

Configuration Manual

MSc Research Project
Programme Name : Practicum

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National College of Ireland

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MSc Project Submission Sheet
School of Computing



Student Name: ACHAKKAGARI RAJAREDDY.....

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M.Sc. in fintech 2024-2025

Programme **Year**
: ... : .
practicum

Module:
Victor de rosal

Lecturer:

Submission Due Date: 15-09 2025

.....

Project Title: Assessing Sustainable Finance Technologies Driving ESG
Compliance: Rise of Green Fintech in Ireland

Word Count:645..... **Page Count:**10....

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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Achakkagari rajareddy

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Configuration Manual

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Student ID: X23344253

1 Introduction

The integration of financial technology and sustainable finance has refined the shape of the global financial landscape. ESG (environmental, social, and governance) in the financial business can attract employees, develop operational sustainability, and support innovation in the business environment. The revenue of Fintech in Ireland increased sharply between 2017 and 2023; however, it has been noticed that the revenue of Fintech dropped in 2022 (Statista, 2024). Based on historical data, Fintech's forecasted revenue in 2028 will reach 589 million euros, which indicates that the demand for sustainable finance technologies will increase. The reasons for enhancing the Fintech companies in Ireland are the demand for regulatory transparency and ethical investment, as well as blockchain, cloud analytics, and machine learning technologies to improve business performance (Varma et al., 2022).

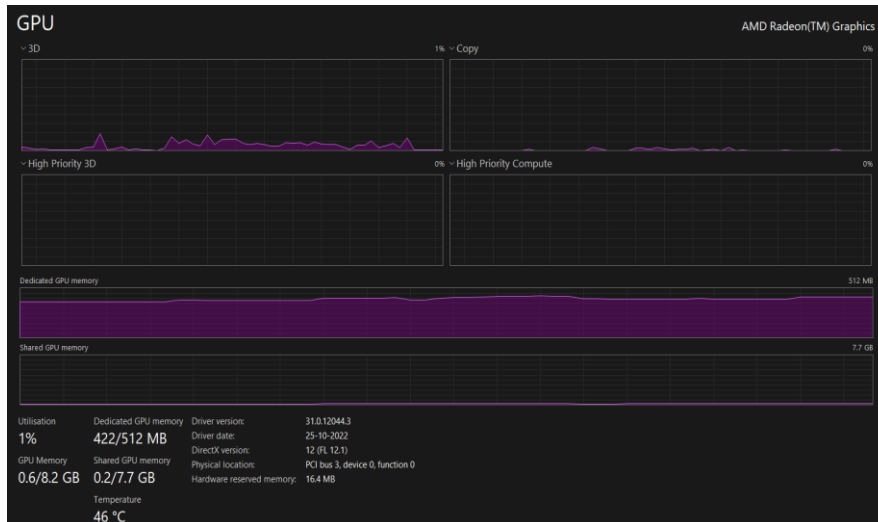
This configuration manual offers implementation steps for the thesis on “Assessing Sustainable Finance Technologies Driving ESG Compliance: Rise of Green Fintech in Ireland”. This project manual aims to ensure all the project is thoroughly understood. The hardware, software and dataset requirements have been presented to provide proper outline of project setup environment and it has been described in the experiment setup section. The implementation section has outlined the steps for data preparation, and development of the model.

2 Experiment Setup

The project was implemented on SPSS that adopted a setup including GPU unit of AMD Radeon™ Graphics with 8GB installed capacity of 8GB and installed RAM of 16GB with an Quadcore AMD Ryzen 3 processor (Fig 1& fig 2). The device had installed storage capacity of 512GB, enough for conducting this project.



(Fig 1)



(Fig 2)

3 Technologies and Software used for implementation

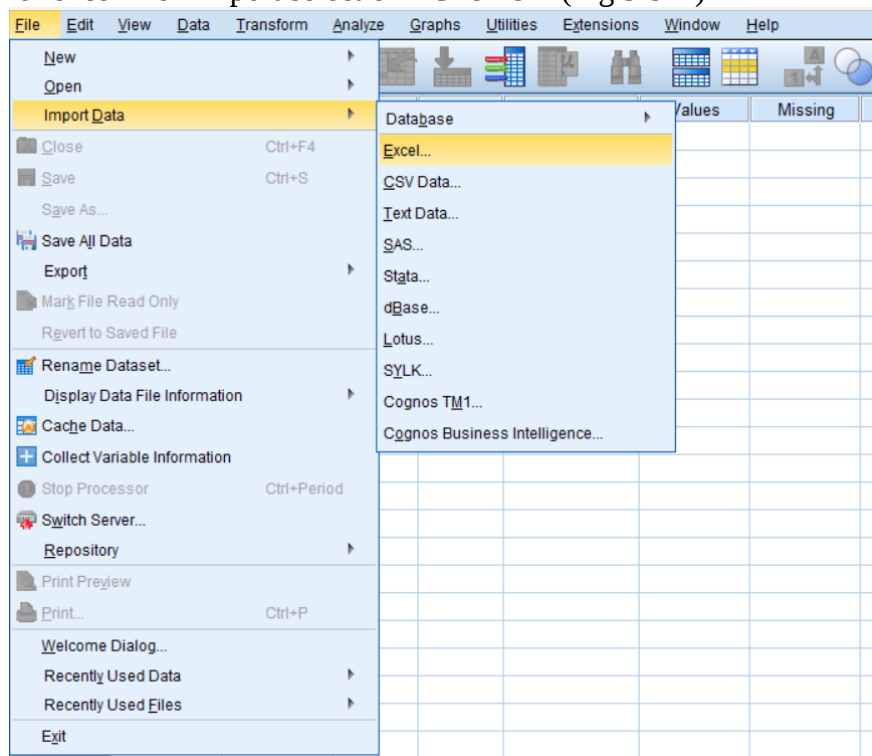
3.1 Software Used

- **SPSS:** This project has conducted the experiment within SPSS software with AMD GPUS for development of statistical model for the research on understanding the role of sustainable finance technologies based on green fintech solution that addresses sustainability patterns of the financial sector within Ireland.

4 Implementation

4.1 Loading the dataset

The Fintech user data was loaded into SPSS for by following “File > Import Data > Excel”, then location of excel file> import selection> Click OK (Fig 3 & 4)



(Fig 3)

Worksheet: **Fintech_user [A1:AA17600]**

Range:

☒ Read variable names from first row of data

☒ Percentage of values that determine data type:

☒ Ignore hidden rows and columns

☐ Remove leading spaces from string values

☐ Remove trailing spaces from string values

Preview

	churn	age	credit...	deposits	withdra...	pur
1	0	28	486	0	0	1
2	0	35	561	47	2	86
3	0	26	567	26	3	38
4	1	32	567	5	3	111
5	0	21	475	0	0	4
6	0	28	548	0	0	0
7	0	23	658	1	0	87

i Final data type is based on all data and can be different from the preview, which is based on the first 200 data rows. The preview displays only the first 500 columns.

(Fig 4)

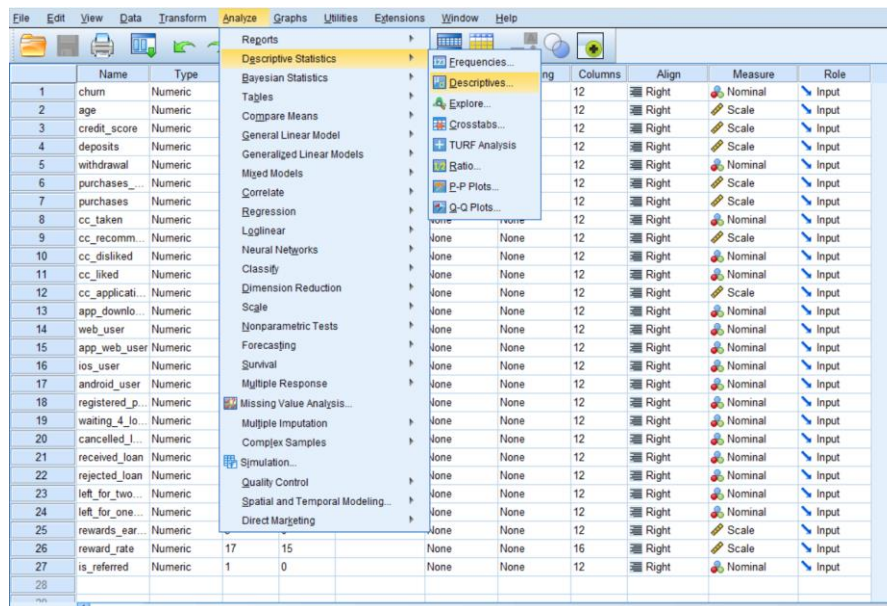
4.2 Data preprocessing

Missing values has been addressed by “Transform > Replace Missing Values” function. Further, variable types were confirmed using variable view in SPSS (Fig 5).

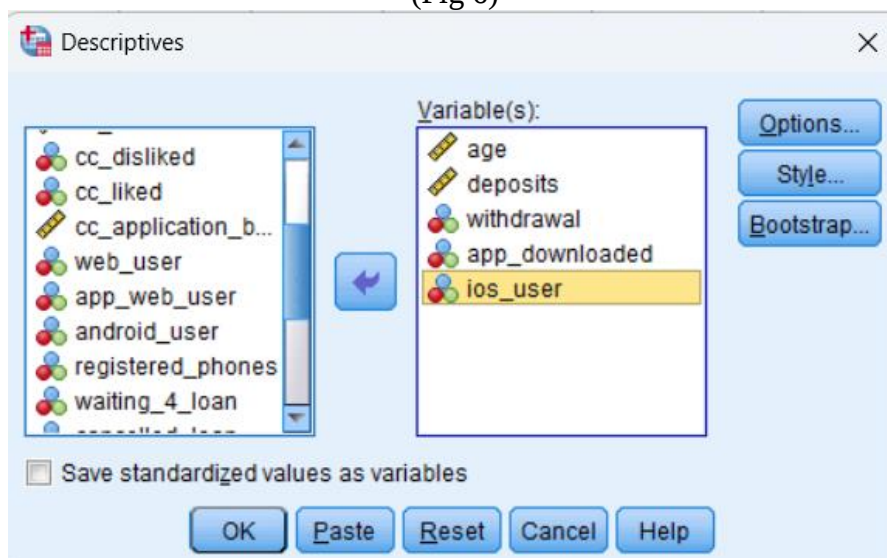
	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	churn	Numeric	1	0		None	None	12	Right	Nominal	Input
2	age	Numeric	2	0		None	None	12	Right	Scale	Input
3	credit_score	Numeric	3	0		None	None	12	Right	Scale	Input
4	deposits	Numeric	2	0		None	None	12	Right	Scale	Input
5	withdrawal	Numeric	2	0		None	None	12	Right	Nominal	Input
6	purchases_...	Numeric	4	0		None	None	12	Right	Scale	Input
7	purchases	Numeric	2	0		None	None	12	Right	Scale	Input
8	cc_taken	Numeric	2	0		None	None	12	Right	Nominal	Input
9	cc_recomm...	Numeric	3	0		None	None	12	Right	Scale	Input
10	cc_disliked	Numeric	2	0		None	None	12	Right	Nominal	Input
11	cc_liked	Numeric	2	0		None	None	12	Right	Nominal	Input
12	cc_applicati...	Numeric	3	0		None	None	12	Right	Scale	Input
13	app_downlo...	Numeric	1	0		None	None	12	Right	Nominal	Input
14	web_user	Numeric	1	0		None	None	12	Right	Nominal	Input
15	app_web_user	Numeric	1	0		None	None	12	Right	Nominal	Input
16	ios_user	Numeric	1	0		None	None	12	Right	Nominal	Input
17	android_user	Numeric	1	0		None	None	12	Right	Nominal	Input
18	registered_p...	Numeric	1	0		None	None	12	Right	Nominal	Input
19	waiting_4_lo...	Numeric	1	0		None	None	12	Right	Nominal	Input
20	cancelled_lo...	Numeric	1	0		None	None	12	Right	Nominal	Input
21	received_loan	Numeric	1	0		None	None	12	Right	Nominal	Input
22	rejected_loan	Numeric	1	0		None	None	12	Right	Nominal	Input
23	left_for_two...	Numeric	1	0		None	None	12	Right	Nominal	Input
24	left_for_one...	Numeric	1	0		None	None	12	Right	Nominal	Input
25	rewards_ea...	Numeric	3	0		None	None	12	Right	Scale	Input
26	reward_rate	Numeric	17	15		None	None	16	Right	Scale	Input
27	is_referred	Numeric	1	0		None	None	12	Right	Nominal	Input

(Fig 5)

Further, descriptive statistics has been conducted “Analyze > Descriptive Statistics > Frequencies” and output received (Fig 6, 7 & 8)



(Fig 6)



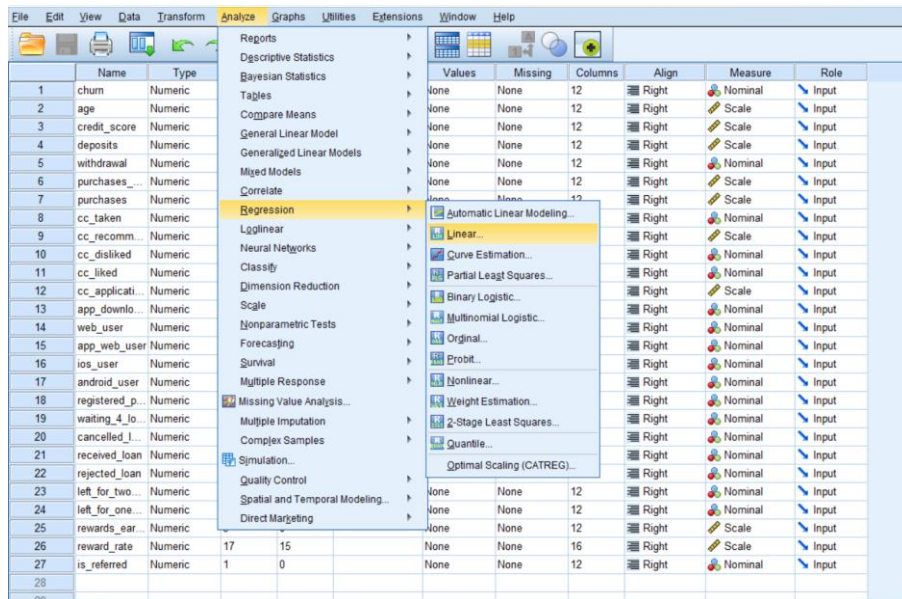
(Fig 7)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
age	17599	17	91	32.14	9.434
deposits	17599	0	65	4.48	10.482
withdrawal	17599	0	29	.40	1.209
app_downloaded	17599	0	1	1.00	.020
ios_user	17599	0	1	.41	.493
Valid N (listwise)	17599				

(Fig 8)

4.3 Variable selection

In this step, the SPSS steps used include “Analyze > Correlate > Bivariate” to evaluate the relationship between variables and understand correlation at 10% significance level (Fig 9). Correlations has been conducted suing Analyse>Correlate>Bivariate options (Fig 10 & 11).



(Fig 12)

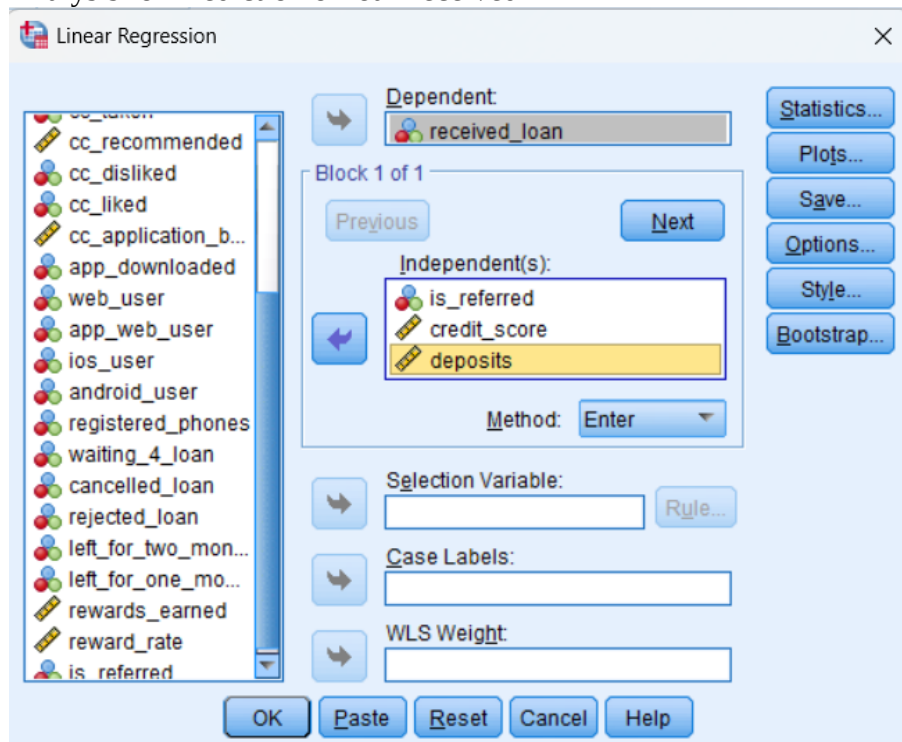
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REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT received_loan
  /METHOD=ENTER credit_score deposits is_referred.

```

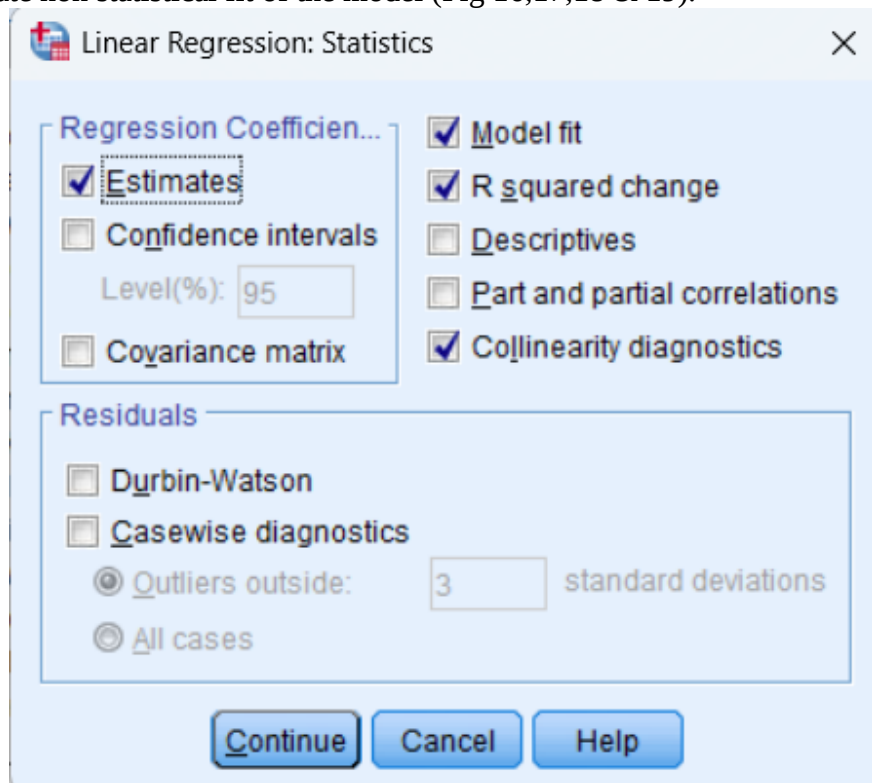
(Fig 13)

Regression Analysis for Prediction of loan received



(Fig 14)

Collinearity statistics have been generated for each of the regression model as it ensures prevention of misleading coefficients, avoid inflated standards of errors and overall support model stability. Thus, the study has used “Statistics” option in linear regression process and adopted for “Collinearity Diagnostics” and “R squared change” for better insights and identify whether two or more variables share high proportions (>0.9) on the dimension which would indicate non statistical fit of the model (Fig 16,17,18 & 19).



(Fig 15)

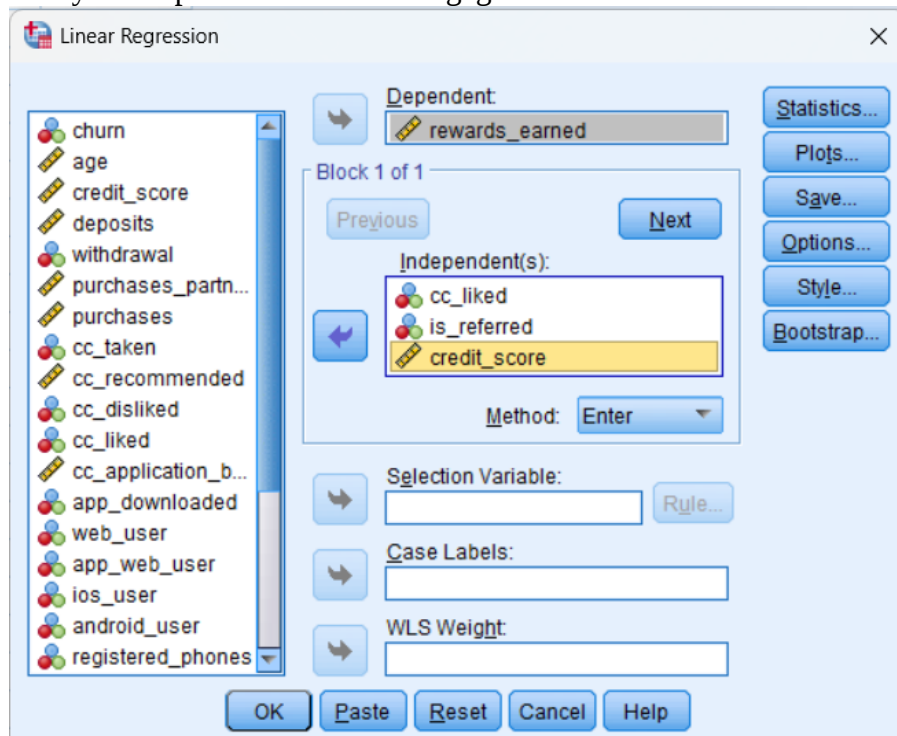
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.098 ^a	.010	.009	.145

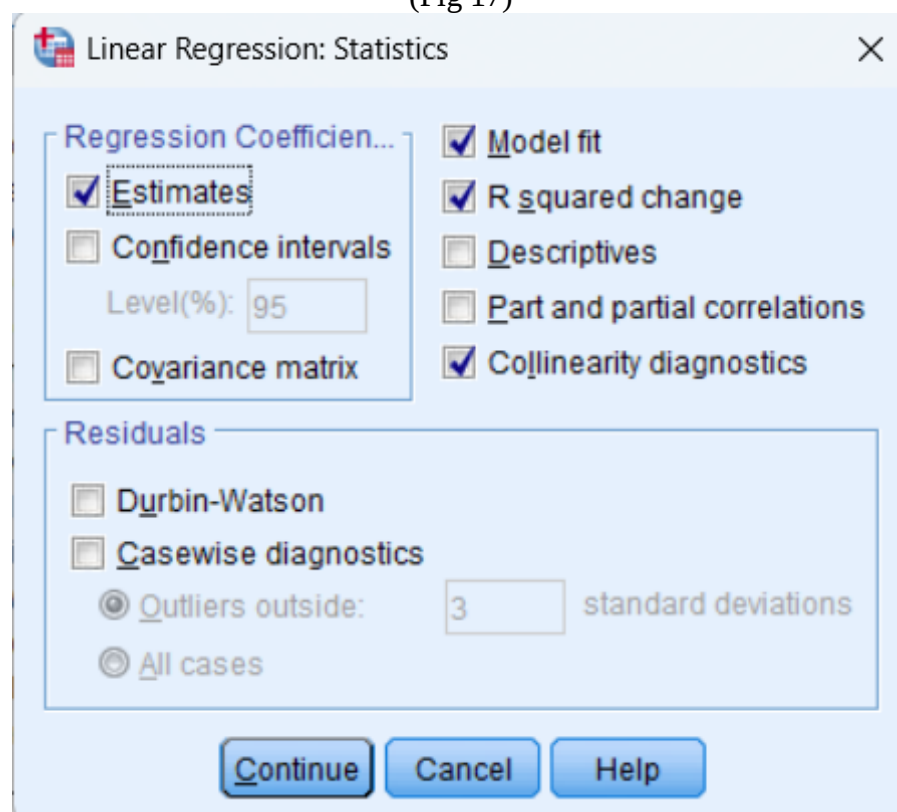
a. Predictors: (Constant), is_referred, credit_score, deposits

(Fig 16)

Regression Analysis for prediction of ESG engagement rewards.



(Fig 17)



(Fig 18)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.168 ^a	.028	.028	21.387

a. Predictors: (Constant), cc_liked, is_referred, credit_score

(Fig 19)

References

Statista (2024) *Ireland: fintech revenue 2017-2028* | Statista, Statista. Available at: <https://www.statista.com/forecasts/1475442/fintech-revenue-in-ireland-forecast>.

Varma, P., Nijjer, S., Sood, K., Grima, S. and Rupeika-Apoga, R. (2022) ‘Thematic Analysis of Financial Technology (Fintech) Influence on the Banking Industry’, *Risks*, 10(10), p. 186. Available at: <https://doi.org/10.3390/risks10100186>.