

A COMPARISON OF MAIL AND INTERNET SURVEY PROCEDURES

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Abstract

Internet surveying continues to grow in tourism and leisure research. Internet surveying, according to the literature, has a number of advantages; it saves time and money, data entry is direct, it reaches a larger population, and the response rate is higher than that of other methods. Despite such advantages, it would be premature to proclaim its replacing of mail surveying. This study aims to identify any significant differences in procedures between Internet and mail surveys. As part of a wine tourism research project, researchers distributed either Internet-based or mail paper-based surveys to 3,649 participants. Participants were recruited by tasting room operators from 15 wineries in northern Michigan. A comparison study looked at the respondents' preferred survey procedures and differences between the response rates and response content of the two procedures. Results show that, indeed, the response rate, profiles of respondents, and visitor experience questions differ according to procedure.

1.0 Introduction

As Internet access has improved dramatically in recent years, tourism and leisure research more and more avails itself of Internet surveying (Cole, 2005; Sheehan & Hoy, 1999; Ward, Clark, Zabriskie, & Morris, 2012). More effective surveying procedures are the focus of the researchers designing tourism and recreation surveys. The research environment for researchers, as well as survey respondents, has been impacted by rapid changes in technology and culture (Cobanoglu, Warde, & Moreo, 2001; Sills & Song, 2002). For instance, significant advances in computer technology and the widespread use of Internet and mobile communication allows today's researchers to create new modes of data distribution, data collection, and data entry procedures (Cole, 2005; Dillman, Smyth, & Christian, 2009; Eaton et al., 2010). Such procedural shifts have given rise to a strong need to compare surveying procedures—especially those of mail and Internet types (Cook, Heath, & Thompson, 2000; Truell, Bartlett, & Alexander, 2002). In addition, tourism and leisure researchers need to better understand the differences between surveying procedures so as to be able to adopt innovative options and to enhance their research findings.

Studies of surveying procedures typically assess their advantages and disadvantages by comparing them to traditional survey methods such as mail and telephone surveys (Cole, 2005; Eaton et al., 2010; Kaplowitz, Hadlock, & Levine, 2004; Ward et al., 2012). According to the literature, Internet surveying has many advantages. It allows researchers to save time and money, directly enter data, incorporate automatic branching in questionnaires, and force adherence to a particular question format (e.g., select only one; (Dillman et al., 2009; Eaton et al., 2010). Despite the number of advantages of Internet surveying, Dillman et al. (2009) and Ward et al. (2012) asserted that it was premature to argue that such surveying has replaced its mail counterpart. Also, when researchers rely on the Internet survey method, they can face limitations in terms of sampling bias and representativeness of sample size because not everyone has Internet access and respondents' perceived legitimacy of the method (e.g., phishing, spam mail). Such concerns about Internet surveying can be added to the issue of the expected lower response rates.

The goal of this project is twofold: 1) to identify significant difference between the Internet survey and mail survey procedures when participants are given a choice of survey procedures and 2) to investigate what respondents' preferences are concerning the two procedures. By comparing both methods, we can better understand the preferences of tourism survey respondents and which method might be most effective at addressing future research quality. Specifically, the objectives of the present study include: 1) comparing profiles of Internet survey respondents and mail survey respondents; 2) identifying differences between two sampling groups; and 3) comparing response rates of Internet and the mail surveys.

2.0 Literature Review

2.1 Mail Survey vs. Internet Survey

In the existing literature, most studies that are focused on evaluating alternative survey methods have examined both paper and Internet surveys, seeking each method's weakness (Bernardo & Curtis, 2013; Buchanan et al., 2005; Deutskens, de Ruyter, & Wetzels, 2006; Ravichandran & Arendt, 2008). Bernardo and Curtis (2013) assessed the differences between mail and online surveys by analyzing the accuracy, the quality of completed answers, reliability, and the means and variance-covariance. The target sample of this study was people aged 50 and over, and the results of this study suggested that survey mode is less likely to have a significant effect on survey responses than demographic variables. In this study, researchers also examined that Internet survey is useful tool for collecting data from people who is over 50 (Bernardo & Curtis, 2013). According to Deutskens et al. (2006), their study aimed to examine business-to-business service quality assessment, so respondents were industry professionals. The study detected only minor differences: the online group offered more comments on how to improve the service, indicated their intention to switch to a competitor more frequently, and offered lengthier responses about their positive experiences with the companies and services. Factors that were equivalent, on the other hand, included such items as the accuracy, completeness of respondent answers, reliability, and means and variance-covariance (Deutskens et al., 2006).

Cole (2005) also conducted mixed-mode surveys to compare mail and Web-based surveys in terms of response rates, data quality, demographic profiles of respondents, internal consistency of scales, and responses to items. He found several differences between the paper and Web-based surveys. The response rate was lower in the Web-based survey than in the paper survey. Also, the Web-based survey showed that it had more missing data. Approximately 15% (15.3%) of the total items in the survey differed between the two groups of respondents and the mean scores for the five-scale questions of Web respondents were lower than those of mail respondents (Cole, 2005).

2.2 Mail Survey vs. Internet Survey in Tourism and Leisure research

In contrast to such social science studies, since tourism and leisure research have been studied based on their own disciplines, it is crucial to examine surveying procedures within tourism and leisure fields (Dolnicar, Laesser, & Matus, 2009; Litvin & Kar, 2001; Ward et al., 2012). Litvin and Kar (2001) compared two collected data sets from different surveying procedures that were one from a traditional mail survey and the other from an e-mail. Significant differences in demographics and travel patterns were found based on comparative analysis for data sets from different survey modes (Litvin & Kar, 2001). In more recent studies in tourism and leisure research, researchers started to focus on the Internet surveying procedure for their comparison studies of survey modes (Dolnicar et al., 2009; Litvin & Kar, 2001). Dolnicar et al. (2009) investigated actual and potential tourists, rather than tourism service providers. This study focused on the survey format and respondents' self-selection while comparing online and paper surveys. Results suggested that the online group showed a lower dropout rate and less incomplete data; no differences were found in the demographic profiles of respondents and missing data. However, the responses to tourism-related questions differed significantly, indicating that, with empirical studies in tourism, survey format could dramatically influence results. Additionally, Ward et al. (2012) explored differences between paper survey data and in leisure research. The differences between paper survey respondents and Internet survey respondents were examined by using six scales commonly adopted in leisure research. The results indicated that responses were significantly different in three scales.

3.0 Methodology

To explore the research questions developed for this study, researchers chose visitors of wine tasting rooms as survey participants. The survey was distributed, from June 18, 2012 to December 21, 2012, to 3,649 participants recruited from 15 wineries in northern Michigan. When initially approached, potential respondents were asked about their willingness to take part in the survey. Those agreeing to do so were asked about their preference of survey method—Internet- or mail-based. People who chose the Internet survey were asked for their email address. Those who chose to receive a mail survey were asked to provide their mailing address. During the first three weeks of the survey, more than 70% of respondents chose the Internet. We thus stopped offering the choice and started randomly assigning respondents to one of the two survey methods.

As indicated in Table 1, when respondents were allowed to choose the survey method between June 18 to July 15, 2012, only 28% (N = 97) chose the mail survey, with the remaining 72% (N = 241) opting for the Internet-based survey. After July 16, 2012, when respondents could no longer choose, each survey mode was used fairly evenly, as can be seen in Table 1. The mail survey was taken by 51% (N = 618) of respondents, and the Internet survey was taken by 49% (N = 496). Ultimately, 1,552 surveys were received. Out of 3,649 total surveys distributed, 715 responses were collected for the mail survey respondents and 837 responses for the Internet survey respondents. The response rate of the mail group respondents (20%) was slightly lower than that of Internet survey group respondents (23%). Comparing mail survey respondents and Internet survey respondents among the respondents who had a forced choice for choosing survey modes are not able to address research questions because these respondents were not given a choice of survey procedures. Therefore, comparison studies between mail survey respondents and Internet survey respondents were conducted among respondents who had a free choice of survey procedure.

Table 1. Percent of Responses Received by Mail or the Internet Survey Period when Respondents Could and Could Not Choose Methodology Preference.

Survey time period	Mail		Internet		Total Responses
	N	%	N	%	
June 18, 2012 – July 15, 2012 / Free Choice	97	28	241	72	338
July 16, 2012 – Dec 21, 2012 / Forced Choice	618	51	596	49	1,214
Total Responses	715	46	837	54	1,552
Response rate		20		23	

4.0 Results

Tables 2 and 3 exhibit the profiles of Internet survey and mail survey respondents and differences of the two groups. The chi-square test showed significant differences in gender among the number of respondents ($\lambda = 14.58, p = .001$). Results from t-tests indicated that the mail survey respondents were significantly older ($t = 2.57, p = .011$) than Internet survey respondents. Those who responded to the Internet survey were, on average, 43 years old and those of the mail group was 47.2. Results from t-test also showed that the two groups differed in the number of bottles that they purchased ($t = -3.42, p = 0.001$). The average number of bottles that the mail survey respondents purchased was 4.85 and the average number of bottles that Internet survey respondents purchased was 7.35. However, the mail and Internet respondents did not differ significantly regarding the average price per bottle ($t = -.0972, p = 0.332$), with the average for mail respondents and Internet respondents being \$14.20 and \$15.30, respectively. Neither did the two groups statistically differ in the average travel distance ($t = -0.535, p = 0.557$), with the average for the mail group and Internet group being 183.1 and 203.3 miles, respectively.

Table 2. Comparisons of Respondent's Profile

Variable	Mail		Internet		Total		Sig.	Pearson Chi-Square
	N	%	N	%	N	%		
Gender							0.001*	14.58
	Male	25	28.1	66	29.2	91	28.9	
	Female	64	71.9	160	70.8	224	71.1	
Total		89	100	226	100	315	100	

* Significant at $\alpha = .05$

Table 3. Comparisons of Respondent's Profile (Continued)

	Mail		Internet		Sig.	t
	N	Mean	N	Mean		
Age	95	47.2	223	43	0.011*	2.57
How many bottles did you purchase?	86	4.85	212	7.35	0.001*	-3.42
What was the average price per bottle?	82	14.2	208	15.3	0.332	-0.972
How far is it from your home/ second home to the first or only that you visited?	93	183.1	237	203.3	0.557	-0.535

* Significant at $\alpha = .05$

To evaluate wine tasting room visitors' experience, the questionnaire included the following six questions, related to customer satisfaction: "Please rate your experience at the winery – Friendliness of staff," "Please rate your experience at the winery – Knowledge of staff," "Please rate your experience at the winery – Tasting room facility," "Please rate your experience at the winery – Quality of wine," "Please rate your experience at the winery – Overall experience," and "Please rate your experience at the winery – Likelihood you would recommend to others." The results of data analysis are showed in Table 4. No statistically significant differences were founded for any of six satisfaction-related questions at the standard .05 level of significance. These questions were asked with 5-point Likert-type scale with 1 = excellent and 5 = poor. The mean value of the Internet survey respondents was higher for all six questions.

Table 4. Wine Tasting Room Visitors' Satisfaction-Related Questions

		N	Mean	Sig.	t
Friendliness of staff	Mail	95	1.22	.072	-1.809
	Internet	223	1.35		
Knowledge of staff	Mail	95	1.32	.165	-1.391
	Internet	222	1.45		
Tasting room facility	Mail	96	1.4	.065	-1.849
	Internet	223	1.57		
Quality of wine	Mail	95	1.44	.113	-1.588
	Internet	223	1.59		
Overall experience	Mail	96	1.35	.190	-1.314
	Internet	223	1.44		
Likelihood you would recommend to others	Mail	96	1.3	.133	-1.508
	Internet	223	1.41		

* 1=Excellent, 2=Good, 3=Average, 4=Fair, and 5=Poor

5.0 Conclusions

From these survey results, a comparison study was conducted between survey respondents regarding response rate, profiles of respondents, and responses to core survey items. Although in terms of response rate, no big difference separated mail survey respondents from Internet survey respondents, the response rate of the Internet survey respondents was slightly higher than that of mail survey respondents. This can be explained by the fact that Internet survey respondents had easier access to the survey questions and a more convenient procedure for returning completed surveys. Regarding the profiles of respondents, they differed significantly concerning such survey items as gender, age, and average number of bottles purchased. Also, based on the comparisons of respondents' profiles, it was indicated that the Internet survey respondents were approximately four years younger and purchased 2.5 bottles more. It is possible to explain that Internet survey respondents tend to be younger and more active buyers when it comes to buying wine at a tasting room. Moreover, the result from satisfaction-related questions demonstrated no significant difference at the 0.05 level between the two survey methods. Although none of the six customer satisfaction questions was statistically significant, there was a clear pattern to the result. Mail survey respondents indicated a slightly higher response for every customer satisfaction question. In other words, mail survey respondents tended to indicate a great deal of satisfaction in the context of wine tasting room experience.

However, this study offers a unique opportunity to examine differences in response when participants are given a choice of procedures. We found there was a much higher preference for the Internet procedure over the mail survey. The results of this study will inform future survey research projects where a choice of procedures is possible. For a future study, this study can offer several recommendations. The significant differences of response rate between two survey modes could be demonstrated more clearly if random sampling is used. Additionally, it is recommended that including more comparison variables will indicate the difference more distinctly.

6.0 References

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