaction, value, and consumption, performing arts organizations will continue to have difficulty attracting audiences.

A critical factor in sustaining performing arts organizations is the ability to effectively meet revenue-generating goals. However, most organizations have experienced revenue shortfalls and financial deficits, along with declining audiences (Bernstein, 2007). According to the U.S. Census Bureau (2008), the estimated year-to-year percent change in revenue for performing arts companies decreased 1.3% from 2005-2006. U.S. economy is currently in decline, and this economic crash has directly

affected people's leisure activities. Due to the current economic climate, participation in the performing arts and their spending on entertainment have been significantly turned down. In this unstable and unpredictable environment, it is difficult to estimate attendance and ticket sales for performing arts organizations; attracting audiences has become even a more complex problems.

In addition, increased costs have driven up high prices and risk (Roan et al., 2006). A number of economic factors such as transportation costs, operational and labor costs, and artist and equipment rental fees continue to rise. This has resulted in significantly higher costs for performing arts organizations, generating a vicious circle of financial difficulty. To avoid revenue shortfalls, organizations have raised ticket prices and increased efforts to garner sponsorships and to raise donations. However, higher ticket prices have made performing arts significantly less accessible to certain socioeconomic groups or rendered the arts unaffordable for some long-time audience members. Unless the performing arts organizations have a less expensive and more convenient form of entertainment to targeted segments, it will be difficult to lead to attendance growth.

Another challenge faced by performing arts organizations is marketing and promotion (Conway & Whitelock, 2007). Many performing arts organizations do not fully understand their consumers and marketing-oriented activities. They continue to use only traditional media such as television, radio, and newspapers for mass consumers. However, most arts consumers are becoming less interested in general information and not much attracted to only traditional media outlets. In particular, radio and newspapers have declined in their effectiveness as informational and advertising venues to reach young people. Young consumers are more willing to be exposed to advertising through

richer and more diverse high technology, such as 3-D virtual experiences via the internet or electronic devices. The internet is becoming ever more powerful and efficient means of communication with performing arts consumers. Unfortunately, a number of performing arts organizations have not fully realized the scope of opportunities or provided by the internet in reaching, maintaining and growing their consumer base.

Moreover, ticket purchasing behavior in the performing arts has changed significantly. Subscribers have decreased and online purchases are becoming increasingly popular. For example, subscriptions at 100 trendy theatres surveyed by the Theatre Communication Group declined by 5%, and the average subscription renewal rate dropped from 73% to 63% between 2001 and 2005, as well as the total number of subscriber-occupied theatre seats decreased by 10% (Burnstein, 2007).

The internet is becoming the primary tool used to search for information and purchase tickets. However, performing arts organizations tend not to provide detailed information regarding the new online purchase segments because their marketing efforts have concentrated on programs, venue management, and attendance. In addition, some small performing arts organizations lack marketing personnel, making it difficult for them to identify the target market through scientific methods (Knobbe, 2003).

To solve these problems in performing arts, the organizations need a priori knowledge of consumers' preference and needs. "Meeting audience needs, pricing tactics, and product development" (Rentschler et al., 2002) are the principles of arts marketing, in which consumer information and loyalty are essential. They also need to recognize the importance of market information in order to design tailored programs for target consumers. Understanding how the performing arts industry can incorporate the

changing needs and demands of this marketing environment is vital. Several studies have been done regarding consumers of the performing arts (McCarthy et al., 2001; Nichols, 2003; and Borgonovi, 2004). More studies are needed, however, because many questions remain unanswered. Future studies should clearly define their target audiences and strive to make meaningful connections with these audiences, because not all arts consumers are alike, and their differences can affect their behavior toward the arts (Nielsen et al., 1974).

In order to understand consumer needs and behaviors, performing arts organizations need to either redefine the market for their present products, or create a new marketplace for existing needs (Scheff & Kotler, 1996). Strategic marketing in performing arts organizations is focused on identifying target segments of homogenous groups sharing similar needs, behaviors, and identifying specific characteristics (Clopton et al., 2006). By tailoring market offerings to separate groups, or by focusing a few target segments, the organization is better suited to meet customer needs and to leverage its marketing efforts (Kotler, 1991). These marketing strategies will lead to: better understanding of different consumer segment needs; more careful shaping and launching of new services; pruning of weak services; more effective methods of service delivery; more flexible pricing; and higher levels of client satisfaction (Kotler, 1979). The information can be used to identify market uniqueness, and used as a marketing tool for improving the positioning and planning for target groups. However, researchers and marketers often face the problem of segmenting the market appropriately and packaging differentiated services for targeted segments.

Purpose of the Study

The purpose of this study is to examine the performing arts market by identifying and profiling performing arts consumers. By categorizing these consumers into segments using Chi-squared Automatic Interaction Detection (CHAID) analysis (Kass, 1980), this study explores how the interactions between consumers' characteristics and art-related experiences are associated with 1) number of tickets purchased; 2) donation activity; and 3) out-of-state or out-of-country performing arts attendance.

The first segmentation distinguishes heav y and light consumer groups of the performing arts and identifies the interaction among predictors of each heavy consumer group. Later, two different sets of market segments of heavy consumers are identified based on donation activity and attendance at live performances in a different state or country. Further analyses are conducted to profile each segment and identify significant differences among segments in their characteristics and behaviors toward performing arts and pleasure trips, including: 1) type of performing arts attendance; 2) spending on tickets to the performing arts; 3) performing arts information sources; 4) web-based purchases of art- and culture-related products; 5) the importance of cultural attractions and activities in selecting pleasure trip destinations; and 6) characteristics of cultural pleasure trips.

The CHAID analysis is a criterion-based decision tree model used to explore the relationships between independent and dependent variables that can optimize the performance of market segmentation (Magidson, 1994; Croes, 2008; Hsu & Kang, 2007; Van Middelkoop et al., 2003; and Chen, 2003a). Each performing arts consumer is assigned to one of several homogenous groups based on the significant socioeconomic

and household characteristics and arts-related experiences. This study will be useful for the Wharton Center (and specific/performing arts organizations in general) to help them identify target segments and assign selected marketing strategies. In addition, performing arts organizations can use this information to promote their programs and services, as well as develop strategic advertising.

This study is comprised of five chapters: following this introduction chapter, literature reviews in chapter 2 discuss studies of performing arts consumers, theory of market segmentation, and CHAID approach in market segmentation studies. Method in chapter 3 follows with a discussion of data source, measurement and data analyses used in this study. Chapter 4 presents the results of the analyses, including three CHAID segmentation results of performing arts consumers, profile of derived segments, and comparison of derived segments in their characteristics and behaviors. Chapter 5 discusses the key findings, implications, limitations and future studies, and concludes the study.

Study Objectives and Hypotheses

This study has the five research objectives:

1. To identify predictors which distinguish and portray heavy consumers of the performing arts.
2. To segment heavy consumers of performing arts based on the *propensity to donate* to arts, heritage or cultural organizations.
3. To investigate whether propensity to donate sub-segments differ in terms of: types of performing arts attendance, spending on ticket purchases to the performing arts; performing arts information sources; web-based purchases of art- and culture-

related products; the importance of cultural attractions and activities in selecting pleasure trip destinations; and characteristics of cultural pleasure trips.

4. To segment heavy consumers of performing arts based on the *inclination to travel out of state or/and out of country* to attend live performances.
5. To examine whether inclination to travel out of state or/and out of country to attend live performances sub-segments differ in terms of: types of performing arts attendance, spending on ticket purchases to the performing arts; performing arts information sources; web-based purchases of art- and culture-related products; the importance of cultural attractions and activities in selecting pleasure trip destinations; and characteristics of cultural pleasure trips.

The followings are three research hypotheses related to the study objectives:

1) H1: Persons who attend live performances (e.g., plays, folk dances, musicals and rock concerts) can be classified into substantial[1], measurable[2], accessible[3] and actionable[4] market segments, based on the number of tickets purchased to the performing arts.
2) H2: Heavy consumers of the performing arts can be further divided into substantial, measurable, accessible and actionable market segments, based on the *propensity to donate* to arts, heritage or cultural organizations.
3) H3: Heavy consumers of performing arts can be further divided into substantial, measurable, accessible and actionable market segments, based on the *inclination to travel out of state or/and out of country* to attend live performances.

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[1] The degree to which the segments are large or profitable enough;
[2] The degree to which the size and purchasing power of the segments can be measured;
[3] The degree to which the segments can be reached and served;
[4] The degree to which effective programs can be designed for attracting and serving the segments (Kotler & Amstrong, 1987).

Framework of the Study

The study framework is divided into three parts. First, performing arts consumers are classified using the CHAID method. Number of tickets purchased to live performances is divided into two categories and utilized as the dependent variable. Performing arts consumers' characteristics including socioeconomics, household information, and arts-related experiences are used to categorize consumers into mutually exclusive homogenous subgroups. Next, to identify effective target segments, heavy consumers are selected, and two distinct market segmentations are conducted through the CHAID-tree diagrams. Donation activity, out-of-state or/and out-of-country travels to attend live performances are used as the dependent variables for the distinct CHAID segmentations. Their socioeconomics, household information and arts-related experiences are employed as independent variables for both analyses. Figure 1 shows the framework of this study.

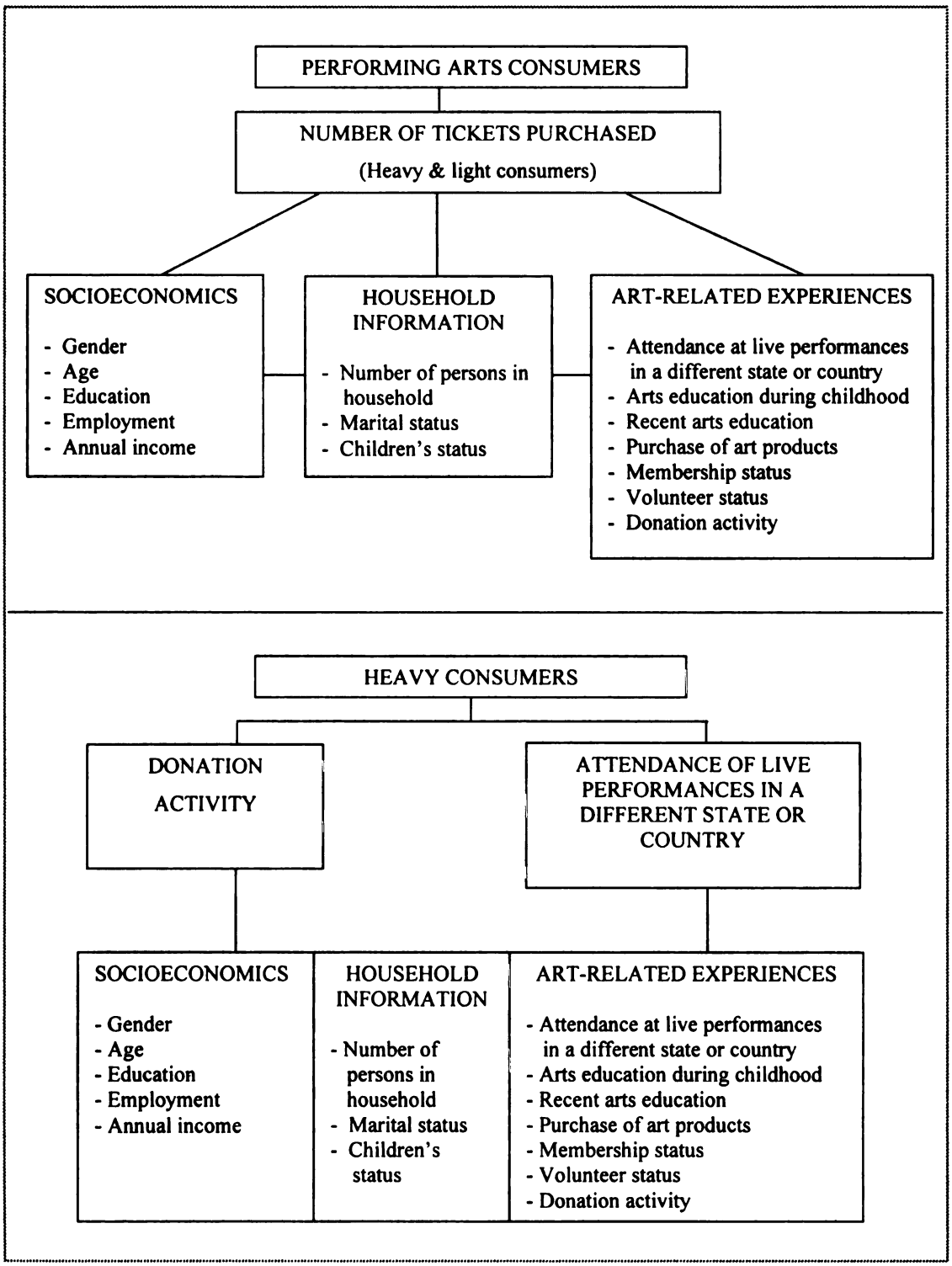


Figure 1. Framework of the Study

CHAPTER 2

LITERATURE REVIEW

Overview

Knowledge of performing arts consumers is a basis for segmenting the arts market in order to develop effective marketing strategies. This chapter looks at previous research that has been conducted on performing arts consumers and discusses strategies and applications of market segmentation, such as Chi-squared Automatic Interaction Detention (CHAID). The chapter begins with an overview of previous studies related to performing arts consumers. Next, the definition of market segmentation, segmentation variables, and various approaches to market segmentation are discussed, followed by a review of empirical studies. Lastly, an overview of the CHAID approach to segmentation modeling is given, and the applications of CHAID in market segmentation studies are discussed.

Performing Arts Consumer Studies

Beginning with Baumol and Bowen's pioneering 1966 study of the composition of performing arts consumers, a number of studies have been conducted on the subject. Most empirical studies offer descriptions of participating behaviors in the arts and provide detailed explanations of socio-economic characteristics (Borgonovi, 2004). The 2002 Survey of Public Participation in the Arts (SPPA) notes that arts participants who read literature, listened to classical or jazz radio, or attended a performing arts event tended to be active people, and were more likely than non-attendees to engage in other leisure activities (Nichols, 2005).

A lot of research demonstrates that socioeconomic status, household composition, education, and previous arts experiences are key factors affecting behavior of performing arts consumer. Market research has indicated that the "typical" performing art consumers are mature, female and well-educated, with high income, and white-collar occupations (Kastenholz et al., 2005; Colbert, 2003; McCarthy et al., 2001; Notzke, 1999; and Bergonzi & Smith, 1996; Silberberg, 1995). People's attendance at arts performances is related to their childhood experiences with the arts. Moreover, people with occupations related to cultural industries and education tend to be higher consumers at performing arts (Borgonovi, 2004; Richards, 1996; and Urry, 1990).

Gainer (1993) finds that women attend performing arts events more often than do men because girls tend to be more exposed to arts education and participate in the arts more often. McArthur and Balasubramanian (2003) suggest that the gendered nature of the performing arts in New Zealand is the result of gender expectations, childhood experiences of performing arts and parental attitudes. Their study showed that the predominance of girls' participation in performing arts education at school was reinforced by the parental belief that arts are feminine, causing boys not to be encouraged to participate. Not only do art education and memorable childhood artistic experience influence adults' taste in the performing arts, they also play a much larger role than the cost of tickets in the decision of whether to attend a performance (Borgonovi, 2004). Mitchell (1984) examines the relationship between the amount of childhood experience with the arts and the frequency of arts attendance as an adult. This connection to childhood experience provides an explanation for the gendered nature of attendees at performing arts.

Some researchers have developed participation models to describe arts consumers. Kotler and Scheff (1997) identify a number of factors influencing a consumer's likelihood of participation in the arts, such as macro-environmental trends, cultural factors and social factors. Andreasen and Belk (1980) investigate predictors of future attendance at performing arts events. The authors suggested that lifestyle, attitude and developmental experiences are variables that are conceptually useful for understanding consumer behavior toward the performing arts and are more empirically predictive than socioeconomic variables. McCarthy and Jinnett (2001) provide the RAND model of audience development between likely and unlikely participants, differentiating among several factors, such as sociodemographic, sociocultural and personality factors, past experience, and personal beliefs and perceptions of social norms regarding participation in the arts. Wiggins (2004) indicates the problems in the RAND model and re-conceptualizes the model by drawing on the Motivation/Ability/Opportunity model, which offers a different combination of motivation, ability and opportunity to participate, therefore explaining a different segment of the art consumers.

Nielsen et al. (1974) segment the performing arts audiences in Champaign and Urbana, Illinois and discussed the importance of such segmentation analysis. The study found that the core audience was primarily composed of students, professionals, teachers, people with relatively high family incomes, Jews, and agnostics. The core audience preferred modern music and dance events to classical music and dance or theatre events in their leisure time. The authors conclude that performing arts events had different, small, and relatively narrow audiences who preferred specific types of performing arts. In addition, a relatively narrow and small core audience existed which was overrepresented;

however, a relatively broad and large potential audience also existed and was underrepresented at most types of performing arts events.

Bernstein (2007) proposes that arts consumers can be segmented into four very different groups according to their age and life-cycle: mature adults, baby boomers and thirty- and forty-years old, who often have children at home, and the younger set, the members of Generation X and Generation Y. He concluded that different life cycles and levels of exposure to the arts affect people's propensity to attend arts events and significantly influence the effectiveness of marketing messages and media. Brown (2007) suggests a segmentation model for performing arts ticket buyers and donors to aid in future marketing and fundraising efforts. Not only past experiences in the arts but also values, beliefs, aspirations and motivations were helpful predictors of ticket purchasing and donation behavior.

On the other hand, Caldwell and Woodside (2003) clarify the possibly complex relationships involved in mediating the influence of cultural capital on performing arts patronage. Demographic factors such as age, gender, self-concept, personality, stage in family life cycle, pre-adult exposure, place of residence, job and vocational focus, degree of social network, responsibility at work, self-identified epiphanies and consumption motivations provide useful information for explaining the effect of cultural capital on performing arts patronage.

Turrini (2006) employs Markov's theory to describe audience attendance at live performances at an Italian theatre. The study divided attendees into casual attendees, frequent attendees, and aficionados and predicted the composition of the arts audience who moved through the different stages of appreciation of the arts. The results implied

that the Markov model was a useful tool: 1) for describing the process of audience habituation to the arts; 2) for supporting the development of organizational arts policies; and 3) for evaluating pre and post and implementation of an institution's strategies.

Other studies have been conducted to investigate the habits of performing arts consumers and their motivations for attendance (Bouder-Pailler, 1999; Cuadrado & Molla, 2000). Highly-involved arts consumers fall into two categories of involvement. The first category describes consumers who bring an enduring level of personal relevance to the performing arts. These patrons are committed and attached to the performing arts (Jain & Srinivasan, 1990; Broderick & Mueller, 1999). The second category describes consumers with a high level of hedonistic involvement. These patrons are emotionally attached and demonstrate a strong need for emotional attainment (Laurent & Kapferer, 1985; Broderick & Mueller, 1999).

Hume (2008) investigates consumers' perception of performing arts and their intention to repurchase. The study proposes a conceptual model that shows service quality and emotion influence value, which is then mediated through satisfaction to the intention to repurchase. Specifically, the perceived quality of core and peripheral services were the main drivers of the repurchase of performing arts events, but goal-directed emotion was a weak driver of repurchase intention. Entertainment experience comes from the interaction with the main product, but also from the performance venue, which also influences the purchase choice of performing arts among people with similar social standing (Mencarelli & Pulh, 2006; Ouellet et al., 2008). d'Astous et al. (2004) investigates sales promotion in the performing arts and resulting consumer perception. The study found that consumer reactions to sales promotions in performing arts are

affected by the type of promotion, the type of performance, the attractiveness of the performance, and the combination of the promotion and the performance, all of which have interactive effects on consumer reactions. Moreover, the pattern of effects is different depending on the type of consumer response considered.

Performing arts patronage can take several forms, including: volunteer work by employees of the sponsoring company, either at events or within cultural organizations; donations of equipment or technology; in-house exhibitions; and performance tickets offered to clients (Martorella, 1999). These donations and sponsorships account for approximately 40% of arts organizations' budgets in the U.S. (Rich, 2001). Arts and cultural volunteers are generally characterized as being older (with a median age of 51), better educated, and more giving of their time than any other type of volunteer (Nichols, 2006c). National Endowment for the Arts research in 2005 pointed out that more than 1.6 million Americans have volunteered with arts or cultural organizations with artistic activities such as music, performance or other forms of artistic engagement, and selling items to raise money or other forms of fundraising was conducted as a secondary part of their service.

Colbert et al. (2005) investigate consumer evaluations of sponsorships based on the type of cultural product being sponsored. Four products are classified by combining the degree of artistic complexity with the cultural context in which the event takes place: performing/popular arts; performing/high arts; heritage/popular arts; and heritage/high arts. The results show that consumers rate philanthropic and performing arts sponsorship more highly than commercial and heritage arts sponsorship. These forms of patronage are

related, with performing arts organizations relying heavily on social networking. An overview of important consumer research in the performing arts is presented in Table 2.

Within performing arts literature, various aspects of consumer behaviors have been studied, including predictors of attendance, participation models, segmentation, perception and repurchase. However, performing arts organizations still find it difficult to establish effective marketing strategies. The organizations need more efficient information about their consumers so that they can achieve better market definition. Segmentation strategy can be the most effective approach to define the current performing arts market.

Table 2. Overview of Research on Performing Arts Consumer Research

Author(s)	Year	Subject
Hume	2008	Developing a conceptual model for repurchase intention in the performing arts: the roles of emotion, core service and service delivery
Hume & Mort	2008	Satisfaction in performing arts: the role of value
Huntington	2007	Reevaluating segmentation practices and public policy in classical performing arts marketing: A macro approach
Brown	2007	A segmentation model for performing arts ticket buyers
Bernstein	2007	Arts marketing insights
Turrini	2006	Measuring audience addiction to the arts: the case of an Italian Theatre
McCarthy	2006	Building and sustaining trust in networks: Lessons from the performing arts
Hume, Mort, Liesch & Winzar	2006	Understanding service experience in non-profit performing arts: Implications for operations and service management
Montgomery & Robinson	2006	Take me out to the opera: are sports and arts complements? Evidence from the performing arts research coalition data
Nichols	2006a	Consumer spending on performing arts: outlays flat for 2005; non-spectator categories show growth
Colbert, d'Astous & Parmentier	2005	Consumer perception of private versus public sponsorship of the arts
Bagdadli & Arrigoni	2005	Strategic positioning of the Venice Biennial: analyzing the market for periodic contemporary art exhibitions
Wiggins	2004	Motivation, ability and opportunity to participate: a reconceptualization of the RAND Model of audience development
d'Astous, Legoux & Colbert	2004	Consumer perceptions of promotional offers in the performing arts: an experimental approach

Table 2 (cont'd).

Author(s)	Year	Subject
DiMaggio & Mukhtar	2004	Arts participation as cultural capital in the United States, 1982-2002: Signs of decline?
Borgonovi	2004	Performing arts attendance: an economic approach
McArthur & Balasubramanian	2003	A theoretical explanation for the gendered nature of performing arts in New Zealand
Caldwell & Woodside	2003	The role of cultural capital in performing arts patronage
Pink & Matthews	2003	A measure of culture: cultural experiences and cultural spending in New Zealand
Rentschler, Radbourne, Carr & Rickard	2002	Relationship marketing, audience retention and performing arts organization viability
McCarthy & Jinnett	2001	A new framework for building participation in the arts
Kotler & Scheff	1997	Standing room only
Colbert	1997	Changes in marketing environment and their impact on cultural policy
Gainer	1993	The importance of gender to arts marketing
Mitchell	1984	The professional performing arts: attendance patterns, preferences and motives
Andreasen & Belk	1980	Predictors of attendance at the performing arts
Nielsen, McQueen & Nielsen	1974	Performing arts audience segments
Baumol & Bowen	1966	Performing arts – the economic dilemma

Market Segmentation

Definition of Market Segmentation

Market segmentation is a methodological process originated by Smith (1956) that has been one of the most powerful and fashionable concepts in marketing. Market segmentation separates a market into mutually exclusive and exhaustive subgroups of people (Reid & Bojanic, 2005; Venugopal & Baets, 1994) who differ with regard to some criterion in order to achieve competitive advantage and superior financial performance (Hunt, 2002). Market segmentation is used to develop a better understanding of consumers' distinct characteristics and to improve marketing strategies, since this can be used as a strategic marketing tool for defining markets and allocating resources. Thus, members of each group respond in similar ways to given sets of marketing efforts (Kotler and Armstrong, 2006). Segmentation can achieve great efficiency in the supply of products or services to meet identified demand and increase cost effectiveness in the marketing process (Park & Yoon, 2009). Therefore, market segmentation is an effective and valuable instrument that divides a total market or market sector for the purpose of planning appropriate marketing strategies.

Market segmentation is an important strategic concept contributed by the marketing discipline to business firms and other types of organizations; segmentation's importance is highlighted in terms of strategic marketing decisions (Bowen, 1998; Myers, 1996). Moreover, market segmentation is a powerful tool used by successful consumer product companies that can build and maintain profitable relationships with their target segments. Market segmentation is one of the cornerstones of marketing management approach (Guiltinan & Paul, 1991). Best (2000) indicates that market segmentation is

based on multiple market-based strategies, resulting in greater marketing efficiency. The effectiveness of market segmentation strategies can be evaluated with four criteria: whether the segments are (1) large enough for attention (substantiability); (2) able to be measured (measurability); (3) accessible through a variety of marketing communication vehicles (accessibility); and (4) sharing certain characteristics and responding similarly to the marketing mix (actionability) (Bojanic, 2007 and Kotler, 1972).

Segmentation Variables

According to Mazanec (1984), segmentation occurs in two steps: (1) determining the most important variables that separate groups of consumers from each other; and (2) choosing consumer segments to target with marketing. Various segmentation techniques and methods have traditionally used a number of variables for market segmentation strategy, including: (1) demographic variables such as gender, age, family size, education and race; (2) socioeconomic variables like occupation and income; (3) motivations; (4) geographic variables such as region and degree of urbanization; (5) specific benefits sought by consumers; (6) behavioral patterns such as on occasions and characteristics of purchase behaviors; (7) psychological characteristics including attitudes, opinions, and lifestyles; and (8) involvement profile (Park et al., 2002). Of these primary bases for segmentation, demographic and socioeconomic variables are commonly used and popular bases for segmenting consumer groups (Lu, 2005; Palakurthi & Parks, 2000; Kotler & Armstrong, 1987). However, there is no simple way to determine which of the methods provides the best approach (Levy & Weitz, 1992).

Clopton et al. (2006) adapt the 2 x 2 taxonomy of segmentation based on Wedel and Kamakura (2000). The criteria for segment building are either observable or

unobservable variables. Other segmentation bases are independent of general- and product-specific goods or services. These segmentation variables have been used as important criteria depending on the purpose of the given studies. Table 3 shows the taxonomy of segmentation bases.

Table 3. Taxonomy of Segmentation Bases

	General	Product-specific
Observable	Cultural, geographic, demographic, and socioeconomic variables	User status, usage frequency, store loyalty and patronage, and situational variables
Unobservable	Psychographic, values, personality and lifestyle variables	Psychographic, benefit, perception, attribute, preference and intention variables

Source: Clopton at el. (2006) adapted from Wedel and Kamakura, 2000.

Segmentation Methods

Different methodological aspects of segmentation have been applied in much consumer behavior and marketing research. Among these aspects are factor-cluster segmentation, cluster segmentation, criterion segmentation (Magidson, 1994), neural network models (Mazanec, 1992), and a combination of neural network and criterion segmentation (Yu & Wang, 2007). According to Wedel and Kamakura (2000), market segmentation methods can be largely classified based on two criteria for the four categories: a priori or post hoc, and descriptive or predictive statistical methods. The a priori approach is used when the type and number of segments are determined in advance by the researcher, while a *post hoc* approach is used when the type and number of

segments are determined based on the results of data analyses. Descriptive methods are associated with a single set of segmentation bases that has no distinction between dependent and independent variables. Predictive methods are applied when one set consists of dependent variables to be explained or predicted by a set of independent variables.

A priori descriptive segmentation methods, using cross-tabulation or log-linear analysis to describe two or more separate strata in a population, decide the type and number of segments before data collection. Post hoc descriptive segmentation generally identifies segments using clustering methods, forming homogeneous consumer groups with regard to measured characteristics such as their values, activities, interests, and opinions. A priori predictive segmentation approaches define a priori descriptive segments based on one set of criteria, such as sociodemographics and psychographics, and subsequently employ predictive models to describe the relation between segment membership and a set of independent variables. Post hoc predictive segmentation methods, mainly using CHAID, automatic interaction detection (AID), and clusterwise regression, identify categorical segments based on the interaction of independent predictors and a dependent variable. This method divides a sample into segments that differ maximally according to a dependent variable, such as purchase behavior, based on a set of independent variables, which are often socioeconomic and demographic characteristics. Table 4 presents the classification of methods used for segmentation.

Table 4. Classification of Methods Used for Segmentation

	A priori	*Post_hoc*
Descriptive	Contingency tables and Log-linear models	Clustering methods: Nonoverlapping, Overlapping, Fuzzy techniques, ANN, and mixture models
Predictive	Cross-tabulation, Regression, Logit, and Discriminant analysis	AID, CHAID, CART, Clusterwise Regression, ANN, Mixture Model

Source: Wedel & Kamakura (2000). Market segmentation: conceptual and methodological foundations.

Empirical Studies in the Arts and Cultural Consumer Market

Several studies identify market segments related to the arts and the cultural consumer market (Molera & Albaladejo, 2007; Clopton et al., 2006; Stepchenkova & Morrison, 2006; Kastenholz et al., 2005; Prentice & Andersen, 2003; Gursoy and Chen, 2000). According to Nielsen et al. (1974), arts audience segmentation analysis is a systematic method of studying: (1) how art forms are related to consumers' characteristics, needs, wants, beliefs, and preferences; and (2) how art forms fit into the arts, entertainment, and leisure markets in the process of satisfying what people need in relation to what they want, and what good art is.

Clopton et al. (2006) segment four groups of cultural arts patrons along their preferences and developed profiles of these segments. First, reluctant arts patrons express low preferences for almost all art forms. Second, heritage arts patrons have high levels of preference for ceramics, crafts, and pottery. Third, visual and performing arts patrons prefer dance, drawing, film, painting, photography, sculpture and theatre and are not interested in heritage arts. Fourth, comprehensive arts patrons express a high level of

preference for all art forms. The study shows a significant relationship between arts preferences and personal characteristics, which explains why patrons of different arts segments exhibit different behaviors with regard to attendance, spending, venue preferences and information sources.

Kastenholz et al. (2005) identify two segments of cultural tourists based on education level, income, and age. The results revealed significant differences in terms of other socio-demographic variables and travel behavior. One segment, representing relatively older, wealthier and more educated respondents, tended to be mostly foreign tourists, traveling with their partner or family, and revealed higher expenditure levels. The other group was relatively younger, poorer and less educated and included many students traveling either alone or with friends.

Prentice & Andersen (2003) identify three different consumption styles of participants at the Edinburgh festival: consuming an historic city, consuming Scottish performing arts in a Scottish context, and consuming international performing arts. The authors found seven distinct segments based on tourism styles: serious consumers of international culture; British drama-going socializers; Scots performing arts attendees; Scottish experience tourists; gallery-goers; incidental festival-goers; and accidental festival-goers. The festival attracted arts segments that focused largely on contemporary performing arts, of either an international or regional production. The authors concluded that the Edinburgh Festival needs to continuously offer a product mix for market-based cultural products.

Robbins & Robbins (1981) segment museum-goers into three distinct target categorizations describing their propensities for attending museum exhibits. Present

attendance as a usage pattern was used as the segmentation descriptor and to categorize respondents into low, moderate, and high frequencies of museum attendance. One-way analysis of variance and stepwise discriminant were used to differentiate the characteristics of the three groups of museum attendees. The results indicated that all three groups of attendees differed significantly from each other in their mean responses to six present attendance variables, one future attendance variable, and two demographic variables. The identification of highly frequent attendees pinpointed the primary target market for museums, and moderate attendees were a secondary target market that could be developed as a new-user of existing products and services of the museum by differentiating and extending the product life cycle. The museum should require greater promotional effort and use different strategies to attract low attendees.

Overall, market segmentation studies have been conducted in a wide-range of disciplines, including the arts and the cultural market where marketers seek to penetrate and build effective marketing strategies for their target markets. Much research has evidently showed that various segmentation variables and segmentation approaches are conducted according to their market characters. In this study, the CHAID approach, used in the criterion-based segmentation, is used to effectively segment the performing arts market.

Chi-squared Automatic Interaction Detection (CHAID) Approach

Chi-squared Automatic Interaction Detection (CHAID) analysis, an offshoot of the Automatic Interaction Detection (AID) method, was first proposed by Kass (1980) and further utilized by Magidson (1994). The CHAID, using of decision tree algorithms, is an exploratory method for segmenting a population into two or more exclusive and exhaustive subgroups by maximizing the significance of the chi-square, based on categories of the best predictor of the dependent variable (Kass, 1980).

Segments obtained from CHAID analysis are different from cluster type models because the CHAID method, which is derived to be predictive of a criterion variable, is defined by combinations of predictor variables (Magidson, 1994). CHAID technique depends on interactions among the independent variables, finding those that explain the greatest differences within the dependent variable. Thus, a CHAID decision tree demonstrates how the predictors are differently formed and predicts a dependent variable that shows nominal scaling (continuous variable may be used as well but the first step of the analysis is to categorize them).

CHAID analysis is also useful for data mining, which is defined as the extraction of hidden predictive information from a large dataset. Moreover, CHAID analysis is able to formulate predictive segments with regard to a meaningful criterion. Researchers choose the criterion, which is explained by a combination of independent variables such as demographic, behavioral, and attitudinal depending on the purpose of the research (Chen, 2003a). Marketers can identify the key influencers or significant drivers in certain markets using CHAID analysis, which results in a treelike diagram commonly called a decision tree.

Decision trees are a sequential approach used to generate rules for the classification of the dataset (Biggs et al., 1991). Decision trees have several advantages in a data mining environment (Bakken, 2005). The type of representation makes the resulting classification model easy to use. Moreover, decision trees are suited for exploratory knowledge discovery because they are non-parametric and make no assumptions about the underlying probability distribution. Decision trees are also efficient and superior to non-linear covariate effects and higher-order interactions. They are relatively quickly c onstructed for large datasets compared to other classification models (Magidson & Vermunt, 2005). The classification trees approach has been used in a variety of disciplines such as marketing, medicine, computer science, botany and psychology. Usefulness and effectiveness of the CHAID-tree method in marketing has been shown in the variety of market segmentation studies (Gan et al., 2008; Gomez & Benito, 2008; Rufin, 2007; and Chen, 2003b). The next section reviews the application of CHAID chiefly focused on market segmentation studies.

The Application of CHAID in Market Segmentation Studies

Croes (2008) uses CHAID to identify the characteristics of visitors that contributed to their choice of a type of accommodation and thus to market differentiation in Aruba. Among three independent variables (length of stay, country of origin, purpose of visit), the length of stay was found to be the strongest predictor of accommodation choice. The procedure was repeated for each of the groups and the result was a tree-like partitioning into five mutually exclusive, exhaustive segments that strongly described the choice of a type of accommodation. The CHAID tree provided a more detailed analysis that also uncovered the niche markets for the various types of accommodations. The

author concluded that the various types of accommodations are associated with different tourist markets. Thus, diversifying the portfolio can lead to a differentiated market mix.

Gan et al. (2008) analyzes Singapore's credit cardholders in search of variations among demographics and card usage patterns as well as the cardholders' perceptions regarding credit card ownership and use. This study offered a more in-depth study through a decision tree analysis using the CHAID algorithm and Answer Tree to examine the association between the number of credit cards held by individuals and the independent variables. Annual income and gender were more important positive drivers of the number of credit card accounts and credit card usage. This research identified four potential card users to target and provided useful marketing strategies for consumer behaviors related to credit card issues.

Using CHAID and multiple regression analyses, Worsely & Lea (2008) examines the relationships between consumers' concerns regarding food and health issues and their demographic characteristics and personal values. The research indicated that personal values, gender, and age were strong predictors of consumers' specific food concerns.

Hsu and Kang (2007) employ CHAID to identify market segments among international travelers to Hong Kong, based on traveler characteristics. In their analysis, travel purpose, age, repeat visit status and income were respectively found to be the best predictors of the likelihood of a revisit. Subsequently, a total of six segments were formed according, to their index scores. The higher index scores indicated that respondents in the segment were more likely to return to Hong Kong for pleasure travel. In addition, Chi-square analyses and ANOVAs were conducted to profile trip characteristics among the six segments. This study demonstrated the successful

application of CHAID for deriving market segments and the usefulness of the CHAID technique with monotonic variables, which explain the multidimensional nature of various traveler behaviors.

Legohérel and Wong (2006) apply CHAID when exploring the pertinence of segmentation based on Hong Kong visitors' direct expenditures, using it to define segment characteristics. A CHAID analysis was performed with independent variables, which were related to the trip profile, and demographic variables used in the segmentation analysis of consumers' total expenditures and consumers' daily expenditures during their stay in Hong Kong. The length of stay was the most significant predictor of both outcomes for describing the "big spenders" segment. The authors then used multivariate regression analysis to explain consumers' behavior regarding their level of expenditures and to validate the use of the CHAID technique. This study demonstrated that CHAID analysis can be used as a precursor to a more parametric technique. Moreover, the segmentation tree identified the most relevant predictor variables for explaining the changeability of the dependent variables.

Galguera et al. (2006) employ a two-step procedure to investigate whether age, education and location of residence would influence loyalty card possession. First, a logistic regression was conducted to identify key significant predictors of the dependent variable, and then CHAID was used to segment the loyalty card market in two different countries. The CHAID algorithm, which found the best segmentation scheme based on these variables, provides non-binary classification trees where the resulting segments are mutually exclusive, and it permits prediction of whether certain segments are more likely

to engage in the target behavior. This study showed that CHAID method is a reliable segmentation procedure.

Van Middelkoop et al. (2003) use the Exhaustive CHAID algorithm to identify heuristic principles for transportation mode choices. Given the conceptual representation of the tourist decision-making process, four types of factors conditioning the choice of travel mode were used, such as personal and household characteristics, characteristics of the annual trip program, conditions reflecting previous decisions regarding the tourist trip under consideration and tourist trips that are more important than the trip under consideration. Whether the vacation under consideration was a domestic or foreign destination was the most important conditioning factor for the choice of transport mode. The study results indicated that CHAID methodology could be applied to better understand tourist choice behavior.

Chen (2003a) provides a step-by-step review of the critical procedures pertaining to the proposed CHAID model and includes a case study using the CHAID analysis to segment college students' spring-break trip decision-making. The study identified four segments, two of which are regarded as actionable segments and the others as nonactionable segments. Subsequently, Chi-square, logit analysis, and ANOVA were used as major analytical tools to compare the characteristics of the two actionable segments. The study concluded that CHAID would be a useful tool to advance the segmentation methodology and detect valuable market segments effectively in the study of hospitality and tourism.

Chen (2003b) employs a CHAID analysis to identify respondents in four mutually exclusive segments. A segment with an index score of 100 or above was considered an

actionable market, and a segment with an index score below 100 was a non-actionable market. Each segment was profiled by demographic and trip characteristics and two of the segments were defined as actionable segments, based on the likelihood that positive recommendations would be made about a destination. Destination satisfaction, pricing and prompt assistance were identified as the most important factors influencing respondents' recommendations of destination to others.

In summary, CHAID appears to be a more powerful and applicable statistical technique to effectively segment a consumer market into homogeneous groups using large data sets. Research indicates that demographic or socioeconomic characteristics are significant predictors alongside any kind of criterion for segmenting particular markets in most research. Thus, these variables are a good starting point for understanding the multi-dimensional nature of performing arts consumer behaviors. Table 5 presents an overview of previous market segmentation studies using CHAID Approach. There is no study using the CHAID method in performing arts consumer research. Therefore, this study contributes effective market segmentation to understand performing arts consumers in terms of identifying important predictors, targeting segments and identifying their profiles and behaviors.

Table 5. Overview of Previous CHAID Approach in Market Segmentation Studies

Author(s)	Dependent Variable (Criterion)	Independent Variables (Predictor)
Croes (2008)	Choice of a type of accommodation in Aruba	Length of stay Purpose of visit Country of origin
Gan, Maysami & Koh (2008)	Number of credit cards owned	Demographic characteristics Usage patterns Perception of credit card ownership
Worsely (2008)	Food and health concerns	Personal Values Demographic variables
Hsu & Kang (2007)	Likelihood of return to Hong Kong	Country of residence Purpose of visit Repeat visit status Socioeconomic variables
Legohérel & Wong (2006)	Consumers' direct total & daily expenditures during their visiting to Hong Kong	Trip profile Demographic variables
Galguera, Luna & Méndez (2006)	Loyalty card possession	Client characteristics (sex, age, urban versus suburban dwelling, education etc.)
Van Middelkoop, Borgers & Timmermans (2003)	Dutch tourist decisions of the transport mode	Characteristics of the annual trip program Personal and household characteristics Conditions reflecting previous decisions regarding the tourist trip under consideration Conditions reflecting previous decisions regarding tourist trips
Chen (2003a)	Destination loyalty	17 perceptions of travel destinations
Chen (2003b)	Likelihood of make positive recommendations about the destination they previously visited	20 attributes of the tourists' sentiment toward marketing

CHAPTER 3

METHOD

Overview

The purposes of this study are to explore performing arts consumers with a predictive segmentation method and to identify significant differences among market segments in their characteristics and behaviors. Chi-Squared Automatic Interaction Detection (CHAID) is used to identify performing arts market segments based on 'number of tickets purchased,' 'donation activity' and 'out-of-state or out-of-country travels to attend live performances' explained by combinations of predictors including socioeconomics and household information and arts-related experiences.

This chapter provides an overview of the data source, measurements and analyses. First, the study population, data collection procedures and instrument are explained. Second, the data selection and the procedures of the CHAID method (including modification of the variables) are discussed. Finally, the statistical data analyses used in the study are discussed.

Data Source

To achieve the purpose of this study, data developed and collected through an online survey in partnership with the Wharton Center for Performing Arts (Wharton Center) and the Recreational Industries Research Center (RIRC) at Michigan State University in 2007 were used for the study. The main purpose of this online survey to understand patrons' profiles and identify the basis for market segments including their lifestyle, consumption and participation in the arts, culture and tourism.

Study Population

The study population consisted of performing arts patrons of the Wharton Center at Michigan State University. The Wharton Center had a total of 39,684 E-club members on its email list in January 2007. To qualify, performing arts patrons had to have purchased a ticket at least once from the Wharton Center and who had provided their email addresses before January 2007 were included. Table 6 indicates sample size and response rate.

Table 6. Sample Size and Response Rate

Sample size	n
Total number of emails received	39,684
Wrong/bounced emails	673
Valid emails	39,011
Opened emails	13,503
Number of respondents	**n**
After invitation email	4,405
After reminder	339
Total	4,744
Response rate	**%**
After invitation email	32.6
After reminder	2.5
Total	35.1

The respondents were predominantly female (73%); and the majority ranged in age from 35 to 64 (72%); More than 90% of the respondents were straight/heterosexual (91%) and Caucasian or white (95%); In addition, a majority had a 4-year college degree or above (66%); full time employment (64%); and were married (72%). Annual income

was reported as less than $50,000 (22%), $50,000-$99,999 (43%), and $100,000 or more (35%).

Data Collection Procedures

The web-based survey was created and conducted in partnership between the Wharton Center and the RIRC at Michigan State University. The recruitment of participants was executed via Wharton Center E-club newsletter that was emailed to all E-club members on January 22, 2007. Specifically, the newsletter contained the announcement of the survey and the link to the online questionnaire. Once participants clicked on the survey link, they accessed the main page of the survey, in which the purpose of the study, the incentive, and the confidentiality procedures were detailed.

A total of 39,011 valid invitations were delivered to valid email addresses, approximately 13,503 of the E-club members opened the electronic newsletter, and 4,405 members responded to the survey in the first week. After a week, a reminder with the link to the survey was placed in another E-club news letter and emailed to non-respondents on January 29, 2007. Another 339 members completed the survey, which was closed on February 2, 2007.

Overall, the survey lasted for 12 days, and a total of 4,744 E-club members responded to the survey which amounts to a response rate of 35.1%. As an incentive, upon completion of the survey, the respondents had a chance to be entered in a drawing for a $100 Wharton Center gift certificate and dinner for two at the Kellogg Center's State Room.

The online system automatically recorded answers and made it easy to lead respondents to questions applicable only to them based on the responses they provided

earlier in the survey. The coded data were automatically sent to an Access database, eliminating the potential errors associated with manual data entry and coding. The data were then converted into an appropriate format and analyzed using the Statistical Package of Social Sciences (SPSS).

Study Instrument

The online questions were developed from a review of previous research, industrial reports and other literatures pertaining to consumers of performing and cultural arts, as well as from discussions with the Wharton Center marketing staff. The number of questions that participants answered depended on their responses to various sub-questions throughout the survey. The entire online questionnaire was comprised of 84 questions in ten different categories, including (1) attendance at live performances and ticket purchase behavior; (2) participation in arts and culture-related activities or disciplines; (3) purchase of arts and cultural products and employment of artists, performers and culture-related professionals; (4) importance of selecting cultural destinations during pleasure trips; (5) frequency and nature of activities participated in during recent pleasure trips; (6) participation in cultural membership, donation and volunteer activities; (7) sources of information and internet use; (8) artistic and cultural experiences of the respondent during childhood; (9) artistic and cultural experiences of children living at home; and (10) socioeconomic and household characteristics. Appendix A presents the questionnaire of the online survey used for this study. The specific questions of each category are summarized.

First, respondents were asked for information about the live performances they attended such as frequency, type, place and whether they paid and for information about

purchased tickets including frequency, average price, highest price, and total price during the last 12 months.

Second, respondents were asked to indicate the nature of their participation in performing arts, visual arts, and art- and cultural-related disciplines in each type and, for each type, they indicated whether they were professionally engaged during the last 3 years. Furthermore, if they had checked that they were professionally engaged, respondents were asked whether or not they considered themselves professional artists, received formal education/training and were currently a member of an arts-related guild, union or association/organization, as well as how much they had earned during the last 12 months.

Third, respondents were asked for the purchase information of visual arts and cultural products related to purchasing decisions made during last 12 months. For visual arts, what types and where to purchase, and how much in total and highest price to pay were asked. Moreover, they were questioned whether they hired any performing artists, and if so, what types and purpose, and how much they had spent during the last 12 months. They were also asked whether they hired architects or designers, and historic preservation/restoration, archaeological or genealogical services.

Fourth, respondents were asked about the importance of selecting a set of cultural destinations associated with their pleasure trips, including museums; cultural fairs/festivals/events; performing arts; places to buy local arts/crafts; historical/heritage attractions; sites and districts; gardens, zoos and aquariums; agricultural attractions and events; purchasing products grown or processed locally; architecture and buildings; customs and ways of living; and libraries, literary events and bookstores. In addition, they

were asked whether they had taken any pleasure trips to destinations more than 50 miles away during the last 12 months.

Fifth, respondents were also asked about the frequency of the pleasure trips, and the proportion of overnight stays, out-of-state trips, and overseas trips and the primary purpose to participate in the arts and culture related activities.

Sixth, respondents were asked whether they have any cultural memberships, donations and volunteering, if so, they were then asked the primary mission and purpose for the memberships, the amount of the donations, and what the donations supported and volunteering covered.

Seventh, respondents were asked how often they used various information sources, including TV; magazines; newspapers; radio; websites specialized for online ticketing; websites of performing art organizations or centers; acquaintances, friends, family or relatives; art-related publications; and leaflets/brochures for live theater, dance performances, and music concerns. Furthermore, they were asked whether they use internet to research or purchase the art and culture related products, and, if so, how often to research or purchase through internet.

Eighth, respondents were asked about their childhood experiences related to arts, regarding frequency of attending arts or cultural performances and attendance and types of arts classes. In addition, they were asked whether they had taken any arts classes during the last 12 months and, if so, they were asked what types they attended and how much they paid.

Ninth, respondents were asked about art and culture related experiences of their children during the last 12 months. It the response was affirmative, they were asked for

the number of performances attended, whether they joined performances or exhibits and arts classes or lessons, and what types were attended and how much they paid.

Last, respondents were asked about socioeconomics including gender, age, sexual orientation, education, employment status, race, annual income and permanent residence, and household information, such as number in household, family status and number and age of children.

Measurements

Data Selection and Procedures

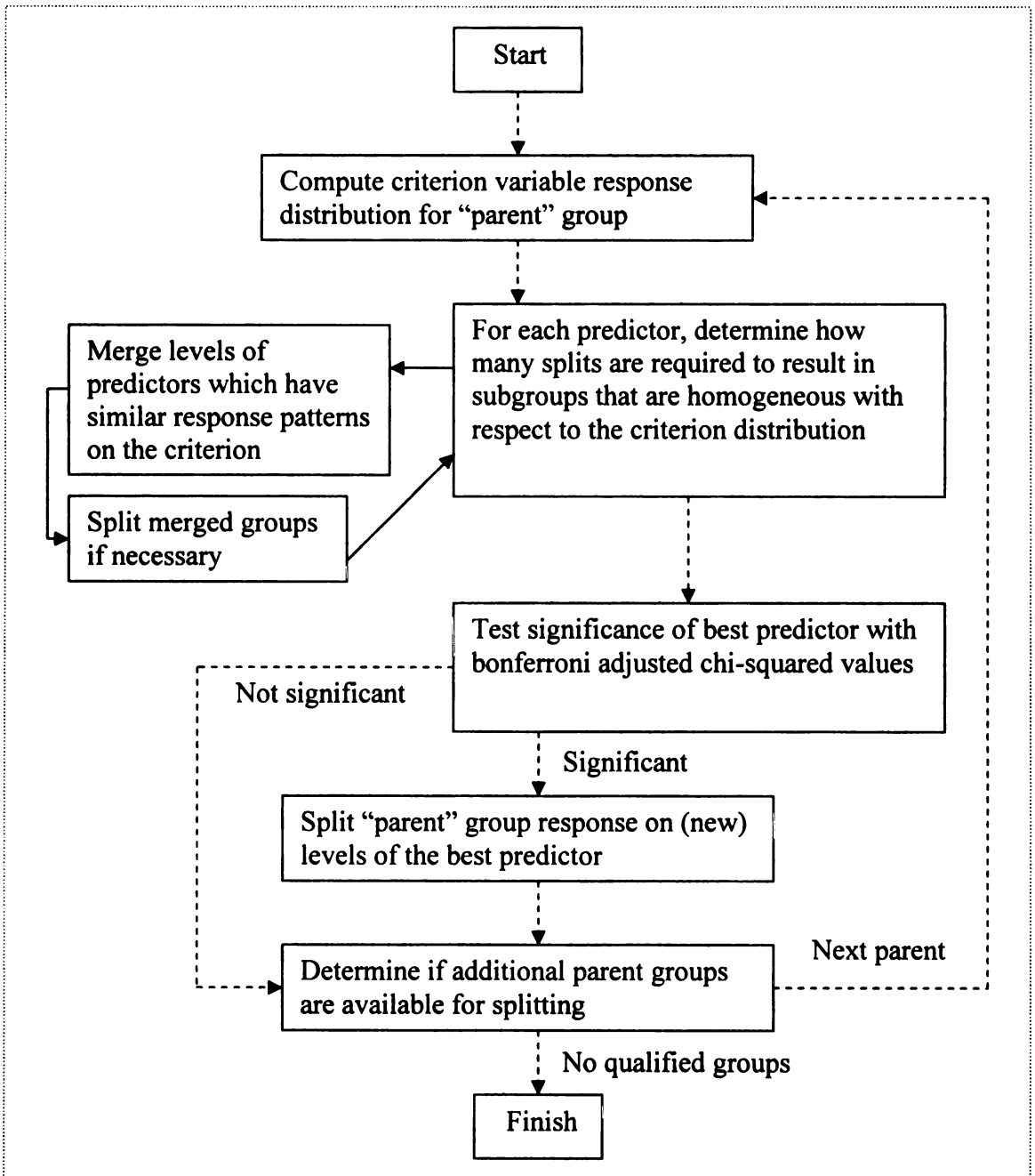
To address the purpose of this study, a number of specific variables were selected and used for the CHAID method and further analyses based on the proposed model. The study population consisted of performing arts consumers who were E-club members of the Wharton Center. With the CHAID procedure, number of tickets purchased was used as criterion of market segmentation in this study. Respondents who had purchased tickets to live performances during the last 12 months were included; however, respondents who had attended but free live performances were excluded. A sub-sample of 4,138 respondents who provided information on the number of purchased tickets to live performances during the last 12 months was selected from the total of 4,744 respondents. The distribution of the respondents in the sub-sample is provided in Table 7.

Using the CHAID method for two more decision trees, the heavy consumers were selected and analyzed. Donation activiy and attendance of live performances in a different state or country were used as criteria in two other analyses.

Table 7. Distribution of Respondents Who had Purchased Tickets for Themselves or for Their Household to Attend Live Performances during the Last 12 Months

Number of tickets purchased	n	%
1	106	2.6
2	579	14.0
3	343	8.3
4-5	964	23.3
6-9	879	21.2
10 or more	1,267	30.6
Total	4,138	100.0

The CHAID is a technique that recursively partitions a population into separate and distinct subgroups so that the variation of the criterion variable is minimized within the segments, and maximized among the segments. While both the CHAID and cluster techniques divide a population into subgroups, only CHAID makes use of an explicit dependent variable criterion in forming the subgroups (Magidson, 1994). The criterion variable can be nominal, ordinal, or continuous, and the predictor variables can be categorical or continuous (Magidson & Vermunt, 2005). The nodes are defined by predictor variables that pass through an algorithm for partitioning. To perform a CHAID analysis, a dependent variable and a set of independent variables were first selected and defined. Figure 2 illustrates the overview of the analytic procedures of the CHAID method used in the study.



Source: Perreault, W. D. (Nov. 1980). "A Model-free Approach for Analysis of Complex Contingency Data in Survey Research." Journal of Marketing Research, 17 (4).

Figure 2. Overview of the Analytic Procedures of the CHAID Method in the Study

Dependent Variables

Number of tickets purchased The number of tickets purchased was re-categorized into two groups by heavy and light consumers and used as dependent variable in the first CHAID analysis. The respondents who purchased between one and nine tickets to live performances were considered to be light consumers, who recoded as 1. Respondents who purchased 10 or more tickets to live performances during the last 12 months were considered to be heavy consumers, who recoded as 2.

Donation activity Donation activity was re-categorized into two groups (donor and art non-donor) and used as a dependent variable in the second CHAID analysis. The respondents who donated money to arts organizations were considered to be donor and recoded as 1, and those who did not donated money to arts organizations during the last 12 months were considered to be non-donor and recoded as 2.

Attendance at live performances in a different state or country Attendance at live performances in a different state or country was re-categorized into two groups (cultural tourist and non-cultural tourist) and used as a dependent variable in the third CHAID analysis. The respondents who attended live performances in other states or countries were considered to be cultural tourists, and recoded as 1 and those who did not attend live performances other than where they resided were considered to be non-cultural tourists, and recoded as 2.

Independent Variables

While a number of studies demonstrate that socioeconomic and household characteristics and previous arts experiences and education are key factors affecting the behavior of performing arts consumers, the independent variables of this study were

divided into three categories: socioeconomic characteristics, household information, and arts-related experience variables.

Socioeconomic characteristics Socioeconomics included gender, age, education, employment and annual household income. These are easy to measure and used as initial predictors in most market segmentation analyses (Hsu & Kang, 2007; Legohérel & Wong, 2006; Hudson, 2000; Muller & Cleaver, 2000). The age was re-categorized into five groups (1 = under 35, 2 = 35-44, 3 = 45-54, 4 = 55-64, 5 = 65 or above). Education was re-categorized into six groups (1 = 2-year college degree or less, 2 = completed 4-year college degree, 3 = completed some graduate courses or master's degree, and 4 = doctoral degree). Employment was re-categorized into two groups by employed full-time = 1, others =2. Annual household income was also re-categorized into four groups (1 = less than $50,000, 2 = $50,000-$99,000, 3 = $100,000 - $149,999, 4 = $150,000 or more).

Household information Household variables included three predictors which were the number in household, marital status, and children's status for the CHAID analysis. The number in household variable was divided into 5 categories (1 = live alone, 2 = 2 people, 3 = 3 people, 4 = 4 people or more). The marital status variable was re-categorized into two groups (1 = single and 2 = married). Children's status variable was re-categorized into three groups (1 = no child, 2 = children living at home, and 3 = children no longer living at home).

Arts-related experience variables Arts-related experience variables included attendance to live performances in a different state or country in the last 12 months, arts education during childhood, recent arts education, art product purchase experiences in the

last 12 months, membership status in arts organizations in the last 12 months, volunteer status to arts organizations in the last 12 months, and donation activity to arts organizations in the last 12 months. The category for the variables was dichotomous (yes = 1 and no = 2).

The definition of the variables used in the CHAID Analysis is detailed in Table 8.

Other Variables

Further analyses were conducted to identify statistically significant differences among market segments in type of attendance; spending on tickets; searching information sources; online research and purchase; the importance of attractions and activities in selecting pleasure trip destinations; and pleasure trip behaviors are investigated.

Type of performing arts attendance These variables divided into sixteen categories: play, musical, opera, ballet modern dance ethnic dance, folk dance, folk and ethnic concert, jazz concert, blues concert, symphony, country concert, new and experimental concert, rock concert, hip hop concert, and world concert. Each item was recoded into a dichotomous scale (1 = attended and 2= not attended).

Spending on tickets to the performing arts Spending on tickets to live performances was classified according to average ticket price, highest ticket price, and total spending on live performances during the last 12 months. These were measured with continuous variables.

Table 8. Definition of Variables Used in CHAID Analysis

Construct	Variable	Value of recoded category	Definition of category
Dependent variable			
	Heavy & light consumers	1 2	Heavy consumer Light consumer
	Art donor & art non-donor	1 2	Art donor Art non-donor
	Attendance at live performances in a different state or country	1 2	Attended live performances in a different state or country Did not attend live performances in a different state or country
Independent variables			
Socioeconomics	Gender	1 2	Male Female
	Age	1 2 3 4 5	Under 35 35-44 45-54 55-64 65 or old
	Education	1 2 3 4	Completed 2-year college degree or less Completed 4-year college degree Completed some graduate courses or master's degree Doctoral degree
	Employment	1 2	Employed full-time Other employment status
	Annual household income	1 2 3 4	Less than $50,000 $50,000 - $99,999 $100,000 - $149,999 $150,000 or more
Household Information	Number of persons in household	1 2 3 4	I live alone 2 persons 3 persons 4 persons or more
	Marital status	1 2	Single Married

Table 8 (cont'd)

Construct	Variable	Value of recoded category	Definition of category
Independent variables			
	Children's status	1 2 3	No child Children living at home Children no longer living at home
Art-related experiences	Attendance at live performances in a different state or country	1 2	Yes No
	Art education during childhood	1 2	Yes No
	Recent art education	1 2	Yes No
	Purchase of art products	1 2	Yes No
	Membership status in arts organizations	1 2	Yes No
	Volunteer status for arts organizations	1 2	Yes No
	Donation activity to arts organizations	1 2	Yes No

Performing arts information sources Information sources used to learn about live performance were associated with nine items: TV; magazines; newspapers; radio; websites specialized in online ticketing; websites of performing art organizations or centers; acquaintances, friends, family or relatives; art-related publications; and

leaflets/brochures. Each item was recoded into a dichotomous scale (1 = low and 2= high) from using a four-point scale (1 = never and 4 = always).

Web-based purchases of art- and culture-related products Web-based purchases of art- and culture-related products were related first to the question; "Do you use the internet to research and/or purchase products?" which was measured with a dichotomous response of 1 = yes and 2 = no. Three detailed questions were asked about both the online research and online purchase regarding: art; tickets for performing arts; and antiques and collections. These variables were recorded and categorized by dichotomous scale (1 = low and 2= high) from the four-point scale (1 = never and 4 = always).

The importance of cultural attractions and activities in selecting pleasure trip destinations Also investigated is the importance of the eleven cultural attractions and activities in selecting pleasure trips: museums; cultural fairs/festivals/events; performing arts; places to buy local arts/crafts; historical/heritage attractions, sites and districts; gardens, zoos and aquariums; agricultural attractions and events; purchasing products grown or processed locally; architecture and buildings; customs and ways of living; and libraries, literary events, and bookstores). Each destination was measured with a five-point scaling range from 1 = not important at all, to 5 = extremely important.

Characteristics of cultural pleasure trips Characteristics of pleasure trips are related to three questions. The respondents were asked the proportion of the pleasure trips involving an overnight stay, out-of-state, and out-of-country in the last 12 months respectively. Three variables related to travel choice were measured using five-point scales, ranging from 1 = none, to 5 = all.

All items and scales are presented in Table 9.

Table 9. Survey Construction and Core Statistical Analyses in the Proposed Model

Construct	Observed variables	Survey items	Scale	Analysis methods
Type of performing arts attendance	q3_play q3_music q3_opera q3_balle q3_modan q3_edanc q3_fdanc q3_fecon q3_jconc q3_bconc q3_symph q3_cconc q3_necon q3_rconc q3_hhcon q3_wconc	Play Musical Opera Ballet Modern dance Ethnic dance Folk dance Folk and ethnic concert Jazz concert Blues concert Symphony Country concert New and experimental concert Rock concert Hip hop concert World concert	1: Attended 2: Not attended	Chi-square test
Spending on tickets to the performing arts	pric_avr pric_hig pric_tot	Average price paid for tickets Highest price paid for a ticket Total spending tickets	continuous	ANOVA
Performing arts information sources	inf_tv inf_mag inf_new inf_rad inf_web1 inf_web2 inf_fam inf_pub inf_bro	TV Magazines Newspapers Radio Websites specialized in online ticketing Websites of performing art organizations or centers Acquaintances, friends, family or relatives Art-related publications Leaflets/brochures	1: Low 2: High	Chi-square test

Table 9 (cont'd)

Construct	Observed variables	Survey items	Scale	Analysis methods
Web-based purchases to art- and culture-related products	internet	Use the internet to research or purchase products	1: Yes 2: No	Chi-square test
	web1_art web1_per web1_ant	Art (e.g., paintings, photos) Tickets to performing arts (e.g., concerts) Antiques and collections	1: Low 2: High	
	web2_art web2_per web2_ant	Art (e.g., paintings, photos) Tickets to performing arts (e.g., concerts) Antiques and collections	1: Low 2: High	
The importance of cultural attractions and activities in selecting pleasure trip destinations	trim_mus trim_fai trim_per trim_cra trim_his trim_zoo trim_agr trim_loc trim_arg trim_cus trim_lib	Museums Cultural fairs/festivals events Performing arts Places to buy local arts/crafts Historical/heritage attractions, sites and districts Gardens, zoos, aquariums Agricultural attractions and events Purchasing products grown or processed locally Architecture and buildings Customs and ways of living Libraries, literary events and bookstores	1: not important at all 3: neutral 5: extremely important	ANOVA
Characteris-tics of pleasure trips	tur_nite	The proportion of pleasure trips involving an overnight stay away from home more than 50miles	1: none 2: few 3: about half 4: most 5: all	ANOVA
	tur_stat	The proportion of pleasure trips to an out-of-state destination		
	tur_intr	The proportion of pleasure trips to an out-of-country destination		

Data Analysis

The analysis focuses on the number of tickets purchased to live performances rather than number of performances attended. This is because the primary emphasis was on the market that purchases tickets. Some persons attend many free performances (e.g., school or community events) but do not purchase tickets. A primary problem with these data is that a person who purchased ten tickets for one event (i.e., bought tickets for family members or friends) and a person who purchased ten tickets for ten different events are both treated as ten ticket purchasers. However, their involvement is very different. Analysis revealed that a 0.586 correlation between number of performances attended and number of tickets purchased.

The data analysis procedure was divided into three parts: Exhaustive CHAID analysis for heavy and light consumers; Exhaustive CHAID analysis for donor and non-donors, and further analyses to identify significant differences among segments; and Exhaustive CHAID analysis for cultural tourists and non-cultural tourists, and further analyses to indentify significant differences among segments. The Exhaustive CHAID analysis is briefly introduced, and a systematic algorithm through classification trees is discussed. Exhaustive CHAID is selected over the original CHAID algorithm because it has a better chance of finding optimal association between dependent variable and predictors. Finally, the use of Chi-square and One-way analysis of variance (ANOVA) are discussed. Answer Tree 3.1 and SPSS version 16.0 for Windows were used to analyze the data.

Exhaustive CHAID Analysis

CHAID modeling is a statistical algorithm that shows how the variables of the model work together in contributing to the predicted probability of response. The CHAID analysis uses chi-square tests to create multi-way splits which results in a treelike diagram. The CHAID method explores data quickly and efficiently and builds segments and profiles with respect to the desired outcome.

Exhaustive CHAID is a modification of CHAID that examines all possible splits for each predictor. The Exhaustive CHAID can be more accurate and comprehensive method which explores data exhaustively (Byrd, 2003; Biggs et al., 1991). The first Exhaustive CHAID analysis is implemented to segment the performing arts consumers into several mutually exclusive and exhaustive subgroups based on the interactions of the predictors (socioeconomic and household information, and art-related experiences) with heavy and light consumers according to their ticket purchases. To begin the Exhaustive CHAID analysis, the overall respondents who indicated the number of tickets purchased are considered to make up the parent group. The second Exhaustive CHAID analysis segments heavy consumers of the performing arts based on the interactions between the predictors (socioeconomic and household information, and art-related experiences) and donors and non-donors according to their donation activity to arts organizations. The third Exhaustive CHAID analysis is utilized to segment heavy consumers of the performing arts based on the interactions of the predictors (socioeconomic and household information, and art-related experiences) with cultural tourists and non-cultural tourists according to their attendance at live performances in another different state or country.

Heavy consumers are opinion leaders and more involved, innovative and knowledgeable than light consuemrs (Litvin, 2000; Goldsmith & Litvin, 1999; Goldsmith et al., 1994). Since heavy consumers represent the greatest volume and profit for the market, although they are smaller in number than light consumers (Reynolds & Olson, 2001), last two Exhaustive CHAID analyses are conducted using the heavy consumers who purchased ten or more live performance tickets during the last 12 months. The analyses were conducted using SPSS Answer Tree 3.0 statistical software (SPSS, 2001).

The CHAID technique essentially involves automatically constructing many cross-tabulations and working out statistical significance of the proportions. A series of predictor variables are analyzed to determine if splitting the sample leads to a statistically significant effect on the dependent variable. The split is based on a variable which has the lowest p value or the highest F value if two or more variables have same value (Byrd, 2003). CHAID analysis shows that different variables affect the subgroups in a different manner from the first level downwards. It begins with the entire data split into appropriate groups based on a most significant predictor. A cross-tabulation is associated with this part and related to the "Chi-squared" part of the name. Bonferroni adjustment is used in multiple comparison procedures to calculate an adjusted probability of comparison-wise type I error from the Chi-square distribution function.

The data can be sequentially and selectively split into mutually exclusive homogeneous groups, where each group is then individually examined. New branches are then created for these groups with the most important predictor. The degrees of differentiation between the levels of predictors and the outcome variable display the optimally split predictors until all predictors are exhausted. The stopping step checks if

the tree growing process should be stopped according to the following stopping rules in the CHAID algorithms: (1) if a node becomes pure; that is, all cases in a node have identical values of the dependent variable, the node will not be split; (2) if all cases in a node have identical values for each predictor, the node will not be split; (3) if the current tree depth reaches the user-specified maximum tree depth limit value, the tree growing process will stop; (4) if the size of a node is less than the user-specified minimum node size value, the node will not be split; and (5) if the split of a node results in a child node whose size is less than the user-specified minimum child node size value, child nodes that have minimum will merge with the most similar child node as measured by the largest of the p-values. However, if the resulting number of child nodes is 1, the node will not be split.

This method is based on principles underpinning a large number of decision tree procedures, which show how certain sets formed from the predictor variables differentially predict the dependent variable (Galguera et al., 2006). Homogeneous segments of performing arts market can be identified in terms of combinations of the socioeconomic, household and arts-related experience variables on the heavy and light consumers of the performing arts. Predictors used Bonferroni adjusted p-value of less than .05 which was eligible to use for segmentation (Hoare, 2004). The adjusted p-value is calculated as the p-value times a Bonferroni multiplier which adjusts for multiple tests. For two other CHAID analyses, variables with a Bonferroni significance level of less than 0.05 were qualified for selection as a predictor of each dependent variable. Moreover, given condition was that parent node and child node should contain at least

150 and 100 respondents respectively in either of the decision trees. The terminal nodes or final subgroups of each tree diagram were referred to as segments.

Chi-Square Test

Pearson's chi-square is used to test if a sample of data comes from a population with a specific distribution (Snedecor & Cochran, 1989). The chi-square test of goodness of fit which investigates significant differences between the expected and observed results across the market segments in the: 1) type of performing arts attendance, with respect to plays; musicals; opera; ballet; modern dance; ethnic dance; folk dance; folk/ethnic concerts; jazz concerts; blues concerts; symphony; country concerts; new and experimental concerts; rock concerts; hip-hop concert; world concerts; and other, 2) performing arts information sources, with respect to TV; magazines; newspapers; radio; websites specialized for online ticketing; websites of performing art organizations or centers; acquaintances, friends, family or relatives; art-related publications; and leaflets/brochures, and 3) web-based purchases to art- and culture-related products, with respect to arts; tickets for performing arts; and antiques and collections.

One-way Analysis of Variance (ANOVA)

ANOVA is employed to examine the dependent variable mean differences across the segments (Hair et al., 1998). ANOVA identifies the significant differences among the performing arts heavy market segments in the: 1) spending on tickets to live performances, with respect to the average ticket price; highest ticket price; and total spending on tickets during the last 12 months, 2) importance of cultural attractions and activities in selecting pleasure trip destinations with respect to museums; cultural fairs/festivals/events; performing arts; places to buy local arts/crafts; historical/heritage

attractions sites and districts; gardens, zoos and aquariums; agricultural attractions and events; purchasing products grown or processed locally; architecture and buildings; customs and ways of living; and libraries, literary events and bookstores, and 3) characteristics of pleasure trips, with respect to overnight stays; out-of-state trips; and out-of-country trips. If significant differences across the market segments and selected variables were found based upon calculated F statistics, then follow-up analysis of Tukey's Honestly Significant Difference (HSD) method of post hoc tests is further utilized to examine all possible combinations in order to identify statistically significant mean differences among the segments.

CHAPTER 4

RESULTS

Overview

This chapter presents an overview of the survey respondents and the results of the statistical analyses of the data that contribute to better understanding of performing arts market by 1) identifying the important predictors of performing arts consumers, and by 2) profiling the heavy-purchase market segments. There are three sections containing summaries of the results of: 1) the first Exhaustive CHAID analysis of the number of tickets purchased; 2) the second Exhaustive CHAID analysis of the donation activity of heavy consumers; and 3) the third Exhaustive CHAID analysis of the out-of- state or out-of-country travels to attend live performances among heavy consumers.

Exhaustive CHAID Analysis of Heavy and Light Consumers

The first decision tree was created by a systematic algorithm using the Exhausitve CHAID method, to explore the interactions between predictors and number of tickets purchased. This decision tree is named "Decision Tree for the Heavy and Light Consumers of the Performing Arts" (Figure 3). The analysis generated a misclassification matrix and a gain summary of heavy and light consumers. To acquire an optimal model in a decision tree format, all of the predictors were used and the most significant predictors were identified among the socioeconomic and household information, and art-related experiences. Each split was created by determining the strongest combinations between predictors and outcome variables at each level until all predictors were exhausted. A Bonferroni adjustment was used in multiple comparison procedures to

calculate an adjusted probability of comparison type I errors from the Chi-square distribution function. Categories of a predictor variable were merged if there was no statistical distinction between categories with respect to the dependent variable. Variables with a Bonferroni significance level $p < 0.05$ were qualified for selection as a predictor of each parent group. A general summary of the decision tree and a description of the subgroups that were identifed, based on the CHAID-based decision tree results, are presented.

Heavy and Light Consumers of the Performing Arts

The results of the first Exhaustive CHAID analysis performed to test the hypothesis are presented: *Hypothesis 1: Persons who attend live performances (eg., plays, folk dances, musicals and rock concerts) can be classified into substantial, measurable, accessible and actionable market segments based on the number of tickets purchased to live performances.*

The decision tree resulting from the Exhaustive CHAID analysis grew to six levels, and the sample was divided into 34 nodes (subgroups). The most significant predictor in this model was donation activiy; other important predictors were income, age, gender, employment, marital status, children's status, attendance at live performances in a different state or country, volunteer status, purchase of arts products and membership status in arts organizations. These predictors explained the variance in the heavy and light consumers of the performing arts (Table 10).

The resulting decision tree was divided into two main branches based on donation activity, and then six sub-branches according to attendance at live performances in a

different state or country and annual household income level. Each node in Figure 3 presents the number and percentage of heavy and light consumers, and total respondents.

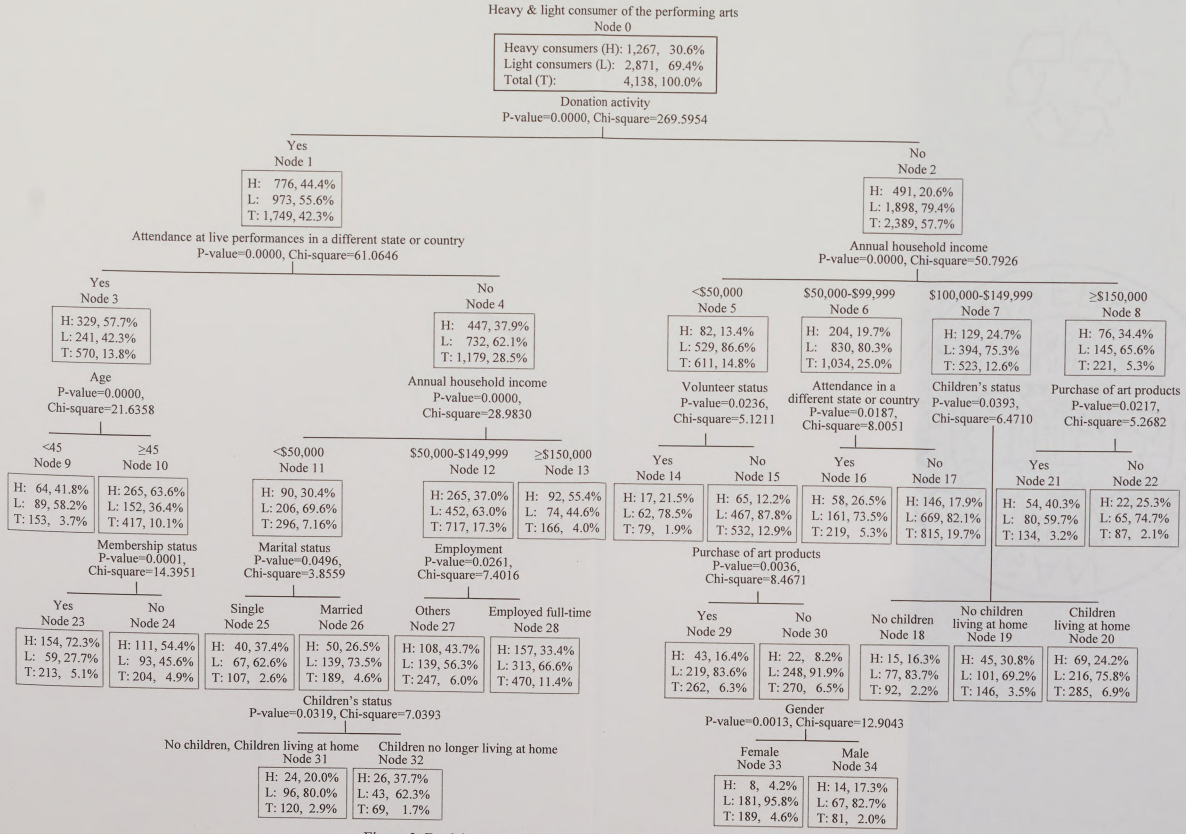


Figure 3. Decision Tree for Heavy and Light Consumers of the Performing Arts

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Table 10

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Decision Tree for Heavy and Light Consumers

The root node at the top of the decision tree (Figure 3) represents the sample of 4,138 respondents, who were divided into two categories (heavy vs. light consumers). Light consumer (n = 2,871, 69.4%) was distributed higher than that of the heavy consumer (n = 1,267, 30.6%). This node is divided into two child nodes (subgroups), based on donation activities during the last 12 months.

Table 10. Significant Predictors in Decision Tree for the Heavy and Light Consumers

Predictor	Donation activity	χ^2	df	Bonferroni adjusted p-value
Donation activity		269.60	1	0.0000****
Attendance at live performances in a different state or country	Yes	61.06	1	0.0000****
Annual household income	No	50.79	3	0.0000****
Age	Yes	21.64	1	0.0000****
Annual household income	Yes	28.98	2	0.0000****
Membership status	Yes	14.40	1	0.0001***
Gender	No	12.90	1	0.0013**
Purchase of art products	No	8.47	1	0.0036**
Attendance at live performances in a different state or country	No	8.01	1	0.0187*
Employment	Yes	7.40	1	0.0261*
Children's status	Yes	7.04	1	0.0319*
Children's status	No	6.47	2	0.0393*
Purchase of art products	No	5.27	1	0.0217*
Volunteer status	No	5.12	1	0.0236*
Marital status	Yes	3.86	1	0.0496*

*, **, ***, **** Significant at p<0.05, 0.01, 0.001 and 0.0001 respectively.

Based on the first split in Figure 3, respondents who donated money to arts organizations were more likely to be heavy consumers. This donor group was further broken down to reveal that people who attended live performances in a different state or country were more likely to be heavy consumers than others, and older respondents (≥45) were more likely to be heavy consumers than younger people. Further analysis showed that members of arts organizations were more likely to be heavy consumers than non-members.

Respondents most likely to be heavy consumers in the tree model were those: 45 or older, who donated money, had membership in arts organizations, and attended live performances in a different state or country during the last 12 months (node 23). On the other hand, the people least likely to be heavy consumers were female with annual household incomes of less than $50,000, who did not donate money or volunteer in arts organizations, and did not purchase art products during the last 12 months (node 33).

Certain categories were combined when there was no statistical distinction. For example, respondents who did not attend live performances in a different state or country in node 4 divided into three groups by annual household income. People who had annual household income of $50,000 - $99,999 were grouped with those having an annual household income of $100,000 - $149,999.

The estimated risk of misclassification, based on the tree and the numbers of cases corresponding to specific prediction errors, is presented in Table 11. Results of the Exhaustive CHAID analysis revealed a 27.5% risk of false classification: a total of 910 of 3,555 respondents were predicted to be light consumers, but were actually heavy consumers, and 226 of 583 respondents who were predicted to be heavy consumers, were

actually light consumers; there was a cross-validation risk of 28.5%. The risk summary indicates that the overall correct classification accuracy of 72.5% was a substantial improvement over the base rate of 69.4%. Overall, the predictors were better at predicting light consumers (92.1% accuracy, with 2,645 of the 2,871 respondents) than heavy consumers (28.2% accuracy, with 357 of the 1,267 respondents). The ability to capture variation in heavy and light consumers using the current tree model is less than optimal, but this tree diagram shows a more detailed parametric model for these data.

Table 11. Results of the Misclassification Matrix

		Actual category		
		Light consumer	Heavy consumer	Total
Predicted category	Light consumer	2,645	910	3,555
	Heavy consumer	226	357	583
	Total	2,871	1,267	4,138
		Risk statistics	Cross-validation	
Risk estimate		0.2745	0.2847	
SE of risk estimate		0.0069	0.0070	

Gain Summary of the Heavy and Light Consumers

The gain summary presents all of the terminal nodes that have the highest and lowest proportions of the target category (heavy consumer) within them. The gain index derived from the analysis can be used as a tool to decide which clusters have a more positive relationship with the heavy consumers than with the overall sample (Chen, 2003a). An index score of 100% is the crossover point; an index score of more than 100% shows that the corresponding node has a higher than expected proportion of people with a certain characteristic or behavior. Table 12 reveals 20 nodes with index scores of

greater and less than 100% - 10 nodes for heavy consumers and 10 nodes for light consumers. These nodes are sorted according to the index score, from highest to lowest. The index score gives a measure of how the score of heavy consumers in this node compares with that for the overall sample. For example, the first node in Table 12, node 23, contains 154 heavy consumers out of 213 respondents, or a 72.3% heavy consumer rate. The index score is about 236%. The proportion of heavy consumers for this node is over twice the heavy consumer rate for the overall sample. Therefore, the higher the index score, the more likely respondents would be heavy consumers of performing arts.

The nodes with index scores over 100% are those, 72.3%, 55.4%, 54.4%, 43.7%, 41.8%, 40.3%. 37.7%, 37.4%, 33.4% and 30.8%, containing more than 30.6% heavy consumers. These nodes represent 67.2% of heavy consumers by targeting 46.1% of the total market (Table 12). These heav y consumer nodes can be considered actionable segments that can be valuable target markets for the performing arts (Chen, 2003a). The gains chart shows important information about which segments to target and which to avoid. On the other hand, the nodes with index scores of less than 100% consist of light consumer groups who have a significantly lower response rate than the average heavy consumer rate, as compared with the overall sample. Thus, these light consumer nodes are considered less important than the heavy consumer nodes. Table 13 presents a summary of the heavy consumer groups ranked by the index score.

Table 12. Gains Summary of the Heavy and Light Consumers of the Performing Arts

	Node	No. of respondents (n)	Proportion of all the respondents (%)	No. of heavy consumers (n)	Proportion of overall heavy consumer[a] (%)	Proportion of heavy consumer response rate in the node (%)	Index score[b] (%)
Heavy consumers	23	213	5.1	154	12.2	72.3	236.3[c]
	13	166	4.0	92	7.3	55.4	181.0
	24	204	4.9	111	8.8	54.4	177.8
	27	247	6.0	108	8.5	43.7	142.8
	9	153	3.7	64	5.0	41.8	136.6
	21	134	3.2	54	4.3	40.3	131.7
	32	69	1.7	26	2.0	37.7	123.2
	25	107	2.6	40	3.2	37.4	122.2
	28	470	11.4	157	12.4	33.4	109.2
	19	146	3.5	45	3.5	30.8	100.7
	Sub-total	1,909	46.1	851	67.2		
Light consumers	16	219	5.3	58	4.6	26.5	86.6
	22	87	2.1	22	1.7	25.3	82.7
	20	285	6.9	69	5.5	24.2	79.1
	14	79	1.9	17	1.3	21.5	70.3
	31	120	2.9	24	1.9	20.0	65.4
	17	815	19.7	146	11.5	17.9	58.5
	34	81	2.0	14	1.1	17.3	56.5
	29	262	6.3	43	3.4	16.4	53.6
	18	92	2.2	15	1.2	16.3	53.3
	33	189	4.6	8	0.6	4.2	13.7
	Sub-total	2,229	53.9	416	32.8		

[a] Heavy consumer in a particular node to all of the heavy consumers in total market.

[b] Proportion of heavy consumer rates in a particular node compared with the overall proportion of heavy consumer rate.

[c] 236.3% = 72.3% (heavy consumer rate in node 23) / 30.6% (the overall proportion of heavy consumers).

Table 13. Summary of the Nodes for the Heavy Consumer (HC) Groups of the Performing Arts

Node	% of respon-dents	% of HC	% of market share of HC [a]	Definition of predictors	Characteristics of the node (HC)
23	5.1	72.3	3.7	- Donations to arts organizations - Attendance of live performances in a different state or country - 45 years or older - Membership in arts organizations	- Female (71.6%) - 4-year college degree or higher (89.7%) - Income of $100,000 or higher (59.4%) - Two people residing in the household (57.5%)
13	4.0	55.4	2.2	- Donations to arts organizations - No attendance of live performances in a different state or country - Annual household Income of $150,000 or higher	- Female (66.0%) - 35-64 years old (93.9%) - Married (91.6%)
24	4.9	54.4	2.7	- Donations to arts organizations - Attendance live performances in a different state or country - 45 years or older - No membership in arts organizations	- Female (67.2%) - 4-year college degree or higher (74.4%) - Income of $50,000 - $149,999 (66.1%) - Married (84.3%)
27	6.0	43.7	2.6	- Donations to arts organizations - No attendance of live performances in a different state or country - Annual household income of between $50,000 and $149,999 - No full-time employment	- Female (73.4%) - 45 years or older (79.8%) - 4-year college degree or higher (75.7%) - Married (88.7%)
9	3.7	41.8	1.5	- Donations to arts organizations - Attendance of live performances in a different state or country - Less than 45 years old	- Female (73.5%) - Full-time employment (69.9%) - Income of $50,000 - $149,999 (59.9%)
21	3.2	40.3	1.3	- No donations to arts organizations - Annual household Income of $150,000 or higher - Purchased of art products	- Female (74.2%) - 35-64 years old (82.8%) - Married (89.6%)

[a] Percentage of respondents × Percentage of HC.

Table 13. (cont'd)

Node	% of respon-dents	% of HC	% of market share of HC [a]	Definition of predictors	Characteristics of the node (HC)
32	1.7	37.7	0.6	- Donations to arts organizations - No attendance of live performances in a different state or country - Annual household Income of less than $50,000 - Children no longer living at home - Married	- Female (75.0%) - 45 years or older (98.6%) - 4-year college degree or less (56.5%) - No full-time employment (65.7%) - Two people residing in the household (94.1%)
25	2.6	37.4	1.0	- Donations to arts organizations - No attendance of live performances in a different state or country - Annual household Income of less than $50,000 - Single	- Female (82.9%) - Age 45 or older (64.8%) - 4-year college degree or less (62.3%) - One person live alone (63.8%)
28	11.4	33.4	3.8	- Donations to arts organizations - No attendance of live performances in a different state or country - Annual household Income of between $50,000 and $149,999 - Full-time employment	- Female (69.5%) - 35-64 years old (91.1%) - 4-year college degree or less (55.3%) - Married (77.9%)
19	3.5	30.8	1.1	- No donations to arts organizations - Annual household Income of between $100,000 and $149,999 - Children no longer living at home	- 35-64 years old (93.7%) - Full-time employment (72.6%) - Married (95.2%)

[a] Percentage of respondents × Percentage of HC.

Two Exhaustive CHAID Segmentations

This section presents results of two different decision trees using a dataset of the heavy performing arts consumers who purchased 10 or more tickets for live performances during the last 12 months. Two distinctive Exhaustive CHAID segmentations were conducted; their market profiles were based on characteristics and behaviors of: (1) donation activity to arts organizations; and (2) attendance at live performances in a different state or country. A tree diagram, misclassification matrix and gain summary were generated for both analyses.

"Decision Tree for Donation Activity to Arts Organizations" (Figure 4) was used to identify *propensity to donate sub-segments* of heavy consumers. Previous results of CHAID analysis showed that donation activity was the most significant predictor of heavy performing arts consumers. "Decision Tree for Attandance at Live Peformances In a Different State or Country" (Figure 5) was used to identify *inclination to be cultural tourist sub-segments* of heavy consumers. The respondents who had attended live performances in a different state or country were considered to be cultural tourists.

Donation Activity to Arts Organizations

The results of the second Exhaustive CHAID analysis performed to test the second hypothesis are presented: *Hypothesis 2: Heavy consumers of the performing arts are further divided into substantial, measurable, accessible and actionable market segments based on the propensity to donate to arts, heritage or cultural organizations.*

The Decision Tree for Donation Activity to Arts Organizations resulting consists of four levels and the donation activity of heavy consumers is segmented into a total of six terminal nodes. Membership status in arts organizations, age, volunteer status, and

purchase of art products were identified as the most significant predictors in explaining the variance in the heavy consumers and donation activity in the decision tree (Table 14).

The resulting decision tree was divided into two main branches containing nine nodes. Branch 1 consists of nodes 1, 3 and 4; and branch 2 of node 2, 5, 6, 7, 8 and 9. In the CHAID tree diagram (Figure 4), the number and percentage of donors, non-donors and total respondents defines each node. The predictor, chi-square value and Bonferroni adjusted *p*-value shown below distinctive node divide respondents into mutually exclusive groups.

Table 14. Significant Predictors in the Decision Tree for Propensity to Donate

Predictor	Chi-square	df	Bonferroni adjusted p-value
Membership status	218.12	1	0.0000**
Age	50.11	2	0.0000**
Purchase of art products	21.05	1	0.0000**
Volunteer status	4.18	1	0.0409*

*, ** Significant at $p < 0.05$ and 0.001, respectively.

Decision Tree for Donation Activity to Arts Organizations

The root node at the top of the decision tree (Figure 4) represents the sample of 1,267 heavy consumers, who were divided into two categories (donor and non-donor). There were more donors (n = 776, 61.3%) than non-donors (n = 491, 38.7%) in the study sample. This root node was split, based on the membership status in arts organizations: members (90.3%) were more likely to donate money to arts organizations than non-members (47.2%). An additional split on members showed that volunteers (93.3%) were more likely to donate money to arts organizations than non-volunteers (87.3%).

Therefore, the most likely to be donors in the decision tree were node 3 (segment 1), who were members and volunteered in arts organizations during the last 12 months. However, people in node 5 (segment 6) were the least likely to be donors; they were under 35 years old who were not members in arts organizations during the last 12 months.

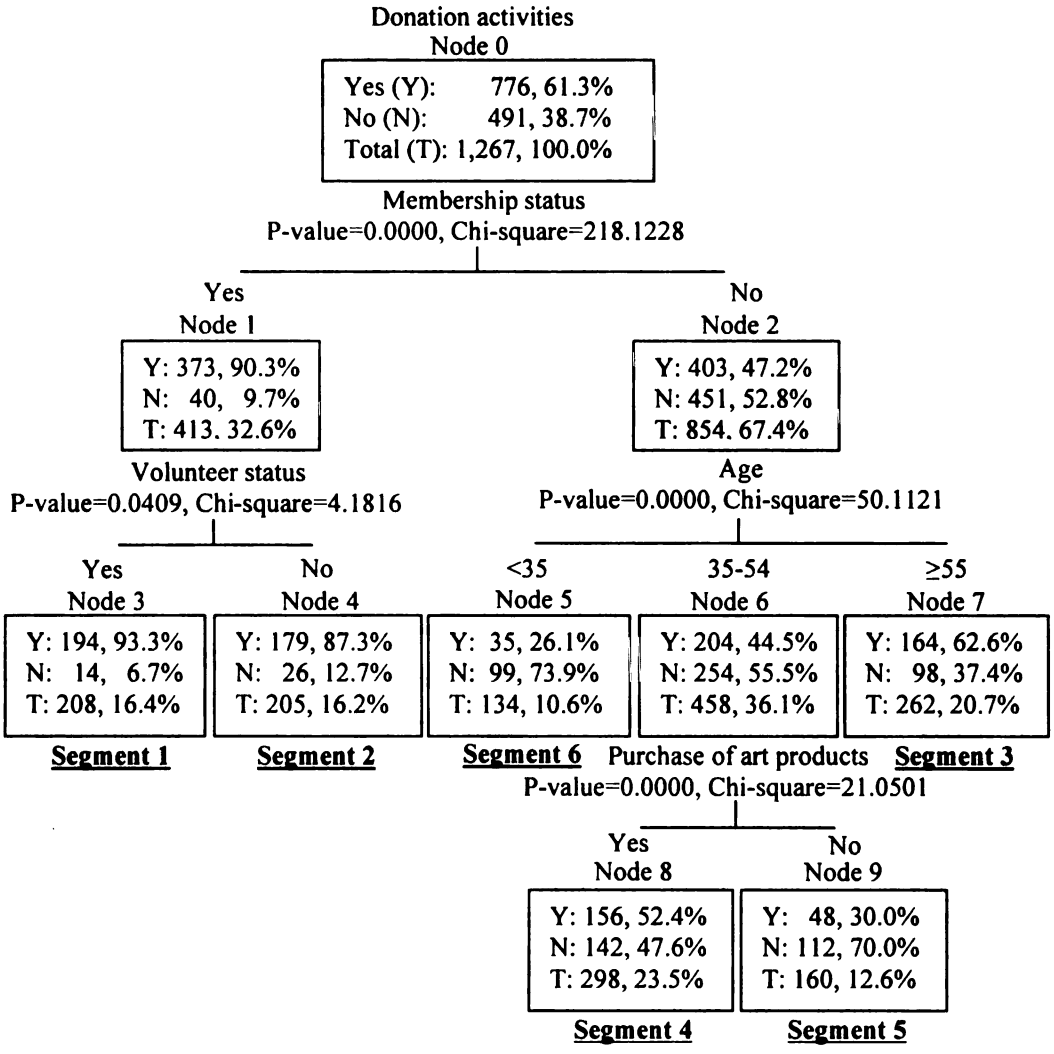

Figure 4. Decision Tree for Donation Activity to Arts Organizations

The estimated risk of misclassification, based on the tree and the number of cases corresponding to specific prediction errors is presented in Table 15. Results of the Exhaustive CHAID analysis revealed a 28.7% risk of false classification; 280 of the 973 respondents predicted to be donors had not donated, and 83 of the 294 respondents predicted to be non-donors had actually donated in the last 12 months. The analysis of a risk on cross-validation was 28.7%. The risk summary indicates that the overall correct classification accuracy of 71.3% was a substantial improvement over the base arts donor rate of 61.3%. Overall, the predictors were better for donors (89.3% accuracy; with 693 of the 776 respondents) than for non-donors (43.0% accuracy; with 211 of the 491).

Table 15. Results of the Misclassification Matrix

		Actual category		
		Arts donor	Arts non-donor	Total
Predicted category	Arts donor	693	280	973
	Arts non-donor	83	211	294
	Total	776	491	1,267
		Risk statistics	Cross-validation	
Risk estimate		0.2865	0.2865	
SE of risk estimate		0.0127	0.0127	

Gain Summary of the Donation Activity

The gain summary is represented by six terminal nodes, which were sorted by an index score listing the donor rates from their highest to lowest proportions (Table 16). The index column gave a measure of how the score of donors in this node compared with the overall sample (61.3%). The higher the index score, the more likely the heavy consumers were to donate money to arts organizations. Nodes 3, 4 and 7 which have an

index score of greater than 100%, have a higher response rate of donations to arts organizations than the overall sample. For example, node 3 contains 194 art donors out of 208 heavy consumers. This index score is about 152%. The proportion of donors for this node is more than one-half of the donor rates for the overall sample.

The nodes with index scores greater than 100% represented 69.2% of the donors by targeting 53.3% of the heavy market. Nodes 8, 9 and 5, which had an index score of less than 100 % indicating art non-donor groups, had significantly lower response rates compared to the overall sample. These nodes are mutually exclusive respondent groups that represent effective segments of the performing arts heavy consumers and donation market.

Table 16. Gains Summary of the Donation Activity

Node	No. of respondents (n)	Proportion of all the respondents (%)	No. of donors (n)	Proportion of overall donors[a] (%)	Proportion of donor response rate in the node (%)	Index score[b] (%)
3	208	16.4	194	25.0	93.3	152.2[c]
4	205	16.2	179	23.1	87.3	142.4
7	262	20.7	164	21.1	62.6	102.1
8	298	23.5	156	20.1	52.3	85.3
9	160	12.6	48	6.2	30.0	48.9
5	134	10.6	35	4.5	26.1	42.6

[a] Donors in a particular node to all of the donors in the heavy market.

[b] Proportion of donor rates in the node compared to the overall sample.

[c] 152.3% = 93.3% (donor rate in node 3) / 61.3% (donor rate in the overall sample).

Profiles of the Propensity to Donate to Arts Organizations Sub-Segments

The propensity to donate six sub-segments of heavy consumers are profiled based on socioeconomic and household characteristics, and other behaviors toward the performing arts and pleasure trips, with respect to: (1) the type of performing arts attendance; (2) spending on tickets to the performing arts; (3) performing arts information sources; (4) web-based purchases to art- and culture-related products; (5) the importance of cultural attractions and activities in selecting pleasure trip destinations; and (6) characteristics of pleasure trips. Chi-square tests and ANOVA were the analytical tools used in comparisons of these six segments.

Socioeconomic Characteristics

Cross-tabulations were performed to provide socioeconomic characteristics of the propensity to donate six sub-segments of the heavy consumers with regards to: (1) gender; (2) age; (3) sexual orientation; (4) race; (5) education; (6) annual household income; (7) employment; (8) number of persons in household; and (9) household composition. Statistically significant differences among the segments were found in age, sexual orientation, education, annual household income and employment ($p<0.001$), and in gender and race ($p<0.01$) (Table 17).

Regardless of the segment, a majority in the performing arts donation activity of heavy consumers were female, heterosexual and Caucasian, had a 4-year college degree or higher, an annual household income of $50,000 or higher, and two persons or more residing in their households. A summary of the socioeconomic characteristics of the six donation market segments are presented in Table 18.

Table 17. Socioeconomic Characteristics of the Propensity to Donate Six Sub-Segments

Segment	Number of respondents (n)	Percentage of respondents (%)	Gender (%)		Age (%)					Sexual orientation (%)			
			Male	Female	Less than 35	35-44	45-54	55-64	65 or over	Straight/Heterosexual	Gay/Lesbian	Others	Prefer not to answer
1	208	16.4	23.6	76.4	6.8	13.0	32.4	33.3	14.5	88.3	0.5	10.7	0.5
2	205	16.2	33.0	67.0	4.4	14.8	30.5	34.0	16.3	91.1	2.0	6.4	0.5
3	262	20.7	37.4	62.6	0	0	0	82.4	17.6	90.7	0.8	8.5	0
4	298	23.5	23.7	76.3	0	33.9	66.1	0	0	89.1	4.4	5.8	0.7
5	160	12.6	31.4	68.6	0	40.0	60.0	0	0	93.8	1.9	3.8	0.6
6	134	10.6	35.6	64.4	100.0	0	0	0	0	88.0	7.5	3.0	1.5
Test statistic Significance			$\chi^2 = 54.235$ $p<0.01$		$\chi^2 = 189.13$ $p<0.001$					$\chi^2 = 38.847$ $p<0.01$			

Table 17. (cont'd)

Table 17. (cont'd)

Segment	Number of respondents (n)	Percentage of respondents (%)	Race (%)		Education (%)				Annual household income (%)				Employment (%)	
			Caucasian or White	Others	2-year college degree or less	4-year college degree	Completed some graduate courses or Master's degree	Doctoral degree	Under $50,000	$50,000 - $99,999	$100,000 - $149,999	$150,000 or higher	Employed-full time	Others
1	208	16.4	95.6	4.4	16.8	22.6	51.4	9.1	12.5	39.1	24.5	23.9	43.7	56.3
2	205	16.2	98.5	1.5	12.3	27.9	42.2	17.6	6.8	33.9	32.8	26.6	60.3	39.7
3	262	20.7	99.6	0.4	25.6	15.3	48.9	10.3	13.9	41.6	27.7	16.8	47.5	52.5
4	298	23.5	97.3	2.7	29.0	30.3	29.3	11.4	8.5	35.0	29.3	27.2	75.8	24.2
5	160	12.6	96.9	3.1	33.8	31.2	30.0	5.0	8.3	47.4	30.8	13.5	77.4	22.6
6	134	10.6	92.5	7.5	28.4	35.8	27.6	8.2	37.2	38.6	13.6	10.6	50.4	49.6
Test statistic Significance			$\chi^2 = 19.035$ $p<0.01$		$\chi^2 = 93.969$ $p<0.001$				$\chi^2 = 110.72$ $p<0.001$				$\chi^2 = 95.330$ $p<0.001$	

Table 17. (cont'd)

Segment	Number of respondents (n)	Percentage of respondents (%)	Number of people in household (%)				Household composition (%)					
			1 live alone	2 persons	3 persons	4 persons or more	Single without children	Single with children living at home	Single with children no longer living at home	Married/Partnered without children	Married/Partnered with children living at home	Married/Partnered with children no longer living at home
1	208	16.4	14.1	44.9	16.6	24.4	13.9	4.3	8.2	8.2	33.7	31.7
2	205	16.2	13.7	52.9	13.8	19.6	10.2	3.4	5.4	16.6	27.3	37.1
3	262	20.7	14.9	67.8	11.9	5.4	6.9	4.2	9.5	11.8	14.5	53.1
4	298	23.5	8.4	34.7	18.9	38.0	10.7	6.4	1.7	11.1	53.7	16.4
5	160	12.6	8.8	25.6	14.4	51.2	8.8	7.5	3.1	6.2	60.0	14.4
6	134	10.6	24.6	29.9	18.6	26.9	53.0	3.0	0	22.4	21.6	0
Test statistic Significance			$\chi^2 = 187.82$ $p<0.001$				$\chi^2 = 440.92$ $p<0.001$					

Table 18. Summary of the Socioeconomic Characteristics of the Propensity to Donate Six Sub-Segments

Segment	% of respon-dents	% of Donors	% of market share of donors[a]	Definition of predictors	Characteristics
1	16.4	93.3	15.3	- Membership in arts organizations - Volunteered to arts organizations	- Female (76.4%). - 45 years or older (80.2%). - Completed some graduate courses or higher degree (60.5%). - Annual household income of $100,000 or higher (48.4%). - Two people residing in household (44.9%). - Married or partnered, either with children living at home (33.7%) or with children no longer living at home (31.7%).
2	16.2	87.3	14.1	- Membership in arts organizations - No volunteer to arts organizations	- Female (67%). - 45 years or older (80.8%). - Completed some graduate courses or higher degree (59.8%). - Annual household income of $100,000 or higher (59.4%). - Two people residing in the household (52.9%). - Married or partnered, either with children living at home (27.3%) or with children no longer living at home (37.1%).
3	20.7	62.6	13.0	- No membership in arts organizations - 55 years or old	- Female (62.6%). - 55 years or older (100%). - Completed some graduate courses or higher degree (59.2%). - Annual household income of between $50,000 and $149,999 (69.3%). - Two people residing in the household (67.8%). - Married/partnered with children no longer living at home (53.1%).

[a] Percentage of respondents × Percentage of donors.

Table 18. (cont'd)

Segment	% of respon-dents	% of Donors	% of market share of donors[a]	Definition of predictors	Characteristics
4	23.5	52.3	12.3	- No membership in arts organizations - 35-54 years old - Purchased art products	- Female (76.3%). - 35-54 years old (100%) - 4-year college degree or higher (71.0%) - Annual household income of $100,000 or higher (56.5%). - Employed full-time (75.8%). - Married/partnered with children living at home (53.7%).
5	12.6	30.0	3.8	- No membership in arts organizations - 35-54 years old - No purchased art products	- Female (68.6%) - 35-54 years old (100%). - 4-year college degree or less (65.0%). - Employed full-time (77.4%). - Four people or more residing in the household (51.2%). - Married/partnered with children living at home (60.0%).
6	10.6	26.1	2.8	- No membership in arts organizations - Under 35 years old	- Female (64.4%) - Under 35 years old (100%). - Relatively higher gay or lesbian, and other race proportions. - 4-year college degree or less (64.2%). - Annual household income of less than $50,000 (37.2%). - Single without children (53.0%) and married/partnered without children (22.4%).

[a] Percentage of respondents × Percentage of performing donors.

Type of Performing Arts Attendance

Cross-tabulations were performed to provide the type of attendance at live performances during the last 12 months among the propensity to donate sub-segments, with regards to: (1) plays; (2) musicals; (3) opera; (4) ballet; (5) modern dance; (6) ethnic dance; (7) folk dance; (8) folk/ethnic concerts; (9) jazz concerts; (10) blues concerts; (11) symphony; (12) country concerts; (13) new and experimental concerts; (14) rock concerts; (15) hip-hop concert; (16) world concerts; and (17) other. The results of chi-square tests indicated that statistical significant differences among the segments existed for attendance at: plays, musicals, opera, ballet, modern dance, folk/ethnic concerts, jazz concerts, symphony, new and experimental concerts and rock concerts ($p<0.001$); ethnic dance, blues concerts, hip hop concerts and world concerts ($p<0.01$); and folk dance ($p<0.05$). However, differences were not significant for attendance at country concerts and others (Table 19).

In all six segments, respondents attending musicals and plays showed the highest attendance during the last 12 months among the live performances, while folk dance, new and experimental concerts, hip hop concerts and world concerts were the least attended of the live performances across segments. Regardless of the segment, more than half of the respondents had attended plays and musicals in the last 12 months; attendance was higher for musicals than for plays.

Table 19. Type of Attendance at Live Performances by the Propensity to Donate Six Sub-Segments

Segment	Number of respondents (n)	Percentage of respondents (%)	Play (%)		Musical (%)		Opera (%)		Ballet (%)		Modern dance (%)		Ethnic dance (%)	
			Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended
1	208	16.4	15.4	84.6	5.8	94.2	73.1	26.9	75.5	24.5	80.3	19.7	89.4	10.6
2	205	16.2	24.9	75.1	14.1	85.9	78.5	21.5	83.4	16.6	88.3	11.7	93.7	6.3
3	262	20.7	22.1	77.9	9.9	90.1	85.9	14.1	87.0	13.0	89.7	10.3	90.5	9.5
4	298	23.5	32.9	67.1	10.4	89.6	90.9	9.1	86.2	13.8	91.9	8.1	96.3	3.7
5	160	12.6	38.1	61.9	14.4	85.6	95.0	5.0	92.5	7.5	93.8	6.2	96.9	3.1
6	134	10.6	41.0	59.0	20.1	79.9	92.5	7.5	89.6	10.4	89.6	10.4	93.3	6.7
Test statistic Significance			$\chi^2 = 44.835$ $p<0.001$		$\chi^2 = 19.950$ $p<0.01$		$\chi^2 = 58.490$ $p<0.001$		$\chi^2 = 25.981$ $p<0.001$		$\chi^2 = 22.637$ $p<0.001$		$\chi^2 = 15.996$ $p<0.01$	

Table 19. (cont'd)

Segment	Number of respondents (n)	Percentage of respondents (%)	Folk dance (%)		Folk/ethnic concert (%)		Jazz concert (%)		Blues concert (%)		Symphony (%)		Country concert (%)	
			Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended
1	208	16.4	94.2	5.8	74.5	25.5	62.0	38.0	80.3	19.7	56.2	43.8	82.7	17.3
2	205	16.2	98.0	2.0	80.5	19.5	66.3	33.7	82.4	17.6	62.9	37.1	89.3	10.7
3	262	20.7	95.0	5.0	83.6	16.4	72.9	27.1	81.3	18.7	68.7	31.3	87.4	12.6
4	298	23.5	98.3	1.7	85.9	14.1	81.5	18.5	87.6	12.4	77.5	22.5	85.9	14.1
5	160	12.6	97.5	2.5	94.4	5.6	88.8	11.2	91.9	8.1	87.5	12.5	86.9	13.1
6	134	10.6	98.5	1.5	91.0	9.0	87.3	12.7	89.6	10.4	82.8	17.2	81.3	18.7
Test statistic Significance			$\chi^2 = 11.981$ $p<0.05$		$\chi^2 = 34.832$ $p<0.001$		$\chi^2 = 62.051$ $p<0.001$		$\chi^2 = 17.166$ $p<0.01$		$\chi^2 = 66.199$ $p<0.001$		$\chi^2 = 6.588$ $p=0.253$	

Table 19. (cont'd)

Segment	Percentage of respondents (%)	New and experimental concert (%)		Rock concert (%)		Hip hop concert (%)		World concert (%)		Other (%)	
		Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended
1	16.4	96.2	3.8	66.3	33.7	98.6	1.4	94.7	5.3	63.9	36.1
2	16.2	95.6	4.4	75.1	24.9	97.6	2.4	91.7	8.3	66.8	33.2
3	20.7	98.1	1.9	88.5	11.5	99.2	0.8	97.7	2.3	72.9	27.1
4	23.5	97.3	2.7	66.8	33.2	98.3	1.7	96.6	3.4	71.5	28.5
5	12.6	97.5	2.5	69.4	30.6	98.8	1.2	98.1	1.9	71.9	28.1
6	10.6	88.8	11.2	50.0	50.0	93.3	6.7	93.3	6.7	70.9	29.1
Test statistic Significance		$\chi^2 = 24.129$ $p<0.001$		$\chi^2 = 74.719$ $p<0.001$		$\chi^2 = 17.926$ $p<0.01$		$\chi^2 = 15.388$ $p<0.01$		$\chi^2 = 6.236$ $p=0.284$	

Spending on Tickets to the Performing Arts

The results of one-way ANOVA indicated statistically significant differences among segments in the average ticket price and total spending on tickets ($p < 0.001$) (Table 20). The highest price for a ticket for live performances, however, was not significantly different across six segments.

Further analysis using Tukey's HSD *post_hoc* test revealed significant mean differences: (1) in the average ticket price for tickets purchased between segment 1 and segments 3 and 4; between segment 2 and segment 6; between segment 3 and segment 6, between segment 4 and segment 6, and between; and between segment 5 and segment 6; and (2) in the total spending on tickets between segment 1 and segment 6, between segment 2 and segment 6, between segment 3 and segments 5 and 6, and between segment 4 and segment 6.

The average ticket price was the highest in segments 3 and 4 while the highest ticket price was the greatest in segment 2 and the total spending on tickets was the highest in segment 3. On the other hand, the average ticket price, the highest ticket price, and the total spending on tickets were all the lowest in segment 6.

Table 20. Spending on Tickets by the Propensity to Donate Six Sub-Segments

Ticket Price paid \ Segment		1 (16.4%)	2 (16.2%)	3 (20.7%)	4 (23.5%)	5 (12.6%)	6 (10.6%)	Test statistic/ Significance
Average ticket price	Mean[a] ($) 48.00[b]	44.00	49.00	51.00	51.00	49.00	43.00	F = 7.621 p<0.001
	Range ($)	8.00-100.00	8.00-111.00	8.00-100.00	12.00-125.00	5.00-100.00	10.00-100.00	
Highest ticket price	Mean ($) 86.00	86.00	93.00	88.00	88.00	81.00	80.00	F = 1.386 p=0.227
	Range ($)	20.00-350.00	26.00-500.00	12.00-1000.00	15.00-750.00	10.00-300.00	10.00-300.00	
Total spending on tickets	Mean ($) 740.00	775.00	775.00	791.00	752.00	714.00	633.00	F = 8.381 p<0.001
	Range ($)	128.00-1000.00	90.00-1000.00	100.00-1000.00	120.00-1000.00	100.00-1000.00	150.00-1000.00	

[a] Mean values rounded to the nearest dollar.

[b] Mean score for average ticket price in the six segments.

Performing Arts Information Sources

Chi-square tests were used to compare the six segments as to information sources used to search for live theater, dance performances and music concerts (Table 21). Significant differences among the six segments existed for: newspapers, websites specialized for online ticketing, acquaintances, friends, family or relatives, art-related publications and leaflets/brochures ($p<0.001$); and websites of performing art organizations or centers ($p<0.01$). TV, magazines and radio, however, no significant differences among the segments were existed.

Regardless of the segment, newspapers; websites that specialized in online ticketing; websites of performing art organizations or centers; and acquaintances, friends, family or relatives were the most important information sources. Three-quarters or more of the respondents in segments 1, 2, 3 and 4 usually or always acquired information about live performances from newspapers; three-quarters of respondents in segments 4, 5 and 6 usually or always acquired information from websites specializing in online ticketing or from the websites of performing art organizations or centers; and three-quarters of the respondents in segment 1, which showed the highest percentage among segments, usually or always obtained information from acquaintances, friends, family or relatives. More than one-third of the respondents in segments 1 and 2 usually or always obtained information from art-related publications, while the majority of those in segments 3, 4, 5 and 6 seldom or never used them. Over half of the respondents in segments 1 and 2 usually or always gained information from leaflets or brochures, while more than two-thirds of respondents in segments 4, 5 and 6 seldom or never used these sources.

Table 21. Information Sources by the Propensity to Donate Six Sub-Segments

Information Source \ Segment		1 (16.4%) %	2 (16.2%) %	3 (20.7%) %	4 (23.5%) %	5 (12.6%) %	6 (10.6%) %	Test statistic/ Significance
TV	Never/ seldom	63.2	67.3	63.2	54.9	63.7	59.0	$\chi^2 = 9.498$
	Usually/ always	36.8	32.7	36.8	45.1	36.3	41.0	p=0.091
Magazines	Never/ seldom	69.7	75.4	71.5	72.1	79.5	75.8	$\chi^2 = 5.922$
	Usually/ always	30.3	24.6	28.5	27.9	20.5	24.2	p=0.314
Newspapers	Never/ seldom	16.1	25.1	14.9	22.6	31.4	43.3	$\chi^2 = 51.804$
	Usually/ always	83.9	74.9	85.1	77.4	68.6	56.7	p<0.001
Radio	Never/ seldom	48.5	53.8	50.2	41.0	45.2	48.1	$\chi^2 = 9.365$
	Usually/ always	51.5	46.2	49.8	59.0	54.8	51.9	p=0.095
Websites specialized for online ticketing	Never/ seldom	40.0	42.6	38.2	28.0	23.3	22.1	$\chi^2 = 32.812$
	Usually/ always	60.0	57.4	61.8	72.0	76.7	77.9	p<0.001
Websites of performing art organizations or centers	Never/ seldom	23.3	29.6	28.2	15.6	20.3	22.6	$\chi^2 = 18.731$
	Usually/ always	76.7	70.4	71.8	84.4	79.7	77.4	p<0.01
Acquaintances, friends, family or relatives	Never/ seldom	25.0	45.0	40.9	32.9	42.1	31.8	$\chi^2 = 25.128$
	Usually/ always	75.0	55.0	59.1	67.1	57.9	68.2	p<0.001
Art-related publications	Never/ seldom	59.5	66.5	79.9	83.3	92.3	87.2	$\chi^2 = 84.144$
	Usually/ always	40.5	33.5	20.1	16.7	7.7	12.8	p<0.001
Leaflets/ brochures	Never/ seldom	41.5	44.7	53.7	67.9	74.7	69.4	$\chi^2 = 75.663$
	Usually/ always	58.5	55.3	46.3	32.1	25.3	30.6	p<0.001

Web-Based Purchases to Art- and Culture-Related Products

Chi-square tests were also used to compare: (1) Internet use; (2) on-line research; and (3) the purchase of art- and culture-related products (Table 22). Statistically significant differences were found among the segments for research of the arts; researching tickets for the performing arts; researching antiques and collections; the purchase of arts; and the purchase of tickets for the performing arts ($p<0.001$); Internet use ($p<0.01$); and the purchase of antiques and collections ($p<0.05$).

Regardless of the segment, almost all of the respondents used the Internet to research or purchase art- and culture-related products. A majority in all six segments usually or always used the Internet to research and purchase tickets for the performing arts, but they seldom or never used the Internet to research and purchase for arts, antiques and collections. In particular, respondents in segments 4, 5 and 6 had higher percentages of usually or always researching and purchasing tickets for performing arts than did other segments. On the other hand, those in segments 1, 4 and 6 had higher percentages of usually or always researching and purchasing arts, antiques and collections than did other segments.

The Importance of Cultural Attractions and Activities in Selecting Pleasure Trip Destinations

Statistically significant differences were found among segments in the importance ratings of: museums; cultural fairs/festivals/events; performing arts; places to buy local arts/crafts; historical/heritage attractions, sites and districts; architecture and buildings; and customs and ways of living ($p<0.001$); and libraries, literary events and bookstores ($p<0.01$). However, no statistical significant difference existed among the six segments

for gardens, zoos and aquariums; agricultural attractions and events; and purchasing products grown or processed locally (Table 23).

Table 22. Web-Based Purchases by the Propensity to Donate Six Sub-Segments

Internet Use \ Segment		1 (16.4%) %	2 (16.2%) %	3 (20.7%) %	4 (23.5%) %	5 (12.6%) %	6 (10.6%) %	Test statistic/ Signifi-cance
Internet use	Use	94.2	93.2	92.0	97.7	98.8	98.5	χ^2 =20.521
	Not use	5.8	6.8	8.0	2.3	1.2	1.5	p<0.01
Research arts	Never/ seldom	68.1	73.0	75.0	63.9	85.3	70.5	χ^2 = 5.625
	Usually/ always	31.9	27.0	25.0	36.1	14.7	29.5	p<0.001
Research tickets for performing arts	Never/ seldom	13.3	17.4	15.8	5.5	9.6	4.5	χ^2 =29.248
	Usually/ always	86.7	82.6	84.2	94.5	90.4	95.5	p<0.001
Research for antiques and collections	Never/ seldom	67.2	78.3	82.1	70.1	84.4	74.8	χ^2 =24.825
	Usually/ always	32.8	21.7	17.9	29.9	15.6	25.2	p<0.001
Purchase arts	Never/ seldom	87.3	92.6	92.9	86.6	96.8	85.6	χ^2 =20.023
	Usually/ always	12.7	7.4	7.1	13.4	3.2	14.4	p=0.001
Purchase tickets for performing arts	Never/ seldom	22.4	23.7	31.1	9.6	10.3	9.2	χ^2 =61.271
	Usually/ always	77.6	76.3	68.9	90.4	89.7	90.8	p<0.001
Purchase antiques and collections	Never/ seldom	85.2	93.1	92.4	88.6	94.9	88.5	χ^2 =13.728
	Usually/ always	14.8	6.9	7.6	11.4	5.1	11.5	p<0.05

Results of the Tukey's HSD *post_hoc* test indicated significant mean differences: (1) for museums between segment 1 and segments 3, 4, 5 and 6; between segment 2 and segments 4, 5 and 6; and between segment 3 and segment 5; (2) for cultural fairs/festivals/events between segment 1 and segments 4, 5 and 6; (3) for performing arts between segment 1 and segments 2, 4, 5 and 6; and between segment 3 and segments 4 and 5; (4) for places to buy local arts/crafts between segment 1 and segments 5 and 6; between segment 2 and segments 5 and 6; between segment 3 and segments 5 and 6; and between segment 4 and segments 5 and 6; (5) for historical/heritage attractions, sites and districts between segment 1 and segments 3, 4, 5 and 6; between segment 2 and segments 5 and 6; and between segment 3 and segment 6; (6) for architecture and buildings between segment 1 and segments 3, 4 and 5; between segment 2 and segment 5; between segment 3 and segment 5; and between segment 5 and segment 6; (7) for customs and ways of living between segment 1 and segments 4 and 5; and between segment 3 and segments 4 and 5; (8) for libraries, literary events and bookstores between segment 1 and segments 5 and 6.

"Historical/heritage attractions, sites and districts," "gardens, zoos and aquariums," "performing arts," and "museums" were the most important attractions and activities among the six segments when respondents were selecting destinations for pleasure trips. On the other hand, "agricultural attractions and events," "purchasing products grown or processed locally," and "libraries, literary events and bookstores" were the least important attractions and activities in all six segments. People in Segment 1 indicated almost all of the cultural attractions and activities were more important for pleasure trip destinations than that of other segments.

Table 23. The Importance of Cultural Attractions and Activities in Selecting Pleasure Trip Destinations by the Propensity to Donate Six Sub-Segments

Cultural attraction & activity \ Segment		1 (16.4%) 3.8[c]	2 (16.2%) 3.7	3 (20.7%) 3.7	4 (23.5%) 3.6	5 (12.6%) 3.4	6 (10.6%) 3.5	Test statistic/ Signifi-cance
Museums	Mean[a] 3.9[b]	4.2	4.1	3.9	3.8	3.6	3.7	F=12.360 p<0.001
Cultural fairs/ festivals/ events	Mean 3.8	4.0	3.9	3.9	3.8	3.6	3.7	F=5.454 p<0.001
Performing arts	Mean 3.9	4.2	3.9	4.1	3.8	3.7	3.9	F=8.459 p<0.001
Places to buy local arts/crafts	Mean 3.6	3.8	3.7	3.7	3.7	3.3	3.6	F=9.385 p<0.001
Historical/ heritage attractions, sites and districts	Mean 4.1	4.4	4.3	4.2	4.1	3.9	3.9	F=10.863 p<0.001
Gardens, zoos and aquariums	Mean 4.0	4.0	4.1	3.9	4.0	4.0	4.0	F = 1.339 p=0.245
Agricultural attractions and events	Mean 2.7	2.7	2.7	2.8	2.8	2.7	2.7	F = 0.085 p=0.995
Purchasing products grown or processed locally	Mean 3.2	3.3	3.2	3.3	3.3	3.1	3.1	F = 1.520 p=0.180
Architecture and buildings	Mean 3.5	3.8	3.5	3.5	3.4	3.2	3.6	F=6.494 p<0.001
Customs and ways of living	Mean 3.7	3.9	3.7	3.8	3.6	3.5	3.7	F = 4.856 p<0.001
Libraries, literary events and bookstores	Mean 3.2	3.4	3.3	3.3	3.2	3.0	3.0	F = 4.233 p<0.01

[a] Mean values measured on the basis of a 5-point Likert scale (1=not important at all, 3=neutral, 5= extremely important).

[b] Mean score for museums in the five segments.

[c] Mean score for segment 1 in the overall cultural attractions and activities.

Characteristics of Cultural Pleasure Trips

Statistically significant differences among six segments were found for out-of-country trips ($p<0.001$), and out-of-state trips ($p<0.05$) (Table 24). However, overnight stays were not significantly different among the six segments. Further analysis using Tukey's HSD *post_hoc* test indicated significant mean differences: for out-of-country trips between segment 1 and segments 4, 5 and 6; between segment 2 and segment 5; and between segment 3 and segment 5. In addition, another Tukey's HSD *post_hoc* test showed significant mean differences for out-of-state trips between segment 4 and segment 6.

Regardless of the segment, a majority of respondents indicated that most or all of their trips had involved overnight stays during the last 12 months. Respondents in segment 6 took the most trips out-of-state while those in segment 4 took the least pleasure trips to another state. A majority of the people in all segments indicated that none or few had taken pleasure trips to another country. For segment 1 and 2 took more trips out-of-country than other segments.

Summary of Behavior Profiles of the Propensity to Donate Six Sub-Segments

Based on the results of the behaviors regarding performing arts and pleasure trips, a summary of the profile of each segment is provided in Table 25.

Table 24. Characteristics of Cultural Pleasure Trips by the Propensity to Donate Six Sub-Segments

Proportion of pleasure trips(%) \ Segment		1 (16.4%)	2 (16.2%)	3 (20.7%)	4 (23.5%)	5 (12.6%)	6 (10.6%)	Test statistic/ Signifi-cance
Overnight stays	Mean[a] 4.4[b]	4.4	4.3	4.4	4.4	4.4	4.3	F = 0.575 p=0.719
	None/ few (%)	4.9	6.5	6.3	4.2	5.3	8.7	
	About half (%)	8.8	11.4	7.1	8.8	9.3	5.5	
	Most/ all (%)	86.3	82.1	86.6	87.0	85.4	85.8	
Out-of-state trips	Mean[a] 3.4	3.4	3.3	3.4	3.2	3.3	3.5	F = 2.568 p<0.05
	None/ few (%)	21.2	26.7	22.4	31.2	24.7	24.4	
	About half (%)	31.5	28.2	30.6	27.7	30.0	18.9	
	Most/ all (%)	47.3	45.1	47.0	41.1	45.3	56.7	
Out-of-country trips	Mean[a] 1.6	1.8	1.6	1.6	1.5	1.3	1.5	F = 7.856 p<0.001
	None/ few (%)	83.3	90.5	89.4	93.7	98.0	92.9	
	About half (%)	11.3	6.0	8.2	4.5	1.3	3.9	
	Most/ all (%)	5.4	3.5	2.4	1.8	0.7	3.2	

[a] Mean values measured on the basis of a 5-point scale (1=none, 3=about half, 5=all).

[b] Mean score for overnight stays in the five segments.

Table 25. Behavior Profile toward the Performing Arts and Pleasure Trips of the Propensity to Donate Six Sub-Segments

	Behavior profile
Segment1	• Mainly attended "musicals," "plays," "symphonies," "jazz concerts" "rock concerts." • Spent an average of $44.00 for purchasing tickets, with $86.00 as the average highest price paid, and $775.00 as the average total spending on tickets for the performing arts. • Mostly used "newspapers," "websites of performing art organizations or centers," "acquaintances, friends, family or relatives," and "websites specialized for online ticketing" as the information sources. • Always or usually used the Internet to research and purchase tickets for performing arts. • "Historical/heritage attractions, sites and districts," "performing arts," and "museums" were the most important attractions and activities in selecting pleasure trip destinations. • Most or all of their pleasure trips involved overnight stays and more than half were related to out-of-state trips. • The highest mean score of out-of-country trips, among the segments.
Segment 2	• Largely attended "musicals," "plays," "symphonies," "jazz concerts" and "opera." • Spent an average of $49.00 for purchasing tickets, with $93.00 as the average highest price paid, and $775.00 as the average total spending on tickets for the performing arts. • The highest average amounts for the highest price paid for tickets among all of the segments. • Chiefly used "newspapers," "websites of performing art organizations or centers," "websites specialized for online ticketing," and "leaflets/ brochures" as their information sources. • Always or usually used the Internet to research and purchase tickets for the performing arts. • "Historical/heritage attractions, sites and districts," "gardens, zoos and aquariums," and "museums" were the most important attractions and activities when they selected destinations for pleasure trips. • Most or all of their pleasure trips involved overnight stays, and more than half were related to out-of-state trips.

Table 25. (cont'd)

	Behavior profile
Segment 3	• Mostly attended "musicals," "plays," "symphonies," "jazz concerts" and "folk/ethnic concerts." • Spent an average of $51.00 for purchasing tickets, with $88.00 as the average highest price paid, and $791.00 as the average total spending on tickets for the performing arts. • Spent the largest average total amount for tickets purchases, compared to other segments. • Mainly used "newspapers," "websites of performing art organizations or centers," "websites specialized for online ticketing" and "acquaintances, friends, family or relatives" as information sources. • Always or usually used the Internet to research and purchase tickets for the performing arts. • "Historical/heritage attractions, sites and districts," "performing arts," and "gardens, zoos and aquariums" were the most important attractions and activities when they selected pleasure trip destinations. • Most or all of their pleasure trips involved overnight stays, and more than half were related to out-of-state trips.
Segment 4	• Frequently attended live performances of "musicals," "plays," "rock concerts, "symphonies," and "jazz concerts." • Spent an average of $51.00 for purchasing tickets, with $88.00 as the average highest price paid, and $752.00 as the average total spending on tickets for the performing arts. • Chiefly used "websites of performing art organizations or centers," "newspapers," "websites specialized for online ticketing," "acquaintances, friends, family or relatives," and "radio" as their information sources. • Always or usually used the Internet to research and purchase tickets for performing arts. • "Historical/heritage attractions, sites and districts," "gardens, zoos, and aquariums," and "performing arts" were the most important attractions and activities when they selected pleasure trip destinations. • The lowest mean score for out-of-state trips among the six segments.

Table 25. (cont'd)

	Behavior profile
Segment 5	• Frequently attended "musicals," "plays," "rock concerts," "country concerts" and "symphonies." • Spent an average of $49.00 for purchasing tickets, with $81.00 as the average highest price paid, and $714.00 as the average total spending on tickets for the performing arts. • Primarily used "websites of performing art organizations or centers," "websites specialized for online ticketing," "newspapers" and "acquaintances, friends, family or relatives" as information sources. • The highest Internet users for researching and purchasing art- and culture-related products. • "Gardens, zoos and aquariums," "historical/heritage attractions, sites and districts," and "performing arts" were the most important attractions and activities when they selected destinations for their pleasure trips. • Most or all of their pleasure trips involved overnight stays, and more than half were related to out-of-state trips. • The lowest mean score for out-of-country trips among the segments.
Segment 6	• A higher percentage of attendance at "rock concerts," "country concerts," "new and experimental concerts" and "hip hop concerts" than other segments. • Spent an average of $43.00 for purchasing tickets, with $80.00 as the average highest price paid, and $633.00 as the average total spending on tickets for the performing arts. • The lowest spending on ticket purchases among all of the segments. • Largely used "websites specialized for online ticketing," "websites of performing art organizations or centers," "acquaintances, friends, family or relatives" and "newspapers" as their information sources. • The highest ticket purchases for the performing arts through the Internet. • "Gardens, zoos and aquariums," "historical/heritage attractions, sites and districts," and "performing arts" were the most important attractions and activities when they selected pleasure trip destinations. • The highest mean score for out-of-state trips among the six segments.

Attandance at Live Peformances in a Different State or Country

The results of the third Exhaustive CHAID analysis performed to test the third hypothesis are presented: *Hypothesis 3: Heavy consumers of the performing arts are further divided into substantial, measurable, accessible and actionable market segments based on the inclination to travel out of state or/and out of country to attend live performances.*

This section shows another segmentation result for heavy consumers of the performing arts. The decision tree resulting from the Exhaustive CHAID analysis grew to four levels and respondents were segmented into five terminal homogeneous subgroups. The most significant predictors for attendance at live performances in a different state or country were membership status in arts organizations, purchase of art products, education and donation activity to arts organizations (Table 26).

Table 26. Significant Predictors in the Decision Tree for Attendance of Live Performances in a Different State or Country

Predictor	Chi-square	df	Bonferroni adjusted p-value
Membership status	18.76	1	0.0000***
Purchase of art products	7.77	1	0.0053**
Donation activity	6.78	1	0.0092**
Education	10.52	1	0.0248*

*, **, *** indicates significance levels at 0.05, 0.01 and 0.0001, respectively.

The resulting decision tree is divided into two main branches of eight nodes. Branch 1 consists of nodes 1, 3 and 4. Branch 2 consists of nodes 2, 5, 6, 7 and 8. The nodes are presented by the number and percentage of cultural tourists and non-cultural

tourists, and the total respondents. The predictors are divides respondents into mutually exclusive groups with the Chi-square value, and the Bonferroni adjusted p-value reported in the CHAID tree diagram (Figure 5).

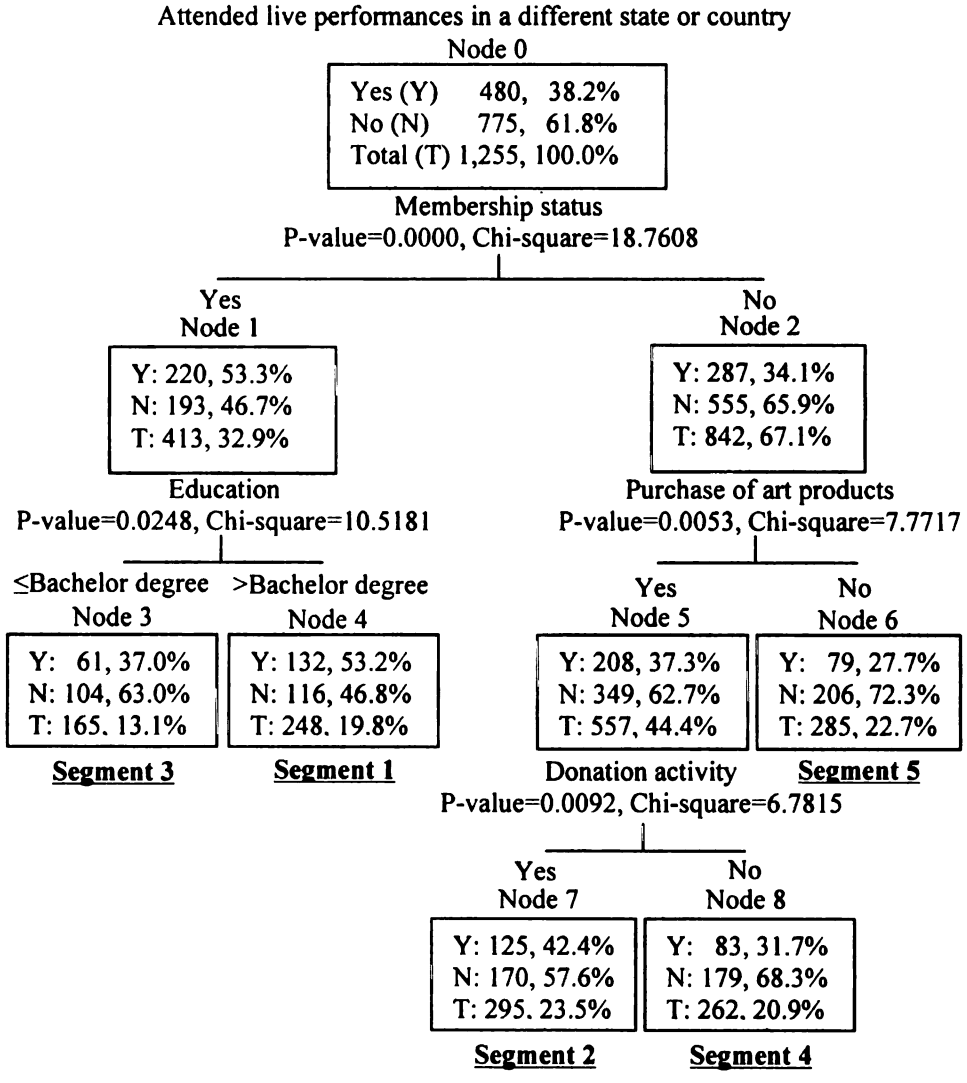

Figure 5. Decision Tree for Attendance at Live Performances in a Different State or Country

Decision Tree for Attendance at Live Performances in a Different State or Country

The root node at the top of the decision tree represents the sample of 1,255 heavy performing arts consumers who indicated their attendance at live performances in a different state or country during the last 12 months (Figure 5). These respondents were divided into two categories -- cultural tourists (those who attended live performances in a different state or country) and non-cultural tourists (those who did not attend live performances in a different state or country). There were more non-cultural tourists (n = 775, 61.8%) than cultural tourists (n = 480, 38.2%) in the sample. This root node breaks down into two child nodes, based on the membership status in arts organizations during the last 12 months.

Based on the first breakdown in Figure 5, the more people who had membership in arts organizations, the more likely they were to be cultural tourists. When members were further divided by education, people with a degree higher than a bachelor's degree were more likely to be cultural tourists. These people in node 4 were the most likely to be cultural tourists in the decision tree, based on statistical distinction. The education category was re-categorized into two groups – bachelor's degree or less, and higher than bachelor's degree. On the other hand, respondents in node 6 were the least likely to be cultural tourists; they were not members of arts organizations and did not purchase art products during the last 12 months.

The estimated risk of misclassification, based on the tree and the numbers of cases corresponding to specific prediction errors, are presented in Table 27. Results of the Exhaustive CHAID analysis revealed a 37.0% risk of false classification; 348 of 1,007 respondents predicted to be non-cultural tourists were cultural tourists, and 116 of 248

respondents predicted to be cultural tourists were non-cultural tourists. The risk on cross-validation was 40.6%. The risk summary indicates that the overall correct classification accuracy of 63.0% was a moderate improvement over the base rate of 61.8%. Overall, the predictors were better for non-cultural tourists (85.0% accuracy, with 659 of the 775 respondents) than for cultural tourists (27.5% accuracy, with 132 of the 480 respondents).

Table 27. Results of the Misclassification Matrix

		Actual category		
		Non-cultural tourist	Cultural tourist	Total
Predicted category	Non-cultural tourist	659	348	1,007
	Cultural tourist	116	132	248
	Total	775	480	1,255
		Risk statistics	Cross-validation	
Risk estimate		0.3697	0.4064	
SE of risk estimate		0.0136	0.0139	

Gain Summary of Attendance at Live Performances in a Different State or Country

The gain summary (Table 28) is represented by five nodes, which were sorted by an index score. The higher the index score, the more likely the respondents (heavy consumers) in the node were to be cultural tourists for the performing arts. Nodes 4 and 7, which have an index score of greater than 100%, have higher response rates, while nodes 3, 8 and 6, which have an index score of less than 100% for cultural tourists, have significantly lower response rates compared to the overall sample. The nodes with index scores greater than 100% represent 53.5% of cultural tourists by targeting 43.3% of the heavy consumer market. The gains chart shows important information about who needs to be targeted as cultural tourists among the heavy consumers of the performing arts.

These nodes are effective segments of the cultural tourists for the performing arts that are mutually exclusive, large enough for attention, measurable, accessible through marketing communication tools, and share certain characteristics (Kotler, 1972).

Table 28. Gains Summary of the Attendance at Live Performances in a Different State or Country

Node	No. of respondents (n)	% of all the respondents (%)	No. of cultural tourists (n)	% of cultural tourist sample[a] (%)	% of cultural tourist response rate in the node (%)	Index score[b] (%)
4	248	19.8	132	27.5	53.2	139.3[c]
7	295	23.5	125	26.0	42.4	111.0
3	165	13.1	61	12.7	37.0	96.9
8	262	20.9	83	17.3	31.7	83.0
6	285	22.7	79	16.5	27.7	72.5

[a] Cultural tourists in a particular node to all of the cultural tourists in the heavy market.

[b] Proportion of cultural tourist rates in the node compared to the overall sample.

[c] 139.3% = 53.2% (cultural tourist rate in Node 6) / 38.2% (cultural tourist rate in the overall sample).

Profile of the Inclination to Travel Out of State or/and Out of Country to Attend Live Performances Sub-Segments

Heavy performing arts consumers were divided into five sub-segments of the inclination to travel out of state or/and out of country to attend live performances and profiled based on socioeconomic and household characteristics, and other behaviors toward the performing arts and pleasure trips, with respect to: (1) the type of performing arts attendance; (2) spending on tickets to the performing arts; (3) performing arts information sources; (4) web-based purchases to art- and culture-related products; (5) the importance of cultural attractions and activities in selecting pleasure trip destinations; and (6) characteristics of pleasure trips. A series of chi-square and one-way ANOVA analyses

were employed to determine statistically significant differences among the five sub-segments.

Socioeconomic Characteristics

A chi-square test was performed to determine whether statistically significant differences existed among the five segments in the respondents' characteristics, including: (1) gender; (2) age; (3) sexual orientation; (4) race; (5) education; (6) annual household income; (7) employment; (8) number of people in household; and (9) household composition. Statistically significant differences among segments were found in gender, age, education, annual household income, number of people in household and household composition ($p < 0.001$), and in employment ($p < 0.01$) (Table 29).

Regardless of the segment, a majority of respondents were female, aged 45 years or older, straight or heterosexual and Caucasian or White, had an annual household income of $50,000 or higher, had two people or more people residing in their household, and were married or partnered, either with children living at home or children no longer living at home. A summary of the socioeconomic characteristics of the inclination to travel out of state and/or out of country to attend live performances five sub-segments is presented in Table 30.

Table 29. Socioeconomic Characteristics of the Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Segment	Number of respondents (n)	Percentage of respondents (%)	Gender (%)		Age (%)					Sexual orientation (%)			
			Male	Female	Less than 35	35-44	45-54	55-64	65 or over	Straight/Heterosexual	Gay/Lesbian	Others	Prefer not to answer
1	248	19.8	34.3	65.7	2.8	10.2	29.3	40.7	17.0	89.1	1.2	0.4	9.3
2	295	23.5	31.5	68.5	7.8	17.1	35.8	32.1	7.2	90.7	3.1	0	6.2
3	165	13.1	19.1	80.9	9.8	19.4	34.8	23.2	12.8	90.7	1.2	0.6	7.5
4	262	20.9	23.8	76.2	21.0	19.1	34.7	23.7	1.5	89.6	3.8	1.2	5.4
5	285	22.7	38.1	61.9	17.0	22.0	33.0	21.3	6.7	91.2	2.8	0.7	5.3
Test statistic Significance			χ^2 = 24.780 p<0.001		χ^2 = 123.62 p<0.001					χ^2 = 12.727 p=0.389			

Table 29. (cont'd)

Segment	Number of respondents (n)	Percentage of respondents (%)	Race (%)		Education (%)				Annual household income (%)				Employment (%)	
			Caucasian or White	Others	2-year college degree or less	4-year college degree	Completed some graduate courses or Master's degree	Doctoral degree	Under $50,000	$50,000 - $99,999	$100,000 - $149,999	$150,000 or higher	Employed full-time	Others
1	248	19.8	95.5	4.5	0	0	77.8	22.2	3.6	36.4	33.6	26.4	55.7	44.3
2	295	23.5	97.9	2.1	21.8	25.4	41.2	11.6	9.3	32.0	28.6	30.1	61.4	38.6
3	165	13.1	99.4	0.6	36.6	63.4	0	0	19.1	36.9	20.6	23.4	46.3	53.7
4	262	20.9	96.2	3.8	30.6	26.7	32.8	9.9	17.6	39.3	26.0	17.2	65.6	34.4
5	285	22.7	97.2	2.8	33.3	28.1	31.9	6.7	16.6	48.0	25.3	10.1	62.5	37.5
Test statistic Significance			χ^2 = 6.701 p=0.153		χ^2 = 456.62 p<0.001				χ^2 = 75.810 p<0.001				χ^2 = 18.911 p<0.01	

Table 29. (cont'd)

Segment	Number of respondents (n)	Percentage of respondents (%)	Number of persons in household (%)				Household composition (%)					
			1 live alone	2 persons	3 persons	4 persons or more	Single without children	Single with children living at home	Single with children no longer living at home	Married/Partnered without children	Married/Partnered with children living at home	Married/Partnered with children no longer living at home
1	248	19.8	14.6	54.7	14.1	16.6	10.1	4.0	6.9	13.3	27.0	38.7
2	295	23.5	10.8	47.1	18.0	24.1	9.8	4.1	4.4	13.4	38.9	29.4
3	165	13.1	13.0	39.8	16.8	30.4	15.2	3.7	6.7	10.4	36.0	28.0
4	262	20.9	14.8	43.9	14.8	26.5	21.1	5.7	3.4	12.1	33.2	24.5
5	285	22.7	13.6	36.2	14.7	35.5	17.1	6.5	4.4	10.9	41.0	20.1
Test statistic Significance			$\chi^2 = 35.092$ $p<0.001$				$\chi^2 = 53.131$ $p<0.001$					

Table 30. Summary of the Socioeconomic Characteristics of the Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Segment	% of respon-dents	% of cultural tourists	% of market share of cultural tourists[a]	Definition of predictors	Characteristics
1	19.8	27.5	5.4	- Membership in arts organizations - Higher than 4-year college degree	- Female (65.7%) - 45 years or older (87.0%). - Completed some graduate courses or higher degree (100.0%). - Annual household income of $100,000 or higher (60.0%). - Two persons residing in household (54.7%). - Married/partnered with children living at home or with children no longer living at home (65.7%).
2	23.5	26.0	6.1	- No membership in arts organizations - Purchased art products - Donations to arts organizations	- Female (68.5%). - 35-64 years or older (85.0%). - 4-year college degree or high (78.2%). - Annual household income of $100,000 or higher (58.6%). - Two persons residing in the household (47.1%). - Married/partnered with children living at home or with children no longer living at home (68.3%).
3	13.1	12.7	1.7	- Membership in arts organizations - 4-year college degree or less	- Female (80.9%) - 45 years or older (70.8%). - 4-year college degree or less (100%). - Annual household income of $50,000 - $149,999 (57.5%). - Two persons or more residing in the household (87.0%). - Married/partnered with children living at home or with children no longer living at home (64.0%).

[a] Percentage of respondents × Percentage of cultural tourists.

Table 30. (cont'd)

Segment	% of respon-dents	% of cultural tourists	% of market share of cultural tourists[a]	Definition of predictors	Characteristics
4	20.9	17.3	3.6	- No membership in arts organizations - Purchased art products - Donations to arts organizations	- Female (76.2%). - Less than 35 years old (21.0%) - 4-year college degree or high (69.4%). - Annual household income of $50,000 - $149,999 (65.3%). - Two persons residing in the household (43.9%). - Single without children (21.1%) and married/partnered with children living at home (33.2%).
5	22.7	16.5	3.7	- No membership in arts organizations - No purchased art products	- Female (61.9%). - 35-64 years or older (76.3%). - 4-year college degree or less (61.4%). - Annual household income of $50,000 - $149,999 (73.3%). - Two persons or more residing in the household (86.4%). - Single without children (17.1%) and married/partnered with children living at home (41.0%).

[a] Percentage of respondents × Percentage of cultural tourists.

Type of Performing Arts Attendance

Cross-tabulations were performed to provide the type of performing arts attendance during the last 12 months among the five sub-segments, with regards to: (1) plays; (2) musicals; (3) opera; (4) ballet; (5) modern dance; (6) ethnic dance; (7) folk dance; (8) folk/ethnic concerts; (9) jazz concerts; (10) blues concerts; (11) symphony; (12) country concerts; (13) new and experimental concerts; (14) rock concerts; (15) hip-hop concerts; (16) world concerts; and (17) other. Chi-square tests indicated that significant differences among segments existed for: plays, opera, ballet, folk/ethnic concerts, jazz concerts and symphony ($p<0.001$); modern dance and rock concerts ($p<0.01$); and blues concerts and world concerts ($p<0.05$). However, differences were not significant for musicals, ethnic dance, folk dance, country concerts, new and experimental concerts, hip-hop concerts, and other (Table 31).

For respondents in all five segments, attending musicals and plays showed the highest frequency among the live performances, while hip-hop concerts, folk dance, new and experimental concerts, and world concerts were the least attended. Approximately 90% of all respondents in the five segments attended musicals, and more than two-thirds had attended plays. Attendance of respondents in segment 1 was the highest for most live performances, while attendance of those in segments 4 and 5 was lower than that of other segments.

Table 31. Type of Performing Arts Attendance by the Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Segment	Number of respondents (n)	Percentage of respondents (%)	Play (%)		Musical (%)		Opera (%)		Ballet (%)		Modern dance (%)		Ethnic dance (%)	
			Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended
1	248	19.8	18.1	81.9	8.9	91.1	72.6	27.4	79.8	20.2	83.1	16.9	92.3	7.7
2	295	23.5	24.4	75.6	9.5	90.5	87.1	12.9	82.7	17.3	87.8	12.2	92.2	7.8
3	165	13.1	23.0	77.0	11.5	88.5	80.6	19.4	78.8	21.2	86.1	13.9	90.3	9.7
4	262	20.9	34.4	65.6	13.4	86.6	92.4	7.6	90.1	9.9	93.9	6.1	95.4	4.6
5	285	22.7	35.1	64.9	12.3	87.7	91.9	8.1	91.9	8.1	91.9	8.1	94.7	5.3
Test statistic Significance			χ^2 = 28.359 p<0.001		χ^2 = 3.815 p=0.432		χ^2 = 56.915 p<0.001		χ^2 = 27.747 p<0.001		χ^2 = 19.452 p<0.01		χ^2 = 6.058 p=0.195	

Table 31. (cont'd)

Segment	Number of respondents (n)	Percentage of respondents (%)	Folk dance (%)		Folk/ethnic concert (%)		Jazz concert (%)		Blue concert (%)		Symphony (%)		Country concert (%)	
			Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended
1	248	19.8	96.0	4.0	76.2	23.8	60.9	39.1	80.2	19.8	54.0	46.0	86.7	13.3
2	295	23.5	96.6	3.4	81.4	18.6	73.6	26.4	84.1	15.9	68.5	31.5	84.7	15.3
3	165	13.1	96.4	3.6	79.4	20.6	69.1	30.9	83.0	17.0	67.9	32.1	84.8	15.2
4	262	20.9	97.7	2.3	90.1	9.9	83.6	16.4	85.5	14.5	81.3	18.7	85.9	14.1
5	285	22.7	97.2	2.8	91.6	8.4	86.0	14.0	90.2	9.8	82.5	17.5	86.7	13.3
Test statistic Significance			χ^2 = 1.538 p=0.820		χ^2 = 35.066 p<0.001		χ^2 = 58.826 p<0.001		χ^2 = 11.041 p<0.05		χ^2 = 68.493 p<0.001		χ^2 = 0.732 p=0.947	

Table 31. (cont'd)

Segment	Number of respondents (n)	Percentage of respondents (%)	New and experimental concert (%)		Rock concert (%)		Hip hop concert (%)		World concert (%)		Other (%)	
			Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended	Did not attend	Attended
1	248	19.8	96.4	3.6	76.6	23.4	98.4	1.6	92.7	7.3	64.1	35.9
2	295	23.5	95.6	4.4	75.9	24.1	98.0	2.0	95.6	4.4	69.8	30.2
3	165	13.1	95.2	4.8	61.8	38.2	97.6	2.4	93.9	6.1	67.3	32.7
4	262	20.9	96.6	3.4	66.0	34.0	97.7	2.3	96.6	3.4	72.9	27.1
5	285	22.7	96.5	3.5	70.9	29.1	97.9	2.1	97.9	2.1	72.3	27.7
Test statistic Significance			χ^2 = 0.913 p=0.923		χ^2 = 17.179 p<0.01		χ^2 = 0.424 p=0.980		χ^2 = 9.901 p<0.05		χ^2 = 6.271 p=0.180	

Spending on Tickets to the Performing Arts

One-way ANOVA revealed statistically significant differences among the five sub-segments in the total spending on tickets ($p<0.01$) and in an average ticket price and the highest ticket price ($p<0.05$) (Table 32). Further analysis using Tukey's HSD *post_hoc* test indicated significant mean differences: (1) in the total spending on tickets between segment 1 and segment 5; and between segment 2 and segment 5; (2) in the average ticket price between segment 2 and segment 3; (3) in the highest ticket price for tickets purchased between segment 2 and segment 5. The average ticket price for tickets and the highest price were the greatest for persons in segment 2 while the total spending on tickets was the greatest for those in segment 1. On the other hand, the average ticket price was the lowest in segment 3 while the average highest ticket price and the average total spending on tickets had the lowest values in segment 5.

Table 32. Spending on Tickets by the Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Segment / Ticket Price paid		1 (19.8%)	2 (23.5%)	3 (13.1%)	4 (20.9%)	5 (22.7%)	Test statistic/ Significance
Average price for tickets	Mean[a] ($) 48.00[b]	47.00	50.00	46.00	49.00	48.00	F = 2.462 p<0.05
	Range ($)	10.00-100.00	8.00-125.00	8.00-111.00	10.00-100.00	5.00-100.00	
Highest price for a ticket	Mean ($) 87.00	91.00	92.00	87.00	83.00	81.00	F = 2.461 p<0.05
	Range ($)	20.00-500.00	25.00-750.00	26.00-350.00	10.00-300.00	10.00-1000.00	
Total spending on tickets	Mean ($) 752.00	792.00	772.00	749.00	733.00	712.00	F = 3.994 p<0.01
	Range ($)	150.00-1000.00	120.00-1000.00	90.00-1000.00	110.00-1000.00	100.00-1000.00	

[a] Mean values rounded to the nearest dollar.

[b] Mean score for average price for tickets in the five segments.

Performing Arts Information Sources

Chi-square tests were used to compare the five sub-segments as to information sources used to search for live theater, dance performances and music concerts (Table 33). Differences among the segments were significant for: art-related publications and leaflets/brochures ($p<0.001$); newspapers and websites specialized for online ticketing ($p<0.01$); and websites of performing art organizations or centers ($p<0.05$). TV, magazines, radio and acquaintances, friends, family or relatives, however, no statistically significant differences were found for.

A majority of the respondents in all of the segments either usually or always used newspapers, websites specializing in online ticketing, websites of performing art organizations or centers, acquaintances, friends, family or relatives and magazines as information sources for live performances, but never or seldom acquired information about live performances from art-related publications and magazines.

More than 80% of the respondents in segments 1 and 2 either usually or always obtained information related to live performances from newspapers, whereas approximately 70% of the respondents in segments 4 and 5 either usually or always obtained information from websites specializing in online ticketing. Higher percentages of people in segments 2 and 4 either usually or always used websites of performing art organizations or centers, while more people in segments 1 and 3 obtained the information from art-related publications and leaflets/brochures, leaflets or brochures, than did those in other segments.

Table 33. Performing Arts Information Sources by the Inclination Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Information Source \ Segment		1 (19.8%) %	2 (23.5%) %	3 (13.1%) %	4 (20.9%) %	5 (22.7%) %	Test statistic/ Significance
TV	Never/ seldom	67.9	61.7	61.2	55.2	61.9	$\chi^2 = 8.620$
	Usually/ always	32.1	38.3	38.8	44.8	38.1	p=0.071
Magazines	Never/ seldom	72.6	72.4	72.3	71.7	77.1	$\chi^2 = 2.618$
	Usually/ always	27.4	27.6	27.7	28.3	22.9	p=0.624
Newspapers	Never/ seldom	17.8	18.4	25.0	27.5	29.6	$\chi^2 = 17.184$
	Usually/ always	82.4	81.6	75.0	72.5	70.4	p<0.01
Radio	Never/ seldom	52.7	45.1	48.8	43.8	48.9	$\chi^2 = 4.969$
	Usually/ always	47.3	54.9	51.2	56.2	51.1	p=0.290
Websites specializing in online ticketing	Never/ seldom	42.6	30.3	39.4	28.6	28.4	$\chi^2 = 18.803$
	Usually/ always	57.4	69.7	60.6	71.4	71.6	p<0.01
Websites of performing art organizations or centers	Never/ seldom	28.5	16.3	23.5	21.5	25.3	$\chi^2 = 12.468$
	Usually/ always	71.5	83.7	76.5	78.5	74.7	p<0.05
Acquaintances, friends, family or relatives	Never/ seldom	35.3	31.7	34.4	36.3	42.9	$\chi^2 = 8.331$
	Usually/ always	64.7	68.3	65.6	63.7	57.1	p=0.080
Art-related publications	Never/ seldom	62.1	78.9	64.1	85.3	88.9	$\chi^2 = 78.193$
	Usually/ always	37.9	21.1	35.9	14.7	11.1	p<0.001
Leaflets/ brochures	Never/ seldom	44.0	59.7	41.7	67.2	68.2	$\chi^2 = 57.722$
	Usually/ always	56.0	40.3	58.3	32.8	31.8	p<0.001

Web-Based Purchases to Art- and Culture-Related Products

Chi-square tests were also used to compare: (1) Internet use; (2) on-line research; and (3) the purchase of art- and culture-related products (Table 34). Significant differences were found among segments for researching of the arts ($p<0.001$); researching antiques and collections, and the purchase of arts ($p<0.01$); and researching tickets for the performing arts, and the purchase of tickets for the performing arts ($p<0.05$).

Regardless of the segment, almost all of the respondents used the Internet to research or purchase art- and culture-related products. A majority in all five segments usually or always used the Internet to research and purchase tickets for the performing arts. Respondents in segments 2, 4 and 5 had higher percentages of usually or always researching and purchasing tickets for performing arts than did other segments. On the other hand, a majority in the segments seldom or never used the Internet to research and purchase for arts, antiques and collections. Respondents in segments 2 and 4 had higher percentages of usually or always researching and purchasing arts.

The Importance of Cultural Attractions and Activities in Selecting Pleasure Trip Destinations

Significant differences among the sub-segments were found in the importance ratings of: museums; cultural fairs/festivals/events; performing arts; places to buy local arts/crafts; historical/heritage attractions; architecture and buildings; and libraries, literary events and bookstores ($p<0.001$); customs and ways of living ($p<0.01$); and purchasing products grown or processed locally ($p<0.05$). There were no significant differences among the five segments, however, for: gardens, zoos and aquariums; and agricultural attractions and events (Table 35).

Table 34. Web-Based Purchases by the Inclination to Travel out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Internet Use \ Segment		1 (19.8%) %	2 (23.5%) %	3 (13.1%) %	4 (20.9%) %	5 (22.7%) %	Test statistic/ Significance
Internet use	Use	92.7	95.6	95.1	97.7	95.4	$\chi^2 = 7.194$
	Not use	7.3	4.4	4.9	2.3	4.6	p=0.126
Research arts	Never/ seldom	69.3	65.5	72.4	68.8	83.0	$\chi^2 = 24.053$
	Usually/ always	30.7	34.5	27.6	31.2	17.0	p<0.001
Research tickets to the performing arts	Never/ seldom	15.7	8.2	14.7	8.2	10.7	$\chi^2 = 11.709$
	Usually/ always	84.3	91.8	85.3	91.8	89.3	p<0.05
Research antiques and collections	Never/ seldom	74.3	73.3	70.4	72.9	84.7	$\chi^2 = 16.255$
	Usually/ always	25.7	26.7	29.6	27.1	15.3	p<0.01
Purchase arts	Never/ seldom	90.7	89.0	88.8	85.9	95.5	$\chi^2 = 14.798$
	Usually/ always	9.3	11.0	11.2	14.1	4.5	p<0.01
Purchase tickets to the performing arts	Never/ seldom	21.7	18.1	25.0	13.3	16.3	$\chi^2 = 11.558$
	Usually/ always	78.3	81.9	75.0	86.7	83.7	p<0.05
Purchase antiques and collections	Never/ seldom	88.5	90.4	90.1	89.0	93.3	$\chi^2 = 4.155$
	Usually/ always	11.5	9.6	9.9	11.0	6.7	p=0.385

Results of the Tukey's HSD posthoc test indicated significant mean differences for attraction to: (1) museums between segment 1 and segments 2, 4 and 5; between segment 2 and segments 4 and 5; and between segment 3 and segments 4 and 5; (2) cultural fairs/festivals/events between segment 1 and segment 5; and between segment 3 and segment 5; (3) performing arts between segment 1 and segments 4 and 5; between segment 2 and segments 4 and 5; and between segment 3 and segment 4; (4) places to buy local arts/crafts between segment 1 and segment 5; between segment 2 and segment 5; between segment 3 and segment 5; and between segment 4 and segment 5; (5) historical/heritage attractions, sites and districts between segment 1 and segments 2, 4 and 5; between segment 2 and segment 5; between segment 3 and segment 5; and between segment 4 and segment 5; (6) architecture and buildings between segment 1 and segment 5; between segment 2 and segment 5; between segment 3 and segment 5; and between segment 4 and segment 5; (7) libraries, literary events and bookstores between segment 1 and segments 4 and 5; between segment 2 and segments 4 and 5; and between segment 3 and segments 4 and 5; (8) purchasing products grown or processed locally between segment 2 and segment 5.

"Historical/heritage attractions, sites and districts," "gardens, zoos and aquariums," "performing arts," and "museums" were the most important attractions and activities among the five segments when respondents were selecting destinations for pleasure trips. On the other hand, "agricultural attractions and events," "purchasing products grown or processed locally," and "libraries, literary events and bookstores" were the least important attractions and activities in all five segments. People in Segment 1

indicated almost all of the cultural attractions and activities were more important for pleasure trip destinations than that of other segments.

Table 35. The Importance of Cultural Attractions and Activities in Selecting Pleasure Trip Destinations by the Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Cultural attraction & activity \ Segment		1 (19.8%) 3.8[c]	2 (23.5%) 3.7	3 (13.1%) 3.7	4 (20.9%) 3.6	5 (22.7%) 3.4	Test statistic/ Significance
Museums	Mean[a] 3.9[b]	4.2	3.9	4.1	3.7	3.6	F = 17.801 p<0.001
Cultural fairs/ festivals/ events	Mean 3.8	3.9	3.8	4.0	3.8	3.7	F = 5.489 p<0.001
Performing arts	Mean 4.0	4.1	4.1	4.0	3.8	3.8	F = 7.383 p<0.001
Places to buy local arts/crafts	Mean 3.6	3.8	3.7	3.7	3.7	3.3	F = 12.279 p<0.001
Historical/ heritage attractions, sites & districts	Mean 4.2	4.4	4.2	4.3	4.1	3.9	F = 15.112 p<0.001
Gardens, zoos & aquariums	Mean 4.0	4.0	4.0	4.1	4.0	3.9	F = 1.129 p=0.341
Agricultural attractions and events	Mean 2.7	2.6	2.8	2.9	2.7	2.7	F = 1.698 p=0.148
Purchasing products grown or processed locally	Mean 3.3	3.3	3.4	3.3	3.3	3.1	F = 3.093 p<0.05
Architecture and buildings	Mean 3.5	3.7	3.6	3.6	3.5	3.2	F = 9.006 p<0.001
Customs and ways of living	Mean 3.7	3.9	3.7	3.7	3.6	3.5	F = 4.189 p<0.01
Libraries, literary events and bookstores	Mean 3.2	3.4	3.4	3.4	3.0	3.1	F = 7.259 p<0.001

[a] Mean values measured on the basis of a 5-point Likert scale (1=not important at all, 3=neutral, 5= extremely important).

[b] Mean score for museums in the five segments.

[c] Mean score for segment 1 in the overall cultural attractions and activities.

Characteristics of Cultural Pleasure Trips

Statistically significant differences among segments were found for out-of-country trips at $p<0.001$ (Table 36). Overnight stays and out-of-state trips were not significantly different among the five segments. Further analysis using the Tukey's HSD *post_hoc* test indicated significant mean differences: for out-of-country trips between segment 1 and segments 3, 4 and 5; and between segment 2 and segment 5.

Regardless of the segment, a majority of respondents indicated that most or all of their trips had involved overnight stays, and most or all of pleasure trips of approximately half of respondents had involved out-of-state trips. A majority of the people in all five segments indicated that none or few had taken pleasure trips to another country. For segments 1 and 2 took more trips out-of-country than other segments.

Summary of Behavior Profiles of the Inclination to Travel Out of State or/and Out of County to Attend Five Sub-Segments

Based on the results of the behaviors toward the performing arts and pleasure trips, a summary of the behavior profile of each segment is presented in Table 37.

Table 36. Characteristics of Cultural Pleasure Trips by the Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

Proportion of pleasure trips \ Segment		1 (19.8%)	2 (23.5%)	3 (13.1%)	4 (20.9%)	5 (22.7%)	Test statistic/ Significance
Overnight stays	Mean[a] 4.4[b]	4.3	4.4	4.3	4.4	4.3	F = 0.482
	None/ few (%)	4.5	3.8	7.4	4.8	8.4	p=0.749
	About half (%)	12.0	9.8	7.4	5.6	7.7	
	Most/ all (%)	83.5	86.4	85.2	89.6	83.9	
Out-of-state trips	Mean 3.3	3.4	3.4	3.2	3.3	3.3	F = 1.494
	None/ few (%)	20.1	24.0	29.2	27.7	26.8	p=0.202
	About half (%)	30.5	26.8	28.6	28.9	27.2	
	Most/ all (%)	49.0	49.2	42.2	43.4	46.0	
Out-of-country trips	Mean 1.6	1.8	1.7	1.5	1.5	1.4	F = 12.950
	None/ few (%)	83.5	89.5	92.0	93.6	96.0	p<0.001
	About half (%)	10.3	8.1	6.1	4.4	2.5	
	Most/ all (%)	6.2	2.4	1.9	2.0	1.5	

[a] Mean values measured on the basis of a 5-point likert scale (1=none, 3=about half, 5=all).

[b] Mean score for overnight stays in the five segments.

Table 37. Behavior Profile toward the Performing Arts and Pleasure Trips of the Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Five Sub-Segments

	Behavior profile
Segment 1	• Mainly attended "musicals," "plays," "symphonies," "jazz concerts," "opera" and "rock concerts." • Spent an average of $47.00 for purchasing tickets, with $91.00 as the average highest price paid, and $792.00 as the average total spending on tickets for the live performances. • The largest average total spending on tickets, compared to other segments. • Mostly used "newspapers," "websites of performing art organizations or centers," "acquaintances, friends, family or relatives," and "websites specialized for online ticketing" as the information sources. • Always or usually used the Internet to research and purchase tickets for performing arts but relatively less internet users than other segments. • "Historical/heritage attractions, sites and districts," "museums," and "performing arts" were the most important attractions and activities in selecting pleasure trip destinations. • The highest mean scores for out-of-state trips and out-of-country trips, among the five segments.
Segment 2	• Largely attended "musicals," "plays," "symphonies," "jazz concerts," "rock concerts" and "country concerts." • Spent an average of $50.00 for purchasing tickets, with $92.00 as the average highest price paid, and $772.00 as the average total spending on tickets for the performing arts. • The highest average amounts for the highest price paid for tickets among all of the segments. • Chiefly used "websites of performing art organizations or centers," "newspapers," "websites specialized for online ticketing," and "acquaintances, friends, family or relatives," as information sources. • "Historical/heritage attractions, sites and districts," "performing arts," and "gardens, zoos and aquariums" were the most important attractions and activities when selecting destinations for pleasure trips. • The highest mean score for overnight stays, among the five segments.

Table 37. (cont'd)

	Behavior profile
Segment 3	• Mostly attended "musicals," "plays," "rock concerts," "symphonies," and "jazz concerts." • The highest attendance of "ballet," "ethnic dance," "new and experimental concerts," and "hip hop concerts." • Spent an average of $46.00 for purchasing tickets, with $87.00 as the average highest price paid, and $749.00 the average total spending on tickets purchases for the performing arts. • The lowest amount for the average ticket purchases. • Mostly used "websites of performing art organizations or centers," "newspapers," "websites specialized for online ticketing," and "acquaintances, friends, family or relatives" as information sources. • Always or usually used the Internet to research and purchase tickets for the performing arts. • "Historical/heritage attractions, sites and districts," "gardens, zoos and aquariums," "museums" and "performing arts," were the most important attractions and activities for pleasure trip destinations. • The lowest mean scores for overnight stays and out-of-state trips among the five segments.
Segment 4	• Frequently attended live performances of "musicals," "plays," "rock concerts, "symphonies," and "jazz concerts." • Spent an average of $49.00 for purchasing tickets, with $83.00 as the average highest price paid, and $733.00 as the average total spending on tickets for the live performances. • Chiefly used "websites of performing art organizations or centers," "newspapers," "websites specialized for online ticketing," "acquaintances, friends, family or relatives," and "radio" as information sources. • The highest Internet users, and always or usually used the Internet to research and purchase tickets for the performing arts. • "Historical/heritage attractions, sites and districts," "gardens, zoos, and aquariums," and "performing arts" were the most important attractions and activities in selecting pleasure trip destinations. • Most or all of pleasure trips involved overnight stays, and more than half were related to out-of-state trips.

Table 37. (cont'd)

	Behavior profile
Segment 5	• Frequently attended "musicals," "plays," "rock concerts," "symphonies" and "jazz concerts." • The lowest attendance of performing arts, among the five segments. • Spent an average of $48.00 for purchasing tickets, with $81.00 as the average highest price paid, and $712.00 as the average total spending on tickets for the live performances. • The least average highest price and the least average total amount for tickets purchases, compared with other segments. • Primarily used "websites of performing art organizations or centers," "websites specialized for online ticketing," "newspapers" and "acquaintances, friends, family or relatives" as information sources. • Always or usually used the Internet to research and purchase tickets for the performing arts. • "Gardens, zoos and aquariums," "historical/heritage attractions, sites and districts," and "performing arts" were the most important attractions and activities when selecting destinations for their pleasure trips. • Most or all pleasure trips involved overnight stays, and more than half were related to out-of-state trips. • Showed the lowest mean score for out-of-country trips among the five segments.

Summary of Results

A summary of market relevant profiles and marketing mix strategies for the ten heavy consumer groups, the propensity to donate to arts organizations six sub-segments, and the inclination to travel out of state and/or out of country to attend live performances five sub-segments is presented in Table 38, Table 39 and Table 40 respectively.

Table 38. Market Relevant Profiles and Marketing Mix Strategies for the Heavy Consumer Nodes

Node	Size of market share (%)	Market profile	Potential marketing mix strategy
23	5.1	- 4-year college degree or higher (90%). - Income of $100,000 or higher (59%). - Significant attendance at musicals (90%), plays (84%), symphonies (46%), jazz concerts (39%) and opera (29%). - Average price paid for tickets is $49, a highest ticket price of $94, and $1,105 is the total spending on tickets. - Newspapers (84%), websites of performing art organizations or centers (76%) and websites specialized for online ticketing (64%) are core information sources.	- Offer high quality selection of musicals, plays and symphonies. - Increase advertising in newspapers and on websites. - Relationship marketing to build loyalty.
13	4.0	- 45-64 years old (77%). - Married (92%). - Attendance at musicals (82%), plays (64%), symphonies (25%), Jazz concerts (22%) and rock concerts (21%). - Average price paid for tickets is $54, a highest ticket price of $87, and $840 is the total spending on tickets to the performing arts. - Newspapers (78%), websites of performing art organizations or centers (77%) and acquaintances/friends/family/relatives (67%) are core information sources. - Purchase tickets online (86%).	- Provide special tickets, discount tickets or package deals for couples. - Focus advertising on newspapers and websites. - Continuing direct mail and ecommerce to keep Wharton Center top-of-mind.
24	4.9	- 4-year college degree or higher (74%). - Income of $50,000 - $149,999 (66%). - Attendance at musicals (90%), plays (76%), symphonies (32%), jazz concerts (26%) and rock concerts (22%). - Average price paid for tickets is $54, a highest ticket price of $95, and $899 is the total spending on tickets. - Newspapers (85%), websites of performing art organizations or centers (79%) and websites specialized for online ticketing (71%) are core information sources. - Purchase tickets online (84%).	- Aggressive e-marketing strategies. - Promotions related to purchase of e-tickets. - Communicate concerning new programs and offers.

Table 38 (cont'd)

Table 38. (cont'd)

Node	Size of market share (%)	Market profile	Potential marketing mix strategy
27	6.0	- 55 years or older (59%). - 4-year college degree or higher (76%). - Attendance at musicals (83%), plays (60%), symphonies (24%), jazz concerts (20%) and folk/ethnic concerts (17%). - Average price paid for tickets $47, highest ticket price of $69, and $620 as the total spending on tickets. - Newspapers (83%), websites of performing art organizations or centers (70%) and acquaintances/friends/family/relatives (65%) are core information sources.	- Easy and simple way to provide e-purchase process. - Focus on age relevant musicals and plays. - Focus advertising on newspapers, websites and word-of- mouth.
9	3.7	- Full-time employment (70%). - Income of $50,000 - $149,999 (60%). - Attendance at musicals (86%), plays (63%), rock concerts (44%), jazz concerts (24%) and symphonies (23%). - Average price paid for tickets $48, highest ticket price of $90, and $656 as the total spending on tickets. - Websites of performing art organizations or centers (90%), websites specialized for online ticketing (76%) and acquaintances/friends/family/relatives (71%) are core information sources. - Purchase tickets online (94%).	- Aggressive e-marketing strategies. - Easy and simple way to provide e-purchase process. - Strong web presence and e-commerce. - Discount for e-tickets.
21	3.2	- 35-54 years old (60%). - Married (90%). - Attendance at plays (86%), musicals (83%), rock concerts (31%), operas (15%), Jazz concerts (11%) and country music (11%). - Average price paid for tickets is $52, highest ticket price of $80, and $615 is the total spending on tickets. - Newspapers (76%), websites of performing art organizations or centers (73%) and websites specialized for online ticketing (69%) are core information sources. - Purchase tickets online (92%).	- Focus advertising on newspapers and websites. - Provide a varied selection of plays, musicals, and rock concerts. - Discount for e-tickets.

Table 38. (cont'd)

Node	Size of market share (%)	Market profile	Potential marketing mix strategy
32	1.7	- Female (75%). - 55 years or older (87%). - Two people residing in the household (94%). - Attendance at musicals (72%), plays (67%), jazz concerts (33%), symphonies (17%) and blues concerts (17%). - Average price paid for tickets is $54, a highest ticket price of $71, and $459 is the total spending on tickets. - Newspapers (94%), websites specialized for online ticketing (81%) and acquaintances/friends/family/relatives (77%) are core information sources. - Purchase tickets online (80%).	- Musicals and plays with special appeal to women. - Provide senior programs and discount tickets. - Focus advertising on newspapers, websites and Words-of-mouth. - Provide package programs such as combining tickets with dinner at local restaurants and women's night out events.
25	2.6	- Female (83%). - Under 35 years old (26%) and 65 years old (21%). - 4-year college degree or less (62%). - Persons living alone (64%). - Attendance at musicals (83%), plays (65%), symphonies (22%), country music (19%), rock concerts (16%) and ballet (16%). - Average ticket price of $46, a highest ticket price of $70, and $505 as the total spending on tickets. - Newspapers (79%), websites of performing art organizations or centers (69%), acquaintances/friends/family/relatives (63%) and websites specialized for online ticketing (63%) are core information sources. - Purchase tickets online (73%).	- Musicals and plays with special appeal to women. - Focus advertising on newspapers, websites and Word-of- mouth. - Events that encourage single women to participate.

Table 38. (cont'd)

Node	Size of market share (%)	Market profile	Potential marketing mix strategy
28	11.4	- Female (70%). - 45-54 years old (41%). - 4-year college degree or less (55%). - Attendance at musicals (80%), plays (57%), rock concerts (25%), symphonies (19%) and jazz concerts (17%). - Average ticket price of $48, a highest ticket price of $73, and $533 as the total spending on tickets. - Websites of performing art organizations or centers (79%), newspapers (77%) and websites specialized for online ticketing (69%) are core information sources. - Purchase tickets online (86%).	- Emphasis on e-advertising. - Brand and event reminder advertising. - Provide a varied selection of musicals, plays. and rock concerts.
19	3.5	- 55-64 years old (50%). - Full-time employment (73%). - Married (95%). - Attendance at plays (94%), musicals (80%), rock concerts (20%), country music (16%) and jazz concerts (14%). - An average ticket price of $56, a highest ticket price of $81, and $546 as the total spending on tickets. - Newspapers (82%), websites of performing art organizations or centers (74%) and websites specialized for online ticketing (69%) are core information sources. - Purchase tickets online (84%).	- Aggressive e-marketing strategies. - Events that couples can enjoy together. - Emphasis on e-advertising. - Brand and event reminder advertising. - Provide a varied selection of musicals, plays and rock concerts.

Table 39. Market Relevant Profiles and Marketing Mix Strategies for the Respondents

Table 39. Market Relevant Profiles and Marketing Mix Strategies for the Propensity to Donate to Arts Organizations Six Sub-Segments

Segment	Size of market share (%)	Market profile	Potential marketing mix strategy
1	5.0 (16.4)[a]	- 45-64 years or old (66%). - Higher than 4-year college degree (61%). - Attendance at musicals (94%), plays (85%), symphonies (44%), jazz concerts (38%) and rock concerts (34%). - Average price paid for tickets is $44, a highest ticket price of $86, and $775 is the total spending on tickets. - Newspapers (84%), websites of performing art organizations or centers (73%) and acquaintances/friends/family/relatives (75%) are core information sources. - Purchase tickets online (78%).	- Provide a varied selection of high quality musicals, plays and symphonies - Focus advertising on newspapers, websites and word-of-mouth
2	5.0 (16.2)[a]	- 45-64 years or old (65%). - Annual household income of $100,000 or higher (59%). - Married (81%) - Attendance at musicals (86%), plays (75%), symphonies (37%), jazz concerts (34%) and rock concerts (25%). - Average price paid for tickets is $49, a highest ticket price of $93, and $775 is the total spending on tickets. - Newspapers (75%), websites of performing art organizations or centers (70%) and websites specialized for online ticketing (57%) are primary information sources. - Purchase tickets online (76%).	- Provide a varied selection of high quality musicals, plays and symphonies. - Events that couples can enjoy together. - Focus advertising on newspapers and websites. - Relationship marketing to build loyalty.

[a] Percentage of market share in heavy consumers of the performing arts.

Table 39. (cont'd)

Segment	Size of market share (%)	Market profile	Potential marketing mix strategy
3	6.3 (20.7)[a]	- 55 years or older (100%). - Two people residing in the household (68%). - Attendance at musicals (90%), plays (78%), symphonies (31%), jazz concerts (27%) and blues concerts (19%). - Average price paid for tickets is $51, a highest ticket price of $88, and $791is the total spending on tickets. - Newspapers (85%), websites of performing art organizations or centers (72%) and websites specialized for online ticketing (62%) are primary information sources. - Purchase tickets online (69%).	- Provide senior programs and discount tickets. - Provide package programs such as combining tickets with dinner at local restaurants.
4	7.2 (23.5)[a]	- Female (76%). - 35-54 years old (100%). - Annual household income of $50,000 – 149,999 (64%). - Attendance at musicals (90%), plays (67%), rock concerts (33%), symphonies (23%) and jazz concerts (19%). - Average price paid for tickets is $51, a highest ticket price of $88, and $752 is the total spending on tickets. - Websites of performing art organizations or centers (84%), newspapers (77%) and websites specialized for online ticketing (72%) are important information sources. - Purchase tickets online (90%).	- Aggressive e-marketing strategies. - Emphasis on e-advertising. - Send a reminder for new programs. - Provide a varied selection of musicals, plays rock concerts and jazz concerts.

[a] Percentage of market share in heavy consumers of the performing arts.

Table 39. (cont'd)

Segment	Size of market share (%)	Market profile	Potential marketing mix strategy
5	3.9 (12.6)[a]	- 35-54 years old (100%). - Annual household income of $50,000 – 149,999 (78%). - Employed full-time (77%). - Attendance at musicals (86%), plays (62%), rock concerts (31%), country music (13%) and symphonies (13%). - Average price paid for tickets is $49, a highest ticket price of $81, and $714 is the total spending on tickets. - Websites of performing art organizations or centers (80%), websites specialized for online ticketing (77%) and newspapers (69%) are major information sources - Purchase tickets online (90%).	- Aggressive e-marketing strategies. - Emphasis on e-advertising. - Continuing direct mail and ecommerce to keep Wharton top-of-mind. - Provide a varied selection of musicals, plays rock concerts and country concerts.
6	3.2 (10.6)[a]	- Under 35 years old (100%). - Annual household income of less than $100,000 (76%). - Attendance at musicals (80%), plays (59%), rock concerts (50%), country music (19%) and symphony (17%). - Average price paid for tickets is$43, a highest ticket price of $80, and $633 is the total spending on tickets. - Websites specialized for online ticketing (78%), websites of performing art organizations or centers (77%) and acquaintances/friends/family/relatives (68%) are major information sources. - Purchase tickets online (91%).	- Aggressive e-marketing strategies. - Emphasis on e-advertising. - Provide a varied selection of musicals, plays rock concerts and country concerts. - Provide e-discount tickets.

[a] Percentage of market share in heavy consumers of the performing arts.

Table 40. Market Relevant Profiles and Marketing Mix Strategies for the Inclination to Travel Out-of-State and/or Out-of-Country to Attend Live Performances Five Sub-Segments

Segment	Size of market share (%)	Market profile	Potential marketing mix strategy
1	6.1 (19.8)[a]	- 45-64 years or older (70%). - Higher than 4-year college degree (100%). - Two persons residing in the household (55%). - Attendance at musicals (91%), plays (82%), symphonies (46%), jazz concerts (39%) and opera (27%). - Average price paid for tickets is $47, a highest ticket price of $91, and $792 is the total spending on tickets. - Newspapers (82%), websites of performing art organizations or centers (72%) and acquaintances/friends/family/relatives (65%) are important information sources.	- Provide package programs such as combining tickets with dinner at local restaurants. - Focus advertising on newspapers and websites - Provide a varied selection of high quality musicals, plays.
2	7.2 (23.5)[a]	- 45-64 years or older (68%). - 4-year college degree or high (78.2%). - Two persons or more residing in the household (89.2%). - Attendance at musicals (91%), plays (76%), symphonies (32%), jazz concerts (26%) and rock concerts (24%). - Average price paid for tickets is $50, a highest ticket price of $92, and $772 is the total spending on tickets. - Websites of performing art organizations or centers (84%), newspapers (82%) and websites specializing in online ticketing are main information sources(70%). - Purchase tickets online (82%).	- Aggressive e-marketing strategies - Provide varied e-advertising. - Send a reminder for new programs. - Provide a varied selection of musicals, plays and symphonies..

[a] Percentage of market share in heavy consumers of the performing arts.

Table 40. (cont'd)

Segment	Size of market share (%)	Market profile	Potential marketing mix strategy
3	4.0 (13.1)[a]	- 45-64 years or older (58%). - 4-year college degree or less (100%). - Attendance at musicals (89%), plays (77%), rock concerts (38%), symphonies (32%) and jazz concerts (31%). - Average ticket price of $46, a highest ticket price of $87, and $749 as the total spending on tickets. - Websites of performing art organizations or centers (77%), newspaper (75%) and acquaintances/friends/family/relatives (66%) are primary information sources.	- Focus advertising on newspapers, websites and word-of-mouth. - Provide a varied selection of musicals, plays and symphonies.
4	6.4 (20.9)[a]	- Less than 55 years old (75%). - Annual household income of $50,000 - $149,999 (65%). - Attendance at musicals (87%), plays (66%), rock concerts (34%), symphonies (19%) and jazz concerts (16%). - Average ticket price of $49, a highest ticket price of $83, and $733 as the total spending on tickets. - Websites of performing art organizations or centers (79%), newspaper (73%) and websites specializing in online ticketing (71%) are key information sources - Purchase tickets (84%).	- Venues that appeal to younger audience - Aggressive e-marketing strategies are needed. - Provide varied e-advertising. - Focus advertising on newspapers and websites.
5	7.0 (22.7)[a]	- 35-55 years old (55%). - Annual household income of $50,000 - $149,999 (73%). - Attendance at musicals (88%), plays (65%), rock concerts (29%), symphonies (18%) and jazz concerts (14%). - Average ticket price of $48, a highest ticket price of $81, and $712 as the total spending on tickets. - Websites of performing art organizations or centers (75%), websites specializing in online ticketing (72%) and newspapers (70%) are main information sources.	- Aggressive e-marketing strategies. - Provide varied e-advertising. - Focus advertising on newspapers and websites

[a] Percentage of market share in heavy consumers of the performing arts.

Based on the results of three Exhaustive CHAID analyses and statistical comparisons of the segments, the results of the testing of three hypotheses presented in Table 41.

Table 41. Results of the Testing of Three Hypotheses

Hypothesis	Result	
Hypothesis 1 Persons who attend live performances (eg., play, folk dances, musicals and rock concerts) can be classified into substantial, measurable, accessible and actionable market segments based on the number of tickets purchased to the performing arts.	Ten heavy consumer groups of the performing arts are mutually exclusive.	Accepted
Hypothesis 2 Heavy consumers of performing arts can be further divided into substantial, measurable, accessible and actionable market segments, based on the propensity to donate to arts, heritage or cultural organizations.	Six propensity to donate sub-groups are mutually exclusive.	Accepted
Hypothesis 3 Heavy consumers of performing arts can be further divided into substantial, measurable, accessible and actionable market segments, based on the inclination to travel out-of-state and/or out-of-country to attend live performances.	Five inclination to travel sub-groups are mutually exclusive.	Accepted

CHAPTER 5

DISCUSSION AND CONCLUSION

Overview

The market segmentation process is a critical component of positioning performing arts organizations whereby marketers identify distinct consumer segments that best maximize value to performing arts organizations. To understand the market of performing arts consumers, this study has three main purposes: 1) to explore and identify the important predictors which distinguish performing arts consumer groups; 2) to segment and profile the propensity to donate to arts, heritage or cultural organizations of heavy consumers; and 3) to segment and profile the inclination to travel out of state or/and out of country to attend live performances among heavy consumers. Three decision trees were developed using a criterion-based predictive segmentation method, Chi-squared Automatic Interaction Detection (CHAID) (Wedel & Kamakura, 2000; Magidson, 1994; Kass, 1980).

Through the process of three segmentations, the overall sample or selected study sample were divided into mutually exclusive homogeneous subgroups. Each subgroup has a different probability of target outcome based on a combination of three types of predictors – socioeconomics, household information and arts-related experiences. Exhaustive CHAID was selected over the original CHAID algorithm because it has a better chance of finding optimal association between predictors and a dependent variable. The target category of each criterion in the decision trees was: 1) heavy consumers (purchased 10 or more tickets to live performances); 2) donors (donated money to arts organizations); and 3) cultural tourists (attended live performances in a different state or

country). 'Donation activity' and 'travel out-of-state and/or out-of-country to attend live performances' were used as independent variables in the first CHAID analysis and as dependent variables in the second and third CHAID analyses. The three CHAID analyses were considered to be distinct.

Data were collected through an online survey of E-club members of the Wharton Center for Performing Arts at Michigan State University who had purchased a ticket at least once from the Wharton Center and were on its email list. The E-club newsletter announcing the online survey and providing the link to the survey was sent to a total of 39,011 valid email addresses and approximately 13,503 members opened the newsletter. Overall, the survey lasted for 12 days in January/February 2007, and a total of 4,744 E-club members responded to the survey, for a response rate of 35.1%.

Most valuable consumers usually represent a large percentage of its revenue in a business (Jackson & Wang, 1994). Since the heavy consumers represented approximately 30% of the performing arts market and accounted for over 50% of actual spending on tickets, this study focused on them. The results identified important predictors of performing arts consumers, based on the number of tickets purchased, and distinguished ten-heavy consumer segments. There were viable sub-segments from two different decision tree models for 'the propensity to donate arts, heritage or cultural organizations' and 'the inclination to travel out-of-state and/or out-of-country to attend live performances' among heavy consumers. Chi-square tests and one-way ANOVAs were conducted to examine statistically significant differences among derived segments with regard to their characteristics and behaviors toward the performing arts and pleasure trips.

This chapter summarizes the significant findings, provides implications to managers and marketers of performing arts organizations, discusses limitations of the study, and presents recommendations for future study.

Summary of Findings

Heavy Consumers of the Performing Arts (objective 1)

The sample of 4,138 respondents who were divided into two categories by light consumers (purchased 1-9 tickets, 69.4%) and heavy consumers (purchased 10 or more tickets, 30.6%) - was utilized to identify significant predictors of the heavy and light performing arts consumers. The decision tree resulting from the Exhaustive CHAID analysis identified significant predictors of heavy and light consumers consisting of 6 levels and containing 34 nodes. Donation activity was the most important predictor of heavy consumers; attendance at live performances in a different state or country, income, age, membership status, gender, purchase of art products, employment, children's status, volunteer status and marital status were other significant predictors.

This finding supports previous empirical studies which indicated socioeconomic characteristics were important predictors of consumers' behavior patterns toward the performing arts (Willis & Snowball, 2009; Favaro & Frateschi, 2007; Werck & Heyndels, 2007; Levy-Garboua & Montmarquette, 2002). Twenty mutually exclusive consumer groups in the performing arts were identified according to their index scores that showed greater and less than 100% which represented the proportion of the heavy consumers in the overall sample. Since heavy consumers were a target category, ten

consumer groups were identified as heavy attendance segments which were more likely to purchase 10 or more tickets to live performances a year.

The best three groups of heavy consumers were: 1) attendees at the performing arts, who were 45 years or older, donated money to arts organizations, had membership in arts organizations, and attended live performances in a different state or country (72.3% heavy consumers); 2) attendees, who had an annual household income of $150,000 or higher and donated money to arts organizations but did not attend live performances in a different state or country (55.4% heavy consumers); 3) attendees at the performing arts, who were 45 years or older, donated money to arts organizations, and attended live performances in a different state or country, but did not have membership in arts organizations (54.4% heavy consumers).

The least likely group to be heavy consumers of the performing arts was female with an annual household income of less than $50,000, with no donation activity, no volunteer in arts organizations, and no art products purchase. The findings of this study distinguish not only heavy and light consumers of the performing arts but also predict the heavy attendance segments more likely to purchase tickets to the performing arts.

Donation Activity to Arts Organizations (objective 2)

The second CHAID analysis identified the donate activity to arts organizations of heavy consumers. A total of 1,267 heavy consumers of the performing arts who divided into two categories - donors (61.3%) and non-donors (38.7%) - were selected for this CHAID analysis. The decision tree resulting from the Exhaustive CHAID analysis, consisting of 3 levels and containing 9 nodes, identified the propensity to donate six sub-segments, including three donor groups and three non-donor groups.

Membership status in arts organizations was the most significant predictor of donation activity, and volunteer status, age and purchase of art products were important predictors. Compared with the overall sample, segments 1, 2 and 3 had greater index scores than 100% that indicated these respondents were more likely to be donors; while segments 4, 5 and 6 had lower index scores than 100% indicating that these respondents were less likely to be donors. Consistently with the previous research and regardless of the segment, a majority of the respondents in the propensity to donate were female, Caucasian or White, had a 4-year college degree or higher, an annual household income of $50,000 or higher, and two persons or more residing in their households (Kastenholz et al., 2005; Colbert, 2003; McCarthy et al., 2001; Notzke, 1999; Bergonzi & Smith, 1996; Silberberg, 1995).

Segment 1, consisting of 16.4% of the heavy consumers, was the best segment of donors (93.3% donors) among the six segments. These respondents, who all had a membership and volunteered in arts organizations, were mostly female, 45 years or older and had completed a bachelor's degree or higher. Almost 60% had an annual household income of $100,000 or more.

Segment 2, consisting of 16.2% of the heavy consumers, was a donor group (87.3% donors), who all had memberships, but did not volunteer, in arts organizations. They were mainly female and 45 years or older and had completed a bachelor's degree or higher. More than a quarter had an annual household income of $150,000 or higher and over half had two persons residing in the household.

Segment 3, consisting of 20.7% of the heavy consumers, was also a donor group (62.6% donors), who were all 55 years or older but did not have a membership in arts

organizations. A majority had completed at least a bachelor's degree, had an annual household income of between $50,000 and $149,999, and had two persons residing in the household.

Segment 4, consisting of 23.5% of the heavy consumers, was less likely to be a donor groups (52.3% donors), who were all 35-54 years old, purchased art products but did not have a membership in arts organizations. A majority were female, had completed at least a bachelor's degree or higher, and had an annual household income of $50,000 or higher. More than half were married/partnered with children living at home.

Segment 5, consisting of 12.6% of the heavy consumers, was less likely to be a donor group (30.3% donors), who were all 35-54 years old, did not purchase arts products and did not have a membership in arts organizations. They were mainly female, had an annual household income of between $50,000 and $149,999, were employed full-time, had three persons or more residing in the household, and were married/partnered with children living at home.

Segment 6, consisting of 10.6% of the heavy consumers, was the least likely to be a donor group (26.1% donors), who were under 35 years old and did not have a membership in arts organizations. A majority were female, had an annual household income of less than $100,000, and were single or married without children. The proportion of gay or lesbian was higher here than in other segments.

Differences of the Propensity to Donate to Arts Organizations Sub-Segments (objective 3)

Objective three of this study was to investigate significant differences among the propensity to donate sub-segments with regards to their characteristics and behaviors including type of attendance at live performances, spending on tickets, information

sources, online searches and purchases, the importance of cultural attractions and activities in selecting pleasure trip destinations and pleasure trip behaviors.

Regardless of the segment, musicals and plays were the most popular live performances. Segment 1, the most likely to be donor group, showed higher attendance of most types of live performances than other segments, including 'plays', 'symphonies', 'jazz concerts', 'operas', 'folk/ethnic concerts' and 'ballet'. Segment 6, mostly young and single people, on the other hand, attended 'rock concerts', 'new and experimental concerts', 'hip-hop concerts' and 'world concerts' more than other segments.

Segments 3 and 4 paid the greatest average price for a ticket to a live performance; segment 2 paid the greatest average highest price for a ticket; and segment 3 had the greatest average total spending on tickets; while segment 6 paid the lowest average, and the lowest average highest price for a ticket, as well as had the lowest average total spending on tickets to the live performances. Segment 3 comprised of older respondents (55 or older) who were married/partnered with children no longer living at home. They may have had less time constraint, thus more chances to attend live performances than other segments. Segments 2 and 4 included more respondents who had an annual household income of $150,000 or higher than other segments, while segment 6 included younger respondents (less than 35) who had a lower annual household income than others. Therefore, amount spent on tickets was considerably related to the income levels.

With regards to information sources, there was no difference among the six segments in the traditional information sources including 'TV', 'magazines' and 'radio'; however, 'newspapers' were more effective information sources for segments 1, 2 and 3.

Websites of performing art organizations or centers or specialized in online ticketing were more useful for segments 4, 5, and 6 than others. Furthermore, segments 1, 4 and 6 obtained information on the performing arts from 'acquaintances, friends, family or relatives', and segments 1 and 2 used leaflets/brochures and art-related publications as information sources more than other segments.

Since the sample of this study was collected from the E-club members at the Wharton Center for Performing Arts, almost all of the six segments used Internet for research and purchases. Segments 4, 5 and 6 researched and purchased tickets to the performing arts through web sites more than other segments due to their younger ages (less than 55 years old). In addition, segments 1 and 4 did more online research for arts or antiques and collections than other segments.

When selecting pleasure trip destinations, segment 1 indicated the highest mean scores of the importance of cultural attractions and activities; while segment 5 showed the lowest mean scores of the importance of all the attractions and activities. Segments 1, 2, 3 and 4 indicated that "historical/heritage attractions, sites and districts" were the most important of attractions and activities, while segment 5 and 6 showed that "gardens, zoos and aquariums" were most important destinations. Segments 1, 3 and 6 indicated "performing arts" as the second most important attractions and activities in selecting pleasure trip destinations.

As for the pleasure trip behavior, regardless of the segment, most or all of their pleasure trips was involved overnight stays and more than half took trips out-of-state. Interestingly, segment 6 took more out-of-state trips, while segment 1 took more out-of-country trips than other segments.

Attendance at Live Performances in a Different State or Country (objective 4)

The third CHAID analysis was used to predict cultural tourists who were more likely to attend live performances in a different state or country among the heavy consumers of the performing arts. A total of 1,255 respondents who were heavy consumers and attended live performances in another state or country other than they resided during the last 12 months were selected for this analysis. The decision tree resulting from this Exhaustive CHAID analysis identified five segments, including two cultural tourist groups and three non-cultural tourist groups. The most significant predictor was membership status in arts organizations; education level was the most important predictor for members; while purchase of arts products was the most important predictor for non-members; and donation activity was best predictor of non-members who did not purchase art products. Segments 1 and 2 had higher index scores, while segments 3, 4 and 5 had lower index scores, compared to the overall sample (38.2% cultural tourists in the heavy sample). Therefore, those in segments 1 and 2 were more likely to attend live performances in a different state or country while respondents in segment 3, 4 and 5 were less likely to be cultural tourists.

The best segment of cultural tourists is segment 1, consisting of 19.8% of the heavy consumers, who had higher than a bachelor's degree and had membership to arts organizations (53.2% cultural tourists). A majority were female, married/partnered and 45 years or older. More than half had two persons residing in their household.

Segment 2, consisting of 23.5% of the heavy consumers, was more likely to be cultural tourists who purchased art products and donated money but did not have membership in arts organizations (42.4% cultural tourists). These respondents were

mainly female, married, between 35 and 64 years old, and had completed at least a bachelor's degree or higher. More than 30% had an annual household income of $150,000 or higher.

Segment 3, consisting of 13.1% of the heavy consumers, was less likely to be cultural tourists who had a bachelor's degree or less and had membership to arts organizations (37.0% cultural tourists). They had the highest proportion of females and an annual household income of less than $50,000.

Segment 4, consisting of 20.9% of the heavy consumers, was also less likely to be cultural tourists who purchased art products but did not have membership and did not donate money to arts organizations (31.7% cultural tourists). A majority were female, less than 65 years old, had an annual household income of between $50,000 and $149.999, and were employed full-time. More than one-fifth was single without children.

Segment 5, consisting of 22.7% of the heavy consumers, was the least likely to be cultural tourists who did not have membership to arts organizations and did not purchase art products (27.7% for cultural tourists). A majority were female and less than 55 years old but this segment contained the highest proportion of males among the segments. More than 40% were married/partnered with children living at home.

Differences of the Inclination to Travel Out of State or/and Out of Country to Attend Live Performances Sub-Segments (objective 5)

Significant differences among the inclination to travel out of state or/and out of country to attend live performances sub-segments were found in their characteristics and behaviors including the type of attendance at live performances, spending on tickets, information sources, online searches and purchases, the importance of cultural attractions and activities in selecting pleasure trip destinations, and pleasure trip behaviors.

Regardless of the type of attendance, musicals and plays were the most popular live performances among the five segments. Segment 1, the best cultural tourist group, attended more types of live performances than did other segments, including 'plays', 'symphonies', 'jazz concerts', 'opera', 'folk/ethnic concert', 'blue concerts', 'modern dance', 'world concerts' and 'folk dance', while segment 3 attended 'ballet' and 'rock concerts' more than others did.

Segments 2 paid the greatest average price for a ticket and the greatest average highest price for a ticket to a live performance; while segment 1 had the greatest average total spending on tickets during the last 12 months. Segments 2 included more respondents who had an annual household income of $150,000 or higher than other segments, while segment 1 included more respondents with higher education (a bachelor's degree or higher). Therefore, amount of spending on tickets was considerably related to their income and education levels.

There were no statistically significant differences where information sources used were 'TV', 'magazines', 'radio' and 'acquaintances, friends, family or relatives.' 'Newspapers' were more effective information sources for segment 1, while 'websites of performing art organizations or centers' were most popular for segment 2. Furthermore, segments 4 and 5 used 'websites specializing in online ticketing' more often than other segments while segment 1 used art-related publications and segment 3 used from leaflets/brochures more than others to learn about live theater, dances, performances, and music concerts.

Regardless of the segment, almost all of respondents in the five segments used Internet for research and purchase of tickets to the performing arts. In particular,

segments 2 and 4 researched arts and tickets to the performing arts through online the most while segment 3 researched antiques and collections more than did other segments. On the other hand, segment 4 purchased arts and tickets to the performing arts through online more than did other segments.

When selecting pleasure trip destinations, segment 1 indicated the highest mean scores of the importance of cultural attractions and activities in selecting pleasure trip destinations; while segment 5 showed the lowest mean scores of the importance of most destinations. Segments 1 and 2 indicated that 'historical/heritage attractions, sites and districts', 'museums' and 'performing arts' were the most important of attractions and activities, while segment 3, 4 and 5 showed that 'historical/heritage attractions, sites and districts', 'gardens, zoos and aquariums' and 'performing arts' were the most important attractions or activities. 'Agricultural attractions and events' were considered less important than other attractions and activities to all of the five segments.

For pleasure trip behavior, regardless of segment, most or all of their pleasure trips were involved overnight stays and more than half took out-of-state trips. Furthermore, segment 1 took more out-of-country trips than other segments while segment 5 took the fewest trips out-of-country.

Implications

For effective marketing communication, performing arts organizations need to first define target segments and identify their media which the target segments use the most (Kotler, 2005). This study explored significantly important predictors among performing arts consumers and identified characteristics of heavy attendance consumers

using CHAID segmentation. In addition, based on their characteristics and art-related experiences, two segmentations of performing arts heavy consumers into propensity to donate sub-segments, and cultural tourist sub-segments resulted in mutually exclusive six and five sub-segments in each analysis. The findings of this study should be of interest not only to the Wharton Center for Performing Arts, but also to performing arts organizations in general. The characteristics of performing arts consumers and the specific segments could be used as a primary strategic resource for performing arts marketers and managers. They can identify and penetrate their target markets and build effective marketing plans and strategies on program development, service delivery, pricing, product advertising and sales promotion (Bernstein, 2007; Kotler, 2005).

Heavy Consumers of the Performing Arts

This study identified important predictors and the characteristics of heavy attendance segments that can be easily identified by performing arts organizations and can provide useful insights for marketers and managers to communicate with their target segments. The CHAID analysis allowed for the examination of complex interactions and interrelationships between performing arts consumers' characteristics and art-related experiences and heavy- and light-purchase consumers. This allowed for an investigation of the characteristics of the top and bottom presenting subgroups and enhancing understanding of the predictors associated with each consumer group of the performing arts. Heavy consumers who have attended live performances often tend to attend and purchase more performances in the future (Bernstein, 2007). The findings demonstrated how different art-experience variables interact with socioeconomic and household variables, predicting distinct heavy consumer groups of the performing arts. Previous

studies have been identified important predictors of attendees in the performing arts but did not clearly demonstrated interactions or interrelationships of predictors and heavy and light consumer groups. Therefore, this information contributes to understanding the relationships between predictors as well as the characteristics of consumer groups of the performing arts.

Donation activity was the most important predictor of heavy attendance segments of the performing arts. Overall, donors, who attended live performances in a different state or country, were 45 years or older and had membership in arts organizations were the most closely associated with best characteristics the heavy consumer group. Using combination of predictors, marketers and managers in performing arts organizations could easily predict the characteristics of heavy consumers and of purchase propensity of their target segments.

The findings provide clear definitions of heavy and light consumer groups. Females have been found usually referred as heavier performing arts attendees, ticket purchasers, and donors than males (Kastenholz et al., 2005; Borgonovi, 2004; Colbert, 2003; McCarthy et al., 2001; Notzke, 1999; Andreasen & Belk, 1980). The current study, however, showed one light consumer group that was characterized by females whose annual household income was less than $50,000, with no donation activity, no volunteering, and no purchase of art products. Furthermore, previous research has shown that childhood or current art education was associated with performing arts attendance (Borgonovi, 2004; Richards, 1996; Urry, 1990) but these factors did not distinguish between heavy- and light-purchase consumers in the present study where clusters of predictors are more useful than one or two predictors alone.

Propensity to Donate to Arts Organizations Sub-Segments

The findings of segmentation provide insights into the propensity to donate of heavy consumers and provide the primary managerial implications to marketers and managers of performing arts organizations. To penetrate performing arts donation market, managers should be able to identify characteristics of each segment as well as its likelihood of donating money to performing arts organizations. It is crucial in performing arts organizations to understand donation activity, which is most strongly associated with performing arts heavy consumers.

Researchers have noted that performing arts sponsorship is higher than other arts sponsorship (Colbert et al., 2005). This study explained important predictors of propensity to donate and showed how combinations of these predictors were segmented into performing arts donor and non-donor groups, and how these segments can be linked to other profiling variables. This CHAID segmentation enables the diversity of individual heavy consumers to be reduced to a manageable set of clearly definable predictors: membership in arts organizations, volunteer status, age and purchase of art products. Since previous research (Brown, 2007a; Harvey, 1990) had not focused on these core segments of heavy-purchasers and donors at the same time, this study contributes to the current understanding of donation segments of heavy consumers of the performing arts.

This study provides not only socioeconomic profile of the donation segments but also detailed behavior profiles regarding attendance, spending, information source, online searching and pleasure trips of the six segments. This information will help performing arts marketers and managers extend their knowledge of these market segments, enabling organizations to provide appropriate programs and services and deliver their message or

promotions efficiently to each segment. For example, plays and musicals were popular in all segments, but not all segments showed the same preferences for other live performances.

Information about performing arts organizations and their programs is directly associated with purchase behaviors (Murray, 1991). Providing useful information in appropriate ways for valid target segments will be crucial. For example, newspapers were the most effective information source for segments 1, 2 and 3, which were more likely to be donors, while websites specialized for online ticketing were a better information source to segments 3, 4 and 5, which were more likely to be non-donors.

In this study, all of the respondents in the segments were E-club members of the Wharton Center and high internet users for researching or purchasing art- and culture-related products. They usually used the Internet to research and purchase tickets for the performing arts through websites specialized for online ticketing or websites of performing art organizations or center. Therefore, performing arts organizations should consider significant cost savings and effective ways from high-technology marketing. Electronic media can be used better communicate with their consumers in visual and audio effects (Bernstein, 2007).

Inclination to Travel Out of State and/or Out of Country to Attend Live Performances Sub-Segments

This study adds useful information about heavy consumers of the performing arts who are more likely to attend live performances in a different state or country and become cultural tourists for performing arts. Previous tourism studies show that cultural tourists are significant segments which are repeated visitors, spend more money and stay longer than other tourists (Nichols, 2006a; Dolnicar, 2002). In present study supports

previous research that cultural tourist segments for the performing arts spend an average of highest price for a ticket and on higher total spending on tickets than non-cultural tourist segments. Consequently, cultural tourists are more profitable segments and worthy of focus.

Understanding heavy consumers of the performing arts and their travel behaviors related to performing arts is a vital to the marketing managers of performing arts organizations in various tourism destinations, for example Santa Fe, New Mexico (Kimmel, 1995). While cultural arts attractions are an important economic resource for community-building, as well as for attracting more tourists. The results extend beyond previous studies of cultural tourists for performing arts (Kim et al., 2007; Kastenholz et al., 2005; Notzke, 1999; Silberberg, 1995) by segmenting heavy consumers of the performing arts.

Two cultural tourist segments more likely to attend live performances in a different state or country were identified, and their characteristics and behaviors were analyzed. Performing arts organizations and destination marketers interested in attracting and retaining cultural tourists for the performing arts should focus on people who had more than a bachelor's degree and memberships in arts organizations, or who do not have such memberships but purchase art products and donate money to arts organizations.

Cultural tourist segments who had a higher proportion of two-person households took more trips out-of-state and/or out-of-country than non-cultural tourist segments. The results imply that the composition of household is related to not only attend the performing arts, but also long distance pleasure trip behaviors. This supports tourism literatures which show people with young children plan fewer international trips than

people with no children. Performing arts organizations in tourist destinations should position themselves for those target arts consumers and consider their values.

In addition, these segments indicated that historical/heritage attractions, sites and districts; performing arts; and museums were the most important attractions in selecting pleasure trip destinations. By, comprehending the needs, preferences and behaviors of cultural tourists, performing arts organizations can focus on them and redefine the market for their present products or create a new marketplace according to their values.

Compared to cultural tourist segments, non-cultural tourist segments among the heavy consumers may have greater lo yalty to performing arts organizations in their community. These segments had a higher proportion of young people; they usually obtained information from the websites of performing arts organizations or centers. Performing arts organizations can use this information in their marketing strategies to sustain a strong relationship with, and to expand commitment from non-cultural tourist segments.

These accurate and applicable results can aid marketers and managers in identifying differences among performing arts consumers, and help them as their tailor marketing strategies for their target segments and positioning new programs and services. Not only is it important to know what variables related to ticket purchases, but also who is more likely to be a heavy consumer, a donor and a cultural tourist for the performing arts.

Limitation of the Study

Despite of the contributions to the broader theoretical and practical understanding of the characteristics and behavior of consumers of the performing arts, this study has several limitations.

First, generalizability is a common limitation of social science research. This study used the E-club members of the Wharton Center Performing arts at Michigan State University (Wharton Center) as a study population. These respondents tended to be more familiar with programs and more involved with the organizations, thus these results may be over-represented (Brown, 2007a). Therefore, generalizability of the findings may be limited to apply to other performing arts organizations that are of different size and in different geographic region (Trochim, 2001). In addition, survey of other members of the Wharton Center, who were not E-club members, may show different results from the findings of this study because long-term subscribers at the Wharton Center programs are senior persons who may purchase 10 or more tickets to live performances per year but do not use Internet.

Second, a common limitation of CHAID applies to this study. The segments of each CHAID analysis have defined based on a single criterion variable because it is difficult to obtain a result of a single common segmentation if multiple criteria were used (Magidson & Vermunt, 2005). In addition, using one criterion variable resulted in a set of segments in each study. However, using alternative criterion variables or different study populations with identical design might not produce the same set of segments. The categories of a predictor may merge and split differently, depending on the criterion

variable. Therefore, the results of this study may not be generalized to other population or a similar criterion variable (Chen, 2003b).

Third, potential predictors used in the CHAID analyses were 15 variables from three categories. Since heavy and light consumers are one of the most common criteria in market segmentation, other significant predictors, not included in this study, may exist to identify heavy- and light-purchase consumers in the population. This also could yield different results.

Fourth, a common limitation of online survey also applies in this study. Due to multiple email addresses for the same person, multiple survey completions by some participants, and invalid email addresses, the online survey might be caused sampling issues (Wright, 2005; Andrews et al., 2003; Couper, 2000). A systematic bias could have occurred between respondents and non-respondents because younger cohorts are more likely to complete online surveys than older cohorts in general (Wright, 2005). In addition, since the data were self-reported, there was no guarantee that participants provided accurate information on the survey.

Future Research

This present study focused on heavy consumers rather light consumers of the performing arts. Future research should examine in detail the light consumers and identify their needs, values and preferences. To distinguish heavy and light consumers, this study conveniently called all of those who purchased one to nine tickets to live performances during the last 12 months as a light consumer. However, light consumers of the performing arts including moderate- and light-purchasers in this study identified

several mutually exclusive homogeneous groups and whose characteristics were significant different from each other. Some of these groups have more potential to grow their spending on tickets since heavy consumers have already purchased a number of tickets and are strongly linked to performing arts organizations, obtaining additional revenues from them is perhaps unlikely (Liu, 2007). Further study will help performing arts organizations cater to moderate- and light-purchasers, and to provide and implement effective market strategies of programs, promotions, prices,. advertisement. In addition, student segments were not highlighted in this study because few participated, and most of those who did small number of tickets during the last 12 months. However, students represent a potentially large segment of the Wharton Center. Future segmentation study must focus on students and identify their needs, wants, lifestyle and values to attract their interest and attendance.

Further research should also include target consumers who do not use internet but heavy consumers of the performing arts such as subscribers, group buyers, box office buyers. If those are no significant differences between E-club and non-E-club members, present results can be generalized to all of the heavy consumers at the Wharton Center. If there are significant differences between two groups, same CHAID segmentations should be need for performing arts consumers who do not use internet at the Wharton Center, thus identifying their segments and behaviors.

Different patterns of performing arts consumptions are strongly correlated with socioeconomic and regional characteristics (Willis & Snowball, 2009). Moreover, donation activity of performing arts consumers differ from the size, type and venue of performing arts organizations (Frank & Geppert, 2004). These results may not be

generalized, thus examining to other performing arts organizations and their consumers is recommended. Future research, using the same methods in this study, might compare performing arts consumers in different regions in U.S. as well as different nations

Not only socioeconomic and household characteristics and art-related experience variables, but also motivation, preferences, satisfactions are significantly associated with attendance at performing arts (Hume, 2008; Wiggins, 2004). In further studies, all of external, internal and socioeconomic variables should be used as potential predictors to examine behaviors of performing arts consumers. In addition, because segmentation methodology has created multiple views of the same market (Wyner 1995), future studies should conduct not only CHAID segmentations, but also diverse segmentation schemes which have various strengths and could be better applied for different purposes and point of the performing arts consumer market (Hsu & Kang, 2007).

In conclusion, an important marketing principle, the so-called 80-20 rule, indicates that 20% of the customers, who are usually referred to as heavy consumers create 80% of the revenue (Koch, 1999). It is important to understand who performing arts consumers are and how to identify heavy consumers in the market. There is a small number of heavy consumers who contribute revenue disproportionately higher than light consumers even though the numbers (80/20) may differ between performing arts market and the general retailing market. A segmentation study of diverse demand is essential for the purpose of developing strategies for effective and efficient marketing plans in the performing arts market.

This study identifies heavy and light consumers of the performing arts by applying the CHAID algorithm to the segmentation of the performing arts market. To

examine detail information about heavy consumer market, two different sets of CHAID segmentation were then conducted to identify heavy consumers and donation market and cultural tourist market of the performing arts. The results of the Exhaustive CHAID analyses provided non-binary decision trees where combinations of predictors identified mutually exclusive market segments (Wedel & Kamakura, 2000; Magidson, 1994; Kass, 1980). Each of the segments explained how likely they are to engage in the target behavior. The CHAID analyses showed the most appropriate technique for selecting the more meaningful and important segmentation variables as an intermediate step for market segmentation (Hsu & Kang, 2007; Galguera et al., 2006; Chung, Oh, Kim & Han, 2004).

Therefore, this study provides crucial information about performing arts consumers, as well as developing a useful approach that could permit performing arts organizations to identify valuable consumers effectively. In addition, the identified target segments and their profiles will be essential in building effective communication and promotion strategies according to their marketing purposes.

APPENDICES

Appendix A. The Online Survey Questionnaire

Your Attendance to Performances

During the last 12 months have you attended any live theater performances (e.g., plays, musicals or operas), live dance performances (e.g., ballet, jazz or modern) or any live music concerts?

O Yes O No

How many live performances have you attended during the last 12 months?

O 1 O 2 O 3 O 4 - 5 O 6 - 9 O 10 or more

What type of live performances have you attended during the last 12 months? Check all that apply.

☐ Play	☐ Folk dance	☐ New and experimental concert
☐ Musical	☐ Folk and ethnic concert	☐ Rock concert
☐ Opera	☐ Jazz concert	☐ Hip hop concert
☐ Ballet	☐ Blues concert	☐ World concert
☐ Modern dance	☐ Symphony	☐ Other
☐ Ethnic dance	☐ Country concert	

Were any of these live performances in a different state or country other than where your permanent residence is located?

O Yes O No

Were any of these live performances fee (did not require the purchase of a ticket or subscription)?

O Yes O No

What proportion of the live performances you attended during the last 12 months was free (did not require the purchase of a ticker or subscription)?

O Few (less than half) of the performances were free
O About half of the performances were free
O Most (more than half) of the performances were free

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Your Attendance to Performances

Have you purchased tickets to live performances during the last 12 months?

O Yes O No

How many tickets to live performances did you purchase (for yourself or members of your household) during the last 12 months?

O 1 O 2 O 3 O 4 - 5 O 6 - 9 O 10 or more

What was the average price that you paid for a ticket to a live performance during the last 12 months? Please, round to the nearest dollar.

$ [ ] .00

What was the highest price that you paid for a ticket to a live performance during the last 12 months? Please, round to the nearest dollar.

$ [ ] .00

About how much in total did you pay for live performance tickets during the last 12 months?

$ [ ] .00

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Your Participation in Performing Arts

During the last 3 years, have you been engaged in any performing arts, such as theater, dance, or music?

O Yes O No

Check the performing arts in which you have been engaged during the last 3 years. Please check all that apply.

- ☐ Playing a musical instrument
- ☐ Playing in band or orchestra
- ☐ Solo singing
- ☐ Group or choir singing
- ☐ Dance
- ☐ Acting
- ☐ Comedy, magic or mime
- ☐ Story telling and readings
- ☐ Other performing arts

During the last 3 years, were you professionally engaged in any performing arts (e.g., theater, dance, music)?

O Yes O No

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Your Participation in Visual Arts

During the last 3 years, have you been engaged in any visual arts, such as drawing, painting, printmaking, writing, textiles, photography, and/or sculpture?

O Yes O No

Check the visual arts in which you have been engaged during the last 3 years. Please check all that apply.

- ☐ Drawing
- ☐ Painting
- ☐ Printmaking
- ☐ Sculpture
- ☐ Textile arts
- ☐ Photography
- ☐ Crafts
- ☐ Folk or traditional art
- ☐ Media arts
- ☐ Writing
- ☐ Other visual art

During the last 3 years, were you professionally engaged in any visual arts (e.g., drawing, crafts, writing)?

O Yes O No

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Your Participation in Art and Culture Related Disciplines

During the last 3 years, have you been engaged in any art-related or cultural disciplines such as architecture; landscape architecture; fashion, graphic, interior or industrial design; historic preservation or restoration; genealogy; or archaeology?

O Yes O No

Check the arts and cultural-related disciplines in which you have been engaged during the last 3 years. Please check all that apply.

- ☐ Architecture
- ☐ Landscape architecture
- ☐ Fashion design
- ☐ Graphic design
- ☐ Interior design
- ☐ Industrial design
- ☐ Historic preservation/restoration
- ☐ Genealogy
- ☐ Archaeology

During the last 12 months, were you professionally engaged in any art-related or cultural disciplines (e.g., architecture, design, genealogy)?

O Yes O No

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Professional Artists

Do you consider yourself to be a professional artist?

O Yes O No

Have you received formal education/training in your artistic discipline?

O Yes O No

Are you currently a member of an arts-related guild, union or association/organization?

O Yes O No

How much did you earn (before costs) during the last 12 months from your artistic activities?

O No income	O $6,000 - 9,999	O$60,000 - 99,999
O Less than $2,000	O $10,000 - 19,999	O$100,000 - 199,999
O$2,000 - 3,999	O$20,000 - 39,999	O$200,000 or more
O$4,000 - 5,999	O$40,000 - 59,999	

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Purchases of Art Products

Have you purchased any visual arts in including drawing, paintings, writings, prints, graphic designs, crafts or photographs during the last 12 months?

O Yes O No

What types of visual art have you purchased during the last 12 months?
Check all that apply.

- ☐ Paintings
- ☐ Books
- ☐ Photographs (not including hiring a photographer, e.g., wedding)
- ☐ Drawings
- ☐ Prints
- ☐ Sculptures
- ☐ Crafts (e.g., glass, fiber, metal, ceramics, leather, wood, plastic and mixed media)
- ☐ Folk or traditional art
- ☐ Other

Approximately how much did you spend for visual art during the last 12 months? Round to the nearest dollar. Don't type symbols in the box; only numbers.

$ [ ] .00

What was the highest price you paid for any one piece of the visual art you purchased? Round to the nearest dollar. Don't type symbols in the box; only numbers.

$ [ ] .00

In what ways did you purchase visual art during the last 12 months? Check all that apply.

- ☐ Art Fair
- ☐ Auction
- ☐ Art Gallery/Bookstore
- ☐ Museum Store
- ☐ Catalog
- ☐ Web/internet
- ☐ Direct from an artist (no intermediary)
- ☐ Commissioned a special artistic work
- ☐ Other

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Purchases of Cultural Products

Have you purchased or rented any books, videotapes, DVDs, CDs, records, tapes, or music downloads during the last 12 months?

O Yes O No

Please indicate how much you spent on the following items during the last 12 months. Please round to the nearest dollar. Do not type commas or symbols in the box; only numbers.

1) Books $[ ]
2) Videotapes, DVDs $[ ]
3) CDs, records, tapes, music downloads $[ ]

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Employment of Artists and Performers

Have you hired any performing artists including musicians/bands, actors, comedians, mimes/performance artists during the last 12 months?

O Yes O No

What types of performing artists have you hired during the last 12 months? Please, check all that apply.

- ☐ Solo musicians
- ☐ Musical bands/groups
- ☐ Solo singers
- ☐ Singing groups
- ☐ Actors or theater companies
- ☐ Comedians, magicians or mime artists
- ☐ Performance artists
- ☐ Dancers or dance companies
- ☐ DJs

Did you hire them for a business event/purpose or personal reason/event?

- O Business
- O Personal
- O Both business and personal

Approximately how much did you spend in fees for their services/performances during the last 12 months? Round to the nearest dollar. Do not type commas or symbols in the box; only numbers.

$[ ] .00

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Have you hired any architects or designers during the last 12 months?

○ Yes ○ No

Have you hired any historic preservation/restoration, archaeological, or genealogical services during the last 12 months?

○ Yes ○ No

What types of heritage related services have you hired during the last 12 months? Please, check all that apply.

☐ Historic preservation/restoration services
☐ Archaeological services
☐ Genealogical services
☐ Home/building restoration services

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Tourism

How important are the following attractions and activities when you select destinations for your pleasure trips.

	Extremely Important	Somewhat Important	Neutral	Not Important	Not Important at All
Museums	O	O	O	O	O
Cultural fairs/festivals/events	O	O	O	O	O
Performing arts	O	O	O	O	O
Places to buy local arts/crafts	O	O	O	O	O
Historical/heritage attractions, sites and districts	O	O	O	O	O
Gardens, zoos, aquariums	O	O	O	O	O
Agricultural attractions and events	O	O	O	O	O
Purchasing products grown or processed locally	O	O	O	O	O
Architecture and buildings	O	O	O	O	O
Customs and ways of living	O	O	O	O	O
Libraries, literary events and bookstores	O	O	O	O	O

Have you taken any pleasure trips to destinations more than 50 miles from your home during the last 12 months?

O Yes O No

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Your Pleasure Trips During the Last 12 Months

How many pleasure trips to destinations more than 50 miles from your home did you take during the last 12 months?

O 1 O 2 - 3 O 4 - 5 O 6 - 9 O 10 or more

Taking in mind your pleasure trips(s) during the last 12 months to destinations more than 50 miles from your home:
What proportion of these trips involved an overnight stay away from home?

O None
O Few (less than half but at least 1)
O About half
O Most (more than half but not all)
O All

What proportion of these pleasure trips were to a destination within the state where you reside?

O None
O Few (less than half but at least 1)
O About half
O Most (more than half but not all)
O All

What proportion of these pleasure trips were to another country?

O None
O Few (less than half but at least 1)
O About half
O Most (more than half but not all)
O All

Taking in mind your pleasure trip(s) during the last 12 months to destinations more than 50 miles from your home:
How often did you participate in the following arts and culture related activities?

	Always	Usually	Seldom	Never
Attended a theatrical performance, dance performance or concert	O	O	O	O
Visited a museum	O	O	O	O
Attended a festival	O	O	O	O
Visited an historical site, attraction or community	O	O	O	O
Visited a zoo, aquarium, botanical garden or arboretum	O	O	O	O
Visited a library	O	O	O	O

Taking in mind your pleasure trip(s) during the last 12 months to destinations more than 50 miles from your home:
What proportion of these trips had the primary or only purpose to participate in the following arts and culture related activities?

	None	Few	About half	Most	All
Attended a theatrical performance, dance performance or concert	O	O	O	O	O
Visited a museum	O	O	O	O	O
Attended a festival	O	O	O	O	O
Visited an historical site, attraction or community	O	O	O	O	O
Visited a zoo, aquarium, botanical garden or arboretum	O	O	O	O	O
Visited a library	O	O	O	O	O

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Cultural Membership

Are you affiliated (e.g., member, officer, and employee) with a national, state or local membership-based organization that supports, sponsors, or implements arts, heritage or cultural activities?
This could include artist organizations that fundraise and sponsor and cultural activities and facilities (e.g., concerts, art shows, heritage preservation, and community libraries).

O Yes O No

What is the primary mission and purposes of the organization(s) you are a member of?

O Supports and encourages visual arts and artists
O Supports and encourages performing arts and artists
O Supports and encourages libraries
O Supports and encourages arts education
O Supports and encourages public art
O Supports and encourages heritage preservation and/or restoration
O Supports public awareness and cultural development
O Supports film and film makers
O Other

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Donations to Arts and Cultural Causes

During the last 12 months, have you donated any money to an arts, heritage or cultural organization (or cause) including but not limited to organizations that you were/are a member?

O Yes O No

Please check the one box that best describes the amount that you donated during the last 12 months to arts, cultural or heritage organizations or causes.

O less than $100	O$550-$699	O $2,000-$4,999
O $100-$199	O$700-$849	O $5,000-$9,999
O $200-$299	O$850-$999	O $10,000-$19,999
O $300-$399	O$1,000-$1,499	O $20,000 or more
O $400-$549	O$1,500-$1,999	

What did your donations support? Check all that apply.

☐ Local arts, cultural or heritage causes, organizations or programs
☐ State arts, cultural or heritage causes, organizations or programs
☐ National arts, cultural or heritage causes, organizations or programs
☐ International arts, cultural or heritage causes, organizations or programs

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Volunteering to Arts and Cultural Organizations

During the last 12 months, have you volunteered any time to an arts, heritage or cultural organization (or cause) including but not limited to organizations that you were/are a member?

O Yes O No

With which causes, organizations or programs did you volunteer? Check all that apply.

- ☐ Local arts, cultural or heritage causes, organizations or programs
- ☐ State arts, cultural or heritage causes, organizations or programs
- ☐ National arts, cultural or heritage causes, organizations or programs
- ☐ International arts, cultural or heritage causes, organizations or programs

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Your Sources of Information

How often do you use the following information sources to learn about live theater, dance performances, and music concerts?

	Always	Usually	Seldom	Never
TV	O	O	O	O
Magazine	O	O	O	O
Newspapers	O	O	O	O
Radio	O	O	O	O
Websites specialized for online ticketing	O	O	O	O
Websites of performing art organizations or centers	O	O	O	O
Acquaintances, friends, family or relatives	O	O	O	O
Art-related publications	O	O	O	O
Leaflets/Brochures	O	O	O	O

Do you use the internet to research and/or purchase products?

O Yes O No

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Use of Internet

How often do you use the internet to <u>research</u> the following art and culture related products?

	Always	Usually	Seldom	Never
Art (e.g., paintings, photos)	O	O	O	O
Tickets for performing arts (e.g., concerts)	O	O	O	O
Antiques and collections	O	O	O	O

How often do you use the internet to <u>purchase</u> the following art and culture related products?

	Always	Usually	Seldom	Never
Art (e.g., paintings, photos)	O	O	O	O
Tickets for performing arts (e.g., concerts)	O	O	O	O
Antiques and collections	O	O	O	O

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Your Information

Please, indicate your gender:

O Male O Female

How old are you?

O Under 18 O 18 - 24 O 25 - 34 O 35 - 44 O 45 - 54 O 55 - 64
O 65 or older

What is your sexual orientation?

O Straight/Heterosexual
O Gay/Lesbian
O Other
O Prefer not to answer

What is the highest level of formal education you have achieved?

O Less than high school
O Completed some high school
O Completed high school
O Some college
O 2-year college degree
O4-year college degree
O Completed some graduate courses
O Master's degree (MA, MS, MBA, MFA, MPA, etc.)
O Doctoral degree (PhD, EdD, DVM, MD, DO, DD, etc.)

Are you or your spouse affiliated with Michigan State University (MSU)? If so, what is the nature of your affiliation? (Please check all that apply).

☐ No
☐ Yes, employed as faculty at MSU
☐ Yes, employed as staff at MSU
☐ Yes, alumni of MSU
☐ Yes, a current student at MSU
☐ Yes, an MSU donor
☐ Yes, retired from MSU

Which is the country of your permanent residence?

- O United States (U.S.)
- O Canada
- O Mexico
- O Other

Please indicate your email address.
(Email address will only be used to notify the winner of the $100 Wharton Center gift certificate and the dinner for two at the Kellogg Center's State Room.)

What is your zipcode/postal code of your permanent residence?

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Your Family Information

How many persons currently reside in your household, including yourself?

- O I live alone
- O 2 persons
- O 3 persons
- O 4 persons
- O 5 persons
- O 6 persons or more

How would you describe your current family status?

- O Single without children
- O Single with children living at home
- O Single with children no longer living at home
- O Married/Partnered without children
- O Married/Partnered with children living at home
- O Married/Partnered with children no longer living at home

How many children are living at home with you?

- O 1 child
- O 2 children
- O 3 children
- O 4 children
- O 5 children
- O 6 children or more

Which are the age categories of children currently living in your household? Check all that apply.

- ☐ Less than 6 yours old
- ☐ 6 - 12 years old
- ☐ 13 - 17 years old
- ☐ 18 years old or more

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Art and Culture Related Experiences of Your Child/Children

During the last 12 months, have you taken any children residing in your household to arts or cultural performances or exhibits?

O Yes O No

To how many arts or cultural performances or exhibits have you taken your children during the last 12 months?

O 1 performance/exhibit
O 2-4 performances/exhibits
O 5-9 performances/exhibits
O 10 or more performances/exhibits

During the last 12 months, did any of the children residing in your household participate in any elementary, middle or high school student performances or exhibits (e.g., school play, choir performance)?

O Yes O No

During the last 12 months, have any children residing in your household taken any type of visual (e.g., painting or drawing), performing (e.g., dance, singing, or musical instrument), or literary arts or crafts classes or lessons?

O Yes O No

What types of classes did children living in your household take during the last 12 months? Check all that apply.

☐ Visual arts
☐ History/Appraisal
☐ Performing arts
☐ Music (vocal/instruments)
☐ Literary arts
☐ Applied arts (e.g., architecture, design, and genealogy and archaeology)
☐ Crafts

In total, how much did you pay for arts education classes for your children during the last 12 months?

O Less than $100
O $100 - $199
O $200 - $499
O $500 - $999
O $1,000 - $1,999
O $2,000 - $4,999
O $5,000 or more

Your Art-Related Experience

When you were a child (up to 18 yrs old) how often did your parents or other adults take you to arts or cultural performances or events?

O Never O Rarely O Occasionally O Frequently O Very frequently

When you were a child did you take any type of visual (e.g., painting and drawing), performing (e.g., dance, singing, and musical instruments) or literary arts or crafts lessons or classes?

O Yes O No

What type of classes did you take when you were a child?

☐ Visual arts
☐ Performing arts
☐ Music (vocal/instruments)
☐ Literary arts
☐ Crafts

During the last 12 months have you taken any type of visual (e.g., painting and drawing), performing (e.g., dance, singing, and musical instruments) or literary arts or crafts classes or lessons?

O Yes O No

What type of art or cultural related classes did you take during the last 12 months?

☐ Visual arts
☐ History/Appraisal
☐ Performing arts
☐ Music (vocal/instrumental)
☐ Literary arts
☐ Applied arts (e.g., architecture, design, genealogy and archaeology)

In total, how much did you pay for your arts education classes during the last 12 months?

O Less than $100
O $100 - $199
O $200 - $499
O $500 - $999
O $1,000 - $1,999
O $2,000 - $4,999
O $5,000 or more

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Appendix B. Descriptive Statistics of Performing Arts Respondents

Appendix B1. Socioeconomic Characteristics of the Respondents

	Frequency	%
Gender	4,685	
Male	1,245	26.6
Female	3,440	73.4
Age	4,722	
Under 25	358	7.6
25 – 35	674	14.3
35 – 44	952	20.2
45 – 54	1,391	29.4
55 – 64	1,077	22.8
65 or older	270	5.7
Sexual orientation	4,703	
Straight/Heterosexual	4,254	90.5
Gay/Lesbian	116	2.5
Other	25	0.5
Prefer not to respond	308	6.5
Education	4,729	
Less than or completed high school	193	4.1
Some or 2-year college degree	1,438	30.4
4-year college degree	1,237	26.1
Completed some graduate courses	535	11.3
Master's degree	983	20.8
Doctoral degree	343	7.3
Employment status [a]	5,158	
Full time employed	3,045	64.4
Part-time employed	678	14.3
Homemaker (care's for family/house)	367	7.8
Unemployed	56	1.2
Retired	603	12.8
Student	409	8.7

[a] Multiple responses.

Appendix B1. (cont'd)

	Frequency	%
Racial type	4,655	
Caucasian or White	4,439	95.4
African American or Black	80	1.7
Asian or Pacific Islander	65	1.4
Mixed	56	1.2
Native American or Aleutian Eskimo	15	0.3
Hispanic or Latino origin or descent	4,606	
Hispanic or Latino	88	1.9
Non Hispanic or Latino	4,518	98.1
Family annual Income in 2006	4,232	
Less than $30,000	360	8.6
$30,000 - $49,999	579	13.7
$50,000 - $74,999	910	21.5
$75,000 - $99,999	882	20.8
$100,000 - $149,999	986	23.2
$150,000 - $199,999	290	6.9
$200,000 or more	225	5.3
Country of permanent residence	4,743	
United States (U.S.)	4718	99.5
Canada	10	0.2
Other	15	0.3

Appendix B2. Household Information for the Online Survey Respondents

	Frequency	%
Number of people in household	4,718	
I live alone	669	14.2
2 persons	1,965	41.6
3 persons	811	17.2
4 persons	857	18.2
5 or more persons	416	8.8
Family status	4,744	
Single without children	865	18.2
Single with children living at home	243	5.2
Single with children no longer living at home	239	5.1
Married/partnered without children	619	13.0
Married/partnered with children living at home	1,661	35.0
Married/partnered with children no longer living at home	1,117	23.5
Number of children living at home [a]	1,878	
1 child	736	39.2
2 children	789	42.0
3 children	268	14.3
4 children	65	3.5
5 or more children	20	1.0
Age categories of children living at home [a b]	2,574	
Less than 6 years old	504	26.8
6 – 12 years old	709	37.7
13 – 17 years old	749	39.8
18 years old or more	612	32.5

[a] This only includes respondents who have children living at home (40.2%), either single (5.2%) or married/partnered (35.0%).

[b] Multiple responses.

Appendix B3. Consumption Pattern of Live Performances during the Last 12 Months

	Frequency	%
Attendance at live performances in the last 12 months	4,744	
Attended a live performance(s)	4,434	93.5
Did not attend a live performance	310	6.5
Number of live performances attended	4,267	
1 performance	598	14.0
2 performances	847	19.9
3 performances	626	14.7
4-5 performances	932	21.8
6-9 performances	729	17.1
10 performances or more	535	12.5
Types of performances attended [a]	4,434	
Play	2,437	55.0
Musical	3,493	78.8
Opera	319	7.2
Ballet	392	8.8
Modern dance	256	5.8
Ethnic dance	152	3.4
Folk dance	85	1.9
Folk and ethnic concert	442	10.0
Jazz concert	673	15.2
Blues concert	419	9.5
Symphony	763	17.2
Country concert	471	10.6
New and experimental concert	116	2.6
Rock concert	1,059	23.9
Hip hop concert	69	1.6
World concert	129	2.9
Other	1,067	24.1
Attended live performances in a state or country other than residence	4,415	
Yes	1,210	27.4
No	3,205	72.6
Attended free live performances	4,434	
Yes	858	19.4
No	3,575	80.6

[a] Multiple Responses.

Appendix B4. Formal Arts Education of Respondents

	Frequency	Percentage
Attended performances during childhood	4,727	
Never	810	17.1
Rarely	1,474	31.2
Occasionally	1,549	32.8
Frequently	691	14.6
Very frequently	200	4.3
Took art classes during childhood	4,744	
Yes	3,515	74.1
No	1,229	25.9
Type of art classes taken during childhood [a b]	3,509	
Visual arts	840	23.9
Performing arts	1,502	42.8
Music (vocal/instruments)	2,935	83.6
Literary arts	380	10.8
Crafts	1,241	35.4

[a] This only includes respondents who had taken art classes during their childhood.
[b] Multiple responses.

Appendix B5. Current Art Education of the Respondents

	Frequency	%
Took art classes during the last 12 months	4,744	
Yes	742	15.6
No	4,002	84.4
Type of art classes taken in the last 12 months [a b]	728	
Visual arts	318	43.7
History/appraisal	21	2.9
Performing arts	183	25.2
Music (vocal/instruments)	219	30.1
Literary arts	48	6.6
Applied arts (e.g., architecture, design, and genealogy)	119	16.4
Total cost of art classes taken in the last 12 months [a]	728	
Less than $100	283	38.9
$100 - $199	160	22.0
$200 - $499	151	20.7
$500 - $999	80	11.0
$1,000 - $1,999	31	4.3
$2,000 or more	23	3.1

[a] This only includes respondents who have taken art classes during the last 12 months .
[b] Multiple responses.

Appendix B6. Art Product Purchase Experience of the Respondents

	Frequency	%
Visual arts purchases during the last 12 months	4,744	
Purchased visual arts	2,967	62.5
Did not purchase visual arts	1,777	37.5
Types of visual arts purchased [a b]	2,960	
Paintings	1,231	41.6
Books	1,786	60.3
Photographs	1,098	37.1
Drawings	322	10.9
Prints	1,286	43.4
Sculptures	328	11.1
Crafts	1,821	61.5
Folk or traditional art	470	15.9
Other types of visual art	231	7.8
Channels where visual arts were purchased [a b]	2,948	
Art fair	1,783	60.5
Auction	334	11.3
Art gallery / bookstore	1,611	54.6
Museum store	745	25.3
Catalog	539	18.3
Web / internet	833	28.3
Direct from an artist (no intermediary)	876	29.7
Commissioned a special artistic work	97	3.3
Other ways	476	16.1

[a] This only includes respondents who purchased visual arts during the previous 12 months.
[b] Multiple responses.

Appendix B7. Cultural Membership Status of the Respondents

	Frequency	%
Affiliated with arts, heritage, or culturally related organizations	4,744	
Affiliated	1,032	21.8
Not affiliated	3,712	78.2
Primary mission/purpose of the organization(s) for which respondents were a member[a]	1,030	
Supports and encourages visual arts and artists	113	11.0
Supports and encourages performing arts and artists	324	31.5
Supports and encourages libraries	94	9.1
Supports and encourages arts education	61	5.9
Supports and encourages public art	31	3.0
Supports and encourages heritage preservation and/or restoration	152	14.8
Supports public awareness and cultural development	110	10.7
Supports film and filmmakers	20	1.9
Other	125	12.1

[a] This only includes respondents who are affiliated with heritage or cultural organizations.

Appendix B8. Volunteering Status to Arts and Cultural Organizations of the Respondents

	Frequency	%
Volunteered to arts, heritage or cultural organizations	4,744	
Did volunteer	844	17.8
Did not volunteer	3,900	82.2
Types of causes, organizations or programs volunteer service was provided [a b]	842	
Local arts, cultural or heritage causes, organizations or programs	788	93.6
State arts, cultural or heritage causes, organizations or programs	109	12.9
National arts, cultural or heritage causes, organizations or programs	40	4.8
International arts, cultural or heritage causes, organizations or programs	30	3.6

[a] This only includes respondents who volunteered their time to an arts, heritage or cultural organization or cause in the last 12 months.

[b] Multiple responses.

Appendix B9. Donation Activity to Arts and Cultural Organizations and Causes of the Respondents

	Frequency	%
Donations during the previous 12 months to arts, heritage or cultural organizations	4,744	
Did make a donation	1,830	38.6
Did not make a donation	2,914	61.4
Amount donated during the previous 12 months [a]	1,771	
Less than $100	561	31.7
$100 - $199	499	28.2
$200 - $399	316	17.8
$400 - $999	225	12.7
$1,000 or more	170	9.6
Types of causes supported [a b]	1,802	
Local arts, cultural or heritage causes, organizations or programs	1,527	84.7
State arts, cultural or heritage causes, organizations or programs	451	25.0
National arts, cultural or heritage causes, organizations or programs	330	18.3
International arts, cultural or heritage causes, organizations or programs	110	6.1

[a] This only includes respondents who made a donation to an arts, heritage or cultural organization or cause during the last 12 months.

[b] Multiple responses.

Appendix C. Comparison of Heavy and Light Consumer of the Performing Arts

Appendix C1. Comparison of Socioeconomics, Household Information and Art-related Experiences between Heavy and Light Consumers of the Performing Arts

	Heavy (30.6%) %	Light (69.4%) %	χ^2	p-value
Gender			7.610	0.006**
Male	30.3	26.1		
Female	69.7	73.9		
Age			143.111	0.000***
Under 35	12.1	25.9		
35 - 44	17.6	21.5		
45 - 54	33.5	27.9		
55 - 64	28.1	20.3		
65 or older	8.7	4.4		
Education			87.415	0.000***
Completed high school or less	2.6	4.0		
Some or 2-year college degree	21.5	32.7		
4-year college degree	26.2	26.7		
Completed some graduate courses	13.1	11.0		
Master's degree	25.8	19.5		
Doctoral degree	10.7	6.1		
Income			149.333	0.000***
Less than $50,000	13.1	24.5		
$50,000 - $99,999	38.9	43.7		
$100,000 - $149,999	27.2	22.6		
$150,000 or more	20.8	9.2		
Employment			7.651	0.006**
Full-time employment	59.7	64.2		
Other	40.3	35.8		

, * indicates significance levels at 0.01 and 0.001, respectively.

Appendix C1. (cont'd)

	Heavy (30.6%) %	Light (69.4%) %	χ^2	p-value
Number of people in household			7.205	0.125
1 live alone	13.3	14.6		
2 persons	44.5	40.5		
3 persons	15.6	17.9		
4 persons	17.9	18.5		
5 persons or more	8.6	8.5		
Marital status			13.858	0.000***
Single	24.5	30.1		
Married	75.5	69.9		
Children's status			22.800	0.000***
No children	26.8	33.1		
Children living at home	40.3	40.2		
Children no longer living at home	32.8	26.7		
Attended live performances in a different state or country			96.942	0.000***
Yes	38.2	23.2		
No	61.8	76.8		
Art education during childhood			0.591	0.442
Yes	75.2	74.1		
No	24.8	25.9		
Recent art education			15.159	0.000***
Yes	19.6	14.7		
No	80.4	85.3		

, * indicates significance levels at 0.01 and 0.001, respectively.

Appendix C1. (cont'd)

	Heavy (30.6%) %	Light (69.4%) %	χ^2	p-value
Purchase art products			33.421	0.000***
Yes	70.3	61.0		
No	29.7	39.0		
Cultural membership			96.474	0.000***
Yes	32.6	18.7		
No	67.4	81.3		
Volunteer status			54.452	0.000***
Yes	25.5	15.8		
No	74.5	84.2		
Donation activity			269.666	0.000***
Yes	61.2	33.9		
No	38.8	66.1		

, * indicates significance levels at 0.01 and 0.001, respectively.

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