National College of Ireland

Configuration Manual

MSc Research Project
MSc FinTech

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School of Computing
National College of Ireland

Supervisor: Faithful Onwuegbuche & Noel Cosgrave

National College of Ireland

MSc Project Submission Sheet

School of Computing

Student Name:	Apurva Kokane
Student ID:	23172894
Programme:	MSc in FinTech **Year:** 2023-24
Module:	Practicum
Lecturer:	Faithful Onwuegbuche & Noel Cosgrave
Submission Due Date:	12 August 24
Project Title:	The Driving Forces Behind the Shift to Cashless Transactions: Their Impact on the Economic Efficiency, Security, and Resilience
Word Count:	894 **Page Count:** 12

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.
ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

Signature: ……

Date: ……

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST

Attach a completed copy of this sheet to each project (including multiple copies)	□
Attach a Moodle submission receipt of the online project submission, to each project (including multiple copies).	□
You must ensure that you retain a HARD COPY of the project, both for your own reference and in case a project is lost or mislaid. It is not sufficient to keep a copy on computer.	□

Assignments that are submitted to the Programme Coordinator Office must be placed into the assignment box located outside the office.

Office Use Only	
Signature:	
Date:	
Penalty Applied (if applicable):	

Configuration Manual

Apurva Kokane
Student ID: 2371284

1 Introduction

This configuration manual's objective is to provide all the instructions and details needed to develop the research project titled **"The driving force behind the shift to Cashless Transactions: Their Impact on Economic Efficiency, Security, and Resilience."** To create and assess the data in a similar as well as duplicate the steps to achieve the results to prove the validity.

2 Hardware Requirements

The following setups were used to carry out the project:

2.1 Local Machine/ Laptop

MacBook Pro 13-inch, 2019, macOS Sonoma
Processor: 1.4 GHz Quad-Core Intel Core i5
Graphics : Intel Iris Plus Graphics 645, 1536 MB
Memory: 8 GB LPDDR3, 2133 MHz
Display: 2560 x 1600 Retina

Hardware Overview:

Model Name:	MacBook Pro
Model Identifier:	MacBookPro15,4
Processor Name:	Quad-Core Intel Core i5
Processor Speed:	1.4 GHz
Number of Processors:	1
Total Number of Cores:	4
L2 Cache (per Core):	256 KB
L3 Cache:	6 MB
Hyper-Threading Technology:	Enabled
Memory:	8 GB
System Firmware Version:	2022.100.22.0.0 (iBridge: 21.16.5077.0.0,0)
OS Loader Version:	580~2215
Serial Number (system):	C02Z8APGL40Y
Hardware UUID:	7CD84621-4276-5270-9571-35F91A74604E
Provisioning UDID:	7CD84621-4276-5270-9571-35F91A74604E
Activation Lock Status:	Enabled

Figure 1: Hardware Overview of Local Machine.

3 Data Collection Using Google Forms

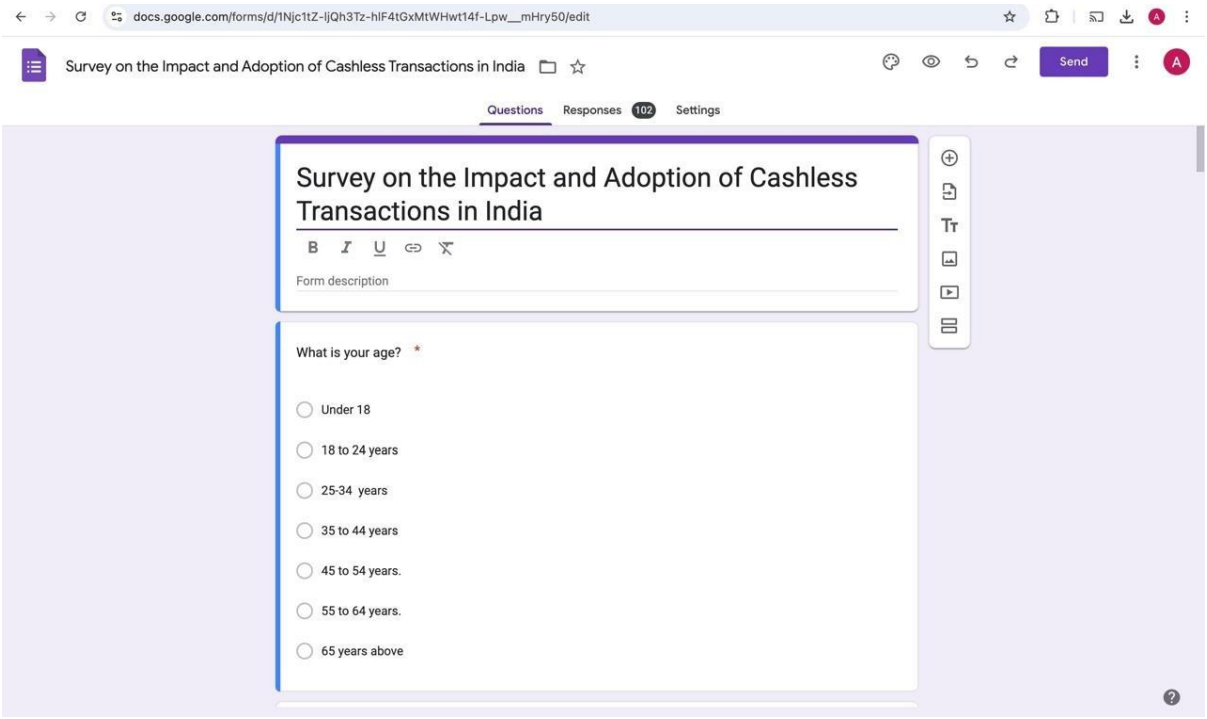


Figure 2. Google Forms

3.1 Responses Collected and Stored

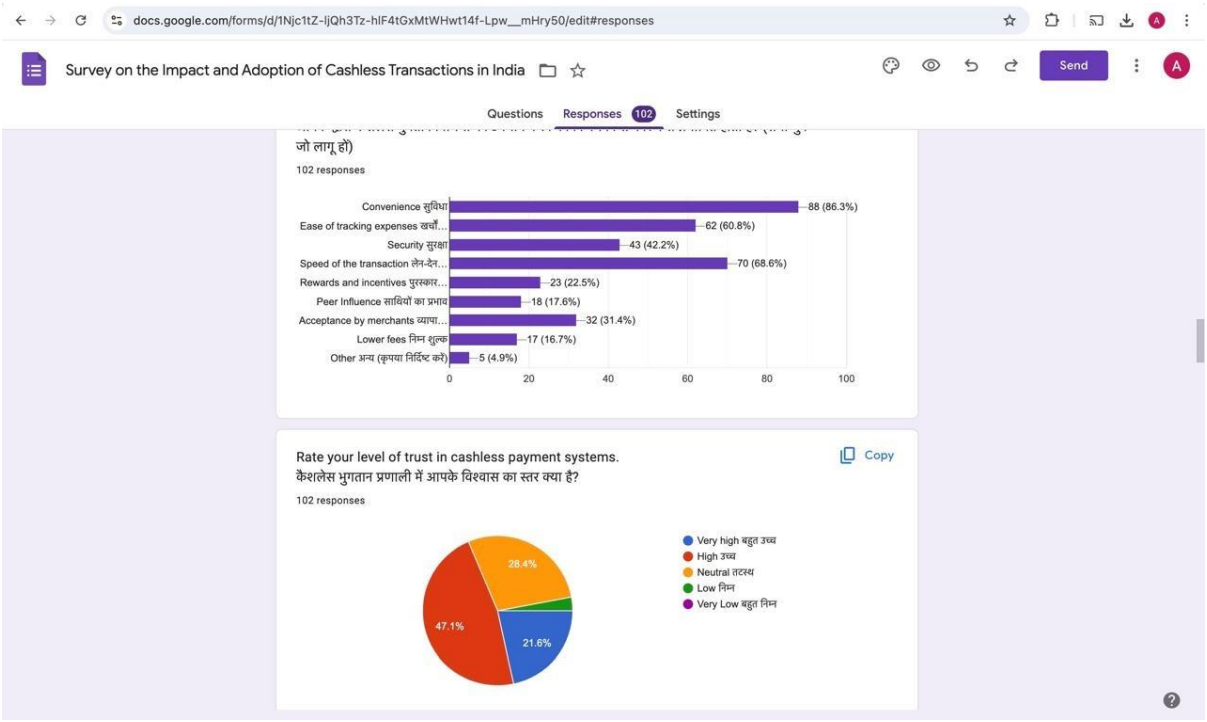


Figure 3. Responses Section on Google Forms

Source: Survey Data, 2024

3.2 Imported the responses in Microsoft Excel

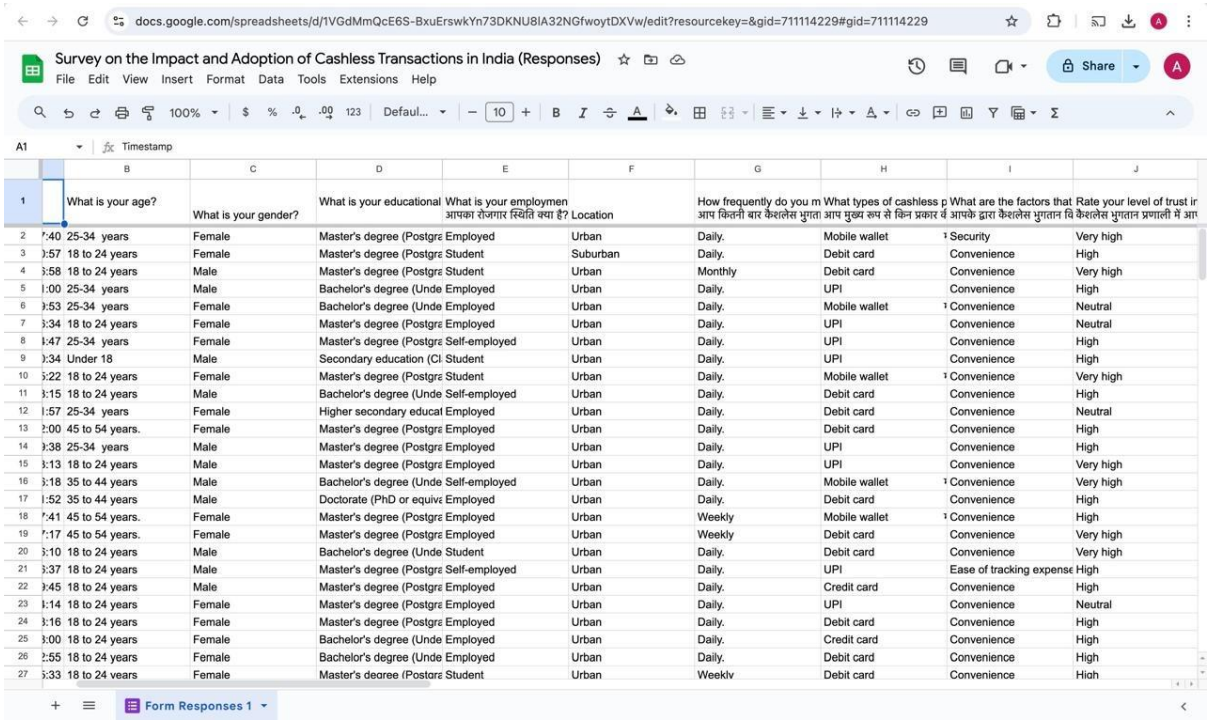


Figure 4. Primary Data
Source: Survey Data, 2024

3.3 Filled the Data in SPSS

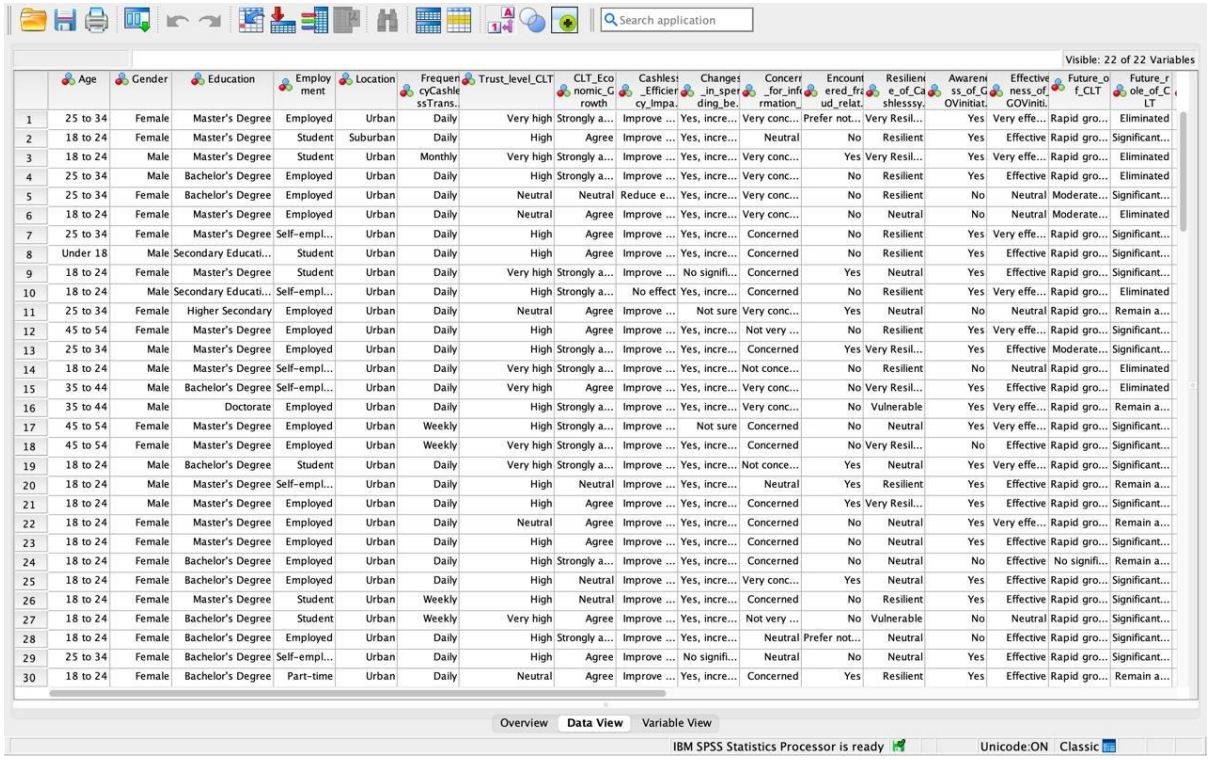
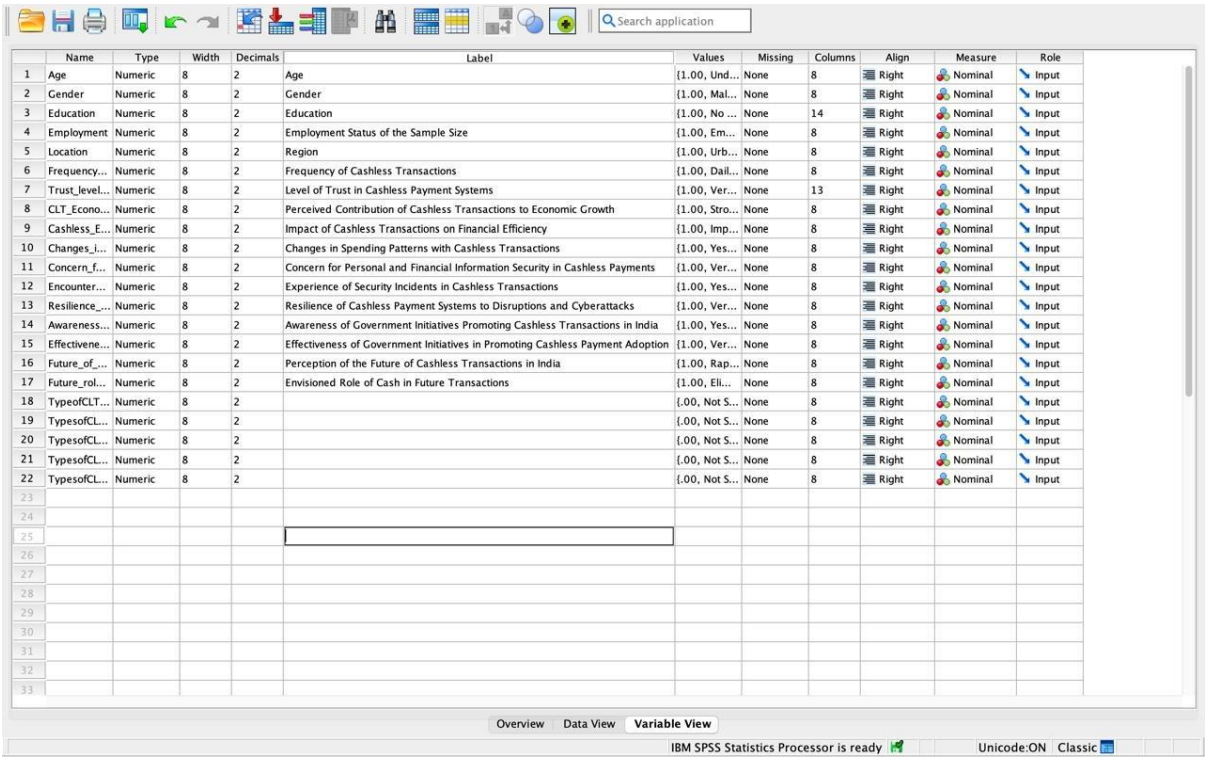


Figure 5. Data View
Source: Survey Data, (2024)



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	Age	Numeric	8	2	Age	{1.00, Und...	None	8	Right	Nominal	Input
2	Gender	Numeric	8	2	Gender	{1.00, Mal...	None	8	Right	Nominal	Input
3	Education	Numeric	8	2	Education	{1.00, No ...	None	14	Right	Nominal	Input
4	Employment	Numeric	8	2	Employment Status of the Sample Size	{1.00, Em...	None	8	Right	Nominal	Input
5	Location	Numeric	8	2	Region	{1.00, Urb...	None	8	Right	Nominal	Input
6	Frequency...	Numeric	8	2	Frequency of Cashless Transactions	{1.00, Dail...	None	8	Right	Nominal	Input
7	Trust_level...	Numeric	8	2	Level of Trust in Cashless Payment Systems	{1.00, Ver...	None	13	Right	Nominal	Input
8	CLT_Econo...	Numeric	8	2	Perceived Contribution of Cashless Transactions to Economic Growth	{1.00, Stro...	None	8	Right	Nominal	Input
9	Cashless_E...	Numeric	8	2	Impact of Cashless Transactions on Financial Efficiency	{1.00, Imp...	None	8	Right	Nominal	Input
10	Changes_i...	Numeric	8	2	Changes in Spending Patterns with Cashless Transactions	{1.00, Yes...	None	8	Right	Nominal	Input
11	Concern_f...	Numeric	8	2	Concern for Personal and Financial Information Security in Cashless Payments	{1.00, Ver...	None	8	Right	Nominal	Input
12	Encounter...	Numeric	8	2	Experience of Security Incidents in Cashless Transactions	{1.00, Yes...	None	8	Right	Nominal	Input
13	Resilience_...	Numeric	8	2	Resilience of Cashless Payment Systems to Disruptions and Cyberattacks	{1.00, Ver...	None	8	Right	Nominal	Input
14	Awareness...	Numeric	8	2	Awareness of Government Initiatives Promoting Cashless Transactions in India	{1.00, Yes...	None	8	Right	Nominal	Input
15	Effectivene...	Numeric	8	2	Effectiveness of Government Initiatives in Promoting Cashless Payment Adoption	{1.00, Ver...	None	8	Right	Nominal	Input
16	Future_of_...	Numeric	8	2	Perception of the Future of Cashless Transactions in India	{1.00, Rap...	None	8	Right	Nominal	Input
17	Future_rol...	Numeric	8	2	Envisioned Role of Cash in Future Transactions	{1.00, Eli...	None	8	Right	Nominal	Input
18	TypeofCLT...	Numeric	8	2		{.00, Not S...	None	8	Right	Nominal	Input
19	TypesofCL...	Numeric	8	2		{.00, Not S...	None	8	Right	Nominal	Input
20	TypesofCL...	Numeric	8	2		{.00, Not S...	None	8	Right	Nominal	Input
21	TypesofCL...	Numeric	8	2		{.00, Not S...	None	8	Right	Nominal	Input
22	TypesofCL...	Numeric	8	2		{.00, Not S...	None	8	Right	Nominal	Input

Figure 6. Variable View
Source: Survey Data (2024), analyzed using IBM SPSS

3.4 Analysis and Results

The data collected from the survey, stored in **Microsoft Excel**, was manually uploaded into **IBM SPSS** for statistical analysis. This section outlines the key steps taken in the analysis phase, which included descriptive statistics, frequency tables, and the generation of bar charts using Google Colab for visualization.

Descriptive Statistics

Descriptive statistics were calculated to summarize the demographic and behavioral characteristics of the respondents. This included:
Mean: Central tendency of the responses.
Standard Deviation: Variability of the responses.
Skewness: Measure of symmetry in the data distribution.
Kurtosis: Indication of how peaked or flat the data distribution is.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Age	102	1.00	6.00	2.7059	1.12213	1.507	.239	1.635	.474
Gender	102	1.00	2.00	1.4902	.50237	.040	.239	-2.039	.474
Education	102	3.00	8.00	5.2941	.81554	.189	.239	2.430	.474
Employment Status of the Sample Size	102	1.00	6.00	2.5882	1.78194	.495	.239	-1.556	.474
Region	102	1.00	3.00	1.1765	.40813	2.159	.239	3.914	.474
Frequency of Cashless Transactions	102	1.00	4.00	1.4510	.90791	1.970	.239	2.643	.474
Level of Trust in Cashless Payment Systems	102	1.00	4.00	2.1275	.77933	.156	.239	-.549	.474
Perceived Contribution of Cashless Transactions to Economic Growth	102	1.00	4.00	1.9412	.80621	.455	.239	-.450	.474
Impact of Cashless Transactions on Financial Efficiency	102	1.00	3.00	1.1863	.43895	2.324	.239	4.924	.474
Changes in Spending Patterns with Cashless Transactions	102	1.00	4.00	1.4020	.95710	2.083	.239	2.643	.474
Experience of Security Incidents in Cashless Transactions	102	1.00	3.00	1.7843	.51947	-.241	.239	-.019	.474
Concern for Personal and Financial Information Security in Cashless Payments	102	1.00	5.00	2.2549	1.00184	.731	.239	.474	.474
Resilience of Cashless Payment Systems to Disruptions and Cyberattacks	102	1.00	4.00	2.4020	.85896	-.024	.239	-.650	.474
Awareness of Government Initiatives Promoting Cashless Transactions in India	102	1.00	2.00	1.2451	.43227	1.203	.239	-.564	.474
Effectiveness of Government Initiatives in Promoting Cashless Payment Adoption	102	1.00	5.00	1.9902	.69646	.731	.239	2.354	.474
Perception of the Future of Cashless Transactions in India	102	1.00	4.00	1.2941	.53747	2.059	.239	5.577	.474
Envisioned Role of Cash in Future Transactions	102	1.00	4.00	2.0784	.59180	.274	.239	.757	.474
Valid N (listwise)	102								

Figure 7. Descriptive Statistics

Source: Survey Data (2024), analyzed using IBM SPSS

Frequency Tables

Frequency tables were generated to show the distribution of categorical variables, such as age groups, gender, education levels, and employment status. This provided a clear overview of how the population was structured demographically.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	52	51.0	51.0	51.0
	Female	50	49.0	49.0	100.0
	Total	102	100.0	100.0	

Education

	Valid						
	Secondary Education	Higher Secondary	Bachelor's Degree	Master's Degree	Doctorate	Other	Total
Frequency	3	6	57	32	2	2	102
Percent	2.9	5.9	55.9	31.4	2.0	2.0	100.0
Valid Percent	2.9	5.9	55.9	31.4	2.0	2.0	100.0
Cumulative Percent	2.9	8.8	64.7	96.1	98.0	100.0	

Employment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed	48	47.1	47.1	47.1
	Self-employed	13	12.7	12.7	59.8
	Part-time	6	5.9	5.9	65.7
	Unemployed	4	3.9	3.9	69.6
	Student	30	29.4	29.4	99.0
	Retired	1	1.0	1.0	100.0
	Total	102	100.0	100.0	

Frequencies

Fig 8. Frequency Tables

Source: Survey Data (2024), analysed using IBM SPSS

Cross Tabulation Analysis

The **cross-tabulation** analysis depicted a significant relationship between participants' **awareness of government initiatives** and their **perceived effectiveness** in promoting cashless transactions. Those who were aware of the initiatives were more likely to view them as effective which was then supported by the Chi-Square test results (p-value < 0.001).

Awareness of Government Initiatives Promoting Cashless Transactions in India * Effectiveness of Government Initiatives in Promoting Cashless Payment Adoption Crosstabulation

Count

		Effectiveness of Government Initiatives in Promoting Cashless Payment Adoption				
		Very effective	Effective	Neutral	Very ineffective	Total
Awareness of Government Initiatives Promoting Cashless Transactions in India	Yes	18	52	6	1	77
	No	4	9	12	0	25
Total		22	61	18	1	102

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.228[a]	3	<.001
Likelihood Ratio	18.781	3	<.001
Linear-by-Linear Association	7.426	1	.006
N of Valid Cases	102		

a. 3 cells (37.5%) have expected count less than 5. The minimum expected count is .25.

Figure 9: Cross Tabulation Analysis & Chi Square Tests
Source: Survey Data (2024), analysed using IBM SPSS

3.5 Google Colab

Google Colab was used to generate bar charts. The survey data's multiple-choice questions were coded for visualization of the survey data. The key factors such as the most popular payment methods, advantages, challenges of cashless transactions, and concerns around privacy and security were represented.

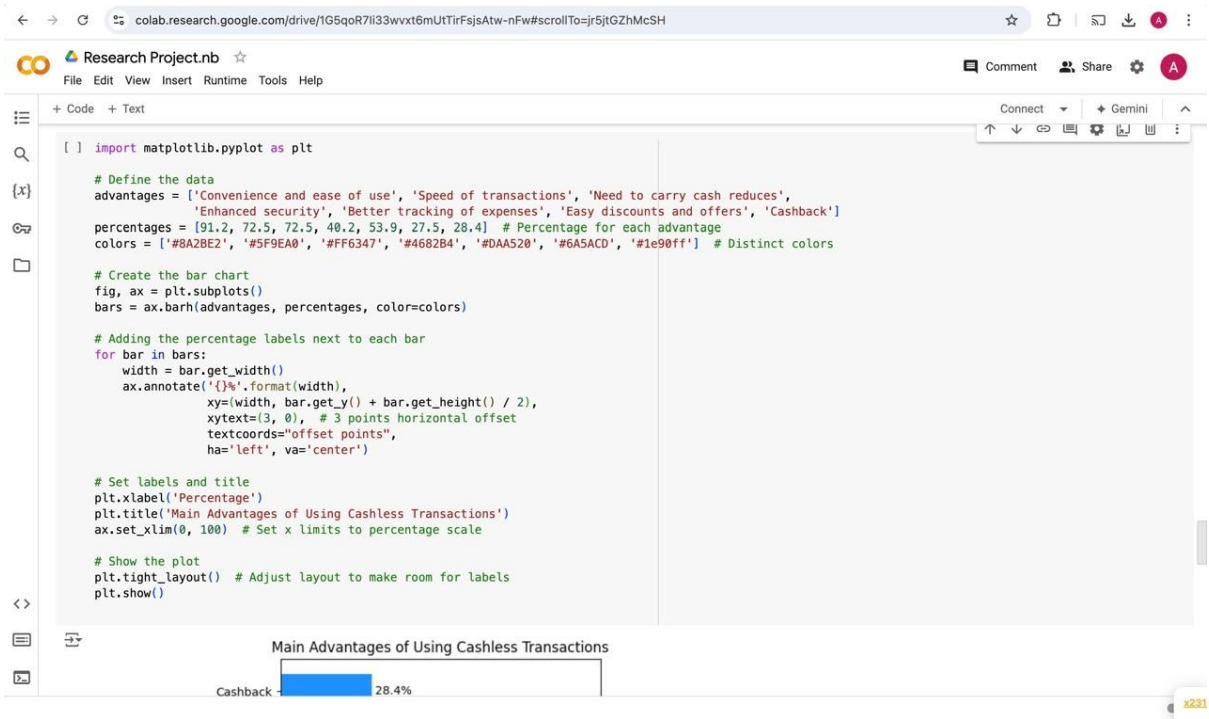


Figure 10. Google Colab Code

Source: Survey Data (2024), analyzed using Google Colab

3.6 Output on Google Colab

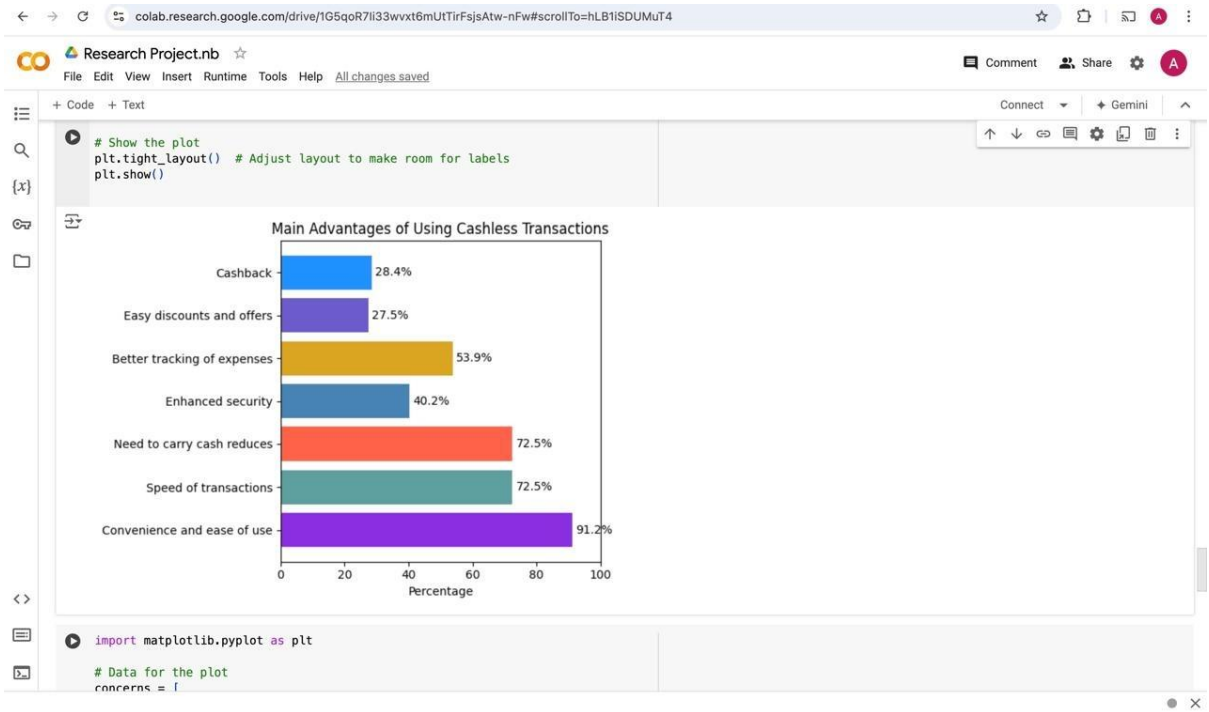


Figure 11. Bar Chart

Source: Survey Data (2024), analyzed using Google Colab

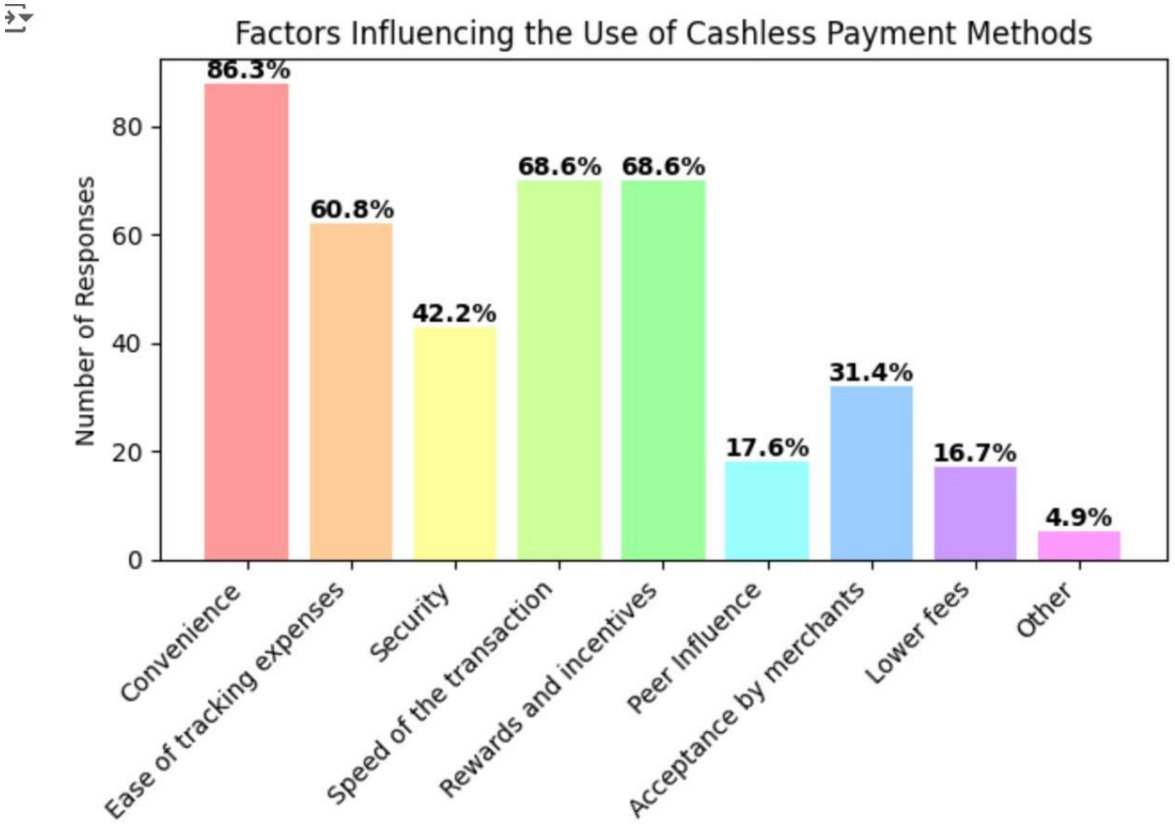


Figure 12. Bar Chart
Source: Survey Data (2024), analyzed using Google Colab

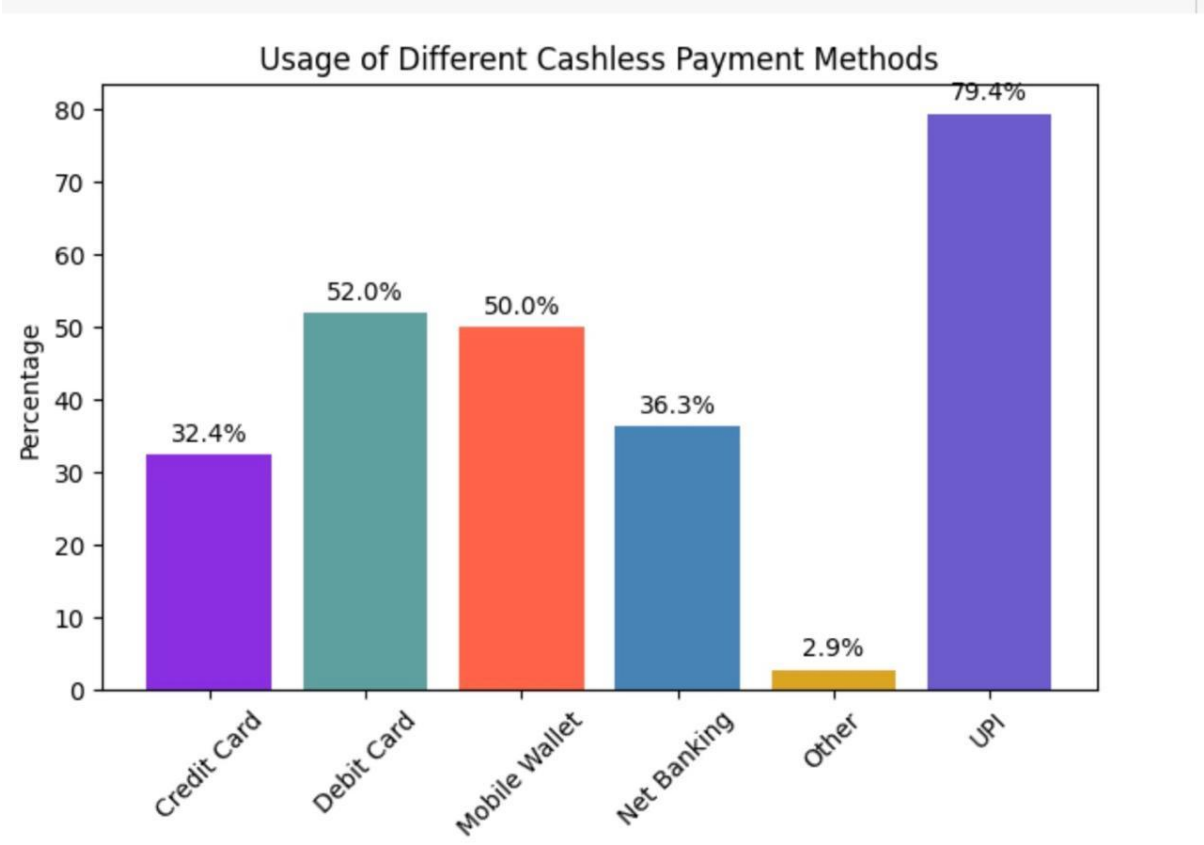


Figure 13. Bar Chart

Source: Survey Data (2024), analyzed using Google Colab

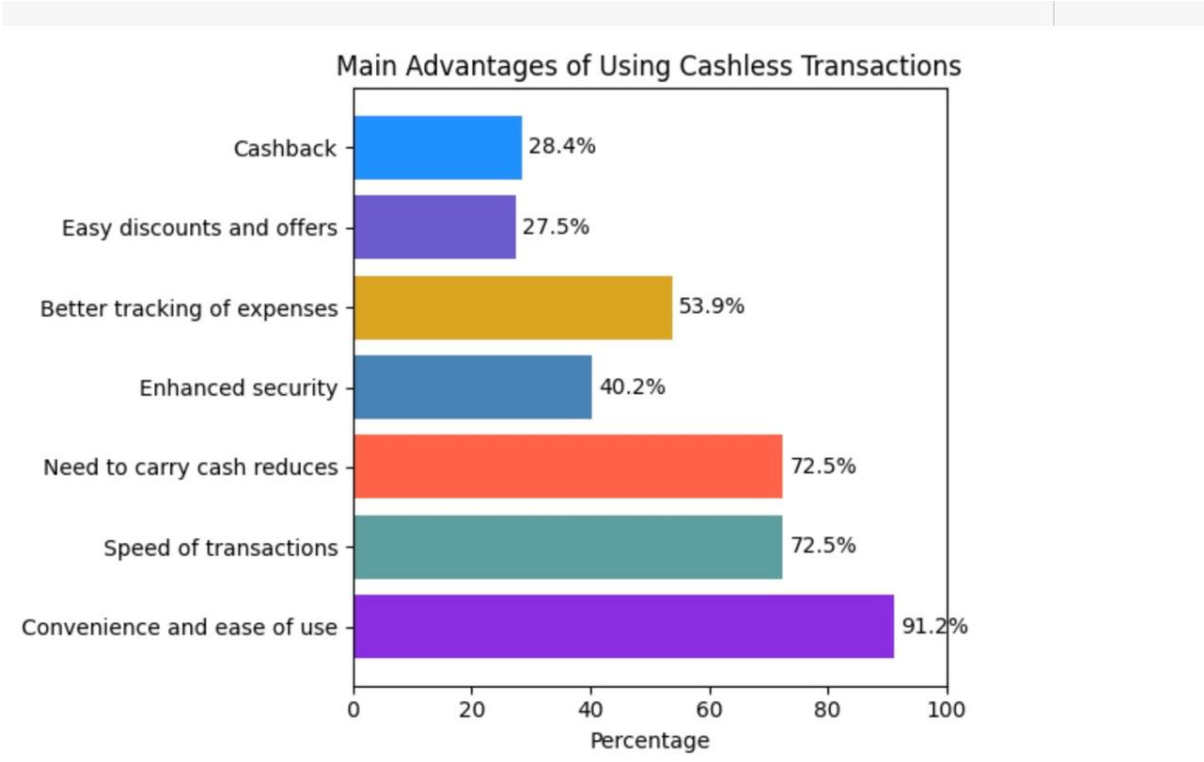


Figure 14. Bar Chart

Source: Survey Data (2024), analyzed using Google Colab

The Google Colab analysis generated bar charts that displayed key findings from the survey data. The results showed that UPI (Unified Payment Interface) was the most popular payment method (used by 79.4% of respondents), followed by debit cards and mobile wallets. Additionally, convenience (91.2%) and transaction speed (72.5%) were considered the top advantages of cashless transactions, while privacy concerns (74.5%) and security issues (48%) were found to be the main challenges.

References

Patten, M.L. and Newhart, M., 2017. *Understanding research methods*. 10th ed. New York: Routledge. Available at: https://doi.org/10.4324/9781315213033

Raj, V., Amilan, S., and Aparna, K., 2023. Developing and validating a cashless transaction adoption model (CTAM). *Journal of Science and Technology Policy Management*, [online] Available at: https://www.emerald.com/insight/content/doi/10.1108/JSTPM-03-2023-0037/full/html