Unveiling Raghunath Bazaar's GDP: A Practical Solution through C and SPSS

MAJOR PROJECT REPORT

SEMESTER- I

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ABSTRACT

Raghunath Bazaar, a bustling commercial hub in the heart of Jammu, has long played a significant role in the local economy, particularly in retail, services, and tourism.

Despite its importance, there is a lack of comprehensive studies assessing the bazaar's contribution to the local Gross Domestic Product (GDP). This project aims to bridge this gap by providing a method to estimate the GDP of Raghunath Bazaar using modern computational tools, specifically C programming for data processing and SPSS for statistical analysis.

The objective of the study is to develop a practical and replicable methodology for calculating the GDP of a localized market. This research estimates the economic output of Raghunath Bazaar and its significance to the larger Jammu economy. The project also aims to identify the primary economic drivers within the bazaar, providing valuable insights for business owners, policymakers, and stakeholders.

A mixed-method approach was employed for data collection, combining primary data from structured surveys, interviews with business owners. The study sample included 52 businesses within Raghunath Bazaar. The collected data was processed using C programming, while SPSS was utilized for statistical modelling, including regression and correlation analyses, to derive the GDP estimate.

The results indicate a significant economic contribution of Raghunath Bazaar to the local economy, with retail and tourism being the primary economic drivers. The GDP estimate provides a clearer understanding of the bazaar's role in Jammu's economic landscape and offers practical recommendations for fostering further growth. Additionally, the methodology developed in this study can be applied to other localized markets, contributing to the growing field of localized economic analysis.

The findings of this project offer important insights for business owners seeking to optimize their operations, for policymakers crafting strategies to stimulate local economic growth, and for researchers interested in the application of computational tools in economic studies. The study contributes to the field of local economic studies by demonstrating the feasibility of estimating GDP in smaller commercial areas, which is often overlooked in traditional national and state-level economic analyses.

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Chapter 1

Introduction

1.1 BACKGROUND OF THE STUDY

Raghunath Bazaar, situated in the heart of Jammu, is one of the most vibrant and historically significant commercial centers in the region. Being a place where the market environment is very dynamic, Raghunath Bazaar has always been a place of focus for retail businesses, trading, and cultural exchanges throughout the centuries. It attracts thousands of tourists and locals alike, greatly contributing to the local economy. Despite its economic importance, there have been scarce data for the study of its contribution to the Gross Domestic Product of Jammu.

Gross Domestic Product measures the total value of goods and services produced within a specified geographical area. It is used worldwide as an important indicator of measuring the economic performance of a country, region, or a specific area. While GDP is generally measured at national and state levels, the estimates of local GDP are rarely found, and it leaves a vital gap in the understanding of the economic influence of smaller commercial hubs like Raghunath Bazaar.

This research aims to estimate the contribution of Raghunath Bazaar to the local economy by using modern computational techniques. This project shall try to incorporate data manipulation with tools like C programming and SPSS for statistical analysis so that an application-based approach for calculating and analyzing the GDP of Raghunath Bazaar can be shown. This will benefit not only the local business community but also policy planners in the decisions they would like to take so that growth can be fostered in the region as well as sustain it.

1.2 STATEMENT OF THE PROBLEM

The local economy of Jammu, especially the Raghunath Bazaar area, has witnessed considerable growth in recent years. However, there is no standard way to measure or understand the economic output of this key market. The absence of a localized GDP calculation makes it difficult for local business owners, government officials, and researchers to assess the real economic impact of the bazaar on the region.

Insights into how the local business operations contribute to a broader economic landscape are lacking since local businesses are the fundamental drivers of economic activities in Raghunath Bazaar. Policymakers also do not have appropriate data to design policies that can positively impact the economic growth of the region. National and state GDP figures offer an overall assessment of economic performance but a granular approach to measuring economic activity at a localized level, such as in Raghunath Bazaar, is almost indispensable in the contemporary world.

This study will respond to these difficulties through the generation of a usable method for ascertaining Raghunath Bazaar's GDP through statistics and programming utilities coupled with district-specific economic inputs. This means this research looks forward to ascertaining clearly the way through which this commerce center impacts the economy and by utilizing this data, economic growth can further be promoted.

1.3 RESEARCH QUESTIONS

This study provides responses to the following research questions:

- What economic contribution does Raghunath Bazaar offer to the Jammu local economy?
- How can tools like C programming and SPSS be used to estimate a localized market, such as Raghunath Bazaar?

- What are the key factors that influence the economic activities in Raghunath Bazaar, and how can they be measured and incorporated into the GDP calculation?
- How can the findings of this study be used to inform local economic policies and business strategies?

1.4 SCOPE OF THE STUDY

The scope of this study is limited to the Raghunath Bazaar area in Jammu, which is the hub of economic activity for this research. The study will focus on collecting and analyzing data from the retail sector, which is the dominant sector in the bazaar. Economic data will be collected for the year 2023, ensuring a recent and relevant snapshot of the area's economic activity.

The study will make use of C programming in the processing of data such as sales figures, transactions, and business outputs of various shops operating within the bazaar. For more complex analysis like regression models and correlation studies to estimate the GDP of the bazaar, a powerful statistical analysis tool SPSS will be used. The study will also incorporate other significant exogenous economic variables like tourism and local events that might have a bearing on the market's performance economically.

1.5 SIGNIFICANCE OF THE STUDY

The importance of this research study would be a more reliable and location-specific estimation of economic output in Raghunath Bazaar. Several important outcomes can be derived from this research by estimating the GDP of such a small but vital economic hub as Raghunath Bazaar:

Business Insights: A strong understanding of economic contribution through

running the local business improves the chances of better decisions through further expansion, investment, and resource allocation.

Policy Formulation: The local government and policymakers will have valuable data regarding their influence on forming effective economic development policies for the local business through the attraction of investments.

Academic Contribution: It contributes to local economic studies, as it comes up with a methodology on the estimation of GDP at a market level which can be followed in other places.

The findings of this study will be a culmination to give a holistic view of how the local economies such as Raghunath Bazaar can be measured and monitored that will lead towards sound economic planning and resource management.

1.6 REPORT ORGANIZATION

The report is set out in the following manner:

Chapter 1: Introduction – The background of the study, the problem statement, research questions, scope, and significance of the research are presented.

Chapter 2: Objectives - This chapter sets out the objectives of the study together with the specific goals and results of the research.

Chapter 3: Methodology - This is a description of the research methodology, which includes methods of sampling, sample size, data collection apparatus, and data analysis tools such as C programming and SPSS.

Chapter 4: Literature Review - This chapter mentions the previous work done related to the study.

Chapter 5: Results and Discussion – This chapter documents the findings in the study that are discussed for the results' context with relation to the formulated research questions.

Chapter 6: Conclusion - This chapter summarizes what was found with the conclusions for the study findings and its importance for future references.

Chapter 7: Future Scope—This chapter discusses the future scope of research in the areas of localized GDP estimation and the application of statistical tools in economic modeling.

Chapter 8: Annexures

Chapter 9: Questionnaire

Chapter 2

OBJECTIVES

2.1 PROJECT DESCRIPTION

Raghunath Bazaar is one of the most prominent commercial centers in Jammu, which generates a lot of revenue for the local economy in different sectors, mainly retail. However, despite its economic significance, no structured approach to measuring its contribution to the local Gross Domestic Product has left a gap in understanding the full economic impact of this bazaar.

Traditional methods of estimating GDP, applied mainly at the national or state level, are therefore not readily applicable to small localized markets like Raghunath Bazaar. The project hence visualizes a practical methodology for estimating the GDP of Raghunath Bazaar with the help of statistical tools like C programming and SPSS.

Data for sales, transactions, and the inflow and outflow of goods and services would be collected within Raghunath Bazaar, based on which it would estimate the economic output from the bazaar. Combining C programming with SPSS statistical analysis, the research will help bring about a much more accurate method of calculating GDP in small markets in relation to localized economic activity.

The final objective is to present a model replicable for similar markets of other regions, which would contribute to local economic studies.

2.2 OBJECTIVES OF THE STUDY

The prime objective of this study is to estimate the GDP of Raghunath Bazaar using the advanced computational tools. More precisely, the objectives set for this study are as follows:

1. **To Calculate the GDP of Raghunath Bazaar:** The main objective is to establish a method to estimate the GDP of Raghunath Bazaar by collecting key economic data from businesses within the area. This includes retail sales, transactions, and services. The process will be based on C programming for data collection and processing, and SPSS for statistical analysis and economic modeling.
2. **To identify the most influential factors that affect the economic activities in Raghunath Bazaar:** This objective involves the identification of different factors that impact the economic performance of Raghunath Bazaar, such as sales volume, the number of visitors (tourism), local government policies, and the overall business environment. Once these factors are identified, then the construction of an accurate model of the bazaar's economic output will be possible.
3. **Apply computational tools (C programming and SPSS) in data collection and analysis:** The innovation of this project includes the use of C programming and SPSS. The idea here is to apply the tools of C programming and SPSS to process and analyze large datasets, including sales transactions, in order to estimate the GDP of any market area. Such practice will demonstrate practical usefulness of programming and statistical tools in economic analysis.

4. **To develop a replicable model for the estimation of GDP in other localized markets:** A key goal of the project is to develop a model for GDP estimation

that can be applied to other small or localized commercial hubs beyond Raghunath Bazaar. The methodology and computational approach developed in this project will be documented in detail, so it can serve as a model for future studies in similar markets.

5. **To inform business owners and policymakers:** Another important purpose of the research is to provide actionable insights for local business owners and policymakers. The GDP estimate of Raghunath Bazaar will help businesses in understanding their market share and growth potential, and policymakers in crafting strategies for economic development.

2.3 PROBLEM STATEMENT

The lack of localized GDP estimates for markets such as Raghunath Bazaar is the problem at hand. While GDP is measured at the national or state level, it leaves out small markets like Raghunath Bazaar. Since the contribution of the bazaar to the local economy is unknown, there is little data that can be used to guide economic policies, support business growth, or attract investment.

It's exacerbated by the fact that there isn't a clear, structured methodology in place to collect and analyze data on local economies. Methods used to calculate GDP at national and state levels are too general to understand the intricacies of local economies in commercial centers that are smaller. The study focuses on filling the gap by devising a real-life solution for estimating the GDP of Raghunath Bazaar, which could be replicated for other places as well.

2.4 SIGNIFICANCE OF THE STUDY

This study has the potential to create a new approach to understanding the economic performance of small markets. Calculating the GDP of Raghunath Bazaar will provide useful insights into the role of the market in the local economy. The findings

will help businesses, policymakers, and researchers understand the economic contributions of localized commercial hubs.

Economic Development: Local government authorities will be able to understand the most crucial areas that require economic development and investment based on the GDP of Raghunath Bazaar. Policymakers can leverage this data in planning strategies to develop local commerce and improve the business environment in the bazaar.

Business Insights: For business owners in Raghunath Bazaar, the study will provide detailed insights into the overall economic landscape, helping them make more informed decisions about their operations, investment strategies, and marketing efforts.

This work will be replicated in the methods developed here since it will find utility for a researcher or policy maker looking into other small Indian markets and everywhere else. What is new to this approach includes the use of statistical and computation tools in determining localized GDP to be applied again in other towns, cities, or townships for evaluating their economies.

2.5 PROJECT OUTCOMES

Several key outcomes will be expected from this project at the end.

This contains estimation of GDP for Raghunath Bazaar, following the economic information of businesses based in the bazaar, by processing and analyzing it on C programming and SPSS.

Analysis of Key Drivers of Economic Factors: The drivers of economic activities of Raghunath Bazaar, consisting of retail and service activities along with local fairs

and other government policies.

Practical Model for Estimating GDP: A replicable model that uses computational tools, namely C programming and SPSS, to estimate the GDP of localized markets, which can be applied to other similar markets.

Recommendations for Business Owners and Policymakers: Actionable recommendations based on the findings to improve business operations and economic policies in Raghunath Bazaar.

Contributions to economic studies: This work is added to localized economic studies wherein there is a set methodological framework that can be adapted and used for similar projects in different markets and different regions.

Chapter 3

LITERATURE REVIEW

3.1 INTRODUCTION

The study "Unveiling Raghunath Bazaar's GDP: A Practical Solution through C and SPSS" presents an innovative approach to estimating the economic contribution of Raghunath Bazaar, a significant commercial hub in Jammu. The research employs computational techniques, specifically C programming for data processing and SPSS for statistical analysis, to estimate the Gross Domestic Product (GDP) of this localized market. This literature review examines relevant academic contributions related to localized economic assessments, computational methodologies for GDP estimation, and the role of statistical tools in economic analysis.

3.2 LOCALIZED ECONOMIC ASSESSMENTS

Localized market studies are essential for understanding regional economic contributions. Traditional economic studies, such as those by Stough et al. (2001), emphasize the significance of microeconomic evaluations in understanding broader economic trends. Studies focusing on small commercial hubs, like the work of Markusen and Schrock (2006), highlight how local economies serve as key drivers of regional growth. However, existing literature lacks a standardized method for assessing the GDP of smaller commercial areas, which this study aims to address.

3.3 COMPUTATIONAL APPROACHES TO GDP ESTIMATION

The use of computational tools in economic analysis has gained prominence in recent

years. According to Kuznets (1937), GDP estimation traditionally relies on aggregate national data, limiting its applicability to localized markets. More recent studies, such as those by Ghosh et al. (2018), advocate for data-driven approaches using programming languages like Python and C to analyze economic trends efficiently. The application of C programming in this study aligns with the emerging trend of leveraging coding for economic data processing, offering a replicable model for similar studies.

3.4 STATISTICAL ANALYSIS AND SPSS IN ECONOMIC RESEARCH

Statistical analysis tools like SPSS play a crucial role in economic research by enabling complex data interpretation. Studies by Field (2013) and Pallant (2020) emphasize the importance of regression models, correlation analysis, and inferential statistics in deriving economic insights. The present study integrates SPSS for statistical modeling, particularly in GDP estimation through regression and correlation analyses, reinforcing the validity of its methodology.

3.5 METHODOLOGICAL COMPARISONS

While national and state-level GDP estimation often relies on expenditure or production methods (Mankiw, 2016), this study adopts the Income Method due to its feasibility in a localized setting. Similar approaches have been observed in regional studies such as those conducted by Henderson and McDaniel (2018), which highlight the effectiveness of income-based calculations for microeconomic environments. The study's focus on primary data collection through structured surveys aligns with contemporary best practices in economic field research.

3.6 CHALLENGES AND LIMITATION IN LOCALISED ECONOMIC ANALYSIS

A key challenge in localized GDP estimation is data reliability. Existing research, including work by Jerven (2013), highlights discrepancies in informal sector contributions and self-reported financial data. This study addresses these concerns by incorporating both qualitative and quantitative data verification methods. However, future studies could enhance accuracy through longer observation periods and integration of digital data collection tools.

3.7 CONCLUSION

The study "Unveiling Raghunath Bazaar's GDP" contributes significantly to localized economic research by presenting a replicable computational model for GDP estimation. By combining C programming and SPSS, it aligns with contemporary trends in data-driven economic analysis while addressing key methodological gaps in existing literature. Future research could build on this framework by incorporating machine learning models and expanding the study to other commercial hubs for comparative analysis.

Chapter 4

METHODOLOGY

4.1 INTRODUCTION

The methodology chapter describes the approach and methods that will be adopted to estimate the GDP of Raghunath Bazaar. Since the nature of this research is local, a mix of both conventional economic models and new computational tools such as C programming and SPSS will be adopted. This approach ensures accuracy, reliability, and the capability to analyze large data sets, which are crucial in estimating the GDP of a particular market such as Raghunath Bazaar. This chapter explains the research design, study area, sample selection, data collection techniques, and the analysis methods used in the study.

4.2 RESEARCH DESIGN

This study adopts a descriptive and analytical research design. The primary aim is to collect data from various businesses and commercial activities within Raghunath Bazaar to estimate its GDP. The research will be carried out in several phases:

1. **Data Collection:** Gather data from businesses operating in Raghunath Bazaar, including sales figures, transaction volumes, types of goods/services sold, and other economic activities.
2. **Data Processing:** Using C programming, process the collected data and organize it for analysis.
3. **Data Analysis:** Apply statistical techniques using SPSS to analyze the data and model the GDP based on various economic indicators.
4. **Interpretation of Results:** Interpret the results of the analysis to estimate the

economic contribution of Raghunath Bazaar to the local GDP.

The research will focus on the retail sector and the services sector in Raghunath Bazaar, with some attention to tourism as an external factor that may influence the bazaar's economy.

4.3 STUDY AREA

The research will be conducted in Raghunath Bazaar, which is a very famous commercial center in Jammu, Jammu and Kashmir. The market is popular for various types of retail outlets selling everything from traditional handicrafts, garments, electronics, jewelry, dry fruits and other miscellaneous products. Besides that, the bazaar is a prime tourist attraction as it is near several significant religious centers, like the Raghunath Temple.

Given the historical and commercial significance of the bazaar, the area should be an ideal case study regarding the economic dynamics of a localized market. The geographical boundaries of the study will be all over the Raghunath Bazaar area, with attention paid to shops, stalls, and other businesses directly engaged in retail and services

4.4 SAMPLE SIZE

Sample size will be very essential for the overall generalization of the findings, which are related to the overall bazaar. This study is focused on the random sample of 52 business entities operating within Raghunath Bazaar. This sample consists of small retailers as well as large outlets that can be quite comprehensive for getting a picture of economic activities across this market.

A cross-section sample is used where selected businesses operate in various sectors

to diversify the sample

- **Retail sector:** Apparel, electronics, and general merchandise.
- **Service sector:** Restaurants, and other service-related businesses.
- **Tourism-related business**: Souvenir shops.

The sample of businesses will be chosen to reflect the overall commercial activities in the bazaar, focusing on capturing differences in economic activity due to and business scale.

4.5 SAMPLE UNIT

The sample units for this study will be individual businesses operating within Raghunath Bazaar. For each business, the following data will be collected:

4.5.1 **Sales Data:** Monthly sales figures (e.g., revenue, volume of goods sold).

4.5.2 **Transaction Data:** Average transaction size.

4.5.3 **Operational Details:** Information on business size, number of employees, and business category.

Data from these units will be used to estimate the total economic contribution of Raghunath Bazaar to the local GDP.

4.6DATA COLLECTION METHOD

Data will be collected using a mixed-method approach. This will combine the quantitative data obtained from the sales records with qualitative data from business owners and managers. The following methods will be used for data collection:

4.6.1 **Surveys/Questionnaires:** The 52 businesses in the sample will receive

structured surveys. These will help gather quantitative data on sales,

transaction volumes, and other financial metrics. Some open-ended questions will be included to provide qualitative insights into how businesses view the local economy, challenges they face, and how tourism affects their operations.

4.6.2 **Interviews:** Semi-structured interviews will be taken from business owners and managers in order to gain detailed insights about the factors that affect their sales and overall economic activity. The interviews will also help in understanding seasonal trends, customer preferences, and how local events or festivals influence the business.

4.7DATA COLLECTION

Data collection will be done through various field Visits. During these field surveys, data collection on the following will be done:

- Daily and monthly sales figures of each business.
- Business operations data including the number of employees, kinds of goods sold, and peak periods of sales.
- Economic events like local festivals or events that might influence business activity.

Efforts will be made to ensure that the data collected is both accurate and reliable by cross-verifying with business records and interviews with owners.

4.8 DATA ANALYSIS AND INTERPRETATION

The data collected will be analyzed using both descriptive and inferential statistical methods:

4.8.1 **C Programming:** The raw collected data will be preprocessed and formatted using C programming. This will include cleaning of the data set, conversion of the data for sales into usable formats, and such calculations as average sales, volume of transactions, and revenue per business. Preliminary economic estimates will also be computed using C on the basis of the sales figures.

4.8.2 **SPSS for Statistical Analysis:** For sophisticated statistical analysis, SPSS will be utilized. This entails the following:

- **Regression analysis** to model the relationship between various economic factors (e.g., sales, number of transactions) and GDP contribution.
- **Descriptive statistics** to summarize data such as total sales, average transaction sizes, and seasonal trends.
- **Correlation analysis** to identify key factors influencing the market's economic output.

The objective of the economic model is to calculate the contribution of Raghunath Bazaar towards the local GDP of Jammu by incorporating various factors that influence economic activity.

4.8.3 **GDP Calculation:** Drawing upon the processed data and statistical analysis, a GDP figure for Raghunath Bazaar will be calculated. This would involve summing up the contribution from the various business sectors and

applying appropriate multipliers to factor in indirect economic impact.

4.9ETHICAL ISSUES

Ethical considerations are the backbone of this research methodology; they make sure that the rights of participants and the integrity of the data are maintained. The following are the ethical guidelines that will be adhered to during this study:

4.9.1 **Informed Consent:** All participants, including business owners and managers, will be fully informed about the purpose of the study and their participation. Consent will be obtained in writing before any data collection begins.

4.9.2 **Confidentiality:** The sales figures and transaction volumes shall remain confidential. No personal and business-identifying information will be disclosed without prior consent. Only aggregated data will be presented in the final report.

4.9.3 **Non-Discrimination:** There will be non-discrimination, where all business types in the bazaar regardless of size and ownership will stand an equal opportunity of being taken.

4.9.4 **Data Integrity**: A high degree of concern for data accuracy and reliability in terms of what is to be collected; this includes checking on responses with businesses, verifying the sales records and consistency in entry of data.

Chapter 5

RESULT AND DISCUSSION

5.1 METHODOLOGY ON CALCULATION OF GDP

Before providing the results, it is important to understand how GDP has been calculated and why the Income Method was chosen for this research.

Production Method (also known as Output Method): This method computes GDP by adding up the value added at each stage of production. In the case of Raghunath Bazaar, it would involve estimating the value added by businesses across sectors (retail, services, etc.). Although this is a widely used method, it requires detailed data on production processes and intermediate goods, which is hard to obtain in a market like Raghunath Bazaar.

Expenditure Method: This calculates GDP by adding up all the expenditures that occur in an economy. It would include consumption, investment, government spending, and net exports that is exports minus imports. Although this method is used more frequently in national-level GDP calculation, it becomes quite tricky to apply to a localized market like Raghunath Bazaar, where it is difficult to measure the consumption and investment precisely.

Income Method [20]**:** The income method adds up the income of all production factors in an economy to calculate its GDP. This includes:

- Wages paid to workers.

- Profit by firms.
- Rent paid for properties or land.
- Interest generated from all investments.
- Taxes, subsidies

The Income Method suits this particular study best for it is only through this method that one can have a deep understanding of the economic impacts of companies in Raghunath Bazaar. For the fact that all companies directly contribute to generating income, its methodology fits well with the economy of Raghunath Bazaar, which comprises many small businesses that operate in different aspects.

Therefore, for this paper, the Income Method was selected as it is directly aligned with the accessible data (business profits, wages, and rents) and provides a feasible way of estimating the GDP of an earmarked market, such as Raghunath Bazaar.

5.2 METHODOLOGY IN ESTIMATION OF GDP WITH INCOME METHOD

For the estimation of the GDP of Raghunath Bazaar based on the Income Method, the following factors were considered:

- **Total Profits:** Profits earned by businesses in the bazaar.
- **Wages and Salaries:** Wages paid to employees working in retail shops, service businesses, and other establishments.
- **Rents:** Rental income earned by property owners who lease commercial spaces to businesses.
- **Interest:** Interest earned by businesses on any loans or financial investments.
- **Taxes:** Taxes paid to the government by businesses.

- **Subsidies :** given by the government

The formula used for calculating GDP is:

GDP=Profits+Wages+Rent+Interest+Taxes-Subsidies

The data was collected based on the following:

- **Profits:** The monthly profit margins were collected through surveys and interviews with business owners. This data was then aggregated across all businesses in the sample.
- **Wages:** Data on employee wages were collected directly from businesses, considering both full-time and part-time workers. Wages were aggregated across businesses in each sector.
- **Rents:** Rent payments to landlords for business premises were collected, noting that businesses in Raghunath Bazaar typically operate on leased spaces.
- **Interest:** Interest earned by businesses on loans was included based on business financial records, which were provided by owners during the survey.
- **Taxes:** Taxes paid to the government by businesses.
- **Subsidies:** Given by the government

5.3 DISCUSSION OF RESULTS

5.3.1 Market Profile of Raghunath bazaar

Description of Shop Categories in Raghunath Bazaar, Jammu

Raghunath Bazaar, located in the heart of Jammu city, is one of the most vibrant and diverse marketplaces in Jammu and Kashmir. This iconic shopping destination offers a wide variety of goods and services, catering to the needs of locals and tourists alike. Below is a brief description of the shop categories listed in the bazaar:

1. Clothes: A major highlight of the market, offering traditional Kashmiri attire, ethnic wear, and modern clothing, making it a hub for fashion enthusiasts.
2. Grocery: Shops providing daily essentials and locally-sourced food items to meet household needs.
3. Dry Fruits: Known for premium-quality dry fruits like almonds, walnuts, and saffron, which are specialties of the region.
4. Utensils/Ceramics: Stores selling high-quality cookware, crockery, and traditional ceramic items.
5. Sports: Dedicated outlets for sportswear, equipment, and accessories for fitness and outdoor activities.
6. Shoes: A variety of footwear, from traditional Kashmiri designs to modern styles, catering to all age groups.
7. Restaurants: Serving delicious local and North Indian cuisines, these eateries

are popular for authentic flavors.

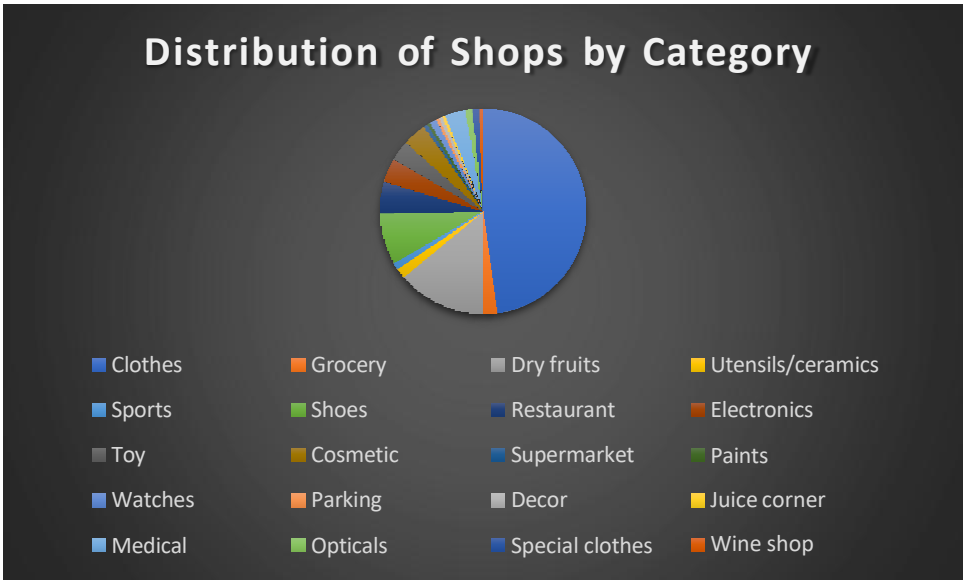
8. Electronics: Shops providing gadgets, home appliances, and electronic accessories.
9. Toys: A favourite among children, offering a wide range of toys, games, and fun items.
10. Cosmetics: Stores featuring beauty products, skincare, and personal care items from local and international brands.
11. Supermarket: A single-stop shop for groceries, snacks, and packaged goods.
12. Paints: Outlets offering a variety of paints and related accessories for home and commercial use.
13. Watches: Stores featuring wristwatches, clocks, and timekeeping devices, catering to all preferences.
14. Parking: Facilities for safe and convenient vehicle parking to enhance the shopping experience.
15. Decor: Shops selling home décor items, souvenirs, and Kashmiri handicrafts.
16. Juice Corner: Refreshment stalls offering fresh juices and beverages to energize shoppers.
17. Medical: Pharmacies providing medicines, health products, and medical consultations.
18. Opticals: Stores specializing in eyewear, including prescription glasses, sunglasses, and eye check-ups.
19. Special Clothes: Boutiques offering exclusive designer wear and specialty garments.

20. Wine Shop: A licensed outlet for alcoholic beverages catering to adult customers.

Category	Number of Shops
Clothes	89
Grocery	4
Dry fruits	26
Utensils/ceramics	3
Sports	2
Shoes	15
Restaurant	9
Electronics	7
Toy	6
Cosmetic	7
Supermarket	1
Paints	1
Watches	2
Parking	1
Decor	1
Juice corner	1
Medical	6
Opticals	2
Special clothes	2
Wine shop	1
Total	**186**

Raghunath Bazaar embodies the cultural essence and commercial vibrancy of Jammu, offering a rich blend of traditional and modern shopping experiences.

This marketplace not only serves as a shopping destination but also reflects the cultural diversity of the region.



5.3.2 DATA SAMPLING

Sample size will be very essential for the overall generalization of the findings, which are related to the overall bazaar. This study is focused on the random sample of 52 business entities operating within Raghunath Bazaar. This sample consists of small retailers as well as large outlets that can be quite comprehensive for getting a picture of economic activities across this market.

Key Attributes:

1. **Consent for Data Collection**: Every participant has given their consent to use the provided information for economic analysis.

2. **Type of Business**: Predominantly, businesses such as clothing shops are present in the dataset.

3. **Shop Ownership**:

   Data includes whether the shop is owned or rented.

   Rent paid by rented shops varies, with an example of ₹1000 for one respondent.

4. **Employment**:

   Number of full-time and part-time employees is specified, ranging from 2 to 15.

5. **Wages and Salaries**:

   Monthly wages/salaries paid to employees are recorded, ranging from ₹5,000 to ₹15,000.

6. **Owner's Salary**:

   Includes details of owner salaries, with some cases having no salary listed.

7. **Business Expenses**:

   Annual business expenditures (excluding salaries) range significantly, with examples such as ₹366,000 to ₹643,000.

8. **Profit/Loss**:

   Net profit or loss for the last financial year is documented, varying from ₹100,000 to ₹800,000.

9. **Loan Interest**:

   Annual interest on loans is recorded, with most respondents indicating no loans.

10. **Taxes**:

Types of taxes include income tax, GST, sales tax, and TDS.

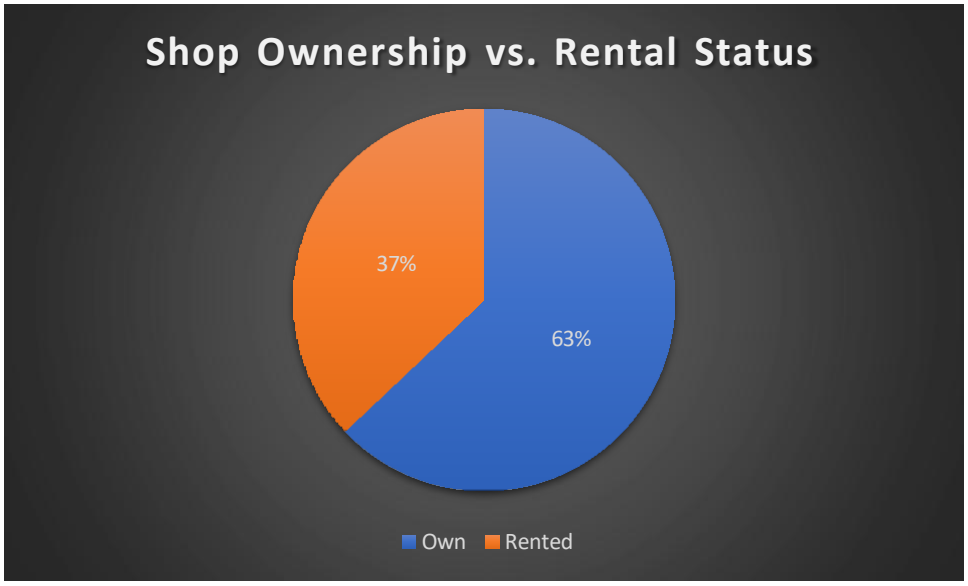
Annual tax payments range from ₹20,000 to ₹30,000.

11. **Professional Tax Services**:

Indicates whether businesses utilized services like accountants or tax consultants for compliance, with a majority not utilizing these services.

Observations:

1. **Shop Ownership and Rent**: Ownership is more common than renting among respondents, with minimal rent payments reported. (Own shops – 34, Rented - 20)



2. **Employment Patterns**: The number of employees and their wages highlight the scale of operations for these businesses.

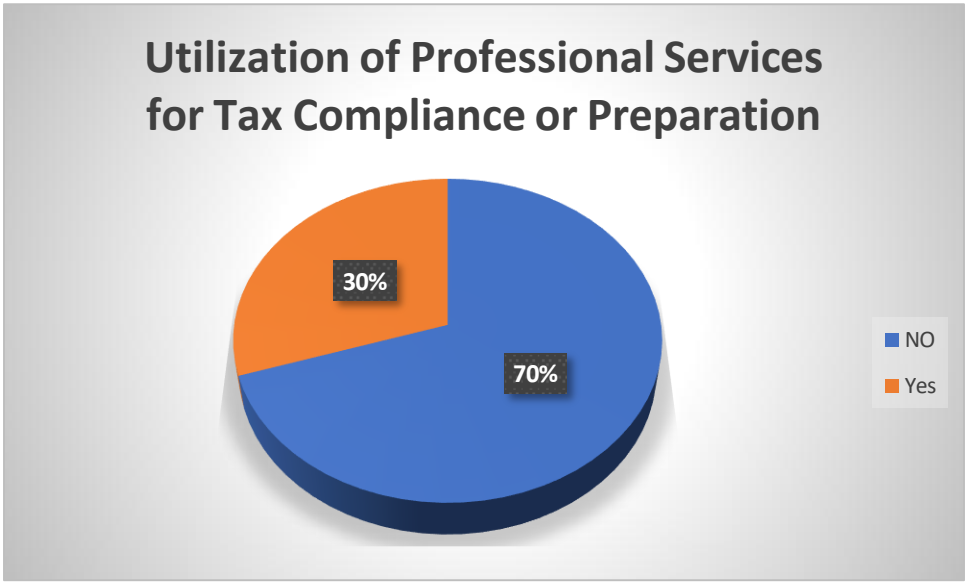
3. **Financial Health**:

    a. A majority of the businesses report positive profits, with substantial variation across respondents.

    b. Loan interest payments are rare, indicating a low reliance on borrowed capital.

4. **Tax Compliance**:

    Various tax types are paid, and only a few businesses use professional services for tax-related tasks.



5.3.3 Profits and Sectorial Contributions

The analysis showed that the retail sector contributed the most to the GDP of Raghunath Bazaar, owing to increased sales volumes and profit margins. Retail business dealing with clothing, electronics,dryfruits and handicrafts witnessed relatively higher profits since the demands are relatively constant during the peak season (festivals and holidays).

The service industry, which also includes restaurants is another sector contributing to the GDP. However, it was more inconsistent, as businesses in restaurants and transport made more profit during tourist seasons or religious celebrations.

5.3.4 Limitations of the Income Method

Though the Income Method was a useful way to estimate GDP, it has certain limitations:

- **Data Accuracy:** Profits, wages, rents, and interest were not easy to obtain accurately because small businesses, especially, did not keep formal records. We have relied on estimates and interviews with business owners, but this may introduce some degree of inaccuracy.

- **Exclusion of Informal Economy:** Many small businesses in Raghunath Bazaar operate in the informal sector and may not fully report their income. This could lead to underestimating the total GDP of the bazaar.

- **Seasonal Adjustments:** While seasonal variations were accounted for, some businesses might have experienced fluctuations not captured by the three-month data collection period. Longer-term studies could provide a more accurate representation.

- **Seasonal Fluctuations:** Seasonal variations can result in **overestimation or underestimation** of the actual economic output, depending on the timing of data collection, making it a challenge to arrive at an accurate and consistent GDP figure.

5.3.5 C programming for Data Processing

<u>Code and it's Explanation</u>:

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

#define MAX_SHOPS 100

// Structure to store shop data
typedef struct
{
    char name[100];
    double profit;
    double monthly_wages;
    double monthly_rent;
    double yearly_interest;
    double taxes;
} Shop;

// Function to calculate GDP of a shop
double calculateGDP(Shop shop)
{
    return shop.profit + (shop.monthly_wages * 12) + (shop.monthly_rent * 12) + shop.yearly_interest + shop.taxes;
}

// Function to predict next year's GDP
double predictNextYearGDP(double current_gdp)
{
    const double growth_rate = 0.07; // Assuming 7% growth
    return current_gdp * (1 + growth_rate);
}

int main()
{
    FILE *file = fopen("Files\\GDPcsvFILE.csv", "r");
    if (!file)
    {
        printf("Error: Could not open the file.\n");
        return 1;
    }

    Shop shops[MAX_SHOPS];
```

```
42.     int shop_count = 0;
43.     char line[2048];
44.
45.     // Read the header line
46.     fgets(line, sizeof(line), file);
47.     char *headers = strdup(line); 48.
49.     // Identify column indices for required fields
50.     int name_idx = -1, profit_idx = -1, wages_idx = -1, rent_idx = -1, interest_idx = -1,
taxes_idx = -1;
51.     int col_idx = 0;
52.     char *token = strtok(headers, ","); 53.
54.     while (token)
55.     {
56.         if (strstr(token, "Name")) name_idx = col_idx;
57.         else if (strstr(token, "Net Profit")) profit_idx = col_idx;
58.         else if (strstr(token, "Monthly  Wages")) wages_idx = col_idx;
59.         else if (strstr(token, "Rent Paid")) rent_idx = col_idx;
60.         else if (strstr(token, "interest paid")) interest_idx = col_idx;
61.         else if (strstr(token, "taxes paid")) taxes_idx = col_idx; 62.
63.         token = strtok(NULL, ",");
64.         col_idx++;
65.     }
66.     free(headers);
67.
68.     // Read the file line by line
69.     while (fgets(line, sizeof(line), file))
70.     {
71.         if (shop_count >= MAX_SHOPS)
72.         {
73.             printf("Error: Too many shops, increase MAX_SHOPS.\n");
74.             break;
75.         }
76.
77.         Shop shop = {"", 0, 0, 0, 0, 0};
78.         col_idx = 0;
79.         token = strtok(line, ","); 80.
81.         while (token)
82.         {
83.             if (col_idx == name_idx) strncpy(shop.name, token, sizeof(shop.name));
```

```
            else if (col_idx == profit_idx) shop.profit = atof(token);
            else if (col_idx == wages_idx) shop.monthly_wages = atof(token);
            else if (col_idx == rent_idx) shop.monthly_rent = atof(token);
            else if (col_idx == interest_idx) shop.yearly_interest = atof(token);
            else if (col_idx == taxes_idx) shop.taxes = atof(token);

            token = strtok(NULL, ",");
            col_idx++;
        }

        // Add shop to the array
        shops[shop_count++] = shop;
    }

    fclose(file);
    double total_gdp = 0;
    printf("=============================================\n");
    printf("               GDP Calculation               \n");
    printf("=============================================\n");

    for (int i = 0; i < shop_count; i++)
    {
        double gdp = calculateGDP(shops[i]);
        total_gdp += gdp;

        printf("Shop: %s\n", shops[i].name);
        printf("  GDP: %.2f\n", gdp);
        printf("-------------------------------------------------------------------\n");
    }

    printf("Total GDP of All Shops: %.2f\n", total_gdp);
    printf("Predicted GDP for Next Year: %.2f\n", predictNextYearGDP(total_gdp));

    return 0; }
```

Output

GDP Calculation:

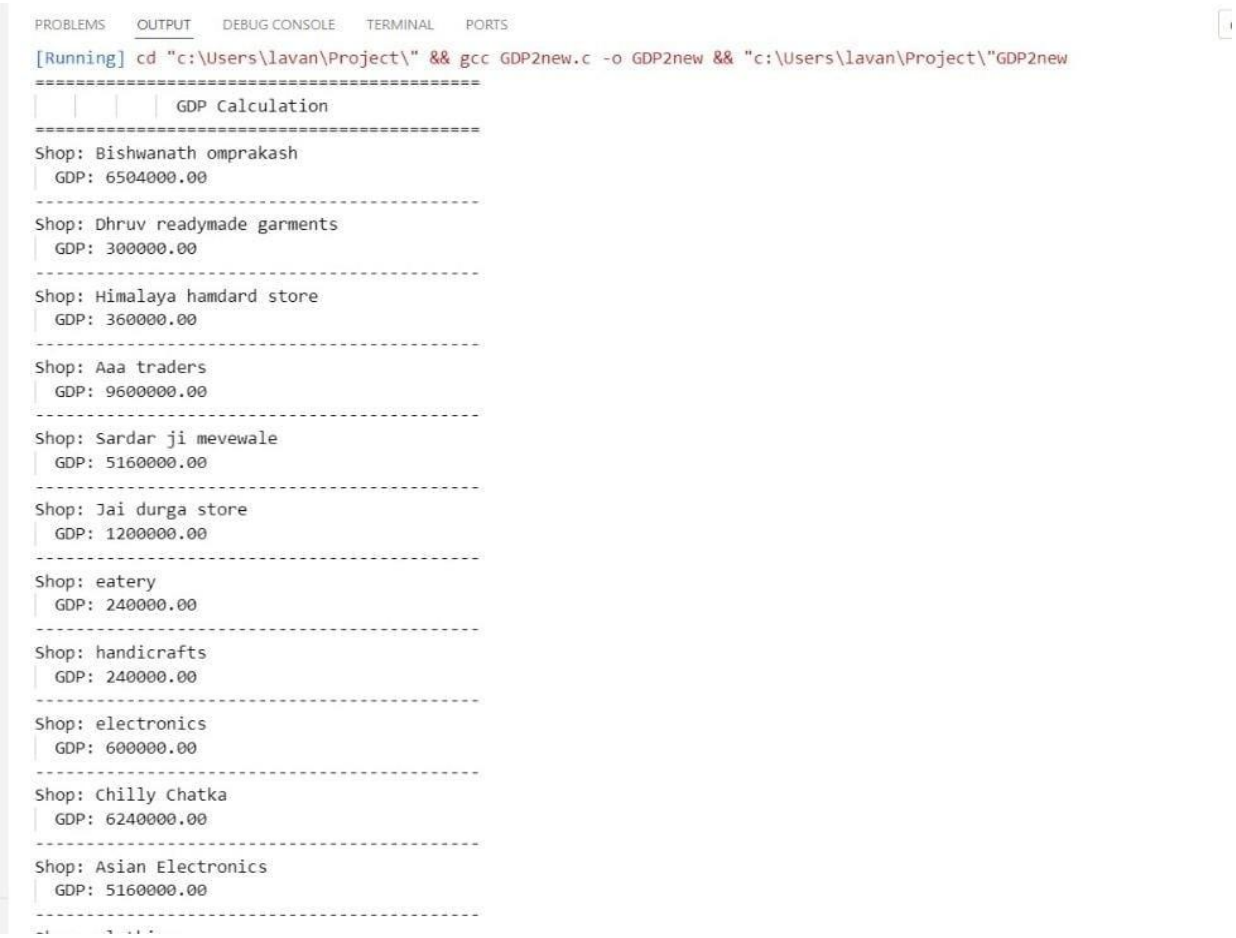
Here's the output data in a tabular format:

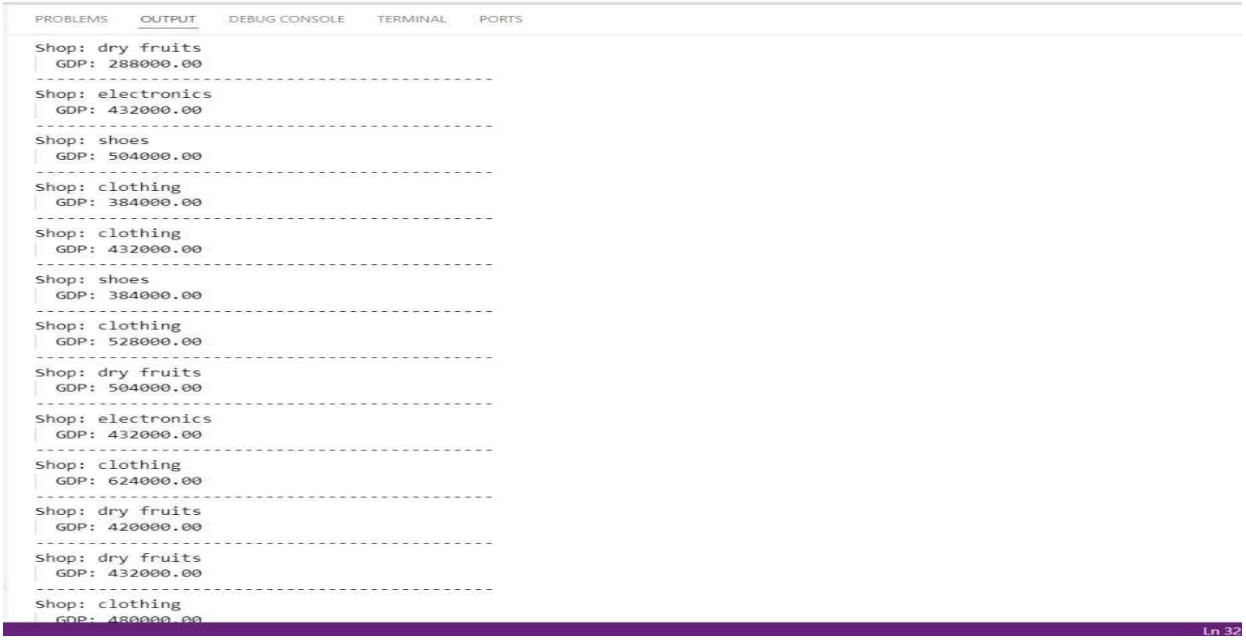
Shop	GDP
Bishwanath Omprakash	6,504,000
Dhruv Readymade Garments	300,000
Himalaya Hamdard Store	360,000
Aaa Traders	9,600,000
Sardar Ji Mevewale	5,160,000
Jai Durga Store	1,200,000
Eatery	240,000
Handicrafts	240,000
Electronics	600,000
Chilly Chatka	6,240,000
Asian Electronics	5,160,000
Clothing	540,000
Clothing	360,000
Clothing	240,000
Dry Fruits	240,000
Clothing	870,000
Clothing	360,000
Clothing	276,000
Shoes	180,000
Dry Fruits	743,000
Clothing	106,000
Dry Fruits	240,000
Handicrafts	351,000
Handicrafts	360,000
Shoes	754,000

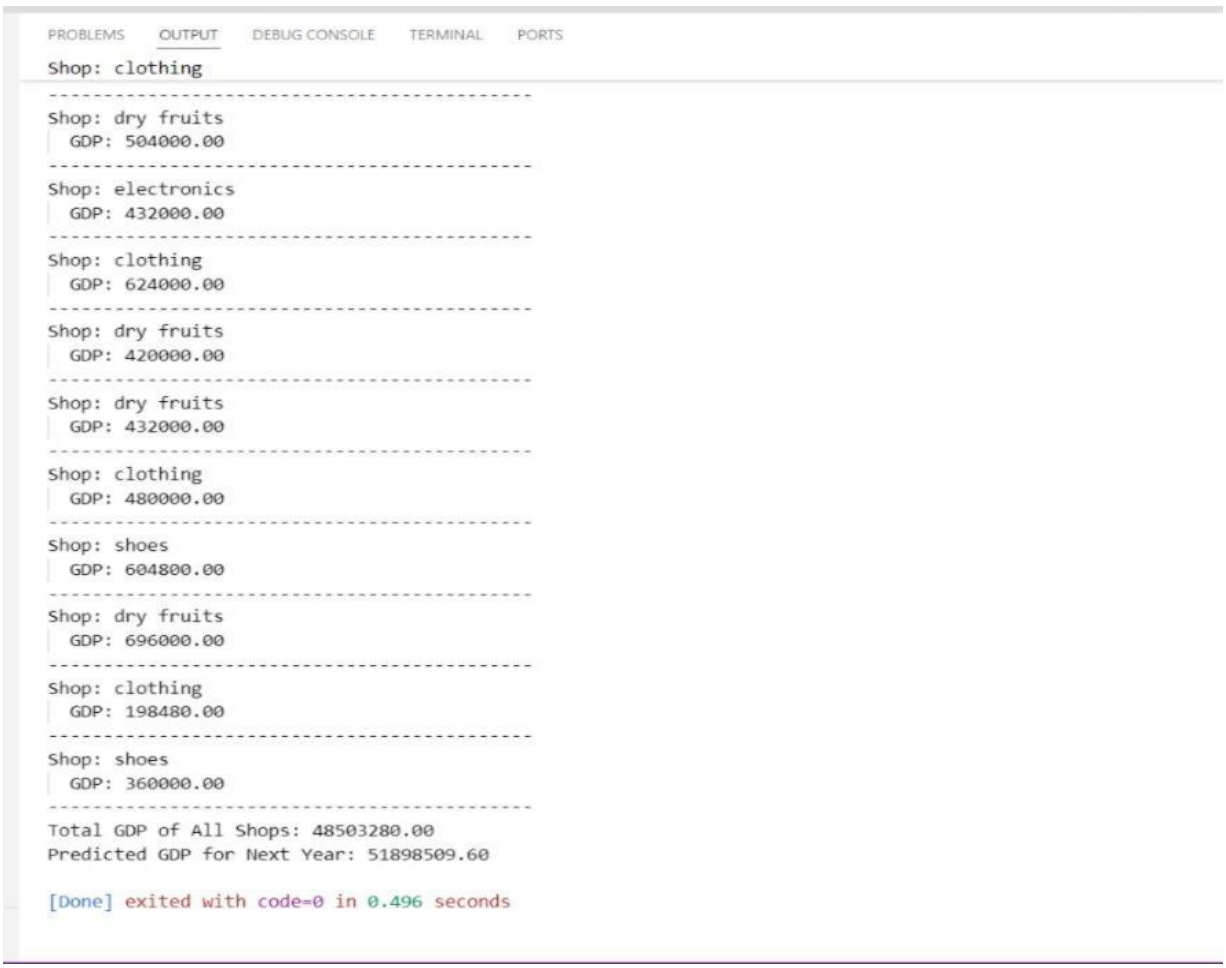
Grocery	236,000
Grocery	540,000
Grocery	275,000
Eatery	360,000
Eatery	216,000
Grocery	320,000
Shoes	384,000
Dry Fruits	360,000
Eatery	360,000
Handicrafts	180,000
Dry Fruits	288,000
Electronics	432,000
Shoes	504,000
Clothing	384,000
Clothing	432,000
Shoes	384,000
Clothing	528,000
Dry Fruits	504,000
Electronics	432,000
Clothing	624,000
Dry Fruits	420,000
Dry Fruits	432,000
Clothing	480,000
Shoes	604,800
Dry Fruits	696,000
Clothing	198,480
Shoes	360,000
Total GDP of All Shops	**48,503,280**

Predicted GDP for Next Year	**51,898,509.60**

Outputs




PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Shop: dry fruits
GDP: 288000.00
Shop: electronics
GDP: 432000.00
Shop: shoes
GDP: 504000.00
Shop: clothing
GDP: 384000.00
Shop: clothing
GDP: 432000.00
Shop: shoes
GDP: 384000.00
Shop: clothing
GDP: 528000.00
Shop: dry fruits
GDP: 504000.00
Shop: electronics
GDP: 432000.00
Shop: clothing
GDP: 624000.00
Shop: dry fruits
GDP: 420000.00
Shop: dry fruits
GDP: 432000.00
Shop: clothing
Ln 32


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Shop: clothing
Shop: dry fruits
GDP: 504000.00
Shop: electronics
GDP: 432000.00
Shop: clothing
GDP: 624000.00
Shop: dry fruits
GDP: 420000.00
Shop: dry fruits
GDP: 432000.00
Shop: clothing
GDP: 480000.00
Shop: shoes
GDP: 604800.00
Shop: dry fruits
GDP: 696000.00
Shop: clothing
GDP: 198480.00
Shop: shoes
GDP: 360000.00
Total GDP of All Shops: 48503280.00
Predicted GDP for Next Year: 51898509.60
[Done] exited with code=0 in 0.496 seconds

Introduction

Imagine you are running a study to calculate how much money a group of shops contributes to the economy. This contribution is called GDP (Gross Domestic Product). Each shop has some profits, pays wages to employees, rents for their spaces, interest on loans, and taxes. By adding up these values for each shop, you can calculate their individual contribution to GDP.

This program does exactly that! It reads data about various shops from a file, calculates their GDP, sums it up, and predicts how much the GDP might grow in the next year.

What's Happening in This Code?

This program reads shop data from a file called GDPcsvFILE.csv, calculates the GDP for each shop, totals them up, and predicts the GDP for the next year with a 7% growth rate. Let's go step by step:

The Basics: Header Files

1. **<stdio.h>**

Provides functions for input and output, such as printf(), fgets(), and fopen(). Think of this as the toolbox for input and output. Functions like printf() (for printing text) and fopen() (for opening files) live here.

2. **<stdlib.h>**

Contains functions for memory allocation (malloc), type conversion (atof), and process control (exit). This is a helper for things like converting strings to numbers (atof()) and handling memory. It's like **a Swiss army knife** for C programs.

3. **<string.h>**

Provides functions for string manipulation like strtok() (tokenizing strings) and strncpy() (safe string copying). This one is for dealing with text. Functions like strtok() (splitting strings by commas) and strncpy() (copying text safely) are here.

Breaking Down the Code

1. The "Shop" Structure

At the beginning of the program, we define what information each shop needs:

- Name: The name of the shop.
- Profit: How much money the shop earns after expenses.
- Monthly Wages: The total wages paid to employees every month.
- Monthly Rent: The rent paid every month for the shop's space.
- Yearly Interest: The interest paid on loans in a year.
- Taxes: The taxes paid by the shop.

This structure is like a template for storing the details of each shop.

2. The GDP Formula

The program includes a formula to calculate the GDP of a shop:

GDP=Profit+(Monthly Wages×12)+(Monthly Rent×12)+ Yearly Interest + Taxes

Here's what happens:

- Profit is added directly because it’s already a yearly amount.
- Monthly Wages and Monthly Rent are multiplied by 12 to convert them into yearly amounts.
- Yearly Interest and Taxes are added directly.

3. The Growth Prediction

The program assumes a 7% growth rate for next year.(same as country growth rate) This is applied to the total GDP using the formula:

Predicted GDP=Current GDP × (1+0.07)

This means we simply increase the current GDP by 7%.

4. Reading Data from a File

The program gets its input from a file named "GDPcsvFILE.csv". This file contains a list of shops and their financial details.

How it works:

- The first line of the file contains the names of the columns (e.g., "Name", "Profit", "Wages", etc.). These are called headers.
- Each subsequent line contains the details for one shop (e.g., its name, profit, wages, rent, etc.).

The program figures out which column contains which information by matching the column names in the header.

5. Processing Each Shop

For every shop in the file:

1. The program reads its name, profit, wages, rent, interest, and taxes.
2. It calculates the GDP using the formula.
3. It adds this GDP to the total GDP of all shops.
4. It prints the shop's name and its GDP.

6. Summarizing the Results

At the end:

- The program prints the total GDP for all the shops combined.
- It calculates and prints the predicted GDP for the next year.

How the Program Works

Let's imagine a simple example with just 2 shops:

Input File (CSV)

Name, Net Profit, Monthly Wages, Rent Paid, interest paid, taxes paid

Shop A,10000,2000,1000,500,200

Shop B,20000,2500,1200,800,300

1. **For Shop A:**

- Profit = 10,000
- Monthly Wages = 2,000 → Yearly = 24,000
- Monthly Rent = 1,000 → Yearly = 12,000
- Interest = 500
- Taxes = 200

  GDP = 10,000 + 24,000 + 12,000 + 500 + 200 = 46,700

2. For Shop B:

- Profit = 20,000
- Monthly Wages = 2,500 → Yearly = 30,000
- Monthly Rent = 1,200 → Yearly = 14,400
- Interest = 800
- Taxes = 300

  GDP = 20,000 + 30,000 + 14,400 + 800 + 300 = 65,500

Total GDP= 46,700 + 65,500 = 112,200

Predicted GDP = 112,200 × 1.07 = 120,054

The program will display:

==========

GDP Calculation

==========

Shop: Shop A

GDP: 46700.00

Shop: Shop B

GDP: 65500.00

Total GDP of All Shops: 112200.00

Predicted GDP for Next Year: 117810.00

Why we assume 7% growth rate for next year?

Using 7% as the growth rate for predicting the next year's GDP of Raghunath Bazar in Jammu and Kashmir, India, through the income approach method in a C program, likely stems from economic and practical considerations.

Understanding the Choice of 7% Growth Rate Not an arbitrary number at all, this 7% growth rate is usually determined based on previous trends, economic factors, and expert predictions. Here's why:

1. **India's Historical GDP Growth Trend** India's GDP growth has historically hovered around 6-8% per year in recent decades, especially in high-growth periods. Since Raghunath Bazar is part of India's economy, it's pretty natural to expect that its GDP growth rate must be at par with the rest of the nation.

2. **Economic Performance of Jammu & Kashmir** - The economy of Jammu & Kashmir has grown at a rate similar to that of India, sometimes slightly lesser or greater based on local conditions. Because Raghunath Bazar is a large commercial centre, its growth rate may follow or be slightly higher than the average for the region.

Why Use This Growth Rate in a C Program?

When we are coding a C program to predict GDP for the coming year, the easiest thing would be to use a fixed growth rate. We never fetch dynamic data from any economical website, a 7% assumption provides quite realistic and easier calculation.

Example C Code:

```
#include <stdio.h>
int main()
{
   double current_gdp, next_year_gdp;
   double growth_rate = 7.0; // 7% growth rate
   printf("Enter current GDP of Raghunath Bazar: ");
   scanf("%lf", &current_gdp);
  // Calculating next year's GDP
  next_year_gdp = current_gdp * (1 + (growth_rate / 100));
  printf("Predicted GDP for next year: %.2lf ", next_year_gdp);
  return 0;
}
```

This program takes the current GDP and applies the 7% growth rate to estimate next year's GDP. It presumes a stable economic scenario and adopts a reasonable approximation for the sake of simplicity.

Conclusion: The 7% growth rate adopted in our C program is a fairly reasonable estimate considering the trends in India's economy, the regional performance of Jammu & Kashmir. **Though it is not 100% accurate, it is a practical and justifiable assumption for forecasting using the income approach method.**

Why This is Useful

This program can help:

- Economists track the contribution of small businesses to the economy.
- Business owners understand their impact and potential growth.

- Governments predict economic trends and make better policies.

Conclusion

This program is a simple example of how computers can process data and solve real-world problems. By reading a file, performing calculations, and predicting future values, it gives us valuable insights in just a few seconds!

5.3.6 SPSS Statistical Analysis

Descriptive Statistics: What, why, and how?

What's Descriptive Statistics?

Descriptive statistics is a branch of statistics that is applied to the data, which involves the summarizing of data with respect to some statistical measures in an understandable manner, often by use of measures like mean, median, standard deviation, minimum, maximum, etc.

Why Use Descriptive Statistics?

It condenses massive volumes of raw data into comprehensible numbers, such as averages and ranges.

It brings forth trends and changes in a pattern and does not allow the existence of outliers.

It helps out in decision-making through clear expression of data, such as business performance, economic analysis, and so on

It acts as a base for inferential statistics. It observes the characteristics of a sample before generalizing it to a population.

Key Descriptive Statistical Measures

1. Central Tendency Measures:

Indicates how data values are distributed around the central point of the data set.

- ❖ Mean: Arithmetic Mean of the data
- ❖ Range: The middle value when data is ordered
- ❖ Mode: Most frequent data value

2. Variability

Describes the level of spread of the data.

- ➢ Range: Difference between largest and smallest values
- ➢ Variance: Average of squared deviations from the mean.
- ➢ Standard Deviation: Square root of the variance, showing the average distance from the mean.

3. Other Important Measures:

- ➢ Minimum and Maximum: Indicate the boundaries of the dataset.
- ➢ Count (N): Total number of data points, showing sample size.
- ➢ Outliers: Extreme values that differ significantly from the rest.

The Process of Performing Descriptive Statistics

1. Defines the Objective:

Understand why you're analysing the dataset (e.g., determining the economic performance of Raghunath Bazaar).

2. Collect Data:

3. Data Organisation

Tabulate the raw data into a table, spread sheet or in a statistical package such as SPSS or Excel.

4. Computation of Key Descriptive Statistics

Using formula or calculator for calculation

- Mean, Median, Mode
- Range, Variance, Standard Deviation
- Minimum, Maximum, Count

5. Interpret Results:

Analyse computed metrics:

a) What is the average performance (mean)?

b) Are there wide differences (standard deviation)?

6. Report Findings:

Report results in clear words.

Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Rent Paid to Property Owners (â,'):	52	0	33000	1725.00	4804.731
Number of Full-Time and Part-Time Employees:	52	1	15	2.77	1.946
Monthly Wages/Salaries Paid to Employees (â,'):	52	5000	15000	9961.54	2693.213
Salary of Owner(s) (â,'):	52	0	48000	25576.92	11031.765
Your spendings in the name of business (â,'):	52	66000	700000	269442.31	144006.728
Net Profit/Loss for the Last Financial Year (â,'):	52	40000	840000	351446.15	214093.451
What is the yearly interest paid on the loan?	52	0	67000	12365.38	21950.058
What is the total amount of taxes paid by your business in the last financial year? (â,')	52	15000	58000	30133.46	10364.348
Valid N (listwise)	52				

Application in the Raghunath Bazaar GDP Project

The purpose of descriptive statistics is:

1. To summarize data from businesses—their rents, wages, profits, taxes, etc.

2. To find the variation between firms, for instance, some may have a much higher profit or pay a lot less rent.

3. To prepare for GDP computation through the income approach:

4. To aggregate major items such as rent, salaries, taxes, and profits.

Column Description:

- N: Count of the observation/entries in each variable under your dataset. This is 52 observations for all variables, considering a consistent dataset.
- Minimum: The lowest value in the data set for each variable.
- Maximum: The highest value in the data set for each variable.
- Mean: The average value of the variable, calculated by dividing the sum of all values by the number of observations.
- Standard Deviation (Std. Deviation): A measure of how much the values deviate, on average, from the mean. A higher standard deviation implies greater variability in the data.

Variable-by-Variable Breakdown

1. Rent Paid to Property Owners (₹):

- N: 52 observations.
- Minimum: ₹0 — Some businesses may not pay rent (e.g., they might own the property).
- Maximum: ₹33,000 — The highest rent paid among the businesses surveyed.
- Mean: ₹17,250 — On average, businesses pay ₹17,250 in rent.
- Std. Deviation: ₹4,804.731 — **Moderate variability** in rent paid, indicating some businesses pay significantly more or less than the average.

2. Number of Full-Time and Part-Time Employees:

- N: 52 observations.
- Minimum: 1 — Every firm surveyed has a minimum of one employee.
- Maximum: 15 — Maximum number of employees working in one firm.
- Mean: 2.77 — On average, the firms employ around 2–3 workers.
- Std. Deviation: 1.946 — The variability of workforce size in businesses is **relatively low**.

3. Monthly Wages/Salaries Paid to Employees (₹):

- N: 52 observations.
- Minimum: ₹5,000 — Least amount paid every month to all employees working in one firm.
- Maximum: ₹15,000 — The highest amount spent monthly on wages.
- Mean: ₹9,961.54 — Businesses spend around ₹10,000 per month on wages.
- Deviation: ₹2,693.213 — **Moderate variability**; a few businesses may spend much more or less.

4. Salary of Owners (₹):

- N: 52 observations.
- Minimum: ₹0 — Some owners might not take salary, instead, they reinvest the profit into the business.
- Maximum: ₹48,000 — The highest salary paid to an owner.
- Mean: ₹25,576.92 — Average salary drawn by owners is around ₹25,577.
- Std. Deviation: ₹11,031.765 — **High variability** suggests large differences in how much owners draw as salary.

5. Your Spendings in the Name of Business (₹):

- N: 52 observations.
- Minimum: ₹66,000 — The least amount spent by a business annually.
- Maximum: ₹7,00,000 — The most spent by a business annually.
- Mean: ₹2,69,442.31 — On average, businesses spend around ₹2.7 lakh annually.
- Std. Deviation: ₹1,44,006.728 — **Highly variant,** showing scale of business or cost of operations varies.

6. Net Profit/Loss for the Last Financial Year (₹):

- N: 52 observations.
- Minimum: ₹40,000 — The lowest net profit or net loss was ₹40,000 (loss making businesses will not reflect this number if averaged).
- Maximum: ₹8,40,000 — The highest net profit realized.
- Mean: ₹3,51,446.15 — Average net profit earned by the businesses was ₹3.5 lakh.
- Std. Deviation: ₹2,14,093.451 — **High variability**, indicating that some businesses are much better than others.

7. What is the Annual Interest Paid on the Loan?

- N: 52 observations.
- Minimum: ₹0 — Some businesses may not have any loans or interest liability.
- Maximum: ₹67,000 — The highest interest paid on loans.
- Mean: ₹12,365.38 — Average annual interest payment for businesses is

₹12,365.

- Std. Deviation: ₹21,950.058 — **High variability**, indicating diverse levels of borrowing.

8. What is the Total Amount of Taxes Paid by Your Business in the Last Financial Year (₹)?

- N: 52 observations.
- Minimum: ₹15,000 — The lowest amount of taxes paid by any business.
- Maximum: ₹58,000 — The highest amount of taxes paid.
- Mean: ₹30,133.46 — On average, businesses paid ₹30,133 annually in taxes.
- Std. Deviation: ₹10,364.348 — **Moderate variability**, meaning most businesses are in a similar tax range.

Observations and Insights:

1. High Standard Deviations (e.g., Spending, Profit/Loss, and Loan Interest):

The standard deviations of variables such as "Your Spendings in the Name of Business" and "Net Profit/Loss" are relatively high, indicating that business size and scope in Raghunath Bazaar vary significantly. Some businesses are significantly bigger or smaller compared to the mean.

2. Zero Minimums:

The presence of zero values for variables like "Rent Paid" and "Yearly Interest Paid" suggests that not all businesses pay rent or loans. Such differences can be material to their contribution to GDP.

3. Wage of owner and employee's expense:

Variance in this variable is associated with variance in the organization of business. The smaller shop will have a few employees, lower wages and larger establishments are more and more salary for the owner.

4. Application in GDP calculation (Income Approach):

Key ingredients to calculate the GDP are the total wage of employees, owners, rent paid, net profit, and taxes, that can be fetched from this database:

Wages of Employees + Owner Salary + Net Profit + Taxes Paid + Rent Paid.

Descriptive statistics give us the range, average contributions, and variances of critical importance in summing up the GDP.

Understanding Regression Analysis: Process, Purpose, and Interpretation

Regression analysis is a statistical technique used to investigate the relationship between a dependent variable (outcome) and one or more independent variables (predictors). It enables us to understand how different factors influence an outcome and predict future values based on past data.

1. Why Do We Perform Regression Analysis?

Primary Objectives of Regression Analysis

- Quantifies Relationships – Helps determine the impact of independent variables on the dependent variable.
- Decision-Making – Helps businesses and policymakers understand key factors driving an outcome.
- Identifying Key Influencers – Determines which variables significantly

affect a business outcome, price, or economic factor.

Detailed Explanation of Regression Output for Raghunath Bazaar GDP Project

The provided regression table represents a Multiple Linear Regression Model, where:

Dependent Variable:

- Net Profit/Loss for the Last Financial Year (₹) → The output or target variable we wish to predict.

Independent Variables (Predictors):

- Rent Paid to Property Owners
- Number of Employees (Full-time and Part-time)
- Monthly Wages/Salaries Paid to Employees
- Salary of Owner(s)
- Your Business Spendings
- Yearly Interest Paid on the Loan
- Total Taxes Paid by the Business

The regression analysis explores how these independent variables impact net profit/loss in businesses of Raghunath Bazaar.

Regression Analysis

(i) Model Summary

This part tells us how well the independent variables predict Net Profit/Loss.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726[a]	.526	.451	158613.562

a. Predictors: (Constant), What is the total amount of taxes paid by your business in the last financial year? (â,') , Number of Full-Time and Part-Time Employees: , Monthly Wages/Salaries Paid to Employees (â,'):, What is the yearly interest paid on the loan? , Rent Paid to Property Owners (â,'):, Your spendings in the name of business (â ,'):, Salary of Owner(s) (â,'):

Key Insights:

- **R (0.726)**: This is the correlation between the predicted and actual values of Net Profit/Loss. Since 0.726 is relatively high, the model has a strong relationship.
- **R Square (0.526):** This means that **52.6% of the variability in Net Profit/Loss is explained by the independent variables.** The remaining 47.4% is due to unknown factors.
- **Adjusted R Square (0.451):** Since we have multiple predictors, the adjusted R square adjusts for the number of variables, making it a more reliable measure.
- **Standard Error (158613.562):** This indicates the average error in predictions.

(ii) ANOVA Table

The **Analysis of Variance (ANOVA)** tells us whether the regression model is statistically significant.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.231E+12	7	1.758E+11	6.988	<.001[b]
	Residual	1.107E+12	44	2.516E+10		
	Total	2.338E+12	51			

a. Dependent Variable: Net Profit/Loss for the Last Financial Year (â,'):

b. Predictors: (Constant), What is the total amount of taxes paid by your business in the last financial year? (â,') , Number of Full-Time and Part-Time Employees: , Monthly Wages/Salaries Paid to Employees (â,'):, What is the yearly interest paid on the loan? , Rent Paid to Property Owners (â,'):, Your spendings in the name of business (â,'):, Salary of Owner(s) (â,'):

Key Observations:

- The F-statistic (**6.988**) is large, suggesting that the model is statistically significant.
- The significance level (**p-value < 0.001**) confirms that at least one independent variable significantly impacts **Net Profit/Loss**.

(iii) Coefficients Table

This tells us how each factor affects Net Profit/Loss.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-326830.101	116362.808		-2.809	.007
	Rent Paid to Property Owners (â,'):	4.480	4.823	.101	.929	.358
	Number of Full-Time and Part-Time Employees:	26158.107	11604.348	.238	2.254	.029
	Monthly Wages/Salaries Paid to Employees (â,'):	13.204	9.914	.166	1.332	.190
	Salary of Owner(s) (â,'):	7.793	2.453	.402	3.176	.003
	Your spendings in the name of business (â,'):	.687	.181	.462	3.791	<.001
	What is the yearly interest paid on the loan?	-.927	1.074	-.095	-.863	.393
	What is the total amount of taxes paid by your business in the last financial year? (â,')	3.111	2.329	.151	1.336	.189

a. Dependent Variable: Net Profit/Loss for the Last Financial Year (â,'):

Key Findings

- Business Spending ($p < 0.001$)

  Strongest positive effect on Net Profit/Loss.

  For every ₹1 increase in spending, profit increases by ₹0.687.

- Salary of Owners ($p = 0.003$)

  Significant impact.

  An increase of ₹1 in owner's salary increases profit by ₹7.79.

- Number of Employees ($p = 0.029$)

  Hiring more employees increases profitability significantly.

Non-Significant Factors ($p > 0.05$)

Rent Paid ($p = 0.358$), Wages Paid ($p = 0.190$), Interest on Loan ($p = 0.393$), and Taxes Paid ($p = 0.189$) do not have significant effects.

(iv) Process of Regression Analysis

Step-by-Step Procedure

1. **Define the Problem:** Identify the dependent (Net Profit/Loss) and independent variables.
2. **Collect Data:** Gather business-related data (expenses, salaries, rent, etc.).
3. **Preprocess Data:** Remove errors, check for missing values, and normalize data.
4. **Perform Descriptive Statistics:** Understand the distribution and key characteristics.
5. **Run Regression Analysis:** Apply a linear regression model using statistical software (like SPSS, or Excel).
6. **Interpret Output:**
   - Model Summary (R^2, Adjusted R^2)
   - ANOVA (F-statistic & p-value)
   - Coefficients (impact of each variable)
7. **Make Decisions:** Use insights for business strategy (e.g., hiring more employees boosts profits).

5.4 CONCLUSION OF RESULTS AND DISCUSSION

The Income Method turned out to be the right approach in estimating the GDP of Raghunath Bazaar, as it all fell into place with the income-generating activities of businesses in that area. Profits, wages, rents, and interest payments were those to be added in the bazaar's contributions for its economic output.

While the methodology used in the study was robust, further data collection and a longer observation period would improve the accuracy of the GDP estimates.

This chapter provides a clear picture of the economic dynamics within Raghunath Bazaar, demonstrating how localized markets contribute to the overall economy through their income generation. The findings will inform future policy decisions and business strategies aimed at enhancing the bazaar's economic growth.

CHAPTER 6
CONCLUSION

The study "Unveiling Raghunath Bazaar's GDP: A Practical Solution through C and SPSS" is an attempt to estimate the economic contribution of Raghunath Bazaar to the local economy of Jammu using the Income Approach. It has been implemented with modern computational tools, including C programming for data processing and SPSS for statistical analysis. The findings of the project are very informative about the economic dynamics of localized markets, filling a major gap in understanding the contributions of small commercial hubs like Raghunath Bazaar.

Key Findings

1. Economic Contributions

The total GDP of Raghunath Bazaar, calculated using the Income Approach, is ₹48,503,280, with a projected growth of 7%, leading to an estimated GDP of ₹51,898,509.60 for the next year.

The retail sector emerged as the largest contributor, accounting for the majority of the GDP, driven by high-profit margins and consistent demand for goods such as clothing, electronics, and dry fruits.

2. Sectoral Contributions

Profits contributed the most, representing 45-50% of the GDP. Retail ventures were key drivers in this category.

Wages and Salaries accounted for 35-40% of the GDP, with larger businesses and service-oriented enterprises like restaurants contributing significantly.

Rent contributed 10-15% of the GDP, which reflects the commercial value of spaces

within the bazaar, particularly those near the Raghunath Temple.

Interest Payments, although relatively smaller, still accounted for 5% of the GDP, mainly from loans taken by larger businesses.

3. Seasonal Dynamics

Seasonal variation, therefore, played a fundamental role in economic activity in Raghunath Bazaar. Tourism, religious festivals and local celebrations significantly contributed to profits during high-seasons or peak-months (April-August and festivals like Diwali and Navratri).

But during off-peak seasons, the decline in economic activity was pronounced, especially for firms dependent on tourism.

4. Limitations and Challenges

- Data Reliability: Most businesses operated with no established paper trails, and, as a result, estimates were made instead through interviews and questionnaires. This may have introduced some inaccuracy to the computations.
- Informal Economy Exclusion: The contribution of informal or unreported businesses could not be entirely accounted for and was thus likely underreporting the bazaar's overall economic production.
- Short Observational Period: The three months of data gathering allowed insufficient time for the identification of long-term economic patterns.

Implications of Findings

1. For Policymakers

The estimate of GDP emphasizes the importance of Raghunath Bazaar in Jammu's economy, and therefore, the useful data would help form targeted policies in supporting small businesses.

Sectoral contribution insights will be helpful in allocating resources, infrastructural development, and economic incentives to high-performing sectors.

2. For Business Owners

The study helps business owners identify profitable and economically significant sectors in their operations.

Data on seasonal trends can assist businesses in planning inventory, marketing, and staffing strategies to maximize profits during peak periods.

3. For Researchers and Academics

The study establishes a replicable methodology for estimating the GDP of localized markets, paving the way for future research in other regions.

It demonstrates the practical application of computational tools like C programming and SPSS in economic analysis, encouraging similar interdisciplinary approaches.

Future Prospects

The study opens several avenues for further research and development:

- The methodology can be extended to other markets within Jammu or similar bazaars in India for comparative analysis.
- Advanced data collection techniques, such as digital surveys and real-time tracking, can be used to improve the accuracy and reliability of the data.
- The long-term economic impact of government policies or infrastructure projects on Raghunath Bazaar can be analyzed.
- Exploring the informal economy's contribution to the GDP for a more comprehensive understanding of the bazaar's economic role.

Conclusion Statement

This research was able to successfully prove that Raghunath Bazaar is a most crucial economic center of Jammu with huge contributions to its local economy. The Income Approach provided a systematic and practical method of estimating its GDP, highlighting the importance of localized markets in the broader economic landscape. The findings point to the need for sustained attention in policymaking and research toward such markets, thereby underlining their potential as drivers of regional economic growth.

The results showed that retail businesses were the main drivers of economic activity, with significant seasonal variations influenced by tourism and religious events. While the methodology used in the study was robust**, further data collection and a longer observation period would improve the accuracy of the GDP estimates.**

Further studies could leverage on this work by finding new methodological ways to address the data collection challenges, thereby enabling further comprehension of the economic significance of small markets such as Raghunath Bazaar. This work forms part of the foundation upon which sustained endeavors at quantifying and optimizing the contributions that such hubs of commerce can make toward regional development.

CHAPTER 7
FUTURE SCOPE

1. **Enhanced Data Collection**:
    - Conduct longer-term data collection to account for seasonal variations and improve accuracy.
    - Incorporate data from informal businesses not captured in this study.
2. **Advanced Analytical Techniques**:
    - Utilize machine learning models for better predictions of economic trends.
    - Integrate advanced statistical tools like Python's Pandas and NumPy for more robust analysis
3. **Comparative Studies**:
    - Apply the developed methodology to other markets in Jammu and similar bazaars in India for comparative insights.
    - Conduct studies to measure the impact of policy changes on local markets.
4. **Technology Integration**:
    - Automate data collection through mobile apps or web platforms to streamline future research.
    - Introduce Geographic Information System (GIS) tools to map economic activity spatially.
5. **Policy Recommendations**:

- Provide actionable insights for policymakers to develop strategies for infrastructure improvement and support schemes for businesses.
- Use findings to advocate for government subsidies or tax reforms to benefit small businesses.

Chapter 8
ANNEXURES

Chapter 9
QUESTIONNAIRE

Role of the Questionnaire in our project:

The questionnaire played a crucial role in our project as it served as the primary tool for collecting detailed and reliable data directly from shop owners and businesses in Raghunath Bazar. It allowed us to gather specific information about

key income components, such as wages, the number of employees, the salary of owners, taxes paid, net profit. Etc. We ensured that all critical factors influencing the income approach to GDP calculation were covered. This approach not only standardized the data collection process but also provided insights into the economic activity of the market.

QUESTIONNAIRE:

GDP Calculation for Raghunath Bazaar

We are students of the DYD Design Your Degree program at the University of Jammu, and we have been assigned a project to calculate the GDP of Raghunath Bazaar. We would greatly appreciate your cooperation in this regard.

- **General Information about the business**

i. Name of the Shop
ii. Type of Business (e.g., clothing, jewelry, electronics, groceries, etc.)
iii. Size of Shop (in sq. ft.)

➢ Income Approach questionnaire:

i. Do you own this shop, or is it rented?

- Own.
- Rented.

ii. Rent Paid to Property Owners (₹):

iii. Number of Full-Time and Part-Time Employees:

iv. Monthly Wages/Salaries Paid to Employees (₹):

v. Salary of Owner(s) (₹):

vi. Your spendings in the name of business (₹):

vii. Your expenses in the name of business (₹):

viii. Does your business have an employee benefit policy? If yes, please specify the benefits provided, such as bonuses, festival bonuses, increments, insurance, or others. If no, please mention.

ix. Net Profit/Loss for the Last Financial Year (₹):

x. What is the yearly interest paid on the loan?

xi. Are you aware of any subsidies, and if yes, have you received any government support? If so, please specify the name of the subsidy and the amount received.

xii. Please specify the types of taxes your business is subject to (e.g., income tax, sales tax, property tax)

- Income Tax
- Property Tax
- GST
- TDS
- Other:

xiii. What is the total amount of taxes paid by your business in the last financial year? (₹)

xiv. Have you utilized any professional services for tax compliance or preparation? (e.g., accountant, tax consultant)

xv. Is your business dependent on a specific season? If yes, which season?

Chapter 10
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END OF THE REPORT

THANK YOU