Ethical considerations when conducting investment in Islamic Stocks Markets

MSc Research Project

Programme Name

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I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

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Configuration Manual

Daniel Ng Chun Siang
X23123273

1   Introduction

This section elobarates on the system specification on the study '**Ethical considerations when conducting investment in Islamic Stocks Markets**', including software and hardware used for the implementation of the project. It also lays out the step-by-step for each segment carried out in the implementation of the research project.

2   System Configuration

2.1 Software Specification:
- Google Doc to set up the survey/questionnaire on Google Chrome to view and download the dataset required to run the analysis.
- Telegram, Facebook, Gmail is used to send out invitations to people using the 'snowball' effect and gain more attention
- The dataset is then downloaded using Microsoft Excel, pre-processed to get a numerical data to run SPSS statistic analysis.
- IBM SPSS Statistics is downloaded using NCI moodle page as license authority to get access to the factor analysis part.

2.2 Hardware Specification
- Lenovo Legion 5 Laptop, 512 GB SSD, 16GB RAM
- Processor : AMD Ryzen 7 5800H with Radeon Graphics

3   Data Generation Steps
- Open Google Docs on Google Chrome
- Press 'Go to Doc' and create a survey blank paper

Build your best ideas together, in Google Docs

Create and collaborate on online documents in real-time and from any device.

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- Create your own survey with a 'consensus' base
- Start writing survey/questionnaire contents in Section 2

Ethical considerations when conducting investment in Islamic Stoc

Questions   Responses 94   Settings

Section 1 of 2

Ethical considerations when conducting investment in Islamic Stock Markets

B I U ⌢ ✗

Hi, my name is Daniel Ng Chun Siang (x23123273@ncirl.student.ie), a current FinTech student at National College of Ireland(NCI). I am conducting a survey form method to explore the uniqueness of doing investments in the dynamic Islamic Financing field by Malaysians in accordance to my research.

In today's Financing sector, Islamic way of doing Shari'ah methodology towards investments have not only revolutionizing how financial services are accessed and delivered but also significantly impacting customer interactions and expectations. These principles constantly reshaping the unique ways and styles of each and every behaviors from different aspects from investors towards how they monitor and make decisions on their investment portfolios.

I am committed to this topic as this would help out on my understanding and research based on your feedbacks and responses. I would kindly ask for your honesty responses to these questions. Your participation is voluntary, and all responses will remain anonymous and confidential. Your valuable insights will contribute to a better understanding of the current trends, challenges, and potential opportunities in the behaviors and methods of conducting investment in Islamic Finance.

Thank you.

Email

Short answer text

Text   Email   @.com

Required

Consent
I consent that I am voluntarily completing this survey. I acknowledge that my answer in this survey will only be used for research purpose and remain confidential. By clicking "Yes, I agree" below, I confirm that I agree to participate in the survey.

Saya setuju bahawa saya melengkap survei ini secara sukarela. Saya mengakui bahawa jawapan saya dalam survei ini hanya akan digunakan untuk tujuan penyelidikan dan kekal sulit. Dengan mengklik "Ya, saya setuju" di bawah, saya mengesahkan bahawa saya setuju

2

- Go to the 'Responses' Tab to see the responses.
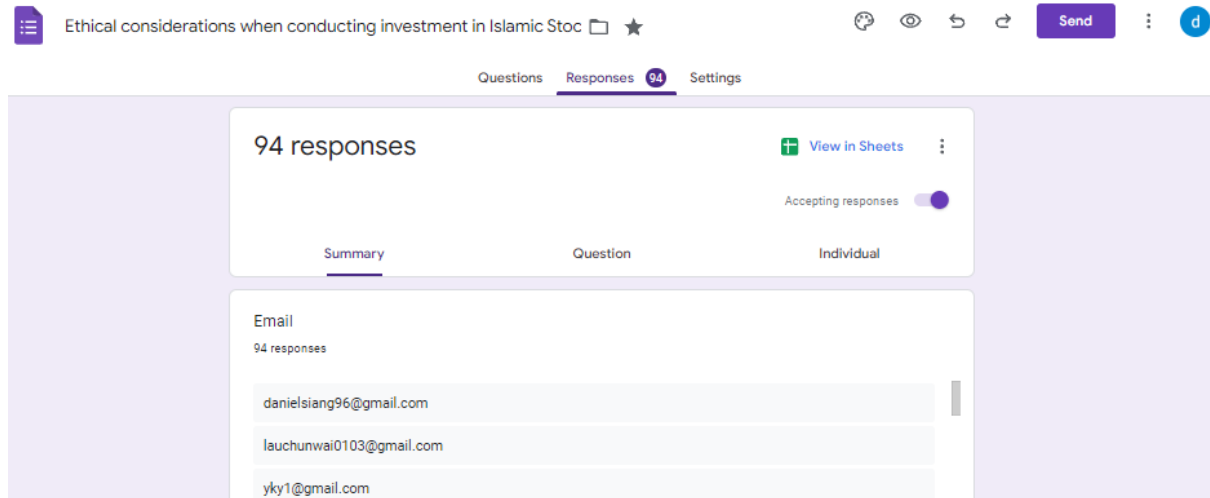
- To review the full responses in the excel sheet, you can click on 'View in Sheets' and press on the '3 dot function' on the top right to download the excel file into your computer.

- Above shows the dataset in Microsoft Excel after downloaded from the Google Docs.

4   Upload Data to SPSS statistic
- **Step 1**: Download SPSS from NCI moodle page using NCI registered licensed. I have picked the latest version of SPSS Version 29.0.2.
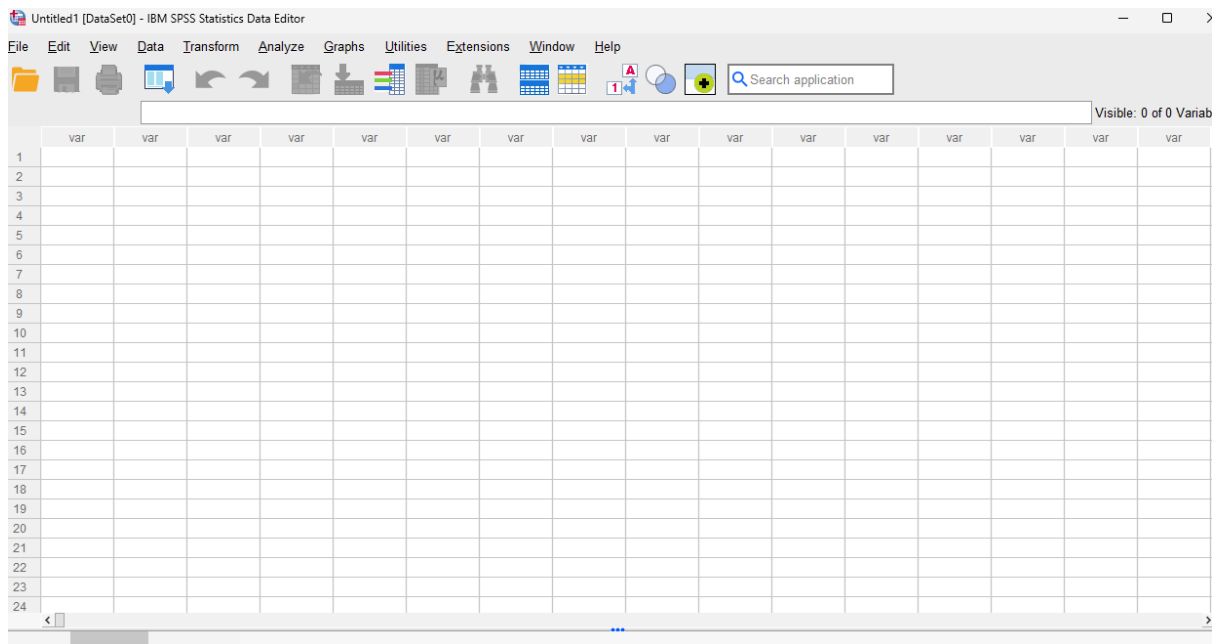
- **Step 2**: The dataset downloaded from Google Docs in full with textual data. To run SPSS factor analysis, we need to first recode the data into 'numerical data', such as 'Apple = 1, Orange = 2, Coconut = 3)etc. To do this press 'Transform > Recode into Same Variables'.
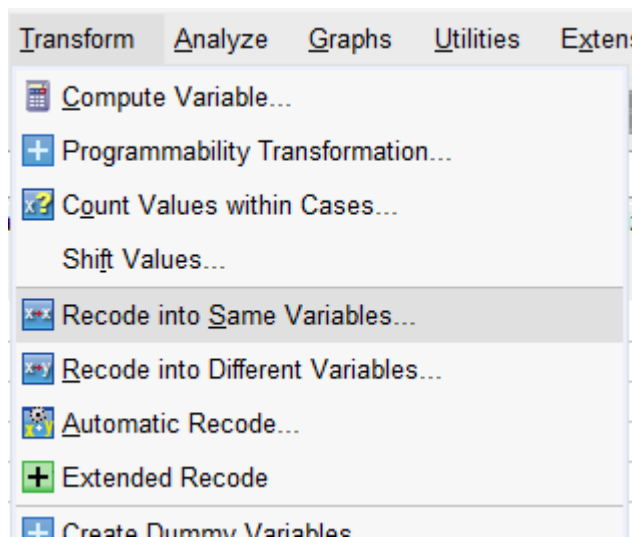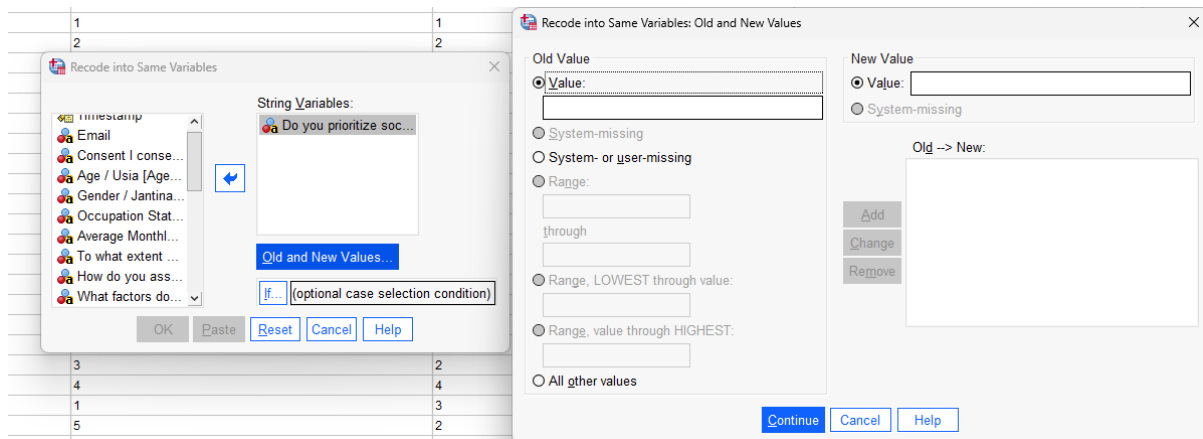
- **Step 3**: (Shown on the left box) Move all the old variables that you want to recode to the 'String Variables' column and press 'OK'. A new recoding box will pop-out (Shown on the right box). Under the variable column in your Microsoft Excel, find the answers related to the column(in this case it shows a question variable).
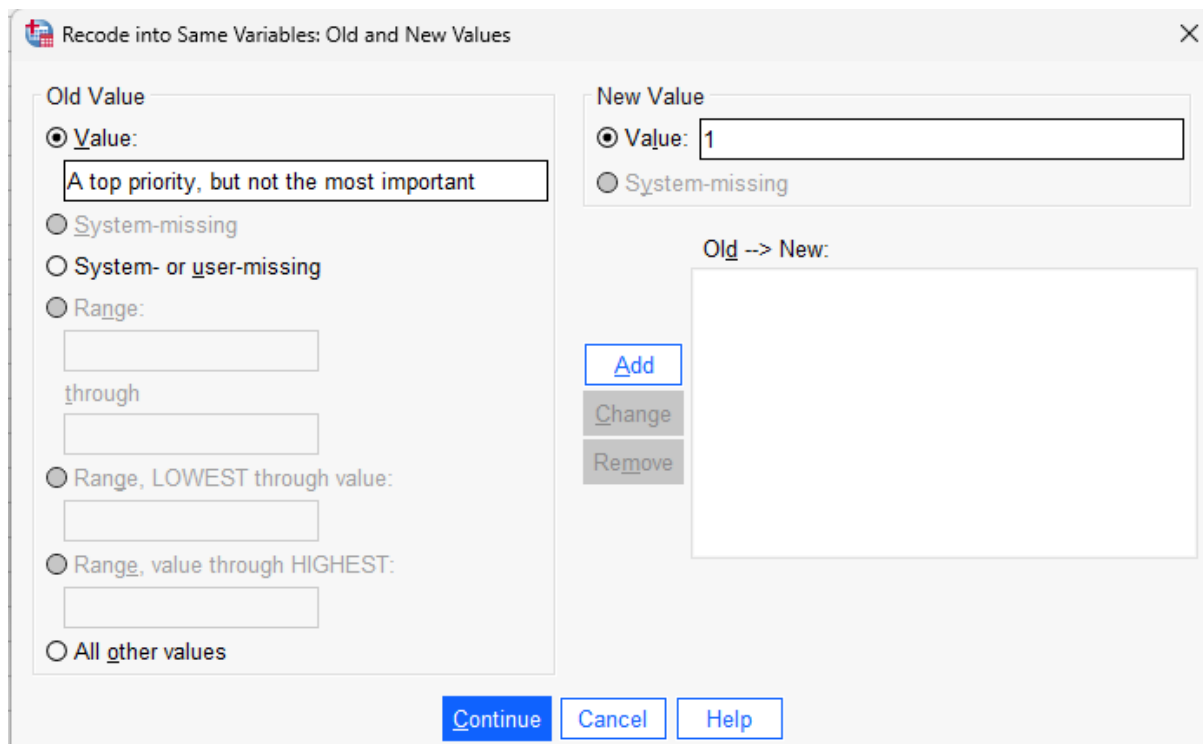
- Let say the question is 'Do you prioritize social responsibility and ethical investing when selecting stocks in Islamic stock markets?', in the survey/questionnaire I have provided 5 different answers, relatively 'A top priority, but not the most important', 'Just enough', 'The most important priority', 'Not very important' and 'Not important at all'.
- **Step 4**: Therefore recoding them from Old value of 'A top priority, but not the most important', to a new numerical value of digit '1'.
- **Step 5**: Continue by recoding all Old value of the remaining answers into respective numerical data, 2 to 5.

Towhatextentdoyoubelieveethicalconsiderationsimpactinvestmentper	Doyouprioritizesocialresponsibilityandethicalinvestingwhenselect	HowdoyouassesstheethicalcomplianceofpotentialinvestmentsinIslami	Whatfactorsdoyouconsiderwhenevaluatingtheethicalimplicationsofan	Howimportantistransparencyinfinancialtransactionswhenconductingi
1	3	2	1	1
1	4	2	1	1
1	1	1	2	2
2	3	2	3	1
2	3	4	1	1
2	2	1	2	3
3	3	2	1	4
3	3	2	3	1
2	2	3	1	4
3	1	1	1	4
1	3	2	2	2
1	1	1	1	2
1	2	1	3	1
1	1	1	1	1
2	1	2	2	1
3	2	1	2	1
3	2	4	1	1
2	1	2	1	4
2	1	5	5	2
2	3	1	2	1
3	5	5	2	4
3	2	1	2	1
3	3	1	1	2
4	1	4	5	3
3	4	3	2	3
3	2	2	1	1
2	1	3	2	1
5	4	4	4	3
4	1	1	3	3
2	1	5	2	1
5	1	2	1	4
2	1	2	4	5
2	2	4	3	1
2	1	1	2	2
1	1	3	1	5
1	4	4	4	4
2	1	3	2	1
4	2	4	1	2
2	1	4	1	3
3	2	4	4	3

- After recoding your dataset should look something shown above with all textual content recoded into numerical data.

5 Implementation

5.1 Implementation of SPSS Statistic for FA and PCA

6
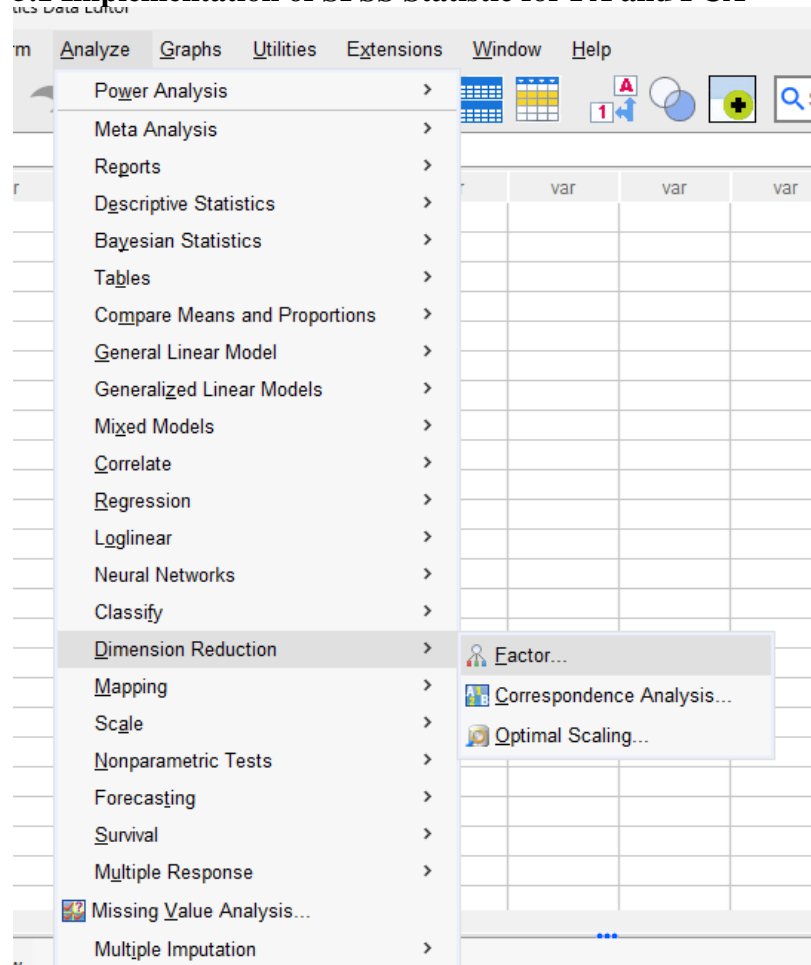
- **Step 1**: To run Factor analysis and Principal Component Analysis (PCA), press under tab 'Analyze' and choose 'Dimension Reduction > Factor'.
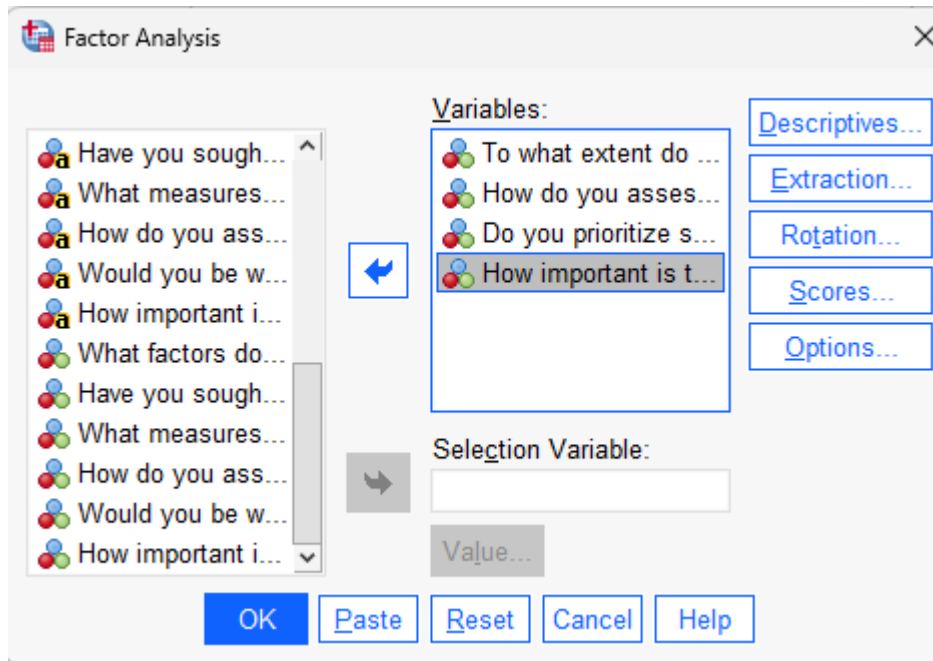
- **Step 2**: Factor Analysis tool box will pop out and choose from the left variables to the right depending on how many variables you would like to run the analysis.
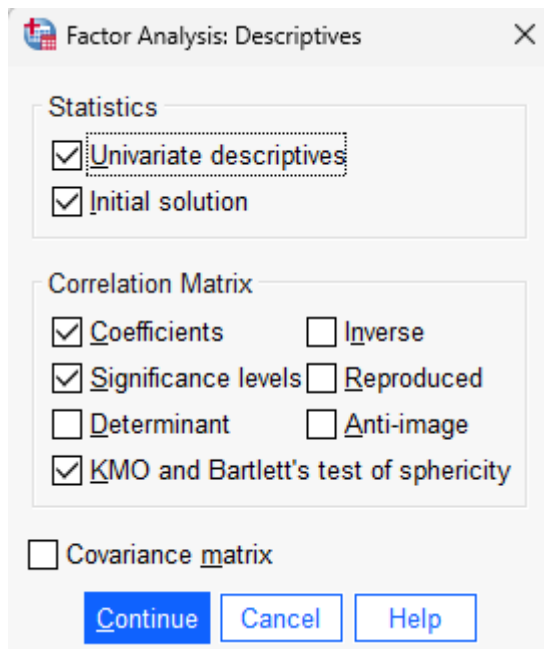
- **Step 3**: Under 'Descriptives', to get KMO and Bartlett's test and Coefficient Matrix, tick both boxes. Make sure to tick Univariate descriptives to run the analysis of a single variable each time, to be able to summarize and describe its main characteristics. Measurements of variance also uses Univariate to measure dispersion, allowing SPSS statistic to calculate range, variance and standard deviation.

- **Step 4**: under 'Extraction' button, method used is 'Principal component' to run PCA, to obtain Communalities Table.
- In my study Correlation Matrix is needed to compare the relationship between variables. Plotting a Scree plot to identify which variables (>1) strongly influence the factors related to the study.

- **Step 5**: Under 'Rotation', choose Varimax to obtain the value of the relationship between variables and factors(components).
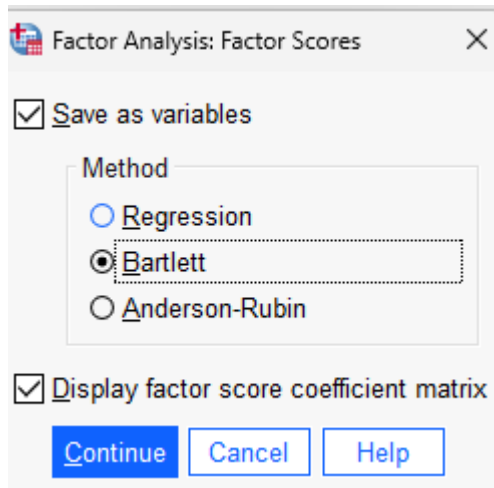
- **Step 6**: Since my study surround covariance structure, Bartlett's method would be the appropriate factor score to derive. This is because Bartlett's method is less influenced by the specific correlations among the variables and may provide a more generalized representation of the factors.
- ***Step 6 can be skipped by unticking 'Save as variables' if not saving the variables for factor scoring**.*
- **Step 7**: Run 'Continue' to obtain the required factor analysis, as shown below.
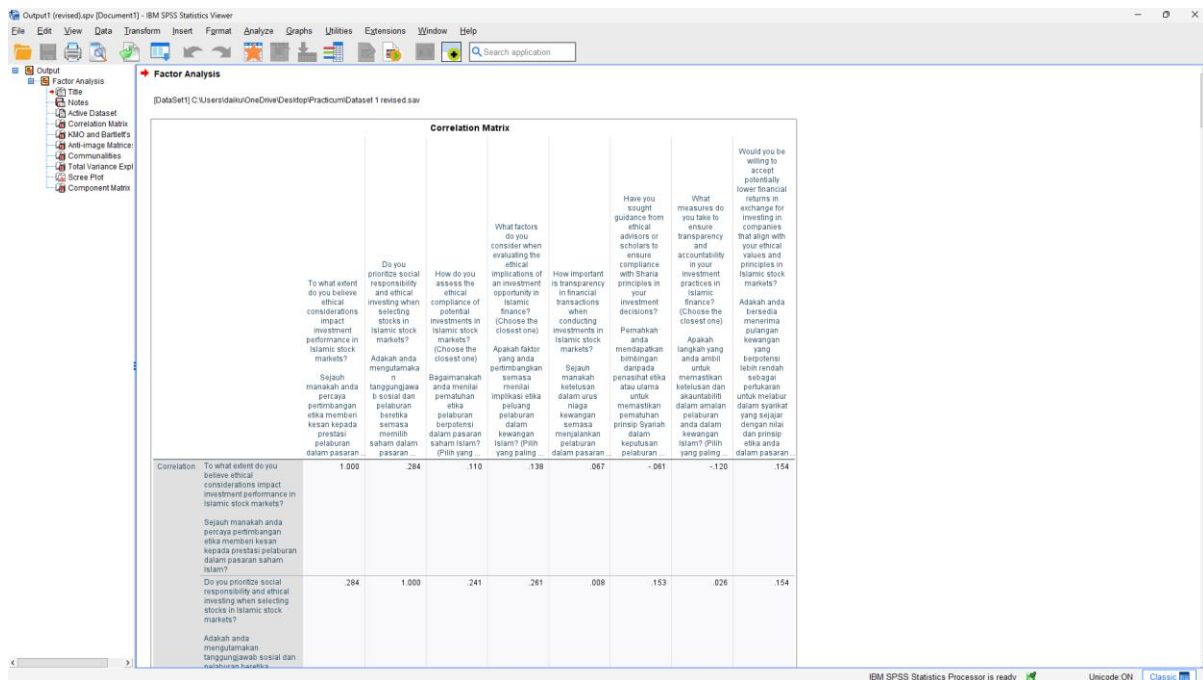
KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.643
Bartlett's Test of Sphericity	Approx. Chi-Square	58.361
	df	28
	Sig.	<.001

Communalities

	Initial	Extraction
To what extent do you believe ethical considerations impact investment performance in Islamic stock markets? Sejauh manakah anda percaya pertimbangan etika memberi kesan kepada prestasi pelaburan dalam pasaran saham Islam?	1.000	.640
Do you prioritize social responsibility and ethical investing when selecting stocks in Islamic stock markets? Adakah anda mengutamakan tanggungjawab sosial dan pelaburan beretika semasa memilih saham dalam pasaran saham Islam?	1.000	.617
How do you assess the ethical compliance of potential investments in Islamic stock markets? (Choose the closest one) Bagaimanakah anda menilai pematuhan etika pelaburan berpotensi dalam pasaran saham Islam? (Pilih yang paling dekat)	1.000	.473
What factors do you consider when evaluating the ethical implications of an investment opportunity in Islamic finance? (Choose the closest one)	1.000	.604

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.021	25.260	25.260	2.021	25.260	25.260
2	1.210	15.121	40.382	1.210	15.121	40.382
3	1.069	13.367	53.749	1.069	13.367	53.749
4	.942	11.780	65.529			
5	.892	11.145	76.674			
6	.695	8.687	85.361			
7	.626	7.822	93.182			
8	.545	6.818	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component		
	1	2	3
To what extent do you believe ethical considerations impact investment performance in Islamic stock markets? Sejauh manakah anda percaya pertimbangan etika memberi kesan kepada prestasi pelaburan dalam pasaran saham Islam?	.406	-.662	-.190
Do you prioritize social responsibility and ethical investing when selecting stocks in Islamic stock markets? Adakah anda mengutamakan tanggungjawab sosial dan pelaburan beretika semasa memilih saham dalam pasaran saham Islam?	.591	-.176	-.487
How do you assess the ethical compliance of potential investments in Islamic stock markets? (Choose the closest one) Bagaimanakah anda menilai pematuhan etika pelaburan berpotensi dalam pasaran saham Islam? (Pilih yang paling dekat)	.618	.271	-.137
What factors do you consider when evaluating the ethical implications of an investment opportunity in Islamic finance? (Choose the closest one) Apakah faktor yang anda pertimbangkan semasa menilai implikasi etika peluang pelaburan dalam kewangan Islam? (Pilih	.745	.108	.193

Rotated Component Matrix[a]

	Component		
	1	2	3
Have you sought guidance from ethical advisors or scholars to ensure compliance with Sharia principles in your investment decisions? Pernahkah anda mendapatkan bimbingan daripada penasihat etika atau ulama untuk memastikan pematuhan prinsip Syariah dalam keputusan pelaburan anda?	.690	-.105	-.191
How do you assess the ethical compliance of potential investments in Islamic stock markets? (Choose the closest one) Bagaimanakah anda menilai pematuhan etika pelaburan berpotensi dalam pasaran saham Islam? (Pilih yang paling dekat)	.633	.269	-.006
Do you prioritize social responsibility and ethical investing when selecting stocks in Islamic stock markets? Adakah anda mengutamakan tanggungjawab sosial dan pelaburan beretika semasa memilih saham dalam pasaran saham Islam?	.604	.016	.502
How important is transparency in financial transactions when conducting investments in Islamic stock markets? Sejauh manakah ketelusan dalam urus	-.096	.744	-.142

5.2 Implementation of Google Colab

Step 8: To run a analysis on theoritical part, I have recoded in the Excel sheet with a simple, YES = 1 and NO = 2 manually.

Q	R
How	
Yes, I aligr	1
No, priorit	2
Yes, it is v	1
No, it is nc	2
Yes, it is c	1
No, I do n	2
Yes, aligni	1
No, while	2
Yes, it is h	1
No, I do n	2
Yes, aligni	1
No, while	2
Yes, it is v	1
No, it is nc	2
Yes, aligni	1
No, I do n	2
Yes, it is h	1
No, while	2
Yes, it is v	1
No, it is nc	2
Yes, it is c	1
No, I do n	2
Yes, aligni	1
No, while	2
Yes, it is h	1
No, I do	2
Yes, aligni	1
No, while	2
Yes it is v	1

Google Colab is a common tool for Fintech students to run and generate their own codes with a unique and specific purpose.

Step 9: In the study I run a general code for a piechart from Microsoft excel for the respective column, namely 'Responses Y=1,N=2'.

13

```
# Install necessary libraries (if not already installed)
!pip install pandas openpyxl matplotlib

# Import libraries
import pandas as pd
import matplotlib.pyplot as plt

# Upload the Excel file
from google.colab import files
uploaded = files.upload()

# Read the Excel file
file_name = list(uploaded.keys())[0]
df = pd.read_excel(file_name)

# Access the 'Responses Y=1, N=2' column
response_column = df['Responses Y=1, N=2']

# Clean the data by removing non-numeric and NaN values
response_column = response_column.apply(pd.to_numeric, errors='coerce').dropna()

# Count the occurrences of each response
response_counts = response_column.value_counts()

# Define dynamic labels based on unique values in the column
labels = [f'{int(val)}' for val in response_counts.index]

# Draw the pie chart
plt.figure(figsize=(8, 8))
plt.pie(response_counts, labels=labels, autopct='%1.1f%%', colors=['lightblue', 'lightcoral', 'lightgreen', 'lightyellow'])
plt.title('Distribution of Responses (Y=1, N=2)')
plt.show()
```

- The code above illustrade reading the excel file, cleaning the dataset if theres 'empty' space, and draws the piechart with a heading labelled on top.

```
Requirement already satisfied: pyparsing>=2.3.1 in /usr/local/lib/python3.10/dist-packages (from matplotlib) (3.1.2)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.8.2->pandas) (1.16.0)
Choose Files  No file chosen        Upload widget is only available when the cell has been executed in the current browser session. Please rerun this cell to enable.
Saving Responses form for qualitative.xlsx to Responses form for qualitative (3).xlsx
```


Distribution of Responses (Y=1, N=2)
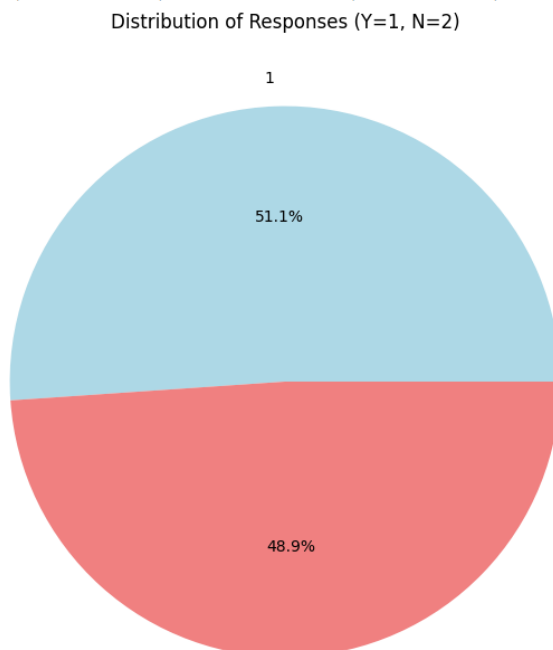
- **Step 10**: After generating the code, at the bottom of the code will request permission to choose file. Drop your excel file and Google colab will do the rest for you.