Marketing Research
Mid Term Question Paper

Instructions:

1. The exam is for 50 Marks and accounts for 20% of the course's total evaluation.
2. It will be organized in two parts. Part A and Part B.
3. Part A is a closed book exam and shall last for 1.5 Hours. It comprises 2 questions of 15 marks each. Each question is further compartmentalised.
4. Part B is an open book exam and shall last for 1.5 Hours. It comprises 3 questions (2 * 5 marks, and 1 * 10 Marks).
5. You will begin with Part A, complete it, submit the answer paper and then move to Part B. A break of 15 minutes is provided between the two parts. During the break you may freshen up, collect your books and notes, and then start with part B.

Q1:
Compare and contrast focus group method, in-depth interview and projective techniques based on the following criteria:
1. Concept of the technique with a suitable example (6M)
2. Purpose of conducting a technique (3M)
3. Advantages of the technique (3M)
4. Disadvantages of the technique (3M)

Q2:
Read the following mini case and answer the questions that follow:
One of your friends completed her data collection to know people's attitude towards remake of Tollywood movies in Bollywood. However, when she had a talk with her supervisor, she was told that the data collection was inadequate and she would need to re-do her survey. Also, she found that the answer she got, did not really give her a clear picture and many did not answer some of the survey questions.
1. State any five rating scale questions that can be used in the survey to know people's attitude towards remake of Tollywood movies in Bollywood. (5M)
2. Suggest and justify a research design for this case? (3M)
3. State the research problem and research objective in the case? (2M)
4. Frame appropriate hypothesis for the above case? (2M)
5. "…many did not answer some of the survey questions…" would mean that quite a number of respondents did not respond to the researcher's questions. Discuss any three reasons with appropriate solution for each reason that why a respondent would fail to answer survey question(s)? (3M)

Part B (20 marks)

Instructions:

1. "Brevity is the soul of wit" -Shakespeare. In that spirit, keep your answers contained within 3 pages. You can use rough pages for calculation, organization of thoughts, etc.
2. Make assumptions whenever necessary. However, please state them.

All the best!!

The following is a conversational case between two budding researchers Wordy and Numero while they were still PhD Students. Wordy was a serious quantitative research and has published his works in top level qualitative journals since. Numero was several years his junior and was just getting started with his thesis work.

Read the conversation, engage with your class notes and pre-reads , and then answer the questions that follow:

WORDY:
Numero, Quantitative methods is complexly misleading. If you give me some time, I can make regression results go any way I want. How can you call that research?

NUMERO:
Wordy! You are right!! By cleaning data differently, it may be possible for someone to twist and turn what regression convey. But then, you will have to report how you treat the variables. There can be no manipulation that is unknown. That's so not the case with qualitative research. How do you know why a research selected a particular individual to interviewing? Clearly there is a bias and that bias can change how you view the phenomenon.

WORDY:
We disclose how and why we select our respondents, just like in quantitative researcher. How is this any different?

NUMERO:
I'm not saying it's the same. I am saying qualitative research has very little use for practitioners. When was the last time someone decided which market to enter or what product feature to drop on the basis of qualitative research?

WORDY:
That is so not the case. Remember when Mc Donald's entered India, it was qualitative research that helped. They sell beef burgers everywhere but here. They developed new products such as Mc Aloo Tikki for India. Why?

NUMERO:

You tell me!

WORDY:
Two words. Qualitative research.

NUMERO:
Clearly not. I'm positive they ran surveys to find out which of the products they should keep. Something along the lines of "On a scale of 1-7, how likely are you to make a purchase a Big Mac? ". People must have given that a very low rating. It's only then that researchers must have asked qualitative questions to find out why that was the case. If not for quantitative research, how would you qualitative research know where to look?

WORDY:
Are you listening to yourself? Qualitative research is the basis for every quantitative enquiry. We dig deep into the minds of consumers and tell you quantitative researchers about the various variables. It's only after that that you develop scales and other measures.

NUMERO:
Don't you think this can go both ways? Let's be realistic here.

WORDY:
Ok. I agree that this can go both ways. Let's try and solve this using a real world problem. I will prove to you that qualitative is better than quantitative methods.

NUMERO:
Ok. I will show you something that I worked on. You tell me how you can recreate a similar analysis using qualitative methods.

WORDY:
Done!

NUMERO:
Ok. Here goes!
I am trying to get a deeper insight into students' performance in exams. This is exploratory and I want to understand if gender, parental level of education, access to lunch, and test preparation have some sort of impact on students test results.

The following are the summary statistics:

	n	mean	sd	median	trimmed	mad	min	max	se
gender	1000	0.48	0.5	0	0.48	0	0	1	0.02
race.ethnicity*	1000	3.17	1.16	3	3.2	1.48	1	5	0.04
parental.level.of.education	1000	0.62	0.48	1	0.66	0	0	1	0.02
access.to.lunch	1000	0.64	0.48	1	0.68	0	0	1	0.02
test.preparation.course	1000	0.36	0.48	0	0.32	0	0	1	0.02
math.score	1000	66.09	15.16	66	66.38	14.83	0	100	0.48
reading.score	1000	69.17	14.6	70	69.5	14.83	17	100	0.46

writing.score	1000	68.05	15.2	69	68.41	16.31	10	100	0.48

Notes:
1. Gender is coded 1 for male and 0 for female.
2. Parental.level.of.education has 5 levels, ranging from some high school to master's degree.
3. Access.to.lunch is 0 for those who get subsidised lunch and 1 for those who get standard food from the schools
4. test.preparation.course is 1 for those who underwent some sort of preparation course and 0 for others.
5. Math, reading and writing scores are rated are percentage scores.
6. Races are categorical and are coded group A~E.

While I did some digging using MS excel, it looks like boys beat girls across the board in math. While the girls beat boys consistently in both reading and writing.

The following are the variables.

race.ethnicity	group A		group B		group C		group D		group E	
gender	0	1	0	1	0	1	0	1	0	1
Mean math.score	58.53	63.74	61.40	65.93	62.03	67.61	65.25	69.41	70.81	76.75
Mean reading.score	69.00	61.74	71.08	62.85	71.94	65.42	74.05	66.14	75.84	70.30
Mean writing.score	67.86	59.15	70.05	60.22	71.78	62.71	75.02	65.41	75.54	67.39

The three numeric values, math score, reading score, and writing score are somewhat correlated. This is evident from the following correlation plot. This is also clearly visible from the 3D plot shown below.
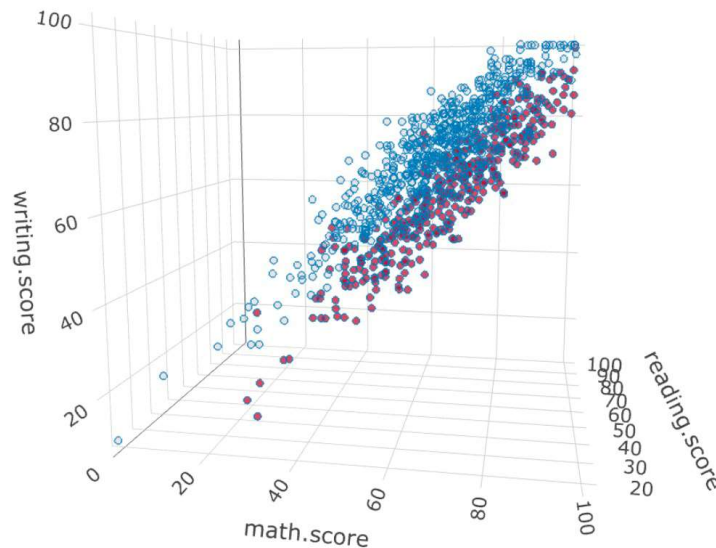

Figure 1: Three Dimensional view of the data (select variables). Note: Blue dots represent girls while red dots represent boys. (Note: I know colors are not visible clearly in black and

I then tried to use a clustering analysis using the k means clustering approach. First I tried to plot the scree/elbow plot. It appeared to flatted around n=6, so I tried to fit 6 clusters.
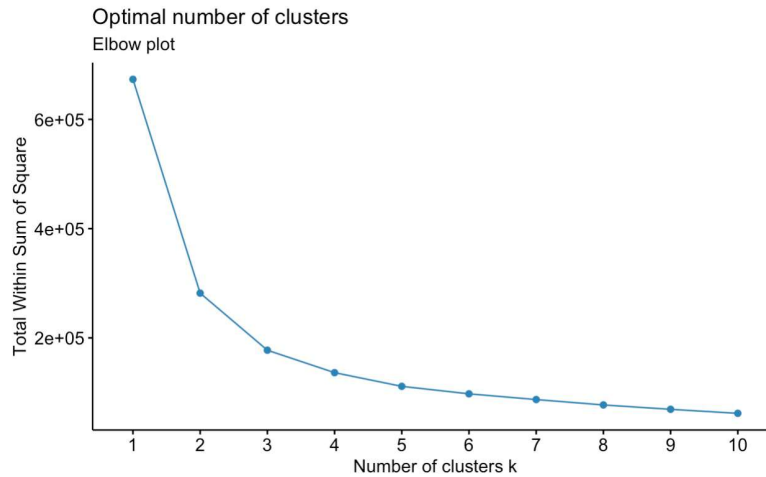

Figure 2: Scree plot to determine the optimal number of clusters

The cluster plot too looks very unique when I use the three score variables (i.e. math, reading, and writing scores) along with gender.
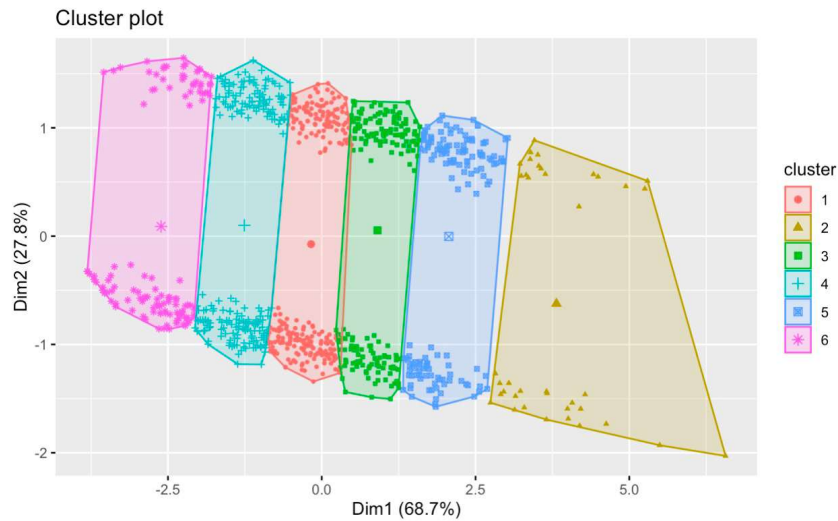

Figure 3: Cluster plot when factoring in gender.

However, when I drop the gender from the clustering exercise (i.e. use only the three scores), it looks something like this.
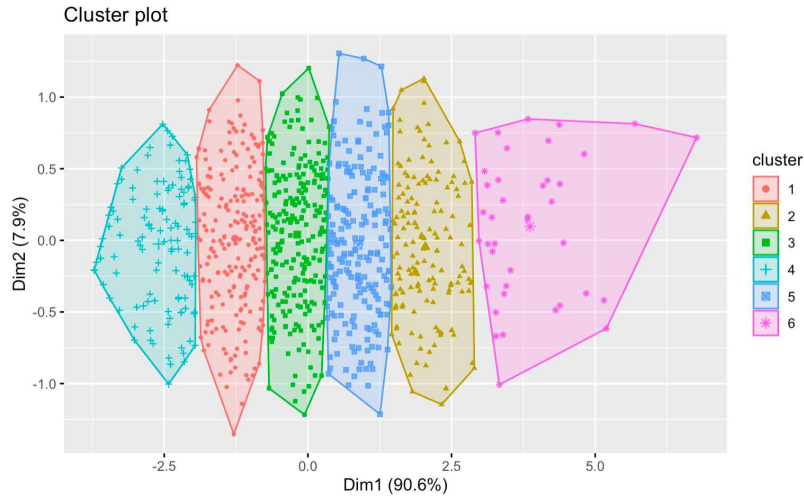
Figure 4: Cluster plot without factoring in gender.

I don't really know what the dimensions comprise. However, I can see that Dimension1 in the second plot explains over 90.6% of the variation.

WORDY:
Ok. This seems like a classic case of fitting data to models.

NUMERO:
Wait. I have not yet finished. I thought regression results could help. This is the summary of what I found:

Predictors	math.score			reading.score			writing.score		
	Estimates	CI	p	Estimates	CI	p	Estimates	CI	p
(Intercept)	63.84	60.03 – 67.65	**<0.001**	75.42	71.82 – 79.01	**<0.001**	76.60	73.08 – 80.11	**<0.001**
gender [male]	5.22	3.45 – 6.99	**<0.001**	-6.92	-8.59 – -5.25	**<0.001**	-8.93	-10.56 – -7.29	**<0.001**
race ethnicity [group B]	2.53	-1.05 – 6.12	0.166	1.65	-1.73 – 5.04	0.338	1.59	-1.72 – 4.90	0.346
race ethnicity [group C]	3.06	-0.30 – 6.41	0.074	2.66	-0.50 – 5.83	0.099	2.86	-0.25 – 5.96	0.071
race ethnicity [group D]	5.85	2.42 – 9.27	**0.001**	4.44	1.21 – 7.68	**0.007**	6.31	3.15 – 9.48	**<0.001**
race ethnicity [group E]	11.42	7.63 – 15.22	**<0.001**	6.37	2.79 – 9.95	**0.001**	6.11	2.60 – 9.61	**0.001**
parental level of education [bachelor's degree]	1.73	-1.44 – 4.90	0.285	2.00	-0.99 – 4.99	0.190	3.31	0.38 – 6.23	**0.027**
parental level of education [high school]	-4.88	-7.61 – -2.14	**<0.001**	-4.95	-7.53 – -2.37	**<0.001**	-5.87	-8.40 – -3.34	**<0.001**
parental level of education [master's degree]	2.28	-1.81 – 6.36	0.275	3.80	-0.06 – 7.66	0.054	4.72	0.95 – 8.50	**0.014**
parental level of education [some college]	-0.59	-3.22 – 2.04	0.660	-1.28	-3.77 – 1.20	0.310	-0.93	-3.36 – 1.50	0.454
parental level of education [some high school]	-4.07	-6.88 – -1.26	**0.005**	-3.93	-6.59 – -1.28	**0.004**	-5.19	-7.79 – -2.59	**<0.001**
test preparation course [none]	-5.26	-7.11 – -3.41	**<0.001**	-7.20	-8.95 – -5.46	**<0.001**	-9.88	-11.59 – -8.17	**<0.001**
Observations	1000			1000			1000		
R^2 / R^2 adjusted	0.137 / 0.128			0.171 / 0.162			0.268 / 0.259		

I know that there is some underlying insight , but I have to do further analysis to narrow it down!

WORDY:
See, this is precisely the problem with you numeric types!

You all know how fit data into models but do not really understand what the data is telling you? Many of these issues would not have happened had you simply interviewed some participants or organized a focus group to uncover insights.

NUMERO:
Like I told you before Wordy, you guys are biased and there is no way for anyone to know about your biases. We may be biased, but at least you can measure our biases!

Their conversation goes on for a few more hours until Numero is called by his guide to enquire about the status of his thesis paper.

~Fin~

Having considered the data presented right before you, answer the following questions:

1. Do you think Numero's approach to analysing the data is correct? Why? Why not? (5 marks. ½ page)
2. What sort of insights does Numero's analysis present? Is there something actionable that you can point out to improve learning outcomes in students? (10 marks . 1 page)
3. How would you improve Numero's research approach? (5 marks. ½ page)