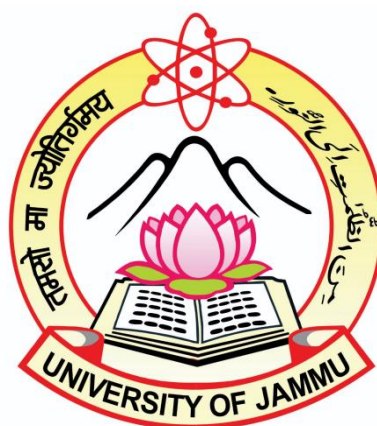# Analysing the Economic Contribution of street vendors to the local economy of Jammu City using IBM SPSS

MAJOR RESEARCH PROJECT

SEMESTER 2

FOUR-YEAR UNDERGRADUATE PROGRAM

(DESIGN YOUR DEGREE)

SUBMITTED TO

UNIVERSITY OF JAMMU, JAMMU

SUBMITTED BY THE GROUP: **PARTH**

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SUBMITTED_____ August **2024**

CERTIFICATE

The work embodied in this report entitled "Analysing the Economic Contribution of street vendors to the local economy of Jammu City using IBM SPSS" has been done by Team PARTH including group members- Adil Mahajan, Pawandeep Singh, Raghav Sharma and Tavishi Amla as a Major Project for Semester II of Four-Year Undergraduate Programme (Design Your Degree). This work was carried out under the guidance of Mentors Dr. Sunil Kumar Bhougal, Dr. Anil Gupta and Dr. Shallu Sehgal for the partial fulfilment of the award of the Design Your Degree, Four Year Undergraduate Programme, University of Jammu, Jammu & Kashmir. This project report has not been submitted anywhere else.

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ACKNOWLEDGMENT

ABSTRACT

This report presents a detailed statistical analysis of street vendors in Jammu City, focusing on their socio-economic contributions and challenges. The study uses primary data collected from 50 street vendors, capturing key demographic details, income patterns, and spending behaviour.

Data analysis was conducted using IBM SPSS, applying various statistical techniques such as the Mann-Whitney U Test, Chi-square tests, multiple regression, and correlation analysis. Descriptive statistics were used to summarize the demographic characteristics, while regression models tested the relationships between income and key variables, including years of experience, family size, education level, and social obligations.

The results revealed that traditional factors like age, marital status, and education did not have significant impacts on income. However, social obligations, such as participation in community and religious events, showed a positive correlation with income, indicating that community engagement plays a vital role in street vendors' economic success. In contrast, variables such as family size and education level showed minimal influence on spending patterns and income, challenging traditional assumptions about their significance.

This analysis underscores the importance of social capital in the street vending sector, suggesting that economic well-being is more strongly linked to community relationships and social involvement than individual demographic factors. The findings provide actionable insights for policymakers and urban planners aiming to improve the livelihood of street vendors through targeted social and economic interventions. The study concludes with recommendations for further research, including expanding the sample size and examining the effects of market dynamics, competition, and access to credit.

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CHAPTER 1

INTRODUCTION

Importance of Hypothesis Testing

Hypothesis testing is a critical tool in statistics that enables researchers to make inferences about populations based on sample data. It helps in determining whether the observed data significantly deviates from a given assumption or hypothesis, such as the relationship between variables or the effects of certain factors. In research, hypothesis testing provides a structured framework to validate claims with quantifiable evidence, reducing the risks of errors. This methodology is essential for determining whether findings are generalizable to a larger population, which is particularly relevant when studying economic contributions of street vendors in Jammu City, as it adds rigor to the analysis of their income and spending behaviours.

Steps in Hypothesis Testing

The process of hypothesis testing follows these key steps:

1. **Formulate the Null and Alternative Hypotheses**: The null hypothesis (H_0) usually states that there is no effect or difference, while the alternative hypothesis (H_1) suggests the presence of an effect or difference.

2. **Select a Significance Level (α)**: Commonly, a 5% significance level is chosen, meaning there is a 5% chance of rejecting the null hypothesis when it is actually true.

3. **Determine the Test Statistic**: Choose a statistical test based on the type of data and distribution (e.g., t-test, z-test, chi-square test, Mann-Whitney U test, etc.).

4. **Compute the Test Statistic:** Based on the test you selected, compute the test statistic (e.g., t-value, z-value, U-value) using your sample data.

5. **Determine the p-value or critical value:** The p-value is the probability of obtaining test results at least as extreme as the observed data, assuming the null hypothesis is true. Alternatively, compare the test statistic to a critical value from statistical tables (based on the significance level and degrees of freedom).

6. **Make a Decision**: If the p-value is less than the significance level, the null hypothesis is rejected in favour of the alternative hypothesis. Otherwise, the null hypothesis is not rejected.

6

Data Requirements for Testing

The selection of statistical tests depends on the distribution and nature of the data. There are two main types of tests: parametric and non-parametric.

1. Parametric Tests

Parametric tests assume that the data follows a normal distribution and are often more powerful when these assumptions are met. The following parametric tests were used in the analysis:

Multiple Regression: This test is used to examine the relationship between one dependent variable and two or more independent variables. In this study, multiple regression was employed to explore how variables such as years of experience, family size, education level, and spending on social obligations influenced monthly income. The goal was to determine which of these factors had the strongest effect on income, providing insights into the drivers of economic success for street vendors.

Independent Samples T-Test: This test compares the means of two independent groups to determine if there is a statistically significant difference between them. In this study, the T-test was used to compare the log-transformed income between single and married street vendors. The income data was first transformed using the natural logarithm to normalize its distribution, ensuring the assumptions of the test were met. The results helped to assess whether marital status had a significant impact on income.

Ordinal Logistic Regression (PLUM Regression): Ordinal logistic regression, also known as PLUM regression, is used when the dependent variable is ordinal (i.e., ordered categories) and the independent variables are either categorical or continuous. In the report, this technique was applied to test the relationship between education level (independent variable) and log income (dependent variable). Despite assumptions that higher education would lead to higher income, the analysis revealed no significant relationship between these variables, indicating that other factors, such as practical experience and social connections, may be more influential for street vendors.

2. Non-Parametric Tests

Non-parametric tests do not assume that the data follows a normal distribution, making them useful for small samples or data that doesn't meet parametric assumptions. The following non-parametric tests were used:

Mann-Whitney U Test: This test is the non-parametric alternative to the independent samples T-test and is used to compare two independent groups when the data is not normally distributed. In the study, the Mann-Whitney U Test was used to compare spending habits between small and large families and to examine the differences in income between vendors selling food items and those selling non-food items. Since the data showed non-normality, this test provided a more reliable way to detect differences between these groups.

Chi-Square Test: The Chi-Square Test is a non-parametric test used to examine the relationship between categorical variables. In this study, it was used to analyze the association between marital status and type of goods sold (food vs. non-food items) with income. The test helped identify whether these categorical variables were statistically linked to income without the need for normally distributed data.

Correlation Analysis: Spearman's Rho Correlation: This is a non-parametric measure of the strength and direction of association between two ranked variables. It is used when the data does not meet the assumptions of normality required for Pearson's correlation. In this study, Spearman's rho correlation was applied to examine the relationship between log income and log work hours. The correlation analysis showed a weak and non-significant relationship, indicating that simply working more hours did not lead to a significant increase in income. This suggested that other factors, such as business efficiency or market demand, may play a more critical role in determining income.

CHAPTER 2

CASE STUDY

Street food vending is the practice of selling food directly to consumers in public spaces. This can be done through various channels, including:

Street Vending: This is the most common form of food vending in Jammu City, involving the sale of food from carts, stalls, or trucks in public places.

Food Markets: These are markets where vendors sell their food directly to consumers.

Food Stalls in Shopping Centres: These stalls sell a variety of food items, offering consumers the convenience of shopping and eating in one place.

Street food vending is a popular practice in Jammu City, providing fresh and affordable food directly to consumers without any intermediaries involved. One of the most common forms of food vending is street vending. It involves selling food from carts, stalls, or trucks in public places, such as on the roadside or in a busy market area. Street vendors offer a wide range of food items at affordable prices, making it a convenient option for people on the go. In addition to street vending, food markets are also a common channel for food vending. These markets provide a platform for vendors to sell their food directly to consumers, eliminating the need for middlemen. This ensures that the food is fresh, locally sourced, and of high quality. Food stalls in shopping centres are another common channel for food vending. These stalls offer a variety of food items and are a convenient option for consumers who prefer to do all their shopping in one place. This study aims to investigate the impact of these street food vendors on the local economy of Jammu City. The respondents for this study will be the street food vendors themselves, providing valuable insights into the economic implications of their trade. Most street vendors provide the main source of income for their households, bringing food to their families and paying school fees for their children.

These informal workers have strong linkages to the formal economy. Over half of the interviewed workers said they source the goods they sell from formal enterprises. Many customers work in formal jobs. Many vendors try to keep the streets clean and safe for their customers and provide them with friendly personal service. Street vendors create jobs, not only for themselves but for porters, security guards, transport operators, storage providers, and others. Many generate revenue for cities through payments for licenses and permits, fees and fines, and certain kinds of taxes.[1] Street vending significantly contributes to economic

development in a multitude of ways. It stimulates local economies as street vendors purchase goods, supplies, and services from local markets, thereby fostering economic activity and bolstering local businesses. Additionally, street vending promotes entrepreneurship by providing individuals with the opportunity to start and manage their own businesses at a low startup cost. This not only enhances the vitality and vibrancy of urban spaces, attracting both tourists and locals, but also creates a crucial source of employment and income for many individuals and households. Street vending doesn't just create jobs for vendors, but also for others involved in the supply chain, such as suppliers, transport operators, and security guards. For many vendors, street vending is their primary source of income, which supports their families and contributes to their household income. In the absence of formal social security systems, the income generated from street vending can provide a much-needed safety net for individuals and families.[2]

2.1 Objective:

- To analyse the socio-economic background of street vendors.

- To assess the consumption expenditure of street vendors.

- To investigate the contribution of street vendors to the local economy in terms of local job creation, sales and turn over.

- To identify and analyse the challenges encountered by street vendors

2.2 Methodology

Introduction

This chapter covers the research design, study area, sample size, sampling unit, data collection method, data collection, data presentation and ethical considerations.

Research Design

The cross-sectional survey design is adopted for the study. It is used because it examines a group of individuals at a specific point in time. This approach is useful for studying patterns and in-depth analysis of characteristics in a population.

Study Area

The study is conducted in four urban areas of Jammu City which comprises of Canal road, Gandhi Nagar, Nai Basti and Old city Jammu (Parade, Moti bazar, Patel Bazar, Jain Bazar, Sabzi Mandi & Purani Mandi).

Sample Size

A sample of 50 street vendors is taken in account from the chosen study area. After, consultation with our mentors, the decision of 50 samples and 5 places were identified for the study.

Sampling Unit

The sampling unit for this study is defined as the street vendors who sells food and beverages.

Data Collection method

Primary data is collected using interview schedule method. The interview schedule was approved by the mentors.

Data collection

An authority letter was issued by University of Jammu, to collect data, conduct interviews and perform other relevant activities necessary for the successful completion of the survey.

Interview schedule is divided into 5 sections which are –

❖ Section 1- This section is based on the socio-economic background of the respondent.

❖ Section 2- This section is on the economy of Street vendors investigating their consumption expenditure.

❖ Section 3- This section investigates the contribution to job creation by street vendors locally. This exploration uncovers the role vendors play in providing employment opportunities within the community, thereby contributing to the local economy.

❖ Section 4- It is an examination of sales and turnover reveals the preference of vendors to different payment methods. Understanding supply-demand issue and its effect, also learning the impact of competition on street vendors.

❖ Section 5- Final section reveals the challenges faced by Street vendors and also through light on awareness their level.

Data Analysis and interpretation

The data collected from the interview schedule is sorted, tabulated and interpreted. It is also analysed and organised to draw desired conclusions. Simple average method is used to draw inferences

Ethical Considerations

SIIEDC of University of Jammu has briefed on the ethical considerations and guidelines for conducting the survey. Assured respondents that their responses will be kept confidential and their participation is voluntary.

2.3 Hypothesis Developed:

Based on the objectives, the hypotheses are formulated as follows:

Hypothesis 1:

- **Null Hypothesis (H₀)**: There is no significant difference in log income between single and married street vendors ($\mu_1 = \mu_2$).

- **Alternative Hypothesis (H₁)**: There is a significant difference in log income between single and married street vendors ($\mu_1 \neq \mu_2$).

Hypothesis 2:

- **Null Hypothesis (H₀)**: There is no significant difference in spending habits between small and large families ($\mu_1 = \mu_2$).

- **Alternative Hypothesis (H₁)**: There is a significant difference in spending habits between small and large families ($\mu_1 \neq \mu_2$).

Hypothesis 3:

- **Null Hypothesis (H₀)**: There is no significant relationship between education level and log income ($\beta = 0$).

- **Alternative Hypothesis (H₁)**: There is a significant relationship between education level and log income ($\beta \neq 0$).

Hypothesis 4:

- **Null Hypothesis (H₀)**: Possessing a ration card does not significantly influence monthly food expenditure ($\beta = 0$).

- **Alternative Hypothesis (H₁)**: Possessing a ration card significantly influences monthly food expenditure ($\beta \neq 0$).

Hypothesis 5:

- **Null Hypothesis (H₀)**: There is no significant difference in log income between vendors selling food items and those selling non-food items ($\mu_1 = \mu_2$).

- **Alternative Hypothesis (H₁)**: There is a significant difference in log income between vendors selling food items and those selling non-food items ($\mu_1 \neq \mu_2$).

Hypothesis 6:

- **Null Hypothesis (H₀)**: There is no significant correlation between log income and log work hours ($\rho = 0$).

- **Alternative Hypothesis (H₁)**: There is a significant correlation between log income and log work hours ($\rho \neq 0$).

Hypothesis 7:

- **Null Hypothesis (H₀)**: Spending on social obligations, age and years as street vendors do not affect log income.

- **Alternative Hypothesis (H₁)**: At least one of these factors (spending on social obligations, age, or years as street vendors) affects log income.

In the next chapter, we will explore the methodology, results, and interpretation of our study.

CHAPTER 3

METHODOLOGY

Introduction:

This chapter covers the research design, data description, data preparation and analysis.

Research Design:

The study utilized a descriptive and inferential statistical approach using IBM SPSS for data analysis. The primary goal was to explore relationships between demographic characteristics (e.g., age, education, marital status) and economic outcomes like income and spending habits. Hypotheses were tested to determine if social obligations and other community-related factors played a more significant role in determining economic well-being compared to individual demographic attributes.

Data Description:

Dataset

The dataset was collected from a sample of 50 street vendors in Jammu City, each providing responses on multiple socio-economic and demographic variables. The dataset contains 105 variables, including:

- **Demographic Variables**: Gender, age, marital status, education level, family size, and dependent members.

- **Economic Variables**: Monthly income, spending on various categories (e.g., housing, food, social obligations, personal care), and possession of a ration card.

- **Community-Related Variables**: Participation in social and community events, type of goods sold, and social obligations.

Each street vendor was surveyed on their socio-economic behaviours, monthly spending patterns, and participation in social events.

The dataset was structured such that each respondent's responses could be analysed using a mix of numerical and categorical data types.

Data Preparation:

The dataset was first cleaned and processed in SPSS to ensure the validity of the results. Steps included:

- **Handling Missing Data**: Missing responses in key variables were either imputed using the mean or excluded from the analysis if imputation was not feasible.

- **Categorization of Variables**: Continuous variables like age and income were categorized where necessary (e.g., age groups, income brackets) for easier interpretation.

-
  ```
  COMPUTE Log_income=LN(Averagemonthlyincomefromstreetvending).
  EXECUTE.
  COMPUTE Log_workhours=LN(Workhoursperday).
  EXECUTE.
  RECODE MartialStatus ('Single'='0') ('Married'='1').
  EXECUTE.
  RECODE Familymembers (0 thru 6=0) (7 thru 12=1) INTO fm.
  EXECUTE.
  RECODE MartialStatus RationCard ('Single'='0') ('Married'='1').
  ```

Analyses:

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Spendingonsocialobligationspermonth	.349	48	.000	.713	48	.000
Spendingonmobilepermonth	.316	48	.000	.560	48	.000
Spendingonentertainmentpermonth	.519	48	.000	.357	48	.000
Averagemonthlyincomefromstreetvending	.263	48	.000	.672	48	.000
Spendingonfoodpermonth	.210	48	.000	.894	48	.000
Workhoursperday	.182	48	.000	.924	48	.004
Age	.114	48	.151	.938	48	.013
Yearsasstreetvendor	.144	48	.014	.913	48	.002
MartialStatus	.382	48	.000	.627	48	.000
RationCard	.456	48	.000	.556	48	.000
Log_income	.197	48	.000	.894	48	.000
Log_workhours	.159	48	.004	.891	48	.000
fm	.495	48	.000	.476	48	.000

a. Lilliefors Significance Correction

Variable	Normal/Not Normal
Spending on social obligations per month	Not Normal
Spending on mobile per month	Not Normal
Spending on entertainment per month	Not Normal
Average monthly income from street vending	Not Normal
Spending on food per month	Not Normal
Work hours per day	Not Normal
Age	Normal
Years as street vendor	Not Normal
Marital Status	Not Normal
Ration Card	Not Normal
Log income	Not Normal
Log work hours	Not Normal
fm	Not Normal

Kolmogorov-Smirnov Test:

Purpose: To tests the null hypothesis that the data is normally distributed.

Statistic: Measures the maximum deviation between the observed cumulative distribution function and the expected cumulative distribution function of a normal distribution.

Significance (p-value): Indicates whether the deviation is statistically significant.

Shapiro-Wilk Test:

Purpose: To tests the null hypothesis that the data is normally distributed.

Statistic: Measures how well the data fits a normal distribution.

Significance (p-value): Indicates whether the deviation from normality is statistically significant.

CONCLUSION

Since the data does not follow a normal distribution, different analysis is used to obtain reliable results.

CHAPTER 4

RESULTS AND INTERPRETATION

Hypothesis 1:

- **Null Hypothesis (H_0)**: There is no significant difference in log income between single and married street vendors ($\mu_1 = \mu_2$).

- **Alternative Hypothesis (H_1)**: There is a significant difference in log income between single and married street vendors ($\mu_1 \neq \mu_2$).

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
									Lower	Upper
Log_Income	Equal variances assumed	1.054	.310	-1.210	48	.232	-.15158	.12526	-.40343	.10026
	Equal variances not assumed			-1.270	46.611	.210	-.15158	.11933	-.39169	.08852

T-Test

[DataSet1]

Group Statistics

	MartialStatus	N	Mean	Std. Deviation	Std. Error Mean
Log_Income	0	20	9.6242	.36982	.08269
	1	30	9.7758	.47118	.08602

Rationale:

Marital status is often considered a critical factor in determining economic stability and income. However, for street vendors, it is important to evaluate whether marital status directly influences their income or if community factors are more impactful. Testing this hypothesis will help determine if income differences between single and married vendors exist and to what extent traditional demographic factors matter in this sector.

Objective Link:

This hypothesis tests whether individual demographic characteristics, such as marital status, significantly impact street vendors' income. It aligns with the overall objective of the study, which seeks to explore whether demographic factors or social and community-related factors better explain the economic well-being of street vendors.

Log income is a critical aspect of an individual's financial well-being, and marital status is often considered a key factor in determining earning potential. This report details the analysis and results of the relationship between marital status and log income.

Transformation:

The original income variable exhibited skewness, and a natural logarithm transformation (LN) was applied to the income variable, resulting in Log_Income.

Analysis:

An Independent Samples T-Test was employed to examine the difference in Log_Income between Single (MaritalStatus = 0) and Married (MaritalStatus = 1) individuals.

Results:

Group Statistics:

- Single (N = 20): Mean = 9.6242, Std. Deviation = 0.36982

- Married (N = 30): Mean = 9.7758, Std. Deviation = 0.47118

Independent Samples Test:

- t = -1.210 (assuming equal variances) or -1.270 (not assuming equal variances)

- df = 48 (assuming equal variances) or 46.611 (not assuming equal variances)

- Sig. (2-tailed) = 0.232 (assuming equal variances) or 0.210 (not assuming equal variances)

Limitations:

- Small sample size (N = 50)

- Limited generalizability due to specific population sample

Recommendations:

- Increase sample size for more robust results

- Explore additional variables to enhance model fit and explanatory power

Interpretation:

This examined the relationship between Marital Status and Log Income using an Independent Samples T-Test analysis. The transformation of the income variable into a log scale allowed for a more robust analysis, mitigating the effects of skewness and extreme values. The results indicate that we fail to reject the null hypothesis (H0), suggesting no statistically significant difference in Log Income between Single and Married individuals (p-value = 0.232). Future studies should consider exploring additional variables and increasing the sample size to provide more comprehensive insights into the relationship between Marital Status and Log Income.

In conclusion, this study aimed to investigate the relationship between Marital Status and Log Income, with a focus on determining whether a significant difference exists between the log income of single and married individuals. Through the application of an Independent Samples T-Test, the analysis revealed no statistically significant difference in log income between the two groups, with a p-value of 0.232. This suggests that marital status may not be a significant predictor of log income, contrary to expectations. The findings imply that other factors, such as education, experience, occupation, or location, may play a more substantial role in determining earning potential. Furthermore, the small sample size and limited generalizability of the study highlight the need for future research to explore this relationship in greater depth, with a larger and more diverse sample. Ultimately, this study contributes to our understanding of the complex factors influencing income and encourages further investigation into the nuances of this relationship.

Hypothesis 2:

- **Null Hypothesis (H₀)**: There is no significant difference in spending habits between small and large families ($\mu_1 = \mu_2$).

- **Alternative Hypothesis (H₁)**: There is a significant difference in spending habits between small and large families ($\mu_1 \neq \mu_2$).

Mann-Whitney Test

Ranks

	Familymembers	N	Mean Rank	Sum of Ranks
Spendingonentertainmentpermonth	0	41	24.80	1017.00
	1	9	28.67	258.00
	Total	50		

Test Statistics[a]

	Spendingonentertainmentpermonth
Mann-Whitney U	156.000
Wilcoxon W	1017.000
Z	-1.383
Asymp. Sig. (2-tailed)	.167
Exact Sig. [2*(1-tailed Sig.)]	.486[b]

a. Grouping Variable: Familymembers

b. Not corrected for ties.

NPar Tests

[DataSet1]

Mann-Whitney Test

Ranks

	Familymembers	N	Mean Rank	Sum of Ranks
Spendingonmobilepermonth	0	41	24.28	995.50
	1	9	31.06	279.50
	Total	50		

Test Statistics[a]

	Spendingonmobilepermonth
Mann-Whitney U	134.500
Wilcoxon W	995.500
Z	-1.315
Asymp. Sig. (2-tailed)	.188
Exact Sig. [2*(1-tailed Sig.)]	.211[b]

a. Grouping Variable: Familymembers

b. Not corrected for ties.

Rationale:

Family size is often considered a major factor influencing spending behaviour, particularly on discretionary items such as entertainment and personal care. This hypothesis tests whether vendors with larger families spend more compared to those with smaller families. Understanding these differences can provide insights into how vendors allocate their income based on family obligations.

Objective Link:

The purpose of this hypothesis is to investigate the effect of family size, a demographic factor, on spending habits. This supports the broader objective of analysing the impact of demographic versus community-related factors on street vendors' economic behaviour.

Methodology:

The analysis was based on a dataset containing information on family size (small or large) and monthly expenses on mobile phone and entertainment. The Mann-Whitney U test, a non-parametric test, was applied to determine if there were statistically significant differences in spending habits between small and large families.

Reasons for Choosing a Non-Parametric Test:

The Mann-Whitney U test was chosen for the following reasons:

- Non-normality of data: The data may not follow a normal distribution.

- Small sample size: The sample size is relatively small, with only 9 large families and 41 small families.

- Ordinal or ranked data: The data can be considered ordinal (ranked) since we're comparing the spending habits between two groups.

- No assumption of equal variances: Non-parametric tests don't assume equal variances between groups.

- Robustness to outliers: Non-parametric tests are more resistant to outliers and extreme values.

Results:

Mobile Phone Expenses:

- The Mann-Whitney U test statistic was 134.5, with a p-value of 0.188.

- The results indicate no statistically significant difference in mobile phone expenses between small and large families ($p > 0.05$).

Entertainment Expenses:

- The Mann-Whitney U test statistic was 156, with a p-value of 0.167.

- The results indicate no statistically significant difference in entertainment expenses between small and large families ($p > 0.05$).

Interpretation:

The analysis reveals no statistically significant differences in spending habits between small and large families for both mobile phone and entertainment expenses. This suggests that family size does not have a significant impact on these types of expenses.

In conclusion, the analysis reveals that family size does not have a significant impact on spending habits related to mobile phone and entertainment expenses. The results suggest that both small and large families exhibit similar spending patterns in these categories, with no statistically significant differences observed. This finding implies that factors other than family size, such as income level, lifestyle, or personal preferences, may play a more significant role in determining spending habits. Additionally, the analysis highlights the importance of considering multiple factors when examining spending habits, as a single factor like family size may not provide a complete picture. Overall, the study contributes to a deeper understanding of spending habits and encourages further research into the complex factors influencing consumer behaviour.

Recommendations:

- Further research could explore other factors influencing spending habits, such as income level or lifestyle.

- The analysis could be extended to include additional expense categories.

Limitations:

- The analysis is based on a limited dataset and may not be representative of all families.

- The Mann-Whitney U test assumes independent observations, which may not be met in this dataset.

Hypothesis 3:

- **Null Hypothesis (H_0)**: There is no significant relationship between education level and log income ($\beta = 0$).

- **Alternative Hypothesis (H_1)**: There is a significant relationship between education level and log income ($\beta \neq 0$).

PLUM - Ordinal Regression

[DataSet1]

Warnings

There are 76 (72.4%) cells (i.e., dependent variable levels by combinations of predictor variable values) with zero frequencies.

Case Processing Summary

		N	Marginal Percentage
Log_Income	8.52	1	2.0%
	8.85	1	2.0%
	8.99	1	2.0%
	9.21	3	6.0%
	9.39	3	6.0%
	9.47	1	2.0%
	9.55	1	2.0%
	9.62	18	36.0%
	9.68	1	2.0%
	9.80	5	10.0%
	9.90	6	12.0%
	10.09	1	2.0%
	10.13	3	6.0%
	10.31	3	6.0%
	11.00	2	4.0%
Valid		50	100.0%
Missing		0	
Total		50	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	104.257			
Final	103.598	.658	1	.417

Link function: Logit.

Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	65.558	83	.921
Deviance	59.304	83	.977

Link function: Logit.

Pseudo R-Square

Cox and Snell	.013
Nagelkerke	.013
McFadden	.003

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[Log_Income = 8.52]	-3.662	1.054	12.065	1	.001	-5.729	-1.596
	[Log_Income = 8.85]	-2.949	.782	14.212	1	.000	-4.483	-1.416
	[Log_Income = 8.99]	-2.525	.668	14.273	1	.000	-3.834	-1.215
	[Log_Income = 9.21]	-1.775	.533	11.095	1	.001	-2.819	-.731
	[Log_Income = 9.39]	-1.302	.481	7.322	1	.007	-2.245	-.359
	[Log_Income = 9.47]	-1.171	.471	6.190	1	.013	-2.093	-.249
	[Log_Income = 9.55]	-1.048	.462	5.147	1	.023	-1.954	-.143
	[Log_Income = 9.62]	.566	.440	1.656	1	.198	-.296	1.428
	[Log_Income = 9.68]	.650	.442	2.160	1	.142	-.217	1.517
	[Log_Income = 9.80]	1.101	.460	5.717	1	.017	.198	2.003
	[Log_Income = 9.90]	1.778	.508	12.250	1	.000	.782	2.773
	[Log_Income = 10.09]	1.919	.522	13.539	1	.000	.897	2.942
	[Log_Income = 10.13]	2.459	.590	17.371	1	.000	1.303	3.615
	[Log_Income = 10.31]	3.442	.805	18.264	1	.000	1.863	5.021
Location	Education	.136	.178	.583	1	.445	-.213	.484

Link function: Logit.

Rationale:

Education is often seen as a pathway to higher income. This hypothesis evaluates whether formal education significantly impacts the income of street vendors or if other factors, such as social connections or business experience, play a larger role. Testing this hypothesis can provide insights into whether practical knowledge outweighs formal education in this sector.

Objective Link:

This hypothesis helps explore whether education, a traditional demographic factor, has a significant impact on income, contributing to the study's objective of comparing the role of demographic factors versus community engagement in determining economic well-being.

Transformation:

The original income variable exhibited skewness, with a few extreme values. To normalize the distribution and meet the assumptions of ordinal logistic regression, we applied a natural logarithm transformation (LN) to the income variable, resulting in Log_Income.

Analysis:

We employed ordinal logistic regression to examine the relationship between Education (independent variable) and Log_Income (dependent variable). The analysis aimed to determine if there is a significant relationship between Education and Log_Income.

Results:

Case Processing Summary:

- N = 50

- Marginal Percentage: 100.0%

Model Fitting Information:

- -2 Log Likelihood: 103.598

- Chi-Square: 0.658 (df = 1, p-value = 0.417)

Goodness-of-Fit:

- Pearson Chi-Square: 65.558 (df = 83, p-value = 0.921)

- Deviance Chi-Square: 59.304 (df = 83, p-value = 0.977)

Pseudo R-Square:

- Cox and Snell: 0.013

- Nagelkerke: 0.013

- McFadden: 0.003

Parameter Estimates:

Variable	Coefficient	Std. Error	p-value	Odds Ratio
Education	0.136	0.178	0.445	1.145

Limitations:

- Small sample size (N = 50)

- Limited generalizability due to specific population sample

Recommendations:

- Increase sample size for more robust results

- Explore additional variables to enhance model fit and explanatory power

Interpretation:

In conclusion, this study examined the relationship between Education and Log Income using ordinal logistic regression analysis. The transformation of the income variable into a log scale allowed for a more robust analysis, mitigating the effects of skewness and extreme values.

Null Hypothesis (H0): There is no significant relationship between Education and Log Income ($\beta = 0$).

Alternate Hypothesis (H1): There is a significant relationship between Education and Log Income ($\beta \neq 0$).

The results indicate that we fail to reject the null hypothesis (H0), suggesting that there is no statistically significant relationship between Education and Log Income (p-value = 0.445). The odds ratio (1.145) indicates a small, non-significant effect of Education on Log Income,

implying that for every one-unit increase in Education, the log income is expected to increase by 14.5%, but this effect is not statistically significant.

The goodness-of-fit statistics, including the Pearson Chi-Square and Deviance Chi-Square, indicate a good fit of the model to the data. However, the pseudo R-Square values suggest a small effect size, indicating that the model explains only a limited proportion of the variance in Log Income.

Overall, this study suggests that Education may not be a significant predictor of Log Income, contrary to expectations. This may be due to various factors, such as the influence of other variables like experience, occupation, or location, which were not included in this analysis.

Future studies should consider exploring additional variables to enhance model fit and explanatory power. Increasing the sample size would also provide more robust results, allowing for a more comprehensive understanding of the relationship between Education and Log Income.

In summary, this study provides insights into the relationship between Education and Log Income, highlighting the importance of considering the effects of skewness and extreme values in income data. While the results do not support a significant relationship between Education and Log Income, they underscore the need for further research to explore the complex factors influencing income.

Hypothesis 4:

- **Null Hypothesis (H₀)**: Possessing a ration card does not significantly influence monthly food expenditure ($\beta = 0$).

- **Alternative Hypothesis (H₁)**: Possessing a ration card significantly influences monthly food expenditure ($\beta \neq 0$).

Regression

[DataSet1]

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	RationCard[b]	.	Enter

a. Dependent Variable: Log_food

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.190[a]	.036	.015	.65981

a. Predictors: (Constant), RationCard

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.754	1	.754	1.732	.195[b]
	Residual	20.026	46	.435		
	Total	20.780	47			

a. Dependent Variable: Log_food

b. Predictors: (Constant), RationCard

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.087	.183		44.193	.000
	RationCard	.282	.214	.190	1.316	.195

a. Dependent Variable: Log_food

Coefficient Correlations[a]

Model			RationCard
1	Correlations	RationCard	1.000
	Covariances	RationCard	.046

a. Dependent Variable: Log_food

Rationale:

Ration cards provide access to subsidized food, which may reduce a vendor's monthly expenditure on food. This hypothesis examines whether owning a ration card significantly impacts food expenditure. Testing this helps understand the role of government social programs in reducing the cost of living for street vendors.

Objective Link:

This hypothesis explores the intersection between government support mechanisms and individual spending habits. It connects to the study's objective by examining how external support, beyond individual demographic factors, affects the economic well-being of street vendors.

Methodology

- Data collection: A sample of street vendors

- Dependent variable: Logarithm of monthly food expenditure (Log_food)

- Independent variable: Ration Card possession (RationCard)

- Linear regression analysis: Examined the relationship between RationCard and Log_food

- Robust standard error: Not used due to normality of data

Why Logarithmic Transformation was Used:

The logarithmic transformation was applied to the dependent variable, monthly food expenditure (Log_food), to address the issue of non-normality in the data. The original data likely had a skewed distribution, with a few extreme values that could have affected the accuracy of the linear regression model. By taking the logarithm of the data, we:

- Reduced the impact of extreme values

- Made the data more normally distributed

- Improved the linearity of the relationship between the variables

Results

- Weak positive relationship between RationCard and Log_food ($p = 0.195$)

- For every unit increase in RationCard, Log_food increases by approximately 0.282 units

- Correlation coefficient (R): 0.190, indicating a weak positive correlation

- Model explains about 3.6% of the variance in Log_food

- Standard error of the estimate: 0.65981

Conclusion

In conclusion, this study explored the relationship between possessing a Ration Card and monthly food expenditure among street vendors. Although the results revealed a weak positive relationship, the findings suggest that possessing a Ration Card may have a minor impact on reducing monthly food expenditure. The study's results are consistent with the idea that social support programs, like Ration Cards, can provide some economic relief to vulnerable populations. However, the non-significant relationship and low explanatory power of the model indicate that other factors, such as income, family size, and food prices, may play a more substantial role in determining monthly food expenditure. Further research is needed to fully understand the complex dynamics of food expenditure among street vendors and to identify effective strategies for improving their economic well-being.

Hypothesis 5:

- **Null Hypothesis (H_0)**: There is no significant difference in log income between vendors selling food items and those selling non-food items ($\mu_1 = \mu_2$).

- **Alternative Hypothesis (H_1)**: There is a significant difference in log income between vendors selling food items and those selling non-food items ($\mu_1 \neq \mu_2$).

Mann-Whitney Test

Ranks

	Typeofgoodsservices	N	Mean Rank	Sum of Ranks
Averagemonthlyincomefro mstreetvending	0	44	24.86	1094.00
	1	6	30.17	181.00
	Total	50		

Test Statistics [a]

	Averagemont hlyincomefro mstreetvendin g
Mann-Whitney U	104.000
Wilcoxon W	1094.000
Z	-.858
Asymp. Sig. (2-tailed)	.391
Exact Sig. [2*(1-tailed Sig.)]	.421 [b]

a. Grouping Variable: Typeofgoodsservices

b. Not corrected for ties.

Rationale:

The type of goods sold by street vendors may affect their income due to differences in customer demand, product margins, or market competition. By testing this hypothesis, the study seeks to uncover whether selling food or non-food items leads to significant income differences. This can provide insights into which product categories are more lucrative for street vendors.

Objective Link:

The hypothesis investigates whether the type of goods sold, a factor tied to market engagement, influences street vendors' income. This supports the overall objective of identifying non-demographic factors that affect income.

Methodology

- Data collection: A sample of street vendors

- Dependent variable: Average monthly income

- Independent variable: Type of goods sold (food vs. non-food)

- Mann-Whitney U test: Used to compare the average monthly income between the two groups

- Normality test: Shapiro-Wilk test was conducted to check for normality of the data

Results

- Normality test: The data was found to be non-normally distributed ($p < 0.001$)

- Mann-Whitney U test: No significant difference in average monthly income between food and non-food vendors ($p = 0.391$ and $p = 0.421$ for asymptotic and exact tests, respectively)

Interpretation:

This reveals that the average monthly income from street vending does not significantly differ between vendors selling food items and those selling non-food items. This finding suggests that the type of goods being sold may not be a primary determinant of a vendor's monthly earnings. Instead, other factors such as location, experience, and market demand may play a more crucial role in shaping their income. The study's results have implications for policymakers and stakeholders seeking to support street vendors, highlighting the need to consider a broader range of factors beyond the type of goods sold. By understanding the complex dynamics influencing street vendors' income, we can work towards creating more effective strategies to enhance their economic well-being and resilience.

Limitations

- Small sample size

- Non-normality of the data

- Other factors not controlled for (e.g., location, experience)

Hypothesis 6:

- **Null Hypothesis (H₀)**: There is no significant correlation between log income and log work hours ($\rho = 0$).

- **Alternative Hypothesis (H₁)**: There is a significant correlation between log income and log work hours ($\rho \neq 0$).

[DataSet1]

<table>
<thead>
<tr><th colspan="6">Correlations</th></tr>
<tr><th></th><th></th><th></th><th>Log_income</th><th>Log_workhou rs</th></tr>
</thead>
<tbody>
<tr><td>Spearman's rho</td><td>Log_income</td><td>Correlation Coefficient</td><td>1.000</td><td>.097</td></tr>
<tr><td></td><td></td><td>Sig. (2-tailed)</td><td>.</td><td>.504</td></tr>
<tr><td></td><td></td><td>N</td><td>50</td><td>50</td></tr>
<tr><td></td><td>Log_workhours</td><td>Correlation Coefficient</td><td>.097</td><td>1.000</td></tr>
<tr><td></td><td></td><td>Sig. (2-tailed)</td><td>.504</td><td>.</td></tr>
<tr><td></td><td></td><td>N</td><td>50</td><td>50</td></tr>
</tbody>
</table>

Rationale:

Work hours are generally expected to have a direct impact on income. This hypothesis tests whether street vendors who work more hours earn significantly more, or whether other factors such as efficiency, product type, or customer base have a greater influence on income than sheer time spent working. Testing this can reveal how productivity impacts income in the informal economy.

Objective Link:

This hypothesis investigates the relationship between work hours and income, connecting to the broader study of income determinants in the street vendor sector. It contributes to understanding whether traditional metrics like work hours are significant in the informal economy.

Transformation:

The original income and work hours variables exhibited skewness, and natural logarithm transformations (LN) were applied, resulting in Log_Income and Log_Workhours.

Analysis:

Spearman's rho correlation analysis was employed to examine the relationship between Log_Income and Log_Workhours.

Results:

- Correlation coefficient (ρ): 0.097

- p-value: 0.504

Limitations:

- Small sample size (N = 50)

- Non-normality of the data

Interpretation:

This correlation analysis has provided valuable insights into the relationship between log income and log work hours. Despite expectations, the results revealed a very weak positive correlation between the two variables, which was not statistically significant. This suggests that the number of work hours does not have a substantial impact on income, contradicting traditional assumptions. The findings imply that other factors, such as education, experience, occupation, or location, may play a more significant role in determining earning potential. The study's limitations, including a small sample size and non-normality of the data, highlight the need for future research to explore this relationship in greater depth. Ultimately, this analysis contributes to our understanding of the complex factors influencing income and encourages further investigation into the nuances of this relationship, underscoring the importance of considering multiple factors when examining the intricacies of financial well-being.

Hypothesis 7:

- **Null Hypothesis (H₀)**: Spending on social obligations, age and years as street vendors do not affect log income.

- **Alternative Hypothesis (H₁)**: At least one of these factors (spending on social obligations, age, or years as street vendors) affects log income.

Regression

[DataSet1]

Descriptive Statistics

	Mean	Std. Deviation	N
Log_income	9.7152	.43595	50
Spendingonsocialobligati onspermonth	866.30	901.578	50
Age	33.92	9.901	50
Yearsasstreetvendor	13.016	9.7314	50

Correlations

		Log_income	Spendingons ocialobligatio nspermonth	Age	Yearsasstreet vendor
Pearson Correlation	Log_income	1.000	.412	.031	.166
	Spendingonsocialobligati onspermonth	.412	1.000	.030	.078
	Age	.031	.030	1.000	.553
	Yearsasstreetvendor	.166	.078	.553	1.000
Sig. (1-tailed)	Log_income	.	.001	.415	.125
	Spendingonsocialobligati onspermonth	.001	.	.418	.295
	Age	.415	.418	.	.000
	Yearsasstreetvendor	.125	.295	.000	.
N	Log_income	50	50	50	50
	Spendingonsocialobligati onspermonth	50	50	50	50
	Age	50	50	50	50
	Yearsasstreetvendor	50	50	50	50

36

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Yearsasstreet vendor, Spendingons ocialobligatio nspermonth, Age[b]	.	Enter

a. Dependent Variable: Log_income

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
						Change Statistics			
1	.438[a]	.192	.139	.40449	.192	3.639	3	46	.019

a. Predictors: (Constant), Yearsasstreetvendor, Spendingonsocialobligationspermonth, Age

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.786	3	.595	3.639	.019[b]
	Residual	7.526	46	.164		
	Total	9.313	49			

a. Dependent Variable: Log_income

b. Predictors: (Constant), Yearsasstreetvendor, Spendingonsocialobligationspermonth, Age

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	95.0% Confidence Interval for B Upper Bound	Correlations Zero-order	Correlations Partial	Correlations Part	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	9.563	.216		44.234	.000	9.127	9.998					
	Spendingonsocialobligati onspermonth	.000	.000	.400	3.009	.004	.000	.000	.412	.405	.399	.994	1.006
	Age	-.004	.007	-.080	-.501	.619	-.018	.011	.031	-.074	-.066	.693	1.442
	Yearsasstreetvendor	.008	.007	.179	1.119	.269	-.006	.022	.166	.163	.148	.690	1.450

a. Dependent Variable: Log_income

Coefficient Correlations[a]

Model			Yearsasstreet vendor	Spendingons ocialobligatio nspermonth	Age
1	Correlations	Yearsasstreetvendor	1.000	-.074	-.553
		Spendingonsocialobligati onspermonth	-.074	1.000	.016
		Age	-.553	.016	1.000
	Covariances	Yearsasstreetvendor	5.111E-005	-3.403E-008	-2.771E-005
		Spendingonsocialobligati onspermonth	-3.403E-008	4.134E-009	7.270E-009
		Age	-2.771E-005	7.270E-009	4.911E-005

a. Dependent Variable: Log_income

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Variance Proportions Spendingons ocialobligatio nspermonth	Variance Proportions Age	Variance Proportions Yearsasstreet vendor
1	1	3.312	1.000	.01	.03	.00	.02
	2	.452	2.707	.00	.87	.01	.08
	3	.205	4.023	.10	.08	.02	.68
	4	.032	10.237	.89	.02	.97	.22

a. Dependent Variable: Log_income

Rationale:

This hypothesis combines multiple variables to assess how social obligations, age, and experience influence income. It tests whether older and more experienced vendors who invest in social obligations see a significant boost in their income. This analysis captures a broader view of how different factors, both social and demographic, interact to impact income.

Objective Link:

The hypothesis directly addresses the core objective of the study by combining both community-related and demographic factors (social obligations, age, experience) to examine their collective influence on income. It provides a more nuanced understanding of income drivers in the street vendor sector.

Why Log Income?

Income data often exhibits skewness, meaning it's not normally distributed. This can lead to:

1. Outliers: Extreme values that disproportionately affect analysis.

2. Non-linear relationships: Relationships between variables may not be accurately captured.

To address these issues, we transform the income variable using a natural logarithm (LN). This:

1. Reduces skewness: Log transformation normalizes the distribution, making it more suitable for analysis.

2. Stabilizes variance: Log transformation helps to equalize variance across different levels of income.

3. Improves linearity: Log transformation can help reveal linear relationships between variables.

Transformation

The original income variable exhibited skewness, with a few extreme values. To normalize the distribution and meet the assumptions of multiple regression, we applied a natural logarithm transformation (LN) to the income variable, resulting in Log_Income.

Analysis

We employed multiple regression to examine the relationship between Spending on Social Obligations, Age, Years as Street Vendors (independent variables) and Log_Income (dependent variable). The analysis aimed to determine if there is a significant relationship between Spending on Social Obligations, Age, Years as Street Vendors, and Log_Income.

Results

- **Model Summary**

  o R-squared: 0.192

  o F-statistic: 3.639 (p-value: 0.019)

- **Coefficients**
  o β_0 (Intercept): 9.563 (p-value: <0.001)

  o β_1 (Spending on Social Obligations): 0.400 (p-value: 0.004)

  o β_2 (Age): -0.080 (p-value: 0.619)

  o β_3 (Years as Street Vendors): 0.179 (p-value: 0.269)

Limitations

- Small sample size (N = 50)

Interpretation:

This study delved into the intricate relationships between Spending on Social Obligations, Age, Years as Street Vendors, and Log Income, revealing a complex dynamic that underscores the multifaceted nature of earning potential. Through the lens of multiple regression analysis, we discovered that Spending on Social Obligations emerges as a significant predictor of Log Income, suggesting that street vendors who allocate more resources to social obligations tend to reap higher financial rewards. Conversely, Age and Years as Street Vendors failed to exert a substantial impact on Log Income, hinting that these factors may be less influential than previously thought. By transforming the income variable into a log scale, we mitigated the distortions caused by skewness and extreme values, thereby uncovering a more nuanced understanding of the relationships between these variables. As we continue to unravel the mysteries of income determination, this study serves as a testament to the importance of exploring novel predictors and refining our analytical approaches to capture the intricacies of economic reality.

CHAPTER 5

CONCLUSION

The street vending sector in Jammu City plays a vital yet underappreciated role in the local economy. This study was designed to analyze the economic contributions of street vendors, focusing on how various demographic and socio-economic factors impact their income and spending behaviors. Utilizing a combination of descriptive and inferential statistical methods, including the Mann-Whitney U Test, Chi-square tests, correlation analysis, and multiple regression models, the study provides nuanced insights into the dynamics of street vending in an urban setting.

5.1 Summary of Findings

1. Marital Status and Income:

The analysis of marital status revealed no significant difference in income between single and married street vendors. This finding is particularly revealing, as it challenges the traditional assumption that marital status is a significant determinant of economic stability. It suggests that, in the context of street vending, other factors—possibly community engagement or business strategies—are more influential in determining income levels. This insight shifts the focus away from individual demographic factors toward more complex social and economic dynamics.

2. Age, Experience, and Income:

Contrary to expectations, the study found that neither age nor years of experience significantly impacted the income of street vendors. This result challenges the conventional wisdom that experience naturally leads to higher earnings due to accumulated business knowledge and customer loyalty. Instead, the findings suggest that the street vending sector may require continuous adaptation and innovation, rather than reliance on years of experience alone. This could imply that external factors, such as market conditions or competition, play a more significant role in determining income than previously thought.

3. Family Size and Spending Habits:

The relationship between family size and spending on discretionary items like mobile phones and entertainment was also examined. The results showed no significant difference in spending patterns between small and large families. This finding implies that family size does not

directly influence spending behavior in these categories. Instead, it points to the importance of other factors, such as overall income levels, lifestyle choices, and individual preferences. This insight is crucial for understanding the complexities of spending behavior among street vendors and could inform more targeted financial advice and support services.

4. Education and Income:

The study found no significant correlation between education level and income among the street vendors surveyed. This challenges the widely held belief that higher education always leads to higher income. In the context of street vending, practical experience, social connections, and possibly street smarts appear to outweigh formal education in determining financial success. This finding underscores the unique nature of the street vending sector, where non-traditional skills and social capital may be more valuable than formal educational qualifications.

5. Social Obligations and Income:

One of the most compelling findings of the study is the significant positive correlation between spending on social obligations and income. Vendors who invested more in participating in social and community events tended to earn more. This highlights the importance of social capital in the street vending sector, where community engagement and strong social ties can translate into economic benefits. This finding suggests that street vendors who are more embedded in their communities—through participation in religious, social, and communal events—are more likely to succeed economically.

6. Ration Card Possession and Food Expenditure:

The analysis of the relationship between ration card possession and food expenditure revealed a weak positive correlation. While ration cards offer some economic relief by reducing food expenditure, they are not the primary determinant of spending in this category. Other factors, such as overall income and family size, likely play more significant roles. This finding suggests that while social welfare programs like ration cards are beneficial, they are not sufficient on their own to significantly alter spending patterns among street vendors.

7. Type of Goods Sold and Income:

Surprisingly, the study found no significant difference in income between vendors selling food items and those selling non-food items. This finding challenges the assumption that the type of goods sold is a major determinant of income. Instead, it suggests that other factors, such as location, customer base, and market demand, may have a more substantial impact on income. This insight is valuable for street vendors when deciding what goods to sell, as it indicates that success may depend more on strategic factors like location and marketing rather than the specific type of goods offered.

8. Work Hours and Income:

The correlation analysis between work hours and income revealed a very weak positive correlation, which was not statistically significant. This finding suggests that simply working longer hours does not necessarily lead to higher income in the street vending sector. Instead, other factors such as efficiency, product quality, and customer engagement may be more critical in determining income. This challenges the traditional view that hard work alone leads to success, highlighting the importance of working smarter, not just harder.

5.2 Implications and Recommendations

The findings of this study have several important implications for policymakers, urban planners, and the street vendors themselves.

Social Capital as an Economic Asset:

The significant correlation between social obligations and income suggests that social capital is a critical asset for street vendors. Policymakers and community leaders should recognize the value of social networks in economic development and consider ways to strengthen these networks through community-based initiatives and support programs.

Rethinking Education and Experience:

The lack of a significant relationship between education and income, as well as between experience and income, indicates that these traditional markers of economic success may not apply in the street vending sector. Instead, practical skills, adaptability, and community engagement may be more important. Training programs for street vendors should therefore

focus on enhancing these practical skills and fostering community ties rather than solely on formal education.

Targeted Support for Street Vendors:

Given the complexity of factors influencing income and spending behaviors, support programs for street vendors should be multifaceted. This could include financial literacy programs, access to microfinance, and business development training that emphasizes the importance of social capital and community engagement.

5.3 Limitations

1. **Small Sample Size: Generalizability:**
   The study was based on a sample size of 50 street vendors, which limits the generalizability of the findings. While the sample provided valuable insights, a larger sample size would be necessary to draw more robust conclusions that are representative of the broader street vendor population in Jammu City.
   Statistical Power: With a small sample size, the statistical power of the analyses is reduced, meaning that the study may not have detected all significant relationships or differences that could exist in a larger population. This limitation is particularly relevant when considering complex interactions between variables.

2. **Geographical Constraints:**
   Limited Geographic Scope: The study focused exclusively on street vendors in selected areas of Jammu City. This narrow geographic focus limits the ability to generalize the findings to street vendors in other parts of the city, other cities within Jammu and Kashmir, or different regions of India. Street vending practices and economic conditions can vary significantly across regions, and these differences are not captured in this study.
   Urban Bias: The study's urban focus may overlook the experiences and challenges of street vendors operating in rural or semi-urban areas, where market dynamics, consumer behavior, and regulatory environments can differ substantially.

3. **Cross-Sectional Design:**
   Temporal Limitations: The study employed a cross-sectional design, which captures data at a single point in time. This approach does not allow for the observation of

changes or trends over time, limiting the ability to assess the impact of evolving economic conditions, policy changes, or market dynamics on street vendors.

Causality: The cross-sectional nature of the study also limits the ability to establish causal relationships between variables. While the study identifies associations, it cannot definitively determine whether one factor causes changes in another (e.g., whether social obligations directly lead to higher income).

4. **Limited Range of Variables:**

    Narrow Focus: The study primarily examined demographic variables (such as age, marital status, education) and a few socio-economic factors (such as income, spending habits, and social obligations). However, the complex and multifaceted nature of street vending suggests that other variables—such as competition, market access, customer demographics, and access to credit—might also significantly influence vendors' economic outcomes. These were not explored in depth in this study.

    Unmeasured Influences: Factors such as vendor health, weather conditions, political stability, and infrastructure development, which can have substantial impacts on street vendors' livelihoods, were not included in the analysis.

5. **Data Collection Methodology:**

    Self-Reported Data: The study relied on self-reported data collected through interviews, which may be subject to biases such as social desirability bias or recall bias. Vendors might have overestimated or underestimated their income, spending, or other behaviors, leading to potential inaccuracies in the data.

    Language and Communication Barriers: Communication barriers, including language differences or literacy levels, could have affected the accuracy and completeness of the data collected. Misunderstandings or misinterpretations during interviews could result in incomplete or incorrect information.

6. **External Validity:**

    Context-Specific Findings: The findings are highly context-specific, reflecting the unique socio-economic and cultural environment of Jammu City. Factors that influence street vendors in Jammu may not be applicable to vendors in other parts of India or in different countries, where the regulatory environment, market dynamics, and social structures can differ significantly.

7. **Limited Analysis of Social and Cultural Dynamics:**

Depth of Social Analysis: While the study identified social obligations as an important factor influencing income, it did not deeply explore the underlying social and cultural dynamics that shape these obligations. Understanding the broader social context—such as the role of caste, religion, or gender—could provide a more comprehensive picture of the factors influencing street vendors' economic success.

8. **Lack of Longitudinal Data:**

Inability to Track Changes: Without longitudinal data, the study cannot track changes in the economic conditions of street vendors over time. This limitation prevents the analysis of how vendors adapt to long-term trends, economic shocks, or policy interventions.

Impact of External Factors Over Time: The lack of longitudinal data also limits the ability to assess how external factors, such as economic downturns, pandemics, or urban development projects, impact street vendors' livelihoods over time.

9. **Regulatory and Policy Environment:**

Lack of Focus on Policy Impact: The study did not extensively explore the impact of local regulations, licensing requirements, or government policies on street vendors. Understanding how these factors influence vendors' operations, income, and security would be critical for developing effective policy recommendations.

5.4 Future Scope

The study of street vendors in Jammu City has revealed critical insights into the factors influencing their economic contributions, income, and spending behaviors. However, several avenues for future research and practical interventions remain unexplored. By addressing these areas, future studies and policies can more effectively support street vendors and enhance their contributions to the local economy.

1. **Expanding the Geographic Scope:**

Broader Regional Analysis: Future studies should expand beyond Jammu City to include other urban and semi-urban areas within Jammu and Kashmir, and even other states. This

would allow for a comparative analysis of street vending across different regions, providing a more comprehensive understanding of the sector's dynamics.

Rural vs. Urban Comparison: Exploring the differences between rural and urban street vendors could reveal how geographic location affects income, spending, and economic opportunities. This comparison could also shed light on the unique challenges faced by vendors in less densely populated areas.

2. **Increasing Sample Size and Diversity:**

Larger Sample Size: A larger sample size would provide more robust data, leading to more generalizable results. This would help in identifying trends and patterns that may not be evident in smaller samples.

Diverse Vendor Profiles: Future research should include a more diverse range of vendors, including those selling different types of goods (e.g., non-food items, handicrafts) and those operating in various types of markets (e.g., daily markets, weekly bazaars). This diversity would offer a more nuanced understanding of the factors affecting income and business sustainability.

3. **Longitudinal Studies:**

Tracking Changes Over Time: Conducting longitudinal studies would allow researchers to track changes in the economic conditions of street vendors over time. This could help in understanding the long-term impacts of economic policies, market changes, and other external factors on street vendors' livelihoods.

Impact of Economic Shocks: Longitudinal studies could also examine how street vendors adapt to economic shocks, such as inflation, recession, or pandemics, providing insights into their resilience and the effectiveness of support mechanisms.

4. **Exploring Additional Variables:**

Market Dynamics and Competition: Future studies should explore how competition among vendors and changes in market dynamics (e.g., entry of new vendors, changes in consumer preferences) influence income and business strategies.

Access to Finance and Credit: Researching the impact of access to microfinance, credit facilities, and financial literacy on the economic success of street vendors could uncover significant factors that either hinder or enhance their ability to grow their businesses.

Technological Adoption: Investigating how the adoption of digital payment systems, online marketing, and other technologies affects street vendors' income and customer reach would be valuable, especially in the context of increasing digitization in India.

5. **Policy Impact Analysis:**

Effectiveness of Government Programs: Analyzing the effectiveness of existing government programs aimed at supporting street vendors, such as the PM SVANidhi Scheme, would provide insights into what works and what needs improvement. This analysis could also identify gaps in support services that need to be addressed.

Legal and Regulatory Environment: Future studies could examine how legal frameworks and regulatory policies, such as licensing requirements and anti-encroachment drives, impact the operations and economic well-being of street vendors. Understanding these effects would be crucial for advocating for more vendor-friendly policies.

6. **Socio-Cultural Dynamics:**

Role of Social Capital: Building on the findings related to social obligations and income, future research could delve deeper into how social networks, cultural practices, and community ties influence business success among street vendors. This could include studying the role of gender, caste, and religion in shaping economic opportunities.

Community-Based Interventions: Exploring the potential of community-based interventions, such as cooperative societies or vendor associations, could reveal effective ways to empower street vendors and enhance their collective bargaining power.

7. **Environmental and Sustainability Considerations:**

Sustainable Business Practices: Future research could explore how street vendors can adopt more sustainable business practices, such as reducing plastic use, managing waste, and sourcing eco-friendly products. This would not only benefit the environment but could also attract environmentally conscious customers.

Impact of Urban Development: Analyzing the impact of urban development projects on street vending spaces could provide valuable insights into how urban planning can accommodate and support street vendors rather than displacing them.

8. **Health and Safety Concerns:**

Occupational Health and Safety: Researching the occupational health and safety risks faced by street vendors, including exposure to extreme weather, inadequate sanitation, and lack of access to healthcare, could inform policies aimed at improving their working conditions.

Public Health Implications: Given the nature of the goods sold, especially food items, studying the public health implications of street vending practices could lead to better health and safety regulations that protect both vendors and consumers.

9. Economic Contribution Assessment:

Quantifying Economic Impact: Future studies could aim to quantify the broader economic impact of street vendors on the local economy, including their contributions to employment, supply chain linkages, and local economic activity. This could involve input-output analysis or other economic modeling techniques.

Role in Urban Economy: Further research could explore the role of street vendors in the urban economy, particularly in providing affordable goods and services to low-income populations, and how they contribute to the economic vibrancy of urban areas.

10. Recommendations for Policy Makers and Stakeholders:

Comprehensive Policy Framework: Based on the insights from future research, there is a need for a comprehensive policy framework that integrates social, economic, and legal support for street vendors. This framework should be developed in consultation with vendors themselves to ensure it meets their needs.

Collaboration with NGOs and Private Sector: Future initiatives could explore partnerships between the government, NGOs, and the private sector to provide training, financial support, and infrastructure improvements for street vendors. Such collaborations could enhance the sustainability and profitability of street vending businesses.

In conclusion, this study contributes to the growing body of knowledge on the economic contributions of street vendors by highlighting the complex interplay of demographic, social, and economic factors that influence their income and spending behaviors. While traditional demographic factors like age, marital status, and education level are often considered key drivers of economic success, this study suggests that in the street vending sector, social capital and community engagement may be more critical.

By recognizing and supporting the social networks of street vendors, policymakers and community leaders can help create an environment where these entrepreneurs can thrive. This study advocates for a more holistic approach to supporting street vendors—one that considers not only their individual characteristics but also the broader social context in which they operate. As we continue to explore the complex dynamics of this sector, it is crucial to remember that the strength of a street vendor's business may lie as much in their community ties as in their personal attributes.

Ultimately, this study underscores the importance of viewing street vendors not just as individual entrepreneurs, but as integral parts of the social and economic fabric of their communities. Supporting them requires a nuanced understanding of the various factors that contribute to their success, from social capital to strategic business decisions. By adopting such an approach, we can better support street vendors in their efforts to contribute to the local economy and improve their livelihoods.

References

[1] https://www.wiego.org/street-vendors-and-market-traders

[2] Bhowmik, S., & Saha, D. (2012). Street Vending and Public Policy: A Global Review. International Journal of Sociology and Social Policy, 32(1/2), 34-46.

Statistical Tool Used:

- IBM SPSS version 21