

CASE

5

Klein Technology Seminars

Worksheet Case

Difficulty Rating: ★★

SKILLS CHECK

You should review the following areas:

WORKSHEET SKILLS

- | | |
|---------------------------|-------------------------------|
| ✓ AVERAGE Function | ✓ MODE Function |
| ✓ Cell Formatting | ✓ PivotChart |
| ✓ Chart | ✓ PivotTable |
| ✓ COUNTIF Function | ✓ SUM Function |
| ✓ MEDIAN Function | ✓ Worksheet Formatting |

CASE BACKGROUND

Klein Technology Seminars provides information technology seminars to local corporations and continuously strives to provide its corporate clients with quality, timely instruction. As part of its quality-first strategy, seminar students are asked to complete customer satisfaction surveys. These satisfaction surveys are then reviewed by Dr. Klein, the company's founder. Based on the survey results, Dr. Klein makes adjustments to the company's courses.

To facilitate his analysis of the customer satisfaction surveys, Dr. Klein asks you to develop a Survey Results workbook. The preparation of this workbook requires you to design worksheets, use formulas, use several functions, use basic cell and worksheet formatting techniques, and prepare PivotTable and PivotChart reports.

CASE SCENARIO

Dr. Earl Klein is the founder and president of Klein Technology Seminars. As a former university vice president, Dr. Klein came into contact with many corporate executives. Frequently, the corporate executives would remark about the necessity of keeping their employees up-to-date in their field. Dr. Klein took this message to heart, and when he retired a few years ago, he formed Klein Technology Seminars.

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Since its beginning, Klein Technology Seminars has seen a steady growth in its business and has a reputation for providing quality instruction to its clients. The company's reputation is due in part to its 10 full-time, highly qualified instructors. The instructors teach a variety of courses, ranging from productivity to certification courses. The courses are one-week courses, last from 8 a.m. to 5 p.m. each day, and are limited to 24 students. The company offers its courses on its campus, at the client's site, and at other off-site locations.

Once seminar attendees finish a course, they complete satisfaction surveys. The surveys help Dr. Klein judge the quality of the courses, as well as the instructors. Figure 1 shows a copy of the survey.

Until now, Dr. Klein has just read through the surveys and has not had time to analyze the survey data. Dr. Klein realizes the surveys contain a wealth of information, and he wants to analyze the data with a spreadsheet application. Dr. Klein assigns you the task of developing a Survey Results workbook that will enable him to enter and track the results of the satisfaction surveys.

Once the surveys are collected, Dr. Klein or his secretary will code each survey respondent's answers. For each question, the possible responses are given a unique number. For instance, if a respondent answers "no" for Question 1, then Dr. Klein will record "1" in the worksheet cell. If the respondent answers "yes" for Question 1, then Dr. Klein will record "2" in the worksheet cell. Figure 2 shows how the questionnaire responses are coded.

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Figure 1: Customer Satisfaction Survey

Klein Technology Seminars Satisfaction Survey	
1.	Have you previously attended a technology seminar offered by Klein Technology Seminars? a. No b. Yes
2.	Have you attended a technology seminar offered by another company? a. No b. Yes
3.	Overall, I am satisfied with the course. Strongly Agree Agree Neutral Disagree Strongly Disagree
4.	I will take another course with Klein Technology Seminars. Strongly Agree Agree Neutral Disagree Strongly Disagree
5.	The information presented will be useful on my job. Strongly Agree Agree Neutral Disagree Strongly Disagree
6.	The instructor was knowledgeable about the subject matter. Strongly Agree Agree Neutral Disagree Strongly Disagree
7.	The seminar's content is timely. Strongly Agree Agree Neutral Disagree Strongly Disagree
8.	The instructor met the stated course objectives. Strongly Agree Agree Neutral Disagree Strongly Disagree

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Figure 2: Customer Satisfaction Survey Codes

If Response Is:	Code
No	1
Yes	2
Strongly Agree	5
Agree	4
Neutral	3
Disagree	2
Strongly Disagree	1

Design Specifications

Dr. Klein hands you a copy of an incomplete workbook called Klein Survey. The Klein Survey workbook currently contains sample survey data in the Response worksheet. Dr. Klein asks you to use the data from the Response worksheet when designing the Survey Results workbook. Figures 3 and 4 show how the survey data are currently organized in the Response worksheet. Columns A through E provide general information about the course. As the general information is readily available, it is not necessary to collect this information from the survey respondent. Instead, Dr. Klein will enter the general course information as he enters the respondent's answers into the worksheet. Figure 5 explains the codes for Columns A through E.

Columns F - M display data that have been captured on the survey forms. The data displayed in these columns have been coded, meaning the survey responses have been coded using the codes displayed in Figure 2. For instance, if a student circled "no" as her answer for Question 1 on the survey form, then a "1" is displayed in Column F. Likewise, if a student circled "yes" as her answer for Question 1, then a "2" is displayed in Column F. (The codes help facilitate the analysis of the data.)

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Figure 3: Survey Results Sample Data

Columns A - E

	A	B	C	D	E
1	Course No.	Location	Instructor ID	Class Size	Seminar Start Date
2	RTS1	2	2	10	10/6/2008
3	RTS1	2	2	10	10/6/2008
4	RTS1	2	2	10	10/6/2008
5	RTS1	2	2	10	10/6/2008
6	RTS3	3	5	12	10/6/2008
7	RTS3	3	5	12	10/6/2008
8	RTS3	3	5	12	10/6/2008

Figure 4: Survey Results Sample Data

Columns F - M

	F	G	H	I	J	K	L	M
1	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8
2	1	2	4	3	4	4	4	4
3	2	2	5	4	4	5	4	5
4	1	2	1	2	5	1	2	5
5	2	1	1	2	4	4	4	4
6	2	2	4	4	2	5	4	5
7	2	1	4	2	1	5	5	2
8	2	1	5	5	5	4	5	2

The Response worksheet contains survey responses for a two-week period. Dr. Klein wants you to add a Summary worksheet to the Klein Survey workbook and then save the workbook as Survey Results. The purpose of the Summary worksheet is to summarize the survey response data contained in the Response worksheet. For each worksheet, you should include a worksheet title. Dr. Klein wants the title to reflect the contents of the worksheet, as well as the date range for the data the worksheet covers. Dr. Klein wants descriptive names for the column headings.

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Figure 5: General Course Information Codes

Column	Codes	Explanation
A	Uses the actual course number.	Contains the course number.
B	1 = Client's Site 2 = Klein Technology Seminars 3 = Another Location	Indicates where the course was offered. The course can be offered at the client's site, at Klein Technology Seminars or at another location.
C	Uses the instructor's identification number.	Contains the instructor's identification number.
D	Uses the number of students enrolled in the class.	Indicates the number of students enrolled in the class. (Not all students submit a survey.)
E	Uses the start date of the seminar.	Indicates the starting date of the seminar.

When the survey forms are returned, Dr. Klein or his assistant will code and then enter the individual survey results into the Response worksheet. When entering survey data into the Response worksheet, Dr. Klein wants the results for each survey assigned a respondent number. This request requires the insertion of a new column. This column should be the leftmost column in the worksheet, and should include a unique number for each row that contains survey results. So, if you have 20 surveys, the surveys would be numbered 1 through 20, respectively.

As previously mentioned, the purpose of the Summary worksheet is to summarize the data contained in the Response worksheet. For each question, the Summary worksheet should provide a count for each possible response. The count should reflect the number of times a particular response for the question was given. For instance, the Summary worksheet should show how many "1" entries, "2" entries, and "3" entries appear in the Location column for the Response worksheet. For Questions 3 - 8, Dr. Klein wants to see their averages, modes, and medians displayed in the Summary worksheet. The Summary worksheet should also provide the average, mode, and median class size.

Where possible, Dr. Klein wants the Summary worksheet information displayed in a graphic format. Specifically, he asks you to prepare several charts, including a column chart comparing the user satisfaction ratings for each course, a column chart comparing the satisfaction ratings by instructor, and a bar chart showing the number of respondents who strongly agreed that the courses were useful.

Information Specifications

Dr. Klein will analyze the survey data at varying levels of detail. As mentioned above, Dr. Klein wants the survey results entered into a Response worksheet, and in the Summary worksheet he wants to see summarized results. Dr. Klein also wants to view data based on multiple conditions (such as satisfaction ratings for instructors by course). You suggest to Dr. Klein that the PivotTable and PivotChart reports are excellent tools for this type of analysis. Dr. Klein will use these tools to view the overall satisfaction ratings for each of his instructors by course, as well as the objectives met ratings for each course by instructor.

In addition to the information requests specified above, Dr. Klein wants answers for the following questions.

1. For each course, what is its average class size?
2. What percentage of respondents has attended a seminar before? Use a pie chart to summarize the results.
3. How many respondents who have taken a seminar course with another company agreed or strongly agreed that they would take another course with Klein Technology Seminars?
4. How many students strongly agreed that their instructor was knowledgeable about the subject matter? Display this information on a separate page for each course.
5. How did the students rate their instructor on the instructor's ability to meet course objectives? For each instructor, provide a count for each response. If possible, Dr. Klein wants this information summarized in a chart. (You select the chart.)
6. Which instructor had the highest percent of strongly agreed responses for Question 6?

Implementation Concerns

Although you are free to work with the design of your workbook, the worksheets should have a consistent, professional appearance. Also, you should use appropriate formatting for the cells and worksheets.

This case requires you to insert columns into worksheets, consolidate information into a summary worksheet, use formulas, use several functions, and use the PivotTable and PivotChart report tools. Although it depends on how you design the Summary worksheet, the COUNTIF function can be used in a formula to determine the response counts.

Test Your Design

After creating the Survey Results workbook, you should test your design. Perform the following steps.

1. Copy the survey results from the TYD Data worksheet located in the Klein Survey workbook and then paste these results immediately below the row containing the last October 13, 2008 entry.
2. Figures 6, 7, and 8 provide the results for three surveys. Enter the results for each survey into the Response worksheet. (You will need to code the response data.) For the survey results shown in Figure 6, the course was offered during the week of October 13th; the course number is RTS4; the location is 3; the Instructor ID is 2, and the course was conducted with 15 students. For the survey results shown in Figure 7, the course was offered during the week of October 20th; the course number is RTS4; the location is 2; the Instructor ID is 3, and the course was conducted with 23 students. For the survey results shown in Figure 8, the course was offered during the week of October 27th; the course number is RTS2; the location is 1; the Instructor ID is 4, and the course was conducted with 10 students.
3. Provide counts of the satisfaction ratings by class size for each instructor. Summarize this information in a PivotTable.
4. Which instructor had the highest percent of strongly disagree responses for Question 8?
5. Of those students who attended a seminar provided by another company, how did they rate Klein Technology Seminars? How do these results compare to students who have not attended a seminar offered by another company? Use a PivotTable to summarize this information. Also, prepare a chart that summarizes this information. (You select the chart.)
6. By class, how many students strongly agreed that the class provided useful information for their jobs? Summarize your results in a bar chart.

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Figure 6: Survey Results

Klein Technology Seminars Satisfaction Survey	
1.	Have you previously attended a technology seminar offered by Klein Technology Seminars? ☒ a. No ☐ b. Yes
2.	Have you attended a technology seminar offered by another company? ☐ a. No ☒ b. Yes
3.	Overall, I am satisfied with the course. Strongly Agree ☒ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
4.	I will take another course with Klein Technology Seminars. Strongly Agree ☒ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
5.	The information presented will be useful on my job. ☒ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
6.	The instructor was knowledgeable about the subject matter. Strongly Agree ☒ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
7.	The seminar's content is timely. ☒ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
8.	The instructor met the stated course objectives. ☒ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

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Figure 7: Second Survey Results

Klein Technology Seminars Satisfaction Survey	
1.	Have you previously attended a technology seminar offered by Klein Technology Seminars? a. No b. Yes
2.	Have you attended a technology seminar offered by another company? a. No b. Yes
3.	Overall, I am satisfied with the course. Strongly Agree Agree Neutral Disagree Strongly Disagree
4.	I will take another course with Klein Technology Seminars. Strongly Agree Agree Neutral Disagree Strongly Disagree
5.	The information presented will be useful on my job. Strongly Agree Agree Neutral Disagree Strongly Disagree
6.	The instructor was knowledgeable about the subject matter. Strongly Agree Agree Neutral Disagree Strongly Disagree
7.	The seminar's content is timely. Strongly Agree Agree Neutral Disagree Strongly Disagree
8.	The instructor met the stated course objectives. Strongly Agree Agree Neutral Disagree Strongly Disagree

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Figure 8: Third Survey Results

Klein Technology Seminars Satisfaction Survey	
1.	Have you previously attended a technology seminar offered by Klein Technology Seminars? ☒ a. No ☐ b. Yes
2.	Have you attended a technology seminar offered by another company? ☒ a. No ☐ b. Yes
3.	Overall, I am satisfied with the course. Strongly Agree ☒ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
4.	I will take another course with Klein Technology Seminars. ☒ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
5.	The information presented will be useful on my job. Strongly Agree ☒ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
6.	The instructor was knowledgeable about the subject matter. Strongly Agree ☒ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
7.	The seminar's content is timely. Strongly Agree ☒ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree
8.	The instructor met the stated course objectives. ☒ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree