National College of Ireland

Configuration Manual

The Role of Artificial Intelligence in Enhancing Financial Literacy and Education in India

MSc Research Project
FINTECH

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MSc Project Submission Sheet

School of Computing

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Date: 11th August 2024

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1 Data Collection Using Google Forms

1.1 Overview:

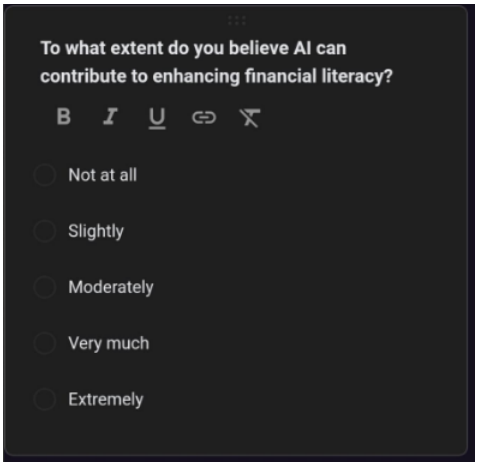
This section outlines the steps involved in creating and distributing the survey using Google Forms to collect data on the usage of AI tools in financial decision-making.

1.2 Creating the Survey:

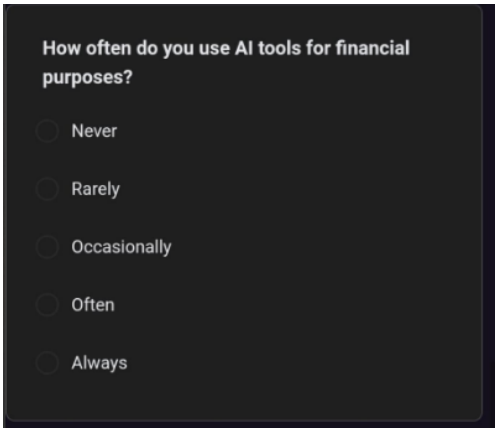
1. Access Google Forms: Navigate to Google Forms and log in with your Google account.
2. Create a New Form: Click on the "+" icon to start a new form.
3. Form Title and Description: Provide a title (e.g., "AI in Financial Decision-Making Survey") and a brief description of the survey's purpose.

1.3 Designing the Survey:

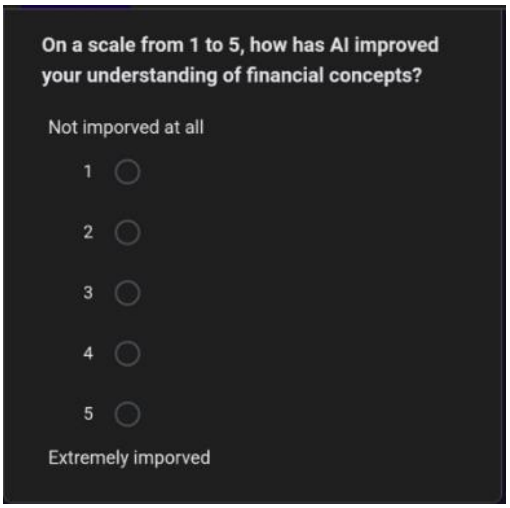
1. Add Questions: Use the "+" icon to add questions. Include various types such as multiple-choice, Likert scale, and open-ended questions.



2. Demographics: Age, education level, occupation.
3. AI Familiarity: Questions on familiarity with AI tools.
4. AI Usage: Frequency and extent of AI tool usage in financial decision-making.



5. Effectiveness: Perceived effectiveness of AI tools.



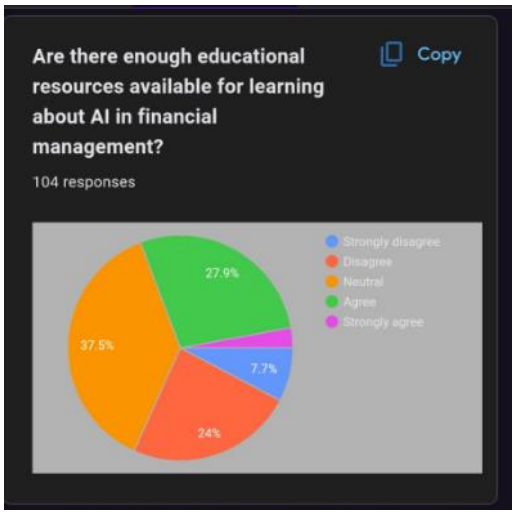
6. Challenges: Challenges faced in using AI tools.
7. Openness to Adoption: Willingness to adopt AI tools in the future.
8. Customization: Customize each question's settings (e.g., required questions, answer types).

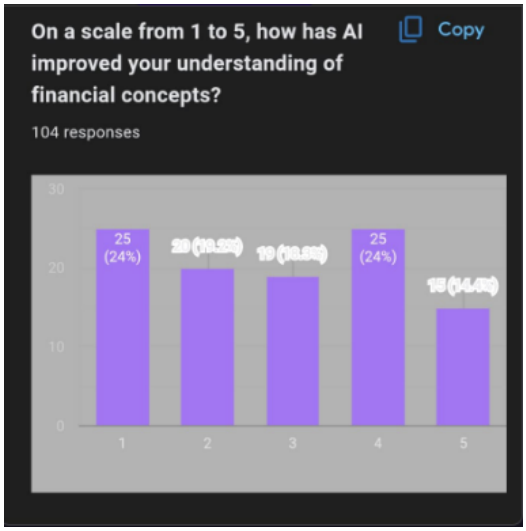
1.4 Distributing the Survey:

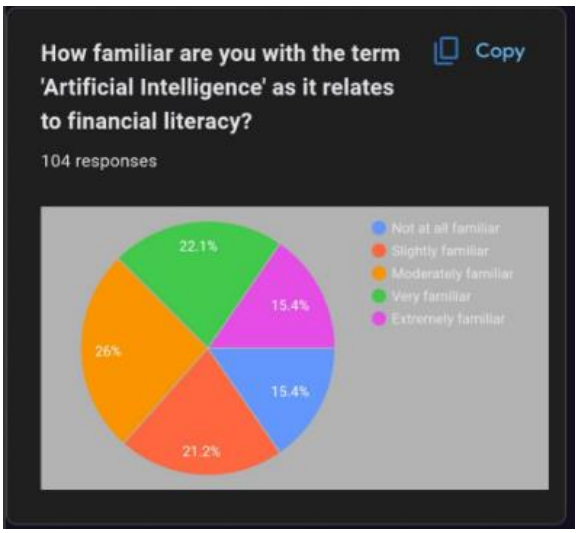
1. Share Link: Click on the "Send" button and copy the survey link.
2. Distribution Channels: Share the link via email, social media, or professional networks to reach the target audience.

1.5 Collecting Responses:

1. Monitor Responses: Regularly check the response summary in Google Forms to monitor the number of submissions and preliminary data trends.







2. Export Data: Once data collection is complete, click on the "Responses" tab and export the data to Google Sheets for initial review and preparation for analysis.

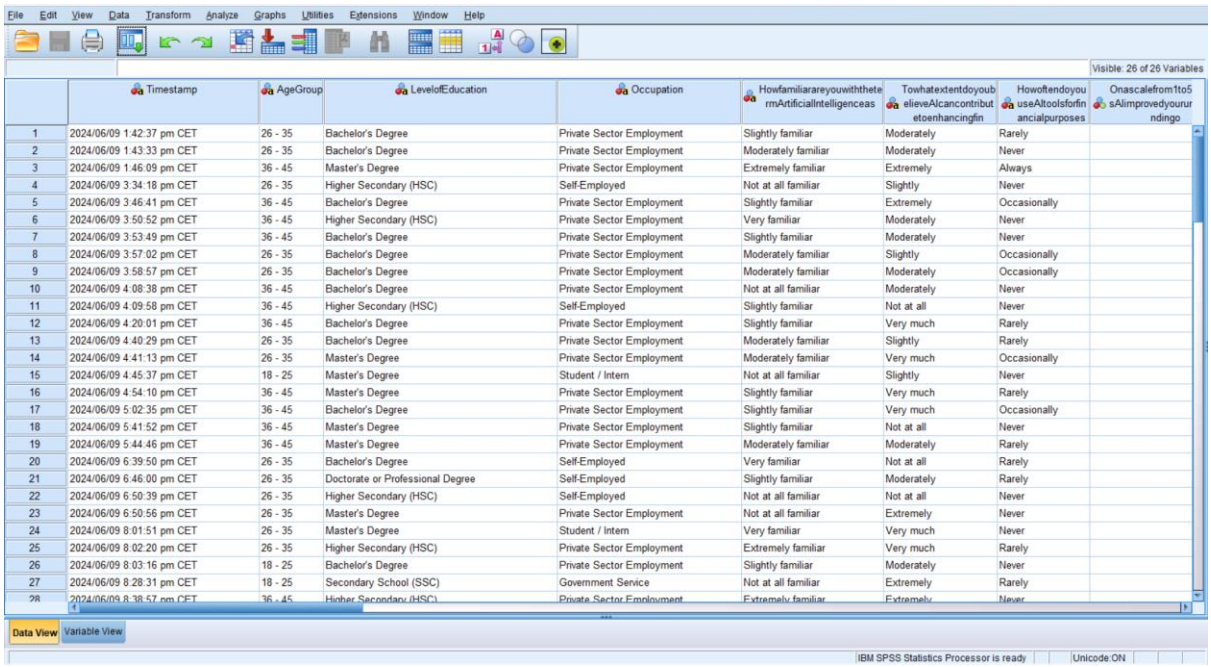
2 Data Analysis Using SPSS

2.1 Overview:

This section describes the process of importing survey data into SPSS, performing descriptive and correlation analyses, and interpreting the results.

2.2 Importing Data:

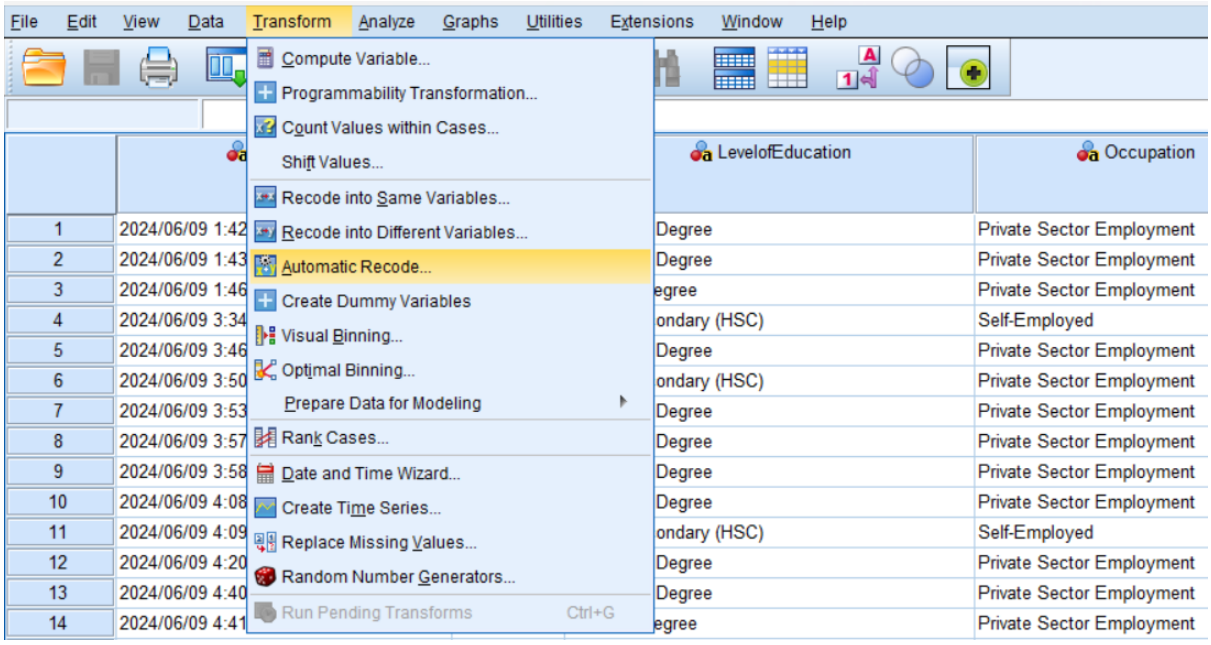
1. Download Data: Export the survey data from Google Sheets as a CSV file.
2. Open SPSS: Launch SPSS and open a new data file.
3. Import CSV: Go to "File" > "Open" > "Data" and select the CSV file to import the survey data into SPSS.



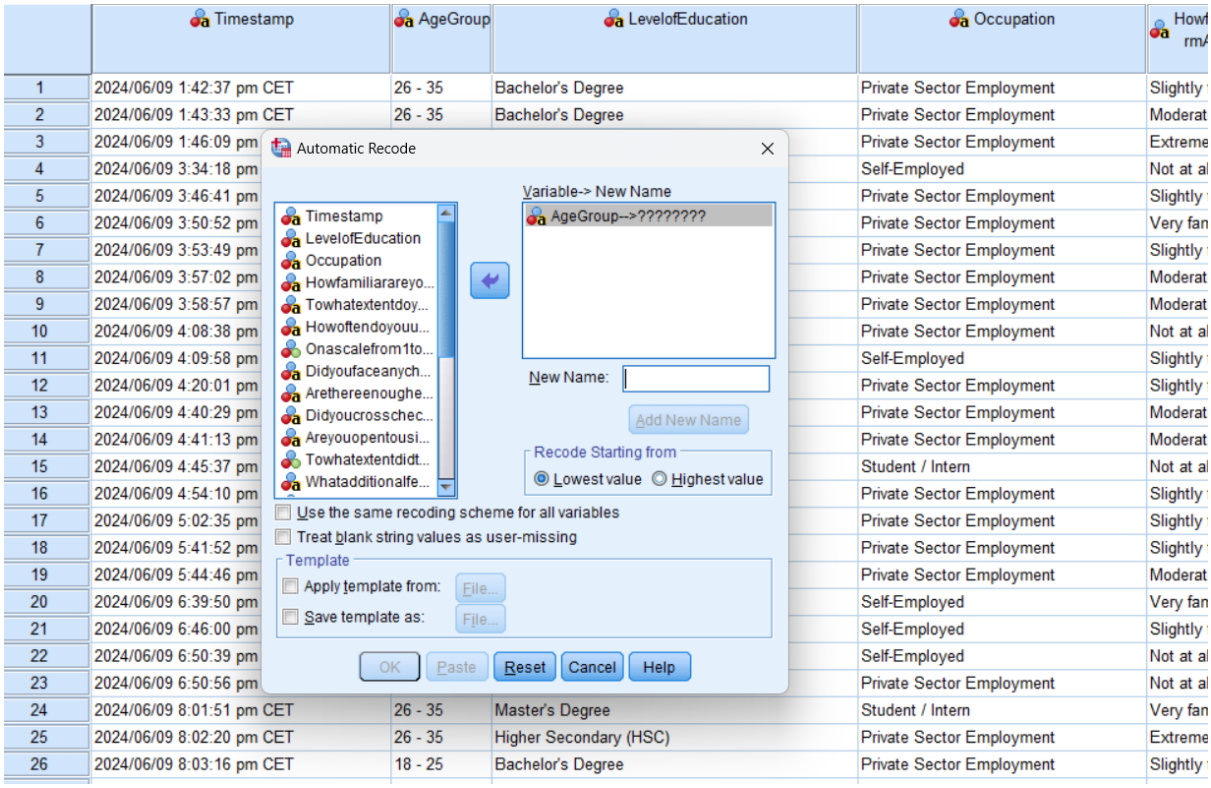
2.3 Transforming Data:

1. Automatic Recode: To make the data easier for SPSS to handle, especially for categorical variables, use the automatic recode feature.

- Select Variables: Go to “Transform” > “Automatic Recode.”



- Recode Variables: Select the variables you want to recode. Assign new variable names for the recoded data.



- Execute Recode: Click on “OK” to perform the recoding. This will create new variables in your dataset that are easier for SPSS to understand and analyze.

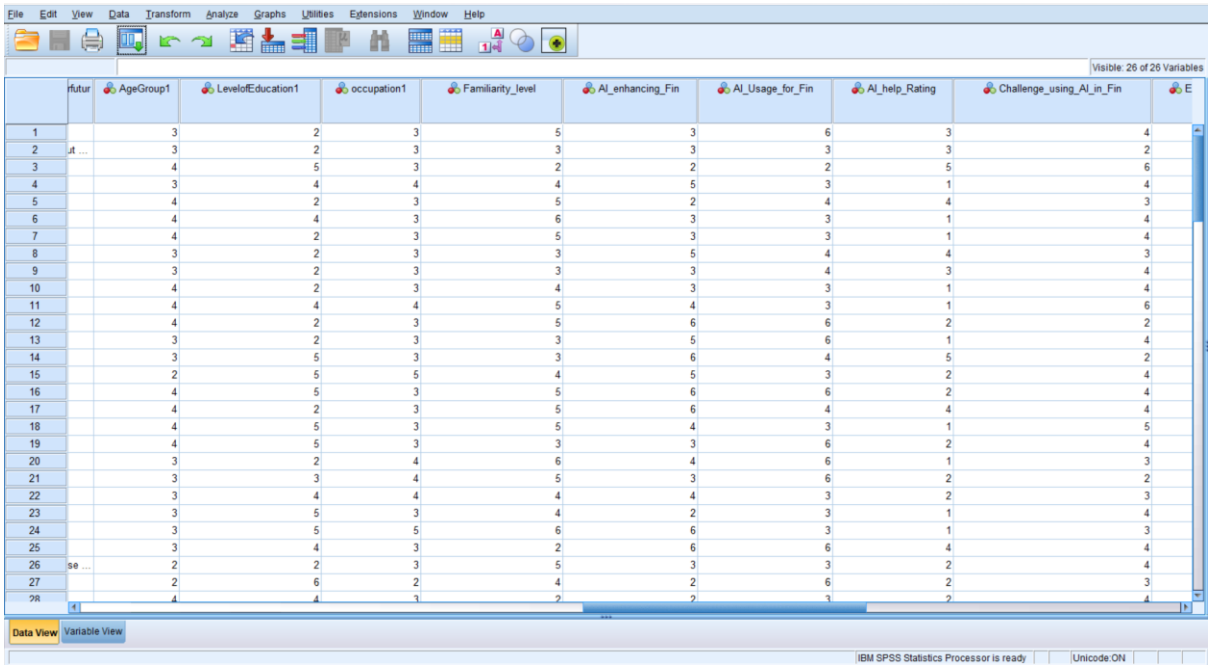
2. Export Transformed Data: Export the transformed data as a new CSV file: Go to “File” > “Save As” and save the transformed dataset as a CSV file.

3. Re-Importing Data:

- Open New Data File: Open SPSS and import the newly transformed CSV file.
- Import CSV: Go to “File” > “Open” > “Data” and select the transformed CSV file to import it into SPSS.

2.4 Data Cleaning:

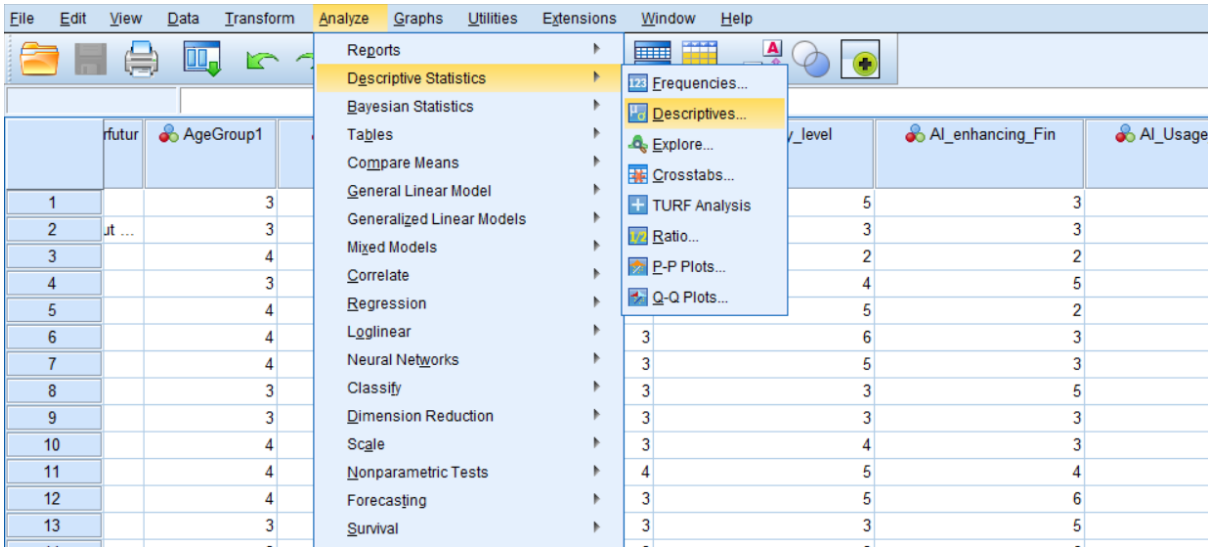
1. Review Data: Inspect the imported data for any inconsistencies or missing values.



2. Handle Missing Values: Use appropriate techniques to handle missing data, such as imputation or deletion.

2.5 Descriptive Statistics:

1. Generate Descriptive Statistics: Go to “Analyze” > “Descriptive Statistics” > “Descriptives” and select the variables of interest (e.g., age, education level, AI familiarity, AI usage).



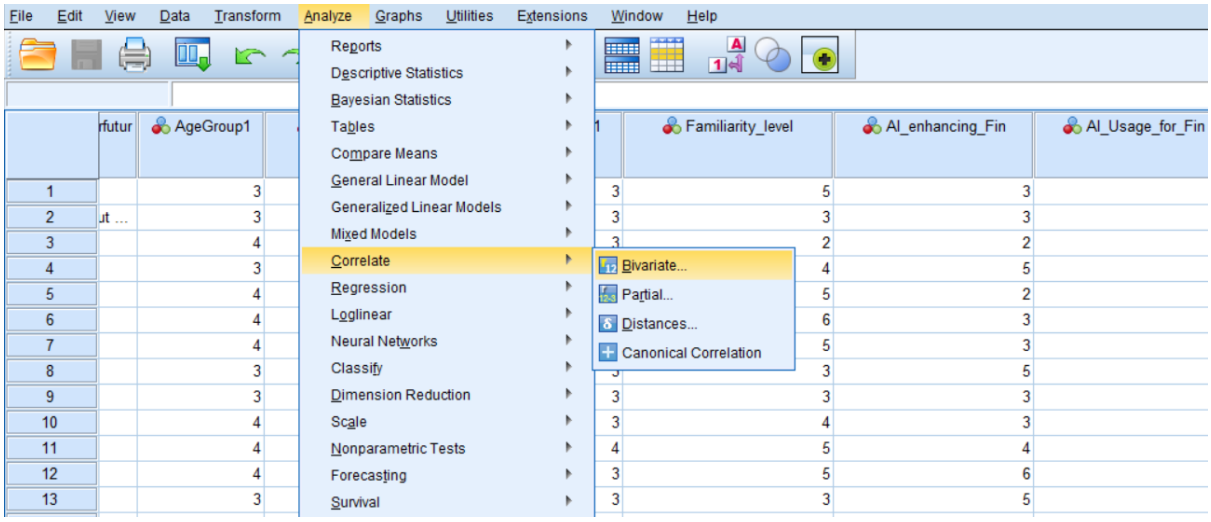
2. Output Interpretation: Review the output for measures such as mean, median, standard deviation, and frequency distributions.

Descriptive Statistics

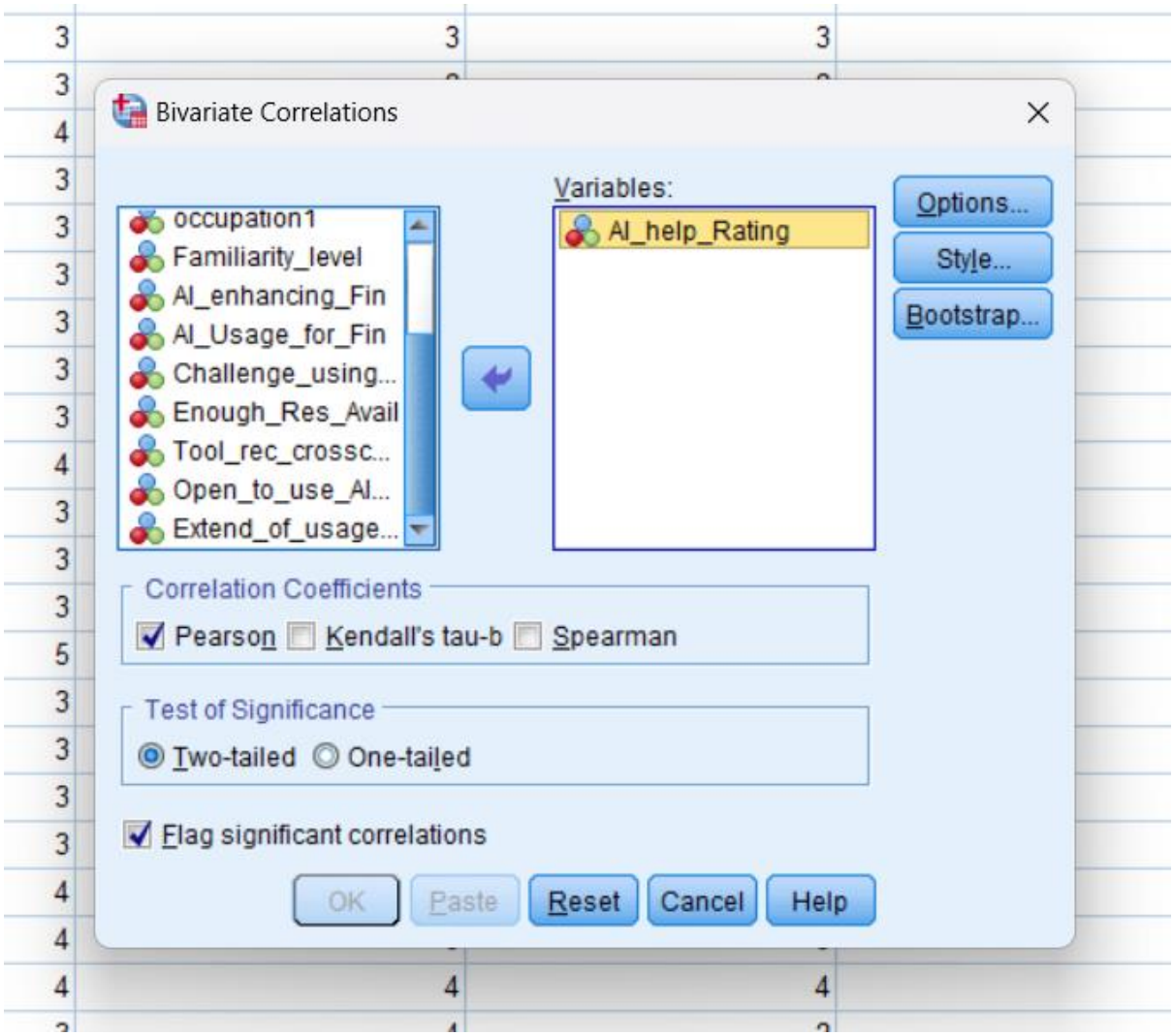
	N	Minimum	Maximum	Mean	Std. Deviation
AgeGroup1	105	1	5	3.30	.867
LevelofEducation1	105	1	6	3.30	1.467
occupation1	105	1	5	3.34	.842
Familiarity_level	105	1	6	4.06	1.433
AI_enhancing_Fin	105	1	6	3.92	1.459
AI_Usage_for_Fin	105	1	6	3.98	1.330
AI_help_Rating	104	1	5	2.86	1.403
Challenge_using_AI_in_Fin	105	1	6	3.44	1.082
Enough_Res_Avail	105	1	6	3.36	1.170
Tool_rec_crosscheck	105	1	6	4.32	1.390
Open_to_use_AI_for_Fin Mgmt	105	1	6	4.40	1.370
Extend_of_usage_AI_in_Fin	103	1	5	2.79	1.348
Valid N (listwise)	103				

2.6 Correlation Analysis:

1. Conduct Correlation Analysis: Go to “Analyze” > “Correlate” > “Bivariate” and select the variables for correlation analysis (e.g., AI familiarity and AI usage).



2. Choose Correlation Coefficient: Select Pearson's correlation coefficient and set the significance level (e.g., 0.05).



3. Review Results: Analyze the correlation matrix to identify significant relationships between variables.

Pivot Table Correlations

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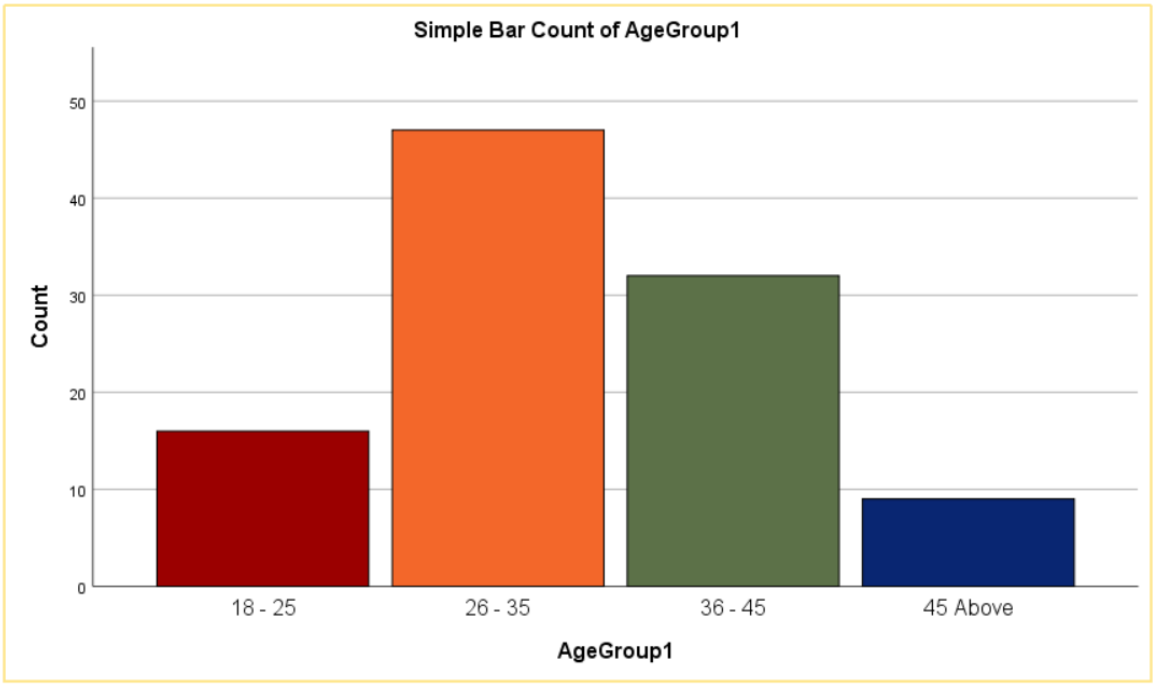
Correlations

		AgeGroup1	LevelofEducation1	occupation1	Familiarity_level	AI_enhancing_Fin	AI_Usage_for_Fin	AI_help_Rating	Challenge_using_AI_in_Fin	Enough_Res_Avail	Tool_rec_crosscheck	Open_to_use_AI_for_FinMgmt	Extend_of_usage_AI_in_Fin
AgeGroup1	Pearson Correlation	1	-.011	-.303**	.226*	.277**	.138	.065	-.041	.127	.053	-.006	.060
	Sig. (2-tailed)		.912	.002	.021	.004	.159	.512	.677	.196	.592	.948	.547
	N	105	105	105	105	105	105	104	105	105	105	105	103
LevelofEducation1	Pearson Correlation	-.011	1	.104	-.004	-.003	-.096	-.096	.293**	.206*	.014	.008	-.188
	Sig. (2-tailed)	.912		.290	.972	.977	.332	.332	.002	.035	.888	.938	.057
	N	105	105	105	105	105	105	104	105	105	105	105	103
occupation1	Pearson Correlation	-.303**	.104	1	-.120	-.002	-.028	-.055	.182	.117	.044	-.078	-.099
	Sig. (2-tailed)	.002	.290		.223	.984	.773	.576	.063	.235	.656	.427	.319
	N	105	105	105	105	105	105	104	105	105	105	105	103
Familiarity_level	Pearson Correlation	.226*	-.004	-.120	1	.338**	.076	-.136	-.072	.033	.005	.213*	-.088
	Sig. (2-tailed)	.021	.972	.223		.000	.440	.168	.465	.735	.959	.029	.378
	N	105	105	105	105	105	105	104	105	105	105	105	103
AI_enhancing_Fin	Pearson Correlation	.277**	-.003	-.002	.338**	1	.267**	-.148	.046	.039	-.068	.241*	-.123
	Sig. (2-tailed)	.004	.977	.984	.000		.006	.134	.643	.694	.489	.013	.217
	N	105	105	105	105	105	105	104	105	105	105	105	103
AI_Usage_for_Fin	Pearson Correlation	.138	-.096	-.028	.076	.267**	1	-.031	-.154	.091	.253**	.163	-.014
	Sig. (2-tailed)	.159	.332	.773	.440	.006		.754	.116	.356	.009	.098	.886
	N	105	105	105	105	105	105	104	105	105	105	105	103
AI_help_Rating	Pearson Correlation	.065	-.096	-.055	-.136	-.148	-.031	1	-.431**	-.434**	.231*	-.029	.693**
	Sig. (2-tailed)	.512	.332	.576	.168	.134	.754		.000	.000	.018	.774	.000
	N	104	104	104	104	104	104	104	104	104	104	104	103
Challenge_using_AI_in_Fin	Pearson Correlation	-.041	.293**	.182	-.072	.046	-.154	-.431**	1	.512**	-.172	-.087	-.381**
	Sig. (2-tailed)	.677	.002	.063	.465	.643	.116	.000		.000	.080	.378	.000
	N	105	105	105	105	105	105	104	105	105	105	105	103
Enough_Res_Avail	Pearson Correlation	.127	.206*	.117	.033	.039	.091	-.434**	.512**	1	-.167	-.121	-.412**
	Sig. (2-tailed)	.196	.035	.235	.735	.694	.356	.000	.000		.088	.218	.000
	N	105	105	105	105	105	105	104	105	105	105	105	103
Tool_rec_crosscheck	Pearson Correlation	.053	.014	.044	.005	-.068	.253**	.231*	-.172	-.167	1	.148	.279**
	Sig. (2-tailed)	.592	.888	.656	.959	.489	.009	.018	.080	.088		.131	.004
	N	105	105	105	105	105	105	104	105	105	105	105	103
Open_to_use_AI_for_FinMgmt	Pearson Correlation	-.006	.008	-.078	.213*	.241*	.163	-.029	-.087	-.121	.148	1	-.062

2.7 Visualization:

1. Create Graphs and Charts: Use SPSS's chart builder to create visualizations such as bar charts, scatter plots, and histograms to represent the data visually.
2. Customize Visuals: Customize the charts by adding titles, labels, and legends to enhance clarity and readability.

GGraph



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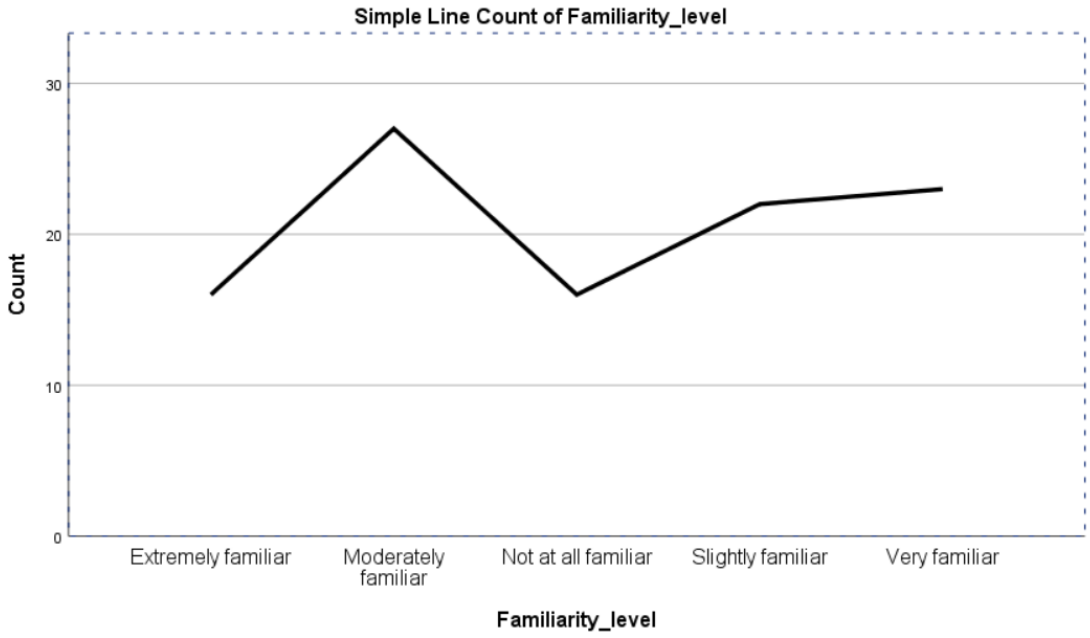

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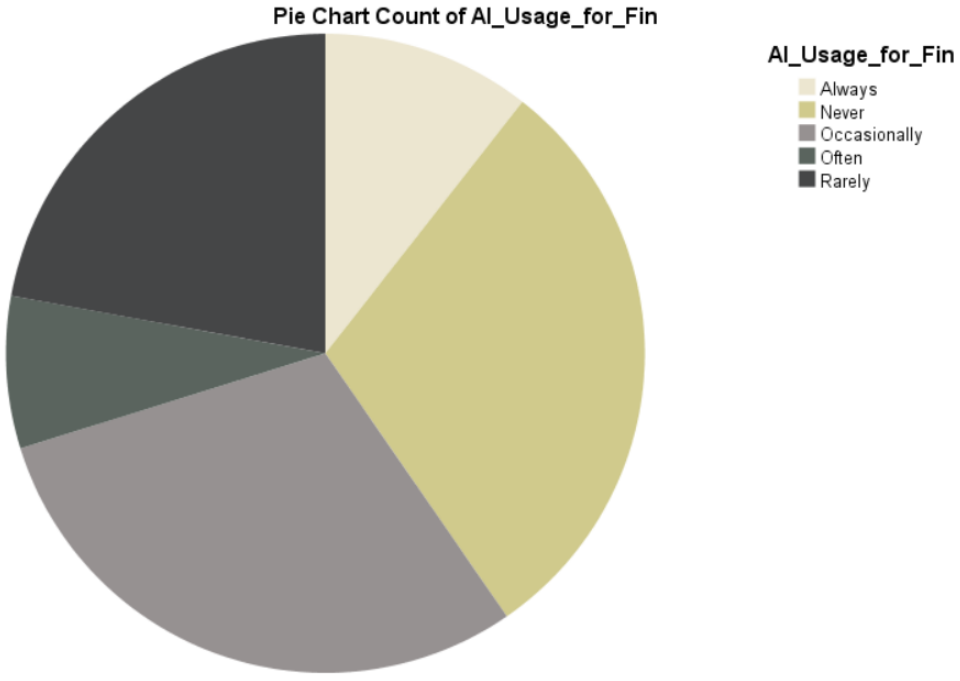

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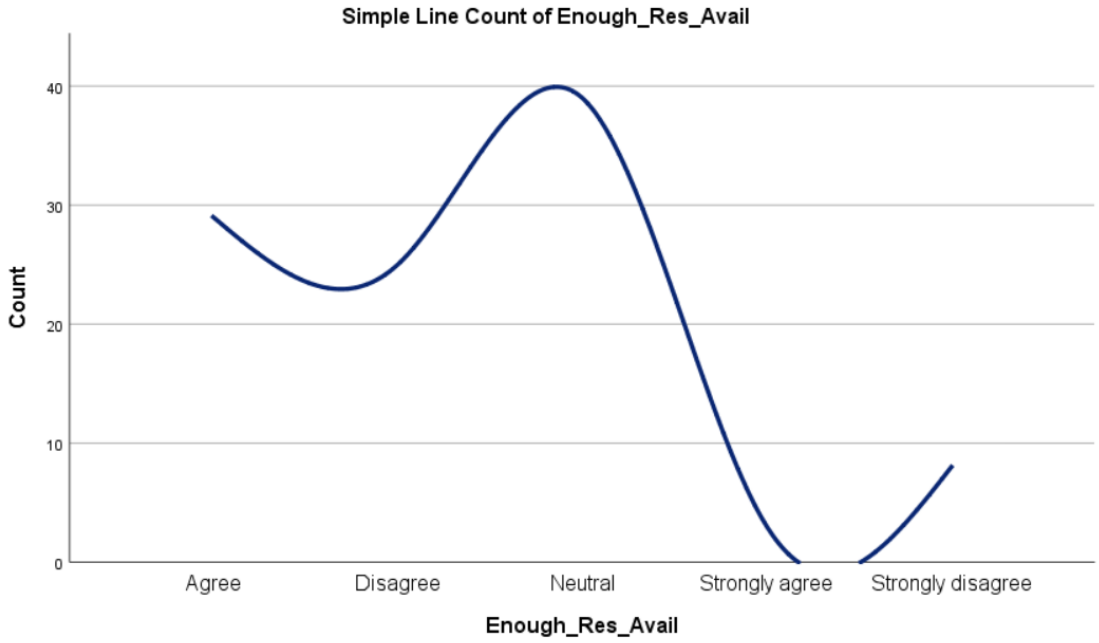

3 References:

1. Patten, M.L. and Newhart, M. (2017). *Understanding Research Methods*. Tenth edition. | New York, NY : Routledge, 2017.: Routledge. doi: https://doi.org/10.4324/9781315213033 .

2. Trinh Quang Long, Morgan, P.J. and Yoshino, N. (2023). Financial literacy, behavioral traits, and ePayment adoption and usage in Japan. *Financial literacy, behavioral traits, and e Payment adoption and usage in Japan*, 9(1). doi: https://doi.org/10.1186/s40854-023-00504-3

3. Dube, V., Pradeep, K. and Asthana (2017). A Comparative Study on Financial Literacy of Uttar Pradesh with Central Zone States in India. *A Comparative Study on Financial Literacy of Uttar Pradesh with Central Zone States in India*, [online] 19, pp.22–27. doi: https://doi.org/10.9790/487X-1910032227 .