

ECONOMIC ANALYSIS OF STREET VENDORS DURING COVID-19 IN KATHMANDU VALLEY

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In

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By

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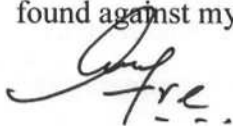
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LETTER OF RECOMMENDATION

This thesis entitled "ECONOMIC ANALYSIS OF STREET VENDORS DURING COVID-19 IN KATHMANDU VALLEY" has been prepared by Mr. Ganesh Ghimire under my guidance and supervision. I, hereby, recommend it in partial fulfillment of the requirements for the Degree of MASTER OF ARTS in ECONOMICS for final examination.

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LETTER OF APPROVAL

We certify that this thesis entitled "ECONOMIC ANALYSIS OF STREET VENDORS DURING COVID-19 IN KATHMANDU VALLEY" submitted by Ganesh Ghimire to the Department of Economics, Faculty of Humanities and Social Sciences, Patan Multiple Campus, Tribhuvan University, in partial fulfillment of the requirements for the Degree of MASTER OF ARTS in ECONOMICS has been found satisfactory in scope and quality. Therefore, we accept this thesis as a part of the said degree.

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Ganesh Ghimire

ABSTRACT

Street vendors tend to be among the lowest income earners in society, with many living below the poverty line. COVID-19 has impacted food production, distribution which impacts street vendors' ability to operate their business. The study aims to analyze the economic status of street vendors during COVID-19 in Kathmandu valley.

The study is based on primary data and cross-sectional research design is used. The data was collected from 197 street vendors of Kathmandu valley. The data is analyzed through both descriptive and inferential while software such as Microsoft Excel and STATA is used for descriptive and inferential respectively.

The results of this study indicate that age, highest education of children, nature of family, family working in permanent job, working capital difference made by the company, and gender are all significant factors that affect the probability of the people engaged in street vending during COVID-19. Further, the challenges the street vendors faced such as inadequate customer, harassed by municipality, distance from residence street vendors has faced problem to operate their business. Providing license, free space for trade, fixing the rate of vegetable, providing financial assistance are some of the solutions to address the economic challenges they have faced during COVID-19.

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CHAPTER I: INTRODUCTION

1.1 Background of the Study

Street vendors, also known as informal or unorganized sector workers, are individuals who sell goods and services on the streets and in other public places without formal employment contracts or business licenses (Chakraborty & Koley, 2018; Chandra et al., 2022). The economic status of street vendors varies widely depending on a range of factors, including the location and nature of their business, their level of education and skills, and the overall economic conditions of the country or region in which they operate (Karthikeyan & Mangaleswaran, 2013). In general, street vendors tend to be among the lowest income earners in society, with many living below the poverty line (Saha, 2011). They often face a range of challenges in their work, including competition from larger businesses, lack of access to credit, and harassment by authorities (Roever & Skinner, 2016). However, despite these challenges, many street vendors are able to make a living and support themselves and their families through their businesses (Walsh, 2010). In some cases, street vending can even provide a pathway to upward mobility and economic advancement, as vendors learn new skills, build networks, and expand their businesses over time (Saha, 2010). Thus, the economic status of street vendors is complex and multifaceted, reflecting the broader socioeconomic realities of the communities in which they operate.

In 1973, Keith Hart introduced the term "informal sector" after conducting a study in Ghana, a low-income country (Hart, 1973). The global economy is divided into formal and informal sectors, with formal employment being structured, controlled, and centralized work that has become unregulated, unofficial, illegal, and non-unionized contractual informal work due to globalization (Hart, 1990). The informal sector arose due to the lack of job opportunities in rural areas and the migration of people to urban areas in search of work, leading to lower-quality jobs due to their lack of education and skills (Wilson, 2011). The informal sector consists of small-scale, self-employed activities that are highly labor-intensive and have very low capital intensity, and there is little supervision from authorities in informal employment (Allen, 1998; Bromley & Wilson, 2018). Informality is also used as a concept to explain economic activity, labor markets, urbanization, and social interactions in developed countries with developed

economies (Ghose, 2017; Heintz, 2012). In least developed countries like Nepal, the informal sector has become an important sector, playing a crucial role in job creation and economic activity (Timalsina, 2011). It not only generates employment opportunities but also contributes to autonomous economic growth and increased productivity within the informal sector (Adhikari, 2011). According to this description, the informal sector includes all income-generating activities that do not involve contractual or legally regulated employment (Ahn, 2008). Street vending is the most visible manifestation of the informal sector, and street vendors can be found in urban public spaces worldwide (Alfonso et al., 2022). People involved in the informal sector in developing countries such as Bangladesh, India, Nepal, and Pakistan are likely to be in low-quality jobs due to poverty, lack of education, unskilled labor, no training, and parental disruption (Rakha et al., 2022; Sadar et al., 2023). It indicates that street vending is a visible manifestation of the informal sector and is found in urban public spaces worldwide. People involved in the informal sector in developing countries tend to be in low-quality jobs due to poverty, lack of education, unskilled labor, and no training.

In the context of Nepal, COVID-19 has impacted food production, distribution which impact street vendors to operate their business (Gadal et al., 2020). Street vending is an important aspect of the informal sector, as it plays a crucial role in the country's economy. The restriction from many months made the street difficult to manage their daily life. Lack of proper registration and documentation as well as no any regulation from the government, lack of social protection and benefits the informal sector have difficulty in managing their life style especially due to the pandemic. Additionally, more than 18.7 percent of the people live in the below poverty line, due to the strict lockdown make them challenging and increasing the poverty rate (National Planning Commission, 2021).

Street vendors can be found selling a wide range of goods and services in various public spaces across Nepal's urban centers, including Kathmandu, Pokhara, and Biratnagar and many other parts of the Country. Report said that despite the important role that street vending plays in Nepal's economy, vendors often face challenges such as harassment from local authorities and competition from larger businesses. In recent years, efforts have been made to formalize street vending in Nepal, including the creation of vendor associations and the provision of training and support services to vendors. However, there

is still a need for greater recognition and support of street vendors' contributions to the economy and for efforts to ensure that their rights and needs are adequately addressed.

1.2 Statement of the Problem

The COVID-19 lockdown has restricted the street vendors to operate their business in worldwide. Night trading, door to door selling, car boot sales are the new ways to do the business in Zimbabwe and Kenya (Kiaka et al., 2021). Street vendors have harassed by the municipalities, police and city politics during the COVID time. Colombia as a middle income country has faced economic crisis during the pandemic period where the street vendors has faced the work and income reduction in that period which effect their livelihood (Martínez & Young, 2022). The pandemic has dropped the income level of the Mexican street vendors which affect in fulfilling their basic need for their families and themselves (Romero-Michel et al., 2021).

The COVID-19 pandemic has had a significant impact on the global economy including Nepal, and street vendors have been particularly hard hit by the crisis (Buheji et al., 2020). The economic status of street vendors during COVID-19 is a complex and pressing problem that requires further research and analysis. The pandemic has led to a decline in demand for goods and services, as well as restrictions on movement and commerce even Nepal, which has severely affected the livelihoods of street vendors (Aday & Aday, 2020; Hossain et al., 2023). Many Nepalese vendors have experienced a sharp decline in sales, while others have been forced to close their businesses altogether due to lockdowns and social distancing measures. But, still there is no any measure.

Moreover, the economic impact of the pandemic has been unevenly distributed, with marginalized and low-income communities like Nepal being disproportionately affected. Street vendors, who often operate in informal and precarious economic environments, are particularly vulnerable to the economic shockwaves of the pandemic (Mart & Short, 2022). Therefore, understanding the economic status of street vendors during COVID-19 is crucial for all developed, developing and least developed country in order to developing effective policies and interventions to support their livelihoods and promote economic recovery in the informal sector. This problem calls for a comprehensive analysis of the impact of the pandemic on the economic status of street vendors, as well

as an exploration of potential solutions to support their businesses during and after the crisis.

The COVID-19 pandemic has had a severe impact on the economy of Nepal, with street vendors being among the most affected. The economic status of street vendors during COVID-19 in Nepal is a critical problem that requires further research and analysis (Thibbotuwawa et al., 2021; Upadhyaya & Academy, 2021). The pandemic has led to a significant decline in demand for goods and services, coupled with strict lockdown measures that have severely affected the livelihoods of street vendors. Many vendors have experienced a sharp decline in sales, while others have been forced to shut down their businesses due to a lack of customers and the inability to pay rent and other expenses (Fairlie & Fossen, 2022).

Furthermore, the pandemic has disproportionately affected low-income and marginalized communities in Nepal, including street vendors who operate in informal and precarious economic environments (Poudel, 2020). These vendors lack access to formal financial support and have limited savings, making them particularly vulnerable to the economic shockwaves of the pandemic. Therefore, understanding the economic status of street vendors during COVID-19 in Nepal is essential for developing effective policies and interventions to support their livelihoods and promote economic recovery in the informal sector. This problem requires a comprehensive analysis of the impact of the pandemic on the economic status of street vendors in Nepal, as well as an exploration of potential solutions to support their businesses during and after the crisis.

Informality is widespread in developing countries like Nepal, impacting economic planning. The growth of the informal economy, characterized by unregistered and unofficial businesses, hinders development and undermines the rights and privileges of informal workers. These workers face challenges like the absence of legal protections, social rights, low wages, job insecurity, and exploitation. Nevertheless, the informal sector offers employment opportunities, especially in small-scale enterprises such as street vending. While it contributes to economic activity, it also fosters unregistered businesses, particularly in the least developed countries. To address these issues, implementing regulatory frameworks, policies, and regulations in the informal sector is essential. These measures can ensure worker access to social and health security. Additionally, worker education on health awareness can reduce workplace risks. In

Nepal, street vending is a topic of intense debate in metropolitan areas, and a proper study is required to explore the socio-economic status of street vendors during COVID-19, the challenges they face, and the management strategy to solve the problem of street vending.

1.3 Research Questions

The purpose of this thesis is to empirically answer the following questions:

1. What is the economic status of street vendor during COVID-19?
2. What are the factors influencing street vending during COVID-19?
3. What are the challenges faced by street vendors in Kathmandu Valley?

1.4 Objectives

The main objective of the study is to analyze the economic status of street vendors during COVID-19 in Kathmandu Valley. The specific objectives are:

1. To explore the economic status of street vendor during COVID-19
2. To analyze the factors influencing street vending during COVID-19
3. To examine the challenges faced by the street vendors in Kathmandu Valley

1.4 Significance of the Study

The COVID-19 pandemic has had a significant impact on the global economy, and street vendors in the Kathmandu Valley of Nepal have been particularly hard hit by the crisis. Understanding the economic status of street vendors during COVID-19 in the Kathmandu Valley is crucial for developing effective policies and interventions to support their livelihoods and promote economic recovery in the informal sector.

The Kathmandu Valley is one of the most densely populated areas in Nepal, and street vending is an important source of income for many people in the region. However, the pandemic has led to a sharp decline in sales and reduced foot traffic, leaving many street vendors struggling to make ends meet. Moreover, street vendors in the Kathmandu Valley face a range of challenges, including lack of access to formal financial support

and limited savings, making them particularly vulnerable to the economic shockwaves of the pandemic.

Therefore, a study on the economic status of street vendors during COVID-19 in the Kathmandu Valley is necessary to identify the extent and nature of the impact of the pandemic on street vendors in the region. This study provides valuable insights into the challenges faced by street vendors during the crisis and help to identify potential solutions to support their businesses during and after the pandemic. Moreover, the findings of this study contributes to the broader literature on the impact of the pandemic on the informal sector and help to inform policy interventions aimed at supporting vulnerable communities in Nepal as this literature provide the policy makes to take the necessary steps to resolve the issues related to street vendors in context of Nepal.

1.5 Limitations of the Study

The scope of this study is limited to vending activities of people, meaning that the study only focuses on individuals who engage in vending as their primary economic activity. Although there are many other informal sector activities, such as services, small-scale manufacturing, and construction, the study only covers street vendors. Furthermore, the data collected for this study is limited to the Kathmandu valley. While this region may provide useful insights, it may not be representative of other cities or regions, and therefore, the findings may not be generalizable to the broader population. To overcome this limitation, future study could expand its geographic scope and include other cities or regions to compare the findings. Another limitation of this study is the sample size. The study only collected data from 197 street vendors, which may not be sufficient to draw reliable and robust conclusions. A larger sample size would provide more accurate and representative results, enhancing the study's credibility. Finally, the study only measured the economic status of street vendors based on a limited set of factors. To provide a more comprehensive picture of their economic well-being, future study could add more factors such as household income, savings, debt levels, and access to credit, among others.

1.6 Outline of the Study

This study covers the five chapters. The first chapter of this study provides a comprehensive introduction to the study. It begins with the background of the study,

which contextualizes the study problem and explains the motivation behind the study. The statement of the problem defines the specific issue or question that the study aims to address, and the objectives of the study outline the goals that the study aims to achieve. The significance of the study explains the potential impact of this study on the field or industry, and the scope and limitation of the study clarify the boundaries and constraints of the study. Finally, the outline of the study provides a roadmap of the five chapters.

Chapter 2 delves into the literature review, which is an essential component of any study. This chapter provides an overview of the existing literature related to the study topic. It includes a review of relevant international and national context, identifies any gaps, and highlights the need for further study.

Chapter 3 presents the research methodology in detail. It outlines the theoretical or conceptual framework that the research is based on, and describes the research design that has been chosen to carry out the study. The nature and sources of data are also discussed in this chapter, along with the data collection methods that have been employed. These methods include the study area, sampling design, and data collection tools. Additionally, the chapter covers the tools of data analysis or empirical model, model specification, operational definition of variables, and the methodological matrix that guides the research process used in the study.

Chapter 4 analyzes the data collected during the study, and presents the results of both descriptive and inferential analysis. This chapter provides an interpretation of the data, which helps to answer the research questions and achieve the research objectives.

Finally, chapter 5 provides a summary of the findings, draws conclusions based on the results, and presents recommendations for future study or practical applications of the study. This final chapter brings the study full circle by providing closure and tying together the various components of the study.

CHAPTER II: REVIEW OF LITERATURE

2.1 Introduction

This chapter provides the literature review in context of national and international context of street vending practices and other relevant studies in order to find the gaps in analysis.

2.2. Literature Review

2.2.1. International Context

The COVID-19 pandemic has had a profound impact on street vendors worldwide, affecting their livelihoods and the wider economy. Various economic analyses have been conducted to evaluate the implications of the pandemic on street vendors. These studies have shown that street vendors have faced several challenges during the pandemic, including reduced demand for their goods, restricted mobility, limited access to financial assistance, and healthcare.

The reduced demand for street vendors' goods has been a significant impact of the pandemic. With lockdowns and restrictions on movement, consumers have been unable or unwilling to purchase goods from street vendors, leading to a significant decline in sales. This has had a ripple effect on the wider economy, as street vendors are an essential part of many local supply chains. Many street vendors have had to innovate and adapt to new market conditions to stay afloat, such as moving to online platforms or changing their product offerings.

Restricted mobility has also been a major challenge for street vendors. Many street vendors rely on their ability to move around and sell their goods in different locations to generate income. However, lockdowns and restrictions on movement have severely limited their ability to do so. This has led to a loss of income and, in some cases, a complete halt in operations. Additionally, many street vendors have faced increased competition from other vendors in their limited operating areas.

Access to financial assistance has been another significant challenge for street vendors during the pandemic. Many have been unable to access government stimulus packages or other financial assistance due to their informal status. This has made it challenging for them to survive during the pandemic, and many have been forced to close their

businesses permanently. Informal workers such as street vendors have been a vulnerable group during the pandemic, and many have fallen through the cracks of government support programs.

Limited access to healthcare has also been a significant challenge for street vendors during the pandemic. Many lack access to basic healthcare services, and the pandemic has exacerbated this problem. As a result, many street vendors have been unable to access essential medical care, leading to a higher risk of illness and mortality. The lack of access to healthcare has been a major issue for informal workers worldwide, and the pandemic has highlighted the urgent need to address this issue. The more about the COVID-19 impact can be presented with individual study.

In the context of China, Song (2020) explores the challenges and regulatory suggestions for the street stall economy in China post-COVID-19. The study aims to analyse the rise and fall of street stall economy in China, followed by the discussion of regulatory dilemmas on street vendors' legal status, road administration, food safety, and environmental protection, respectively using literature review methods. This study analyzing laws and regulations, and provides directions to regulate street stall economy more efficiently. The results of the study finds that the dilemmas faced by street vendors' legal status, road administration, food safety, and environmental protection are discussed by analyzing laws and regulations. This study suggests providing designated places for street vending activities to balance road administration and street vendors' mobility, and assisting street food vendors with food safety knowledge to bridge the gap between food safety standards and street vendors' knowledge. Additionally, smart regulation and establishing street vendors' self-regulation associations are recommended to mitigate the disparity between environmental protection standards and street vendors' operating reality.

Coletto et al. (2021) seeks to explore these issues and shed light on the complex realities faced by street vendors in Lima during the time of COVID-19. The data was collected through the qualitative methods (ethnographic observations, interviews and document analysis). The study has conducted 40 interviews: 3 representative of municipality, 8 from public administrators, 2 with managers, 4 with neighbors, 15 with street vendors. The COVID-19 pandemic has widened existing inequalities and created new ones for informal workers, with the risk that they are among the most affected by the economic

crisis. The hashtag #IStayHome does not apply to many informal workers, including street vendors, who cannot stop working for various reasons. Street vendors have become more visible during the pandemic due to their role in the urban economy and their identification as a personal and community health risk. However, informal street vending activities cannot be viewed as a homogeneous phenomenon, and it is crucial to understand the differences and agency of street vendors in different areas. Self-regulation and different strategies were observed in La Parada and Santa Anita markets. Narratives and social imaginaries are crucial in understanding the differences within the street vendor category and in building different identities for street vendors. Further empirical studies are needed to improve understanding and inform policy decisions. They conclude that in Lima, Peru, street vendors have been facing new challenges and inequalities, exacerbating the already difficult conditions they face in their daily lives.

Kiaka et al. (2021) compares and analyzes the relationship between street vending, the COVID-19 pandemic, and the emergence of new street geographies in Harare, Zimbabwe and Kisumu, Kenya, with the common theme of "The street is ours". It explores the impact of COVID-19 on street vending and the use of public space in African cities, arguing that street vending is essential for urban food security and livelihoods but subject to contested street geographies governed by state politics. The pandemic has intensified the struggle for street space, with traders navigating new geographies of agency and creativity while facing restrictions imposed by state actors. This creates temporary opportunities for some but leaves most street traders uncertain and vulnerable.

Zeb et al. (2021) investigate the effects of COVID-19 on restaurants and small street food vendors in Pakistan and provide suggestions for moving forward. Using conference calls, 30 interviews were conducted, and the findings indicate that the most significant issues faced by restaurants are a substantial decrease in sales, extensive layoffs, no economic activity, and lack of government relief. Interviewees also identified the need for changes to existing business models, including proper sanitization, modifications to seating arrangements, alterations to menus, and innovative ideas to attract customers. This study offers valuable insights for restaurants and street food vendors in navigating this challenging phase and recommends strategies for the future.

The study by Romero-Michel et al. (2021) focused on the impact of health and economic measures in response to the COVID-19 pandemic on street vendors. The research was

conducted in a Mexican suburban city during phase 2 of the pandemic. It revealed that, before mobility restrictions, street vendors earned a significant portion (23.5 percent) of their income from informal employment, living on meager resources. When contingency measures were imposed, formal employment remained stable, but informal employment surged to 57.4 percent. Street vendors showed far less concern about the virus and were less likely to stop working compared to formal employees. The study highlighted the vulnerability of street vendors to economic loss due to inadequate government support and their role in virus transmission.

The study by Turner et al. (2021) focused on street vendors in Hanoi, Chiang Mai, and Luang Prabang, in Vietnam, Thailand, and Laos, respectively, and their coping mechanisms during the COVID-19 pandemic. Prior to the pandemic, these vendors faced challenges due to government policies. They primarily consisted of rural-to-urban migrants lacking formal education, and vending provided a low-cost means to support their households. The research examined how these vendors, especially rural migrants, dealt with the initial COVID-19 impact and government restrictions. While some vendors managed to adapt and protect their livelihoods, the pandemic disrupted urban-rural connections and mobility, creating unexpected hurdles for vendors who relied on rural-urban ties for support.

Narayanan and Saha (2021) discussed the impact of the COVID-19 lockdown in India on urban food markets. The government-imposed lockdown from March 24 to May 31, 2020, disrupted supply chains and created significant challenges for food markets. While food prices were declining, the lockdown led to price increases. Wholesale and retail prices for various commodities showed diverse increases, with over 6 percent for pulses, 3.5 percent for edible oils, and substantial increases for potatoes, tomatoes, meat, and fish. Price gaps between retail and wholesale, as well as spatial disparities, indicated supply chain issues. Smaller cities experienced higher price hikes, and surveys revealed operational challenges like transport shortages, labor issues, police harassment, and social discrimination. Despite these challenges, some innovative adaptations demonstrated resilience in the food market.

Cao et al. (2021) investigated the factors influencing street vending in post-COVID-19 China, particularly the role of social networking services (SNS) information. Their results showed that the intention of individual peddlers to engage in street vending was

positively affected by their perception of policy benefits, subjective norms, and perceived switching costs. SNS information overload had a mixed impact, increasing dissatisfaction with their existing business model and anxieties about their livelihoods, while positively influencing their perception of policy benefits and subjective norms, but negatively affecting their perception of switching costs. They concluded that the COVID-19 pandemic has highlighted the impact of information technology on society and that SNS information plays a significant role in promoting the shift of Chinese individual peddlers toward street vending. Information overload has a complex influence on various factors involved in this shift.

Martínez et al. (2022) conducted a study in Cali, Colombia, to explore the impact of the COVID-19 pandemic on street vendors. They found that the pandemic significantly affected informal workers, who often lack essential protection and security measures. The research focused on two key aspects: the socioeconomic conditions of street vendors and their engagement in political and policy-related issues. The study emphasized that government responses and the pandemic negatively impacted street vendors but argued that there were and still are opportunities for the government to address their needs. To ensure a just, equitable, and sustainable recovery while safeguarding economically disadvantaged groups in future crises, it is crucial to involve informal workers more meaningfully in decision-making processes.

Thanh and Duong (2022) investigate the impact of the COVID-19 pandemic on street vendors, who are particularly vulnerable due to their lack of resources and skills. Their study employed a mixed-methods approach involving a survey questionnaire completed by 91 women vendors and interviews with 15 women vendors. The findings indicate that street vendors experienced a significant reduction in business and consumption, with immigrant vendors being particularly affected. Vendors selling in wet market areas were also more economically burdened than those selling near schools or recreation centers. Coping strategies were lacking, and vendors resorted to mitigation mechanisms to ensure essential consumption. The study underscores the need for urban social policies to support this vulnerable group during the pandemic, and policy implications for cities and economic development are discussed with a focus on street vendors.

The above studies highlight the challenges faced by street vendors in different parts of the world during the COVID-19 pandemic. These studies demonstrate that street vendors,

who are often already marginalized and vulnerable, have been further impacted by the pandemic. The studies suggest that street vendors play a critical role in ensuring urban food security and livelihoods, and urban social policies should support this vulnerable group during the pandemic. The studies also recommend various strategies for street vendors to navigate the challenges posed by the pandemic, including self-regulation, changes to existing business models, and innovative ideas to attract customers. Overall, these studies provide valuable insights into the impact of the pandemic on street vendors and the urgent need for policymakers to take action to support this vulnerable group.

From the global perspectives, it is clear that the COVID-19 pandemic has presented major challenges for street vendors worldwide. Economic analysis has shown that reduced demand for their goods, restricted mobility, and limited access to financial assistance and healthcare have had a significant impact on their livelihoods and the wider economy. Lockdowns and restrictions on movement have severely limited their ability to generate income, while many have been unable to access government stimulus packages or basic healthcare services. Addressing these challenges and supporting the informal sector are critical for a sustainable recovery from the pandemic.

2.2.2. National Context

In Nepal, the informal economy is significant and growing, with around 85 percent of the workforce employed in this sector (CBS, 2019). This includes street vending, domestic work, and small-scale manufacturing, driven by limited formal job opportunities, lack of access to education and training, and low economic development (Adhikari, 2020). However, informal workers are often excluded from labor laws and social protection schemes, leaving them vulnerable to exploitation and abuse (Dhakal, 2020). Despite these challenges, the informal economy plays an important role in the country's economic growth and development, contributing to job creation and economic activity (Adhikari, 2011, 2020). Street vending is a significant part of the informal economy, employing many low-income urban and migrant workers, and providing goods at lower prices to primarily low-income consumers (Wongtada, 2014). However, there is a need to balance the growth of the informal economy with efforts to promote formal job creation and economic development in Nepal (Chen et al., 2002; Pradhan, 2023).

Adhikari (2011) examines the street vending sector in Kathmandu Valley, which provides employment and income for rural poor people. The research found a positive relationship

between street vendors' income and investment, education, and labor supply. Street vending requires less investment than other businesses but provides a satisfactory income for sustaining a family in the city. Despite lower income and profits, more people are involved in this sector due to a lack of employment opportunities in other sectors. Street vending is an informal form of entrepreneurship, and if it can be brought under the legality and taxes collected, it can make a sizeable contribution to the economy.

Sharma and Pradhan (2017) conducted a study which suggested that living in Kathmandu Valley can be costly for urban dwellers due to various expenses, such as rent, education, health care, utilities, entertainment, and communication. Although the average income of small-scale vendors is higher than the national poverty line and the urban poverty line of Kathmandu, this income is often not sufficient for households in need. Consequently, many households must resort to multiple sources of income to make ends meet, a difficult task for most. Unfortunately, only a few households are fortunate enough to have this opportunity, leaving many men, women, and their families to work tirelessly despite harsh conditions and various obstacles such as transportation strikes, bandhas (prohibitions on movement of people and vehicles), and inadequate support from local government authorities. As a result, these households are highly vulnerable and struggle to maintain their livelihoods in Nepalese cities.

Upadhyaya (2020) discussed the impact of COVID-19 on Nepal from a labor perspective. The pandemic, with its rapid spread and high death toll, has affected countries worldwide. The global death rate, after reaching a peak of 7.06 percent, has decreased to 3.86 percent by July 31. Europe and the Americas faced much higher death rates, up to 16 percent. The recovery rate globally improved from 26.34 percent in March to 62.60 percent. South Asia's contribution to infections, recoveries, and deaths was 12.9 percent, 13.7 percent, and 6.9 percent, respectively. Lockdowns and stay-at-home measures, while crucial for preventing the virus, led to a global recession, job losses, income reductions, and unprecedented challenges. In Nepal, the return of migrant workers worsened the situation, prompting government policies and efforts to address health, relief, and economic recovery concerns.

Ragasa and Lambrecht (2020) discussed the impact of COVID-19 on the food system and its potential for promoting gender equality in Nepal. They noted that some local governments in Nepal have already taken steps to develop guidelines for safeguarding

women's and vulnerable groups' land rights while maximizing land use. These guidelines could be scaled up or adopted by other countries. Initiatives like agri-ambulances, organized by cooperatives, facilitate the pickup and mobile delivery of vegetable produce, benefiting many women farmers. NGOs have continued or expanded programs targeting women and vulnerable groups by combining cash transfers, food aid, training, and improving market access. Furthermore, certain local governments in Nepal have taken measures to combat opportunistic behavior that harms vulnerable groups, such as setting minimum prices for agricultural products and curbing black marketing.

Khadka (2021) notes that economic sectors can be categorized as formal and informal, with the informal sector being beyond government monitoring and tax systems. The study investigates the social and economic effects of the COVID-19 pandemic on women in the informal sector, specifically in street vending in Damak, Jhapa. Based on feminist assumptions and employing an exploratory research design using both primary and secondary data, the study finds that the pandemic has significantly decreased the income of women in the informal sector, affecting their working conditions and resulting in less customer flow, increased eviction, and indebtedness. The study suggests the need for effective institutional frameworks to empower women involved in the informal sector of the economy.

Chackalackal et al. (2021) conducted a study in South Korea, Mexico, Colombia, India, Nigeria, and Nepal to assess the social and economic consequences of COVID-19 lockdowns in low- and middle-income countries. They found that the informal economic sector was significant in all countries, particularly prominent in poorer nations, with around 80 percent of small businesses being self-employed. This indicated that a large portion of the population would be severely affected by lockdown policies. In Nepal, there was accurate information but no clear crisis strategy, and concerns arose about food security. Migrant workers faced challenges at borders. The study highlighted the burden on vulnerable groups, emphasizing the need to consider societal impacts when devising outbreak response strategies.

Gautam and Salike (2021) examined the space utilization by street vendors in the World Heritage Site of Patan Durbar Square. They noted that urbanization, coupled with a lack of formal job opportunities, drives people toward informal sectors like street vending. However, due to the absence of clear government regulations, street vendors occupying

public spaces are often seen as causing problems, including encroachment on public areas and traffic congestion. This study aimed to understand the space utilization, requirements, and distribution patterns of street vendors in the context of Patan Durbar Square. The research found that vendors choose locations based on pedestrian traffic and typically use spaces smaller than ten square feet. The study emphasizes the need for improved recognition and integration of street vendors into urban planning and spaces.

Adhikari et al. (2021) conducted a descriptive cross-sectional study to examine the challenges in transforming the informal business sector into a formal one in Nepal, focusing on the Kathmandu Valley. The study revealed that a significant portion of the workforce in the informal sector consists of individuals who lack formal employment opportunities. Many respondents were in their prime working years and heavily engaged in the informal sector, with about 15 percent having no formal education, and over one-third having only a secondary level of education. Higher education was associated with a reduced preference for informal work. The income of these individuals varied widely, with more than one-third earning below NRs. 20,000, indicating financial vulnerability. Around 40 percent had been involved in their business for less than 5 years, with those in longer-term informal work expressing less interest in continuing. Administrative issues were a major hindrance to the transition to the formal sector, with 86 percent of respondents citing administrative problems as barriers to their entrepreneurial potential and creativity. This indicates that the informal sector faces considerable challenges in becoming part of the formal economy.

Thapaliya et al. (2023) conducted a cross-sectional study among street vendors in Kathmandu Valley, focusing on depression, a common mental disorder affecting approximately 3.8 percent of the global population. Major depression symptoms include mood changes, concentration problems, guilt feelings, and sleep and appetite disruptions. Their study involved 316 respondents, with more males (52.2 percent) than females (47.8 percent). Most fell in the 25-35 age group and had been street vending for 8-16 years. The study found that 32.6 percent of respondents exhibited depressive symptoms according to the Patient Health Questionnaire (PHQ), with a 55.4 percent prevalence of depression measured using the Major Depression Inventory (MDI). Depression was associated with factors like low economic status, lack of physical activity, alcohol and smoking habits, basic education, unemployment, and income dissatisfaction among the respondents.

Karki et al (2023) found that the COVID-19 pandemic has significantly impacted the consumable sector globally. They investigated the effects of the pandemic on vegetable sales and consumption in the Kalimati Fruits and Vegetable Market in Kathmandu, Nepal, and found that only 20-40 percent of regular vegetable supply was available during pick-up hours, with prices increasing by 11-66 percent. Locals have substituted green vegetables with locally preserved ones, pulses, grains, dals, paneer, and dry beans to cope with the shortage. They suggest preserving eatable veggies during bumper crop times to meet demand during periods of crisis, highlighting the importance of learning how to sustain in a crisis situation.

The COVID-19 pandemic had a severe impact on Nepalese street vendors, causing many to close their businesses and lose their source of income, leading to financial difficulties and food insecurity. The lack of social protection and recognition for informal workers meant that many street vendors were ineligible for government relief programs. The pandemic also highlighted the vulnerability of street vendors to the virus due to their working conditions and lack of access to personal protective equipment. Despite the challenges, street vendors have shown resilience and adaptability, finding alternative ways to sell their products, such as through online platforms and collaborating with other vendors. The pandemic emphasized the need for greater recognition and support for street vendors in Nepal, including access to social protection, training, and financing, as the country continues to navigate the pandemic and recovery efforts.

2.4 Research Gap

The impact of COVID-19 on street vendors has been discussed in several studies. According to Meher et al. (2021), the pandemic has badly affected the activities of street vendors in Maharashtra, one of the most badly hit states in India. Street vending is a source of job or money for the poor in a country where the continuing pandemic has worsened previously existing social imbalances. Similarly, Romero-Michel et al. (2021) highlighted that street vendors are a crucial component during this pandemic due to their mobility and exposure because of the heightened risk of coronavirus infection and the potential for disease transmission in cities.

The COVID-19 pandemic has had a significant impact on the economy of Nepal, particularly on the livelihoods of street vendors. Street vending is a significant source of

income for many Nepalese individuals, particularly those who live in poverty. The pandemic has resulted in a significant decrease in economic activity, particularly in urban areas, where street vendors are most prevalent. This has had a profound impact on the income of street vendors, who are struggling to make ends meet during this difficult period.

The government of Nepal has implemented various measures to mitigate the impact of COVID-19 on the economy, including supporting small and medium-sized enterprises, such as street vendors. However, the effectiveness of these measures has been limited, particularly for street vendors who operate in informal economies. The lack of access to formal financial institutions and the absence of social safety nets have made it difficult for street vendors to cope with the economic fallout of the pandemic.

Furthermore, the COVID-19 pandemic has highlighted the existing social inequalities that exist in Nepal, particularly in urban areas. Street vendors, who are predominantly from low-income backgrounds, are particularly vulnerable to the virus and its economic consequences. The pandemic has further exacerbated the economic disparities that exist in the country, particularly in urban areas, where street vending is most prevalent. Thus, the economic analysis of street vending during COVID-19 and the possible way out is the major research gap for the context of Nepal.

CHAPTER III: RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is important steps to show how the researcher has plan to complete their study (Devkota et al., 2020). There are several ways to do research, and each of these approaches has its own advantages and disadvantages (Susanna et al., 2017). In this part, the research strategy plan is described. The theoretical, empirical and analytical framework is discussed. Apart from that a clear study area, materials used and methods adopted are discussed.

3.2. Theoretical Framework

The theoretical framework is regarded as the blueprint of research that supports a theory of a research study (Kivunja, 2018). Different theories has been introduced for the study of socio-economic status of Street vendors, such as Cycle of Poverty (Sharma, 2018), Sustainable Livelihood Approach (Serrat, 2017), Lee's theory of Migration (Zanabazar et al., 2021), Structuralism theory (Al-Jundi et al., 2020) and Buyer Seller Dyads (Suresh & Kumar, 2022). However, there is no any single theory which clearly explain the concept of informal economies like street vending (Huang et al., 2020). The first theory is cycle of poverty which has been further subdivided into various sub theories of poverty, namely cultural belief systems supporting sub-cultures of poverty, economic, political, and social distortions or discrimination leading to poverty, and geographical disparities or cumulative and cyclical interdependence being responsible for people's poverty (Sharma, 2018).

Similarly, Lee's Theory of Migration that explains that there are push and pull factors and intervening factors which attracted rural population to move towards urban area in search of improvement of their livelihood which also means of considering the goals, scope, and priorities of human development and thus, includes the ability, capital (including social material resources), and activities needed to live. Likewise, sustainable livelihood theory is an approach that enhances knowledge of poor people's lives which organizes and illustrates the elements that limit or increase living options which can assist in the planning of development initiatives as well as the evaluation of the impact that current activities have made to maintaining lives (Serrat, 2017). Similarly, the structuralism

theory asserts that the pervasiveness and potential growth of street vending can be explained as a survival endeavor or as a last option available of livelihood since street vendors cannot gain formal jobs. Likewise, the theory of Buyer Seller Dyads explains the term dyad refers to the interactions between people where buyer seller interactions can also be said as buyer seller dyads. This theory aids in comprehending that the selling process is generally two-way, including both a vendor and a customer (Al-Jundi et al., 2020).

The researcher opted to use the structuralism approach because it perfectly suited to the Nepalese economy, which has faced economic issues such as high unemployment, poverty, worker retrenchment, and industrial closure. The researcher has analyzed five conceptual model based on the Structuralism theory. The first model is Involvement in informal economy for employment generation research in Dhaka city which aims to investigate the current situation of various street vendors in Dhaka City and indicates Poverty, migration from rural areas, a lack of education, labor shortages, and a big family size are all important driving variables in this industry, according to this study (Husain et al., 2015). Similarly, Socio Cultural factors affecting Street vendors on Income Generation is another model where researcher has used social factors, economic factors, cyclical factors and geographical factors to analyze the impact of these factors on income in two city, Chennai and Vijayawada of India (Sharma, 2018).

The application of Structuralism through conceptual models, like those analyzing street vendors in Dhaka, Chennai, and Vijayawada, highlights the multifaceted factors influencing this sector. These models underscore the importance of socio-economic and cultural dimensions in shaping the livelihoods of street vendors. Thus, a multi-theoretical approach is essential for a comprehensive understanding and effective intervention in the informal economy. Based on the theories above, the following conceptual framework is designed for the study.

3.3. Conceptual Framework

Street vending is a behavioral phenomenon. As Devkota and Phuyal (2017) mentioned that people takes actions for escape from economic problems and accept effective economic choices. Further, human decision making is based on range of biases as people think and feel.

Suppose that Y_j and Y_k represent a perception of street vending on their daily economic activities, which are denoted by U_j and U_k , respectively.

The linear regression model could then be specified as:

$$U_j = \beta'_j X_i + \varepsilon_j \text{ and } U_k = \beta'_k X_i + \varepsilon_k \dots \dots \dots (1)$$

In the case of the street vending, if a vendors decides to use street vending for their livelihoods (i.e. j), it follows that the perceived benefit from vending activities (j) is greater than the benefit from any other activities (i.e., k) at the current level which is depicted as:

$$U_{ij} (\beta'_j X_i + \varepsilon_j) > U_{ik} (\beta'_k X_i + \varepsilon_k), k \neq j \dots \dots \dots (2)$$

where U_{ij} and U_{ik} are the perceived benefits for adoption of j and k , respectively, by street vendors i , X_i is the vector of explanatory variables that influences the choice of the vending activities, β_j and β_k are the parameters to be estimated, and ε_j and ε_k are the error terms assumed to be identically distributed.

In these contexts, the probability that the customer will choose j could be defined as:

$$P(Y=1/X) = P (U_{ij} > U_{ik} / X) \dots \dots \dots (3)$$

$$= P (\beta'_j X_i + \varepsilon_j - \beta'_k X_i - \varepsilon_k > 0 / X)$$

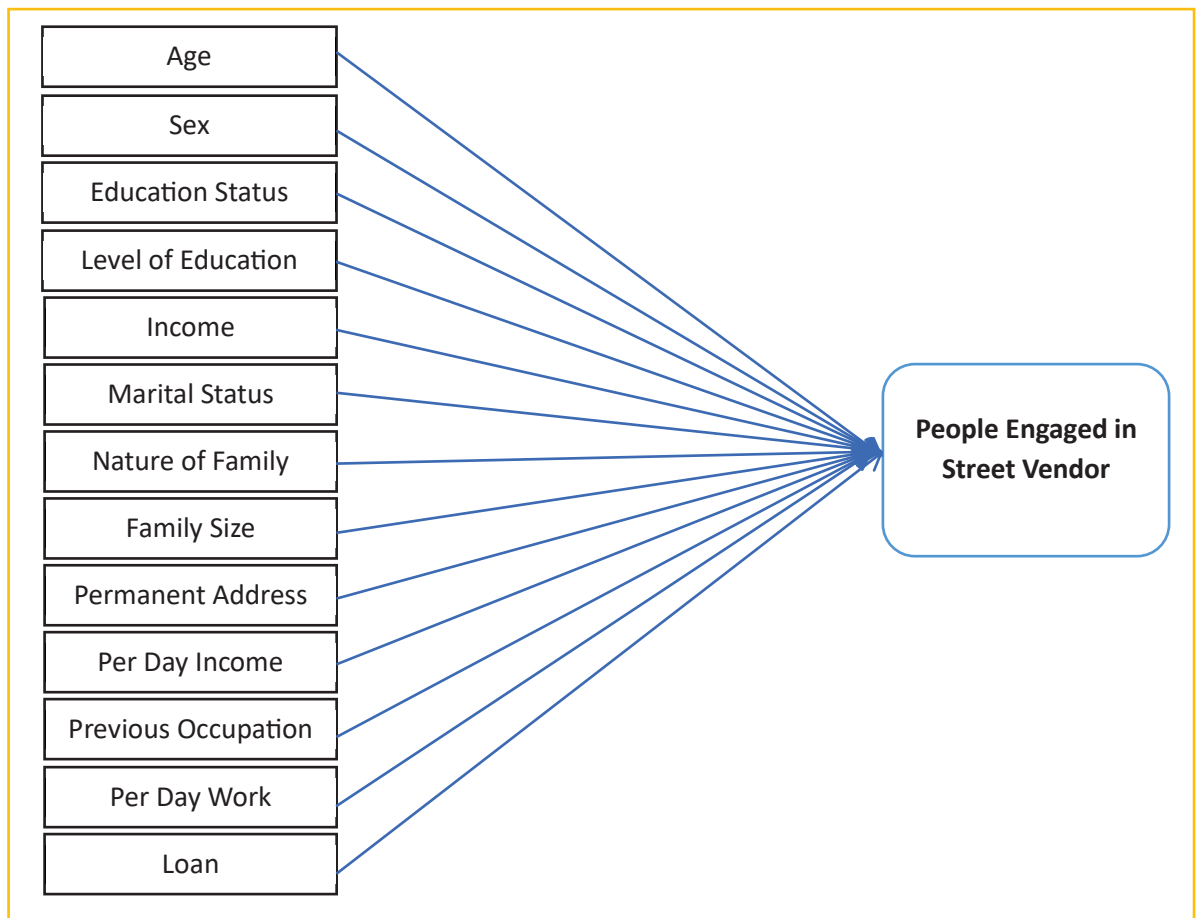
$$= P ((\beta'_j - \beta'_k) X_i + \varepsilon_j - \varepsilon_k > 0 / X)$$

$$= P (\beta^* X_i + \varepsilon^* > 0 / X) = F (\beta^* X_i)$$

where P is the probability function, U_{ij} , U_{ik} and X_i are as defined above, $\varepsilon^* = \varepsilon_j - \varepsilon_k$ is the random disturbance term, $\beta^* = \beta'_j - \beta'_k$ is the vector of unknown parameters that can be interpreted as the net influence of the vector of explanatory variables that influences adaptation, and $F(\beta^* X_i)$ is the cumulative distribution function of ε^* evaluated at $\beta^* X_i$. The exact distribution of F depends on the distribution of the random disturbance term, ε^* .

The given concept can be presented at the graphical form as shown in Figure 1:

Figure 1: Conceptual Framework



Source: Adhikari 2011, Bhattarai and Pathak 2020

3.3 Research Design

This study is used quantitative research design. In this study only quantitative method of data collection and data analysis is applied. To achieve the first objective of analyzing the economic status of street vendors during COVID-19, economic status representing questions mostly close ended is prepared. Similarly, to achieve the second objective of examining the factors influencing street vending during COVID-19, this study tried to assess many socio-economic factors – such as demographic characteristics, location, and access to government support, and street vending activities during COVID – 19 associated with street vendors to identify their perception and determinations. The third objective is related to challenges faced by vendors during COVID-19. To examining the challenges faced by street vendors in Kathmandu Valley, some close ended and some open ended questions has prepared to find the government regulations, and competition from other vendors and similar issues. The overall design represents cross-sectional

research design. However, this study follows inferential analysis to identify the determinants of economics status of street vendors during COVID-19. The details are presented in its subsection.

3.4. Nature and Sources of Data

The nature of data refers to the inherent characteristics or qualities of the information being collected that encompasses the fundamental attributes that describe the data and its characteristics and often categorized into two main types i.e., quantitative data and qualitative data (Bergin, 2018). Similarly, types of data refer to the different categories or classifications of data based on its characteristics, structure, and usage. In economics research, commonly, data can be classified into the cross-sectional data, panel data and time series data that covers primary and secondary sources as needed (Wooldridge et al., 2016).

To achieve the objectives of analyzing the economic status of street vendors during COVID-19 in Kathmandu Valley, the appropriate type of data is both quantitative and qualitative data. Quantitative data is appropriate to examine the economic status of street vendors during COVID-19 and its associated factors. The researcher can collect data on their income, expenditure, and savings during the pandemic. Further, survey can be used to examine the relationship between various factors, such as demographic characteristics, location, and access to government support, and street vending activities during COVID-19. This can be achieved through a survey questionnaire that includes questions on the vendors' income sources, the amount of income earned, the expenses incurred, and the amount saved, and many of their social and economic behavior related questions. Both quantitative and qualitative data is appropriate to examine the challenges faced by street vendors in Kathmandu Valley. But due to many limitations, this study based on quantitative study with some open ended questions to justify the objective 3. In conclusion, this study is only based on qualitative data which is based on survey.

3.5. Data Collection Method

The data collection methods of this study can be categorized into many subheadings as study area, sampling design and data collection tools. The details of each section are elaborate separately.

Study Area

The study area for this study is Kathmandu Valley, Nepal. Kathmandu Valley covers three districts namely, Kathmandu, Lalitpur, Bhaktapur together that locates in Bagmati zone of Nepal, which comprise an area of 899 square kilometers, while the valley as a whole occupies 665 square kilometers. The valley covers the whole district of Bhaktapur, 85 percent of Kathmandu, and half of Lalitpur (Adhikari et al., 2021b). The Kathmandu Valley is located between latitudes 27 32'13" and 27 49'10" north and longitudes 85 11'31" and 85 31'38" east, at a height of 1300 meters above sea level (Lamichhane & Shakya, 2020).

Kathmandu Valley has become a central focus for many business and service activities. Being the capital city of Nepal, the valley is home to a huge number of small enterprises as well as one of the country's largest populations, with people arriving from all over the country in search of better and more job possibilities (Adhikari et al., 2021b). With Nepal's growing urbanization, street selling is becoming more common in all cities, especially the Kathmandu Valley. Street sellers may be found in practically every region of the Kathmandu Valley's urban areas. Low entry barriers, flexible working hours, insufficient possibilities to work in the formal sector, failure in other businesses, a lack of enough expertise to work in the formal sector, and disability are all key reasons that encourage individuals to work on the street (Bhattarai & Pathak, 2020) . As a result, the Kathmandu valley was chosen as the study's site since the sample would consist of people from varied backgrounds who run street vending businesses, providing us with reliable data.

Kathmandu is a developing city. The number of street vendors is expanding in parallel with the city's increasing urbanization. On the other hand, the city's trustworthiness in terms of street vending is rising. Many aspects of street vending are affected by the seasons and change throughout time. The Nepal Street Vendors Trade Union (NEST) estimates that there are more than 30,000 street vendors in the Kathmandu Valley and more than 20,000 in the Kathmandu Metropolitan City (Adhikari, 2011). While about 3 percent of the economically active population engaged in street vending (Adhikari et al., 2021). The survey is aimed at street vendors who site in the Kathmandu Valley.

Sample Size, Procedure and Distribution

When the complete population is unable to participate in a research or the members of the target population cannot be identified, sampling is used to collect data that is assumed to be representative of the target group. Sample size determination is the act of determining the number of sample observations. The sample size is an important factor to consider when making inferences about the population of a sample. Paudel et al. (2020) postulates sample size determination helps in planning the study through the efficient and ethical use of research resources to achieve statistically significant results. The sample size is estimated statistically by using Daniel (1999). The Daniel (1999)'s sample size method is as follows:

$$n = z^2 p(1-p) / d^2 \dots\dots\dots (4)$$

Where,

n = Sample size

z = Z statistics for a level of confidence (i.e., 95%) – that is 1.96

p = Expected prevalence or proportion (i.e., 50%) – 0.5

q = 1-p

d = Precision (i.e., 6%) – 0.06

Adding the used value in equation (4) we get,

$$n = \frac{1.96^2 \times 0.5(1 - 0.5)}{0.06^2}$$

$$n = \frac{0.9604}{0.0036}$$

$$n = 266.78$$

Non-response error 5%, i.e., $266.78 \times 5 / 100$

$$= 13.34$$

Adding the non-response error in the total required sample size, the final sample size required for the study was $(266.78+13.34) = 280.12(\approx 280)$. However due to COVID-19 effect, many vendors were either not willing to respond or not available, so the study limits to 197 respondents.

Among the several techniques of non-probability sampling were selected as it is the convenience sampling for the research analysis. Convenience sampling is a popular method of sampling. Only the study participant group can be used to analyze the convenience sample data. It's crucial to remember that connections and effects discovered in a convenience sample can't be expanded to the entire population (Etikan et al., 2016). Convenience sampling, on the other hand, is less expensive, faster, and easier than other types of samples. It can be used to create hypotheses and objectives for use in more evidence based research when no other sample method is practical (Stratton, 2021). Convenience sampling is applied in this research to select the sample respondent.

As there is some specific chowk (marketplace and Bazar) lies in Kathmandu valley specifically Koteshwor, Ratnapark, Kalanki, Balaju, Lagankhel, MangalBazar, Jagati, Suryabinayak and many other areas were reached and vendors from the area were selected as a sample. Only those vendors who were available during visit of each place were selected for the study purposes. Data is collected from the vendor on the spot to understand their socio- economic status.

Data Collection Tools

Survey is a major tool used for this study to collect the primary data. An structural questionnaire is prepared based on the objectives and make sure that the questionnaire is covered as needed. The questionnaire were prepared in three sections to understand vendors economic status during COVID-19. The first section covers their personal information, second section covers their economic activities during COVID-19 and the last section covers challenges they faced in vending business during COVID-19. The questionnaire mostly covered close ended questions while some open ended questions also included as there are no specific answer during preparation of the questions. Once the questionnaire preparation completed, it is verified with supervisor and experts (some of my colleagues form Ministry) to ensure the questions prepared were complete and as per the research objective.

The pilot-test of the questionnaire was done with 5 percent of the potential vendors at Bagbazar Area and some changes are made on the final questionnaire. Final approval on the questionnaire was granted from the supervisor before conducting survey. I am along with some enumerator were went to the field and collect the questionnaire. The data collection time remained April and May of 2023.

3.6. Tools of Analysis/ Empirical Model

Once the data is collected using the structured questionnaire, it is prepared for analysis. This includes tasks such as cleaning, coding, and entering the data into a computer system for analysis. The data were checked for errors, inconsistencies, and missing values and necessary corrections were made. In this study, the data were analyzed using socio-demographic analysis, descriptive analysis, and inferential analysis. Here, socio-demographic analysis involves examining the demographic characteristics of the study population. This analysis helps to identify the socio-economic status of street vendors and their demographic characteristics such as age, gender, education, and marital status.

Similarly, descriptive analysis involves summarizing the data using measures such as mean, median, mode, standard deviation, and frequency distribution. This analysis helps to describe the patterns and trends in the data related to the economic status of street vendors during COVID-19, factors influencing street vending, and the challenges faced by street vendors.

Finally, the inferential analysis was performed. Inferential analysis involves testing hypotheses and making inferences about the study population using statistical techniques such as regression analysis, correlation analysis, and chi-square analysis. This analysis helps to determine the relationship between variables such as the socio-economic status of street vendors and the factors influencing street vending during COVID-19.

For data analysis, software such as Microsoft Excel and STATA were used as needed. Microsoft Excel is commonly used spreadsheet software that can perform basic statistical analyses, such as calculating descriptive statistics and creating charts and graphs. STATA is a statistical software package that is widely used in social science research for data analysis, econometrics, and data management. These software tools helps to perform the

necessary statistical analyses and visualize the data to draw meaningful insights from the data.

3.7. Model Specification

Depending on the assumed distribution that the random disturbance term follows, several qualitative choice models, such as linear probability, logit or probit models can be estimated. Further the logit and probit models are the most common models used in the literature, as such models have desirable statistical properties with probability values ranging and bound within 0 and 1.

For the empirical analysis of the study, a binary logit model was selected to identify the factors associated to street vending related activities during COVID-19 in study area.

As Devkota et al. (2018) the effect of X on the response probabilities, P (y = j/x) can be estimated by using binary logit model as:

$$P\left(\frac{Y^i}{X}\right) = F(Z_j) = \frac{e^{z_i}}{1+e^{z_i}} = \frac{1}{1+e^{-z_i}} \dots\dots\dots(5)$$

$$P(Y_i=J/X_i) = F(Z_j) = \frac{e^{z_i}}{1+e^{z_i}} = \frac{1}{1+e^{-z_i}}$$

$$Z_i = \beta_0 + \beta_1 X_{1i} + \dots + \beta_n X_{ni} + \mu_i \dots\dots\dots(6)$$

The Final equation is:

$$Y = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Sex} + \beta_3 \text{Education Status} + \beta_4 \text{Level of Education} + \beta_5 \text{Income} + \beta_6 \text{Marital Status} + \beta_7 \text{Nature of Family} + \beta_8 \text{Family Size} + \beta_9 \text{Permanent Address} + \beta_{10} \text{Per Day Income} + \beta_{11} \text{Previous Occupation} + \beta_{12} \text{Per Day Work} + \beta_{13} \text{Loan} + e \dots\dots\dots(7)$$

Where,

Y = Dependent variable (people engaged in street vending); β_0 = Constant coefficient; $\beta_1 - \beta_{13}$ = Coefficient of independent variable and e = Error term

In conclusion, this study aimed to identify the factors associated with street vending during COVID-19 in the study area using a binary logit model. Based on the literature review, the logit model was deemed appropriate due to its desirable statistical properties and ability to estimate the effect of independent variables on response probabilities. The

final equation includes 13 independent variables such as age, sex, education status, income, marital status, family size, and previous occupation. Data analysis were performed using software like STATA and Microsoft Excel. The findings of this study contributes to a better understanding of the socio-economic effects of COVID-19 on street vending and help policymakers in formulating appropriate strategies to support street vendors during such pandemics.

3.8 Operational Definition of the Variables

The operational definitions of variables used in this study are as follows:

Explanatory Variable	Description	Measurement	Priori Expectati	Slope Coefficient
X ₁	Age	In year	±	β_1
X ₂	Sex	1 if Male, 0 otherwise	±	β_2
X ₃	Education Stat	1 if literate, 0 otherwise	+	β_3
X ₄	Level of Education	1 if they are bachelor, 0 otherwise	+	β_4
X ₅	Income	In NPR.	+	β_5
X ₆	Marital Status	1 if Married, 0 otherwise	+	β_6
X ₇	Nature of Fami	1 if Single Family, 0 otherwise	+	β_7
X ₈	Family Size	1 if members upto 3, 0 otherwise	+	β_8
X ₉	Permanent Address	1 if province 3, 0 otherwise	+	β_9
X ₁₀	Per day Income	In NPR	+	β_{10}
X ₁₁	Previous Occupation	1 if Agriculture, 0 otherwise	+	β_{11}
X ₁₂	Per day Work	1 if 8 hour, 0 otherwise	+	β_{12}
X ₁₃	Loan	1 if within 50000, 0 otherwise	+	β_{13}

The elaboration of the operational definitions of the selected variables for this study is as follows:

- Age: Age is the numerical representation of a person's lifespan in years. In this study, age is being used as an explanatory variable to analyze the association between the age of street vendors and their engagement in street vending activities during COVID-19.
- Sex: Sex is a biological characteristic that determines whether a person is male or female. In this study, sex is being used as an explanatory variable to analyze the association between sex and street vending activities during COVID-19.
- Education Status: Education status is the level of formal education a person has attained. In this study, education status is being used as an explanatory variable to analyze the association between education status and street vending activities during COVID-19.
- Level of Education: Level of education refers to the highest degree or diploma obtained by a person. In this study, level of education is being used as an explanatory variable to analyze the association between level of education and street vending activities during COVID-19.
- Income: Income is the amount of money a person earns from various sources. In this study, income is being used as an explanatory variable to analyze the association between income and street vending activities during COVID-19.
- Marital Status: Marital status refers to the legal relationship between a person and their spouse. In this study, marital status is being used as an explanatory variable to analyze the association between marital status and street vending activities during COVID-19.
- Nature of Family: Nature of family refers to the type of family structure a person belongs to, such as nuclear or extended family. In this study, nature of family is being used as an explanatory variable to analyze the association between family structure and street vending activities during COVID-19.
- Family Size: Family size refers to the number of members in a person's household. In this study, family size is being used as an explanatory variable to analyze the association between family size and street vending activities during COVID-19.

- **Permanent Address:** Permanent address refers to the location where a person is registered as a permanent resident. In this study, permanent address is being used as an explanatory variable to analyze the association between the location of a person's permanent residence and their engagement in street vending activities during COVID-19.
- **Per day Income:** Per day income refers to the amount of money earned by a person in a single day. In this study, per day income is being used as an explanatory variable to analyze the association between daily income and street vending activities during COVID-19.
- **Previous Occupation:** Previous occupation refers to the type of job a person held prior to engaging in street vending activities. In this study, previous occupation is being used as an explanatory variable to analyze the association between a person's previous occupation and their engagement in street vending activities during COVID-19.
- **Per day Work:** Per day work refers to the number of hours a person works in a single day. In this study, per day work is being used as an explanatory variable to analyze the association between the number of hours worked per day and street vending activities during COVID-19.
- **Loan:** Loan refers to the amount of money borrowed by a person. In this study, loan is being used as an explanatory variable to analyze the association between borrowing money and engagement in street vending activities during COVID-19.

The above mentioned variables selected for the study are all important as they provide a comprehensive understanding of the factors that influence street vending activities during COVID-19 in the study area. Age is an important variable as it can influence the level of experience and skills a street vendor has, and their ability to adapt to changing circumstances. Sex is important as gender can influence access to resources and opportunities, and may also impact the types of goods sold by street vendors. Similarly, Education Status and Level of Education are important as they can affect a street vendor's ability to understand and comply with government regulations and access support services. Income is important as it can influence the financial viability of street vending activities and impact a vendor's ability to cope during economic crises. Further, Marital

Status and Nature of Family can impact a street vendor's access to social support and their ability to cope during crises. Family Size can also affect the resources available to a vendor and their capacity to engage in street vending activities. Similarly, Permanent Address is important as it can indicate access to resources and opportunities in different regions. Per day Income and Per day Work are important as they provide information about the financial viability of street vending activities and the effort required to maintain them. Finally, Previous Occupation and Loan are important as they provide information about the background and financial situation of street vendors, which can affect their capacity to adapt to changing circumstances and cope during crises.

CHAPTER IV: DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter shows the outcome of various variables which are presented in various sections and analysis is done from the secondary data planned and the questionnaire of the survey taken from the street vendors of Kathmandu valley. The data are presented in three forms – secondary data from CBS, and primary data in terms of descriptive and inferential. The descriptive section includes tables, charts, figures and diagrams, here in this study only table and chart is presented, whereas inferential section includes several statistical tests and finding are presented.

Overview of Informal Economy and Street Vendors

A study on the informal sector of the National Economic Census 2018 says that out of the 3.22 million people who have jobs in the country, 25.8 percent (832,187) work in the informal sector. Not only that, but this study also shows that out of the 923,027 businesses that are open in Nepal, 49.9 percent (460,422) are not listed and are considered "informal." In Nepal, street companies make up 3.87 percent of the casual industry and hire 1.4% of the work force. It can be seen in Table 1.

Table 1: Number of establishments and person engaged in street business

	Number of establishments		Number of persons engaged	
	Establishment	Share (%)	Establishment	Share (%)
Street business	34,101	3.7	45,330	1.4
Home business	386,323	41.9	841,224	26.1
Business in a building	323,621	35.1	1,044,011	32.4
Business in traditional market	67,441	7.3	133,099	4.1
Business in modern shopping mall	20,809	2.3	89,398	2.8
Business occupying exclusively one block or one building	58,344	6.3	905,823	28.1
Others	31,129	3.4	160,259	5.0
Total	921,768	100.0	3,219,144	100

Source: CBS 2021

According to data from the Central Bureau of Statistics, out of a total of 923,356 establishments surveyed 921,768 responded. Among these, 34,101 establishments were identified as "Street business," constituting 3.7% of the establishments. The remaining 887,667 establishments, encompassing categories such as Home business, Business in a building, Business in traditional market, Business in modern shopping mall, Business occupying exclusively one block or one building, and others, accounted for 96.3%. In terms of employment, the 45,330 persons engaged in street businesses represent 1.4% of the total 3,228,025 persons engaged in establishments that answered the same question. A noteworthy finding from the Central Bureau of Statistics reveals that half of businesses in Nepal operate in the informal sector, characterized by being unregistered, unmonitored, and untaxed. Specifically, the report indicates that out of the 923,027 business establishments in the country, 49.9% (460,422 firms) fall into the category of informal enterprises. Furthermore, 25.8% of the total employed population, equivalent to 832,187 persons, are engaged in the informal sector, underscoring the significance of this sector in Nepal's economy (see Table 2).

Table 2: Number of establishments and persons engaged in street business by size of persons

Persons engaged per establishment	Number of establishments		Number of persons engaged	
	Establishment	Share (%)	Establishment	Share (%)
1	24,902	73.02	24,902	54.93
2	7,854	23.03	15,708	34.65
3	941	2.76	2,823	6.23
4	273	0.80	1,092	2.41
5	66	0.19	330	0.73
6 – 10	65	0.20	475	1.04
Total	34,101	100	45,330	100

Source: CBS 2021

The breakdown of street businesses in Nepal reveals a detailed distribution by scale. Among the total of 34,101 street establishments, 73.0% consist of single-person enterprises, totaling 24,902 establishments. Establishments with 2 persons account for 23.0% (7,854), those with 3 persons make up 2.8% (941), while those with 4 persons contribute 0.8% (273). Establishments engaging 5 persons and more represent 0.4% (131). In terms of persons engaged, out of the 45,330 individuals involved in street businesses, 54.9% (24,902) work in establishments with 1 person, 34.7% (15,708) in

those with 2 persons, 6.2% (2,823) in those with 3 persons, 2.4% (1,092) in those with 4 persons, and 1.8% (805) in establishments with 5 persons and more. Notably, the report highlights that among the 460,422 enterprises lacking registration, a significant 99.5% (458,258) are micro-enterprises, employing a maximum of nine people. Additionally, non-registered small establishments with 10 to 49 employees make up 0.4% (2,032), non-registered medium establishments with 50 to 99 employees number 88, while large establishments employing 100 or more persons exceed 44 in count. This nuanced breakdown sheds light on the diverse scale and composition of street businesses in Nepal (See Table 3).

Table 3: Share of establishments in street business by industry

	Share of establishments				Share of person engaged			
	Establishment	Street Business	Share ¹	Share ²	Person engaged		Share ³	Share ⁴
Mining and quarrying	652	27	0.08	4.1	7677	38	0.08	0.5
Manufacturing	103,854	586	1.72	0.6	508017	908	2.0	0.2
Wholesale and retail trade; repair of motor vehicles and motorcycles	497,581	26736	78.40	5.4	987169	35128	77.49	3.6
Transportation and storage	3,173	16	0.05	0.5	19988	30	0.07	0.2
Accommodation and food service activities	130,386	5066	14.86	3.9	345842	7112	15.69	2.1
Professional, scientific and technical activities	8,082	96	0.28	1.2	33081	105	0.23	0.3
Administrative and support service activities	6,856	71	0.21	1.0	45939	139	0.31	0.3
Human health and social work activities	19,920	84	0.25	0.4	163726	167	0.37	0.1
Other service activities	57,299	1419	4.16	2.5	176059	1703	3.76	1.0
Total	921,768	34101	100	3.7	32191	4533	100	1.4

					44	0		
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¹Share of establishments in street business by industry

²Share of establishments in street business of the whole establishments by Industry

³Share of persons engaged in street business by Industry

⁴Share of persons engaged in street business of the whole establishments by Industry

Source: CBS 2021

In examining the distribution of street businesses across various industries, it is evident that out of the 18 industries considered, street businesses exist in 9 of them. Among the total street businesses (34,101 establishments), the predominant industry is 'Wholesale and retail trade; repair of motor vehicles and motorcycles,' with 26,736 establishments, constituting 78.4% of all street businesses. The second-largest industry is 'Accommodation and food service activities,' comprising 5,066 establishments and accounting for 14.9% of the total street businesses. This translates to a 3.7% share of street businesses within the overall establishments (921,768 establishments). When considering small businesses within specific industries, the share in the 'Wholesale and retail trade; repair of motor vehicles and motorcycles' industry is 5.4%, 'Mining and quarrying' industry is 4.1%, and 'Accommodation and food service activities' industry is 3.9%.

Similarly, examining the number of persons engaged in street businesses across industries, it is noted that among the 18 industries, street businesses operate in 9 of them. Of the total persons engaged in street businesses (45,330 individuals), the primary industry is 'Wholesale and retail trade; repair of motor vehicles and motorcycles,' employing 35,128 persons and representing 77.5% of all persons engaged in street businesses. The second-largest industry, 'Accommodation and food service activities,' engages 7,112 persons, constituting 15.7% of the total persons engaged in street businesses. The overall share of persons engaged in street businesses is 1.4% of the persons engaged in establishments (3,228,025 persons engaged). Among the 9 industries, the share of persons engaged in small businesses within the 'Wholesale and retail trade; repair of motor vehicles and motorcycles' industry is 3.6%, and the share in the 'Accommodation and food service activities' industry is 2.1%. This detailed analysis provides insights into the specific industries driving street businesses and the proportional engagement of individuals within these sectors (See Table 4).

Table 4: Number of establishments and persons engaged in street business by size of persons – Province wise

Province	Establishment	Street Businesses	Share ¹	Share ²	Person Engaged	Share ³	Share ⁴
Koshi	168420	7271	21.3	4.3	543083	21.0	1.8
Madesh	117359	5695	16.7	4.9	353737	16.6	2.1
Bagmati	282027	9066	26.6	3.2	1212527	24.3	0.9
Gandaki	100484	600	1.8	0.6	331594	1.7	0.2
Lumbini	147762	9376	27.5	6.3	474183	29.9	2.9
Karnali	42766	1238	3.6	2.9	118863	3.9	1.5
Sudurpashchim	62950	855	2.5	1.4	185157	2.5	0.6
Total	921768	34101	100	3.7	3219144	100	1.4

¹Number of establishments in street business by province

²Share of establishments in street business of the whole establishment by province

³Number of persons engaged in street business by province

⁴Share of persons engaged in street business of the whole establishment by province

Source: CBS 2021

Examining the distribution of street businesses across provinces provides valuable insights into regional disparities. Lumbini Province leads with 9,376 street businesses, comprising 27.5% of the total, followed closely by Bagmati Province with 9,066 establishments (26.6%), and Province No.1 with 7,271 businesses (21.3%). Province No.2 accounts for 16.7% with 5,695 street businesses. In contrast, Gandaki Province hosts only 600 street businesses (1.8%), Sudurpashchim Province has 855 establishments (2.5%), and Karnali Province records 1,238 street businesses (3.6%). The overall count of street businesses is 34,101, representing 3.7% of the entire establishments (921,768 establishments responding to the question "BP3. Kind of Business Place"). This translates to a significant 6.3% share in Lumbini Province, 4.9% in Province No.2, and 4.3% in Province No.1, while Gandaki Province and Sudurpashchim Province exhibit lower shares of 0.6% and 1.4%, respectively.

Likewise, the number of persons engaged in street businesses, totaling 45,330, demonstrates varying regional participation. Lumbini Province leads again, with 13,558 persons engaged (29.9% share), followed by Bagmati Province with 11,024 (24.3%), and Province No.1 with 9,522 (21.0%). Province No.2 accounts for 16.6% with 7,543 persons engaged. In contrast, Gandaki Province has 778 persons engaged (1.7%), Sudurpashchim Province has 1,126 (2.5%), and Karnali Province has 1,779

(3.9%). The overall share of persons engaged in street businesses is 1.4% of the total persons engaged in establishments responding to "BP3" (3,228,025 persons engaged). This is reflected in varying proportions across provinces, with 2.9% in Lumbini Province, 2.1% in Province No.2, and 1.8% in Province No.1, while Gandaki Province and Sudurpashchim Province have lower shares of 0.2% and 0.6%, respectively. These regional breakdowns offer a comprehensive understanding of the distribution and impact of street businesses across different provinces in Nepal (See Table 5).

Table 5: Financial status of the Street Business - Province wise

Province	Preparation of accounting records (Yes – in %)	annual revenue / sales (Rs)	Annual profit (Rs)	average profit to sales ratio (%)	Access to Credit (Yes – in %)	Interest rate (in %)
Koshi	22.46	222605	79530	33.9	19.6	17.3
Madesh	13.38	203119	86933	47.6	17.7	21.1
Bagmati	12.57	282691	103305	36.0	3.0	17.1
Gandaki	44.13	302427	91036	34.7	21.7	16.5
Lumbini	18.62	157991	59089	40.9	22.2	16.9
Karnali	29.40	189261	78988	45.7	41.7	18.2
Sudurpashchim	37.31	202433	74426	40.9	28.1	17.3
Total	18.27	214153	80458	39.3	18.3	17.9

Source: CBS 2021

Out of the 34,075 entities of the street business, 34,029 entities responded to the question whether accounting record was prepared or not. As shown in Figure 6, 218 of 34,029 entities (18.3%) answered that they prepared accounting records, while 27,811 entities (81.7%) answered they did not. More than 44 percent of the entities in Gandaki Province answered that they prepared accounting records followed by Sudurpaschim (37.31), Karnali (29.40) and so on (see Table 5). The number of entities whose annual revenue / sales are under Rs 100,000 is the biggest among all categories (12,147 entities). 1,292 entities declared that their annual revenue / sales are more than Rs 1,000,000. The average annual revenue/sales per engaged person varies from province to province. It is the higher in Gandaki and Bagamati Provinces and the lowest in Lumbini Province.

Regarding annual profit 1,494 entities have a deficit. The number of entities whose annual profit are more than Rs 50,000 and less than 99,999 is the biggest among all categories. Results show the average annual profits per engaged person by province. The average annual profits per engaged person varies from province to province. It is the highest in Bagmati Province and the lowest in Lumbini Province. The profit to sales ratio, which shows the profitability of business, is calculated by dividing the amount of profit by sales. It is observed that the number of entities whose profit to sales ratios are larger than 40% and smaller than 60% (40 - 60%) is largest among all categories (14,614 entities). The average profit to sales ratio of the street business entities in Nepal was 39.3% and it varies among provinces. The profit to sales ratio in Province 2 was the highest among all provinces (47.6%) while the profit to sales ratios in Province 1 (33.9%) was much lower than the average.

Another important financial indicator is access to credit. Out of the 34,075 entities of the street business, 34,067 entities responded to the question whether they have/used to have loans or not. Results shows that 6,239 entities (18.3%) answered that have received loans, while 27,828 entities (81.7%) answered they did not. More than 40 percent of the entities in Karnali Province answered that have/used to have loans. The loan interest rate varies among the types of loan providers. The average loan interest rate of banks is relatively low (15.5%) while that of personal lenders is the highest (24.7%). The average loan interest rate in Gandaki Province is the lowest; this is due to that the Banks are the major providers in this province (See Table 6).

Table 6: Proportion of entities in street business by loan provider – Province wise

Province	Bank	Finance	Micro Finance	Cooperatives	Personal	Others
Koshi	13.9	3.6	14.2	56.6	9.3	2.4
Madesh	15.7	4.0	18.1	34.4	24.8	3.1
Bagmati	5.4	19.6	4.5	34.6	28.3	7.5
Gandaki	27.7	5.4	10.0	26.2	20.0	10.8
Lumbini	16.9	1.7	11.2	43.1	13.1	14.0
Karnali	11.3	1.2	19.8	47.7	10.5	9.5
Sudurpashchim	21.0	1.7	9.7	30.7	8.0	29.0
Total	14.4	4.9	12.8	43.2	15.9	8.8
Interest Rate	15.5	16.1	17.8	16.7	24.7	16.6

Source: CBS 2021

Regarding loan provider, out of 6,239 street business entities which have/used to have loans, 6,232 entities answered the type of the loan provider. They mentioned that the major loan providers are cooperatives (43.2%), followed by personal lenders (15.9%). Cooperatives are the major providers in six provinces except Gandaki Province while the banks are the major providers in Gandaki Province.

The results show that these informal businesses are very important to the economy, especially when it comes to creating jobs. However, the study said that these businesses are not taxed or regulated. In addition, it's a field where working conditions are bad and there is no social security. However, it was found that only 42% of respondents could live above the poverty line if they didn't sell things on the street. This is because they could cover their costs with money from other jobs. Even though they are very important to the business, Nepalese street sellers often have a hard time.

4.2 Descriptive Analysis and Respondents

The descriptive analysis includes the socio-demographic analysis, profile and economic activities of the street vendors and challenges faced by the street vendors which is presented through tables and figures.

4.2.1 Demographic Characteristics of the Street Vendors

The Socio-Demographic variable of the surveyed is included in this section. Data are collected from 197 street vendors. In this part gender, marital status, age, education level of their family and children, nature of the family, family size, permanent address are presented in a tabulated form, which help to clearly interpreted them (See Table 7).

Table 7: Socio-Demographic Variable

Title	Category	Number	Percentage
Gender	Male	108	54.82
	Female	89	45.18
Age	Below 20	11	5.58
	20-29	37	18.78
	29-39	55	27.92
	40-49	45	22.84
	50-59	45	22.84
	60 and above	4	2.03
Educational	Illiterate	91	46.19

Title	Category	Number	Percentage
Qualification	Primary Level	74	37.56
	Secondary Level	25	12.69
	Intermediate Level	7	3.55
	Bachelors and Above	0	0
Highest Education of your family	Primary Level	62	31.42
	Secondary Level	60	30.46
	Intermediate Level	41	20.81
	Bachelors and Above	34	17.26
Highest Education of Children	Primary Level	108	54.82
	Secondary Level	47	23.86
	Intermediate Level	23	11.66
	Bachelors and Above	29	14.72
Any Vocation/ Technical Education Received	Yes	2	1.06
	No	195	98.98
Marital Status	Unmarried	20	10.15
	Married	160	81.22
	Others	17	8.63
Nature of Family	Nuclear	118	59.89
	Joint	69	35.03
	Extended	10	5.08
Family Size	1-3	21	10.66
	4-6	145	73.60
	7-9	26	13.19
	10-12	5	2.54
Permanent Address	Kathmandu Valley	25	12.69
	Other districts of Nepal	159	80.71
	Other countries	13	3.60
Family working in permanent job	Foreign Employment	37	18.78
	Service Sector	27	13.71
	Other	133	67.51

Source: Field Survey 2023

The table 7 shows the socio demographic variable of the 197 respondent, where most of them are male represented by 54.82 percent, and rest by female respondent. The study reveal that majority of street vendors are fall in the age group 29-59, among them 29-39 age groups are highest, and the least age group are below 20 years and above 60 years age. The highest number of respondents are illiterate (46.19 percent), followed by primary level (37.56 percent), and least number of street vendor are secondary, intermediate and bachelor (16.24 percent). The study shows that higher level of education in vendor family is primary and secondary education represented by 31.42 percent and 30.46 percent respectively. While 38.07 percent vendor have intermediate and bachelor level education in their family. The results show that, most of the vendor children have

primary level education represented by 54.82 percent, while 23.86 percent of their children are secondary level education and remaining 26.38 percent of the respondent kids have intermediate, bachelor and master level education.

Majority of the vendor are married (81.22 percent), have nuclear family (59.89 percent), with (4-6) number of family size (73.60 percent) and most of the respondent are from other district of Nepal (80.71 percent) operating their business in Kathmandu valley. (98.98 percent) of the vendor don't have the vocational or technical education. The study reveals that the (18.78 percent) vendor's family member are foreign employment and only (13.71 percent) engaged in service sector and majority (67.51 percent) are working in other sector such as agriculture, construction, vegetable vending, teacher etc. (See Table 8).

Table 8: Economic Activities of the Street Vendors

Title	Category	Number	Percentage
Per day Income (at present)	Upto 300	26	13.19
	300-500	46	23.35
	500-700	41	20.81
	700-900	30	15.23
	900-1000	28	14.21
	1000-1500	22	11.17
	1500-2000	2	1.02
	2000-2500	2	1.02
Per day Income (before COVID)	Upto 300	10	5.08
	300-500	41	20.81
	500-700	40	20.30
	700-900	27	13.71
	900-1000	27	13.71
	1000-1500	34	17.26
	1500-2000	10	5.08
	2000-2500	5	2.54
	2500-3000	3	1.52
Monthly income of your family members	Upto 9000	10	5.08
	10000-20000	71	36.04
	20000-30000	56	28.43
	30000-40000	49	24.87
	Above 40000	11	5.58
Do you have own house	Yes	24	12.18
	No	173	87.81
How you manage for living	Lease	2	1.01
	Rented	167	84.77
	Other	28	14.21

Source: Field Survey 2023

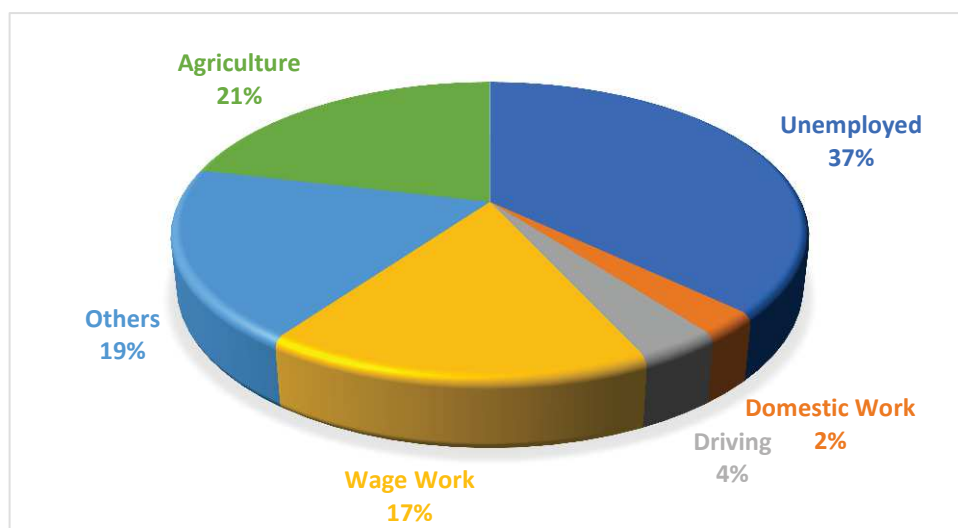
Here, table 8 shows the economic status of the street vendor, the study reveal that the 23.35 percent of the vendor earn (300-500) in daily basis, while 20.81 percent vendors earn between 500 to 700, and only 2.04 percent of the vendor earn above 1000 per day. The table also shows that 20.81 percent and 20.30 percent vendor earn (300- 500) and (500-700) per day respectively before COVID. It also reveal that the per day income of vendor decrease due to COVID as the vendors who earn above 1000 per day has been decreased by 6.09 percent. The study represent that majority of the vendors (36.04 percent) monthly income lies between (10000-20000), while (28.43 percent) of the vendor earn between (20000-30000) per month and rest of the vendor earn more than 30000 in a month , among them 5.08 percent of them earn less than 9000, and most of the vendor lived in the rented house (84.77 percent) and only nominal leave in lease and other places.

4.2.2 Profiles and Economic Characteristics of the Street Vendors

Vendors Previous Occupations

In this study, respondents were asked about their previous jobs before engaging in the street vending business. The respondents are engaged in the agriculture, domestic work, wage work, and most of them are unemployed. Figure 2 shows that, majority of them were either unemployed (37 percent) or involved in the agriculture sector (21 percent) prior involving in street vending, with 17 percent working as laborers or in other sectors.

Figure 2: Previous Occupations

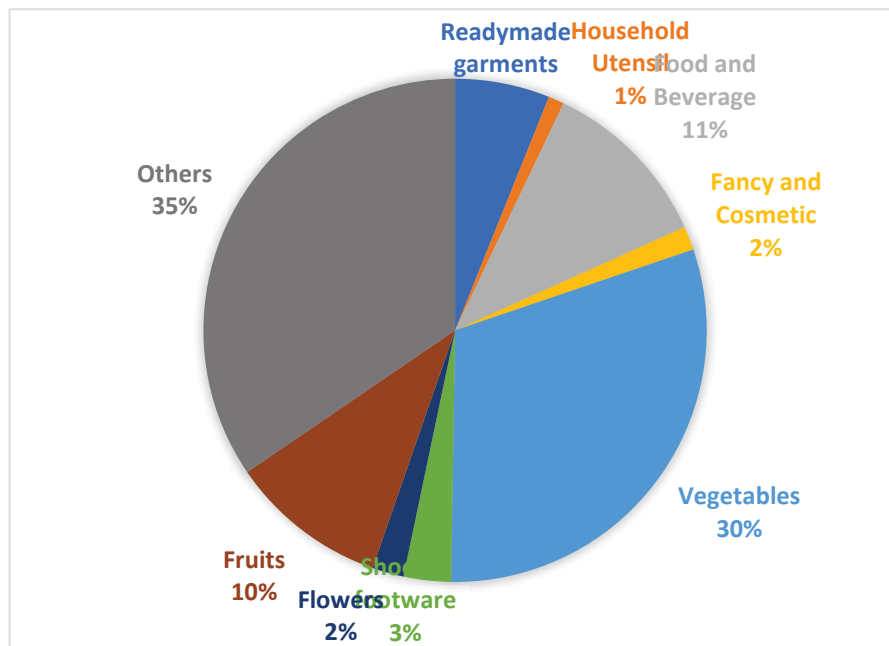


Source: Field Study 2023

Product Sold by Vendors

The interview in this study was conducted through the vendors who sell vegetables, food and beverage, fruits, flowers, footwear, fancy and cosmetics etc. Figure 3 shows the product category which was sale by vendors, among the 197 vendors (30 percent) of them sales vegetables, 11 percent sales Food and Beverage, fruits by 10 percent, and rest of them sale either shoes & footwear, flowers, household utensil etc.

Figure 3: Product Sold by Vendors

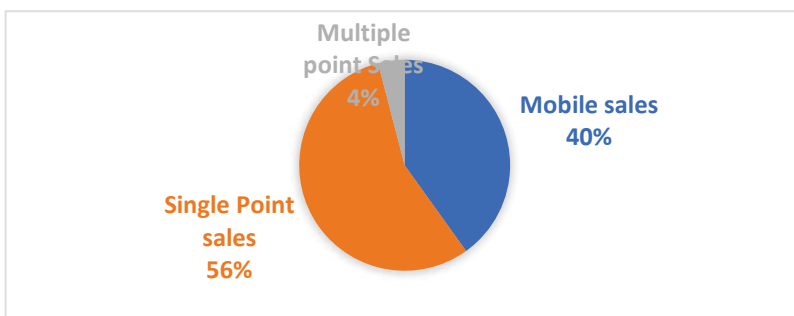


Source: Field Survey 2023

How Vendors Sales Goods and Services

The respondent who are involve in the survey have sell their products through either single point, multiple sale or mobile sell which has shown in figure 4. The result shows that, 56 percent of them sales their product by single point sales, 40 percent of them sales through going different places and only 4.06 percent sale by the multiple point.

Figure 4: Goods and Services Sold by Vendors



Source: Field Survey 2023

This research reveal that most of the vendors are unemployed before they engaged in the street vending business, and other vendors have either involved in the agriculture business or labour work. Most of the participated vendors sell vegetables, food and beverage, fruits, footwear or other products. Majority of them sell through single point sale and 40 percent sale through mobile sale.

4.2.3 Economic Activiites of the Street Vendors

The following table 9 represents the economic status of the vendors through different perspectives. It also reveal that how is the condition of their business in terms of income, per day work and different factor before the COVID and the present context.

Table 9: Economic Activities of the Street Vendors

Title	Category	Number	Percentage
Number of years vendor engage in the business	1-3	38	19.29
	4-6	66	33.50
	7-9	38	19.29
	10-12	26	13.20
	12 and above	29	14.72
Per day work vendors	4-6	16	8.12
	7-9	103	52.28
	10-12	63	31.97
	12 and above	15	7.61
Average customer flow in their business (Present)	Below 10	30	15.23
	10-19	49	24.87
	20-29	52	26.40
	30-39	24	12.18

Title	Category	Number	Percentage
	40-49	20	10.15
	50-59	9	4.57
	60 and above	13	6.60
Average customer flow in their business (before COVID)	Below 10	35	17.77
	10-19	31	15.74
	20-29	44	22.33
	30-39	29	14.72
	40-49	21	10.66
	50-59	17	8.63
	60-69	4	2.03
	70-79	4	2.03
	80 and above	12	6.09
Monthly pay for warehouse collector	No pay	163	82.74
	Below 100	7	3.55
	100-300	15	7.61
	300 and above	12	6.09
Weekly pay for reservation space	No pay	176	89.34
	100-300	3	1.52
	300-500	2	1.01
	500-700	3	1.52
	700-900	9	4.57
	Above 900	4	2.03
How much time business affected by Weather	Rarely	16	8.12
	Often	159	80.71
	Sometimes	22	11.17
How much time business affected by Jatras	Rarely	176	89.34
	Often	7	3.55
	Sometimes	14	7.11
How much time	Rarely	145	73.60

Title	Category	Number	Percentage
business affected other factors	Often	16	8.12
	Sometimes	36	18.27
Do you have loan	Yes	21	10.66
	No	176	89.34
Starting Investment	Below 500	22	11.17
	500-1000	22	11.17
	1000-5000	43	21.83
	5000-10000	31	15.74
	10000-20000	38	19.29
	20000-50000	34	17.26
	50000 and above	7	3.55
Source of Investment	Loan	43	21.82
	Personal Saving	48	24.37
	Family Support	77	39.09
	Other	29	14.72
Per day working capital required for business operation	Upto 500	63	31.98
	500-1000	47	23.86
	1000-2000	32	16.24
	2000-5000	46	23.35
	5000-10000	9	4.57
Per day working capital required for business operation (Before COVID)	Upto 500	77	39.09
	500-1000	42	21.32
	1000-2000	27	13.71
	2000-5000	39	19.80
	5000 and above	12	6.09
How street vendors manage living during COVID	Agriculture Work	8	4.06
	Family Saving	43	21.83
	Selling Vegetable	9	4.57
	Construction Labor	28	14.21
	Family Support	20	10.15
	Loan	7	3.55

Title	Category	Number	Percentage
	Other	82	41.62

Source: Field Survey 2023

The study shows that majority of the vendor have engaged in the street vending between (4-6) years, (52.28 percent) vendors operate their business (7-9) hour per day, while least amount (7.61 percent) of vendors work 12 and more hour. The study also shows that the average customer flow in their business are between (10-19) and (20-29) number of people represented by 24.87 percent and 26.40 percent vendors data. While the flow of customer before COVID was 15.74 percent and 22.33 percent respectively. The (89.34 percent) of the vendor did not have to pay for the space they have used, while only certain portion 2.03 percent of the vendor have to pay 700-900 in a weekly basis. The study shows that the majority of the vendor (82.74 percent) did not have to pay for the waste collector.

The street vendor (80.71 percent) demonstrate that their business is being affected due to weather, but they have less affected due to jattras and other factor reveal by (89.34 percent) and (73.60 percent) of the vendor opinion. Majority of vendor (89.34 percent) reveal that they have no loan, and started their business from 1000 to 5000 shown by (21.83 percent) vendor, with the help of family support (39.09 percent). The study reveal that majority of the vendor (31.98 percent), they need upto 500 for business operation, while 23.86 percent respondent that they need 1000-2000 per day to start their business. There is less difference while operating business before COVID and after COVID as 39.09 percent respomdent say they required upto 500 rupess for starting their business. In the time of COVID 21.83 percent of them manage their living through the family saving, 14.21 percent of them from constructon labour and 41.62 percent manage through other factor.

4.2.4 Challenges Faced by the Vendors

The study tries to find out the challenges faced by the vendors during the COVID-19, the categories of the challenges are listed below. The result shows that the 86.29 percent believe there is a challenges during the pandemic time, which is shown below (See Table 10).

Table 10: Challenges Faced by the Vendors

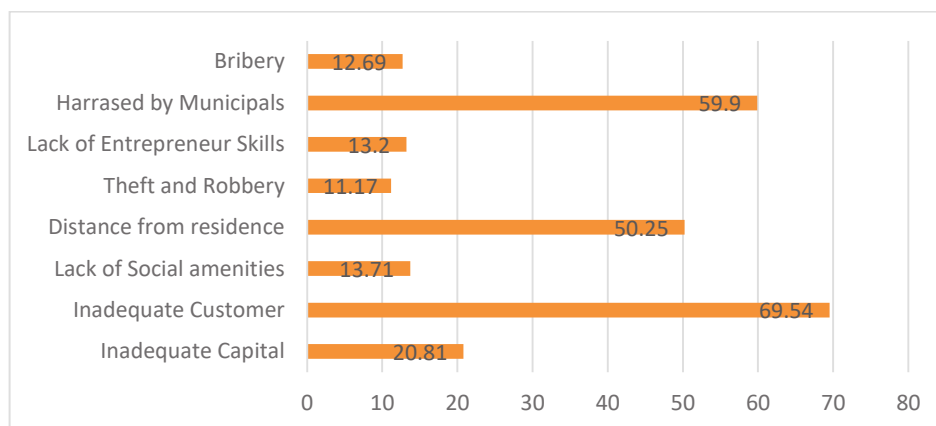
Category	Number	Percent
Yes	170	86.29
No	27	13.71

Source: Field Survey 2023

Challenged Faced by the Vendor During COVID-19

The respondent have categories the different type of challenges during the pandemic as inadequate customer, harassed by municipals, distance from residence, inadequate capital etc. 69.54 percent respondent says that the due to inadequate number of customer they have difficulty to operate their business, 59.9 percent reveal that they are harassed by the municipals, while 50.25 percent says that because they are far from residence they faced a problem during COVID time (See Figure 5).

Figure 5: Challenged Faced by Vendor During COVID-19

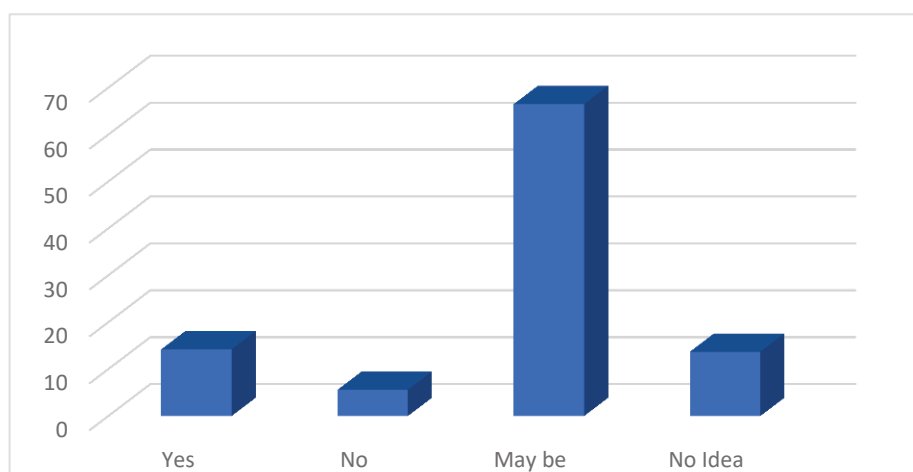


Source: Field Study 2023

Is the Challenges are Manageable

The study find that respondent have faced many challenges during COVID time and the respondent are asked about the question related to the challenges are manageable or not, 61.20 percent vendor believe that the challenges are manageable and only few vendor (10.1 percent) are think that, the problem is manageable as shown figure 6.

Figure 6: Challenges are Manageable or not



Source: Field Study 2023

Management of Such Challenges

The vendors have faced a lot of problems during the pandemic, they have asked the question, how the challenges can be managed. As the majority of them believed that providing license can be done to reduce the challenges. 14.29 percent reveal that the providing the fixed space to trade can be helpful, while 53.57 percent says the other factors shown in table 11.

Table 11: Management of Such Challenges

Category	Number	Percentage
Providing License	9	32.14
Fixed Space to Trade	4	14.29
Others	15	53.57

Source: Field Study 2023

Better for the street vending

Table 11 shows the different category for the betterment of the street vendor, majority of them (69.77 percent) think that they need free space for operating their business during COVID, 11.63 percent says the fixing the rate of vegetable can help them to reduce the challenges they have faced and rest of them feel that they need financial assistance and good policy formulation for the betterment of their vending business (See Table 12).

Table 12: Betterment for the Street Vending

Category	Number	Percentage
Free space to vendor	30	69.77
Fixing the rate vegetable	5	11.63
Financial Assistance	4	9.30
Policy formulation	4	9.30

Source: Field Study 2023

The study shows that respondent have faced so many problems in the coivd time, due to the inadequate customer, harassed by municipality, distance from residence are some of the challenges and they reveal that the challenges can be managed through providing license, providing free space to trade etc. Due to the challenges they have faced they recommend that providing free space to trade, fixing the rate of vegetable, providing financial assistant can be beneficial.

4.3 Inferential Analysis

Inferential statistics are measured in order to generalize the effects of the survey to the population of interest as a whole (Heena et al., 2019). Inferential analysis are based on the theory of probability and the hypothesis testing method. Inferential analysis provide a range of statistical measures as mean, median, mode, standard deviation, percentage etc. that investigators may use to draw conclusions about their sample results in study (Devkota, Paudel & Bhandari, 2020). After data collection data is cleaned using excel. Clean data is input for inferential statistical tools called STATA, for data analysis. For this study, STATA software is used to perform Binary Logit Model. As binary-logit model is a mean-regression model with just the values zero and one for the dependent variable. This technique predict the relationship between predictors (our independent variables as shown in the result) and a predicted variable (the dependent variable i.e. people engaged in street vending during COVID-19) where the dependent variable is binary. It consists pre-estimation test, post-estimation test, multicollinearity and heteroscedasticity as a part of the study.

1. Pre – Estimation

Pre-estimation tests in econometrics refer to the diagnostic tests that are conducted before estimating a regression model. These tests are used to check the validity of the assumptions that underlie regression analysis. Some common pre-estimation tests include specification error, goodness of fit and other diagnostic test. Such pre-estimation tests help to ensure that the regression model is appropriate for the data and that the results of the analysis are reliable. By identifying potential issues with the data or the model, researchers can make adjustments or corrections to improve the accuracy of the results. Therefore, under the pre-estimation we perform specification error, goodness of fit and other diagnostic test. The details of the model fit are shown in the different headings.

Specification Error

Specification testing is a statistical method used to assess whether a dataset or model adheres to specific specifications or assumptions. The objective of this testing is to ensure that the statistical model is a suitable representation of the data generation process, appropriate for the analysis. Specification testing verifies whether assumptions made about statistical models, like linearity, normality, and homoscedasticity, are valid for the data being analyzed. If assumptions are invalid, a model must be revised, or an alternate model should be used to analyze data. Specification testing is a widespread practice guaranteeing that data analysis results are trustworthy and precise.

The Stata command link test was used to detect a specification error to find if the model is properly specified, one should not be able to find any additional predictors that are statistically significant except by chance (Laymon et al., 2021). It explains the variable `_hat` should be significantly predictor whereas `_hatsq` should not be statistically significant to fit specification error (See Table 13).

Table 13: Linktest

```
. linktest

Iteration 0:  log likelihood = -129.87268
Iteration 1:  log likelihood = -100.64136
Iteration 2:  log likelihood = -100.47573
Iteration 3:  log likelihood = -100.47562
Iteration 4:  log likelihood = -100.47562

Logistic regression              Number of obs   =          197
                                LR chi2(2)      =           58.79
                                Prob > chi2      =           0.0000
Log likelihood = -100.47562      Pseudo R2       =           0.2264
```

mode13	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
_hat	1.203123	.232378	5.18	0.000	.7476709 1.658576
_hatsq	.165427	.1063843	1.55	0.120	-.0430824 .3739363
_cons	-.1253516	.2053746	-0.61	0.542	-.5278784 .2771752

Here, we came to know that `_hat` value is statistically significant and `_hatsq` value, is not statistically insignificant. The `_hat` value is 0.000 and `_hatsq` value is 0.120. So, we can conclude that data set has no specification error, chosen predictors were meaningful as it match the given condition.

Goodness of Fit

Goodness of fit is a statistical method to assess the degree to which an observed dataset aligns with a particular probability distribution or model. Statistical tests like chi-square or Kolmogorov-Smirnov are used to compare the observed data to the expected model and generate a p-value indicating the likelihood of observing the data if the null hypothesis is correct. A high p-value implies that the observed data and the expected distribution/model have a good fit, whereas a low p-value suggests a poor fit. Goodness of fit is widely used in several fields to determine if a given model or distribution is appropriate for a dataset, ensuring reliable and accurate conclusions.

For goodness of fit, the predicted frequency and observed frequency should match closely, and that the more closely they match, the better the fit. When performed goodness of fit. In order to be goodness of fit, p-value should be greater than 5 percent i.e. 0.05 (Hutagalung, 2020).

Table 14: Lfit

```
. lfit
Logistic model for mode13, goodness-of-fit test

      number of observations =      197
number of covariate patterns =      188
      Pearson chi2(174) =      194.28
          Prob > chi2 =      0.1394
```

The result obtained for model is $\text{Prob} > \text{chi}2 = 0.1394$ which is greater than 5 percent so we can say that there is a goodness of fit in our models. We can move ahead our model is good (See Table 14).

Other Diagnostics (Fitstat)

Apart from specification testing and goodness of fit testing, statisticians use various diagnostic tests to assess the accuracy and reliability of statistical models and data analysis. Residual analysis is used to examine the residuals or errors of a statistical model and identify any patterns indicating a violation of model assumptions. Outlier detection helps identify extreme values that significantly differ from other observations in the dataset and affect statistical analysis. These diagnostic tests help ensure reliable statistical models and identify data or model limitations.

In fact, other diagnostics helps to determine other parts of model fit. This study looks count R^2 in this diagnostic and concludes that more the value of count R^2 , more its better (*Frequency-Rank Distributions in Proteomics*, 2021). It counts estates that R^2 should be greater or equals to 0.7 to best fit model.

Table 15: Fitstat

Log-Lik Intercept Only:	-187.188	Log-Lik Full Model:	-146.068
D(259):	292.135	LR(21):	82.241
		Prob > LR:	0.000
McFadden's R2:	0.220	McFadden's Adj R2:	0.102
Maximum Likelihood R2:	0.254	Cragg & Uhler's R2:	0.345
McKelvey and Zavoina's R2:	0.359	Efron's R2:	0.249
Variance of y^* :	5.131	Variance of error:	3.290
Count R2:	0.705	Adj Count R2:	0.231
AIC:	1.196	AIC*n:	336.135
BIC:	-1168.198	BIC':	36.165

The count R^2 for model is 0.705 which is higher than 0.7 which fits the condition, so it's excellent.

From the test required for Pre-estimation, it is found that data is clean and there is no error in pre-estimation test of our study (See Table 15). It allows us to perform several other post estimation test, which is discussed in next section.

2. Post – Estimation

Post-estimation tests are statistical tests conducted after the estimation of a model in econometrics to check the validity and reliability of the results. These tests are used to evaluate the goodness-of-fit of the model, to diagnose any potential problems such as heteroscedasticity or multicolleniarity. Post-estimation tests are important to ensure the validity and reliability of the model's results, and to check if the assumptions of the model are met. They also help researchers to identify any potential issues or problems with the model, and to make appropriate modifications to improve its accuracy and

usefulness. Under this estimation, we perform two test multicollinearity and heterosidastisity (Informatic, 2020). This is not a time series data so there is no auto correlation.

Multicollinearity

Multicollinearity occurs when independent variables in a regression model are highly correlated, leading to inaccurate or unstable estimates of the regression coefficients. Statisticians use diagnostic tests, such as the correlation matrix, VIF, and condition number, to identify multicollinearity. Multicollinearity can be addressed by removing highly correlated variables, transforming variables, or using regularization techniques. Identifying and addressing multicollinearity is important in regression analysis to ensure the accuracy and stability of the estimates of the regression coefficients and their standard errors. VIF is a commonly used test to assess multicollinearity, and a VIF greater than 10 suggests the presence of multicollinearity in the data.

Table 16: Collinearity Diagnostics

Variable	SQRT	VIF	VIF	R-Tolerance	Squared
age		2.22	1.49	0.4501	0.5499
gender		1.48	1.22	0.6757	0.3243
maritalstatus		1.71	1.31	0.5863	0.4137
educationalqualification		1.26	1.12	0.7906	0.2094
higesteducationofyourchildren		1.49	1.22	0.6702	0.3298
natureoffamily		1.09	1.05	0.9147	0.0853
permanentaddress		3.77	1.94	0.2653	0.7347
familyworkinginpermanentjobifany		1.24	1.11	0.8093	0.1907
workingcapitaldifferenceemadebyco		1.19	1.09	0.8416	0.1584
current_per_day_income		1.47	1.21	0.6812	0.3188
doyouhaveyourownhouseinkathmandu		3.78	1.94	0.2647	0.7353
previous_occupation		1.19	1.09	0.8385	0.1615
doyouhave loans		1.06	1.03	0.9450	0.0550
Mean VIF		1.77			

Variance inflating factor as per the calculation for model (Mean VIF) is 1.77. So, we can say that there is no multicollinearity issue in our data set (See Table 16).

Heteroscedasticity

Heteroscedasticity is a situation in which the variance of the residuals of a regression model is not constant across the range of the independent variables. To detect heteroscedasticity, statisticians use diagnostic tests like the Breusch-Pagan test and the White test. If heteroscedasticity is present, methods like transforming variables, weighted

least squares regression, or using a different regression model can be used to address it. Heteroscedasticity can occur when there is a difference in variance of the error terms for the range of observations. It is important to identify and address heteroscedasticity in regression analysis to ensure the validity and accuracy of the estimates of the regression coefficients and their standard errors. The $\text{prob} > \chi^2$ should be greater than 0.05 to fit the model.

Table 17: Hetest

```
. hettest  
  
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity  
Ho: Constant variance  
Variables: fitted values of age  
  
chi2(1)      =    0.64  
Prob > chi2  =    0.4223
```

Looking towards hettest, the result appeared for model is $\text{prob} > \chi^2 = 0.4223$ (See Table 17). As per the assumptions, the dataset is free from heteroscedasticity. From the test required of pre-estimation it is found that our data is clean and there is no specific issue. Based on the test performed, final regression results were generated and discussed in next section.

Final Result Estimation

Under this estimation, this study perform logistic regression after using robust standard error. This study also find the odds ratio, marginal effect and logit co-efficient so as to calculate the final results. The term "coefficient of variation" is frequently used to describe a variable's variability (Higaki et al., 2020). When exposed to treatment/dependent variables, odds ratios (OR) compare the chance of an outcome occurring to absence (Rennie, 2019). Likewise marginal effects tell us how a dependent variable (outcome) changes. a specific independent variable (explanatory variable) changes (Alarcón-Bustamante et al., 2021).

The given logit regression model is analyzing the relationship between several independent variables and a binary dependent variable - people engaged in street vending. The model has 13 independent variables including age, gender, marital status, educational qualification, highest education of children, nature of family, permanent address, family working in permanent job if any, working capital difference made by the

company, current per day income, do you have your own house in Kathmandu, previous occupation, and do you have loans.

Table 18: Final Regression Result

```
. logit model3 age gender maritalstatus educationalqualification highesteducationofyourchildren
natureoffamily permanentaddress familyworking inpermanentjobifany workingcapitaldifferencebyco
current_per_day_income doyouhaveyourownhouseinkathmandu previous_occupation doyouhaveloans
```

```
Iteration 0: log likelihood = -129.87268
Iteration 1: log likelihood = -102.44852
Iteration 2: log likelihood = -101.69608
Iteration 3: log likelihood = -101.69141
Iteration 4: log likelihood = -101.69141
```

```
Logistic regression          Number of obs   =       197
                             LR chi2(13)         =       56.36
                             Prob > chi2          =       0.0000
                             Pseudo R2           =       0.2170

Log likelihood = -101.69141
```

model3	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
age	-.0458749	.0199599	-2.30	0.022	-.0849956 - .0067542
gender	.5151461	.4149466	1.24	0.214	-.2981342 1.328426
maritalstatus	-.8121594	.7114061	-1.14	0.254	-2.20649 .5821709
educationalqualification	.6382763	.3893304	1.64	0.101	-.1247972 1.40135
highesteducationofyourchildren	-.9626242	.4941703	-1.95	0.051	-1.93118 .0059318
natureoffamily	-.6552813	.3784145	-1.73	0.083	-1.39696 .0863974
permanentaddress	1.094667	1.035021	1.06	0.290	-.9339372 3.123271
familyworkinginpermanentjobifany	-1.757062	.6087881	-2.89	0.004	-2.950265 -.5638591
workingcapitaldifferencebyco	-1.118746	.5702063	-1.96	0.050	-2.23633 -.0011618
current_per_day_income	-.0006646	.0005935	-1.12	0.263	-.0018279 .0004988
doyouhaveyourownhouseinkathmandu	.5176151	1.026494	0.50	0.614	-1.494277 2.529507
previous_occupation	.5119996	.3706344	1.38	0.167	-.2144306 1.23843
doyouhaveloans	.2553566	.5105387	0.50	0.617	-.7452809 1.255994
_cons	2.745633	1.420984	1.93	0.053	-.0394443 5.530711

The output of the model shows that the log-likelihood is -101.69141, which means that the model has a good fit. The LR chi2 value is 56.36, with a p-value of 0.0000, indicating that the overall model is statistically significant in predicting the dependent variable i.e. people engaged in street vending (See Table 18). The coefficients for each of the independent variables are also provided in the output, along with their standard errors, z-scores, p-values, and 95 percent confidence intervals. The coefficient for age is -0.0458749, indicating that as age increases, the odds of people engaged in street vending decrease. The coefficient for gender is 0.5151461, indicating that being male is associated with higher odds of the dependent variable compared to being female, though the p-value is not statistically significant at the 0.05 level. The coefficients for marital status, educational qualification, highest education of children, nature of family, permanent address, working capital difference made by the company, current per day income, do you have your own house in Kathmandu, previous occupation, and do you have loans are also provided, along with their interpretations.

Overall, the given logit regression model appears to be a good fit for the data and provides information on the relationship between the independent variables and the people engaged in street vending.

Marginal Effect Analysis

The given result shows the marginal effects of each independent variable on the people engaged in street vending during COVID-19 after running a logistic regression model (model3). Marginal value analysis is used to determine the change in the dependent variable (in this study people engaged in street vending) for a unit change in the independent variable while holding all other variables constant.

Table 19: Marginal Effect

```
.mfx
Marginal effects after logit
      y = Pr(model3) (predict)
      = .32993525
```

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	X
age	-.0101419	.00439	-2.31	0.021	-.018755	-.001529		39.5279
gender*	.1125212	.08957	1.26	0.209	-.063041	.288084		.548223
marita~s*	-.1933381	.17586	-1.10	0.272	-.538018	.151342		.898477
educat~n*	.1414502	.08615	1.64	0.101	-.027405	.310306		.461929
highes~n*	-.1959147	.08938	-2.19	0.028	-.371094	-.020735		.299492
nature~y*	-.1408275	.07804	-1.80	0.071	-.293787	.012132		.401015
perman~s*	.2021429	.15075	1.34	0.180	-.093313	.497599		.873096
family~y*	-.4130099	.12689	-3.25	0.001	-.661714	-.164306		.893401
workin~o*	-.2062041	.08409	-2.45	0.014	-.371008	-.0414		.13198
curren~e	-.0001469	.00013	-1.12	0.263	-.000404	.00011		705.076
doyouh~u*	.1207117	.2488	0.49	0.628	-.366926	.608349		.121827
previo~n*	.1149356	.084	1.37	0.171	-.049705	.279576		.385787
doyouh~s*	.0581369	.11913	0.49	0.626	-.175363	.291637		.126904

(*) dy/dx is for discrete change of dummy variable from 0 to 1

The table 19 shows the estimated marginal effects of each independent variable on the probability of the people engaged in street vending during COVID-19, y, being equal to 1 (i.e., Pr(model3)). Here, this study finds age, highest education of your children, nature of family, family working in permanent job, working capital difference made by the company. Result shows that the marginal effect of age is -0.0101419, which means that a one-year increase in age leads to a decrease of 0.0101419 in the probability of the dependent variable being equal to 1, while holding all other variables constant. Similarly, marginal effect of highest education of your children, -0.1959147, which means that a one-year increase in age leads to a decrease of 0.1959147 in the probability of the people engaged in street vending during COVID-19 being equal to 1, while holding all other

variables constant. This study also finds that marginal effect of nature of family is -0.1408275, which means that a one-year increase in age leads to a decrease of 0.1408275 in the probability of the people engaged in street vending during COVID-19 being equal to 1, while holding all other variables constant. Likewise, marginal effect of family working in permanent job, -0.4130099, which means that a one-year increase in age leads to a decrease of 0.4130099 in the probability of the dependent variable being equal to 1, while holding all other variables constant. Finally, marginal effect of working capital difference made by the company -0.2062041, which means that a one-year increase in age leads to a decrease of 0.2062041 in the probability of the people engaged in street vending during COVID-19 being equal to 1, while holding all other variables constant.

The results of the study indicate that there are various factors that have a significant impact on the dependent variable – i.e. the people engaged in street vending during COVID-19, and their marginal effects have been calculated. The study finds that a one-year increase in age has a negative marginal effect on the dependent variable, meaning that it decreases the probability of the people engaged in street vending during COVID-19 being equal to 1. The same is true for the highest education level of the children, nature of family, family working in permanent job, and working capital difference made by the company. The marginal effects for these variables are all negative, indicating a decrease in the probability of the people engaged in street vending during COVID-19 being equal to 1. On the other hand, being male has a positive marginal effect on the people engaged in street vending during COVID-19, meaning that it increases the probability of the dependent variable being equal to 1. These marginal effects are important in understanding the impact of each independent variable on the people engaged in street vending during COVID-19, while holding all other variables constant.

In a nutshell, the results of this study indicate that age, highest education of children, nature of family, family working in permanent job, working capital difference made by the company, and gender are all significant factors that affect the probability of the people engaged in street vending during COVID-19 being equal to 1, while holding all other variables constant.

CHAPTER V: SUMMARY & CONCLUSION

5.1 Introduction

This chapter includes a summary of the result derived from the previous chapters, conclusions and the recommendations based on these findings. The purpose of this study was to find out the impact of CSR on banking customer loyalty in Kathmandu valley. This chapter shows the conclusion of the findings and also recommend for increasing the benefits of CSR in the locality.

5.2 Summary

Street vendors, also known as informal or unorganized sector workers, are individuals who sell goods and services on the streets and in other public places without formal employment contracts or business licenses (Chakraborty & Koley, 2018; Chandra et al., 2022). The economic status of them varies widely depending on a range of factors, including the location and nature of their business, their level of education and skills, and the overall economic conditions of the country or region in which they operate (Karthikeyan & Mangaleswaran, 2013). So, that street vendors are the people who are living in poverty line with lowest income, most of them often face many challenges such as competition from larger businesses, lack of access to credit, harassment through authorities (Roever & Skinner, 2016). The global economy is divided into formal and informal sectors, with formal employment being structured, controlled, and centralized work that has become unregulated, unofficial, illegal, and non-unionized contractual informal work due to globalization (Hart, 1990). The informal sector arose due to the lack of job opportunities in rural areas and the migration of people to urban areas in search of work, leading to lower-quality jobs due to their lack of education and skills (Wilson, 2011). Street vending is the most visible manifestation of the informal sector, and street vendors can be found in urban public spaces worldwide (Alfonso et al., 2022). People involved in the informal sector in developing countries such as Bangladesh, India, Nepal, and Pakistan are likely to be in low-quality jobs due to poverty, lack of education, unskilled labor, no training, and parental disruption (Rakha et al., 2022; Sadar et al., 2023).

The COVID-19 pandemic has had a significant impact on the global economy including Nepal, and street vendors have been particularly hard hit by the crisis (Buheji et al.,

2020). The economic status of street vendors during COVID-19 is a complex and pressing problem that requires further research and analysis. The pandemic has led to a decline in demand for goods and services, as well as restrictions on movement and commerce even Nepal, which has severely affected the livelihoods of street vendors (Aday & Aday, 2020; Hossain et al., 2023). Many Nepalese vendors have experienced a sharp decline in sales, while others have been forced to close their businesses altogether due to lockdowns and social distancing measures. But, still there is no any measure. The objective of the study is to analyze the economic status of street vendors during COVID-19 in Kathmandu valley. The research also aims to find the economic status of street vendor during COVID-19, factors influencing street vending during COVID-19 and finally the challenges faced by the street vendors in Kathmandu Valley.

The literature review shows the status of street vending during COVID-19 in both international and Nepalese context. These studies have shown that street vendors have faced several challenges during the pandemic, including reduced demand for their goods, restricted mobility, limited access to financial assistance, and healthcare. Similarly, the theoretical reviews show the several theories to interlinked with the concept of street vendors to provide sound knowledge on it.

In the study cross-sectional research design is used as this research design is helpful to use data from single point in time allowing the researcher to obtain a snapshot of the situation during the COVID-19 pandemic in Kathmandu Valley. To achieve the first objective of analyzing the economic status of street vendors during COVID-19, economic status representing questions mostly close ended is prepared. Similarly, to achieve the second objective of examining the factors influencing street vending during COVID-19, this study tried to assess many socio-economic factors – such as demographic characteristics, location, and access to government support, and street vending activities during COVID – 19 associated with street vendors to identify their perception and determinations. The third objective is related to challenges faced by vendors during COVID-19. To achieve the third objective of examining the challenges faced by street vendors in Kathmandu Valley, some close ended and some open ended questions has prepared to find the government regulations, and competition from other vendors and similar issues. Kathmandu Valley is used as a study area as being a capital city, in search of better job opportunity and with the growing urbanization, street vending becoming more common in all cities. Low barriers and flexible working hours make the street

vendor possible in Kathmandu valley. In the study 197 baking customer were used for the study. Further data analysis was done through STATA software.

The descriptive analysis starts with the socio-demographic characteristics, socio-economic activities of street vendors, challenges and managerial solutions are presented. The result of the descriptive analysis was presented using the graphs, charts and figures. In the socio demographic variable of the 197 respondent, most of them are male represented by 54.82 percent, and rest by female respondent. The study reveal that majority of street vendors are fall in the age group 29-59, among them 29-39 age groups are highest, and the least age group are below 20 years and above 60 years age. The highest number of respondent are illiterate (46.19 percent), followed by primary level (37.56 percent), and least number of street vendor are secondary, intermediate and bachelor (16.24 percent). The study shows that higher level of education in vendor family is primary and secondary education represented by 31.42 percent and 30.46 percent respectively. While 38.07 percent vendor have intermediate and bachelor level education in their family. The results show that, most of the vendor children have primary level education represented by 54.82 percent, while 23.86 percent of their children are secondary level education and remaining 26.38 percent of the respondent kids have intermediate, bachelor and master level education.

Majority of the vendor are married (81.22 percent), have nuclear family (59.89 percent), with (4-6) number of family size (73.60 percent) and most of the respondent are from other district of Nepal (80.71 percent) operating their business in Kathmandu valley. (98.98 percent) of the vendor don't have the vocational or technical education. The study reveal that the (18.78 percent) vendor's family member are foreign employment and only (13.71 percent) engaged in service sector and majority (67.51 percent) are working in other sector such as agriculture, construction, vegetable vending, teacher etc. The economic status of the street vendor, reveal that 23.35 percent of the vendor earn (300-500) in daily basis, while 20.81 percent vendors earn between 500 to 700, and only 2.04 percent of the vendor earn above 1000 per day. The table also shows that 20.81 percent and 20.30 percent vendor earn (300- 500) and (500-700) per day respectively before COVID. It also reveal that the per day income of vendor decrease due to COVID as the vendors who earn above 1000 per day has been decreased by 6.09 percent. The study represent that majority of the vendors (36.04 percent) monthly income lies between

(10000-20000), while (28.43 percent) of the vendor earn between (20000-30000) per month and rest of the vendor earn more than 30000 in a month , among them 5.08 percent of them earn less than 9000, and most of the vendor lived in the rented house (84.77 percent) and only nominal leave in lease and other places.

This research reveal that most of the vendors are unemployed before they engaged in the street vending business, and other vendors have either involved in the agriculture business or labour work. Most of the participated vendors sell vegetables, food and beverage, fruits, footwear or other products. Majority of them sell through single point sale and 40 percent sale through mobile sale. The study shows that majority of the vendor have engaged in the street vending between (4-6) years, (52.28 percent) vendors operate their business (7-9) hour per day, while east amount (7.61 percent) of vendors work 12 and more hour. The study also shows that the average customer flow in their business are between (10-19) and (20-29) number of people represented by 24.87 percent and 26.40 percent vendors data. While the flow of customer before COVID was 15.74 percent and 22.33 percent respectively. The (89.34 percent) of the vendor did not have to pay for the space they have used, while only certain portion 2.03 percent of the vendor have to pay 700-900 in a weekly basis. The study shows that the majority of the vendor (82.74 percent) did not have to pay for the waste collector.

The street vendor (80.71 percent) demonstrate that their business is being affected due to weather, but they have less affected due to jattras and other factor reveal by (89.34 percent) and (73.60 percent) of the vendor opinion. Majority of vendor (89.34 percent) reveal that they have no loan, and started their business from 1000 to 5000 shown by (21.83 percent) vendor, with the help of family support (39.09 percent). The study reveal that majority of the vendor (31.98 percent), they need upto 500 for business operation, while 23.86 percent respondent that they need 1000-2000 per day to start their business. There is less difference while operating business before COVID and after COVID as 39.09 percent respomdent say they required upto 500 rupess for starting their business. In the time of COVID 21.83 percent of them manage their living through the family saving, 14.21 percent of them from constructon labour and 41.62 percent manage through other factor.

The study shows that respondent have faced so many problems in the coivd time, due to the inadequate customer, harassed by municipality, distance from residence are some of

the challenges and they reveal that the challenges can be managed through providing license, providing free space to trade etc. Due to the challenges they have faced they recommend that providing free space to trade, fixing the rate of vegetable, providing financial assistant can be beneficial.

In the inferential analysis STATA software is used to perform Binary Logit Model. As binary-logit model is a mean-regression model with just the values zero and one for the dependent variable. This technique predicts the relationship between predictors (our independent variables as shown in the result) and a predicted variable (the dependent variable i.e. people engaged in street vending during COVID-19) where the dependent variable is binary. It consists pre-estimation test, post-estimation test, multicollinearity and heteroscedasticity as a part of the study. In the pre-estimation we perform specification error, goodness of fit and other diagnostic test and the result of the specification error, we can conclude that data set has no specification error, chosen predictors were meaningful as it match the given condition. Goodness of fit is widely used in several fields to determine if a given model or distribution is appropriate for a dataset, ensuring reliable and accurate conclusions and there is a goodness of fit in this model. From the test required for Pre-estimation, it is found that data is clean and there is no error in pre-estimation test of our study

In the post estimation, we perform two test multicollinearity and heterosidastisity. In the test of multicollinearity, its value is less than 10, so there is no issue of multicollinearity. In the heterosidasticity, $\text{prob} > \text{Chi}^2$ value should be greater than 0.05 to fit the model. The result appeared for model is $\text{prob} > \text{Chi}^2 = 0.4223$. As per the assumptions, the dataset is free from heteroscedasticity. The logit regression model appears to be a good fit for the data and provides information on the relationship between the independent variables and the people engaged in street vending. The results of this study indicate that age, highest education of children, nature of family, family working in permanent job, working capital difference made by the company, and gender are all significant factors that affect the probability of the people engaged in street vending during COVID-19 being equal to 1, while holding all other variables constant.

5.3 Conclusion

The pandemic has effect so many businesses around the world, its severe impact in small and informal business. The pandemic has led to a decline in demand for goods and services, as well as restrictions on movement and commerce even Nepal, which has severely affected the livelihoods of street vendors. The aim of the study was to analyze the economic status of street vendors during COVID-19. The result of the study shows that the vendors are literate, primary education, while highest education of their children was primary education, they haven't taken any vocational training in their business, most of the vendors are operating their business in Kathmandu valley, migrant from other districts of Nepal. While taking about their economic status, most of the street vendor earn between 300-1000 as they are supported by their family members who earn between 10000-30000 in a montly to manage their living they have live in rented house and due to their other members to manage their living. To operate their business, they need at least 500-2000 per day.

Similarly, the study shows the factors influencing the street vending during COVID-19. The variable identified were, age, sex, education level, income, marital status, nature of family, family size, permanent address per day income, previous occupation, per day work and loan. The variable were analyze through the regression analysis through the pre-estimation and post-estimation test. In the pre-estimation test goodness of test and specification test shows there is no error in the model. In the post-estimation analyzed through multicollonarity and heterosidastisity. The value of the multicollonarity is les than 10, which shows that independent variable in a regression model is not correlated with each other, as well as the result of the heteroscedasticity shows the dataset is free from heteroscedasticity. At last, the results of this study indicate that age, highest education of children, nature of family, family working in permanent job, working capital difference made by the company, and gender are all significant factors that affect the probability of the people engaged in street vending during COVID-19 being equal to 1, while holding all other variables constant.

The pandemic has impacted all the sectors and the due to the due to the inadequate customer, harassed by municipality, distance from residence street vendors has faced problem to operate their business. The result of the study demonstrate that the challenges can be managed through providing license, providing free space to trade etc. The vendors

recommend that providing free space to trade, fixing the rate of vegetable, providing financial assistant can be beneficial.

5.4 Recommendations

The informal sectors are the low income earning groups and due to the pandemic the economic standard of the informal sector mainly street vendor has impacted severely. The section tries to recommend to the study according to the findings and conclusion of the study.

- The study shows, street vendors have faced so many difficulties in the pandemic time. The government needs to allocate the proper place and time for the street vendor to operate their business.
- As the lockdown has made the strict provision for physical movement of the people, so to sustain their business, they need to use home delivery of their products and need to use online method for the payment.
- Street vendors need to collaborate with municipalities for the flexible working hour to run their business following the health protocols.
- Government needs to proper utilization of the employment programs, so that the low income earners did not have to lose from their jobs.
- The government should designate specific areas in urban and suburban locations where street vendors can operate safely and without disruption. These areas should be easily accessible to both vendors and customers.
- Temporary markets or pop-up stalls can be established in underutilized public spaces to accommodate street vendors, especially during peak business hours or seasons.
- Implement a monitoring system to ensure that street vendors comply with health and safety regulations. This could include regular inspections and the use of technology such as mobile apps for real-time reporting and updates.
- Establish a feedback mechanism where vendors and customers can report issues or provide suggestions to improve market conditions and regulatory practices.
- Provide support services such as childcare facilities near vending areas to help street vendors, particularly women, balance work and family responsibilities.

- Implement community-based elderly care programs that can assist vendors with elderly dependents, ensuring they have the necessary support and care while the vendors are working.
- Develop a simplified and fair taxation system for street vendors to ensure they are not overburdened while contributing to public revenues. This could include a flat tax rate or a nominal licensing fee. Since, the Social Security Fund (SSF) in Nepal has been extending its coverage to workers in the informal sector and the self-employed since August 17, 2023. Government plan better and bigger space for street business.

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- | | |
|-------------------------------|--|
| <p>Unemployed
Driving</p> | <p>Domestic work
Wage work Others</p> |
|-------------------------------|--|
2. What sort of items you sold?

Readymade garments	Household utensils
Food and Beverages	Fancy and Cosmetics items
Cool Drinks and Ice cream	Flowers
Vegetables	Fruits
Shoes and foot wears	Others
 3. How do you sale your goods and services?

Mobile sales	Single point sales
Multi point sales	Others
 4. For how many years, have you been engaging in this business?
Years
 5. Per day, how many hours do you work in street-vending activities?
hrs/day
 6. What is the per day average customer flow in your business?
Number
 7. What is the per day average customer flow in your business before COVID-19?
.....Numbers
 8. Monthly how much you pay to waste collector?
 9. Weekly, how much you pay to reserve space?
 10. Annually, how many times your businesses get affected Weather?

Rarely	Often	Sometimes
--------	-------	-----------
 11. Annually, how many times your businesses get affected by Jatras?

Rarely	Often	Sometimes
--------	-------	-----------
 12. Annually, how many times your businesses get affected by other factors like road construction, strikes etc.?

Rarely	Often	Sometimes
--------	-------	-----------
 13. Do you have loans? a)Yes b) No
 14. From which sources you have taken loan?

Bank	Cooperatives
Family and Relatives	Money Lenders
Others	
 15. How much loans do you have at present? NRs.
 16. For what purpose you take this loan?

For expanding business	For children education
Others	
 17. How much you have invested to start your business?

Upto NRs. 20,000	NRs 20,001-50,000
NRs 50,001- 100,000	NRs 100,000 – 500,000
NRs. 500,000 – 1000,000	Above NRs. 1000,000
 18. Who is your source for investment?

Loan	Personal Saving
Family support	Others.....
 19. Per day how much working capital you required for your business operation?
.....
 20. In the same context, how much working capital you required for your business operation in a day before COVID-19?
.....

21. How you manage your living expenses during lockdown imposed by the government?

.....

Section C: Challenges Faced by the street vendors

1. Are there any challenges while doing street vending business during COVID-19?
 - a. Yes
 - b. No
2. If yes, what sort of challenges have you faced?
 - a. Inadequate capital
 - b. Inadequate customers
 - c. Lack of social amenities
 - d. Distance from residence
 - e. Theft and Robbery
 - f. Lack of entrepreneurial skills
 - g. Harassed by municipals and police officers
 - h. Bribery
 - i. Weather
 - j. Others
3. If yes, who are the responsible for this challenge?

-
4. Is the challenge faced by Street vendors manageable?
 - a. Yes
 - b. No
 - c. May be
 - d. No idea

1. If yes, what can be done in order to manage such mentioned challenges?
 - a. Providing license
 - b. Fixed space to trade
 - c. Others....
2. If no, why do you think such situation is not manageable?

.....

3. What do you think for the betterment of Street vending?

.....

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Thank you for your valuable time and sharing the information

Annex 2 Methodological Matrix

The overall work plan can be presented using methodological matrix as:

SN	Objectives	Variables (names)	Tools of analysis	Sources of Data (primary/secondary)
1	Status of Street vendor during COVID-19	<ul style="list-style-type: none"> • Total income during COVID-19 • Change in income compared to pre COVID-19 • Number of customers • Type of products sold • Changes in working hours • Changes in the location of vending 	Tabulation and Diagrammatic Representation	Primary
2	Factor influencing Street Vending during COVID-19.	<ul style="list-style-type: none"> • Access to credit/loan facilities • Government regulations • Availability of goods/products to sell • Availability of customers • Competition with other vendors • Level of education and skills • Availability of information • COVID-19 safety measures 	Regression Analysis	Primary
3	Challenges faced by Street Vendors.	<ul style="list-style-type: none"> • Lack of access to credit/loan facilities • Reduced number of customers • Limited availability of goods/products to sell • Competition with other vendors • Difficulty in adhering to COVID-19 safety measures • Government regulations affecting vending activities • Limited financial resources to sustain business operations 	Tabulation and Diagrammatic Representation	Primary