IMPACTS OF DIGITAL PAYMENTS ON THE PROFITABILITY AND SALES VOLUME OF RETAIL SHOPS IN KATHMANDU

A dissertation submitted to the office of the Dean faculty of management in partial fulfillment of the requirement for the Master's Degree

BY

AJAY PRAJAPATI

Campus Roll No:367/077

Exam Roll No:35225/2021

Registration No:7-2-39-49-2016

Shanker Dev Campus

Specialization:- Finance

Kathmandu, Nepal

November,2024

CERTIFICATION OF AUTHORSHIP

I hereby confirm that I have personally researched, authored, and submitted the final draft of the dissertation entitled "**Impacts of Digital Payments on The Profitability and Sales Volume of Retail Shops in Kathmandu".** This dissertation represents my original work and has not been previously submitted for the conferral of any degree, nor has it been proposed or presented to meet the requirements of any other academic or professional purpose.

All assistance and cooperation received during the research process have been duly acknowledged in the dissertation. Furthermore, I declare that all information sources and literature referenced during this research have been accurately cited and listed in the reference section of this document.

Ajay Prajapati

November, 2024

REPORT OF RESEARCH COMMITTEE

Mr. Ajay Prajapati has defended research proposal entitled **"Impacts of Digital Payments on the Profitability and Sales Volume of Retail Shops in Kathmandu"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestion and guidelines of supervisor Binita Manandhar and submit the thesis for evaluation and viva-voce examination.

.....

Dr.Binita Manandhar

Dissertation Supervisor

Dissertation Proposal Defended Date:

.....

Dissertation Submitted Date:

.....

Dissertation Viva-voce Date:

.....

.....

Asso. Prof. Dr. Sajeeb Kumar Shrestha

Head, Research Department

APPROVAL SHEET

We, the undersigned, have examined the thesis entitled **"Impacts of Digital Payments on the Profitability and Sales Volume of Retail Shops in Kathmandu"** Presented by Ajay Prajapati a candidate for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

.....

Dr. Binita Manandhar
Dissertation Supervisor

…….

Internal Examiner

.....

Internal Expert

.....

External Expert

.....

Asso. Prof. Dr. Sajeeb Kumar Shrestha
Chairperson, Research Committee

.....

Jogindra Goet

Acting Campus Chief

ACKNOWLEDGMENT

The study entitled **"Impacts of Digital Payments on the Profitability and Sales Volume of Retail Shops in Kathmandu"** has been prepared to fulfill the partial requirements for the degree of Master of Business Studies (MBS) under the Faculty of Management, Tribhuvan University. I extend my heartfelt gratitude to the Office of the Dean, Faculty of Management, Tribhuvan University, and Shanker Dev Campus for providing me with the opportunity to conduct this research.

I would like to express my profound appreciation to my supervisors, Dr. Binita Manandhar and Asso. Prof. Dr. Sajeeb Kumar Shrestha, for their invaluable guidance, insightful suggestions, and continuous encouragement throughout this journey. Their expertise and constructive feedback were instrumental in shaping the quality of this thesis.

I am deeply thankful to my brother Bikee and Bijay for his unwavering support and motivation, to my family for their unconditional love and patience, and to my friends and colleagues for their encouragement and thoughtful input. I am also indebted to my lecturers, whose teachings and insights have significantly contributed to the foundation of this research.

This work is a product of the collective support and guidance I have received, and I sincerely acknowledge all those who have made this journey possible.

Ajay Prajapati

TABLE OF CONTENTS

LIST OF TABLE

LIST OF FIGURE

ABBREVIATIONS

AEPS	Aadhaar Enabled Payment System
ANOVA	Analysis of variance test
ATM	Automated Teller Machine.
CP	Customer Perception
df	degree of freedom
DPA	Digital Payment Adoption
DPS	Digital Payment Sysytem
FDA	Finance in Digital Africa
IT	Infrastructure & Technology
MS Excel	Microsoft Excel
NEFT	National Electronic Funds Transfer.
NRB	Nepal Rastra Bank
OECD	Organization for Economic Co-operation and Development.
POS	Point of Sale
RE	Regulatory Environment
ROA	Return on Assets
ROE	Return on Equity
RTGS	Real-Time Gross Settlement.
S.D	Standard Deviation

SPSS	Statistical Package for Social Sciences
UPI	Unified Payments Interface
USSDP	Unstructured Supplementary Service Data Protocol
WB	World Bank

ABSTRACT

This study highlights the revolutionary potential of digital payments in the changing retail landscape by examining their effects on sales volume and profitability in retail establishments. The results demonstrate a strong correlation between enhanced financial performance and the use of digital payment methods. Increased customer happiness, lower cash handling expenses, and improved operational efficiency are all advantages for retailers using digital payments, and these all add up to profitability. Furthermore, the study finds a positive relationship between higher sales volume and the use of digital payments, which may be ascribed to elements like quicker transactions, less dependence on cash, and enhanced customer convenience.

The study carries on to examine how important infrastructure, technology, consumer perception, and legal frameworks are to the effective implementation of digital payments. The most important of these is consumer perception, with infrastructure and legal backing guaranteeing dependability, accessibility, and security. All of these factors work together to build user trust and encourage broad adoption.

According to the study's findings, shops looking to improve their financial performance and competitiveness must strategically embrace digital payments, which go beyond simple technological advancements. Retailers can reach a larger, tech-savvy consumer base and set themselves up for long-term success in an increasingly cashless market by adopting digital payments.

Key words: *Digital Payment Adoption, Customer Perception, Infrastructure And Technology, Regulatory Environment, Profitability, Sales Volume*

CHAPTER I

INTRODUCTION

1.1 Background of the study

The ability to generate profit for an organization is called the profitability of an organization. It is generally calculated by subtracting all the expenses from the income generated for the specific period. It is the main statistic used by any organization to assess its performance and financial health. The proper utilization of resources and effective management can be concluded through the profitability position of any organization. It can be measured using various types of ratios like Net Profit Margin, Gross Profit Margin, Return on Assets, Return on Equity, and Return on Investment.

In addition to covering its expenses, a thriving corporation might potentially expand, reinvest, and draw in investors. Pricing tactics, cost control, market demand, and operational effectiveness are some of the elements that affect profitability. It is essential to strike a balance between raising revenue and keeping expenses under control. Profitability can be increased, for instance, by lowering production costs or increasing supply chain effectiveness. However, a company's profitability can also be impacted by outside variables such as industry trends, competition, and economic conditions (Porter, 1980). In addition to covering its expenses, a thriving corporation might potentially expand, reinvest, and draw in investors. Pricing tactics, cost control, market demand, and operational effectiveness are some of the elements that affect profitability. It is essential to strike a balance between raising revenue and keeping expenses under control. Profitability can be increased, for instance, by lowering production costs or increasing supply chain effectiveness. However, a company's profitability can also be impacted by outside variables such as industry trends, competition, and economic conditions Porter, (1980).

According to Investopedia, (2020), the measurement of the ability of the organization’s earning generation relative to its revenues, balance sheet assets, operating costs, and shareholder’s equity over time is called the Profitability of the organization.

The total quantity of goods and services sold within a specific period is called the sales volume of the specific period. It can be measured in terms of monetary value by multiplying the number of units sold by the respective price of goods or services.

The total amount of sales achieved by a company in a given period is the sales volume. Kotler,(2000)

Sales volume is the number of units sold or the total value of sales generated by a company within a particular timeframe. Stanton et al., (2012).

The total number of units sold or the total revenue generated from sales in a given period is sales volume. Kotler & Keller, (2022)

All types of electronic payments in which transfer of money or execution of financial transactions using digital platforms are called digital payments. This includes card payment through debit or credit cards, mobile wallets, online banking transfers, electronic fund transfers, and NCHL-allowed media of transactions.

The exchange of money electronically, often through mobile devices or online platforms, enabling convenient and efficient transactions are the mode of digital payments. Bélanger & Carter, (2008)

Digital payments diverse electronic techniques facilitate the transfer of funds digitally, comprising credit/debit card transactions, mobile payments, and online banking transfers. Choudhury & Sabherwal, (2014)

The function of facilitating securing and instantaneous transactions, leveraging technology to streamline financial processes and enhance user convenience is Digital payment. Molla & Licker, (2005)

Digital payments can be define as the electronic transfer of funds from one party to another using various digital platforms such as mobile wallets, online banking, and payment gateways. Kumar & Pansari, (2016)

The use of electronic methods, such as credit cards, electronic funds transfers, and mobile payment systems, to facilitate the exchange of money for goods and services can be described as the digital payments. Lee and Lee (2008)

The electronic transfer of monetary value through various digital channels, including online banking, mobile payment apps, and digital wallets is the digital payments. Srivastava and Choudhury (2018)

Digital payment systems encompass platforms facilitating monetary transactions devoid of physical exchange. This mode of conducting transactions has garnered widespread acceptance and drawn numerous participants to the industry. The convenience of operation and extensive availability stand out as primary drivers behind its burgeoning popularity. Mary & Antony, (2022)

1.2 Statement of Problems

In Kathmandu, Nepal's evolving retail landscape, the emergence of digital payment methods presents both opportunities and challenges for local businesses. Despite the increasing popularity of digital payments, their precise impact on the profitability and sales volume of retail shops remains uncertain. This study aims to explore how digital payments affect the financial performance and sales dynamics of retail establishments in Kathmandu. Through an analysis of metrics such as profitability, sales volume, and consumer behavior, this research seeks to shed light on the effectiveness of digital payment adoption strategies for Kathmandu's retail sector. Ultimately, the findings aim to provide valuable insights to stakeholders, aiding them in understanding the potential implications for their operations and competitiveness within the marketplace. Following are the statement of problem of this study:

- How does a digital payment impact on the profitability and sales volume of retail shops?
- Is there any relationship between digital payment and profitability sales volume?

1.3 Objective of the study

This study aims to guide the research process and help in addressing the key aspects of understanding how digital payments influence the profitability and sales volume of retail shops in Kathmandu. The objectives of the study are:

- To analyze the impact of digital payments on profitability and sales volume of retail shops.
- To assess the relationship between digital payment and profitability and Sales volume.

1.4 Hypothesis:

The following hypothesis is drawn through the comprehensive analysis of literature review:

H1: There is a positive significant relationship between Change in Profitability and Digital Payment.

H2: There is a positive significant relationship between Change in Sales volume and Digital Payment.

H3: There is a positive significant relationship between Customer Preferences (CP) and the Adoption of Digital Payment in retail shops.

H4: Infrastructure and Technology (IT) have a positive significant impact on the adoption of Digital Payment in retail shops.

1.5 Rationale of the Study:

In the dynamic landscape of retail commerce, the emergence and proliferation of digital payment systems have sparked significant transformations in transactional methods. Particularly in urban centers like Kathmandu, Nepal, where the retail sector plays a pivotal role in the economy, understanding the impacts of digital payments on the profitability and sales volume of retail shops becomes imperative. This study aims to delve into the multifaceted implications of digital payment adoption within the retail sector of Kathmandu.

Exploring the impact of digital payments on the profitability of retail shops is essential for businesses to optimize their financial operations. Digital payment systems entail transaction fees and operational costs, which may vary across different platforms and providers. Analyzing the cost-benefit dynamics of adopting digital payment solutions will provide valuable insights for retail businesses seeking to enhance their bottom line in Kathmandu's competitive market.

Moreover, assessing the relationship between digital payments and sales volume is integral to understanding the overall economic performance of retail shops. Digital payment systems offer opportunities for retailers to streamline transactions, reduce cash-handling expenses,

and potentially attract new customers through innovative payment options. Investigating the correlation between digital payment adoption and sales volume will shed light on the effectiveness of such strategies in driving revenue growth for retail establishments in Kathmandu.

In conclusion, this study seeks to provide a comprehensive analysis of the impacts of digital payments on the profitability and sales volume of retail shops in Kathmandu. By examining consumer behavior, financial implications, and socio-economic factors, the findings of this research endeavor to offer actionable insights for retail businesses, policymakers, and stakeholders aiming to navigate and capitalize on the evolving landscape of digital commerce in Nepal's capital city.

1.6 Limitations of the study

The limitations of the study are as follows:

- This study is concentrated on impacts of digital payment on profitability and sales volume of retail shop of Kathmandu.
- This study is based on primary data.
- Kathmandu city is taken for the study.

CHAPTER II

LITERATURE REVIEW

2.1 Conceptual review:

The integration of digital payments into retail transactions has become increasingly prevalent in the modern business landscape, reshaping the way transactions are conducted. In Kathmandu, the capital city of Nepal, this transition holds significant implications for retail shops. This conceptual review aims to explore the impacts of digital payments on the profitability and sales volume of retail shops in Kathmandu, shedding light on both the opportunities and challenges presented by this shift.

Digital payments offer retail shops in Kathmandu various avenues to enhance profitability. Firstly, by accepting digital payments, retailers can reduce the reliance on cash transactions, thereby minimizing the risks associated with handling physical currency, such as theft and counterfeit notes. This reduction in cash handling costs can contribute to improved profit margins. Dwivedi et al., (2020).

Additionally, digital payment systems provide retailers with valuable transaction data and insights, enabling them to better understand consumer behavior and preferences. By leveraging this data, retailers can optimize their inventory management, marketing strategies, and product offerings, ultimately driving profitability. Kamal, (2019).

The adoption of digital payments can also positively influence the sales volume of retail shops in Kathmandu. Offering multiple payment options, including digital ones, enhances convenience for customers, potentially attracting a larger customer base. Moreover, digital payment platforms often offer loyalty programs and incentives that encourage repeat purchases, further boosting sales volume. Dhakal, (2021)

Additionally, digital payments facilitate seamless online transactions, enabling retail shops to tap into the burgeoning e-commerce market in Kathmandu. By establishing an online presence and integrating digital payment gateways, retail shops can expand their reach beyond geographical constraints, potentially leading to increased sales volume. Shrestha & Shrestha, (2020).

There are two practical implications for banks and digital transaction service providers for improving the use and acceptance of these services. In the early phases of a user's adoption,

knowledge of digital transaction services is crucial. Since digital transaction services are still relatively new in Nepal, it will be helpful to introduce the services to a larger audience and inform potential consumers about the advantages of digital transactions through excellent presentations that employ various media advertising formats, including leaflets, brochures, websites, etc. Giri & Ghimire, (2020)

Despite the promising benefits, the adoption of digital payments in Kathmandu's retail sector is not without challenges. Limited access to digital infrastructure, including internet connectivity and Smartphone penetration, remains a significant barrier for both retailers and consumers. Shrestha & Shrestha, (2020)

Moreover, concerns regarding cybersecurity and data privacy may deter some retailers from fully embracing digital payment technologies. Shakya & Shrestha, (2019)

Additionally, navigating the complexities of integrating and maintaining digital payment systems requires investments in technology and staff training, which may pose financial and logistical challenges for small and medium-sized retail enterprises. Shakya & Maharjan, (2020)

There are numerous issues with cashless transactions, including a lack of security, bad network connectivity, a lack of digital awareness, literacy issues, difficulties with tiny payments, etc. Mohd. & Pal, (2020)

The study revealed that technological trust significantly influences the popularity of digital payment methods, with women exhibiting more limited trust compared to men. Additionally, the research found a notable lack of trust among respondents towards government entities, online payment operators, and sellers of goods and services in terms of data processing, with over 70% expressing distrust. Szumski, (2020)

Research indicates that consumers' intention to use digital payments is chiefly influenced by their anticipated transaction performance. Additionally, one of the main factors propelling the popularity of digital payments is convenience of use. However, perceived risk and trust are identified as significant barriers to the widespread adoption of digital payments, acting both as facilitators and inhibitors. Khaddaj et al., (2021)

The surge in internet usage for accessing online services has been notable, with businesses of all scales increasingly embracing cashless transactions. This trend underscores the growing popularity of online services and payment applications. The purpose of the study is to

examine how the use of mobile applications and internet services has changed since demonetization. Understanding consumer perceptions of digital transactions post-demonetization holds significant societal implications. To validate the findings, an online survey was conducted as part of the study. Joshi et al. (2019).

2.2 Empirical review

Giri & Ghimire, (2020), conducted a study on Factors affecting the adoption of digital payment system. The study's goal was to solve the issues of digital transaction service adoption and the degree to which those elements influence people's intention to use those services. They used degree of variance and also reliability test to indentify the factors influencing the adoption of digital payment. They found that there were two practical implications for banks and digital transaction service providers for improving the use and acceptance of these services. They concluded awareness of digital transaction services is essential in the early adoption stages of the user. Since digital transaction services are still relatively new in Nepal, it will be helpful to introduce the services to a larger audience and inform potential consumers about the advantages of digital transactions through excellent presentations that employ various media advertising formats, including leaflets, brochures, websites, etc.

Jaiswal & Mathur, (2021) conducted a study of digital payment utilization during pandemic in Mumbai and its future implications. The study aimed to study the change in financial transaction behaviour of people of Mumbai. The study used percentage and weighted average for analyzing the data. The study found high awareness of consumers regarding critical features of online payments. The study concluded the trend of online payment night get converted into habit and lead to cashless ecosystem.

Jose, (2022) conducted a research on impact of demonetization and pandemic on digital payment usage. Studying how customers used sustainable digital payments throughout the epidemic and before and after demonetization was the aim of the study. Reliability tests were employed in the study to examine the data. The research found there was increased and faster adoption of digital payment in demonetization and in pandemic. The research concluded

continuing complicated and multifaceted influence on the digital economy will lead to a sustainable economic growth with sustainable payment system.

Joshi et al., (2019) conducted a study on Increase in number of online services and payments through mobile applications post demonetization. The study aimed to determine how the number of online services and mobile application usage had changed after demonetization. The Study used simple percentage analysis to analyze the date. In accordance to the research, small businesses suffered greatly and negatively from demonetization for a brief period of time, but they have since recovered with the use of internet services and different e-payment methods. The study concludes, after the abrupt demonetization, small-scale commercial enterprises experienced a significant and adverse impact for a brief period. However, they have since recuperated, largely due to the proliferation of online services and diverse electronic payment options. Indian market has witnessed a surge in mobile applications catering to various needs, including payment and service provisions.

Mary & Antony, (2022), conducted a study on digital payment system (DPS) and its influence on impulsive buying behavior of consumer. The main objectives of this study were to study the effect of promotional offers leading to impulsive buying behavior of consumers in relation to Digital Payment Systems to determine the main motivations for using digital payment systems, as well as the correlation between the consumer's age and wealth and their impulsive purchasing habit. The study used Correlation, One Sample T-Test and Percentage analysis for analyzing data. The study found based on the test findings; there exists a notable correlation between the promotional incentives offered by DPS (Digital Payment Systems) and impulsive purchasing behavior. The results underscore the convenience factor as a significant determinant influencing consumers' selection of different DPS platforms. The study encompassed participants from diverse age brackets, revealing variations in impulsive buying tendencies among different age demographics. The study concluded for advancing the research in this field, to explore additional factors pertaining to DPS that impact impulsive buying behavior. Conducting a study on a larger sample size may yield varied results and provide deeper insights into this phenomenon.

Mohamad & Pal (2020) conducted a study on moving from cash to cashless: a study on consumer perception towards digital transactions. The objective of the study was to evaluate

the perception of usage of different modes of cashless transactions among households. The study used mean, standard deviation, skewness and kurtosis to analyze the data. The study found moderate benefits of the cashless like easy tracking of cash, helpful in check on money laundering and corruption, control on black money, cheaper banking, help in making cashless economy, check on counterfeiting, helpful in national growth and discount and cashback reward. The study found that although people were very aware of banking cards, ATMs, NEFT, and RTGS, they were not as familiar with the newest digital payment methods, such as USSD, AEPS, UPI, mobile wallets, and internet banking. Additionally, people's literacy and technological knowledge were insufficient to implement the cashless system.

Singh (2017) conducted study on study of consumer perception on digital payment mode. The purpose of this research was to determine how consumers see digital payment methods and how demographic characteristics affect their adoption. The study used ANOVA and frequency analysis to analyze the data. The study found demographic factor other than education does not have much impact on the adoption of the digital payment. The study concluded the growth of users of Smartphone and internet penetration in the areas/region where education level is high also facilitated the adoption of digital payment.

Sowmya & Hebbar (2021) conducted a study on impact of digital payment on retail shops with reference to Manglore city. The main objectives of the study were to know about the digital payment system and to determine the benefits of using digital payment system on retail shop. For the analysis of data the study had used chi-square test. According to the study, there was no correlation between the age of the consumers and their use of the digital payment system, nor was there any correlation between their age and any issues with the system. According to the study's findings, a suitable awareness campaign and appropriate digital payment system security should be implemented.

Sumathy & KP, (2017)conducted a study on digital payment system: perception and concern among urban consumers. The study was aimed to study awareness level of digital payments service. The study used percentage analysis, annova, t-test and ranking method to analyze the data. The study found the urban users are aware about the digital payments and mobile wallets usage also gained popularity in villages too. The study concluded that the country

needed to move away from cash based towards digital payment system to reduce currency management cost, track transactions etc.

Tiewul, (2020) conducted a study on Factors influencing digital marketing and digital payment on consumer purchase behaviour. The major objectives of the study were to examine the impact of digital marketing on consumer purchase behaviour, assess the factors influencing consumer to patronize digital payment and examine the future of digital payment methods. The study used Correlation, factor loading analysis, Cross-tabulation and chi-square test to analyze the data. The study found a positive correlation between digital payment and its security in the future that meant increase in digital payment in future will be significance increase in security of digital payment. The study concluded that the pivotal factors influencing digital marketing and digital payment, particularly in Germany, include the abundance of comprehensive information, diverse product offerings, satisfaction levels, and educational attainment.

CHAPTER III

RESEARCH METHODOLOGY

Digital payments have experienced a notable surge in acceptance worldwide, revolutionizing transactional methods, especially within retail settings. This study endeavors to examine the effects of digital payments on the profitability and sales volume of retail establishments in Kathmandu, Nepal. Given the expanding array of digital payment platforms and evolving consumer inclinations, comprehending these effects is imperative for retailers to refine their payment approaches.

3.1 Research Design:

Research design serves as the blueprint or structure for investigating a theoretical relationship. It encompasses several categories: historical, descriptive, analytical, developmental, action, case study experimental, correlation, and causal-comparative research designs. In this study, descriptive and causal-comparative research designs have been employed to address research questions and objectives. The descriptive research design is utilized to comprehend and elucidate the characteristics of variables. A thorough strategy detailing how a study will be carried out to address certain research questions or test hypotheses is known as a research design. It covers the strategies, processes, and tactics for gathering, analyzing, and interpreting data, guaranteeing that the goals of the study are successfully satisfied. Because it offers a framework to reduce bias, enhance reliability, and guarantee accurate results, a well-structured study design is essential. Choosing a study technique (qualitative, quantitative, or mixed methodologies), defining the population and sample, and choosing data collection tools are some of the important choices involved. The credibility and generalizability of findings are improved by a strong study design. Researchers can methodically investigate complicated phenomena while addressing time, resource, and ethical restrictions by matching approach with objectives. Creswell & Creswell, (2018); Kothari, (2004)

A research design acts as a roadmap for carrying out a study, directing the investigator at every stage to guarantee coherence and concentration. Finding the research problem is the first step, and then specific goals and hypotheses are developed. A logical and organized

route for addressing the research questions is established by the design, which also details the kind of data required, data gathering procedures, and analytical approaches. Researchers can select experimental, descriptive, correlational, or exploratory designs, each of which is designed to answer particular kinds of research questions, depending on the study's nature. Bryman, (2016).

3.2 Population and Sample Selection:

3.2.1 Population

The complete group of people, organizations, or things that have common features that are pertinent to the study and to whom the findings are meant to be generalized is referred to as the population in research design. For the research findings to be relevant and applicable, a well-defined population is essential. It comprises the accessible population, from which the data is actually gathered because of pragmatic limitations like time, money, or location, and the target population, which stands for the larger group of interest. The basis for choosing a representative sample is laid by clearly defining the population's characteristics, size, and inclusion or exclusion criteria. This improves the findings' dependability and applicability. Creswell & Creswell, (2018); Kothari, (2004)

The study population comprises all retail establishments situated in Kathmandu, Nepal. This encompasses a diverse array of retail businesses, such as grocery stores, clothing boutiques, electronics shops, and others. Since the population is unknown for this study to calculate sample size formula is

$$n = \frac{z^2 .p.(1-p)}{E^2}$$ Cochran,(1977)

Where:

z= Z-score corresponding to the confidence level.

p= Estimated population proportion.

E= Margin of error.

Taking 95% of level of confidence, a margin of error of ±5%, then sample size is

z= 1.96

p= 0.5 (supposed)

E= 0.05

$$n = \frac{z^2 .p.(1-p)}{E^2}$$

$$n = \frac{1.96^2 X0.5X(1-0.5)}{0.05^2}$$

$$n = 384.16$$

So, the required sample size is 385 but to decrease the chances of non response or incomplete data 24 is added in sample size. Hence, maximum 409 shops are taken as sample size for this study.

3.2.2 Sample Selection:

A sample is a subset of the population chosen for study participation in order to represent the complete population in terms of research design. When it is not feasible to investigate the complete population because of time, money, or accessibility issues, sampling is employed. A well-selected sample guarantees that the research's conclusions can be applied to a larger population. Determining the sampling frame, choosing the sampling technique (such as convenience, stratified, or random sampling), and calculating the sample size in light of the study's goals and statistical considerations are all steps in the sampling process. A representative sample is an essential component of study design because it reduces bias and improves the validity and reliability of the findings. Kothari, (2004); Saunders et al., (2019)

For this study on the impact of digital payment adoption on the profitability and sales volume of retail shops in Kathmandu, convenience sampling is a practical and suitable choice. This method enables to collect data quickly and efficiently by focusing on participants who are readily accessible and willing to participate. In this case, retail shop owners or managers in Kathmandu are likely to be concentrated in marketplaces or commercial hubs, making it easier to gather information without extensive planning or resources.

The practical limitations of time and resources are among the main justifications for the use of convenience sampling. It can be costly and time-consuming to conduct research with a larger, randomized sample, particularly in a busy urban setting like Kathmandu. Convenience sampling expedites the data collecting process by enabling to speak with store owners directly who are open when visit. This method reduces logistical difficulties while still yielding insightful information, which is especially helpful when working on a tight timeline or budget. Convenience sampling also has the benefit of being feasible among a local community. Because Kathmandu's retail establishments are geographically concentrated, it is simpler to approach store owners and carry out on-site surveys. Because of this accessibility, less substantial planning is required, such as acquiring a complete list of all retail establishments or using more sophisticated sample methods.

3.3 Sources and Method of Data Collection

Primary data sources were used in this study to guarantee that the material gathered was specifically pertinent to the goals of the investigation. Shop owners and managers who have direct experience implementing and utilizing digital payment systems were given questionnaires. This strategy made it possible to gather genuine information about how digital payments affect the profitability and sales volume of Kathmandu's retail establishments. Following response collection, the data was analyzed and interpreted using Microsoft Excel and SPSS. Finding important patterns and relationships between variables was made possible by SPSS's ability to perform sophisticated statistical analyses including regression, ANOVA, and descriptive statistics. In order to arrange the data, compute essential metrics, and produce visual representations like graphs and charts that made the results easier to understand, Microsoft Excel was equally crucial. A thorough and methodical approach to data collecting and analysis was guaranteed by this methodology. Through close collaboration with store owners and managers and the use of powerful analytical tools, significant findings were reached that offered practical advice on how digital payment systems affected Kathmandu's business success.

3.4 Measurement and Method of Data Analysis

Digital payments have witnessed substantial global adoption, reshaping conventional transactional methods. This study seeks to assess the effects of digital payments on the profitability and sales volume of retail shops in Kathmandu. To accomplish this, a comprehensive measurement framework and data analysis methodologies are indispensable.

In order to offer context for comprehending the participants' responses, the analysis technique employed in this study starts with gathering demographic data from the participants. Important attributes including age, gender, degree of education, and kind of retail establishment are included in the data gathered. These characteristics aid in participant classification and enable investigation of the potential effects of age, gender, education, and business type on participants' attitudes toward the use of digital payments. For instance, the respondent's age may reveal if younger or older store owners are more likely to accept digital payments, and their educational background may reveal whether more education is associated with increased acceptance.

The survey's four main categories—Digital Payment Adoption, Customer Perception, Infrastructure and Technology, and Regulatory Environment—are covered in the statements that follow the demographic section. The purpose of these categories is to learn more about the shop owner's perceptions about and experiences with digital payments. Participants are asked to indicate their level of agreement with each statement using a Likert scale ranging from 1 (Strongly Agree) to 5 (Strongly Disagree). This approach enables the quantification of attitudes and helps capture the intensity of agreement or disagreement with each statement.

The Customer Perception section focuses on how shop owners perceive their customers' views on digital payments. It examines whether customers prefer digital payments, find them easy to use, and whether offering such options has led to increased customer satisfaction and loyalty. This section helps understand if digital payments contribute to a positive customer experience and could impact repeat business and customer retention.

The emphasis switches to assessing the sufficiency of the technological resources required to implement digital payment systems in the Infrastructure and Technology section. Statements include whether the store accepts a range of electronic payment methods, whether the

technology infrastructure (such as point-of-sale systems and internet access) is acceptable, and whether the store owner has had the necessary assistance and training to operate these systems efficiently. Understanding the operational difficulties and stores' preparedness to accept digital payments depends on this section.

Finally, the part on the regulatory environment looks at the laws governing digital payments. It examines how simple it is for store owners to adhere to rules, if regulatory agencies provide them with sufficient assistance, and how these rules affect the productivity and financial success of their establishments. Determining any external obstacles or facilitators to the adoption of digital payments requires an understanding of the regulatory environment.

All things considered, the methodology uses a structured survey to gauge shop owners' experiences and opinions on digital payments using demographic information and remarks based on a Likert scale. To find patterns, connections, and insights that can contribute to a more comprehensive knowledge of the adoption of digital payments in retail organizations, the gathered data is further examined using statistical software such as SPSS and MS Excel.

3.5 Descriptive Analysis

3.5.1 Mean

The mean is also called arithmetic average. It is a statistical measure that provides central value of database. It is calculate by dividing sum of all values by number of values. It can be as bellow:

$$\text{Mean } (\bar{X}) = \frac{\Sigma X}{N}$$ (Hyndman & Athanasopoulos, 2018).

Where,

ΣX= Sum of observation

N= No. of Observation

3.5.2 Standard Deviation

The spread or dispersion of a dataset is measured by the standard deviation (SD). It measures the average separation between each data point and the mean, revealing how concentrated or scattered the data is around the central value. (Hyndman & Athanasopoulos, 2018).

It is denoted by following formula

$$\text{S.D. } (\sigma) = \sqrt{\frac{\Sigma(X-X^2}{N}}$$

Where

σ = S.D,

X = Terms given in data,

$\bar{X}$ = Mean,

N = no of observations.

3.5.3 Correlation Analysis

One statistical method for figuring out how two variables relate to one another is correlation. It demonstrates the existence and strength of the relationship between the variables. It can indicate, for instance, if a rise in one variable—such as advertising expenditures—is linked to a rise or fall in another—such as sales volume. Field, (2017)

It can be calculated as:

$$r = \frac{N\Sigma XY-(\Sigma X)(\Sigma Y)}{\sqrt{N\Sigma X^2-(\Sigma X)^2}\sqrt{N\Sigma Y^2-(\Sigma Y)^2}}$$

Where,

r= Correlation

N = no. of observations,

ΣX = sum of observations in series X,

ΣY = sum of observations in series Y.

3.5.4 Regression Analysis

A statistical method for examining the relationship between a dependent variable and one or more independent variables is regression analysis. Keeping the other independent variables constant while varying any one of them aids in understanding how the dependent variable changes. Field, (2017).

It is denoted by the following formula.

$\hat{Y}= \alpha+\beta1X1+ \beta2X2+ \beta3X3+ \beta4X4+ei$

Where,

$\hat{Y}$ = Impact of Digital Payment on profitability and sales volume,

X1 = Digital Payment,

X2 = Customer Perception,

X3 = Infrastructure & Technology,

X4 = Regulatory Environment,

α = Constant,

ei = Error term,

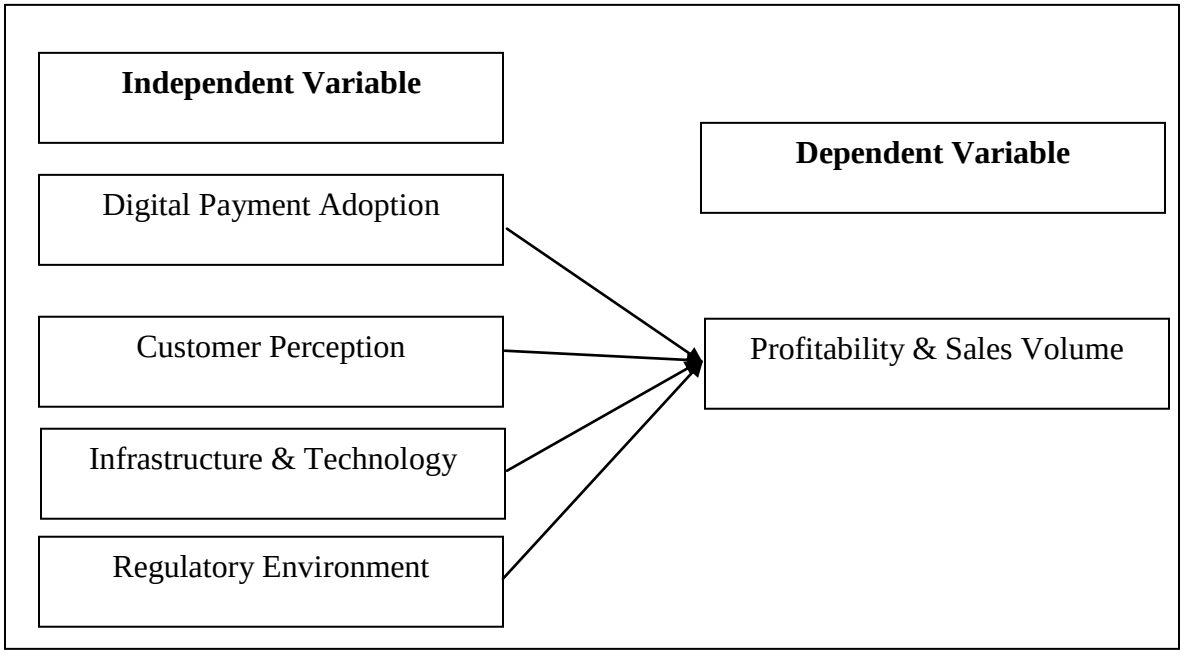
and $\beta1$, $\beta2$, $\beta3$, $\beta4$ are the regression coefficient for factor one to factor four respectively.

3.5.5 ANOVA

ANOVA (Analysis of Variance) is a statistical method used to compare the means of three or more groups to determine if at least one of the group means is significantly different from the others. It tests the hypothesis that the means of multiple groups are equal, helping researchers assess whether observed differences in group means are due to random variation or a true effect of the factors being studied ANOVA is typically used in experimental research to determine whether different treatments, conditions, or interventions have varying effects on a dependent variable. It allows researchers to test the impact of multiple factors simultaneously Moore et al., (2021), Field, (2017)

3.6 Research Framework and Definition of Variables

This thesis's research framework offers an organized method for analyzing how digital payment technologies affect the profitability and sales volume of Kathmandu's retail shops. It identifies the main independent factors that influence the adoption of digital payment systems, such as the regulatory environment (RE), infrastructure and technology (IT), and customer perception (CP). The direct and indirect effects of these variables on dependent variables, such sales volume and profitability, are examined. The study also takes into account moderating factors that could affect these connections, like market demography and technology accessibility. Retail store managers and owners were given questionnaires to complete in order to gather data, which was then analyzed using statistical software such as SPSS and Excel. This framework provides stakeholders with useful insights by enabling a methodical examination of the ways in which consumer, regulatory, and technology factors influence retail business outcomes. Putrevu & Mertzanis, (2024); Thomas et al., (2024).



Source : adopted from Sharma & Goyal, (2021), Gupta & Jain, (2020), Singh & Sharma, (2019) (Das, 2021) , Bank (2023) (OECD), 2022)

Figure 1*:* Research framework of the study

Figure 1 show, the review from above literature shows there is positive significant relationship between profitability and sales volume with adoption of digital payment. The literature review also reveals that there is direct relationship between customer perception and adoption of digital payment for increment in sales and profitability of retail shops. There is positive relationship between infrastructure and technology and profitability of firms. It also indicates that regulatory environment also affects the sales and profit of the retail shops.

Profitability: In this study the ability of a business to turn a profit in relation to its income, assets, or equity is known as profitability. It is a crucial sign of a company's effectiveness and financial stability. A number of indicators, including return on equity (ROE), return on assets (ROA), and net profit margin, can be used to evaluate profitability. The amount of profit a business makes for each dollar of revenue after all costs are subtracted is known as its net profit margin. While ROE concentrates on the return generated for shareholders' equity, ROA assesses how well a business uses its assets to generate profit. Businesses, investors, and stakeholders can assess operational efficacy and financial success with the aid of these measurements. Higgins, (2012).

Sales Volume: In this analysis, one important indicator of a firm's market demand and overall performance is sales volume, which is the total amount of goods or services sold by the company during a given time period. Strong consumer interest is usually indicated by high sales volume, which can be brought about by competitive pricing, successful marketing campaigns, and advantageous economic conditions. Sales volume is crucial for assessing a store's performance in the context of retail operations, especially in light of digital payment technologies that could improve convenience and draw in more clients. For example, by simplifying transactions and enhancing the customer experience, digital payments can increase sales volume in retail establishments and, eventually, profitability. In order to improve both short-term sales and long-term business growth in competitive marketplaces like Kathmandu, retail managers must have a thorough awareness of the elements that affect sales volume, including technology adoption. Chung, (2020), Kotler et al., (2019).

Digital Payment Adoption: The process by which companies and customers switch from cash to electronic or digital payment systems including credit cards, mobile wallets, and online bank transfers is known as "digital payment adoption." By providing quicker, more

convenient, and secure transaction choices, digital payments can greatly improve the customer experience in retail environments. By drawing in tech-savvy clients who choose contactless and seamless payment methods, digital payment solutions can increase sales volume and profitability for Kathmandu businesses. Additionally, digital payments simplify inventory management, lower the operational risks and expenses related to handling cash, and offer insightful data about consumer purchase patterns. Sorescu et al., (2020) Choudhury, (2021)

Customer Perception: In the context of digital payment adoption in Kathmandu retail shops, customer perception is a critical factor in determining the success of these payment systems. Customers are likely to favor digital payments if they perceive them as convenient, secure, and time-saving, while negative perceptions, such as concerns about security or technological barriers, can hinder widespread acceptance. By understanding these perceptions, retailers can detect and address issues to improve customer satisfaction and boost profitability and sales volume. Smith & Colgate, (2007); Kapoor et al., (2020).

Infrastructure and Technology: The adoption of digital payments is supported by infrastructure and technology, which make transactions safe and easy. The effectiveness and accessibility of digital payments, especially in retail contexts, are mostly driven by dependable internet connectivity, effective point-of-sale systems, and cutting-edge mobile payment platforms. By utilizing these technologies, businesses can improve operational efficiency and satisfy consumer needs for speed and convenience. Research shows that this kind of infrastructure can be revolutionary, particularly for SMEs that employ cutting-edge payment solutions like contactless systems and mobile wallets to acquire a competitive edge. Furthermore, improvements in tokenization and payment security guarantee user confidence, which promotes adoption in a variety of businesses. ResearchGate, (2024);Thomas et al., (2024); Klapper, (2023)

Regulatory Environment: One important element affecting the uptake of digital payment systems is the regulatory environment. Good laws guarantee that digital payment options are available while protecting user interests by offering a framework for inclusivity, security, and financial stability. Innovation is made possible by laws like regulatory sandboxes, which let companies test digital financial solutions in safe settings without endangering customers.

This strategy has been effectively applied in a number of nations, encouraging the development of financial technology such as digital wallets and mobile payments. Furthermore, established procedures and unambiguous legal rules boost consumer and company trust in digital transactions, promoting their broad adoption. Putrevu & Mertzanis, (2024); Finance Digital Africa, (2024).

CHAPTER IV

RESULTS AND DISCUSSION

This chapter presents the results of the analysis conducted on the data collected. It focuses on interpreting the primary data gathered from 409 respondents through a questionnaire. The analysis aligns with the research objectives outlined in the previous chapter. The primary objective of this chapter is to analyze and interpret the collected data, showcasing the findings from the questionnaire survey. Ultimately, the goals of this research will be achieved through the insights gained from the data analysis.

4.1 Respondents Profile

Following table shows the demographic profile of the respondents such as age, gender and education level.

Table 1

Respondent profile

		Frequency	Percent	Valid Percent	Cumulative Percent
	Gender				
Valid	Male	298	72.9	72.9	72.9
	Female	111	27.1	27.1	100.0
	Total	409	100.0	100.0	
Age					
Valid	Bellow 15	0	0	0	0
	16-30	112	27.4	27.4	27.4
	31-45	202	49.4	49.4	76.8
	46-60	42	10.3	10.3	87.0
	61or above	53	13.0	13.0	100
	Total	409	100.0	100.0	
Education Level					
Valid	Bellow SLC/SEE	172	42.1	42.1	42.1
	Intermediate	202	49.4	49.4	91.4
	Graduate	26	6.4	6.4	97.8
	Post Graduate	2	0.5	0.5	98.3
	Others	7	1.7	1.7	100.0

Total	409	100.0	100.0

(Source: Field survey, 2024)

Table 1 shows the demographic characteristics of the respondents. Out of total 409 respondents 298 respondents are male which 72.9 percentages of total respondents is and 111 respondents are female which is 27.1 percentage of total respondents. Out of total respondents 49.4 percentages are aged between 31-45 years, 27.4 percentages are aged between 16-30 years, 13percentages are aged 61 or above and rest 10.3 percentages are aged between 46-60 years. In the same way 49.4 percentages of respondents are intermediate, 42.1 percentages of respondents are bellow slc/see, 6.4 percentages of respondents are graduate, 1.7 percentages are others and 0.5 percentages are post graduate.

4.2 Descriptive Statistics of Digital payment Adoption

Table 2

Descriptive Statistics of Digital payment Adoption

Statement	**Total**	**MEAN**	**S.D.**
My retail shop has actively adopted digital payment methods (e.g., mobile wallets, credit/debit cards, internet banking, QR code payments).	409	1.2689	0.66498
A significant portion of my customers prefer to use digital payment methods over cash.	409	1.7897	0.84586
The adoption of digital payments has led to an increase the sales volume in my shop.	409	2.0318	0.9547
The use of digital payments has positively impacted the profitability of my retail shop.	409	2.1834	0.96919
Offering digital payment options gives my shop a competitive advantage to my shop	409	2.2152	0.94073
Scale Statistics			

Cronbach's Alpha	0.734
Mean	9.4890
Variance	9.407
S.D.	3.06714

(Source: Field survey, 2024)

Table 2 shows the findings on the adoption of digital payment methods in retail shops, exploring perceptions on customer preferences, sales volume, profitability, and competitive advantage. With a sample size of 409, the results show a strong inclination toward digital payment adoption, reflected in a mean score of 1.2689 for the statement "My retail shop has actively adopted digital payment methods." This low mean, alongside a small standard deviation (0.66498), suggests that most respondents agree their shops have embraced digital payment options. Customer preference for digital over cash payments also receives moderate agreement (mean of 1.7897), though with slightly more variability (S.D. of 0.84586), indicating some mixed views. The statements regarding sales volume, profitability, and competitive advantage (means of 2.0318, 2.1834, and 2.2152, respectively) suggest a more neutral to mildly positive perception about the financial impact of digital payments, with moderate variation in responses. The overall reliability of these statements, measured by Cronbach's Alpha (0.734), indicates a satisfactory internal consistency, affirming that the statements reasonably capture a unified concept. Overall, respondents recognize the role of digital payments, though their views vary on how significantly it affects profitability and sales, suggesting that while digital payments are seen as valuable, their impact on financial performance might depend on other factors.

4.3 Descriptive Statistics of Customer Perception

Table 3

Descriptive Statistics of Customer Perception

Statement	Total	MEAN	S.D.
My customers prefer digital payment methods over cash.	409	2.0831	0.98912
Customers find easy to use digital payment at my retail shop.	409	2.3888	0.99655
Offering digital payment options has increased customer satisfaction at my retail shop.	409	2.3178	0.81150
The availability of digital payment methods has improved customer loyalty to my shop.	409	2.4303	0.88598
My customers perceive digital payment methods as secure and trustworthy.	409	2.1843	0.99416
Scale Statistics			
Cronbach's Alpha	0.636		
Mean	11.4034		
Variance	8.962		
S.D.	2.99364		

(Source: Field survey, 2024)

Table 3 provides insights into customer perceptions of digital payment options at retail shops, examining preferences, ease of use, satisfaction, loyalty, and trust in security. Based on responses from 409 participants, the statement "My customers prefer digital payment methods over cash" has a mean of 2.0831 and a standard deviation (S.D.) of 0.98912, indicating a generally moderate agreement with some variation. Customers' ease of use with digital payment methods scored slightly higher (mean of 2.3888, S.D. 0.99655), suggesting that while many find it easy to use, there is a range of opinions on this convenience. Statements on customer satisfaction and loyalty, with means of 2.3178 and 2.4303

respectively, reflect a mild positive effect of digital payments on these aspects, though standard deviations (0.81150 and 0.88598) indicate variability in customer experiences. The statement "My customers perceive digital payment methods as secure and trustworthy" has a mean of 2.1843 and S.D. of 0.99416, showing moderate agreement on security perceptions.The Scale Statistics show a Cronbach's Alpha of 0.636, which, though lower than commonly desired, indicates acceptable reliability for the scale. The overall mean score across statements is 11.4034, with a variance of 8.962 and a standard deviation of 2.99364, reflecting the spread of data around the mean. Overall, while customers generally view digital payments positively regarding ease, satisfaction, loyalty, and trust, responses vary, suggesting differing levels of customer comfort and satisfaction with these methods.

4.4 Descriptive Statistics of Infrastructure And Technology

Table 4

Descriptive Statistics of Infrastructure And Technology

Statement	Total	MEAN	S.D.
My retail shop supports a variety of digital payment methods (e.g., mobile wallets, credit/debit cards, internet banking, QR code payments).	409	2.4230	0.90995
The technology infrastructure of my shop (e.g., POS systems, internet connectivity) is adequate to support digital payments efficiently.	409	2.5697	0.81087
I have received adequate training and support to handle digital payment systems effectively.	409	2.5550	0.92754
The digital payment systems are reliable in processing transactions without errors or downtime.	409	2.4768	0.94198
Digital payment systems are well integrated with my shop's other business processes (e.g.,	409	2.6357	1.30864

inventory management, sales tracking).

Scale Statistics	
Cronbach's Alpha	0.649
Mean	12.6601
Variance	10.294
S.D.	3.20835

(Source: Field survey, 2024)

Table 4 outlines retail shop owners' perceptions of their digital payment infrastructure, focusing on support for various payment methods, technological adequacy, training, reliability, and integration with business processes. Among 409 respondents, the statement "My retail shop supports a variety of digital payment methods" has a mean score of 2.4230, with a standard deviation of 0.90995, indicating moderate agreement with low variability. Perceptions of technology infrastructure adequacy scored slightly higher (mean 2.5697, S.D. 0.81087), suggesting that most respondents find their infrastructure sufficient for digital payments. Statements regarding training and system reliability also show moderate agreement, with means of 2.5550 and 2.4768, respectively, and moderate variability (S.D. 0.92754 and 0.94198). The integration of digital payment systems with other shop processes has a mean of 2.6357 and a higher standard deviation of 1.30864, indicating a wider range of opinions on integration quality. The Cronbach's Alpha of 0.649 suggests acceptable consistency across these statements, and the overall mean of 12.6601 with a standard deviation of 3.20835 reflects a generally positive but varied perception of digital payment infrastructure among shop owners.

4.5 Descriptive Statistics of Regulatory Environment

Table 5

Descriptive Statistics of Regulatory Environment

Statement	Total	MEAN	S.D.
It is easy for my retail shop to comply with the regulatory requirements for accepting digital payments.	409	2.4230	0.90995
Regulatory bodies provide adequate support and guidance to navigate digital payment regulations at my shop.	409	2.5697	0.81087
The current regulations related to digital payments positively impact the operational efficiency at my shop.	409	2.5550	0.92754
I am well-informed about the regulations and compliance requirements related to digital payments in Kathmandu.	409	2.4768	0.94198
The regulatory environment for digital payments has a positive impact on the profitability at my retail shop	409	2.6357	1.30864
Scale Statistics			
Cronbach's Alpha	0.649		
Mean	12.6601		
Variance	10.294		
S.D.	3.20835		

(Source: Field survey, 2024)

Table 5 provides a simple overview of retail shop owners' views on complying with digital payment regulations. Among 409 responses, most find it moderately easy to meet regulatory requirements, with a mean of 2.4230 and a standard deviation of 0.90995, showing a fair level of agreement. Support and guidance from regulatory bodies score slightly higher (mean

2.5697), suggesting that while guidance is available, opinions vary a bit (S.D. 0.81087). The impact of regulations on shop efficiency and profitability also receives moderate agreement, with means of 2.5550 and 2.6357, respectively, though profitability has the most varied responses (S.D. 1.30864). Overall, respondents feel reasonably informed about digital payment rules (mean 2.4768), but the Cronbach's Alpha of 0.649 indicates only moderate consistency across the responses.

4.6 Descriptive Statistics of Profitability And Sales Volume

Table 6

Descriptive Statistics of Profitability and sales volume

Statement	**Total**	**MEAN**	**S.D.**
Accepting digital payments has led to an increase in the overall sales volume of my retail shop.	409	2.6830	0.8095
Digital payments have contributed to attracting new customers to my retail shop.	409	2.4567	0.78087
The use of digital payment systems has positively impacted the profitability of my shop	409	2.3820	0.9374
Digital payments have increased the frequency of customer purchases at my retail shop.	409	2.9968	0.84198
Offering digital payment options has improved customer satisfaction, which has resulted in better sales performance.	409	2.3241	1.20864
Scale Statistics			
Cronbach's Alpha	0.696		
Mean	12.8426		
Variance	9.11043		
S.D.	3.01835		

(Source: Field survey, 2024)

Table 6 shows the study of replies regarding how digital payments affect retail stores' sales volume and profitability. Based on 409 responses, it contains the mean and standard deviation (S.D.) for every assertion. While "Offering digital payment options has improved customer satisfaction, which has resulted in better sales performance" has the lowest mean (2.3241), indicating weaker agreement, "Digital payments have increased the frequency of customer purchases at my retail shop" has the highest mean (2.9968), indicating relatively higher agreement. The standard deviations, which show different levels of response variability, range from 0.78087 to 1.20864. The impact of customer satisfaction on sales performance shows the highest variability. As a summary of the entire dataset, the scale's mean, variance, and standard deviation are 12.8426, 9.11043, and 3.01835, respectively, indicating acceptable internal consistency and overall reliability as shown by Cronbach's Alpha (0.696).

4.6.1 Descriptive Statistics of Variable Study

Table 7

Descriptive Statistics of Variable Study

	Mean	**Standard Deviation**
DPA	1.7830	0.61548
CP	2.2848	0.64633
IT	2.4493	0.57097
RE	2.5819	0.73828
DPS	2.3426	0.59321
Valid N 409		

(Source: Field survey, 2024)

Table 7 presents the mean and standard deviation values for four variables: Digital Payment Adoption (DPA), Customer Preference (CP), Infrastructure and Technology (IT), and Regulatory Environment (RE), based on 409 valid observations. Among the variables, RE has the highest mean (2.5819) with the largest standard deviation (0.73828), indicating that participants generally perceive the regulatory environment favorably but with considerable variability in their responses. IT follows with a mean of 2.4493 and a lower standard deviation of 0.57097, reflecting a slightly more consistent perception of infrastructure and

technology. CP has a mean of 2.2848 and a standard deviation of 0.64633, suggesting moderate customer preference with some variation. A moderate degree of agreement among respondents that digital payment systems have improved sales is shown by the Digital Payment and Sales (DPS) factor's mean score of 2.3426. The standard deviation of 0.59321 indicates that responses are generally consistent.DPA records the lowest mean (1.7830) and a standard deviation of 0.61548, implying that digital payment adoption is perceived at a relatively lower level compared to the other variables, with moderate variability. These statistics provide an overview of central tendencies and dispersion, highlighting differences in how respondents view these aspects of the digital payment ecosystem.

4.6.2 Reliability and Validity

Table 8

Reliability and Validity

S. No.	Variables	No. of Items	Cronbach's Alpha
1	Digital payment adoption	5	0.734
2	Customer perception	5	0.636
3	Infrastructure and technology	5	0.649
4	Regulatory environment	5	0.649
5	Profitability and Sales volume	5	0.696
Valid N 5			

(Source: Field survey, 2024)

Table 8 shows the Cronbach's Alpha values, which gauge the internal consistency or dependability of the scales used for the five main variables evaluated in the study. Customer Perception has a slightly lower Cronbach's Alpha of 0.636, indicating moderate consistency, whereas Digital Payment Adoption has the highest at 0.734, indicating good dependability. With a Cronbach's Alpha of 0.649, Infrastructure and Technology and Regulatory Environment both exhibit respectable but not especially high reliability. Cronbach's Alpha for profitability and sales volume is 0.696, which suggests sufficient internal consistency. All five variables appear to have adequate levels of dependability overall, according to the Cronbach's Alpha values, with Digital Payment Adoption exhibiting the most consistency. Five responses constitute a suitable sample size for the table. Tavakol & Dennick, (2011); George & Mallery, (2003).

4.7 Relationship between variables study

Table 9

Relationship between variables

Correlations

		DPA	CP	IT	RE	DPS
DPA	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	409				
CP	Pearson Correlation	.502**	1			
	Sig. (2-tailed)	0.000				
	N	409	409			
IT	Pearson Correlation	.422**	.515**	1		
	Sig. (2-tailed)	0.000	0.000			
	N	409	409	409		
RE	Pearson Correlation	.306**	.291**	.258**	1	

	Sig. (2-tailed)	0.000	0.000	0.000		
	N	409	409	409	409	
	Pearson Correlation	.412**	.432**	.346**	.278**	1
DPS	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	409	409	409	409	409

**. Correlation is significant at the 0.01 level (2-tailed).

a. Dependent variable Digital payment profitability and sales volume

(Source: Field survey, 2024)

Where,

DPS = Dependent variable Digital payment profitability and sales volume

DPA= Digital payment adoption

CP= Customer perception

IT= Infrastructure and technology

RE= Regulatory environment

Table 9 shows the Pearson correlation coefficients among Digital Payment Adoption (DPA), Customer Preference (CP), Infrastructure and Technology (IT), and Regulatory Environment (RE), based on 409 observations. All correlations are statistically significant at the 0.01 level (2-tailed), reflecting meaningful relationships among these variables. The dependent variable, DPS, shows a statistically significant positive correlation with all the independent variables at the 0.01 level. Among the independent variables, Customer Perception (CP) has the strongest correlation with DPS (r = 0.432), indicating that improved customer perception is closely associated with higher profitability and sales from digital payment adoption. This suggests that how customers view digital payments significantly impacts their contribution to profitability and sales.

Digital Payment Adoption (DPA) also demonstrates a moderate positive relationship with DPS (r = 0.412). This implies that greater adoption of digital payment systems tends to result in increased profitability and sales for businesses. Similarly, Infrastructure and Technology (IT) shows a moderate correlation with DPS (r = 0.346), highlighting the importance of robust infrastructure and technology in enhancing the effectiveness of digital payments in driving profitability and sales.

The Regulatory Environment (RE) exhibits a weaker but still positive correlation with DPS (r = 0.278), suggesting that while the regulatory framework contributes to digital payment profitability and sales, its impact may be less pronounced compared to other factors.

In summary, all the independent variables—DPA, CP, IT, and RE—positively influence DPS, with CP showing the strongest relationship. These findings highlight the significance of customer perception and adoption rates in maximizing the profitability and sales benefits of digital payments, alongside the enabling roles of infrastructure, technology, and regulatory support.

4.8 Dominant factor of Digital Payment Impact on Profitability and Sales

Regression Analysis is used to determine the relationship between dependent and independent variables as a statistical tool. Dependent variables are profitability and sales volume whereas independent variables are Digital Payment Adoption, customer Perception, Infrastructure and Technology and Regulatory Environment. The purpose of regression analysis is to determine how one or more independent (predictor) variables relate to a dependent (or outcome) variable. In order to generate predictions, evaluate the strength of the links, and derive insights that may be helpful for scientific knowledge, policy formation, or decision-making, this relationship is intended to be mathematically modeled. The three sections of regression analysis are :

Table 10

Model summary

Model	R	R Square	Adjusted R square	Standard Error of the estimate
1	0.8574	0.7352	0.7326	2.4599

a. Predictors: (Constant), Digital payment adoption, Customer perception, Infrastructure and technology, Regulatory environment

(Source: Field survey, 2024)

Table 10 displays the key regression model statistics that shed light on the model's overall fit and prediction accuracy. A strong positive linear link is indicated by the correlation coefficient (R) of 0.8574, which means that the dependent variable likewise exhibits a distinct and steady trend as the independent variables change. A decent fit is indicated by the R Square value of 0.7352, which shows that the model can account for roughly 73.52% of the variation in the dependent variable. After taking into consideration the complexity of the model, the Adjusted R Square, which is somewhat lower at 0.7326, accounts for the number of predictors in the model and shows that roughly 73.26% of the variation is still explained. Lastly, the average prediction error is displayed by the Standard Error of the Estimate, which is 2.4599. Given that data points usually lie within 2.46 units of the regression line, a lower standard error indicates that the model's predictions are reasonably accurate. All things considered, these findings point to a robust and passably accurate regression model that accounts for a sizable amount of the dependent variable's variability.

Table 11

ANOVA

	Df	*SS*	*MS*	*F*	*Significance*
Regression	3	6770.0978	1692.524	279.7128	0.000784
Residual	404	2438.5272	6.050936		
Total	407	9208.625			

a. Dependent variable Digital payment profitability and sales volume

b. Predictors: (Constant), Digital payment adoption, Customer perception, Infrastructure and technology, Regulatory environment

(Source: Field survey, 2024)

Table 11 shows the summarized performance of the regression model and its capacity to account for data variability. The number of predictors in the model is represented by the regression's degrees of freedom (Df), which is 3, and the remaining data points, or residual degrees of freedom, are represented by the Df of 404. The total number of observations less one equals 407 degrees of freedom. The regression's sum of squares (SS), which shows how much of the overall variation in the dependent variable can be accounted for by the independent variables in the model, is 6770.0978. The total sum of squares, which represents the overall variance in the dependent variable, is 9208.625, whereas the residual sum of squares, which represents the unexplained variation, is 2438.5272. The average explained variation, or mean square (MS), for the regression is 1692.524, whereas the average unexplained variance, or residual, is 6.050936. The model is quite successful at explaining the variation in the dependent variable, as evidenced by the F-statistic of 279.7128, which is the ratio of the explained variation to the unexplained variance. The model is statistically significant and the predictors have a substantial effect on the dependent variable, as evidenced by the significance F value of 0.000784, which is incredibly small and indicates that there is little probability of achieving such a high F-statistic by chance.

Table 12

Regression Analysis

Model	**Unstandardized Coefficient**		**Standardized Coefficient**		
	B	**S.E.**	**B**	**T**	**Significance**
Intercept	3.8179	0.58999		6.4710	0.0002828
Digital Payment Adoption	0.1676	0.05128	0.1767	3.2685	0.001173
Customer Perception	0.0545	0.05138	0.0505	2.0698	0.0285331
Infrastructure and Technology	0.1091	0.04853	0.1308	2.2480	0.025111
Regulatory Environment	0.07785	0.02415	0.0333	3.2235	0.01461345

a. Dependent variable : Digital payment profitability and sales volume

(Source: Field survey, 2024)

Table 12 shows the findings of a regression analysis, which also shows the connections between the dependent variable and the four predictors: digital payment adoption, customer perception, infrastructure and technology, and regulatory environment. Both standardized and unstandardized coefficients, standard errors, t-statistics, and significance values (p-values) are among the metrics offered. These numbers aid in interpreting each predictor's impact's magnitude, direction, and statistical significance.

First, 3.8179 is the intercept, which indicates that the dependent variable should have a value of 3.8179 when all independent variables are set to zero. The intercept appears to have a large contribution to the model, as evidenced by its highly significant t-statistic of 6.4710 and extremely modest p-value (0.0002828).

Next, the unstandardized coefficient for Digital Payment Adoption is 0.1676, which indicates that, when all other factors are held constant, the dependent variable rises by 0.1676 units for every unit increase in Digital Payment Adoption. The dependent variable and digital payment adoption have a somewhat positive association, as indicated by the standardized coefficient

(Beta) of 0.1767. This association is statistically significant at the 1% level, as indicated by the t-statistic of 3.2685 and the p-value of 0.001173, suggesting that Digital Payment Adoption has a significant positive influence on the dependent variable.

The unstandardized coefficient for customer perception is 0.0545, indicating a marginally positive impact on the dependent variable. Nonetheless, the effect is quite minor, as indicated by the standardized coefficient (Beta) of 0.0505. Customer perception does have a positive impact, albeit a lower one than other variables, according to the t-statistic of 2.0698 and p-value of 0.0285331, which indicate that the link is statistically significant at the 5% level.

The dependent variable is predicted to rise by 0.1091 for every unit increase in Infrastructure and Technology, according to the Infrastructure and Technology coefficient of 0.1091. With a standardized coefficient of 0.1308, a somewhat positive effect is indicated. The link is statistically significant at the 5% level, with a t-statistic of 2.2480 and a p-value of 0.025111, indicating that Infrastructure and Technology significantly improves the dependent variable.

Finally, the unstandardized coefficient for Regulatory Environment is 0.07785, indicating a lesser yet positive effect in comparison to the other factors. A slight positive influence is indicated by the standardized coefficient of 0.0333. Although it has a smaller effect than Digital Payment Adoption and Infrastructure and Technology, the t-statistic of 3.2235 and p-value of 0.01461345 demonstrate that this association is statistically significant at the 5% level.

4.9 Summary of Hypothesis

The results of hypothesis of the study are listed below :

Table 13

Results of hypothesis testing

Hypothesis	Significance	Results
H1: There is a positive significant relationship between Change in Profitability and Digital Payment.	0.000	Supported
H2: There is a positive significant relationship between Change in Sales volume and Digital Payment.	0.000	Supported
H3: There is a positive significant relationship between Customer Perception (CP) and the Adoption of Digital Payment in retail shops.	0.000	Supported
H4: Infrastructure and Technology (IT) have a positive significant impact on the adoption of Digital Payment in retail shops.	0.000	Supported

Table 13 shows the result of hypothesis testing. The findings are:

H1: There is a positive significant relationship between Change in Profitability and Digital Payment

The significance value for this hypothesis is 0.000, which is well below the common significance threshold of 0.05. This indicates that the relationship between the change in profitability and the adoption of digital payments is statistically significant.

Since the results are supported, it means that the data provides sufficient evidence to conclude that digital payment adoption has a positive and significant effect on profitability. In other words, as retail shops adopt digital payment methods, their profitability tends to increase.

H2: There is a positive significant relationship between Change in Sales Volume and Digital Payment

The significance value for this hypothesis is also 0.000, which similarly indicates a highly statistically significant relationship between the change in sales volume and the use of digital payments.

The results are again supported, meaning the analysis confirms that adopting digital payment systems is positively associated with increased sales volume. Retail shops using digital payments tend to experience higher sales, possibly due to greater customer convenience and a broader customer base.

H3: There is a positive significant relationship between Customer Perception (CP) and the Adoption of Digital Payment in retail shops.

According to this hypothesis, retail establishments' adoption of digital payment methods is heavily influenced by consumer preferences. This hypothesis is supported by the findings, which shows a strong and statistically significant link with a significance value of 0.000. This study demonstrates how consumer desire for quick, easy, and safe transaction methods is pushing retail establishments to implement digital payment solutions. Retailers understand that accommodating these perception increases consumer happiness and loyalty, both of which are essential for preserving a competitive edge in a changing retail landscape. The report emphasizes how crucial consumer-driven market trends are in influencing corporate choices about the adoption of new technologies.

H4: Infrastructure and Technology (IT) have a positive significant impact on the adoption of Digital Payment in retail shops.

This hypothesis is supported by the significance value of 0.000, which confirms a significant and statistically significant influence. This outcome demonstrates that the successful deployment of digital payment systems depends critically on having access to dependable technology, including point-of-sale (POS) devices, secure payment gateways, and steady internet connectivity. It is easier for retailers with established IT infrastructure to implement these systems. The results demonstrate that investing in IT infrastructure guarantees seamless

operations and customer pleasure in addition to enabling retail enterprises to incorporate digital payment options.

4.10 Discussion

The purpose of this survey was to evaluate how digital payment systems affected retail stores' profitability and sales volume. To represent the target population, 409 responders in all were chosen. Descriptive and regression analysis were used to examine the connections between the independent variables (customer perception, digital payment adoption, infrastructure and technology, and regulatory environment) and the dependent variables (sales and profitability). The following are the study's conclusions:

First, there was substantial agreement among shop owners regarding the usage of different payment choices, as evidenced by the average value of 1.2689 for digital payment adoption, which shows that retail establishments have broadly accepted digital payment methods. Second, a generally positive opinion of digital payments over cash was shown by the consumer perception score of 2.2848. Third, infrastructure and technology received an average score of 2.4493, highlighting its vital role in facilitating digital payment systems. Fourth, the regulatory environment received a score of 2.5819, indicating that it has a major impact on the uptake of digital payments.

Additionally, the correlation results showed that Digital Payment Adoption (DPA) ($r = 0.412$) and Customer Perception (CP) have the biggest beneficial effects on digital payment profitability and sales ($r = 0.432$). Though to a lesser extent, Infrastructure and Technology (IT) ($r = 0.346$) and Regulatory Environment (RE) ($r = 0.278$) also made substantial contributions. The model explains 85.74% of the variation in customer perception, according to the regression analysis's final R-square value of 0.8574, which further supports the strong influence of digital payment acceptance on store profitability and sales volume.

The findings of this study shed light on the factors influencing digital payment profitability and sales (DPS) among retail shops, focusing on digital payment adoption, customer perception, infrastructure and technology, and the regulatory environment. The analysis provides valuable insights into the adoption and impact of digital payments in retail businesses.

The average value of digital payment adoption (1.2689) indicates that retail shops have largely embraced digital payment methods. Shop owners strongly agree on using a variety of digital payment options, reflecting a broad acceptance of these systems in their business operations. This finding aligns with research suggesting that the convenience and efficiency of digital payments drive their adoption in retail settings. High adoption rates suggest that businesses recognize the potential for digital payments to streamline transactions and attract more customers. Rogers, (2003)

Customer perception is also favorable, with an average value of 2.2848, indicating that customers view digital payments as a preferable alternative to cash transactions. This result emphasizes the role of customer satisfaction and trust in ensuring the success of digital payment systems. Prior studies have shown that positive customer perception—stemming from attributes like security, ease of use, and convenience—plays a pivotal role in driving the adoption and profitability of digital payment methods. Davis, (1989); Venkatesh et al., (2003).

Infrastructure and technology, with a mean score of 2.4493, play a crucial role in supporting digital payment systems. This underscores the importance of robust infrastructure, such as internet connectivity, payment gateways, and technological platforms, in enabling effective use of digital payments. As highlighted in previous literature, the success of digital payment systems depends heavily on the availability and reliability of the supporting technological ecosystem. Bharadwaj et al., (2013).

The regulatory environment also shows significant influence, with an average value of 2.5819. This indicates that a supportive regulatory framework is vital for fostering digital payment adoption and profitability. Policies such as tax incentives, data protection laws, and consumer rights significantly contribute to creating a favorable environment for digital payment systems (OECD, 2020). Retailers are likely to benefit from a stable and transparent regulatory framework, which boosts both customer and business confidence in digital transactions.

Correlation analysis reveals that Customer Perception (CP) has the strongest positive impact on Digital Payment Profitability and Sales (DPS) ($r = 0.432$). This underscores the critical

role of customer satisfaction and trust in determining the success of digital payment systems. Digital Payment Adoption (DPA) also has a significant positive correlation with DPS (r = 0.412), showing that widespread use of digital payment methods directly contributes to increased profitability. Infrastructure and Technology (IT) (r = 0.346) and Regulatory Environment (RE) (r = 0.278) also positively impact DPS, though to a lesser extent. These findings reinforce the interconnectedness of these factors in shaping digital payment outcomes (Rogers, 2003; OECD, 2020).

Finally, the regression analysis highlights the robustness of the model, with an R-square value of 0.8574. This indicates that 85.74% of the variance in DPS is explained by the independent variables, demonstrating the model's strong predictive power. These results align with prior research emphasizing the multifaceted nature of digital payment adoption and its dependence on customer behavior, technological infrastructure, and regulatory frameworks Bharadwaj et al., (2013); Venkatesh et al., (2003).

The results are consistent with Giri and Ghimire's (2020) research, especially when it comes to how crucial consumer perception and awareness are to the uptake of digital payment systems. According to both surveys, fostering customer trust and educating people about the advantages of digital payments are essential to promoting their use. In line with your results that consumer perception has a major impact on profitability and sales, Giri and Ghimire (2020) contend that raising awareness through a variety of communication channels is essential to encouraging adoption. Both findings reinforce the notion that enhancing consumer perception can result in better outcomes in terms of sales and profitability for firms utilizing digital payment methods by highlighting the need to educate customers to encourage adoption.

The results of this study and the research by Sowmya and Hebbar (2021) are partially consistan that demonstrate how crucial security and awareness are to the uptake and use of digital payment systems in retail establishments. To increase the uptake of digital payments in Mangalore's retail industry, Sowmya and Hebbar (2021) discovered that strong security measures and an appropriate awareness campaign are required. This supports the findings of the study that consumer perception has a big impact on the uptake of digital payment systems, indicating that customer education and safe transactions are essential for effective

adoption. However, analysis of this study highlights the significance of customer perception together with other aspects like infrastructure and technology in driving profitability and sales, even if Sowmya and Hebbar (2021) found no association between customers' age and their use of digital payments. This discrepancy might be due to different approaches—this study employed regression analysis to examine the wider effects of digital payment uptake, whereas Sowmya and Hebbar utilized a chi-square test to examine customer demographics. Notwithstanding these methodological variations, both studies emphasize how crucial security and awareness are to enabling the broad use of digital payment systems in retail environments.

This study is partially consistent with the study by Jaiswal and Mathur (2021), which also emphasizes the importance of consumer awareness in the adoption of digital payments. One of the main factors influencing adoption is customers' increasing awareness of digital payment systems, which is highlighted in both surveys. However, your study provides a more comprehensive analysis, looking at not only customer perception but also the roles of infrastructure, technology, and regulatory environment in influencing the adoption of digital payments and its impact on profitability and sales. Jaiswal and Mathur, on the other hand, primarily focus on consumer behavior during the pandemic and forecast a shift towards a cashless ecosystem. Therefore, although both studies concur that awareness is crucial, your research offers a more thorough understanding of the elements that lead to the effective integration of digital payments in retail establishments, which partially reconciles the findings.

This study is partially consistent with Jose's (2022) research, which examines how the pandemic and demonetization affected the use of digital payments. Both studies show that external forces have significantly increased the adoption of digital payments; Jose looks at how demonetization and the pandemic have accelerated the use of digital payments, while this study highlights the importance of infrastructure, technology, and customer perception. Similar to how your study indicates that greater adoption of digital payments contributes to higher profitability and sales for retail shops, Jose (2022) found that both events accelerated the adoption of digital payment systems, indicating that external shocks can speed up the transition to digital payment systems. This study, however, offers a more focused analysis of

the retail industry and the immediate implications of digital payment acceptance on business outcomes, whereas Jose's study concentrates on the wider societal impacts of similar events. As a result, although the results about greater adoption are somewhat comparable, this study provides a more sophisticated knowledge of the elements influencing the success of digital payments in the retail sector.

The research by Joshi et al. (2019), which looks at how demonetization affects small companies and the rise in the use of online services and mobile applications for payments, is partially consistent with this study. Both studies recognize how important digital payment systems are to firms' expansion and recovery, especially in the wake of disruptive events like demonetization. Similar to how this study emphasizes the benefits of digital payment adoption on the profitability and sales volume of retail shops, Joshi et al. (2019) discovered that small businesses faced difficulties as a result of demonetization, but they recovered by implementing online services and electronic payment methods. But whereas Joshi et al. (2019) mostly concentrate on the short-term negative effects of demonetization followed by recovery, your study provides a more thorough examination, examining not only the recovery through digital payments but also the wider impact of infrastructure, regulatory environment, and customer perception. Additionally, while Joshi et al. concentrate more on the overall trend toward mobile applications and online services following demonetization, this study's regression analysis, which looks at the particular factors influencing profitability and sales, offers a deeper understanding of how digital payment adoption influences business outcomes. Therefore, even though both studies concur that digital payment methods are crucial for business recovery, this study provides a more thorough analysis of the variables affecting long-term adoption and profitability, , making the results partially consistent.

This study is partially consistent with the research conducted by Mohamad and Pal (2020) on consumer perception towards digital transactions. The importance of consumer perception and awareness in the adoption of digital payment systems is emphasized in both studies. Mohamad and Pal (2020) discovered that although customers were accustomed to using traditional banking methods, they were not aware of more recent digital payment choices including online banking, mobile wallets, and UPI. This result is consistent with your research, which found that consumer perceptions of digital payments have a big influence on

their uptake as well as their effects on sales volume and profitability. However, this study adopts a more comprehensive approach, looking at not only consumer perception but also the infrastructure, technology, and regulatory factors that influence digital payment adoption in the retail sector, whereas Mohamad and Pal (2020) primarily focused on consumer literacy and familiarity with various digital payment systems. While both studies stress the value of consumer education in promoting the use of digital payments, your study goes deeper into the complex relationships between these elements and business results like higher sales and profitability. Because this study incorporates the larger context of digital payment acceptance in the retail business, its conclusions are more thorough than those of Mohamad and Pal (2020). Both studies emphasize the need of raising awareness and educating people, but this one offers a more thorough examination of the business-specific effects of adopting digital payments, thus the findings are partially consistent.

In summary, the findings underscore the importance of fostering favorable customer perceptions, improving digital payment infrastructure, and ensuring a supportive regulatory environment to maximize the profitability and sales benefits of digital payments in retail businesses. These insights provide a strong foundation for policymakers, retailers, and technology providers to collaborate and enhance the digital payment ecosystem

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

This study looks into how the use of digital payments affects Kathmandu's retail establishments' profitability and sales volume. Survey data from 409 respondents, representing a wide variety of retail firms, served as the basis for the analysis. To assess how several elements, including infrastructure and technology, customer perception, and the regulatory environment, affect the uptake and effects of digital payment systems, descriptive and regression analyses were used.

As evidenced by the low mean value of 1.2689 for digital payment adoption, the data show that digital payment methods have been widely adopted by retail establishments in Kathmandu. With an average value of 2.2848, customers also have a positive perception of digital payments, indicating that they prefer cashless transactions since they are quick, easy, and secure. The regulatory environment, with an average value of 2.5819, emphasizes the significance of governmental policies and legal frameworks in encouraging adoption, while infrastructure and technology, with a mean value of 2.4493, are essential in enabling digital payment systems.

Additionally, correlation research shows that the biggest positive influence on digital payment profitability and sales is customer perception ($r = 0.432$), which is followed by digital payment adoption ($r = 0.412$). Although to a lesser extent, infrastructure and technology ($r = 0.346$) and the regulatory environment ($r = 0.278$) also play a substantial role in this association. Furthermore, the regression analysis shows that the independent variables account for 85.74% of the variance in sales and profitability ($R2 = 0.8574$). According to these findings, digital payments play a crucial part in boosting retail stores' financial performance, and companies who use these systems stand a higher chance of succeeding in the cutthroat retail market.

5.2 Conclusion

The study confirms the significant positive relationship between digital payment adoption and improvements in profitability and sales volume among retail shops. Retailers who have integrated digital payment methods into their operations benefit from enhanced operational efficiency, reduced cash handling costs, and greater customer satisfaction. The analysis supports the hypothesis that adopting digital payment systems leads to increased profitability, as businesses can serve customers more effectively and tap into a broader, digitally active customer base.

Likewise, there is a favorable correlation between increased sales volume and the use of digital payments. This can be explained by elements like decreased reliance on actual currency, quicker transaction processing, and increased client convenience. According to the research, consumers are increasingly choosing merchants that accept digital payments since these methods satisfy consumers' desire for safe, cashless transactions.

The study also highlights how infrastructure, technology, customer perception, and the regulatory environment all contribute to the success of digital payment systems. Although the largest component was shown to be customer perception, infrastructure and regulatory frameworks also play an important influence. These elements ensure that digital payment systems are reliable, accessible, and secure, thereby fostering greater trust and adoption among users.

Overall, the research concludes that digital payment adoption is not just a technological advancement but a strategic imperative for retail shops aiming to improve their financial performance and competitiveness in an increasingly digital marketplace.

5.3 Implications

The findings of this study have significant implications for multiple stakeholders, including retail businesses, policymakers, and technology providers. For retail businesses, the results highlight the critical need to embrace digital payment systems as a means of enhancing profitability and sales. Retailers should focus on integrating these systems into their daily

operations, ensuring seamless transaction experiences for customers. Additionally, businesses should invest in training employees to use digital payment platforms efficiently and educating customers on the benefits and security of these systems.

For policymakers, the research underscores the importance of creating a robust regulatory environment that encourages the adoption of digital payments. Governments and regulatory bodies should focus on building a secure and transparent digital payment ecosystem by implementing policies that protect users' data and prevent fraud. By providing incentives such as tax benefits or subsidies for businesses adopting digital payments, policymakers can accelerate the transition to a cashless economy.

Technology providers also have a pivotal role to play. To support widespread adoption, developers must prioritize the creation of intuitive, user-friendly digital payment platforms that cater to businesses of all sizes. Addressing infrastructure challenges, especially in smaller and remote retail setups, is essential to ensuring equitable access to these systems. Furthermore, integrating emerging technologies such as artificial intelligence, blockchain, and mobile banking solutions can enhance the efficiency and security of digital payment platforms, paving the way for broader acceptance.

Finally, the findings provide a foundation for future research to explore the long-term impacts of digital payment adoption on retail business performance. Studies could investigate the dynamics of customer loyalty, the role of digital payment systems in supply chain optimization, and the impact of advanced payment technologies in shaping consumer behavior. These insights would provide valuable guidance for businesses and policymakers as they navigate the rapidly evolving digital economy.

References

(OECD), O. f.-o. (2020). *Digital transformation in the age of COVID-19: Building resilience and bridging divides.* Organisation for Economic Co-operation and Development (OECD).

Adhikari, P. (2022). Digital payments in Nepal: Opportunities and challenges. *Nepal Business Review, 10*(1), 50-65.

Bélanger, F., & Carter, L. (2008). Trust and risk in e-government adoption. *The Journal of Strategic Information Systems, 17*(2), 165–176. https://doi.org/10.1016/j.jsis.2007.12.002

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital business strategy: Toward a next-generation of insights. *MIS Quarterly, 37*(2), 471–482.

Bhattarai, B., Shrestha, R., Maharjan, S., Malla, S., & Shakya, S. (2023). Effectiveness of Digital Payments in the Performance of Nepalese Micro, Small and Medium Enterprises (MSME. *Journal of Business and Economics, 6*(1), 9-20. https://doi.org/.....

Bryman, A. (2016). *Social Research Methods.* Oxford University Press.

Brynjolfsson, E., & McAfee, A. (2014). *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies.* W. W. Norton & Company.

Chen, L., & Zhang, H. (2021). The cost benefits of digital payment systems in retail. *Journal of Financial Management, 24*(3), 112-130.

Choudhury, P. (2021). The Role of Digital Payments in Retail Business Growth. *International Journal of Retail Management, 34*(2), 145–162.

Choudhury, V., & Sabherwal, R. (2014). *IT Strategy: Issues and Practices(2nd ed.).* Upper Saddle River, NJ:Pearson.

Chung, E. (2020). The Impact of Consumer Behavior on Sales Volume. *Journal of Marketing Trends, 5*(3), 122-134.

Cochran, W. G. (1977). *Sampling Techniques(3rd ed.).* John Wiley & Sons.

Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches.* Sage Publications.

Das, S. (2021). Digital infrastructure and its impact on retail businesses. *Digital Economy Studies, 8*(1), 45-60.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319-340.

Dhakal, S. (2021). Impact of Digital Payments Systems on Retail. *International Journal of Business and Social Science Research, 2*(1), 35-42. https://doi.org/....

Elkington, J. (1997). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business.* New Society Publishers.

Field, A. (2017 5th Edition). *Discovering Statistics Using IBM SPSS Statistics.* Sage Publications.

Finance in a Digital Africa, F. (2024). *What is the role of regulation in digital finance?* Finance in a Digital Africa. Retrieved from Finance in a Digital Africa.

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference* (4th ed. ed.). Allyn & Bacon.

Giri, S. R., & Ghimire, S. K. (2020). Factors Affecting the Adoption of Digital Payment Systems. *Journal of Innovations in Engineering Education, 3*(1), 165-174. https://doi.org/.....

Gupta, P., & Jain, R. (2020). Trust as a catalyst in digital payment systems. *International Journal of Business Research, 36*(2), 145–160.

Hyndman, R. J., & Athanasopoulos, G. (2018. 2nd Edition). *Principles and Practice.* OTexts.

Investopedia. (2020). *Investopedia.* Retrieved from Investopedia: https://www.investopedia.com/terms/p/profitability-ratio.asp

Jaiswal, D., & Mathur, R. (2021). A Study of Digital Payment Utilization During Pandemic in Mumbai and Its Future Implications. *SOUTH INDIA JOURNAL OF SOCIAL SCIENCES*(ISSN: 0972 – 8945).

Jose, S. (2022). Impact of Demonetisation and Pandemic on Digital Payments Usage . *International Journal of Science and Research (IJSR) , 7.94*(ISSN: 2319-7064).

Joshi, S. U., Purohit, D., & Vyas, A. (2019). Increase in number of Online Services and Payments through Mobile Applications Post Demonetization . *Advances In Management World Business 'n Economy Congress, 12*(1).

Kamal, S. (2019). Impact of Digital Payment System on Retail Industry An Exploratory Study. *International Journal of Advance Research and Innovative Ideas in Education, 5*(5), 1924-1930. https://doi.org/.

Kapoor, A., Dwivedi, Y. K., & Williams, M. D. (2020). Role of digital payment systems in shaping consumer behavior in emerging markets. *International Journal of Information Management, 53*, 102-116. https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2020.102116

Kaur, R., & Singh, M. (2020). Profit margins in the age of digital transactions. *Journal of Business Economics, 18*(4), 125-140.

Keller, K. L., & Phillip, K. (2022). *Branding in B2B firms. In Handbook of business-to-business marketing.* Edward Elgar Publishing. https://doi.org/https://doi.org/10.4337/9781800376878.00021

Khaddaj, A., Zhong, Z., Ghobadi, M., Leach, J., Xia, Y., & Zhang, Y. (2021). ARROW: Restoration-aware traffic engineering. *ACM*. https://doi.org/ 10.1145/3452296.3472941

Klapper, L. (2023). Trends in digital payment adoption. *Digital Policy, Regulation, and Governance*.

Kothari, C. R. (2004). *Research Methodology: Methods and Techniques.* New Age International.

Kotler, P. (2000). *Marketing Management: Millennium Edition (10th ed.).* Upper Saddle River, NJ: Prentice Hall.

Kotler, P., & Keller, L. K. (2022). *Marketing Management.* pearson.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*(3), 607-610.

Kumar, V., & Pansari, A. (2016). Competitive advantage through engagement. *Sage Publications (Journal of Marketing Research), 80*(6), 4-20. https://doi.org/10.1509/jm.15.0204

Mary, L., & Antony, A. (2022). Digital payment systems (DPS) and its influence on impulsive buying behaviour of consumers . *International Journal of Health Sciences, 6(s2)*, 2095-2102. https://doi.org/ https://doi.org/10.53730/ijhs.v6nS2.5249

Mohd., S., & Pal, R. (2020). Moving from Cash to Cashless - A Study of Consumer Perception towards Digital Transactions. *PRAGATI: Journal of Indian Economy Journal Press India, 7*(1), 1-13. https://doi.org/ 10.17492/pragati.v7i1.195425

Molla, A., & Licker, P. S. (2005). Perceived e-readiness factors in e-commerce adoption: An empirical investigation in a developing country. *International Journal of Electronic Commerce, 10*(1), 83-110. https://doi.org/10.1080/10864415.2005.11043963

Moore, D. S., McCabe, G. P., & Craig, B. A. (2021). *Introduction to the Practice of Statistics (10th ed.).* W. H. Freeman.

Nepal Rastra Bank, (. (2023). *Guidelines for digital payment systems in Nepal.* Nepal Rastra Bank.

Organisation for Economic Co-operation and Development (OECD), O. (2022). *Regulatory frameworks for digital payments.* OECD https://www.oecd.org/digital/regulatory-frameworks-digital-payments).

Putrevu, J., & Mertzanis, C. (2024). The adoption of digital payments in emerging economies: Challenges and policy responses. *Digital Policy, Regulation, and Governance, 26*(5), 476-500.

Rajan, A., & Bose, R. (2022). Customer behavior and sales growth through digital payments. *Retail Studies Quarterly, 14*(2), 87-103.

ResearchGate. (2024). *Digital payment adoption frameworks.* ResearchGate.

Rogers, E. M. (2003). *Diffusion of innovations 5th Edition.* Free Press.

Saunders, M., Lewis, P., & Thornhill, A. (2019). *Research Methods for Business Students.* Pearson Education.

Shakya, S., & Maharjan, S. (2020). Challenges of Digital Payment Adoption in Nepalese Retail Sector. *International Journal of Business, Economics & Management, 3*(2), 29-36. https://doi.org/.

Shakya, S., & Shrestha, A. (2019). A Study on the Perception of Digital Payment System among Retailers in Nepal. *Journal of Management and Development Studies, 1*(1), 17-26. https://doi.org/.

Sharma, S., & Goyal, D. (2021). Digital payment adoption: Trends and customer perception. *Journal of Consumer Research, 45*(3), 123–140.

Shrestha, S., & Shrestha, N. (2020). Digital Payment A Key to Modernizing Retail Business in Nepal. *International Journal of Research and Analytical Reviews, 7*(3), 209-215. https://doi.org/.

Singh, A., & Sharma, K. (2019). Technological challenges in retail payment systems. *Journal of Financial Technology, 12*(4), 98–115.

Smith, J. B., & Colgate, M. (2007). Customer Value Creation: A Practical Framework. *Journal of Marketing Theory and Practice, 15*(1), 7-23. https://doi.org/ https://doi.org/10.2753/MTP1069-6679150101

Sorescu, A., Frambach, R. T., Singh, J., & Rangaswamy, A. (2020). Innovation in Digital Payments: Effects on Customer Experience and Business Performance. *Journal of Marketing Research, 57*(5), 878–893.

Sowmya, P. K., & Hebbar, C. K. (2021). IMPACT OF DIGITAL PAYMENT ON RETAIL SHOPS- WITH REFERENCE TO MANGALORE CITY. *EPRA International Journal of Research and Development (IJRD) , 6*(4), 187-191. https://doi.org/ 10.36713/epra2016

Stanton, W. J., Etzel, M. J., & Walker, B. J. (2012). *Fundamentals of Marketing.* McGraw-Hill.

Sumathy, M., & KP, V. (2017). Digital payment systems: Perception and concerns among urban consumers . *International Journal of Applied Research, 3*(6), 1118-1122 .

Szumski, O. (2020). Technological trust from the perspective of digital payment. *Procedia Computer Science.* (virtual event).: Elsevier. https://doi.org/ https://doi.org/10.1016/j.procs.2020.08.439

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55.

Thomas, S. N., Varghese, J., Zacharia, A., & Thomas, P. C. (2024). The role of digital payments in enhancing financial inclusion: Analyzing and visualizing research trends. *Library Progress International*.

Tiewul, M. (2020). Factors Influencing Digital Marketing and Digital Payment on Consumer Purchase Behaviour . *International Journal of Applied Research in Management and Economics* (ISSN 2538-8053).

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425–478.

World Bank, (. (2023). *The role of infrastructure in digital payment adoption*. Retrieved from World Bank: https://www.worldbank.org/en/topic/financialsector/brief/digital-payments

APPENDIX I

Questionnaire

Dear Respondents

I am Ajay Prajapati, studying MBS in Shanker Dev Campus Putali Sadak Kathmandu. Right now I am working on a thesis project “Impacts of Digital Payment on Profitability and Sales volume of retail shops of Kathmandu”. Your input is crucial in shaping the outcomes of this research. Kindly take a moment to complete the questionnaire. Your contribution will greatly enhance our understanding in this area.

Thank you sincerely for your participation

Best Regards

Ajay Prajapati

Name of individual:

Gender

* MALE ☐

* FEMALE ☐

*OTHERS ☐

Name of shop:

Demographic Information:

- Age

☐ Bellow 15 ☐ 16-30 ☐ 31-45 ☐ 46-60 ☐ 61 or above

- **Education level**

☐ Bellow SLC/SEE ☐ Intermediate ☐ Graduate ☐ Post Graduate ☐ Others

- Type of retail shop (e.g., grocery store, clothing boutique, electronics shop)

……..

Following series of statements will indicate level of agreement or disagreement From Strongly Agree to Strongly Disagree. Kindly select the appropriate options.

1. Strongly Agree
2. Agree
3. Neutral
4. Disagree
5. Strongly Disagree

Digital Payment Adoption

S.N	Statement	1	2	3	4	5
1	My retail shop has actively adopted digital payment methods (e.g., mobile wallets, credit/debit cards, internet banking, QR code payments).					
2	A significant portion of my customers prefer to use digital payment methods over cash.					
3	The adoption of digital payments has led to an increase the sales volume in my shop.					
4	The use of digital payments has positively impacted the profitability of my retail shop.					
5	Offering digital payment options gives my shop a competitive advantage to my shop					

Customer Perception

S.N	Statement	1	2	3	4	5
1	My customers prefer digital payment methods over cash.					
2	Customers find easy to use digital payment at my retail shop.					
3	Offering digital payment options has increased customer satisfaction at my retail shop.					
4	The availability of digital payment methods has improved customer loyalty to my shop.					
5	My customers perceive digital payment methods as secure and trustworthy.					

Infrastructure and Technology

S.N	Statement	1	2	3	4	5
1	My retail shop supports a variety of digital payment methods (e.g., mobile wallets, credit/debit cards, internet banking, QR code payments).					
2	The technology infrastructure of my shop (e.g., POS systems, internet connectivity) is adequate to support digital payments efficiently.					
3	I have received adequate training and support to handle digital payment systems effectively.					
4	The digital payment systems are reliable in processing transactions without errors or downtime.					
5	Digital payment systems are well integrated with my shop's other business processes (e.g., inventory management, sales tracking).					

Regulatory Environment

S.N	Statement	1	2	3	4	5
1	It is easy for my retail shop to comply with the regulatory requirements for accepting digital payments.					
2	Regulatory bodies provide adequate support and guidance to navigate digital payment regulations at my shop.					
3	The current regulations related to digital payments positively impact the operational efficiency at my shop.					
4	I am well-informed about the regulations and compliance requirements related to digital payments in Kathmandu.					
5	The regulatory environment for digital payments has a positive impact on the profitability at my retail shop					

Profitability and Sales Volume

S.N	Statement	1	2	3	4	5
1	Accepting digital payments has led to an increase in the overall sales volume of my retail shop.					
2	Digital payments have contributed to attracting new customers to my retail shop.					
3	The use of digital payment systems has positively impacted the profitability of my shop					
4	Digital payments have increased the frequency of customer purchases at my retail shop.					
5	Offering digital payment options has improved customer satisfaction, which has resulted in better sales performance.					

IMPACTS OF DIGITAL PAYMENTS ON THE PROFITABILIT...

By: AJAY PRAJAPATI

As of: Nov 28, 2024 2:05:58 PM
13,514 words - 4 matches - 1 source

Similarity Index

1%

Mode: Summary Report

sources:

71 words / 1% - from 07-Apr-2023 12:00AM
www.researchgate.net

paper text:

ABSTRACT This study highlights the revolutionary potential of digital payments in the changing retail landscape by examining their effects on sales volume and profitability in retail establishments. The results demonstrate a strong correlation between enhanced financial performance and the use of digital payment methods. Increased customer happiness, lower cash handling expenses, and improved operational efficiency are all advantages for retailers using digital payments, and these all add up to profitability. Furthermore, the study finds a positive relationship between higher sales volume and the use of digital payments, which may be ascribed to elements like quicker transactions, less dependence on cash, and enhanced customer convenience. The study carries on to examine how important infrastructure, technology, consumer perception, and legal frameworks are to the effective implementation of digital payments. The most important of these is consumer perception, with infrastructure and legal backing guaranteeing dependability, accessibility, and security. All of these factors work together to build user trust and encourage broad adoption. According to the study's findings, shops looking to improve their financial performance and competitiveness must strategically embrace digital payments, which go beyond simple technological advancements. Retailers can reach a larger, tech-savvy consumer base and set themselves up for long-term success in an increasingly cashless market by adopting digital payments. Key words: Digital Payment Adoption, Customer Perception, Infrastructure And Technology, Regulatory Environment, Profitability, Sales Volume CHAPTER I INTRODUCTION 1.1 Background of the study The ability to generate profit for an organization is called the profitability of an organization. It is generally calculated by subtracting all the expenses from the income generated for the specific period. It is the main statistic used by any organization to assess its performance and financial health. The proper utilization of resources and effective management can be concluded through the profitability position of any organization. It can be measured using various types of ratios like Net Profit Margin, Gross Profit Margin, Return on Assets, Return on Equity, and Return on Investment. In addition to covering its expenses, a thriving corporation might potentially expand, reinvest, and draw in investors. Pricing tactics, cost control, market demand, and operational effectiveness are some of the elements that affect profitability. It is essential to strike a balance between raising revenue and keeping expenses under control. Profitability can be increased, for instance, by lowering production costs or increasing supply chain effectiveness. However, a company's profitability can also be impacted by outside variables such as industry trends, competition, and economic conditions (Porter, 1980). In addition to covering its expenses, a thriving corporation might potentially expand, reinvest, and draw in investors. Pricing tactics, cost control, market demand, and operational effectiveness are some of the elements that affect profitability.