CASHLESS ECONOMY: AWARENESS AND ADOPTION AMONG UNIVERSITY STUDENTS IN KATHMANDU VALLEY

A Thesis

Submitted to The Department of Economics, Patan Multiple Campus, Faculty of Humanities and Social Sciences, Tribhuvan University, Nepal, In Partial Fulfillment of the Requirements for the Degree of

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In

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By

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DECLARATION

I, **SAGAR KARKI**, declare that this thesis entitled **"CASHLESS ECONOMY: AWARENESS AND ADOPTION AMONG UNIVERSITY STUDENTS IN KATHMANDU VALLEY"** submitted to Department of Economics, Patan Multiple Campus is my own original work unless otherwise indicated or acknowledged in the thesis. The thesis does not contain materials which has been accepted or submitted for any other degree at the University or other institution. All sources of information have been specifically acknowledged by reference to the author(s) or institution(s).

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LETTER OF RECOMMENDATION

This thesis entitled **"CASHLESS ECONOMY: AWARENESS AND ADOPTION AMONG UNIVERSITY STUDENTS IN KATHMANDU VALLEY"** has been prepared by **Mr. SAGAR KARKI** under my guidance and supervision. I, hereby, recommend it in partial fulfillment of the requirements for the Degree of MASTER OF ARTS in ECONOMICS for final examination.

Thesis Supervisor

Mr. Ananta Raj Dahal

Assistant Professor

Date: Sept, 2023

LETTER OF APPROVAL

We certify that this thesis entitled **"CASHLESS ECONOMY: AWARENESS AND ADOPTION AMONG UNIVERSITY STUDENTS IN KATHMANDU VALLEY"** submitted by **Mr. SAGAR KARKI** to the Department of Economics, Faculty of Humanities and Social Sciences, Tribhuvan University, in partial fulfillment of the requirements for the Degree of MASTER OF ARTS in ECONOMICS has been found satisfactory in scope and quality.

Therefore, we accept this thesis as a part of the said degree.

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ABSTRACT

The study aimed to evaluate the level of awareness regarding the cashless economy among university students in Kathmandu Valley, providing valuable findings on demographics, questionnaire reliability, item, and factor rank analysis, percentage analysis as well as the results of the t-test and Kruskal Wallis test. The majority of respondents in the study were male, with a significant proportion falling within the age range of 21 to 35. Most participants held a bachelor's degree, and the largest segment reported a family income between 100,001 and 300,000 Nepalese Rupees. The questionnaire's reliability was assessed using Cronbach's alpha, revealing satisfactory internal consistency reliability for factors like perceived usefulness and perceived trust. Moderately reliable outcomes were observed for factors of perceived ease of use and lifestyle compatibility while facilitating condition and social influence demonstrated lower reliability. Through the rank analysis of items and factors, valuable insights were gained into their perceived importance. Perceived usefulness, perceived ease of use, and lifestyle compatibility were ranked highly, highlighting their significance in shaping awareness of the cashless economy. The t-test results indicated no significant difference in the mean awareness of the cashless economy between male and female respondents, suggesting that gender does not exert a significant influence on awareness levels. Similarly, the Kruskal Wallis test results showed no statistically significant differences in awareness among the five payment method categories (Debit/Credit card, Mobile Wallet, Mobile banking, Internet banking, and Other). This suggests that individuals' awareness of a cashless economy remains consistent, regardless of the payment method they use. This study provides valuable insights into the awareness of a cashless economy among university students in Kathmandu Valley. The findings underscore the importance of perceived usefulness, ease of use, and lifestyle compatibility in shaping awareness.

Keywords: Awareness level, Cashless transaction, Cashless economy, Payment methods

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ABBREVIATIONS AND ACRONYMS

ACE	Awareness of cashless economy
ANOVA	Analysis of Variance
ATM	Automated Teller Machine
COVID	COronaVIrus Disease
DS	Descriptive Statistics
FC	Facilitating condition
IME	International Money Express
IB	Internet Banking
MLRA	Multiple Linear Regression Analysis
MPS	Mobile Payment Services
PCT	Privacy Calculus Theory
PEU	Perceived ease of use
PLS-SEM	Partial Least Squares Structural Equation Modeling
PT	Perceived trust
PU	Perceived usefulness
SD	Standard Deviation
WCI	Wald Confidence Interval
WCS	Wald Chi-Square
UUM	Universiti Utara Malaysia
UTAUT	Unified Theory of Acceptance and Use of Technology

CHAPTER I

INTRODUCTION

1.1 Background of the Study

A cashless economy is an emerging concept in the modern world, which is mainly focused on reducing the use of cash and promoting electronic transactions. The idea behind a cashless economy is to promote transparency, reduce the burden of cash handling, and promote financial inclusion by making banking services accessible to the unbanked population (Nongkoo & Hamanee, 2023). The rapid development of technology and digital innovation has brought about a significant shift towards a cashless economy in many countries around the world. The use of cashless transactions has become increasingly popular due to its convenience, security, and speed.

The Nepalese economy has also been moving towards a cashless economy in recent years (Sthapit, 2023), particularly among young adults, including university students. However, the awareness and adoption rate of cashless transactions among university students in Nepal is not well documented (Ranabhat et al., 2023).

The government of Nepal has been promoting a cashless economy in the country to improve transparency, reduce corruption, and promote financial inclusion (Low, 2023). The introduction of mobile banking and Internet banking services has enabled people to carry out financial transactions with ease. In Nepal, mobile wallets such as Khalti, eSewa, and IME Pay are some of the popular digital payment services that have been adopted by people (Budhathoki, 2020).

As Nepal is a developing country with a predominantly cash-based economy, the use of cash is still prevalent in most daily transactions, despite the recent government efforts to promote a cashless economy (Rupani et al., 2023). The limited awareness and understanding of cashless transactions among university students is a major hindrance to the growth of cashless transactions in Nepal. Therefore, this study seeks to examine the awareness of university students about the cashless economy and their willingness to adopt electronic transactions in Nepal. As university students are tech-savvy and are often the first to adopt new technologies, students' lifestyles require them to engage

in various financial transactions, such as paying for tuition fees, accommodation, and daily expenses.

Thus, understanding their awareness and adoption of cashless payments can provide insights into the future of cashless payments in developing countries. The study aims to evaluate the level of awareness and adoption of cashless transactions among university students in Kathmandu. It seeks to identify factors influencing adoption and barriers hindering the use of cashless payments. The findings can provide insights for promoting financial inclusion and economic growth in Nepal.

1.2 Statement of the Problem

Previous literature suggests that the adoption of cashless transactions among university students is influenced by various factors, such as their level of income, education, and technology awareness. A study by Świecka et al. (2021) found that university students in Poland were more likely to adopt cashless transactions if they had higher incomes, were more educated, and had a positive attitude towards technology. Another study by Patil et al. (2020) in India, found that the lack of awareness and trust in cashless transactions was a major barrier to their adoption among university students.

These studies highlight the importance of understanding the level of awareness and adoption of cashless transactions among university students in Nepal. University students are generally more technical friendly and open to new technologies, making them a good target group for promoting cashless transactions. Additionally, university students are often early adopters of new technologies, and their adoption behavior can influence their peers and the wider community.

The lack of awareness and comprehension regarding cashless transactions among university students poses a significant obstacle to the advancement of digital payment methods in Nepal. Considering that university students are typically tech-savvy and early adopters of new technologies, they frequently find themselves involved in diverse financial transactions, including payments for tuition, housing, and everyday expenditures. Within Nepal, popular digital payment services like Khalti, eSewa, and IME Pay have gained traction among the population. Furthermore, the factors influcence the use plays a vital role in the adoption of these digital payment services.

Therefore, understanding the level of awareness and adoption of cashless transactions

among university students in Nepal is crucial for promoting financial inclusion and economic growth in the country.

1.3 Research Questions

The primary research issue lies in understanding the current knowledge and understanding of cashless transactions among university students and exploring the reasons behind their adoption or hesitation towards cashless payments. By addressing these research questions, the study intends to shed light on the awareness gap and the underlying factors that impact the uptake of cashless transactions, thus contributing to a better understanding of the evolving payment preferences and potential barriers faced by university students in Kathmandu Valley.

(i) What is the level of awareness of cashless transactions among university students in Kathmandu Valley?

(ii) What are the factors that influence their adoption of cashless payments?

1.4 Objectives of the Study

The general objective of this study is to evaluate the level of awareness and adoption of cashless transactions among university students in Kathmandu Valley.

The specific objective of the study are:

(i) To assess the awareness level of university students regarding the cashless economy in Kathmandu Valley.

(ii) To analyze the factors that influence the use of cashless transactions among university students in Kathmandu Valley.

1.5 Research Hypotheses

1. Hypothesis for t-Test
    - H_0: There is no significant mean difference in awareness of cashless economy between male and female.
    - H_1: There is a significant mean difference in awareness of cashless economy between male and female.
2. Hypothesis for Kruskal Wallis Test
    - H_0: The distribution of awareness of the cashless economy is the same

across the four categories of payment methods.

- H_1: The distribution of awareness of the cashless economy is not the same across the four categories of payment methods.

1.6 Significance of the Study

The significance of this study lies in its potential contributions to the understanding and promotion of cashless transactions among university students in Kathmandu. By evaluating the level of awareness and adoption of cashless transactions, the study addresses a gap in empirical evidence regarding the factors that influence the adoption of digital payments among this specific group. The findings of this study can have several significant implications:

(i) Financial Inclusion: Understanding the awareness and adoption of cashless transactions among university students is crucial for promoting financial inclusion in Kathmandu. By identifying the factors that influence their adoption, the study can provide insights for developing strategies to enhance the accessibility and usage of cashless payment systems. This can contribute to the economic empowerment of university students and encourage financial participation among the unbanked population.

(ii) Policy Development: The study's findings can inform policymakers about the current state of awareness and adoption of cashless transactions among university students. Policymakers can use these insights to develop targeted initiatives and policies aimed at promoting a cashless economy, such as improving financial literacy programs and enhancing the accessibility of digital payment services. This can foster a favorable environment for the growth of cashless transactions in Kathmandu.

(iii) Economic Growth: The adoption of cashless transactions can contribute to economic growth by reducing the burden of cash handling, promoting transparency, and improving efficiency in financial transactions. By examining the factors that drive the adoption of cashless payments among university students, the study can provide valuable insights for promoting digital entrepreneurship, innovation, and economic development in Kathmandu.

(iv) Peer Influence: University students often play a crucial role in shaping societal

trends and influencing their peers' behavior. Understanding their attitudes and adoption patterns regarding cashless transactions can provide valuable information on the potential for broader acceptance and adoption within the wider community. If university students embrace cashless transactions, it can create a ripple effect, encouraging others to follow suit and contribute to the growth of a cashless economy.

In summary, this study's significance lies in its potential to promote financial inclusion, inform policy decisions, contribute to economic growth, explore the influence of university students on societal trends, and inspire further research on cashless transactions in Kathmandu. By addressing the current knowledge gap, the study can offer valuable insights for various stakeholders involved in promoting a cashless economy in the country.

1.7 Scope and Limitations of the Study

The scope of this study is to evaluate the level of awareness and adoption of cashless transactions among university students in Kathmandu. The study aims to assess the awareness level and knowledge of university students regarding the cashless economy. It also seeks to identify the factors that influence the use of cashless transactions among university students in Kathmandu. The study will focus on university students as they represent a significant portion of the population and have the potential to drive the adoption of cashless transactions. The findings of this study can provide insights into promoting financial inclusion and economic growth in Nepal. There are several limitations to be considered in this study.

(i) The research design is limited to a quantitative approach, which may not capture the nuances and complexities of cashless transactions among university students.

(ii) The sampling technique used in this study is convenient sampling, which may introduce bias and limit the generalizability of the findings.

(iii) The study is focused on the Kathmandu Valley, which may not fully represent the diversity of experiences and perspectives of university students in other parts of Nepal.

(iv) The use of a structured questionnaire may restrict participants from providing detailed responses, limiting the scope of data collected.

(v) The time constraint may have prevented a more comprehensive investigation of the factors influencing the adoption of cashless transactions among university students in Nepal.

Future studies could address these limitations by incorporating a qualitative approach to gain a deeper understanding of the subject. Additionally, employing a more rigorous and representative sampling method, such as stratified random sampling, could enhance the generalizability of the findings. Future research could also expand the sample to include a more diverse population from different regions of Nepal. Furthermore, utilizing alternative data collection methods such as focus group discussions or interviews could provide more detailed and nuanced insights.

1.8 Outline of the Study

This study is structured into five chapter and each dedicated to examining specific aspects of awareness of the cashless economy. Chapter I introduce the study by providing a brief background, highlighting the primary issues to be investigated, and outlining the research objectives. In Chapter II, a critical review of related literature was presented, covering the conceptual framework of the study and the previous studies conducted in this field. Subsequently, Chapter III describes the research methodology, including the use of descriptive analysis, independent sample t-test, and Kruskal Wallis test for assessing the awareness towards the cashless economy, along with the nature and sources of data used for analysis. The results obtained from this method are presented and analyzed in Chapter IV. Finally, Chapter V summarizes the major findings of the study and draws conclusions based on the major findings of the study.

CHAPTER II
LITERATURE REVIEW

2.1 Introduction

The study is particularly significant given the increasing trend towards digitization in Nepal and the potential of university students to drive the uptake of cashless payment systems in the country. This literature review examines the existing body of research on cashless payment systems and provides a theoretical framework for the study. The review focuses on the factors that influence the adoption and usage of cashless payment systems, the role of university students in promoting a cashless economy, and the state of cashless economies in Nepal.

2.2 Literature Review

2.2.1 International Context

Sepetch and Socatiyanurak (2022) have analyzed Shifting from cash-based to cashless society, explore relevant factors, and create a conceptual framework for this transition and concluded that the transition from a cash-based economy to a cashless society is a significant phenomenon, exemplified in Thailand. Through the application of Descriptive Statistics (DS) and Multiple Linear Regression Analysis (MLRA) on a substantial sample size of 2800 individuals, the study discerned a correlation between gender and age with e-payment tendencies. Moreover, it revealed that decision-making influencers and technology acceptance played pivotal roles in shaping e-payment behavior. These findings underscore the intricate interplay between socio-demographic attributes and psychological determinants in the adoption of digital payment methods.The samples gathered through stratified and simple random sampling techniques limited the study's representativeness and generalizability in exploring Thailand's cashless economy shift. Furthermore, the study has made various assumptions like, influencing factors toward decision-making are correlated to Acceptance and Use of Technology, Individual factors are correlated to factors that influence decision-making etc, during the study which are the limitations of the study.

Lee and Ahmad (2020) explained about the perspective about the cashless transaction

and also to identify the effect of cashless system in spending behaviour of Universiti Utara Malaysia (UUM) students. The study collected a sample of 100 participants via structured questionnaire sand employed DS and MLRA. The findings reveal that while UUM students exhibit a substantial awareness of cashless payment methods, their willingness to integrate these methods into their lifestyles remains comparatively low. This underscores the significance of targeted interventions to bridge the gap between awareness and adoption within the campus community. The study is focused only among the students of UUM.

Pushpa et al. (2021) have identifed the perspective towards adoption of a digital wallet. For the purpose the study collected a sample of 150 undergraduate and postgraduate students from Bangalore and using DS and MLRA, the results showed that all the factors have a significant impact of student's behavior to adopt the technology. The investigation revealed that factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions exert a substantial influence on students' adoption behavior of the technology under study. This underscores the pivotal role of these determinants in shaping students' willingness to embrace digital wallets. The study confines the limitation in terms of study area (Bangalore only) and only focusing solely on undergraduate and postgraduate students.

Ghosh and Gupta (2018) examined digital wallet usage frequency among college students in South Kolkata. It analyzes monthly spending across different age groups and explores the impact of demonetization on digital payment usage. A sample of 150 respondents were collected and through Chi Square and correlation analysis, the study reveals age-based spending variations and a connection between payment mode and monthly spending post-demonetization, despite various reasons for digital payment adoption among students.The Study limitations include geographic scope (South Kolkata only), focusing solely on college students and digital wallet users.

Shantha (2019) examined the factors that shape customer perception of internet banking (IB) in Sri-Lanka. The study involved 405 respondents who completed a questionnaire session of structured questionnaire and employed Partial Least Squares Structural Equation Modeling (PLS-SEM) for data analysis. The findings indicate a notable positive influence of factors like accessibility, cost, ease of use, and bank functions on customer perception towards use of internet banking. The study is confined to Bank of Ceylon

only, excluding other commercial banks of Sri-lanka. The study also acknowledges the presence of additional factors affecting customer perception but that are not covered in the study, offering opportunities for future research.

Singh and Srivastava (2020) comprehended the early adoption of mobile banking among current online banking users, focusing solely on mobile banking customers. The study collected a sample of 420 users and employed partial least squares structural equation modeling analysis.The study found that adoption factors significantly impact customers' intention to use mobile banking.This study is only focused in mobile banking system only in the existing users only.

Jayasiri and Kariyawasam (2016) identified factors positively and negatively affecting the usage of Internet banking in Sri-Lanka. It also intends to measure e-banking usage in specific geographical areas. Due to time and accessibility constraints, the sample size is limited to 200 individuals across 5 geographical areas. Using correlation tests, regression analysis, and frequency analysis on the sample, it revealed that a lack of internet access knowledge and limited facilities contribute to negative attitudes toward e-banking. The study is limited to usage of Internet banking among only five geographical areas of Sri-lanka.

Mutengezanwa and Mauchi (2013) assessed if socio-demographic factors affected the adoption of internet banking. The study exclusively focused on socio demographic aspects and internet banking. Employing chi-square tests on 335 commercial bank customers collected through questionnaires, the findings substantiated hypotheses, confirming that age, occupation, income, gender, and educational level positively relate to internet banking adoption.The study is limited only on the research of adoption of Internet banking.

Mukhtar (2015) explored several objectives: tracing internet banking's evolution, exploring attitudes and behaviors toward it in the UK, examining customer adoption challenges, and scrutinizing development hindrances faced by companies. The research employs descriptive analysis on a sample of 100 UK-based banking customers. Findings reveal customers perceive internet banking services as reliable and secure.It's limited by the use of closed-ended questionnaires, focusing exclusively on internet banking only.

Jebarajakirthy and Shankar (2021) explored the influence of online convenience di-

mensions on mobile banking adoption intention, utilizing a comprehensive moderated mediation framework. The study employs covariance-based structural equation modeling and the PROCESS macro to test hypotheses. Analyzing 446 responses from Indian banking consumers, the findings highlight the significant impact of access, transaction, benefit, and post-benefit convenience on mobile banking adoption intention. However, it's limited by its focus on Indian banking consumers, reliance on cross-sectional survey data, and closed-ended questionnaires and also focusing only on mobile internet adoption.

Abirami (2017) assessed the acceptance and implementation of cashless transaction systems, comprehending their importance, pinpointing potential risks, and identifying factors that encourage their use. The study solely concentrates on this specific market, employing techniques like chi-square, correlation, and percentage analysis on a sample comprising 250 respondents. The findings reveal that a majority of participants are acquainted with the policy and perceive it as a means to combat corruption and money laundering, minimize cash-carrying hazards, and stimulate economic progress. However, the study is confined to the viewpoints of Kumbakonam retail market, retailers and customers, within the time frame of March 2017 to April 2017.

Prasad et al. (2018) by using Cronbach's alpha test assessed digital financial literacy among households in Udaipur city. The findings from a sample of 268 households respondents through Analysis of Variance (ANOVA) and correlation test indicated a growing trend towards digital payments, driven by government initiatives like Digital India and various schemes promoting financial inclusion. The study suggested the need for awareness campaigns to increase digital transactions, emphasizing the importance of policies to reduce cash usage and promote digital financial adoption. The finding is based on the digital literacy among household of Udaipur city only.

Amilan and Aparna (2023) developed and validated a research model for cashless transaction adoption in a two-stage process: conceptual framework development and empirical validation. The study involved 375 participants from different zones in Bengaluru, between May and June 2021.The results indicate that 84.7 percent of behavioral intention variance is explained by twelve variables. Performance expectancy is the strongest predictor, followed by security perceptions, social influence, trustworthiness, effort, and innovativeness. Perceived risk and cost are negative factors. Notably, perceived secu-

rity and economic offense reduction significantly influence adoption. While providing valuable insights, the study's limitations include the model's contextual applicability, non-probability sampling, focus on educated individuals, and exclusion of non-users and other stakeholders' perspectives. Also the geographical area is the main limitation of the study.

2.2.2 National Context

Maharjan et al. (2022) assessed how FinTech adoption impacted the knowledge of online grocery buyers during COVID-19 lock downs in Kathmandu. For the study, 280 sample data were collected particulary of age group 21 to 40. Surprisingly, the study with structural equation modeling revealed that attitude significantly influenced actual purchases, trust didn't partially mediate the adoption process. Addressing internet connectivity emerged as a crucial factor to improve FinTech integration and customer relationship management. The outcomes indicated a notable interest in FinTech among most of the respondents. However, challenges like slow internet and limited awareness hindered FinTech adoption for about two-thirds of participants. The findings are based on data collected through convenience sampling solely in Kathmandu valley are the limitation in behalf of the geographical area.

Ranabhat et al. (2022) examined internet banking awareness and usage in Pokhara Metropolitan, Nepal, while pinpointing factors impacting its adoption. In a comprehensive quantitative review, the study addresses digital financial inclusion. A sample of 225 was collected from commercial bank customers'. The study employed descriptive and multiple regression analysis and identified demographic variables like age, gender, education, income, and marital status affecting the access and usage of digital financial services. Recognizing these influences is vital for developing strategies that bridge the digital gap, enabling diverse backgrounds to access internet banking's convenience. The study solely encompasses the Pokhara valley focusing only on the use of Internet banking.

Mahamuni and Pandey (2023) explored the effects of digital transformation, particularly the utilization of e-banking, among customers in Nepal and India. For the study a sample size of 552 respondents was collected and Pearson's correlation analysis and chi-square testing was employed for as the methodology. It investigates the association between attitudes toward e-banking and five independent variables, validating hypothe-

ses in both Nepal and India. In Nepal, variables demonstrate significant and moderate correlations, with Security and Privacy, along with Control, showing the most robust correlation value of 0.572. In India, variables indicate moderate correlations, with some weaker relationships such as Awareness with Security and Privacy. The strongest linkage is observed between Convenience and Perceived Usefulness showing Correlation value of 0.569. A structured questionnaire conducted between Nov 2022 and Feb 2023, focusing on variables like awareness, convenience, perceived usefulness, security, privacy, control, and attitude towards e-banking, measured on a five-point Likert Scale limits the authenticity of the respondents. Furthermore, descriptive research study investigating e-banking usage is limited to only the capital cities two of two cooutries, Nepal and India.

Manandhar and Kohsuwan (2022) investigated the link between Unified Theory of Acceptance and Use of Technology (UTAUT) and Privacy Calculas Theory (PCT) variables and consumer behavior regarding the adoption of Moblie Payment System (MPS). It recognizes crucial drivers of MPS utilization in the Kathmandu Valley and evaluates the impact of perceived risks and benefits on the adoption process. The study engaged 455 respondents and employed structural equation modeling.The findings of the study indicated that favorable conditions, encompassing essential knowledge and supporting technologies, exerted a significant and robust positive impact on consumers' practical adoption of payment methods. Ease of use exhibited a considerable and positive influence on consumers' intention to use mobile payment services. Moreover, the inclination toward using these services was positively affected by the perceived benefits and social influences. Mobile payment service providers can leverage these factors to meet consumers' requirements effectively and even surpass their expectations. The constraints of the study involve its exclusive concentration on the population within the Kathmandu Valley, limiting the applicability of findings to wider MPS user segments or different markets. The reliability of data collected from online sources is questionable due to the anonymity inherent in social media, potentially leading to distorted information. The absence of researchers during online surveys poses challenges in clarifying queries for participants. Moreover, the study's theoretical foundation (UTAUT and PCT Theories) may not encompass all elements influencing adoption intentions.

Ranabhat et al. (2023) ascertained the level of awareness and utilization of internet

banking in Pokhara Metropolitan, Nepal. Additionally, it explores the determinants influencing the utilization of internet banking within the specified research region.The participant pool consisted of 225 respondents who completed structured questionnaires. This study employed a methodology involving T-test and ANOVA analysis. The study's outcomes demonstrated the noteworthy impact of demographic variables like marital status, education, income, and employment status on customers' perceptions of internet banking. Furthermore, the study revealed that older individuals with lower educational levels exhibited reduced awareness and comprehension of internet banking services. However, it's worth noting that the study's scope was constrained by a relatively small sample size and the specific study area concentrating only on the internet banking users only.

Shrestha et al. (2020) analyzed the demographic traits of internet banking users, assessing customer attitudes regarding perceived usefulness, perceived risk, and perceived ease of use.For this purpose a Reliability test using Cronbach's alpha on a dataset of 200 samples was employed to investigate the connection between perceived risk and perceived usability in internet banking services. The study unveiled a substantial correlation between perceived risk and specific demographic variables, like gender, education, and occupation. Furthermore, perceived usability was noted to be affected by factors such as gender, education, and occupation. These findings underscored the significance of incorporating customer viewpoints and apprehensions about security and user-friendliness when designing internet banking platforms, especially tailored for distinct demographic groups. However, it's worth noting that the study is confined to the Pokhara valley and suffers from a limitation in terms of a very small sample size collected for the internet banking users only.

Dangol and Humagain (2020) highlighted the significance of financial innovation and the quality of financial services in influencing financial inclusion, particularly in the context of a cashless economy. For the study 363 samples household respondents from Namo Buddha municipality of Nepal was collected and on which basis a generalised regression test was conducted. The study found that financial literacy played a crucial moderating role between financial innovation and the level of financial inclusion in the adoption and usage of cashless payment systems. The study is backed by the geographical limitations as the study covers only the respondents of Namo Buddha municipality

collected through convenient sampling method.

Ranabhat et al. (2022) investigated the awareness and utilization of internet banking in Nepal's Pokhara Metropolitan area while examining the factors that influence its usage. This study adopts a quantitative approach, involving 225 customers from commercial banks in Nepal through a descriptive and analytical research design. The results indicate broad familiarity with and utilization of internet banking for activities such as account monitoring, mobile top-ups, fund transfers, and bill settlements. Internet banking is widely embraced in Pokhara Metropolitan. The study proposes that heightened awareness, enhanced internet accessibility, secure online banking, and bank support contribute to the increased adoption of internet banking in Nepal. However, it's important to note that the study has a limited sample size and specifically focuses on internet banking within the Pokhara only.

Acharya (2023) assessed customer perspectives on internet banking services and recognize the demographic elements shaping these views. The investigation employed t-tests and one-way ANOVA analysis involving 225 customers from banks in Pokhara Metropolitan City. The results underscore that marital status, education level, monthly family income, and employment status considerably impact how respondents perceive internet banking usage. Additionally, the study concludes that individuals with advanced age and lower educational attainment exhibit lower awareness of internet banking services. However, it should be noted that the study encompasses a small sample size and exclusively focuses on exploring internet banking within the Pokhara valley as limitation of the study.

Pradhan et al. (2021) evaluated how electronic banking influences financial inclusion in Nepal, concentrating on factors such as ATMs, point of sale terminals, internet banking, mobile banking, and agency banking. Through structured questionnaires, data is gathered from 150 respondents, and regression models are utilized to ascertain the importance of electronic banking in financial inclusion. The outcomes highlight positive impacts, revealing that automated teller machines, mobile banking, internet banking, agency banking, and point of sale services all contribute to enhancing financial inclusion. Although the study is limited to the findings based on regression analysis among a small sample size focusing only to limited payment methods.

Timilsina (2020) analyzed the user's perception electronic payment services (EPS) in

Nepal. This study examines factors influencing EPS adoption, including perceived ease of use, usefulness, security, and trust.A sample of 101 respondents was collected those having bank account only. Through the regression analysis, the results indicate lower scores for security and trust compared to ease of use and usefulness. Accessibility issues hinder adoption, with responses showing independence across demographics. Perceived usefulness and ease of use strongly influence future EPS adoption, overshadowing the impact of security and trust perceptions. This highlights the need to address security concerns and enhance trust to encourage broader acceptance of EPS in Nepal. However the study limitation is based on the basis of study area i.e kathmandu city only.

Paudel and Kautish (2023) explored the impact of ease, usefulness, tech experience, and security on mobile payment usage. An implementation-oriented conceptual model of 583 samples collected through random sampling techniques, focused on how people in Kathmandu valley used mobile payments during the COVID-19 pandemic.The study's findings highlight a greater preference for mobile payment services among males, individuals aged 25-40, and those with technological backgrounds. Respondents typically earned between Rs.15,000 to Rs.1,00,000. The COVID-19 pandemic positively influenced m-payment adoption due to online convenience and virus avoidance. Among respondents, eSewa emerged as top mobile payment application. The study was carried only on the basis of respondents of kathmandu valley, which is the limitation of the study.

Abhinash (2021) identified the public's perception of cash payments during the COVID-19 pandemic and the reasons for transitioning to digital payments. Additionally, it seeks to assess the potential for continued digital payment adoption in Nepal post-COVID-19 for everyday transactions among 302 samples using random sampling. The finding revealed that the perceived risk of COVID along with other independent variables like demography and literacy, resulting in factors like perceived usefulness and ease of use of digital payment to accelerate the adoption of digital payment.The study's boundaries encompass Nepal as its geographic scope, while concentrating on distinct digital payment methods (mobile wallets, QR codes, POS cards, contactless cards), and considering individuals aged between 16 and 76 years are the ,imitations of the study.

The collective findings from these studies provide a comprehensive understanding of the multifaceted dynamics surrounding the adoption and usage of cashless payment

systems in Nepal. The research highlights the importance of various factors, such as demographic characteristics, perceived risk and usability, financial literacy, and the quality of financial services, in influencing the adoption and successful integration of digital financial platforms. As Nepal moves towards a cashless economy, these insights serve as essential guidance for financial institutions and policymakers in developing effective strategies to promote financial inclusion and create an accessible and convenient financial landscape for all individuals.

2.3 Research Gap

Based on the reviewed literature, a specific research gap for the study is the lack of research on the contextual factors that influence the adoption and usage of cashless transactions among university students in Nepal. Although previous studies have identified factors such as performance expectancy, effort expectancy, social influence, and facilitating conditions as important for the adoption and usage of cashless transactions, there is a need for a study that specifically examines the unique contextual factors that may influence these behaviors among university students in Kathmandu. Additionally, although previous studies have found that university students have high levels of awareness but low levels of attitude towards cashless transactions, there is a lack of research that explores potential strategies for promoting and facilitating the adoption and usage of cashless transactions among this population in Nepal. Therefore, future research could focus on identifying the unique contextual factors that influence the adoption and usage of cashless transactions among university students in Kathmandu and exploring potential strategies for promoting and facilitating the adoption and usage of cashless transactions among this population.

CHAPTER III
RESEARCH METHODOLOGY

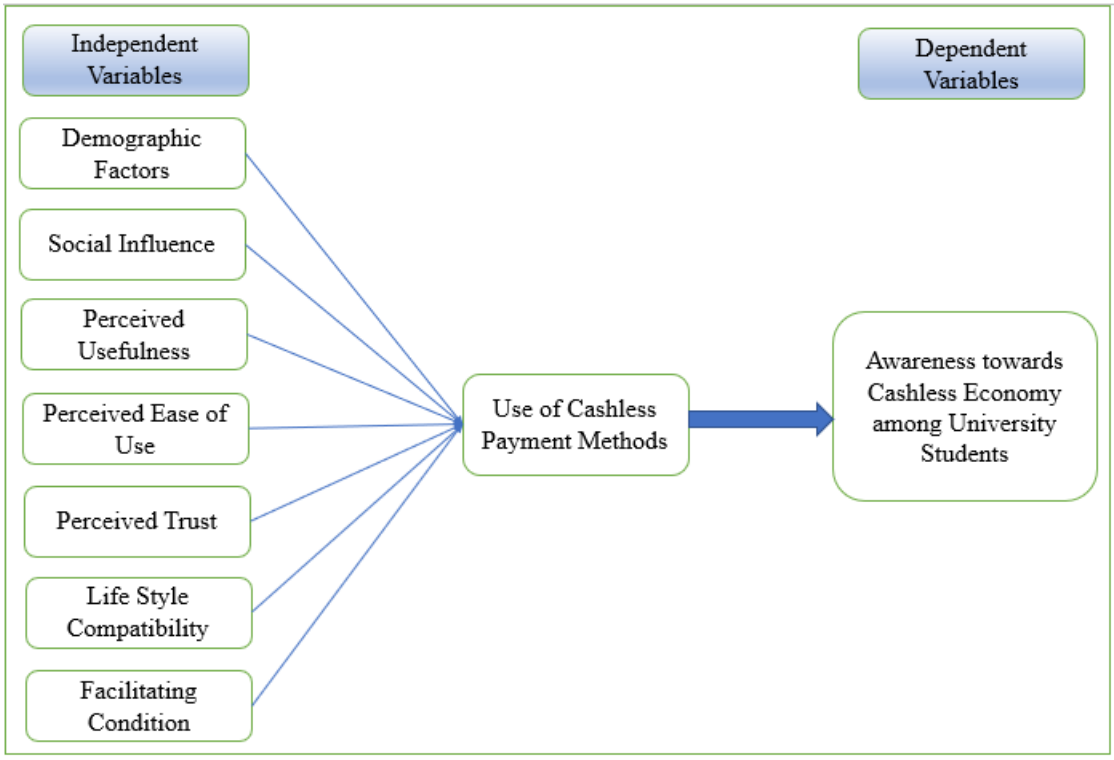
3.1 Introduction

The research methodology utilized for this study is a comprehensive and methodical approach that involves the systematic collection, analysis, and interpretation of data. The study aims to evaluate the extent of awareness and adoption of cashless transactions among university students in Nepal. The research methodology employed in this study encompasses a combination of quantitative research techniques such as surveys questionnaire aimed at gathering data from the target population. The data collected through these methods will be analyzed using statistical techniques to identify factors influencing the adoption of cashless transactions. The findings of this research could potentially provide valuable insights into the current state of cashless economy in Nepal and aid policymakers and stakeholders in developing strategies to promote digital payment systems in the country.

3.2 Conceptual Framework

A conceptual framework is a crucial element of any research study, as it provides a clear structure for understanding the relationships between different variables and concepts. The conceptual framework helps to guide the research process and provide a foundation for data analysis and interpretation. The conceptual framework for the study is shown in Figure 3.1 and taken references from different studies like Yang et al. (2021), Redhuan Abu Bakar et al. (2022), Prastiawan et al. (2021).

Figure 3.1: Conceptual Framework



Source: Redhuan Abu Bakar et al., 2022,Yang et al., 2021,Prastiawan et al., 2021

The figure 3.1 clearly explains the dependent and independent variables of the study. The independent variables contains seven different socio economic factors and the dependent variable includes awareness towards cashless economy among the university.

3.2.1 Socio Economic Factors

a) **Demographic Variables:** Demographic variables refer to the personal characteristics of the students, including age, gender, income, education, and occupation. In this study, demographic variables considered as potential factors that may influence the level of awareness and adoption of cashless payment methods.

b) **Social Influence:** Social influence refers to the impact of the social environment on an individual's behavior. In this study, social influence will be measured by the degree to which students are influenced by their peers, family, and other social networks to adopt cashless payment methods.

c) **Perceived Usefulness:** Perceived usefulness refers to the degree to which cashless payment methods are perceived to be beneficial and useful. In this study, perceived usefulness is measured by the degree to which students find cashless payment options useful and beneficial in their daily lives.

d) **Perceived Ease of Use:** Perceived ease of use refers to the degree to which cashless payment methods are perceived to be user-friendly and easy to use. In this study, perceived ease of use is measured by the degree to which students find cashless payment options easy to use and understand.

e) **Perceived Trust:** Perceived trust refers to the level of confidence that individuals have in the security and reliability of cashless payment methods. In this study, perceived trust is measured by the degree to which students trust the security and reliability of cashless payment options.

f) **Lifestyle Compatibility:** Lifestyle compatibility refers to the extent to which cashless payment methods fit into the daily lives of students. In this study, lifestyle compatibility is measured by the degree to which students find cashless payment options convenient and compatible with their daily routines.

g) **Facilitating Conditions:** Facilitating conditions refer to the ease of access and availability of cashless payment options. In this study, facilitating conditions measured by the degree to which students have access to cashless payment options and the ease of use of these options.

3.3 Research Design

The research design outlines the selection of appropriate research methods, sampling techniques, data collection tools, and data analysis procedures. The study adopted a quantitative research design to provide a comprehensive understanding of the level of awareness and adoption of cashless transactions among university students in Kathmandu. The research design's robustness ensures the collection of high-quality data, allowing for accurate and reliable analysis and interpretation of the study's findings. Overall, the research design facilitate the achievement of the study's research objectives and contribute to advancing knowledge on the topic of cashless transactions in Nepal.

3.4 Nature and Source of Data

The sources of data is limited to primary data only. Primary data are collected directly from the study participants using a self – administered structure method. This approach enable the study to obtain first hand information on the level of awareness and adoption of cashless transactions among university students in Nepal, which is specific to the re-

search questions. The use of primary data in this study offers several advantages. First, primary data collection methods provide the opportunity to obtain data that is tailored to the research questions. This ensures that the collected data is more specific and relevant to the research problem, compared to secondary data sources that may not address the research questions directly. Second, primary data is more reliable and accurate since the study will have control over the data collection process and can ensure the quality of data collected. Third, primary data collection methods offer an opportunity for the study to explore emerging themes and issues that may arise during the research process, providing more comprehensive insights into the study area.

3.5 Methods of Data Collection

3.5.1 Study Area

The study population comprises of university students who are currently enrolled in higher education institutions in Kathmandu Valley. The population is diverse in terms of academic disciplines, age, gender, and socio-economic backgrounds. As Kathmandu is a major educational hub in Nepal, hosting a large number of universities and colleges, the study population's diversity facilitates a comprehensive understanding of the level of awareness and adoption of cashless transactions among university students of Kathmandu valley.

3.5.2 Sampling Design

The study population comprises of university students who are currently enrolled in higher education institutions in Kathmandu Valley. To determine the appropriate sample size for undefined population with an unknown population proportion, a sample size formula was applied using a 95% confidence level and a margin of error of 5%. The estimated proportion was conservatively set at 0.5. The first step involved determining the Z-score corresponding to the desired confidence level. A Z-score of approximately 1.96 was utilized to achieve a 95% confidence level, ensuring reliable estimates. W.W. Daniel (1999)'s sample size calculation Equation 3.1 was used to compute the required sample size:

$$n = \frac{Z^2 \cdot p \cdot (1-p)}{E^2} \tag{3.1}$$

Where,

n represents the required sample size,

Z corresponds to the Z-score based on the desired confidence level,

p is the estimated proportion,

E denotes the desired margin of error.

$$n = \frac{1.96^2 \cdot 0.5 \cdot (1 - 0.5)}{0.05^2} \tag{3.2}$$

The resulting value approximated 384.16. To ensure a whole number sample size, the value was rounded up to the nearest whole number, yielding a recommended sample size of 385. A total of 450 data are collected and a sample of 425 is used through data pre-processing.

For the study purpose, sample was collected from various Colleges of Bhaktapur, Lalitpur and Kathmandu as shown in table 3.1. The table shows the name of College from where the sample has been collected along with the number of sample collected from each college.

Table 3.1: List of Colleges with Sample size

S.No	Name of the College	Address	Students
1	Bhaktapur Multiple Campus	Bhaktapur	1
2	Innovative Sunshine College		13
3	Khwopa College		22
4	Samriddhi College		29
Sub-Total			**65**
5	Apex College	Kathmandu	1
6	Asian School of Management and Technology		2
7	Himalayan White House College		2
8	ISMT		52
9	Medhavi College		4
10	Nepal Commerce Campus		41
11	Nobel College		13
12	Orchid International College		18
13	Presidential Business School		2
14	Prime College		13
15	Ratna Rajyalaxmi College		1
16	Shankar Dev Campus		1
17	Thapathali Engineering Campus		23
18	Yeti Health Science Academy		1
Sub-Total			**174**
19	Caspian Valley College	Lalitpur	1
20	COSMOS		1
21	Everest Engineering College		3
22	Lalitpur Engineering College		25
23	Nepal College of Information Technology		109
24	Pascal National College		33
25	Patan Multiple Campus		3
26	Pulchwok Engineering Campus		9
27	Nepal Engineering College		2
Sub-Total			**186**
Total			**425**

Source:Field Survey, 2023

According to the table 3.1, the sample collected from Bhaktapur, Lalitpur and Kathmandu is 65, 174 and 186 respectively. It show the highest sample was collected fron the Lalitpur and lowest from Bhaktapur.

The technique enabled to select participants quickly, efficiently, and inexpensively, making it a feasible option for this study. However, convenience sampling has its limitations, including the potential for selection bias, whereby the participants who volunteer for the study may not be representative of the target population. Therefore, it is crucial to consider the limitations of convenience sampling and minimize the potential for selection bias by recruiting participants from various faculties, academic disciplines, and

socioeconomic backgrounds.

Additionally, the study may complement the convenience sampling technique with snowball sampling, where the initial participants refer other potential participants who meet the study's inclusion criteria. This strategy can help diversify the sample and reduce the potential for selection bias.

3.5.3 Tools of Data Collection

The study was designed with a survey questionnaire, which was used to collect data from the university students in Kathmandu Valley. The questionnaire consist of closed -ended questions. Closed-ended questions will require respondents to choose from a set of predetermined responses. The questionnaire was designed to measure the various socio economic variables.

The questionnaire was build up in Google Form. The questionnaire was pretested before being administered to ensure that the questions are clear, concise, and easy to understand. The questionnaire distributed to the university students in Kathmandu valley, and the respondents were given sufficient time to fill out the questionnaire. The study ensured that the respondents understand the questions and provide accurate and honest responses.

3.6 Tools and Methods of Data Analysis

The study used various methods and techniques to analyze the collected data. Descriptive statistics like percentage analysis was used to summarize and to describe the data and also to identify the awareness level, rank analysis was used to analyze the factors influencing awareness of cashless economy. While t-test and Kruskal Wallis test were employed to compare means and identify differences in the level of awareness and adoption of cashless payment systems across different demographic groups. The Study also used a classification table to assess the accuracy of the classification model used to predict the adoption of cashless payment systems based on various demographic factors. By utilizing these analytical tools, the study a deeper understanding of the factors that influence the level of awareness and adoption of cashless payment systems among university students in Kathmandu valley.

Descriptive analysis employed in the study to present and summarize the collected data in a clear and concise manner, using various statistical techniques such as simple per-

centage analysis, tables, pie diagrams, charts, and bar diagrams. These methods are used to determine the level of awareness and adoption of cashless transactions among university students in Kathmandu and to identify any patterns in the collected data. The use of descriptive analysis is justified in this study as it enables easy comparison and analysis of the data, and provides a comprehensive understanding of the research problem.

The following are the two test, one parametric and another non-parametric test used in this study.

a) t - Test:-

The t-test is a statistical method used to determine if the means of two groups are significantly different from each other (Kim, 2015). In awareness level analysis, it helps assess the significance of differences in awareness between distinct groups, aiding in making informed decisions.

For the purpose of testing the hypothesis that there is a significant difference between gender and awareness of cashless economy, an independent samples t-test was employed.

$$t = \frac{M_1 - M_2}{SE} \tag{3.3}$$

where,

M_1 is the mean of the opinion scores for male,

M_2 is the mean of the opinion scores for female, and

SE is the standard error of the difference between the two means.

b) Kruskal Wallis Test:-

The Kruskal-Wallis test (McKight & Najab, 2010) is a non-parametric statistical test used to determine if there are significant differences between three or more independent groups. It is an extension of the Mann-Whitney U test, which is used to compare two independent groups. The Kruskal-Wallis test does not assume that the data follow a specific distribution and is appropriate when the assumptions for parametric tests, such as the ANOVA, are violated.

The Kruskal-Wallis test is based on the ranks of the data rather than the actual values. It compares the sum of ranks between groups, considering the overall distribution of the data. The null hypothesis of the test states that there are no

differences between the groups, while the alternative hypothesis suggests that at least one group differs from the others.

The test works by converting the original data into ranks, combining all the data from different groups. Next, it calculates the sum of ranks for each group. The test statistic, denoted by H, is then calculated based on the sum of ranks. The Kruskal-Wallis test statistic is given by Equation 3.4.

$$H = \frac{12}{N(N+1)} \sum_{i=1}^{k} \frac{R_i^2}{n_i} - 3(N+1) \tag{3.4}$$

Where,

H is the Kruskal-Wallis test statistic.

N is the total number of observations.

k is the number of groups being compared.

R_i is the sum of ranks for group i.

n_i is the sample size of group i.

CHAPTER IV

DATA PRESENTATION AND ANALYSIS

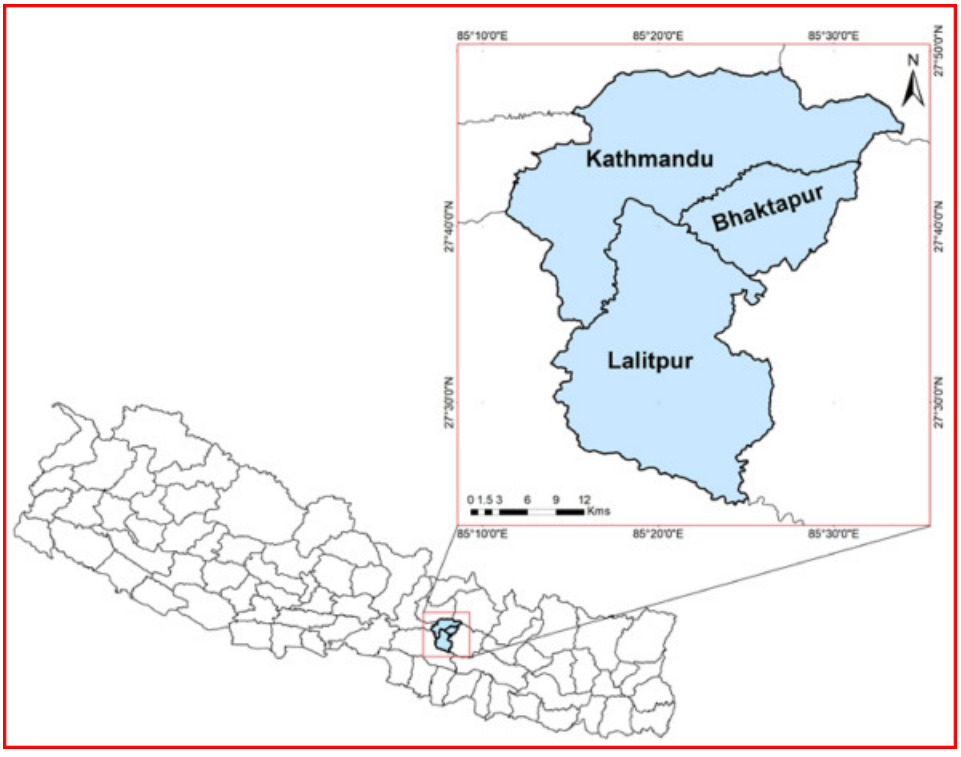
4.1 Introduction

This chapter provided a comprehensive overview of the collected data and the subsequent statistical analysis conducted for this thesis. The research findings were presented through descriptive statistics, including percentage analysis, mean ranking, t-test, and Kruskal-Wallis test. The statistical analysis aimed to explore the relationships between variables and draw meaningful conclusions based on the data.

4.2 Description of the Study Area

The area of the study was Kathmandu valley (Figure 4.1),Nepal. The Kathmandu valley encompasses the cities of Kathmandu, Lalitpur, and Bhaktapur. Kathmandu Valley is a

Figure 4.1: Survey Area



Source: Binod et al., 2018

significant metropolitan area, characterized by its cultural richness, diverse population, and economic activity. The demographic profile of the participants in the study indicates a total sample size of 425 individuals.

Kathmandu Valley serves as an appropriate study area due to its urban nature, diverse population, and significant presence of digital financial services. The demographic profile of the participants in the study reflects a wide range of backgrounds, making the research findings relevant for understanding the adoption and awareness of cashless payment systems in this urban context.

4.3 Demographic Features of Respondents

The survey was conducted among many university level students through a closed-ended questionnaires, among which 425 responses were collected on various aspects related to their demographics and payment preferences.

4.3.1 Gender Classification

The gender profile of the respondents are classified into male, female and others. But there were no respondents on others category.

Table 4.1: Gender Classification

Gender	Classification	Frequency	Valid Percent
Male	295	69.40	69.41
Female	130	30.60	30.59
Total Respondents: 425			100.00

Source: Field Survey, 2023

Table 4.1 presents the gender distribution of respondents with the corresponding frequencies and valid percentages. Table 4.1 presents the gender distribution of respondents with the corresponding frequencies and valid percentages. Out of 425 respondents, 295 (69.41%) were male, and 130 (30.59%) were female, indicating a higher male participation in the survey.

4.3.2 Age Distribution

The age of the respondents was categorized in 3 groups which is presented in below table. The age profile was grouped as less than 20, 21-35 and 36-50.

Table 4.2: Age Distribution

Age Group	Classification	Frequency	Valid Percent
Less than 20	150	35.30	35.29
21-35	257	60.50	60.47
36-50	18	4.20	4.24
Total Respondents: 425			100.00

Source: Field Survey, 2023

Table 4.2 displays the age distribution of the surveyed individuals with corresponding frequencies and valid percentages. The majority of respondents were in the age group of 21-35 (60.47%), followed by less than 20 (35.29%), while only a small portion fell within the 36-50 age range (4.24%).

4.3.3 Education Status

The education level of the respondents were presented in the table as follows. As the survey was conducted among university students, the education level was group as Bachelor's degree, Master's degree and Ph.D.

Table 4.3: Education Status

Education level	Classification	Frequency	Valid Percent
Bachelor's degree	342	80.40	80.47
Master's degree	78	18.40	18.35
PhD	5	1.20	1.18
Total Respondents: 425			100.00

Source: Field Survey, 2023

Table 4.3 shows the educational qualification level of the respondents with corresponding frequencies and valid percentages. The majority held a Bachelor's degree (80.47%), followed by a smaller proportion with a Master's degree (18.35%), and a minority had a PhD (1.18%).

4.3.4 Family Income Distribution

The income level of family of the respondents are recorded as less than Rs.100,000 , from Rs.100.001- 300,000 , from Rs.300,001-500,000 and more than Rs.500,000.

Table 4.4: Family Income Distribution

Income (Rs.)	Classification	Frequency	Valid Percent
Less than 100,000	102	24.00	24.00
100,001 - 300,000	141	33.20	33.18
300,001 - 500,000	83	19.50	19.53
More than 500,000	99	23.30	23.29
Total Respondents: 425			100.00

Source: Field Survey, 2023

Table 4.4 shows the family income distribution of the respondents with corresponding frequencies and valid percentages. The majority had an income between Rs.100,001 to Rs.300,000 (33.18%), followed by more than Rs.500,000 (23.29%), while the lowest proportion had less than Rs.100,000 (24.00%).

4.3.5 Payment Methods

The payment method were listed as Debit/Credit card, Mobile banking, Internet banking, Mobile wallets and other. The respondents details regarding the payment method are classified as follows.

Table 4.5: Payment Methods

Methods	Classification	Frequency	Valid Percent
Debit/Credit card	18	4.20	4.24
Mobile banking	237	55.80	55.76
Internet banking	10	2.40	2.35
Mobile wallets	153	36.00	36.00
Other	7	1.60	1.65
Total Respondents: 425			100.00

Source: Field Survey, 2023

The table 4.5 presented below shows the preferred payment methods of respondents with corresponding frequencies and valid percentages. Mobile banking was the most popular choice (55.76%), followed by mobile wallets (36.00%). Debit/credit cards, internet banking, and other methods had lower usage percentages.

4.4 Reliability Test

The internal consistency reliability of a questionnaire assessing various socio economic factors related to awareness of the cashless economy was evaluated using Cronbach's alpha. The questionnaire consisted of six socio economic factors: perceived usefulness, perceived ease of use, lifestyle compatibility, facilitating condition, perceived trust, and social influence. Each factor comprised a different number of items, and their corresponding Cronbach's alpha values were examined.

Table 4.6: Reliability Test Result

Factors	No. of items	Cronbach's alpha
Perceived usefulness	4	0.771
Perceived ease of use	3	0.692
Lifestyle compatibility	3	0.690
Facilitating condition	4	0.620
Perceived trust	4	0.755
Social influence	4	0.585
Awareness of cashless economy	4	0.726

Source: Field Survey, 2023

The results indicated that two factors, specifically perceived usefulness and perceived trust, exhibited satisfactory levels of internal consistency reliability. The Cronbach's alpha values for these factors were 0.771 and 0.755, respectively (Table 4.6). These findings suggest that the items within these factors are strongly correlated and consistently measure the intended constructs.

In contrast, two factors, namely perceived ease of use and lifestyle compatibility, demonstrated moderate levels of internal consistency reliability. The Cronbach's alpha values for these factors ranged from 0.690 to 0.726 (Table 4.12). Although these values still indicate a reasonable degree of interrelatedness among the items within each factor, they fall short of the high reliability observed in the aforementioned factors.

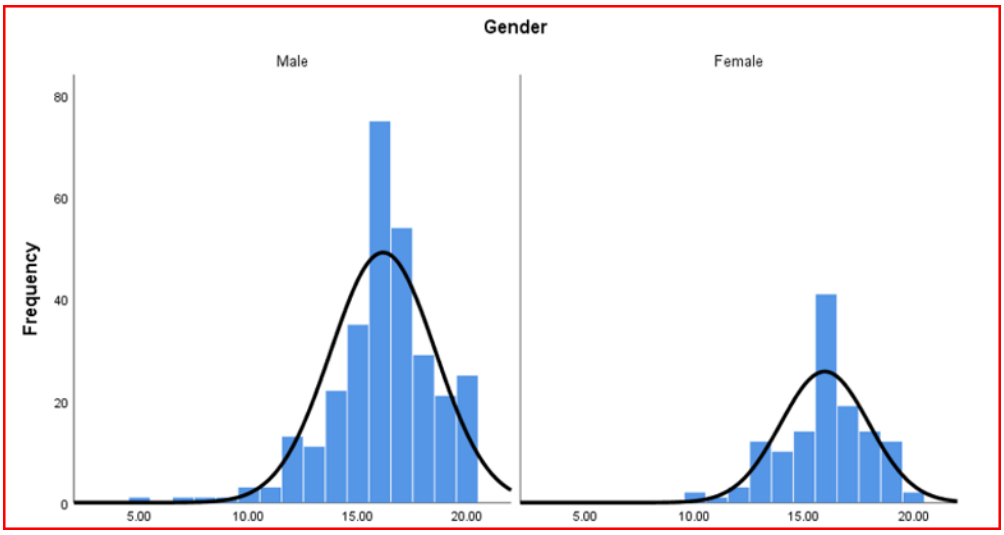
It is important to note that two factors, facilitating condition and social influence, exhibited lower levels of internal consistency reliability. The Cronbach's alpha values for these factors were 0.620 and 0.585, respectively (Table 4.12). These values suggest that the items within these factors may not be strongly interrelated or consistently measure the intended constructs. However, caution should be exercised when interpreting these results, as the Cronbach's alpha values for these factors are above the minimum acceptable threshold of 0.5 (Eaton, 2003).

4.5 Result of t - Test

For the purpose of assumption of normality verification, histogram for awareness of cashless economy were captured between male and female (Figure 4.2). Two histograms are bell-shaped and sample size is also large, so, the parametric test - independent samples t-test were carried out based upon the Levene's test for equality of

variances is insignificant (*p-value,* 0.123 > 0.05) (Table 4.8).

Figure 4.2: Gender and Awareness of cashless economy



Source: Python Codes, Google Colab

Table 4.7: Gender and Awareness of Cashless Economy

Gender	N	Mean	Std. Dev.	SE Mean
Male	295	16.15	2.39	0.14
Female	130	15.94	2.01	0.18

Source: Field Survey, 2023

An independent samples t-test was performed to compare the mean difference in awareness of cashless economy between male and female at 5% level of significance when the number of males and females were correspondingly 295 and 130. There was no significant difference in mean awareness of the cashless economy between male (M = 16.15, SD = 2.39) and female (M = 15.94, SD = 2.01); |t(423)| = 0.389, *p-value* > 0.05 (Table 4.7, 4.8).

Table 4.8: Gender and Awareness of Cashless Economy t-Test Result

Description	Levene's test		T-test for equality of mean			
	F	Sig.	t	df	Sig.	Mean Diff.
Equal variances assumed	2.392	0.123	0.863	423	0.389	0.207

Source: Field Survey, 2023

The result of significant mean difference in awareness of cashless economy between male and female fails to reject null hypothesis (H_0) which implies that there is no significant association between awareness of cashless economy and gender.

4.6 Awareness Level among University Students

Percentage calculation (MA et al., 2023) was done to find the level of awareness on the basis of gender, education and age as discussed in following section.

4.6.1 Gender-Wise Awareness

On the basis of Gender Table 4.9 displays data on the frequency and percentage of individuals who responded "Yes" or "No" to a particular question. The Table 4.9 presents

Table 4.9: Gender-Wise Awareness

Gender	Frequency		Percentage	
	No	Yes	No	Yes
Male	29	266	10	90
Female	8	122	6	94

Source: Field Survey, 2023

information for both male and female respondents separately. According to the data, 90% of males responded "Yes" to the question, while only 10% answered "No." On the other hand, among females, 94% answered "Yes," and 6% responded "No." It is evident that a significantly higher proportion of female are aware about cashless economy.

4.6.2 Education-Wise Awareness

On the basis of education, Table 4.10 provides data on the education level of respondents and their awareness of the cashless economy. It is evident that a significant percentage of individuals with Bachelor's and Master's degrees are aware of the cashless economy, with 89% and 99% awareness, respectively. Table 4.10 shows the tabular

Table 4.10: Education-Wise Awareness

Education	Frequency		Percentage	
	No	Yes	No	Yes
Bachelor	36	306	11	89
Master	1	77	1	99
Ph.D	0	5	0	100

Source: Field Survey, 2023

interpretation of awareness level on the basis of education level.Interestingly, all respondents with a Ph.D degree are fully aware of the cashless economy, indicating a high level of awareness among this group.

4.6.3 Age-Wise Awareness

On the basis of Age group,interpretation of awareness level on the basis of age is shown in Table 4.11. Table 4.11 shows data related frequency, and percentage who responded

"Yes" or "No" to a certain question. The age groups are divided into "Less than 20," "21-35," and "36-50." The first two columns show the number of individuals who answered "No" or "Yes" in each age group, while the next two columns represent the percentage in each age group who responded "No" or "Yes". Looking at the data, it is evident

Table 4.11: Age-Wise Awareness

Age	Frequency		Percentage	
	No	Yes	No	Yes
Less than 20	19	131	13	87
21-35	17	240	7	93
36-50	1	17	6	94

Source: Field Survey, 2023

that the majority of respondents aged "Less than 20" and "21-35" answered "Yes" to the question, with percentages of 87% and 93%, respectively. On the other hand, in the age group "36-50," the percentage of those who answered "Yes" was higher, reaching 94%.

4.7 Identifying the influencing factors

4.7.1 Rank Analysis of Factors

The rank analysis of six factors to measure the awareness of cashless economy are shown in Table 4.12. This analysis provides valuable insights into the factors influencing the awareness of a cashless economy, as perceived by individuals. The analysis reveals that individuals consider perceived usefulness as the most significant factor, with a mean score of 4.00, ranking it first.

Table 4.12: Rank Analysis

Factor	Mean	SD	Rank
Perceived usefulness	4.00	0.52	1
Perceived ease of use	3.84	0.55	2
Lifestyle compatibility	3.83	0.57	3
Facilitating condition	3.71	0.57	4
Perceived trust	3.53	0.65	5
Social influence	3.13	0.68	6

Source: Field Survey, 2023

This finding suggests that individuals recognize the advantages and benefits associated with the adoption of cashless transactions. The second-ranked factor is perceived ease of use, with a mean score of 3.84, indicating that individuals find cashless payment

methods to be convenient and user-friendly, contributing to their awareness of the cashless economy. Additionally, lifestyle compatibility emerges as a notable factor, with a mean score of 3.83, indicating that individuals perceive cashless transactions as compatible with their daily routines and habits. Facilitating conditions, such as infrastructure and supportive policies, also influence individuals' awareness of the cashless economy, ranking fourth with a mean score of 3.71. The factor of perceived trust attains a relatively lower rank, fifth, with a mean score of 3.53, suggesting that individuals have a moderate level of trust in the reliability and security of cashless transactions. Lastly, social influence is found to have the least impact on individuals' awareness of the cashless economy, ranking sixth with a mean score of 3.13. These findings provide valuable insights into the factors shaping individuals' awareness of the cashless economy and can inform efforts to promote its adoption in society.

4.7.2 Rank Analysis of Items

Rank analysis of 26 items of seven socio-economic factors including awareness of the cashless economy are shown in Table 4.13. The rank analysis of the items within each factor provides valuable insights into their perceived importance or levels based on participant responses.

Table 4.13: Ranking of the Items

Perceived Usefulness			
Items	Mean	Std. Dev.	Rank
PU3	4.09	0.60	1
PU4	4.07	0.64	2
PU1	3.95	0.78	3
PU2	3.88	0.68	4
Perceived Ease of Use			
PEU3	3.97	0.64	1
PEU2	3.85	0.72	2
PEU1	3.69	0.73	3
Lifestyle Compatibility			
LC2	3.90	0.74	1
LC3	3.89	0.69	2

LC1	3.70	0.76	3
Facilitating Condition			
FC1	4.09	0.72	1
FC2	3.89	0.83	2
FC3	3.68	0.97	3
FC4	3.19	0.77	4
Perceived Trust			
PT1	3.69	0.79	1
PT4	3.59	0.78	2
PT3	3.43	0.95	3
PT2	3.41	0.89	4
Social Influence			
SI4	3.28	0.91	1
SI2	3.27	1.05	2
SI3	3.01	1.10	3
SI1	2.97	0.99	4
Awareness of Cashless Economy			
ACE4	4.33	0.68	1
ACE3	4.00	0.64	2
ACE1	3.98	0.81	3
ACE2	3.77	0.92	4

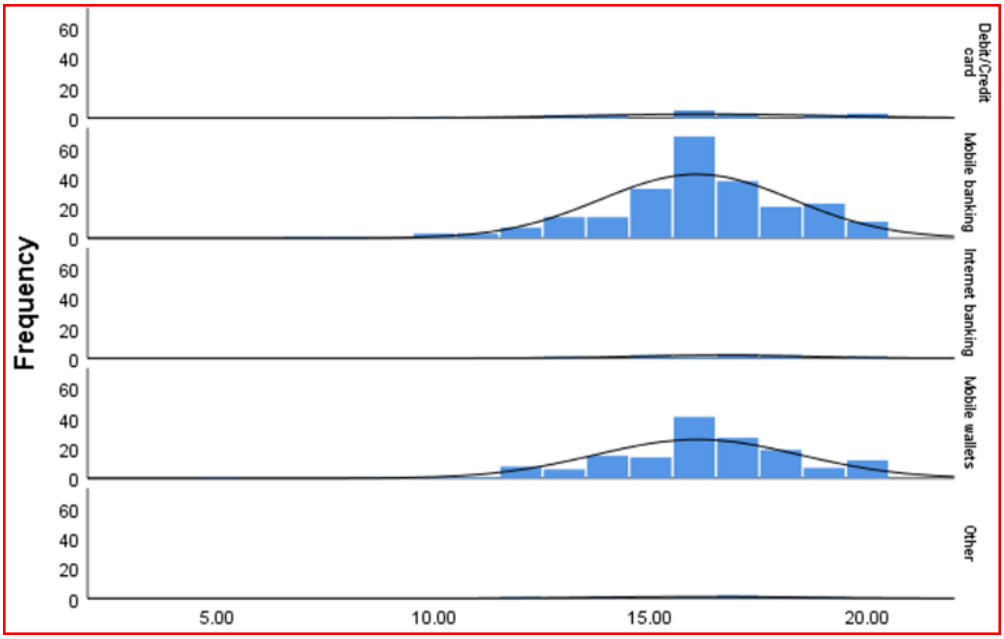
Source: Field Survey, 2023 (Details in Annex I)

In the factor of perceived usefulness, PU3 and PU4 were ranked highest, indicating that they were considered the most significant items. Similarly, in the perceived ease of use factor, PEU3 emerged as the top-ranked item. For lifestyle compatibility, LC2 received the highest ranking. In the facilitating condition factor, FC1 was ranked as the most important item. Regarding perceived trust, PT1 obtained the highest rank. Among the items assessing social influence, SI4 was ranked highest. Lastly, in the awareness of cashless economy factor, ACE4 was identified as the most significant item. These rankings provide a concise summary of the perceived importance of individual items within each factor, aiding in understanding the participants' perspectives and emphasizing key areas of focus in the context of the cashless economy awareness.

4.8 Result of Kruskal Wallis Test

In this study, the focus is on examining the differences in awareness of a cashless economy across four categories of payment methods. To accomplish this, statistical tests are employed to determine the significance of these differences. The parametric test, ANOVA assumes that the data follows a normal distribution. However, upon analyzing the dataset, it was found that the data for three payment methods, namely Debit/Credit card, Internet Banking and Other, exhibited severe skewness. Since the data did not meet the assumption of normality, ANOVA cannot be reliably used (Figure 4.3).

Figure 4.3: Payment methods and awareness of cashless economy



Source: Python Codes, Google Colab

Instead, the non-parametric test Kruskal Wallis is chosen. The Kruskal Wallis test is a distribution-free test, meaning it does not require the data to follow a specific distribution. It is suitable for analyzing differences among groups when the data are not normally distributed, making it an appropriate alternative in this scenario. The test compares the medians of the groups to determine if there are statistically significant differences in awareness across the four payment methods.

Table 4.14: Independent-Samples Kruskal-Wallis Test Summary

Total N	425
Test statistic	0.922
Degree of freedom	4
Asymptotic Sig.(2-sided test)	0.921
a. The test statistic is adjusted for ties.	
b. Multiple comparisons are not performed because of insignificant test result.	

Source: Field Survey, 2023

A Kruskal-Wallis H test was conducted to investigate the disparities in awareness of a cashless economy across the five categories of payment methods: Debit/Credit card, Other, Mobile banking, Mobile Wallets and Internet banking. The test results revealed very strong evidence (H(2) = 0.921, $p > 0.05$) (Table 4.14) that there are no statistically significant differences in awareness among these groups. This suggests that individuals' awareness of a cashless economy does not significantly vary depending on the payment method they use. As a result, no further multiple comparisons were performed, as the

Table 4.15: Result of Kruskal Wallis test

SN	Hypothesis test summary	Sig.
1	Awareness of cashless economy across payment methods	0.921
The significance level is 0.05		

Source: Field Survey, 2023

overall test did not indicate any significant differences across the samples. These findings imply that from an awareness perspective, all four payment methods are perceived similarly in terms of facilitating a cashless economy.

The findings suggest that perceived facilitating conditions and lifestyle compatibility play crucial roles in influencing individuals' preferences for cashless transactions. These results contribute to the understanding of the factors that drive the adoption and acceptance of cashless payment systems.

4.9 Discussion

The internal consistency reliability of a questionnaire assessing factors related to awareness of the cashless economy was evaluated using Cronbach's alpha. The study found that two factors, perceived usefulness and perceived trust, exhibited satisfactory levels of reliability (Cronbach's alpha = 0.771 and 0.755, respectively). This aligns with previous research suggesting that these factors consistently measure the intended con-

structs (Raj et al., 2023). However, two factors, perceived ease of use and lifestyle compatibility, demonstrated moderate levels of reliability (Cronbach's alpha ranging from 0.690 to 0.726), indicating a reasonable but slightly lower inter-relatedness among items compared to previous studies. On the other hand, the factors facilitating condition and social influence showed lower levels of reliability (Cronbach's alpha = 0.620 and 0.585, respectively). These results differ from earlier research, indicating that the items within these factors may not be strongly interrelated or consistently measure the intended constructs. These findings emphasize the importance of further investigation to refine and improve the reliability of the questionnaire for assessing awareness of the cashless economy among university students in Kathmandu, Nepal. Future studies could consider revising or adding items within the factors that demonstrated lower reliability to enhance the internal consistency of the questionnaire (Tavakol & Dennick, 2011).

Comparing the findings of rank analysis of factors with previous research, it is evident that perceived usefulness ranks as the most significant factor, aligning with prior studies emphasizing the advantages and benefits associated with cashless transactions (Yang et al., 2021) Similarly, perceived ease of use ranks second, indicating the convenience and user-friendly nature of cashless payment methods, which resonates with previous research highlighting the importance of ease of use in driving adoption (Raj et al., 2023; Yang et al., 2021). Lifestyle compatibility emerges as a notable factor, indicating that individuals perceive cashless transactions as compatible with their daily routines and habits, reinforcing the need for seamless integration into their lifestyles (Ramadhani et al., 2022; Yang et al., 2021). Facilitating conditions, such as infrastructure and supportive policies, rank fourth, suggesting the role of an enabling environment in enhancing cashless awareness. This finding is consistent with prior studies emphasizing the significance of infrastructure and policy support in promoting cashless adoption (Namahoot & Jantasri, 2023). Perceived trust attains a relatively lower rank, indicating that individuals have a moderate level of trust in the reliability and security of cashless transactions. This finding calls for further attention to build trust and address concerns surrounding security and privacy (Maqableh, 2015). Social influence ranks sixth, suggesting a lesser impact on individuals' awareness of the cashless economy. This finding differs from some previous studies, highlighting the role of social influence in shaping attitudes and behaviors towards cashless payments (Lai & Liew, 2021).

The findings of independent sample t – test revealed no significant difference in mean awareness between male and female. This finding aligns with Abirami (2017), Girija and Nandhini (2018), Goel et al. (2021), and Lai and Liew (2021) indicating no significant association between awareness of the cashless economy and gender. However, this finding is not align with the findings of Choudhary (2018), Maqableh (2015), Pushpa et al. (2021), and Świecka et al. (2021).

Findings of the Kruskal Wallis test revealed no significant difference in mean awareness between among different payment methods. The study finding align with the Dixit et al. (2017), Haruna (2012), Mahamuni and Pandey (2023), and Mazumdar (2021).

The study assessed the internal consistency reliability of a questionnaire on cashless economy awareness, finding satisfactory levels for perceived usefulness and trust but moderate to lower levels for ease of use, lifestyle compatibility, facilitating condition, and social influence. Comparing with previous research, perceived usefulness and ease of use were consistently ranked high, while lifestyle compatibility and facilitating conditions were notable factors. No significant gender differences were found in cashless awareness, aligning with some studies but differing from others. Similarly, no significant differences were observed among different payment methods, aligning with certain studies. Further investigation and refinement of the questionnaire are recommended.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATION

5.1 Introduction

This chapter presents comprehensive overview of the research objectives, focusing on the exploration of the awareness of cashless economy among university students within Kathmandu Valley. Through meticulous analysis, the significant findings and observations are presented, addressing the research questions and validating the hypotheses. The implications of the study are reflected upon, and any limitations are acknowledged, followed by valuable suggestions for future investigations. These carefully considered recommendations aim to guide stakeholders and researchers in relevant applications or decisions. In essence, this chapter provides a synthesis of the study's outcomes, underlining its contributions to the field and laying the groundwork for future advancements in the area.

5.2 Summary

In summary, this study examined various aspects related to the awareness of a cashless economy among 425 individuals in Kathmandu Valley which is 10.5% more of sample size. The demographic profile of the respondents highlighted a predominant male representation (69.40%), with the majority falling within the age range of 21-35 (60.50%) and holding a Bachelor's degree (77.40%). Mobile banking emerged as the most popular payment method (55.80%), and an overwhelming majority of participants (91.30%) expressed a preference for cashless transactions.

The reliability test using Cronbach's alpha indicated that perceived usefulness and perceived trust demonstrated satisfactory levels of internal consistency reliability. Perceived ease of use and lifestyle compatibility exhibited moderate reliability, while facilitating conditions and social influence showed lower levels of reliability. Rank analysis of the items within each factor revealed the perceived significance of individual items. Perceived usefulness, perceived ease of use, and lifestyle compatibility were ranked among the top factors influencing awareness of the cashless economy.

Comparing awareness between genders through t-test showed no significant difference,

indicating that gender had no significant association with awareness of the cashless economy. The Kruskal-Wallis test indicated no statistically significant differences in awareness of a cashless economy among different payment methods, suggesting that all methods were perceived similarly in facilitating a cashless economy.

Finally, the study provides valuable insights into the demographic and payment preferences of studnets in Kathmandu Valley and sheds light on the factors influencing awareness of a cashless economy.

5.3 Conclusion

This study aimed to examine the awareness of a cashless economy among university students in Kathmandu. The findings provide valuable insights into the demographic profile, reliability of the questionnaire, rank analysis of items and factors, and the results of the t-test and Kruskal Wallis test.

The demographic profile of the respondents revealed that the majority were male. Mobile banking emerged as the most popular payment method, followed by mobile wallets, and a significant majority expressed a preference for cashless transactions.

The reliability test using Cronbach's alpha demonstrated satisfactory internal consistency reliability for the factors of perceived usefulness and perceived trust. Moderate levels of internal consistency reliability were observed for the factors of perceived ease of use and lifestyle compatibility, while facilitating condition and social influence exhibited lower levels of reliability.

Rank analysis of the items and factors provided insights into their perceived importance. Factors such as perceived usefulness, perceived ease of use, and lifestyle compatibility were ranked highly, indicating their significance in shaping individuals' awareness of the cashless economy. The t-test results indicated that there was no significant difference in the mean awareness of the cashless economy between male and female respondents, suggesting that gender does not play a significant role in awareness. The Kruskal Wallis test results showed no statistically significant differences in awareness among the four categories of payment methods (Debit/Credit card, Other, Mobile banking, and Internet banking). This suggests that individuals' awareness of a cashless economy does not vary significantly based on the payment method they use.

At last, this study provides valuable insights into the awareness of a cashless economy

among university students in Kathmandu. The findings highlight the importance of factors such as perceived usefulness, ease of use, and lifestyle compatibility in shaping individuals' awareness. The study also emphasizes the prevalence of mobile banking as a preferred payment method and the overall interest in cashless transactions. These findings can inform efforts to promote the adoption of cashless transactions among university students and contribute to the development of a cashless economy in Kathmandu.

5.4 Recommendation

Based on the findings of this study on the awareness of a cashless economy among university students in Kathmandu, the following recommendations are proposed:

i) Increase awareness campaigns to promote cashless transactions among university students.

ii) Enhance the perceived ease of use by focusing on user-friendly interfaces and simplified processes.

iii) Address concerns related to trust by enhancing data security measures and transparent communication.

iv) Emphasize the lifestyle compatibility of cashless transactions and showcase their convenience.

v) Monitor and adapt to changing preferences among university students for cashless transactions.

vi) Foster a positive social influence by leveraging peer networks to promote cashless payments.

These recommendations aim to enhance the awareness and adoption of cashless transactions among university students in Kathmandu, aligning with the findings of this study. By implementing these recommendations, stakeholders can contribute to the development of a cashless economy and foster a culture of digital payments among university students.

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ANNEX I

Name	Label
SN	Serial Number
Q11	Sex
Q12	Age
Q13	Education
Q14	Family Income
Screening Questions	
SQ1	I've a positive view on technology.
SQ2	I'm technologically friendly
SQ3	Have you ever used cashless payment options (e.g., digital wallets, mobile banking, credit\debit cards, internet banking and other?
SQ4	Which payment method do you often use for cashless transactions?
Social influence	
SI1	Adoption of cashless transactions is influenced by family.
SI2	Media (TV, radio, social media) has an impact on my decision to adopt cashless transactions.
SI3	I use cashless transactions because others around you are using them.
SI4	Policies of academic institution have an impact on adoption of cashless transactions.
Facilitating condition	
FC1	Cashless payment options are easy to access.
FC2	Cashless payment options are easily available in my area.
FC3	Internet facility is good in my locality.
FC4	I do not face issues while making cashless transaction.
Perceived Trust	
PT1	Cashless transactions are secure.
PT2	Personal information is safe while making cashless transactions

PT3	Cashless payment minimizes the risk of fraud.
PT4	I trust the financial institutions and technology companies that offer cashless payment options.
Lifestyle Compatibility	
LC1	Cashless payment options fit with my daily lifestyle.
LC2	I am comfortable in using cashless payment in various places.
LC3	Cashless payment options have potential lifestyle benefits.
Perceived Usefulness	
PU1	Cashless payment options save time and cost.
PU2	Cashless payment options are more effective for conducting the payment.
PU3	Cashless payment options make transaction easier.
PU4	Cashless payment options are useful payment option.
Perceived Ease of Use	
PEU1	Cashless payment options are clear and concise to learn.
PEU2	Cashless payment option is easy to use and understand.
PEU3	Cashless payment options provide more payment alternatives to choose.
Awareness of Cashless Economy	
ACE1	How familiar are you with the concept of cashless transactions?
ACE2	To what extent do you know about the benefits of using cashless payment options?
ACE3	How aware are you of various payment options available in the market?
ACE4	How likely are you to continue cashless payment options in the future?
Target Column	
Q10	Are you aware about cashless economy?