Analysis of Texas Winery Visitor Spending and GOTEXAN Efforts to Promote Winery Tourism[1]

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Abstract

Swinburne University (Langworthy, Howard, Fiona & Mawson, 2006), agri-tourism is a growing phenomenon in Australia, often most strongly associated with wine regions. Recommendations to improve include creation of tourism regions & cooperatives, cooperation between sectors (CVBs, restaurants), infrastructure development and model development to measurable factors. South African wineries Bruwer, 2003 identified factors that were helpful in developing a wine tourism market of South African wineries. Regarding South Africa wine tourism, areas of winery business that promote tourism include both service provision and destination marketing, development of wine routes forms an integral part of the wine tourism industry, estates sell more wine through the cellar-door and tourism industry needs well-developed infrastructure. To complete this analysis for Texas, an online survey was sent to over 9,000 wine consumers. Preliminary results of this study found that Texas winery travelers spend over $400 per winery visit. Winery tourism outspend typical tourist in Texas with 24% of their spending related to accommodations spending. Wineries involved in promoting tourism visitations have significantly higher sales and winery visitation than those not focusing on tourism as part of the marketing promotions ($p<.05$). A secondary aspect of this study is to survey Texas wineries and measure their involvement and satisfaction with TDA wine support efforts. The results illustrate that wineries involved in TDA wine promotional programs report higher increases in sales, winery visitations and attribute increases in sales to TDA marketing efforts over those less involved wineries.

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INTRODUCTION

The Texas Legislature created the Texas Wine Marketing Assistance Program (TWMAP) in 2001 under the auspices of the Texas Department of Agriculture. The Wine Marketing Assistance Program is charged with assisting the Texas wine industry in promoting and marketing Texas wines and educating the public about the Texas wine industry. In 2006, Senate Bill 1370 was employed that extended funding for education, research and marketing of Texas wines. Texas Department of Agriculture's promotional program for wine and other commodities is represented by the GOTEXAN brand.

In 2008, Texas Department of Agriculture developed a tourism promotional program called the Passport Program to attract customers to visit winery locations. The Passport Program offers consumers a documentation process where they can record their winery visits and redeem their visit through Texas Department of Agriculture's wine marketing website. Once a customer has reached visitation milestones, they are awarded Texas wine related gifts. Not only does this program support wine tourism, but it also creates a database of wine interested consumers that can offer marketable demographic characteristics.

Attracting consumers to visit Texas wineries is very important for the industry, since many wineries are small and not able to access larger scale distributors. Figure 1 illustrates 2001 to 2009 sales volume, which illustrates the growth of the industry has been in wine businesses of less than 5,000 cases. Over 100,000 case producers moved from one to two businesses.

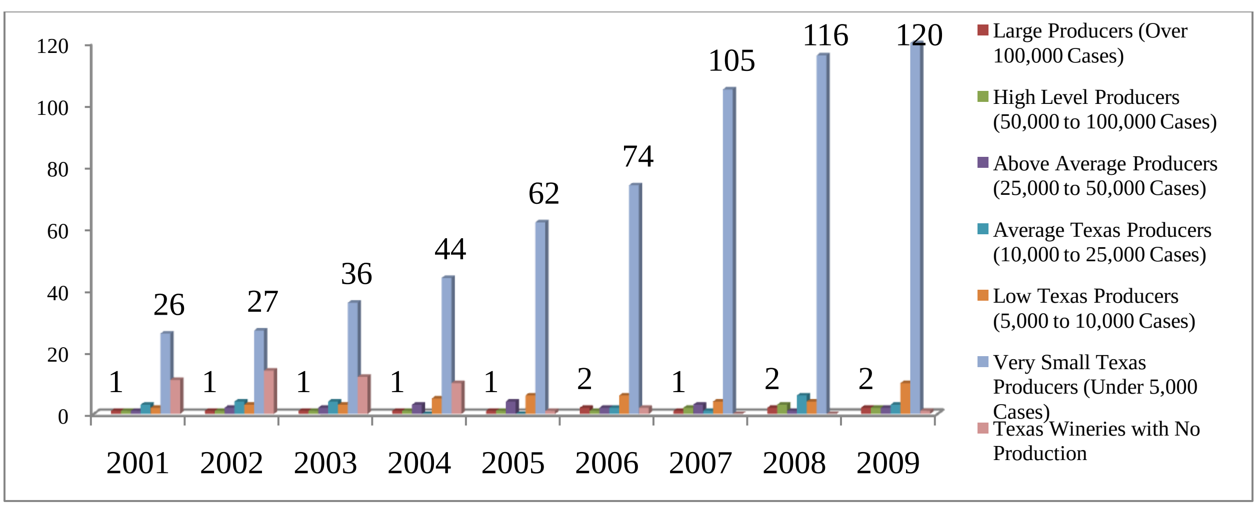

Figure 1 Texas Winery 2001 to 2009 Sales Volume (Source: TABC Cases Produced)

Winery promotions from GOTEXAN are not only derived from the Passport Program, but through the many other marketing efforts. These GOTEXAN programs are represented by the use of promotional material, wine guides and maps of Texas, website promotions, support of wine festivals and events as well as many other programs.

REVIEW OF LITERATURE

Rutgers University (Adelaja, Brumfield and Lininger, 1990) identified a growing interest among states to assist in marketing agricultural commodities. Holloran and Martin, (1989), policymakers typically seek to promote (a) products that have certain state characteristics, (b) promote unique products, and (c) attempt to gain economic returns.

Swinburne University (Langworthy, Howard, Fiona & Mawson, 2006), agri-tourism is a growing phenomenon in Australia, often most strongly associated with wine regions. Recommendations to improve include creation of tourism regions & cooperatives, cooperation between sectors (CVBs, restaurants), infrastructure development and model development to measurable factors.

M. O'Neill and S. Charters, 2000 identified that wine tourism is a very lucrative industry with the ability to generate substantial wealth and growth. They reported 390,400 international tourists visited wineries in Australia in 1996, a 68% increase in 3 years. They also found that winery issues in promoting tourism are the service quality of the winery and the importance of empathy and responsiveness to generate brand loyalty.

South African wineries Bruwer, 2003 identified factors that were helpful in developing a wine tourism market of South African wineries. Regarding South Africa wine tourism, areas of winery business that promote tourism include, both service provision and destination marketing, development of wine routes forms an integral part of the wine tourism industry, estates sell more wine through the cellar-door and tourism industry needs well-developed infrastructure.

E. Cohen and L. Ben-Nun (2009) found that a tourist's decision to visit a specific winery is also shaped by the willingness to experience the region's features and to participate in other activities or attractions during the visit. In reference to wineries, the most important attribute was the winery offers wine tasting.

MKF Research (2008) reported that the Texas wine industry created an economic value of $1.35 billion. The report also finds that tourism Expenditures related to wine tourism in Texas represent an economic value of $296.6 million and represent 958,000 in annual consumer visitations. Consider the wine industry in Texas, 9,000 jobs are supported by the industry and 38% of those jobs relate to the tourism industry. Considering the $1.35 billion in total value, the largest single line item area is tourism spending (28%).

RESEARCH METHODS

Methods to complete this study encompassed conservative approaches to describe program stakeholders and the values they attribute to the program. The data approach was to employ primary data collections such as inquiring directly to wineries (Texas winery survey) and consumers (consumer survey) regarding their attitudes to the program and to Texas wine. A set of secondary data was also accessed relating to Texas winery passport data (passport consumer survey) collected from consumers utilizing the program as well as wine sales data currently available from TABC. The following sections detail each survey and or data area.

Texas Winery Survey Methods

Utilizing a master list of winery contacts, the winery survey was emailed to 191 winery businesses in Texas. These wineries represent additional separate locations, but to avoid duplication of data the 191 wineries were utilized as the base value for the sample. Of the 191 wineries that all hold a license to produce and sell wine in Texas, the following illustrates the categorical description of Texas wineries:

- 128 are wineries involved in volume wine making and distribution, a vineyard and or a tasting room
- 49 are custom wineries that involve wine making for custom clients
- 14 are wine retailers that retail Texas and other wines to the public

This list of wineries served as the master list for survey contacts.

In April 2010, an online survey draft was developed to capture winery involvement, satisfaction and potential impacts related to TDA's wine marketing program. TDA staff reviewed this survey and incorporated edits to improve the instrument. E-mail requests began in May 2010 and continued until July 25, 2010. The initial survey request was May 20, 2010, and resulted in 22 completed winery surveys.

In June, two follow-up email reminders were sent along with reminder phone calls to capture an additional 44 wineries, which increased the sample to 66 wineries. A final phone call reminder was completed in early July, which resulted in an additional 13 responses for a total response of 79 wineries. The 79 responses for all categorical wineries translate to a 41.36% response rate. This is an improvement over previous years' studies, which usually involved around 50 winery responses.

Consumer Survey Methods

In June, a Texas consumer survey was developed following formats of several online surveys and research reports (HanniCo, LLC of Napa Valley/ WinesUSA/ Wark Communications of California). The objective of this survey was to define Texas consumer preferences and measure the strength of the Texas wine brand. The value of the brand was defined as outlined by Building the Brand Driven Business (Scott and Davis, 2002), which defines the health of a brand and recommends measuring that health each year to quantify marketing efforts.

The survey base for this effort was to utilize consumers that requested to receive TDA's e-zine newsletter, "Excellence Uncorked." This sample was a convenience sample sent to approximately 9,000 newsletter subscribers, which resulted in 610 consumer responses. This is a response rate of 7%, but the 610 sample size according to Krecjie and Morgan (1970) is a representative sample to well over 1 million consumers.

Passport Program Methods

In July 2010 passport redemptions were collected and compiled into MS Excel to summarize results and analyze data. The results represent 1,906 survey responses that spanned from January to May of 2010 and serve as the sample. Actual passport redemptions since the program's inception in October 2008 represent approximately 10,000 redemptions, which represents approximately 40,000 winery visits (4 visited per redemption).

FINDINGS

Texas Winery Surveys

Demographic responses to winery survey results reported wineries rating the passport program as effective, agri-tourism as valuable, average sales of $700,000, changes in sales of over $119,000 per winery and attribute 28% of their increases in sales to GOTEXAN (TDA) marketing efforts. The following table illustrates the mean and deviation values of these results.

Table 1 Demographic Value of Winery Surveys

Survey Area	N	M	SD
Texas Winery Passport	57	4.37 (effective)	1.06
Passport Program/agri-tourism	55	4.27 (valuable)	1.13
Gross sales	60	$720,000	$145,008
Change in annual gross sales	48	$177,100	$20,806
Attributed sales increase	61	28%	3%
Sales change attributed to TDA	41	$35,940	$7,856
Tourism services	59	3.36	2.41

Respondents were asked to rate the effectiveness of TDA promotional efforts, which provides ranked value of common TDA promotional activities. A summary of promotional areas and respondents' ranking of each is illustrated in the following figure.

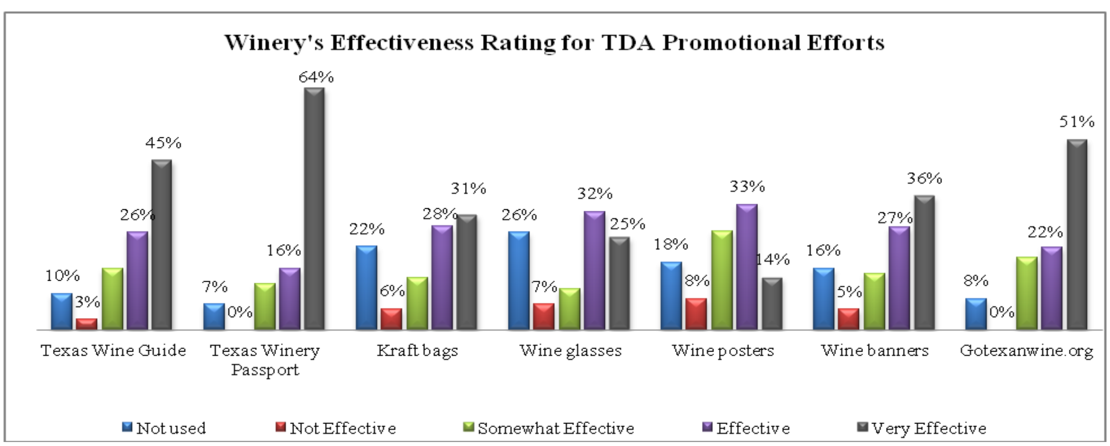

Figure 2 Texas Wineries Effectiveness Rating of TDA Wine Promotional Efforts

As illustrated in the previous figure, winery passports and the www.gotexanwine.org website are rated as very effective by a majority of Texas wineries. Interpretation of this table should be done with care, but the Texas wine guide, winery passport, kraft bags, wine banners and the website all have the higher “very effective” scores when compared to other rating areas of the same area.

Wineries also reported the percent increase in awareness TDA efforts have brought to the industry. In response to this question, wineries reported that TDA’s efforts are responsible for 58% of the increase in consumer awareness. The actual value of awareness is difficult to measure. In any case, if it is a measure of sales, measure of winery visitation or measure of brand awareness, wineries report TDA is responsible for 58% of the value.

Wineries did provide one measure of consumer awareness, which were visitations to their winery. Wineries reported that in this past year, they have experienced a 43% increase in consumer visitations to their winery. On average, Texas wineries report an average of 12,139 visitors per winery and terms of weekly visits this translates into 233 visits per week per winery (12,139/52 weeks). In terms of TDA’s potential share in these visitations, TDA’s marketing efforts to increase consumer awareness likely created 134 of each winery’s visits per week (233*.58). These visits translate into sales and very likely impact revenue.

The results of winery visitations and use of TDA promotional materials should be related to increases in winery sales. In this survey effort, wineries reported their changes in sales and gross 2009 gross sales values. The wineries reported an average sale value $720,000 and an average sales increase of 25% increase over previous year’s sales. This identifies that an average winery in Texas reported sales grew by $177,100 ($720K * 25%).

TDA’s Wine Marketing Program cannot take all the credit for the increases in sales, but each winery responded with their estimated increase of sales they attribute to TDA’s wine marketing efforts. Their response was that 23.8% of their increases in sales are directly attributable to TDA’s wine marketing efforts, which results in $42,178 in winery sales increases that are directly related to the marketing efforts of TDA ($177,100 * .238).

Winery’s sales attributed to TDA marketing efforts are supported by previously reported values. The majority of Texas wineries responded they are involved in TDA promotional efforts (94%), wineries reported TDA marketing efforts as mostly effective, and wineries recognized that TDA was responsible for 58% of consumer awareness of Texas wines. TDA's share of winery business growth is not a one-dimensional relationship, but rather supported from involvement, to effectiveness and finally to recognition of sales growth.

A Pearson correlation (r) was completed for areas of TDA wine marketing efforts and attempted correlations to winery increases in sales and attributable sales increase from TDA marketing efforts. The results are the wineries reporting higher increases in sales are reporting greater involvement in TDA promotional items than less involved wineries. TDA promotional tool related to increases in sales are the Texas Wine Guide (r=.287) and wine posters (r=.311).

TDA wine promotional efforts related to increases in sales measure a very difficult directional relationship value, but TDA promotional items related to increases in sales related to TDA marketing efforts would measure wineries satisfaction with GOTEXAN efforts to promote Texas wineries. These correlation values illustrate stronger relationships to all areas of GOTEXAN wine promotional efforts. The following table illustrates the results.

Table 2 Pearson (r) Correlational Values of GOTEXAN Wine Promotion Related to Increases in Winery Sales and Attributable Increases in Sales

Areas of TDA Promotional Materials rating of Marketing Value (not used to used often)	Annual Change in Sales(r)	% Sales Growth Attributed to TDA(r)
Texas Wine Guide	**.287***	**.577****
Kraft bags	0.205	**.323***
Wine glasses	0.224	**.314***
Wine posters	**.311***	**.430****
Wine banners	0.279	**.277***
Website (www.gotexanwine.org)	0.176	**.366****
**99% level, *95% level		

In reference to high positive correlations, use of the Texas Wine Guide (r=.577) and Wine posters (r=.430) are highly correlated to wineries attributing a greater percentage of their increases in sales to GOTEXAN wine marketing efforts. This illustrates a high level of satisfaction to state wine marketing efforts.

An additional aspect of the winery survey asked respondents to rate their involvement in Passport Program. The objective of the question was to determine if wineries participating in the passport program are experiences significantly higher increases in sales than non-participating wineries. The following ANOVA was completed to determine significant variables in this comparison group.

Table 3 ANOVA for Wineries Participating in GOTEXAN Passport Program

Significant Areas of Winery Descriptors	*F*	*Sig.*
Increase in Consumer Visits	3.827	.015
Sales Attributed to TDA's Marketing Efforts	8.256	.000
Increases in Sales	5.695	.002

As illustrated in the previous ANOVA table, wineries that were involved in the Passport Program have significantly greater consumer visits, higher attributing values to GOTEXAN efforts and greater increases in sales.

Consumer Survey Findings

Consumers responding to the survey were mostly female (68% female and 32% male). Consumers' ages center around 40 to 65 years of age. The following table is a summary of respondents' age.

Table 4 Texas Wine Consumer's Age Demographic

Age	Sample Response
21-25	2%
25-30	6%
31-35	8%
36-40	7%
41-45	11%
46-50	16%
51-55	20%
56-60	12%
61-65	10%
66-70	5%
over 70	2%

As illustrated in the above table, the highest category of respondents is the 51 to 55 grouping, but the age groups cluster above and below this category. Describing consumer households may provide additional insight into consumer demographics used in marketing Texas wine.

The largest sector of wine households are married (79%) and are primarily represented by married households with no children at home (44%). Household income is an additional demographic value. The following table illustrates reported household gross income.

Table 5 Texas Wine Consumers Household Income

Annual Income	Sample Response
$20,001 to $45,000	10.50%
$45,001 to $70,000	19.60%
$70,001 to $95,000	19.40%
$95,001 to $120,000	22.90%
$120,001 to $145,000	7.30%
$145,001 to $170,000	9.30%
More than $170,000	9.50%

As illustrated in the previous table, the most frequent income category is $95,001 to $120,000 (23%), which is a high-income category. The second most frequent income levels decline to lower levels, but higher income levels are recognized with 7% to 9% representation.

Wine consumers responded to several questions to measure their maturity and level of wine knowledge. In reference to Texas consumers' formal wine education, the majority of consumers (52%) are not interested in formal wine education. One-third (35%) reported a few formal tastings with declining percentages for belonging to a wine group (9%) to those having formal wine training (5%).

Wineries also responded to common descriptions of a wine consumer, which help further define the Texas wine consumer. The following table outlines these results.

Table 6 Self-descriptive Statements of Texas Wine Consumers

Consumer Descriptors	Percent Response
I am passionate about the entire wine experience from researching purchases to sharing discoveries with friends and family.	22.6%
I feel sophisticated on one hand and adventurous and trendy on the other hand--just as likely to choose wine with sophisticated labels as wine with fun, image-driven labels.	10.1%
I seek great wines at a great value--enjoy drinking and shopping for wine and good wines need not cost a lot of money.	55.1%
I enjoy wine made by a well-known winery that has been around for a long time.	1.0%
I look for a sensible wine that I am comfortable to serve to friends and family.	9.7%
I find shopping for wine complex and worry about making a mistake, but good shelf displays and assistance play a role in my decision.	1.5%

As illustrated in the previous table, the largest sample of Texas wine consumers (55%) seek great wines at value prices, but also mostly represent higher income categories. Consumers represent all types of consumer descriptors, which are illustrated in the previous table.

Consumer preferences of wines and wine characteristics are also valuable demand factors that describe what products consumers' desire. This finding reports that Texas consumers seek mostly red wines (78%), which dominates the demand preferences. This data was developed by Texas consumers selecting their top three choices and employed a forced rank method in order to determine the top three choices. The following table illustrates Texas wine consumers' response to their top three choices of wines they most often drink.

Table 7 Texas Consumer Reporting of Most Often Wine Choices (Forced Rank by Wine Type)

Wine Type	Most Often
Blush	**16.4% (25)**
Dessert wines	13.6% (18)
Fruit	13.6% (9)
Madeira	0.0% (0)
Port	0.0% (0)
Red	**78.5% (399)**
Rose	6.2% (5)
Sherry	0.0% (0)
Sparkling	4.7% (9)
White	**24.4% (118)**

Consumers also reported wine characteristics that best describe how they like their wine to taste. These are direct marketing values that if used in promotions, could target larger numbers of consumers and, if used in winemaking, could shape product to meet consumers' needs. The following table reports consumer-preferred characteristics.

Table 8 Texas Consumer Preferred Wine Characteristics

Wine Characteristics	Percent Recognizing *(marked all that apply)*
A little bit sweet	30%
Sweet	15%
Very sweet	6%
Dry	**49%**
Fruity	37%
Light	28%
Heavy	10%
Fragrant	35%
Smooth	**69%**
Earthy	24%
Rich	36%
Complex	37%
Balanced	**44%**
Full-bodied	**55%**
Bold	20%
Intense	12%
I do not normally associate terms	4%

As illustrated in the previous table, terms such as smooth, full-bodied, dry and balanced are the most popular terms. It is also interesting that a very small portion of consumers (4%) did not associate terms to their taste of wine, which applies a higher value to other low scoring terms.

Texas consumers also reported average consumption of wine per week and per month. Respondents reported that they consume on average 3 bottles per week and 9 bottles per month.

As previously mentioned, TDA's marketing and promotions related to increasing tourism have been very popular and successful in supporting winery sales. Also, as previously mentioned, wineries' estimated level of winery visitations averaged 12,139 per winery. These visitations have potential income for the winery, but also offer tourism value to Texas. The question for Texas wine consumers is their spending related each time they visit a Texas winery. The consumer survey focused on several aspects of winery tourism with the objective to define tourism spending related to visiting Texas wineries.

Hotel use is a common tourism measure of tourism value. The following table outlines wine consumer use of hotels/lodging while visiting Texas wineries.

Table 9 Texas Wine Consumer's Use of Tourism Accommodations

Accommodations Description	Percent Use
No accommodations used, day trip	51.8%
Usually a hotel in a larger city	4.8%
Usually a hotel in local community of the winery	23.6%
Usually a local bed/breakfast	19.8%

As illustrated in the previous table, 52% of Texas consumers utilize day trips, but 48% utilize some level of accommodations. In the Dean Runyan 2009 Texas economic impact report of tourism spending, 16.9% of tourism spending is related to accommodations, so it appears that Texas wine consumers may utilize hotels at a higher rate than normal Texas travelers. An additional survey question was to measure length of stay while visiting a Texas winery. It was found that visitors targeted two-day trips more frequently than other choices.

As previously reports, two-night trips are the highest rated length of stay. Respondents also reported their average spending while visiting a Texas winery. Those not having expenses in a certain area were instructed to enter a $0 so that a numeric average could be determined for each area of potential spending. Spending while vising wineries begins to define tourism value beyond the wine sales, and illustrates the value of winery tourism transfer value to their communities and even values to the state of Texas. These areas are reported in the following table.

Table 10 Associate Travel Cost When Visiting a Texas Winery (560 = n)

Travel Area of Spending	Average	Percent Value
Travel/Fuel Cost	$60.73	14%
Wine/Other Products	$140.41	32%
Accommodations	$102.53	24%
Meals	$84.96	20%
Entertainment	$14.29	3%
Merchandise	$32.63	7%
Total Spending	**$435.55**	

As illustrated in the previous table, the largest categorical portion of tourism spending is at the winery in wine or wine products (32%). However, considering the remaining areas are likely outside of the winery, 68% of winery expenses impact regional areas and other business outside of the winery. As previously mentioned, Texas reported travel spending on accommodations (Dean Runyan Report, 2010) is approximately 16.9% of tourism spending, but wine visitors report spending at a higher rate (24%). In terms of total spending, wine tourists potentially spend more than typical Texas tourists. Normal adult tourism travel averages two persons, so in terms of reporting tourism spending per person an estimated value is $217.78 per person, which is a very high value of tourism spending per person.

While visiting Texas wineries consumers were asked if TDA tourism marketing increased their knowledge of Texas wines and to rate their satisfaction from TDA support and their satisfaction of the entire experience. This is an interesting analysis, as the primary stakeholder of GOTEXAN marketing efforts are Texas wineries, but a positive connection to consumers is a very strong result valuable to Texas wineries.

Consumers first responded if TDA's passport tourism program increased their knowledge of Texas wineries, and the majority of consumers identified the program increased their knowledge (73.4%). Consumers then responded to detail comments regarding the program's value to them as a consumer. The results were that over half of the respondents reported the program created a great experience that caused them to learn more about Texas wineries, which was the highest and most valuable rating consumers could select. These results are illustrated in the following table.

Table 11 Texas Wine Consumers Rating of GOTEXAN Passport Program

Passport Rating Area	Consumer Response
Great experience that caused me to want to learn more about Texas wineries	53.0%
An OK experience allowed me to learn about Texas wineries	25.3%
An average experience that was a great tourism experience	18.7%
A less than average experience	2.5%
A poor experience	0.4%

As illustrated in the previous table, only 2.9% of those using the program or having knowledge of the program identified a poor or less than average experience. This leaves the remaining

97.1% of tourists rating the GOTEXAN Passport Program with value in relation to learning about Texas wines.

Passport Data Findings

As previously mentioned, the passport program was rated by wineries as the most highly valuable program to reach consumers and rated as an effective marketing tool by 81.1% of Texas wineries. As consumers complete the winery passport, they actually recognize visiting 4 wineries. Since October of 2008, approximately 10,000 passports have been redeemed, which translates into approximately 40,000 winery visitations.

A sample of passport redemptions completed an online survey to measure their spending and wineries they visited. This was a sample of 1,906 responses, which is 19% of total redemptions and a representative sample of the population. In analyzing a sample of passport redemptions, the average consumer recognized spending $78 per redemption, which represents four winery visits. This calculates that on average, a consumer utilizing the passport program reported spending $19.49 per winery visit, which across the previously mentioned 40,000 winery visits is $779,483 in gross winery sales. This spending value likely exceeds program funding for passport and is a program that assists TDA in creating a high return on state investment.

CONCLUSIONS

Considering the winery perspective, winery greatest involvement is in the use of TDA promotional material, but next is use of wine trails and tourism activities to attract visitors. Among TDA marketing activities, the Passport Program is the highest effectiveness with 83% and then wineries 66% wineries rating the program as the most effective marketing concept to attract consumer. A very high value, 96% of wineries rated the Passport program to provide some value to attract visitors. Spearman Rho correlations were found with those wineries recognizing greater use of the passport program low positive correlation to increases in visitations. A high positive correlation was found with use of the passport and increases in sales they attribute to TDA involvement.

Results will provide Texas wineries with visitor demographics that increase brand value to wine consumers. Data also provides value estimated for winery tourism travel and measures results to the value of tourism to the state's economy.

Limitations of this study are other winery business attributes such as tasting rooms, proximity to metropolitan areas and other business factors not measured in this study. It is possible that involved wineries that heavily use GOTEXAN marketing programs are more ideally located in reference to visitors and increases in associated sales. However, these results outline economic and business benefits related to GOTEXAN's positive impact to the Texas wine industry.

REFERENCES

Adelaja, A., Brumfield, R, and Lininger, K. (1990). Product differentiation and state promotion of farm produce: An analysis of the Jersey Fresh Tomato. *Journal of Food Distribution Research, 21*(3). 73-86.

Bruwer, J., 2003. South African wine routes: Some perspectives on the wine tourism industry's structural dimensions and wine tourism product. Tourism Management 24(1), 423-435.

Cohen, E., & Ben-nun, L., (2009). The important dimensions of wine tourism experience from potential visitors' perception. *Tourism and Hospitality Research: Special Issue: Papers from the 1st QATEM Workshop*, 9(1), 20-31.MKF Research (2008)

Holloran, J. and Martin, M. (1989). Should states be in the agricultural promotion business? *Journal of Agribusiness, 5*. 65-75.,

Krejcie, R. and Morgan, D. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30. 607-610.

Langworthy, Howard, Fiona & Mawson. Building the Relationship between Tourism and Agribusiness. The Centre for Regional Development, May 01, 2006

MKF Research. Economic Value of the Texas Wine Industry. Industry Report, 2008. Texas Wine Marketing Research Institute, Texas Tech University

O'Neill, M., Charters, S., 2000. Service quality at the cellar door: Implications for Western Australia's developing wine tourism industry. Managing Service Quality 10(2), 112-123.E.