

Visitor Guidelines: Part 3

How to Analyse Visitor Survey Responses

Published by All About Audiences

Part 3 in this visitor guidelines series explains how you can analyse and interpret the results of your visitor surveys. You'll find advice on using different computer packages, how to clean and code data, methods to evaluate your data and how to report on your findings. Part 3 sets out some principles for analysing the survey and making sense of the data. The guide has been produced with a museum or gallery with a small research budget in mind, but the principles are still relevant for any type or size of venue wishing to research and assess their visitors.

The Audience Agency is a not-for-profit organisation created out of the merger between All About Audiences and Audiences London Plus in 2012.



Visitor Survey Guidelines

Part 3: Analysing your results

This three-part guide sets out some principles for designing a visitor survey, for carrying out the survey, and for analysing the survey and making sense of the data. The guide has been produced with a museum or gallery with a small research budget in mind, but the principles are still relevant for any type or size of venue wishing to research and assess their visitors.

Part 3 looks at how to compile and analyse the results of your visitor surveys, and how these results may be interpreted.

“The more complex you want the analysis to be, the more data you may require, so try to keep the analysis simple and straightforward. If possible, reuse some basic questions each time you do a survey so that you can build up a detailed, comparable base of information.”

Arts Victoria – Audience Research Made Easy

Using a computer package

Although data can be analysed manually (i.e. without the use of a computer) this is a very timely and tiresome process and certainly not recommended. Even if you consider yourself hopeless on a computer, it is worth selecting a suitable software program to use and be trained on as it will save you a lot of time and headaches in the long run.

There are various packages that can be used for entering and analysing your visitor survey data. Spreadsheets, databases and statistical software packages can all be used, and all have their own advantages and disadvantages. For the purposes of this guide we have entered the data into a spreadsheet in Microsoft Excel, as it is easy to use and freely available to most organisations. However, if you have access to a stats package such as SPSS (and know how to use it!) more complex statistical analysis is possible.

	A	B	C	How would you rate the following...					
	Survey ID	Is this your first visit to the gallery?	How did you find out about the gallery?	Gallery space	Art work	Staff	Handouts	Café	Age
2									
3	1	Yes	Direct mailing	2. Poor	4. Good	3. Average	4. Good	3. Average	25-34
4	2	No	Press	3. Average	4. Good	4. Good		4. Good	35-44
5	3	Yes	Flyer	5. Excellent	5. Excellent	3. Average	2. Poor	5. Excellent	35-44
6	4	No	Word of mouth		3. Average	4. Good	5. Excellent	3. Average	45-54
7	5	Yes	Other	4. Good	5. Excellent	3. Average		5. Excellent	25-34
8	6	No	Word of mouth			3. Average	5. Excellent	4. Good	35-44
9	7	No	Direct mailing	4. Good		3. Average		5. Excellent	65+
10	8	No	Press	5. Excellent		2. Poor	5. Excellent	5. Excellent	55-64
11	9	Yes	Word of mouth	4. Good	3. Average	5. Excellent	2. Poor	4. Good	25-34
12	10	Yes	Website	5. Excellent	5. Excellent	5. Excellent	4. Good	5. Excellent	25-34
13	11	Yes	Direct mailing		4. Good	3. Average	4. Good	5. Excellent	35-44
14	12	No	Press	5. Excellent	4. Good	4. Good	5. Excellent	3. Average	45-54
15	13	No	Word of mouth	5. Excellent	4. Good	3. Average		4. Good	35-44
16	14	No	Email	4. Good	5. Excellent	4. Good	5. Excellent	5. Excellent	35-44
17	15	Yes	Flyer	4. Good	3. Average	3. Average	4. Good	3. Average	
18	16	Yes	Email	2. Poor		2. Poor	4. Good		16-24
19	17	Yes	Website	5. Excellent	5. Excellent	5. Excellent	4. Good	3. Average	25-34
20	18	Yes	Website			4. Good	5. Excellent	5. Excellent	25-34
21	19	Yes	Word of mouth	4. Good			4. Good	4. Good	25-34
22	20	Yes	Word of mouth	3. Average	5. Excellent	5. Excellent		5. Excellent	16-24
23	21	Yes	Word of mouth	5. Excellent	5. Excellent	4. Good	5. Excellent	5. Excellent	0-15
24	22	Yes	Press	4. Good	4. Good	4. Good	4. Good	4. Good	35-44
25	23	Yes	Website	5. Excellent	5. Excellent	5. Excellent	5. Excellent	5. Excellent	16-24
26	24	Yes	Website	4. Good	3. Average		3. Average		0-15
27	25	Yes	Website	5. Excellent		2. Poor	3. Average		16-24

Checking and cleaning the data

Before you enter the data into the spreadsheet, it should be checked and edited.

Any questionnaires that are clearly inaccurate should be discarded. This could, for example, be a respondent claiming to be both under 16 and a bank manager. If they have definitely given one false answer, then the integrity of the rest of their answers is doubtful. However, you need to be careful not to discard a questionnaire simply because you disagree with the answers – the honesty of a questionnaire needs to be flawed before you can consider discarding it.

Likewise, answers that don't make sense, such as rating the café both good and poor, should be removed. But it may not be necessary to remove the entire questionnaire from the analysis as it may be that the respondent simply misunderstood that particular question. For these questions, leave a blank space in the spreadsheet.

It is not essential that the whole of the survey is filled in for it to be included in the analysis. A respondent may not have answered a certain question because they may not have understood the question, they may have felt that it was too personal, or they may have skipped it by accident, but their answers to the other questions are still worthwhile. Simply leave a blank space in the spreadsheet for those questions not answered.

Nevertheless, if the vast majority of questions have been left unanswered then the reliability of the questionnaire is dubious, and the questionnaire should probably be discarded.

Coding the data

Each individual response needs a unique identifier, or ID number, so that a response isn't added twice or left out of the analysis. Number each response in ink at the beginning and then work through the data entry numerically.

For open-ended questions (including the "Other" option of multiple choice questions) responses should be grouped into categories if possible. For example, responses such as poor access for wheelchairs, large steps, and wheelchair unfriendly could all be grouped under the heading "poor accessibility". An "Other" grouping should be included for comments that do not occur frequently enough to categorise.

It may be better to leave open-ended questions that demand a substantive textual response out of the spreadsheet, and analyse the responses separately. Read through all the responses and write some summarising notes that can be incorporated into your final report.

For grid questions, where the answers are chosen from a progressive scale, it is useful to place a number before the text that relates to its position in the scale. This is to ensure that the answers in Microsoft Excel are sorted in a sensible, numeric order rather than alphabetically.

E.g.	the five-point scale....could be recoded:
	<i>Very poor,</i>	<i>1. Very poor,</i>
	<i>Poor,</i>	<i>2. Poor,</i>
	<i>Neither poor nor good,</i>	<i>3. Neither poor nor good,</i>
	<i>Good,</i>	<i>4. Good,</i>
	<i>Very good</i>	<i>5. Very good</i>

Evaluating the data

Now you have the data entered into your table and coded correctly, you are now ready to analyse the responses. There are two main ways in which you may do this:

Frequency distributions

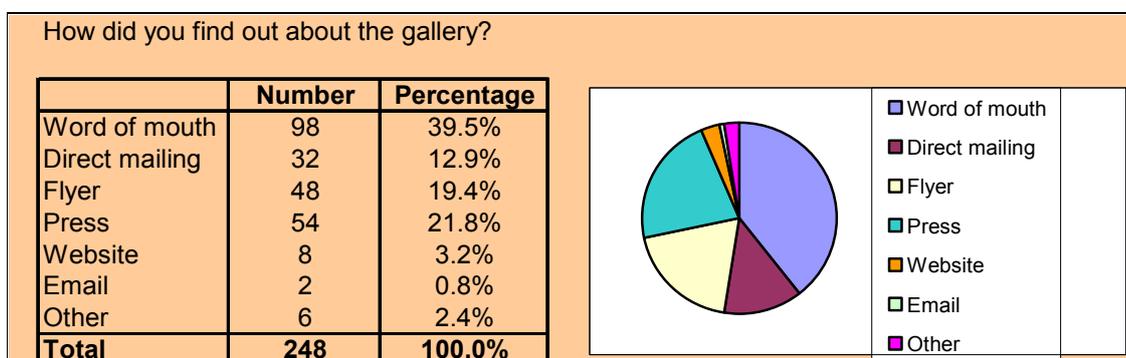
These are used to look at the response of individual questions. You can consider the spread of responses, the most commonly given response, or the average response, all of which are useful when reporting the results. You can also compare answers to different grid questions if the same scale has been used, and compare responses to the same question over time if a certain question is kept unchanged.

Cross-tabulating

This is where the answers to two or more questions are analysed at the same time, for example linking age and satisfaction ratings to look at levels of satisfaction amongst different age groups. From this, differences amongst significant subcategories can be identified, and equally notable similarities can be recognised. Differences between time periods and across questions can also be evaluated.

Frequency distributions

- A frequency distribution shows how many people gave each answer to each question. It is a good starting-point for analysis, and will give you a good general overview of the responses.
- The use of the COUNTIF function in Excel will enable you to tally up totals for each individual answer. You can then produce a suitable table of the totals for each question, with percentages and cumulative totals if appropriate.
- These tables can be saved for future reference or copied into your report. Pie charts and bar charts can also be produced from the data in the tables.



Averages

You may find it useful to calculate the average response for each question. There are 3 different averages you can calculate, and their appropriateness will depend on the type of question asked:

1. **Mode** - This is the most commonly given response, and can be easily calculated by looking at the frequency distribution table.
2. **Mean** - This is only really appropriate for questions where a numerical answer is given, and is calculated by dividing the total of the answers by the number of responses to that question.
3. **Median** - This is the midpoint in a series of numbers or items arranged from least to greatest. This average can be used for questions with a numerical answer, but also for questions where an evident progressive scale has been used, for example ratings of performance. The median is where the 50% point lies, with half the respondents below this response and half above.

Cross-tabulation

Frequency distributions for a particular question are both interesting and useful, but are just the beginning of survey analysis. The really interesting results are when you compare the responses of different significant groups of visitors. This may be different age groups, sexes, regular versus new visitors, or even something like those who liked the gallery versus those who didn't.

- Cross-tabulating means comparing information across questions. The reason for the name is that two variables are tabulated across each other.
- It is important to consider the size of the sample when analysing subcategories. A minimum of 50 responses in any single category is required to perform detailed analysis.

The easiest way to cross-tabulate the questionnaire responses is using a Pivot Table in Microsoft Excel. The Pivot Table wizard is located in the Data menu.

Recoding the data

Recoding answers can sometimes allow for more effective analysis. There are three reasons why you may need to recode answers:

- 1. You may have asked a question in a very detailed form, but may not want to report the answers in such detail. An example of this is where you ask respondents to write their age in years. It is inappropriate to analyse the differences between 26 and 27 year-olds, and it is unlikely you will have enough responses to be able to. But it is useful to group the ages into bands and analyse variations between different age groups*
- 2. If you wish to make reliable conclusions about a particular category, a sample size of at least 50 is required. It may therefore be necessary to group two or more categories together in order to create a large enough sample size. For example, you may group together “good” and “excellent” ratings into an overall “positive” category.*
- 3. You may want to group open-ended responses into broad categories as discussed earlier.*

Pivot Tables

The screenshot shows an Excel spreadsheet with a PivotTable. The PivotTable is based on the data in rows 4-12 and columns B-J. The PivotTable is structured as follows:

How did you find out about the gallery?	Age	0-15	16-24	25-34	35-44	45-54	55-64	65+	(blank)	Grand Total
Direct mailing		1	4	7	8	3	4	6		33
Email			4	4	8					16
Flyer		4	5	3	13	4		3	1	33
Other			1	3	4			2		10
Press			5		11	10	5	7		38
Website		9	15	18	9	1			3	53
Word of mouth		6	7	5	15	5	4	5		47
Grand Total		20	41	38	66	23	13	23	4	230

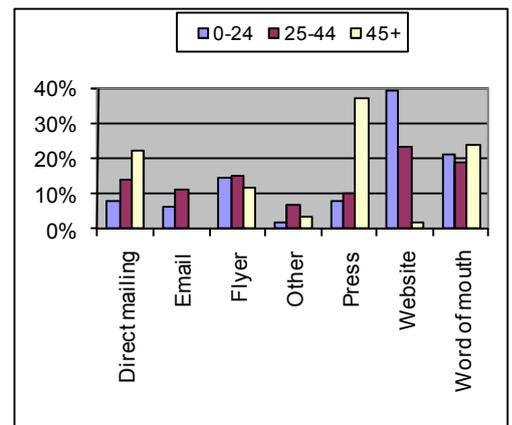
The PivotTable Field List dialog box is open, showing the following fields:

- Row Labels:
 - Summary 3D
 - M (the year first visit to the gallery)
 - How did you find out about the gallery?
 - Gallery name
 - Art work
 - Staff
 - Website
 - City
 - Age

A Pivot Table full of numbers can be meaningless, but calculating percentages within each subcategory will help highlight any differences between them. These percentages can then easily be turned into charts or graphs.

In the example above, it is best to produce wider age groups so that the sample size is at least 50 for each subcategory.

From the chart opposite it is easy to see that the website is more effective at targeting young people, whereas older people are more perceptive to direct mailing and coverage in the press. This is useful in informing the tone and design of each of these communication channels.



Reporting the results

When writing your report:

- Consider who will be reading it and how they will use the results. It is worth writing a major, full report, then pulling out particular sections for different groups of people.
- Arrange the results in a logical order, normally the order in which you asked the questions.
- Use plenty of tables and charts to illustrate your points, but make sure they are clearly labelled and not confusing.
- Keep the main section of the report as simple and straightforward as possible, an appendix can be used for any detailed or complex information.
- Highlight your conclusions, making them clear and concise.

Finally:

- Be sure to turn your conclusions into a plan of implementation. There is absolutely no point in carrying out research if you are not going to act upon the results.
- Schedule a meeting with relevant staff, Board members or volunteers to discuss the implications of the survey findings

“Regardless of who analyzes the survey data, and whatever the outcome, remember that research results only benefit a [venue] if they are implemented. Be sure to determine the conclusive, significant results from your survey, and adapt them into a plan of action to take advantage of the knowledge gained from this research.”

Peter Dominowski and Al Bartholet - The Listener Survey Toolkit

Further Support...

All About Audiences can give advice and offer assistance on designing or carrying out visitor surveys. Contact **Chris Norwood, Head of Evidence & Engagement** at Chris.Norwood@allaboutaudiences.com or **0161 234 2960**.