

COLLEGE OF BUSINESS AND ECONOMICS FINAL EXAMINATION JUNE 2021 DEPARTMENT OF APPLIED INFORMATION SYSTEMS

MODULE : INFORMATION TECHNOLOGY / INFORMATION SYSTEMS RESEARCH METHODOLOGY

CODE	:	ITM8X05 / ISM8X01
DATE	:	10 TH JUNE 2022 EXAMINATION
DURATION	:	2 HOURS
TIME	:	online
TOTAL MARKS	:	100
EXAMINER(S)	:	PROF KENNEDY NJENGA (UJ)
(EXTERNAL) MODERAT	<u>)R</u> :	DR TOPE SAMUEL ADEYELURE (TUT)
NUMBER OF PAGES	:	3 PAGES

INSTRUCTIONS TO CANDIDATES:

- Please make sure you have *SPSS* and *ATLAS.ti* installed in your machine before starting this exam.
- Please answer <u>all</u> questions in **Section A** and **Section B**.
- This is an open book online assessment. You are allowed to use your laptop the Internet as well as your notes.
- Read the questions carefully and answer only what is asked.
- Number your answers clearly.
- Structure your answers by using appropriate headings and sub-headings.
- The general University of Johannesburg policies, procedures and rules pertaining to written assessments apply to this assessment.

SECTION A [QUALITATIVE ANALYSIS OF DATA]

As post-graduate learners, we all wield 'superpowers' that help us study effectively and connect with others' strengths. In your class exercises you described your own unique superpowers on the VideoAsk platform. You need to go to the Blackboard (Ulink) platform where you will find 20 selected videos (random) that describe these superpowers. In Blackboard (Ulink), you will find the following additional resources (data-sets):

- 1) Two articles that talk about superpowers.
- 2) 20 Student videos.
- 3) 20 Transcribed texts from these videos.
- 4) Steps in coding (PDF).
- 5) Student Example of Qualitative Analysis (PDF).

Write a 4 page Data Analysis report (that includes codes, networks) that is guided by the following questions. The title of this report should be 'Qualitative Data Analysis'. Include your student name and number in the report.

QUESTION 1

Use *Atlas.ti* to create codes and memos from the qualitative data sets provided on Ulink. Once you have created the codes, create a network diagram of codes and memos. Copy and paste codes, network of codes and memos as part of your research report-data analysis report. Use the 20 video transcripts and articles to code. You may use all 20 Transcribed texts in your report, but this is not mandatory.

Example codes

Name	△ Grounded		Density	
0 🔷 adaptability	()	4	Clinty	3
0 🔷 aspirant		2		1
0 🔷 calm	-	2	_	2
 O concentrate 		1	-	1
○ ♦ confident		7		1
 O Critical trinking O curiosity 	_	8	_	1
○ ♦ dedication	_	2	_	2
0 🔷 detail-oriented	_	2	_	2
 O empathetic 		5	_	3
 O gain trust O gain trust 	_	2		1
 O O good listerier O O hard working 		7	_	4
○ ♦ humble		1	_	1
O Inclusiveness	_	3	-	1
 Interpersonal communication 	_	8	_	3
O (juggle multiple things		4		1



Students should demonstrate the ability to code and diagramise the codes into logical network diagrams and form an argument.

QUESTION 2

From your codes, network of codes and memos created using *Atlas.ti*, write your interpretation and discussion regarding why superpowers are useful for education and learning. As you interpret from raw data from participants, please label them anonymously as P1, P2, P3,...P20 says, etc. <u>Come up with your version of a theory</u> that *can predict how learning can improve from various superpowers*. Please do not copy each other's ideas or plagiarize as this will constitute a very serious offence. Your writing and theory should be original.

(20)

Based on student feedback on their powers and two related articlestudnets should

- 1) Run a data analysis using Atlas.ti.
- 2) Clean up raw data (converted text transcripts may not be accurate).
- Identify codes from initial analysis define memos, establish the network diagram from question 1 above and formulate a theory. An example of such as theory is as follows;

Theory of Learning attitude

Learning attitude



Essence of theory is

- 1. Punctuality demonstrates learning attitude
- 2. Loyalty is a property of punctuality which demonstrates learning attitude
- 3. Refusing temptation to procrastinate demonstrates learning attitude

QUESTION 3

Write a good conclusion for your data analysis.

(10)

An example of a conclusion

I believe a learning attitude is critical to enhancing the ability to learn and educate. Student P19 mentioned how self-confidence helped his studies and said, "I am satisfied with my achievements." Student P2 believes that he "believes in himself" when facing and solving learning problems. These two students mentioned how the learning attitude of self-confidence can improve their learning, and others also cited the superpower of self-confidence. Data analysis shows that the vast majority of these people are relatively optimistic and, at the same time, express an upbeat attitude. Student P5 also used "I have a positive mindset" when discussing facing problems to prove that optimism can solve difficulties for themselves more easily in learning. Student P20 talked about punctuality when talking about his superpowers, "never missed a submission." I think this is also a learning attitude and can be said to be a manifestation of humility. By staying humble, you can take and deal with problems more seriously. Loyalty as a superpower in data analysis represents a determination to learn. It includes the attribute of punctuality, and at the same time, it can reflect the learning attitude of loyalty by rejecting temptation. Article P21 reflects how "resisting the temptation" as a learning attitude drives our progress.

UPLOAD SECTION A SEPARATELY on blackboard link provided.

SECTION B [QUANTITATIVE RESEARCH]

[50 MARKS]

In Blackboard (Ulink), you will find the following additional resources (data-sets):

- 1) Staff_codebook Questionnaire
- 2) staffsurvey.sav (SPSS file)

Write a 4 page Data Analysis report (that includes codes, networks) that is guided by the following questions. The title of this report should be 'Quantitative Data Analysis'. Include your student name and number in the report.

QUESTION 4

Provide descriptive statistics from the data set provided for age as well as city. The output should be a frequency table as well as the pie charts for age and city which should be copied and pasted into report. Discuss findings.

Frequency

Statistics							
		city	age				
N	Valid	536	420				
	Missing	0	116				

Frequency Table

			city								
		Frequency	Percent	Valid Percent	Cumulative Percent				age		Cumulative
Valid	city 1	77	14.4	14.4	14.4			Frequency	Percent	Valid Percent	Percent
	city 2	78	14.6	14.6	28.9	Valid	under 20	2	.4	.5	.5
	city 3	125	23.3	23.3	52.2		21-30	77	14.4	18.3	18.8
	city 4	23	4.3	4.3	56.5		31-40	110	20.5	26.2	45.0
	city 5	19	3.5	3.5	60.1		41-50	125	23.3	29.8	74.8
	city 6	54	10.1	10.1	70.1		over 50	106	19.8	25.2	100.0
	city 7	64	11.9	11.9	82.1		Total	420	78.4	100.0	
	city 8	96	17.9	17.9	100.0	Missing	System	116	21.6		
	Total	536	100.0	100.0		Total		536	100.0		

Pie Charts



According to the frequency statics, there is a total of 536 valid city values and 420 valid age values. There are 116 missing values in the age variable, while none are missing in the city variable. Based on 'Pie Chart Count of City' the city with the most residents is city 3 at 23.32% of people residing there. The second biggest is city 8 with 17.91%. City 5 and city 4 are the two cities with the least number of residents with 3.54% and 4.29% respectively. Based on 'Pie Chart Count of Age', majority of the residents are between the ages of 41-50 while the minority falls in the 'under 20' category. The second most age group is 31-40 with 26.19% and is followed closely by the 41-50 age group with 25.24%.

QUESTION 5

Perform a cross tabulation of data between employment status and length of service. Copy and paste results into your report. Discuss your findings.

(10)

into your rep

length of service * employment status Crosstabulation

Count

oount									
		employme	nt status			8	1	0	1
		permanent	casual	Total		8	17	2	19
length of service	0	0	1	1		9	2	0	2
	0	4	1	5		9	6	1	7
	0	2	3	5		10	11	4	15
	0	2	4	6		11	3	0	3
	0	2	1	3		12	5	1	6
	0	1	0	1		13	6	2	8
	1	5	19	24		14	5	3	8
	1	1	2	3		15	8	1	9
	1	1	2	3		16	6	1	7
	1	3	2	5		18	3	2	5
	1	1	0	1		20	1	0	1
	1	39	29	68		21	1	0	1
	2	12	9	21		22	1	0	1
	2	22	17	39		23	2	0	2
	3	5	5	10		24	1	0	1
	3	2	0	2		28	0	1	1
	3	38	22	60		30	1	0	1
	4	4	0	4		33	1	0	1
	4	21	11	32		34	1	0	1
	5	1	1	2		42	1	0	1
	5	21	2	23		43	1	0	1
	6	11	8	19	Total		301	159	460
	7	19	2	21	. o tur			100	400

The above crosstab is used to analyze the relationship between the employment status and the length of service. Employment status is divided into two subcategories – permanent and casual. The row variable is the length of service while employment status is placed as the column variable. Row 12 shows us that this was where there was a high intake of employees, with 39 permanent and 29 casual employees resulting in a row sum of 68 (39 + 29). Row 17 is the second highest intake with 38 permanent and 22 casual employees, giving a row sum of 60 (38 + 22). There are 14 rows where the row sum has only been its lowest at 1 employee intake with majority of them being permanent employees. Column 1 (permanent employee status) can be seen as 301, while column 2 (casual employee status) can be seen as 159. This means that the total sum of observations made from the table is 460 (301 + 159)

(10)

QUESTION 6

Analyze data (*test of correlations, regression and/or any other suitable test*) to formulate answers about the opinion held by employees regarding various aspects of the organisation and the treatment they have received as employees. Use tables or chars or both and discuss your findings Hint: Use the questionnaire to guide your discussion.

Correlation Analysis

						Correlat	ions														
	-	qta	mitp.	q2a	q2im	q3a	q3im	q4a	q4im	q5a	q5im	q6a	q6im	q7a	q7im	q8a	qBim	q9a	q9im	q10a	q10im
11a	Pearson Correlation	1	.289	.356	.169	.223	.144	.174	.038	.262	.063	.322	.108	.243	.117	.128	.180	.165	.071	.179	.049
	Sig. (2-tailed)		<.001	<.001	<.001	<.001	<.001	<.001	.387	<.001	.148	<.001	.013	<.001	.007	.003	<.001	<.001	.105	<.001	.265
and loss of	N Decemen Constation	334	531	529	528	529	330	527	526	531	528	530	527	523	522	527	526	524	522	521	270
drim	Pearson Correlation	.289	1	.108	.488	.055	.370	.066	.219	.1.34	.323	.130	.200	.162	.253	.142	.358	.096	.292	.107	.270
	Sig. (2-talied)	521	592	.014	100.*	.208	4.001	.133	*.001 526	.002	520	.003	4.001	501	1001	.001	526	.020	100.*	.010	4.001
123	Pearson Correlation	356	108	1	028	337"	086	254	023	264	012	319"	024	369	- 020	130	033	218	046	347	025
414	Sin (7.tailed)	× 001	.100		.025	c 001	040	< 001	602	c 001	770	e 001	501	< 001	646	.130	461	e 001	207	< 0.01	611
	N	529	527	531	527	527	527	574	523	528	525	527	574	520	519	524	523	521	519	518	517
a2im	Pearson Correlation	.169	488	.029	1	.116	.289	.042	.283	.075	274"	.056	.314"	- 023	.221"	144	317	.067	209	.040	.297
	Sig. (2-tailed)	<.001	<.001	.511		.008	<.001	342	<.001	.085	<.001	.201	<.001	602	<.001	<.001	<.001	.124	< 001	.367	<.001
	N	528	528	527	530	526	529	523	525	527	527	526	526	519	521	523	525	520	521	517	514
q3a	Pearson Correlation	.223**	.055	.337"	.116**	1	.122**	.333"	.083	.398	.146	.384"	.148	.413**	.028	.213	.130	.352**	.081	.317**	.116
	Sig. (2-tailed)	<.001	209	<.001	.008		.005	<.001	.058	<.001	<.001	≺.001	<.001	<.001	.527	<.001	.003	<.001	.064	<.001	.009
	N	529	527	527	526	531	527	524	523	528	525	527	524	521	520	524	523	521	519	518	512
q3im	Pearson Correlation	.144	.370	.086	.289	.122	1	.169	.331	.177**	.412	.168	.371	.256	.447**	017	.338	.257**	.387	.064	.313
	Sig. (2-tailed)	<.001	<.001	.048	<.001	.005		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.692	<.001	<.001	<.001	.144	<.001
	N	530	530	527	529	527	531	524	526	528	528	527	527	520	522	524	526	521	522	518	515
q4a	Pearson Correlation	.174	.066	.254	.042	.333	.169	1	.231	.682	_215	.520	.161	.427"	.153	.139	.134	.591	.257	.475	.224
	Sig. (2-tailed)	<.001	.133	<.001	.342	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001	.001	.002	<.001	<.001	<.001	<.001
	N	527	525	524	523	524	524	529	526	528	525	526	523	518	517	523	522	524	522	520	514
q4im	Pearson Correlation	.038	.219	.023	.283	.083	.331	231	1	.165	.675	.116	.572	.132	.357	.067	.301	.263	.525	.074	.468
	Sig. (2-tailed)	.387	<.001	.602	<.001	.058	<.001	<.001		<.001	<.001	.008	<.001	.003	≺.001	.124	<.001	<.001	<.001	.093	≺.001
	N.	526	526	523	525	523	526	526	528	526	526	524	524	517	519	522	524	522	523	518	515
q5a	Pearson Correlation	.262	.134	.264	.075	.398	.177	.682	.165	1	.284	.528	.156	.435	.213	.223	.178	.594	.277	.538	.269
	Sig. (2-talled)	<.001	.002	<.001	.085	<.001	<.001	<.001	<.001		<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
	N Destroy Constation	531	529	528	527	528	528	528	526	533	529	531	527	522	521	526	525	525	523	522	516
touu	Pearson Correlation	.003	.323	.012	.2/4	.140	.412	.215	010	.284	1	.1/0	.084	.181	.419	.104	.3/4	.200	.602	.104	.000
	Sig. (2-tailed)	.148	<.001	.//9	<.001	<.001	<.001	<.001	<.001	<.001	630	<.001	<.001	<.001	<.001	.017	<.001	<.001	<.001	.018	<.001
nE n	N Rearran Carrolation	228	120	240	52/	304	160	525 630 ¹⁰	526	628	530	527	105"	519 470 ¹⁰	160"	220	195	305"	210	405	200
toa	Rig (2 toiled)	- 001	.130	.001	201	.304	.100	+ 001		+ 001	.170		+ 001	+ 001	= 0.01	+ 001	.100	.380	= 001	.400	= 001
	N	630	528	527	526	527	527	526	524	531	627	632	526	522	520	526	524	523	521	521	515
niðe	Pearson Correlation	108	260	.024	314"	148"	371"	161"	.572"	156	584"	.185"	1	.095	426"	120"	390	174"	424	.061	456
	Sig (2-tailed)	013	< 001	581	< 001	< 001	< 001	< 001	< 001	< 001	< 001	< 001		031	< 001	006	< 001	< 001	< 001	164	< 001
	N	527	527	524	526	524	527	523	524	527	527	526	529	518	520	522	524	520	521	518	514
q7a	Pearson Correlation	.243	.162	.369	023	.413	.256	.427	.132	.435	.181	.478	.095	1	.280	.185	.138	.381	.202	.409	.179
	Sig. (2-tailed)	<.001	<.001	<.001	.602	<.001	<.001	<.001	.003	<.001	<.001	<.001	.031		<:001	<.001	.002	<.001	<.001	<.001	<.001
	N	523	521	520	519	521	520	518	517	522	519	522	518	525	521	518	517	515	513	514	508
q7im	Pearson Correlation	.117"	.253	020	.221	.028	.447	.153	.357	.213	.419	.169	.426	.280	1	.136	.388	.211	.396	.119	.404
	Sig. (2-tailed)	.007	<.001	.646	<.001	.527	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001		.002	<.001	<.001	<.001	.007	<.001
	N	522	522	519	521	520	522	517	519	521	522	520	520	521	524	517	519	514	515	512	509
q8a	Pearson Correlation	.128	.142	,130	.144	.213	017	.139	.067	.223	.104	.229	.120	.185	.136	1	.416	.081	.077	.221	.117
	Sig. (2-tailed)	.003	.001	.003	≺.001	≺.001	.692	.001	.124	<.001	.017	≺.001	.006	<.001	.002		<.001	.064	.081	<.001	.008
-	N	527	525	524	523	524	524	523	522	526	523	525	522	518	517	529	526	519	617	516	510
danu	Pearson Correlation	.180	.358	.033	.317	.130	.338	.134	.301	.178	.3/4	.185	.390	.138	886.	.416	1	.129	.319	.166	.404
	Sig. (2-tailed)	<.001	<.001	.451	<.001	.003	<.001	.002	<.001	<.001	<.001	<.001	<.001	.002	<.001	<.001	520	.003	<.001	<.001	<.001
0.00	Pearson Correlation	165"	020	219"	020	352	257	501"	263	504 ^{**}	250	306	174	381	211	020	120	516	443"	417	799
599	Pearson Correlation	.100	090	.218	.007	.302	- 004	- 001	.203	.094	-200	.390	.174	- 004	- 004	.001	.129		.443	.917	.209
	N	574	577	521	520	521	671	574	522	625	522	523	520	515	514	519	518	526	623	520	611
19im	Pearson Correlation	.071	.292	.046	209"	081	.387**	257"	.525	277**	.602	.210"	.424	202"	.396	.077	.319	.443	1	178	.535
29120	Sig. (2-tailed)	,105	<.001	,297	<,001	064	<,001	<,001	<,001	<,001	< 001	<.001	<,001	<.001	< 001	081	< 001	< 001		< 001	< 001
	N	522	522	519	521	519	522	522	523	523	523	521	521	513	515	517	519	523	524	517	514
10a	Pearson Correlation	.179	.107	.347"	.040	.317"	.064	.475	.074	.538	.104	.405	.061	.409	.119	.221	.166	.417	.178	1	.286
	Sig. (2-tailed)	<.001	.015	<.001	.367	<.001	.144	<.001	.093	<.001	.018	<.001	.164	<.001	.007	<.001	<.001	<.001	<.001		<.001
	N	521	519	518	517	518	518	520	518	522	519	521	518	514	512	516	515	520	517	523	515
10im	Pearson Correlation	.049	.270	.022	.297	.116	.313	.224	.468	.269	.590	.200	.456	.179	.404	.117**	.404	.289	.535	.286	1
	Sig (2-tailed)	.265	<.001	.617	<.001	.009	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	.008	<.001	<.001	<.001	<.001	
				612	614	517	615	614						600	100		513	64.3	614	515	517

Correla	tions
---------	-------

		recommend	Total Staff Satisfaction Scale
recommend	Pearson Correlation	1	.364**
	Sig. (2-tailed)		<.001
	N	535	491
Total Staff Satisfaction	Pearson Correlation	.364	1
Scale	Sig. (2-tailed)	<.001	
	N	491	491

**. Correlation is significant at the 0.01 level (2-tailed).

In the first table, correlation is significant at level 0.01 (1%) at the values with the marker **, while the correlation is significant at the level 0.05 (5%) at the values with the marker *. In the second table, the correlation at ** is significant at level 0.01% (1%). All values where the Pearson Correlation value is 1, means that this is a perfect correlation. For example, q1a and q1a will have a perfect correlation with each other, similarly q1im and q1im will have perfect correlation with each other. From the values, we can see that the values that there is a positive correlation between the variables. This is because an increase in agreement leads to an increase importance. In the second table it can be seen that recommend and recommend have a perfect correlation, similar with Total Staff Satisfaction and Total Staff Satisfaction. There is a positive correlation in this one as well since an increase in one variable leads to an increase in the other.



Regression Analysis

In the above example, we can say that recommend and total staff satisfaction scale is expressed by making use of a linear regression model. Recommendations is set as the dependent variable (x) and total staff satisfaction

is the independent variable. As the recommendations by employees increase, the total staff satisfaction also increases. The value of the residual is constant from around 0.3 right up until 1.0. The estimated mean of the variables is at .89, with the minimum and maximum values at .50 and 1.15 respectively. The value of correlation is at 0.364 indicating a medium degree of relationship. As shown in The graph 1 we can see that there is a positive increase across the values.

(30)

UPLOAD SECTION B SEPARATELY on blackboard link provided.

YOU WILL FAIL THIS EXAM IF YOU UPLOAD THE TWO ASSESSMENTS IN THE WRONG LINK. EXAMINE YOUR WORK BEFORE FINAL SUBMISSION WHICH WILL BE DONE ONLY ONCE.

<<END>>