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# Challenges in Ecommerce Adoption among Nepalese Consumers

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This thesis is worth 30 study points

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# Abstract

The most significant advancements in the field of information and communication technology in recent years have been the Internet and web development. The retail landscape has changed significantly since the introduction of the internet and technology, which has led to a boom in the ecommerce sector. The internet is being rapidly used to facilitate online business transactions between consumers and business entities.

The study's objective is to recognize the variables affecting B2C ecommerce adoption in Nepal. Incorporating the Technology Acceptance Model (TAM) and the IS continuance model (ISCM), the goals of this study were to determine how Nepalese people felt about using technology for online shopping and whether they intended to make similar purchases in the future. With the help of this research, market participants will have a better understanding of the traits of consumers linked to online shopping and, consequently, technology use, which will improve B2C ecommerce. To ascertain what factors are crucial for Nepalese consumers to adopt ecommerce, this study looked at pertinent articles based on TAM and ISCM. The thesis employs five main variables to analyze the influences on ecommerce adoption: perceived usefulness (PU), perceived ease of use (PEOU), trust, customer satisfaction (CS), and repurchase intention (RI). An explanatory research design and quantitative methodology are both applied to the data collection and analysis. The research strategy employed an online survey, and 100 survey responses were gathered. Following measurement and structural model evaluation, PLS-SEM was implemented to confirm the research model. The measurement model's findings indicated that the data had achieved the recommended values for validity and reliability. Additionally, the structural model's findings lead to the conclusion that all of the hypotheses were supported. The discussion of the results, any potential ramifications, any limitations encountered during the research process, and recommendations for further investigation were all covered in the paper's final section.

Keywords: **Ecommerce, online purchase, Technology acceptance model, Information system continuance model, Ecommerce adoption**

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# 1. Introduction

The term "ecommerce " refers to a business model that involves transacting via electronic networks, mainly the internet (Turban et al., 2017). Innovative technology, such as ecommerce, is an essential part of today's world and has created a competitive business environment. Today, virtually every imaginable product and service can be purchased via an ecommerce transaction, including kitchen accessories, books, stationery, entertainment and gadgets, fashion items, electronic appliances, plane tickets, stock market investments, health services, office supplies, and other items.

## 1.1 Overview of Ecommerce

According to Garrett and Skevington (1999, p. 99), "all types of trading conducted along with commercial market making, ordering, supply chain management, transactions made through online with the help of Information and communication technology (ICT) is termed as Ecommerce".

In recent years, ecommerce has displayed a tremendous impact on many organizations, customers, societies, countries, and the entire world, generating digital economies and boosting the world's economies. The site has become a global marketplace for people willing to trade their spare bedrooms, cars, clothes, or spare time. As businesses continue to grow and change at a rapid pace, they can expand their businesses nationally and internationally, generate higher productivity rates with fewer resources, and reduce their costs. With the advent of technology such as cellular networks, cloud computing, IoT (internet of things), Wi-Fi, smartphones, tablets, and its sophisticated tools, customers are provided with thousands of opportunities for shopping, consequently causing rapid growth of ecommerce technology and its business over the past quarter century.

Several researchers claimed that there is a tremendous impact of ICT (information and communication technology) in shaping the economic, political, social, cultural, and economic conditions in many developing countries and contributing to the overall development of nations (Aashis & Kim, 2016). Technological inventions such as mobile devices, tablets, computers, communication platforms, wearable devices, etc. play a vital role in online transactions, marketing, and advertising is done through social ecommerce enablers such as Facebook, Instagram, Twitter, and Pinterest (Laudon & Traver, 2020). Furthermore, Apple,

Facebook, Amazon, Google, eBay, Instagram, Alibaba, and so on, being the giant players in the ecommerce marketplace, have encouraged small businesses and entrepreneurs to flood the ecommerce marketplace (Laudon & Traver, 2020).

Undoubtedly, ecommerce offers innumerable benefits to individuals, society, and businesses, such as convenience, global market reach, international sales, start-up cost reduction, increased productivity, interactivity, universal norms, etc. The other implicit benefits are a broader geographical reach, information viscosity, personalization and customization, faster speed, increased productivity, shared information, innovation, reduced cost, and competitive advantage (Lama, 2018). On the contrary, invasion of personal privacy, spreading of false information, enabling of widespread security threats, etc. are the serious societal impacts that are becoming increasingly apparent with the advancement of technology (Laudon & Traver, 2020).

Turban et al. (2017) have divided the benefits of ecommerce into three particular sectors, which are shown in Table 1 below:

**Table 1: Benefits of Ecommerce**

| Benefits to Organizations | Benefits to Consumers | Benefits to Society |
|---|---|---|
| • Global Reach<br>• Cost Reduction<br>• Innovative business models<br>• Lower communications cost<br>• Problem-solving<br>• Strengthen the | • Real-time and fast delivery<br>• social interaction<br>• Ubiquity<br>• No sales tax<br>• Enable telecommuting<br>• collectible items can be found | • Eliminate Digital divide<br>• More public services<br>• Enable telecommunicating<br>• Facilitate Domestic security<br>• Improve the standard of living |

From 2002 through 2007, a significant growth rate of 25% per year was recorded in retail ecommerce. In the year 2019, around $4.3 trillion and $27 trillion were spent on purchasing goods and services via mobile devices or desktop computers by over 2 billion customers globally and businesses, respectively (Laudon & Traver, 2020). By 2023, it is predicted that total global consumer spending will be around $7.3 trillion and business spending will be $34 trillion in digital transactions (Laudon & Traver, 2020).

Some of the major trends in ecommerce in 2019 and 2020 are: the growth rate of retail ecommerce has increased by over 20% globally; the sales of retail m-commerce reached over

$2.2 trillion in 2019 and are anticipated to grow over the next five years; and B2B ecommerce revenues have reached about $27 trillion worldwide (Laudon & Traver, 2020).

## 1.2 Background

### 1.2.1 Brief History of Ecommerce

Ecommerce was started in the early 1970s when money among financial institutions was transferred electronically, which was called electronic funds transfer (EFT), through which funds could be transferred from one association to another. Due to the requirements of high capital and technology, the uses of these applications were limited to larger organizations, corporations, and financial institutions (Turban et al., 2017).

After that, electronic data interchange (EDI) was developed with the motive to enable the electronic transfer of commercial documents, which was later streamlined to ensure other types of transactions, ranging from travel reservation systems to online stock trading (Turban et al., 2017). More people around the world started to use the internet, along with academic researchers and other scientists, after the discovery of the internet in 1969, which then gave birth to the World Wide Web, known as the biggest backbone in the development of ecommerce. The Internet was commercialized as its users increased rapidly and flocked to participate in the World Wide Web; consequently, many companies were present on the web, which contained thousands of links and pages.

There had been a transformation of B2C (business to consumer) ecommerce to B2B in 1999, and in 2001 it started shifting from B2B (business to business) to B2E (business to employees), as well as to c-commerce (collaborative commerce), e-government (electronic government), e-learning (electronic learning), and m-commerce (mobile commerce). In 2005, social networks began to catch attention gradually, along with m-commerce and wireless applications. Commercial activities were on the rise on social media platforms such as Twitter and Facebook. Since then, ecommerce has been growing continuously with some new changes in the business model (Turban et al., 2017).

A report from Statista demonstrates that the number of global internet users has approximately reached 5 billion with the advent of technology and easy internet access ("Ecommerce worldwide", 2021). Additionally, this number is sharply increasing and is

expected to reach new heights in the future ("Ecommerce worldwide, 2021). In the worldwide context, Amazon secures top ranking as the online shopping site with approximately 3676.58 million average monthly visitors, followed by eBay with 1012.85 million visitors, Rakuten.co.jp with 799.45 million visitors, Samsung.com with 603.05 million), AliExpress.com with 596.06 million), and so on. China is recorded as the top country in terms of retail ecommerce sales ("E-Commerce net sales of amazon.com from 2014 to 2022," 2021).

A recent survey published by Stephanie Chevalier in Statista illustrated that retail ecommerce sales reached approximately 5.2 trillion US dollars in 2021, and are expected to grow by almost 56% in the coming years ("Global retail ecommerce Sales 2021–2025," 2022).



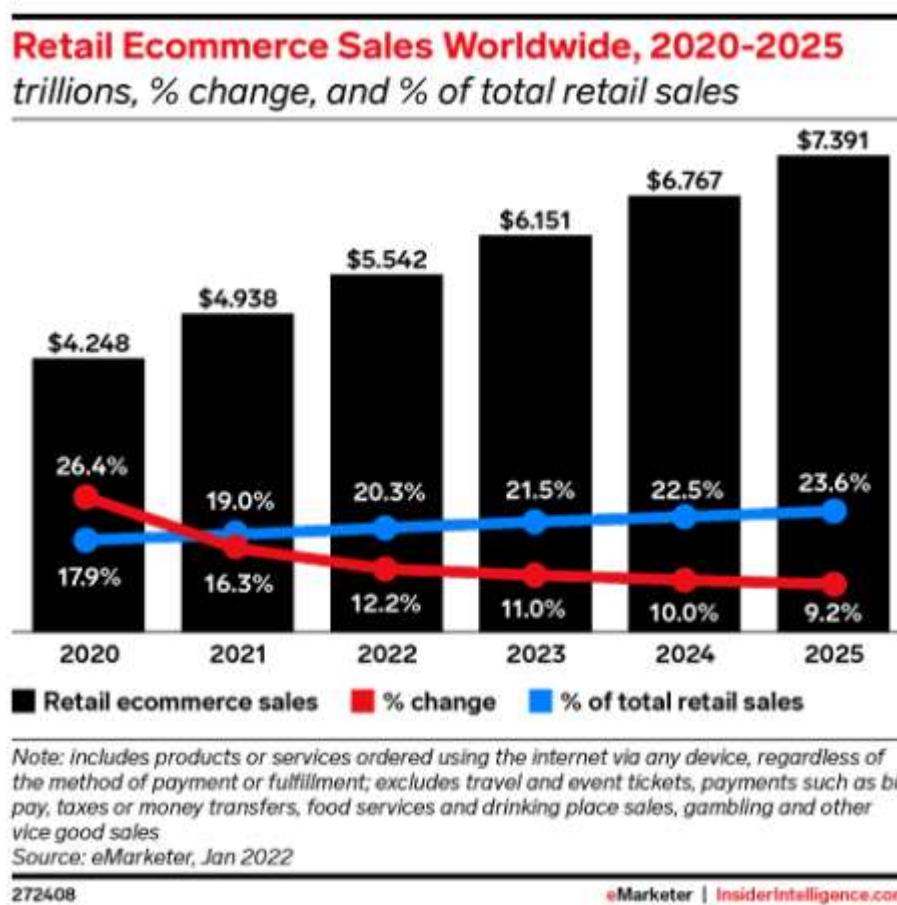**Figure 1: Comparative Estimates of Worldwide Ecommerce (Source: www.eMarketer.com)**

The eMarketer report from July 2022 as reported by Cramer-Flood that after two years of unusual growth and unpredictable substances, worldwide retail (Cramer-Flood, n.d.). Ecommerce was expected to stabilize in 2022. There has been a massive decrease in digital sales this year as overall retail returns to pre-pandemic trendlines.

As a result of the economic crisis and recession, the % change of retail ecommerce sales decreased sharply from 16.3% in 2021 to 12.2% in 2022. Furthermore, small changes can be seen in 2023 (11%), and similarly, the trend continues in 2024 (11%). It is predicted that total retail ecommerce sales will reach $7.391 trillion by 2025.

## 1.2.2 Ecommerce in Nepal

Nepal is a developing country with an area of 147, 181 square kilometers and consists of a total population of around 31 million in 2016 (Shakya & Nikhil, 2018). Situated between China and India, it is particularly known as one of the landlocked countries in South Asia and ranked 94th largest country in the world in size (Lama, 2018). Telecommunication services have been used in Nepal since 1913, and the first computer was used for census purposes in 1972, and in 1985 the first computer was used for personal purposes (Lama, 2018).

This opens the door for the formal development of Information Technology in Nepal, right after that Nepal government developed a computer center for the management and operations of computers. Furthermore, it was a private company named Mercantile Communications that introduced the internet in Nepal in 1994, in a joint effort with the Royal Nepal Academy of Science and Technology (RONAST). By the year 2000, over 50% of urban households had computers (Aashis & Kim, 2016). It took a long time the development of the Internet in Nepal and rapid progress was seen in 2017 as it reached 61.99% penetration in 2017 compared to 38.78% in 2016. In addition to this, the mobile penetration of Nepal was recorded as 130.24 percent in August 2017 (Lama, 2018). The Nepal government allocates a budget every year for the development of the IT sector for various operational purposes, such as antivirus software, website development, security, and so on, as well as a major program for monitoring and profiling the IT projects of the government agencies in Nepal (Department of Information Technology, n.d.).

The history of Ecommerce in Nepal dates back to 1999 and was initiated with the concept of gift exchange between people, who stay abroad. Some of the most well-known online retailers in Nepal are daraz.com.np, thulo.com, sastodeal.com, foodmandu.com, hamrobazar.com, nepabay.com, etc., which are linked to most used payment gateways like

esewa.com, Khalti.com, fonepay.com, IMEpay.com. Among them, Daraz and Sastodeal are the dominating Ecommerce sites in Nepal.

Initially, these sites were developed focusing primarily on Kathmandu valley. However, with the rapid growth of technology and increased internet access among users, many online shops also started to operate outside Kathmandu. Daraz has expanded its delivery networks to 47+ cities including Butwal, Biratnagar, Pokhara, and some major cities. Similarly, another ecommerce platform is also expanding its services to various cities, which indicates the potential growth of ecommerce. Nowadays the convenient modes of payment and the fast speed and inexpensive internet technology provided by the Internet Service Provider of Nepal pave the path to growth in the ecommerce sector. Ecommerce in Nepal is still in the growth stages and there exists an underexplored market. With the rise in the number of online stores, a significant rise in the number of online buyers can also be seen as compared to previous years. The ecommerce of Nepal is highly influenced by the fastest-growing trends of neighboring countries China and India for example, China, had a growth rate of 26.2% in 2016. India has seen rapid growth in Ecommerce over the years and is expected to have a 50% increase in retail customers by 2026 (Shakya & Nikhil, 2018).

However, there are several challenges associated with ecommerce adoption such as Internet connection issues, payment security issues, lack of proper infrastructure, and government support issues.  Table 2 below shows the most popular online stores in Nepal, along with their date of establishment and the payment method they are using.

**Table 2: Popular Online shopping sites in Nepal**

| Name of sites/ Established | Brief Introduction | Payment Method |
|---|---|---|
| Daraz Nepal 2012 | Nepal's biggest marketplace which serves more than 5 million customers and consists of over 2.5 million products. | Cash on Delivery (COD) VISA card Mastercard |
| Sastodeal/ 2011 | Started with an aim of creating a significant impact on Nepal's Economy, Sastodeal, today is | Cash on Delivery Esewa |

| | | |
|---|---|---|
| | one of the leading ecommerce sites in Nepal having millions of customers and 1000s of vendors/partners. | |
| Hamrobazar/ 2005 | Nepal's No. 1 marketplace where individuals, as well as companies, can list their items (New/used) for buying or selling purposes. Ranges of services include buying/selling varieties of goods and services, posting jobs, real estate, Travel, tours and packages, automobiles, and many more. | Bank Transfer, Mobile wallet, Cash on delivery |
| OkDam/ 2017 | Incorporated to contribute to Nepal's savvy city policies through internet shopping. Known for offering a unique shopping experience with varieties of brands and items. | Cash on delivery, Esewa, Khalti, IME pay, Prabhupay, fonepay, Master card, Visa Debit/credit card, American Express |
| Meroshopping/ N/A | One of the reliable and affordable online shopping in Nepal provides a user-friendly online shopping experience through websites. It comprises global brands, a user living abroad can use for purchasing gifts and delivering them to their family. | Esewa, Khalti, IMEpay, Cash on Delivery, Fonepay, PrabhuPay, Master card, Visa Debit/credit card, American Express |
| Gyapu/ N/A | GYAPU is an emerging online shopping developed to expand and flourish Ecommerce industries in Nepal and promote domestic Nepali products across the world. | COD, e-Sewa, fonepay, connect-IPS, Khalti, VISA card, MasterCard, IMEpay, Prabhu pay |
| Thulo/ N/A | Thulo.com is an online retailer that strives at serving the greatest no. of customers, providing the best customer care possible, in terms of, quality, pricing, product categories, purchasing procedure, and convenient delivery. | VISA, Master card, Fone pays, Paypal, Standard Chartered, Union Pay International, American |

| | Consists of more than 100,000 products, and 1000 sellers, deliver to over 400 cities. | Express, ConnectIPS, COD, Khalti, Esewa |
|---|---|---|
| Smartdoko/ N/A | A new player in the Ecommerce industry of Nepal, offering a wide range of products at competitive prices, and focused on the mission of being a "One Click Solution" to overall shopping. | Esewa, Visa, Mastercard, Cash on Delivery, Card on Delivery, CELLPAY |
| Pasal/ 2017 | A startup online marketplace which provides immediate and easy access to many products. These ecommerce sites place customers at the heart of their operation and aim in providing continuing customer services and products at affordable prices. | Esewa, VISA card, Paypal |
| Socheko/ N/A | Socheko.com, promoted by one of Nepal's famous business groups, is developed to provide a one-stop solution for everything, ensuring the right product is delivered in the right way. | Cash on Delivery, e-Sewa |

## 1.3 Statement of Problem

The outbreak of covid-19 in 2020, has devasted nearly every business sector with the elongated lockdown and travel restrictions. Additionally, it completely changed the business operability system, all the retail stores were shut down, and people were not able to buy things physically. This created a huge problem among the retail marketers henceforth adopted an ecommerce market platform for reaching out to their customers and vice versa, consequently experiencing a surge in traffic. As reported by Nepal Ecommerce worldwide (2021) the rise in internet penetration is the vital factor contributing to ecommerce relinquishment in Nepal prior covid, that causes the rise in internet penetration from 34% in 2017 to 45% in 2021 (Redseer, 2021).

However, due to low internet penetration rates in numerous rural parts, power outages, mobile network connections, and even transportation issues, people in rural parts were unable to use these services (Fan et al., 2016). COVID-19 has played a positive role in the upliftment of Ecommerce in Nepal, and Nepal's GDP (Gross Domestic Product) perceived

growth of 0.2% in 2020, which was recorded as one of the highest increments among South Asian countries (Redseer, 2021).

There are few publications looking at the difficulties with ecommerce adoption in Nepal. Nevertheless, after the pandemic and the recorded growth rate in the past 2 years, the future scope of online shopping is still uncovered. Since the epidemic, online retail in Nepal has observed 100% growth in the current period and is still increasing (Nepal | Ecommerce Market Narrative Final Report, 2021). Hence, this confirmed that Nepal has a better prospect in ecommerce in the future if the persistent challenges are eliminated.

## 1.4 Research Question

This research aims in exploring the factors affecting Ecommerce adoption in Nepal among Nepalese customers. This research question forms the center and addresses the research problem of factors affecting the adoption of Ecommerce among the Nepalese.

The following research question will be covered in this essay.

- What are the factors are affecting Nepal's adoption of ecommerce?

## 1.5 Thesis Disposition

The thesis uses a traditional structure for master's theses proposed as per the guidance of supervisors and guidelines from the University of South-Eastern Norway. The structure consists of seven parts; Introduction, Literature Review, Research Model and Hypotheses, Research Methodology, Data Analysis & Results, Discussion, Conclusion, and implications. The chapters are explained in detail below.

1. Introducing the topic: This chapter introduces the content and contextualizes the thesis. It highlights the statement of the objective of the paper, focusing on the thesis research question.

2. Literature Review: This chapter is substantially a review of previous research relevant to the paper, and emphasizes the crucial generalities, and research model imposed in the paper.

3. Research Model and Hypotheses: This section proposed a research model and describes the argumentation for the hypotheses generated.

4. Research Methodology: This section includes an in-depth description of the research design, theories, and procedures, used to conduct the research and answer the research questions.

5. Data Analysis and Results: In this section, Data analysis is performed on the data we gathered and present the findings in the form of tables, graphs, charts, etc. deduced from statistical computations.

6. Discussion: The discussion part of the thesis includes the interpretation of the most important results, explains the connections between variables, and highlights the major patterns in the observations.

7. Conclusion and Implications

The final part of the thesis is a conclusion that summarizes the overall findings and points out the strongest and most important statement from our paper This chapter includes how the research objectives have been achieved, points out the limitations of the study, summarizes new observations, and makes suggestions for future research.

# 2. Literature Review

The literature review is divided into three sections: Definition of Terminologies, Related Studies of Ecommerce Adoption, and Theoretical Background. Google Scholar, Oria, IEEE Xplore, ScienceDirect, and JSTOR are the databases used for searching the articles. This study follows a guideline suggested by Watson and Webster (2020) regarding factors to be considered while searching for the literature. The keywords used in the purpose of searching relevant articles such as "Ecommerce in Nepal", "Ecommerce adoption", "Technology Acceptance Model", "IS continuance", "Online shopping", "Perceived usefulness", "Perceived ease of use", "Customer satisfaction", "Repurchase Intention"

## 2.1 Definitions of Terminologies

Electronic commerce (Ecommerce) refers to buying, selling, transporting, or trading goods and services using the internet and intranets (Turban et al., 2017).

In addition to selling goods and services, Ecommerce includes a variety of other features, including consulting with users, searching for products, comparing prices, making online payments, providing electronic catalogs, purchasing both tangible and intangible assets, placing orders, tracking delivery, and so forth. Electronic Data Interchange (EDI), electronic fund, and electronic mail(e-mail) transfers are examples of business information transfer media used in ecommerce (EFT). The perspective of Ecommerce is altered completely, as now it is capable of connecting all the sectors online and providing service anytime to huge customers and businesses, despite the location gap where the service is being delivered.

E-business, on the other hand, is defined as conducting all types of business activities online such as customer service, business collaboration with partners, imparting eLearning, and conducting electronic transactions. E-business is conducting all of the company's business activities online, not just buying and selling goods/services (Turban et al., 2017).

Adoption of Ecommerce in this study refers to the selling of goods and services using ICT tools by online stores and buying various products and services by the consumer (Lama, 2018). The adoption of ecommerce is simply the implementation and use of ecommerce.

Ecommerce refers to the act of operating business over the internet, the web, and mobile apps and browsers running on mobile devices to transact business. The internet, web, and mobile platform are the technological foundation of Ecommerce.

Khasawneh (2008, as cited in Gangwar et al., 2014) defined technology adoption as the first utilization or acceptance of a new product or any new technology. Additionally (Gangwar et al., 2014) summarize different models and theories that explain the technology adoption for instance: TAM proposed by Davis (1989), the Theory of Reasoned Action proposed (TRA) by Fishbein and Ajzen (1975), the Theory of Planned Behaviour (TPB) proposed by Ajzen (1991), Innovation Diffusion Theory (IDT) proposed by Rogers (1995), Technology-Organization-Environment proposed by Tornatzky and Fleischer (1990) and unified theory of acceptance and use of technology (Gangwar et al., 2014).

Turban et al., (2017) describe the social network as an entity comprised of branches such as individuals, groups, and organizations that are linked by various elements such as hobbies, friendships, or professions.

Ecommerce comes in a variety of forms including B2B (Business to Business), B2C (Business to Consumer), C2C (Consumer to Consumer), and C2B (Consumer to Business) as well as Local Ecommerce, Social Ecommerce, Mobile-ecommerce, Collaborative Commerce, E-Government (Laudon & Traver, 2020; Turban et al., 2017). Table 3 describes the types of Ecommerce with examples.

**Table 3: Types of Ecommerce**

| Types | Definition | Examples |
|---|---|---|
| B2C | B2C ecommerce is the most common form of Ecommerce where an online business sells a product to a customer. A transaction occurs here between businesses and individuals (Turban et al., 2017). | Amazon, AliExpress, Sastodeal, Daraz, godviva.com (sales chocolate) |
| B2B | This type of ecommerce involves businesses selling goods to each other. The B2B model involves making online business transactions with other businesses (Turban et al., 2017). | Alibaba, Pahilo.com, nepalB2B, |
| C2C | In this process, goods or services are sold or bought virtually from one consumer to another consumer (Turban et al., 2017). | Hamrobazar.com, eBay, Uber, Airbnb |
| C2B | It refers to the process of people purchasing and selling goods and services to organizations and individuals (Turban et al., 2017). | Priceline.com (Turban et al., 2017). |
| M-commerce | Mobile commerce refers to the process of buying and selling goods using mobile devices, tablets, smartphones, etc (Laudon & Traver, 2020). | |
| Social Ecommerce | Ecommerce through social media platforms such as Facebook, Instagram, Twitter, etc (Laudon & Traver, 2020). | Facebook, Instagram |
| Local Ecommerce | The form of Ecommerce is focused on engaging the customer based on his/her geographic location (Laudon & Traver, 2020). | Uber |
| Collaborative Commerce | Collaborative commerce is defined as online activities as well as communications done jointly by parties to achieve a common goal (Turban et al., 2017). | Working collaboratively as business partners |

| E-Government | In e-government, a government agency purchases from or delivers information to businesses (G2B) or to direct citizens (G2C). Other governments can be negotiated with by governments (Turban et al., 2017). | |

## 2.2 Related Studies of Ecommerce Adoption

The rise in internet penetration is the main reason for Ecommerce growth in recent years. Both technical and non-technical challenges are hindering the progress of Ecommerce in Nepal which are: Not adequate support from the Government and proper policy, Infrastructure barriers, Socio-economic barriers, Cognitive barriers, network issues, payments gateway issues, customer trust issues, transportation issues, technology adoption, security issue, etc. Vaidya (2019) analyzed the preferences for online shopping and the problems while purchasing online. A survey done on 300 respondents concluded that increasing access to the internet connection leads to increased trade volume and interest among shoppers (Vaidya, 2019).

A case analysis of Daraz's online shopping store in Nepal explored the ways for improving the sustainable marketing strategy, and increasing the online marketing potential in Nepal (Pathak, 2020). Pathak (2020) assured that the rise in internet penetration is a prerequisite for the growth of Ecommerce. Apart from this, Product quality, delivery system, customer services, and payment system should be more focused on by Daraz Nepal (Pathak, 2020). According to Singh (2021), the rise in the price of the internet, and a financial crisis among individuals due to job loss during the covid pandemic are the major factors that are obstructing the implementation of Ecommerce in Nepal. Another important issue for Ecommerce implementation is Security, critical data and sensitive information are being transferred while making an online purchase which gives chance to hackers, and intruders for breaching sensitive data.

Singh (2021) explored the prevalent Ecommerce challenges in its adoption and implementation in the context of Nepal. Singh (2021) has identified three significant obstacles in the deployment of Ecommerce in Nepal. They are Internet connectivity, Online Payment, and security.

The author mentioned prevalent problems such as security and privacy concerns, cross-border transactions, and lack of support of international payment gateway, for instance, PayPal, Paytm, Stripe, etc. as major online payment issues in Ecommerce in Nepal, (Singh, 2021).

## 2.3 Theoretical Background

There are various well-known theoretical models used in information technology adoption research which are developed by researchers such as TRA, TPB, TAM, UTAUT, IS continuance theory, etc (Olushola & Abiola, 2017). TAM has been applied to different research and has been tested in different contexts by many IS researchers (Ashraf & Thongpapanl, 2014; Eid & Mustafa, 2011; Gefen & Straub, 2000; Leong & Chaichi, 2021; Mulyani et al., 2021; Sawitri & Giantari, 2020, p. 2020). Another model used in our paper is IS continuance model (ISCM) which is based on the Expectation-confirmation theory (Bhattacherjee, 2001b).

Bhattacherjee (2001b) drew attention to the implementation of ECT in the consumer behavior literature to investigate consumer happiness, post-purchase behavior, and service marketing. Many scholars have performed research based on TAM (Marinković et al., 2019; Shang & Wu, 2017; Sun et al., 2013; Vatanasombut et al., 2008) to determine the user continuance to use particular systems based on various constructs along with its major constructs (Perceived Ease of Use, Perceived Usefulness). In addition to this, TAM has several benefits and is supported critically and empirically over some time for its valid, robust, and straightforward behavior (Gangwar et al., 2014). Another reason to use TAM is its capability of providing adequate information to predict users' acceptance of IT which can be modified according to the purpose of the research (Gangwar et al., 2014; Mijoska, 2017). Similarly, the reason for using IS continuance model for our research is its capability to accurately explain users' intentions toward IT systems (Sun et al., 2013).

Both TAM and ISCM are widely used in Ecommerce adoption research. The models along with their constructs are discussed below.

## 2.3.1 Technology Acceptance Model (TAM)

This model is predicated on the notion that PU and PEOU are considered the key variables impacting the intention to use any technology (Davis, 1989).

The first feature, PU is defined as "the extent to which a person believes that adopting a certain system would improve his or her job performance" (Davis, 1989). A system with a high PU is one for which a user expects a favorable use-performance relationship. The second feature, PEOU is "the extent to which a people expect that utilizing a certain system would be effortless" (Davis, 1989). The definition of "easy" is "freedom from difficulty or substantial effort," which implies this. Other external variables can be integrated with the TAM model to strengthen the explanation.

Sawitri and Giantari (2020), explained TAM as one of the most popular frameworks which explain consumer intention and behavior. The basis of TAM is TRA, which is specially designed to explain what factors influence the attitude/behavior and intention of a user towards using Technology (Sawitri & Giantari, 2020). Here we are merging TAM with ISCM to identify a causal relationship between customers' perceived ease of use, perceived usefulness, customer happiness, trust and buy intention, in the context of online purchases. Olushola and Abiola (2017) has listed several advantages of TAM which can be plotted below:



**Figure 2: Advantages of TAM in research**

## 2.3.2 IS continuance model

A theory of continuance information systems was developed by Bhattacherjee (2001a), utilizing elements from Technology Acceptance Model (Davis, 1989) and was primarily based on the Expectation Confirmation Theory (ECT). When stimulating customers' use of technology, the focus is on the continued use of purchasing online through a digital platform, not only first-time use. If a tool is perceived as useful, continued use is expected. Variables included in IS continuance theory are perceived utility, confirmation, contentment, and intention to continue. It is expected that the customers, by using Technology in purchasing things online, will increase quality, time-saving, and improve flexibility. Bhattacherjee, (2001b) emphasized the similarity of consumers repurchase decisions with the IS users' continuance decisions stating three reasons: following initial decision, influenced by product initial use, and chances of leading to an ex-post reversal of the initial decision.

## 2.3.3 The constructs

Based on the literature review and the identified theoretical frameworks, the following five constructs (Perceived usefulness, Perceived Ease of use, Customer satisfaction, Repurchase Intention, and Trust) are identified as relevant in our research model in explaining ecommerce adoption in Nepal.

## 2.3.3.1 Perceived Usefulness

Perceived usefulness is one of the variables from the Technology Acceptance model.
TAM has been widely used in studying consumer behavior using particular technology for example: predicting consumer attitude towards online ticketing systems, e-learning, using mobile commerce, use of internet banking, e-trust on government, use of Instagram marketing, use of mobile internet, adoption of ecommerce and many more. In this study, PU is measured as the consumer's perception of the benefits while B2C ecommerce uses Technology (mobile phones, web apps, applications). Perceived usefulness is the determinant factor of how online shopping is beneficial to users' satisfaction and thus also affects repurchasing from the same vendor. Any particular system can be termed as successful if it contains the value required by the customer. PU is a determiner of any system, the behavior

of the user as well as adoption (Setyo Iriani & Lestari Andjarwati, 2020). Marketers/vendors can do an evaluation test based on the usefulness of online services and products, and their overall performance to find out the most important factor to determine customer satisfaction, which will later help to determine the repurchase intention of the customer (Bhattacherjee, 2001b; Mangin et al., 2011).

**Table 4: Items for "Perceived usefulness"**

| Construct: Perceived Usefulness | |
|---|---|
| Operational Definition: Customers' perception of the expected benefits of using Ecommerce in shopping<br>Source: From Davis (Davis, 1989), extended from Smith (2008) | |
| PU1 | Overall, I found purchasing online is useful in buying things or information seeking. |
| PU2 | I think purchasing online is valuable to me as it increases my productivity in shopping or information seeking. |
| PU3 | The content/product on this online website is useful to me. |
| PU4 | Using "the virtual store" would enhance my effectiveness in purchasing or information seeking. |

## 2.3.3.2 Perceived Ease of Use

According to Davis (1989)," The perceived 'Ease of Use refers to the degree to which the prospective user predicts that using the system will be simple". A difficult system will be perceived as less useful by the user and will probably be abandoned (Davis, 1989). In simpler terms, PEOU from the user's perspective asserts that the use of technology/system is super easy and without any problems. This can be also determined based on the frequency used that implies, a better-known system predicts easy operability (Setyo Iriani & Lestari Andjarwati, 2020). Some study suggests that PEOU acts as a factor in increasing the customer's acceptability regarding particular products and services. While some other researchers suggest PEOU can influence online shopping decisions but not in all cases. It can have a partial impact on influencing particulars e-shoppers decisions based on the context. A research study (Chau, 1996) concludes that PEOU does not affect the intention to use the word processor and spreadsheets. In contrast to this, (Venkatesh, 1999) asserts that PEOU

has significant use on the intention to use an internet-based application that deals with the virtual workplace system. Similarly, in the context of online shopping, other researchers also agreed upon PEOU has a significant impact on online shopping (Chien et al., 2003; Leong & Chaichi, 2021). Gefen and Straub (2000) present that PEOU does not affect shopping online.

**Table 5: Items for "Perceived Ease of Use"**

| Construct: Perceived Ease of Use | |
|---|---|
| Operational Definition: Customers' perception of easiness in using the technology for shopping. <br> Source: From Davis (Davis, 1989), extended from Smith (2008) | |
| PEOU1 | Learning to use "the online store" was easy for me. |
| PEOU2 | I found it easy to use "the online store" to find what I want. |
| PEOU3 | My interaction with the "virtual store" was understandable and clear. |
| PEOU4 | It was comfortable for me to become skillful at using "the virtual store". |
| PEOU5 | I found "the virtual store" easy to use. |

## 2.3.3.3 Customer Satisfaction

Customer satisfaction, according to Noori (2019), is an assessment of the apparent difference between prior expectations and the product's real performance as perceived after use. According to (Marinković et al., 2019), Customer satisfaction, being a key determinant factor of consumer loyalty, is one of the vital factors in marketing. If the expectations are fulfilled then we can say we are satisfied. In our study, customer satisfaction is measured based on the services and product delivery by the virtual stores, transactions and affordability, website design, trust, privacy, security, the quality of products purchased, responsiveness, ease of use of applications/websites to purchase online, consumer risk assessment and all the factors related to buying things online (Sadia et al., 2019). A conclusion drawn from the analysis (Sadia et al., 2019) listed major criteria for consumer satisfaction that creates greater customer loyalty such as service quality, On time delivery, Affordable Price, Product Conformance, and careful complaints handling.

Satisfaction comprises the emotional state rising from the condition when the consumer's emotion surrounding disconfirmed expectations is mixed with previous sentiments about the consumption experience (Noori, 2019).

**Table 6: Items for "Customer Satisfaction"**

| Variable: Customer Satisfaction | |
|---|---|
| Operational Definition: Measure the satisfaction level of the customer regarding online shopping.<br>Source: From Bhattacharjee (Bhattacherjee, 2001b) extended from (Qureshi et al., 2009) | |
| CS1 | I am extremely satisfied |
| CS2 | I am extremely pleased |
| CS3 | My expectations were exceeded |

## 2.3.3.4 Repurchase Intention

The operational definition of the dependent variable is customers' intention to continue using an online site to purchase items (Bhattacherjee, 2001b). Many research articles studied the repurchase intention and found that consumers repurchase intention is directly or indirectly influenced by trust, perceived satisfaction, perceived ease of use, and perceived usefulness.

A result from the confirmatory factor analysis concluded that e-trust, e-satisfaction, and e-loyalty are the three major factors affecting consumers repurchasing intention (Bulut, 2015). E-shoppers ranked e-trust as the number one influencer followed by satisfaction.

Research by Suhaily and Soelasih (2017) recommends E-service quality, rice perceptions, and Experimental Marketing affecting the continuance of e-shopping.

Sadia et al. (2019) suggested that if the customer is satisfied with a particular store and there are high chance of shopping from the same shop in the future, assists in sustainability and consequently boost the online store's growth.

**Table 7: Items for "Repurchase Intention"**

| Variable: Repurchase Intention | |
|---|---|
| Operational Definition: Users' intention to continue purchasing from virtual stores.<br>Source: From (Bhattacherjee, 2001b) | |
| RI1 | I intend to repurchase from online stores |
| RI2 | I intend to continue my use of online purchasing from these websites |
| RI3 | If possible, I will discontinue purchasing from the online stores |

## 2.3.3.5 Trust

Trust is the new construct added to this model that is not described in either of the models we adopted. However, many researchers have studied trust that helps us to provide a better understanding of continuance purchase intention in B2C ecommerce (Eid & Mustafa, 2011; Lee et al., 2018; Qureshi et al., 2009; Sawitri & Giantari, 2020). Likewise, Lewis-Beck et al. (2003) described Trust as the predictor for online continuance intention.

Sevim and Eroğlu Hall (2014) describes trust as an entity that exists between two parties in terms of reliability and integrity. In the case of ecommerce, Customer trust is understood as the beliefs held by a buyer regarding precise properties of online shopping, e-supplier, and how ecommerce vendors behave in the future (Noori, 2019). Trust as defined by Eid and Mustafa (2011) is a set of beliefs possessed by a user based upon several characteristics of the vendor and future possible behaviors of the e-supplier. Trust plays a vital role in online purchasing and thus affects the attitudes of the customer positively (Eid & Mustafa, 2011). Sevim and Eroğlu Hall (2014) performed an explanatory factor analysis for the discovery of participants' dimensions of the online trust scale related to vendor and technology while making online purchases. All four factors namely security systems, the website's reputation, trust perception of the person, website visuality & Design are found to be significantly affecting the consumer's trust whilst making an online purchase. Research from Turkey explained the reason to gain trust are: a secured payment system, data security, and privacy, better customer service as promptly replying to complaints, 7/24 availability, and most importantly focused on fulfilling e-shopper needs and making them satisfied with services (Bulut, 2015). Other best ways to retain old customers can be by providing them discount/promotional codes, special offers, gift cards, daily deals, etc.

**Table 8: Items for "Trust"**

| Construct: Trust | |
|---|---|
| Operational Definition: Users' Trust towards online stores. | |
| Source: New scale developed | |
| T1 | I believe online stores are consistent in quality and services |
| T2 | I believe that ecommerce is trustworthy |
| T3 | I believe online stores are honest |

| T4 | I believe that online stores are focusing on fulfilling my needs |
| T5 | I believe that the ecommerce is dependable |
| T6 | I believe that ecommerce has high integrity |

Various researchers have used these models which are summarized below:

**Table 9: Summary of relevant articles using the same models:**

| Author | Research Setting | Instrument/ Model | Major Constructs | Key findings based on the constructs |
|---|---|---|---|---|
| Leong and Chaichi, 2021 | Malaysia | TAM | PEOU, PU, Trust | PEOU, Trust, and PU have influenced attitudes toward online shopping. |
| Mulyani et al., 2021 | Indonesia | TAM | PU, Trust, Purchase Intention | PU does not have a direct influence on purchase intention Trust-direct influence on attitude and purchase intention. |
| Chien et al., 2003 | Australia | TAM | PU, PEOU, Attitude, Behavioral ntention | PU and PEOU positively affect the attitude towards using online Grocery shopping, thus having a positive impact on intention. |
| Mijoska, 2017 | Macedonia | TAM | PU, PEOU, Trust, Intention to online shopping | PEOU and PU have a direct impact on peoples feeling about online purchasing. One's intention to shop online is directly influenced by their attitude toward online purchasing. Trust accelerates the intention to purchase online. |
| Gefen & Straub, 2000 | N/A | TAM | PU, PEOU, Intended Purchase | PEOU and PU both affect intended use (provided website is used for inquiry task) however |

| | | | | PEOU does not affect Intended use when the website is used for purchasing task in contrast PU does. PEOU distresses PU (Gefen & Straub, 2000). |
|---|---|---|---|---|
| Al-Debei et al., 2015 | Jordan | TAM | Trust, Perceived Benefits, | Consumer attitudes towards virtual shopping are determined by Trust and perceived benefits. |
| Vatanasombut et al., 2008 | US | IS continuance | Trust, Perceived Security | Users' trust in online banking was significantly influenced by enhancement in security. |
| Marinković et al., 2019 | Serbia | IS continuance | Perceived Trust, Satisfaction, Continuance Intention | Satisfaction and Trust both are significant drivers of continuance intention |
| Shang & Wu, 2017 | China | TAM, Expectation Confirmation Theory | Satisfaction, PEOU, PU, CI (Continuance Intention) | PEOU of online stores and apps on mobile devices positively affects CI, PU, and satisfaction. |
| Sun et al., 2013 | China | IS continuance | PU, Trust, CI, Usage | PU, trust, and user satisfaction have a positive effect on the continuance intention of using |

| | | | Satisfactio n | online social network sites.Click or tap here to enter text. |
|---|---|---|---|---|

## 2.4 Summary and Contribution

To sum up, the narrative review approach was used in the literature review section, which started with an introduction to the various terms related to our study, then analyzed pertinent papers about the adoption of ecommerce in Nepal and highlighted the theoretical model employed in this paper. There are relatively few works linked to the study of Ecommerce in Nepal. Nevertheless, Vaidya (2019) emphasized some of the technical and non-technical obstacles that emerged during the implementation of ecommerce in Nepal. Pathak (2020) recommended focusing on a few key elements of ecommerce in Nepal, including Internet penetration, product quality, delivery methods, and customer services.

Based on the integrated model used in the work, which is TAM and IS continuation model, a research model with 5 variables (PU, PEOU, CS, RI, Trust) is built. The TAM model was chosen because it can forecast users' adoption of IT, and the ISCM model was selected since it can characterize users' attitudes toward IT solutions with accuracy. PU and PEOU were obtained from the TAM model (Davis, 1989) and CS and RI were acquired from the ISCM, totaling up the five constructs (Bhattacherjee, 2001b). To evaluate Nepalese users' trust in online retailers, a new scale called trust was established in this architecture. A summary of the 10 articles featured information on the research context, the model employed, salient constructs, and important trends.

# 3. Research Model and Hypothesis

This section discusses the research model and the related hypotheses (along with their argumentation) based on the research questions and the literature review. Based on the literature review, this thesis has included both Technology Acceptance Model and IS continuance model as the theoretical foundation with the inclusion of Trust in the research model.

## 3.1 Research Model

We have chosen the TAM and IS (Information System) continuance models to identify relevant variables so that they can be used to study the challenges faced by customers in the adoption of ecommerce. TAM, specifically developed by Davis (1989), is the combined theory of TRA and TPB, consisting of two major constructs: perceived usefulness (PU) and perceived ease of use (PEOU). These two constructs were combined with two other IS continuity constructs, such as customer satisfaction and repurchase intention, which determined the attitude toward the use of technology and thus influenced the behavioral pattern toward specific technology (Gangwar et al., 2014).

Trust is the external variable added to the conceptual model. The research model below (figure 3), thus consists of 5 major elements, namely: PU, PEOU, CS, Trust, and RI. According to Abiodun-Oyebanji (2017), the independent variable (IV) is the input variable and the dependent variable (DV) is the outcome variable. In our research model, PU, CS, and RI are the dependent variables, whereas trust and PEOU are the independent variables. Moreover, PU and CS are the moderating variables as they moderate the relationship between IV and DV (Abiodun-Oyebanji, 2017). In addition, the model is developed to study how customer satisfaction and repurchase intention are influenced by other factors in B2C ecommerce adoption by users.

TAM is a general model that makes it comfortable in explaining the variables affecting people's adoption of technology, or in our case, their online purchasing behavior.
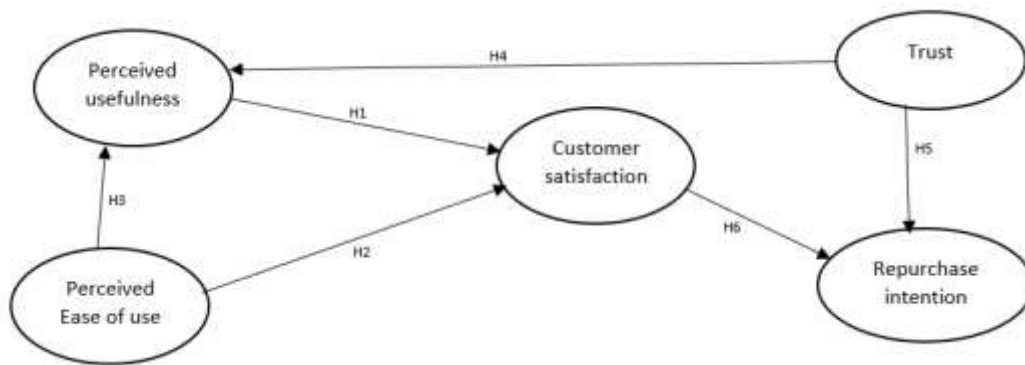
**Figure 3: Research Model with hypotheses**

## 3.2 Research Hypothesis

Based on our integrated research model, hypotheses are listed below along with their argumentation:

### 3.2.1 Perceived usefulness and Consumer satisfaction

Perceived usefulness is measured as the individual's perceptions regarding the actual performance of the product, technology, and services (Davis, 1989). With the new technology, perceived usefulness is used as a predictor of customer satisfaction.

According to (Marinkovic & Kalinic, 2017), perceived usefulness is a critical determinant factor of continued intention to use m-commerce. In our research model, customer satisfaction acts as a mediator between perceived usefulness and repurchase intention.

Many researchers (Bhattacherjee, 2001b; Shukla & Sharma, 2018) have investigated that perceived usefulness has a significant impact on determining customer satisfaction and helps to predict the customer's future purchasing intention.

Bhattacherjee (2001b) tested the hypothesis determining how users' perceived usefulness of IS is associated with their satisfaction and found out that intention to use IS was predicted by satisfaction as well as perceived usefulness (Bhattacherjee, 2001b). Customers repurchase intentions are directly impacted by the satisfaction possessed by customers through ecommerce and indirectly through the perceived usefulness. Based on the previous research, we propose:

**H1: The consumer's perceived usefulness has a positive effect on customer satisfaction with online repurchasing.**

### 3.2.2 Perceived ease of use and Consumer Satisfaction

According to TAM, PEOU is ranked as the second most crucial element in determining the acceptance of technology. Noori (2019) described satisfaction as a result of expectations and experience. Customer satisfaction in Ecommerce consists of the process where customers feel satisfied if their buying perception meets or exceeds their expectations. Customers possess expectations while purchasing the items, which they evaluate based on their needs, ease of use, and wants. Satisfaction is said to be achieved if the user's expectations are met with a particular product or service. Satisfaction is also a determinant factor for the success of the market's execution. In this study, we evaluate PEOU based on users' flexibility to use the online stores and whether particular online stores became successful in fulfilling the users' needs with the variety of products they have. Therefore, we put forth the following hypothesis:

**H2: Perceived ease of use has an optimistic effect on consumer happiness with online repurchasing intentions.**

### 3.2.3 Perceived ease of use (PEOU) and Perceived usefulness (PU)

According to the TAM Model, there is a high correlation between PU and PEOU (Davis, 1989). Many researchers (Gefen & Straub, 2000; Mangin et al., 2011; Sawitri & Giantari, 2020) investigated that PEOU has a positive relationship with PU, and significantly affects it. In this study, PEOU measures user assessments of the technology's ease of use and the ease of shopping through the online store. According to research, PU has a direct impact on PEOU, and both have a direct connection in determining customer satisfaction, which ultimately predicts the customer's future repurchase intention (Mangin et al., 2011). According to the TAM model (Davis, 1989), perceived usefulness is a stronger predictor of novel technology acceptance as compared with perceived ease of use. More precisely, PEOU works with the perception of the user's utilization of the IT, its services, interfaces, and all the processes involved in using it. According to Sawitri and Giantari (2020), perceived ease of use and perceived usefulness are the major factors possessed by an ecommerce that increase the consumer's confidence and motivate their intention to repurchase. **Therefore, we contend that PU directly influences PEOU(H3).**

### 3.2.4 Trust and Perceived usefulness

Marinkovic and Kalinic (2017) described Trust as an essential part of every business relationship. Trust has created a higher uncertainty in terms of ecommerce transactions rather than traditional commerce and plays a prime role in the sustainability of ecommerce transactions (Lee et al., 2018). Many researchers have studied the impact of trust on the usefulness in the consumer acceptance of ecommerce business (Lee et al., 2018; Marinkovic & Kalinic, 2017; Mou et al., 2016). Sawitri and Giantari (2020) stated that trust acts as a mediator to reflect the significant effects of PEOU and PU on online repurchase intention.

Consumer trust is a vital factor in encouraging loyalty to online stores that helps them to maintain and continue an important relationship (Eid & Mustafa, 2011). Trust is built on the foundation that vendors and users interact with each other virtually, and trade services, without involving actual face-to-face interactions.

Sawitri and Giantari (2020) studied that there is a significant positive relationship between trust and benefits perceived by the user while purchasing from online vendors. In this Trust is measured on the belief of the customer while making an online purchase. And the factors that determine the user's trust are based upon the trustworthiness, honesty, quality, and services of online stores, need fulfillment of user needs, dependability of the Ecommerce, and integrity of ecommerce. Eid and Mustafa (2011) study how the impact of perceived product/service information quality (IQ) on customer trust. Thus, based on prior research, we propose:

**H4: Trust has a direct positive effect on perceived utility.**


### 3.2.5 Trust and Repurchase Intention

Several Researchers have investigated the relationship between Trust and Repurchase Intention (Eid & Mustafa, 2011; Lee et al., 2018; Qureshi et al., 2009; Sawitri & Giantari, 2020). Lee et al. (2018) hypothesized that a buyer's trust in an intermediary positively affects their intention to purchase Sawitri and Giantari (2020) in his paper explained that Trust has a significant and positive effect on online repurchase intention. According to Sawitri and Giantari (2020), the role of trust while conducting online transactions depicts the perception of ecommerce. Repurchase intention is the customer's decision to buy products or services,

or engage with the supplier in the future. Trust encourages online purchases, and increases loyalty toward a purchase decision, thus significantly influencing customer attitudes toward purchasing from retailers.

Noori (2019) explained that customers are more focused on the security of ecommerce websites such as payment methods, data storage, and data transmission. Furthermore, Noori revealed that if users trust particular ecommerce websites, then it is more likely that they will make a future purchase of goods or services from them. In this study, the relationship of repurchase intention is measured with trust, i.e., the likelihood of buying products from online stores. Thus, we propose the following hypothesis:

**H5: Trust has a direct positive effect on the Repurchase intention**


## 3.2.6 Customer satisfaction and Repurchase intention

Satisfaction can be defined as the results of achievement when the perceived behavior of a particular product or service exceeds the customers' expectations. In business, satisfaction acts as a key factor in building and retaining a loyal long-term customer and hence determines the success of the market. Research shows that satisfied customers have a high degree of repurchase intention of products from a vendor (Noori, 2019).

In this study repurchase intention relates to online repurchase continuation, i.e., the likelihood of buying an online product or service again in the future. Bhattacherjee (2001b) in his theory, Expectation Confirmation Theory, explained that the consumer's repurchase intention is directly affected by their level of satisfaction with prior use of services. Addedly, satisfaction with Information Systems use is the strongest forecaster of users' continuance intention. Eid and Mustafa (2011) concluded that the increase in customer satisfaction has a direct positive effect on customer loyalty. We propose:

**H6: Customer satisfaction has a direct effect on the Repurchase intention**

# 4. Methodology

According to Noori (2019) defines research methodology as the framework or systematic process of undertaking research by employing distinct methods and techniques. The research methodology is a crucial aspect of a research paper and describes how the research was conducted. Furthermore, this section acts as a guideline to check the accuracy and relevancy for the readers and thus build their trust in the findings (Chris, n.d.). The methodology chapter describes the methods chosen for data collection, how the data is examined, and justifies the approach chosen. It illustrates how the choice of design and research methods is appropriate for answering our research question. The research methodology entails the research design, research strategy, methods used for the study, population and sampling, and data collection procedures.

## 4.1 Research Design

Research design (RD) helps to design the overall framework for the shape of the research. The research design is like a conceptual blueprint based on which the researcher conducts the research. Correspondingly, it is the glue that holds all the elements used in the research and arranges the elements systematically (Akhtar, 2016). Bryman (2012) claims that RD is a vital element of social research since it generates the framework for data collection and analysis (Bryman, 2012). Research design, according to Saunders et al. (2012), is the overall strategy for how to handle the study questions, covering clear objectives that were developed from the research questions. There are numerous research designs, and the purpose of the research as well as the research model are the factors determining the particular research design (Gudlaugsson & Schalk, 2009). This paper has applied an explanatory research design. Saunders et al. (2012) describe this design as the studies establishing the causal relationships between the variables of the research model. In this study, the causal relationships between the 5 constructs (trust, PEOU, PU, customer satisfaction, and repurchase intention) of the research model are established to answer the research question about the challenges faced by Nepalese while adopting ecommerce. This approach helps find out how the variables are related to each other. The research workflow is depicted in the figure below:
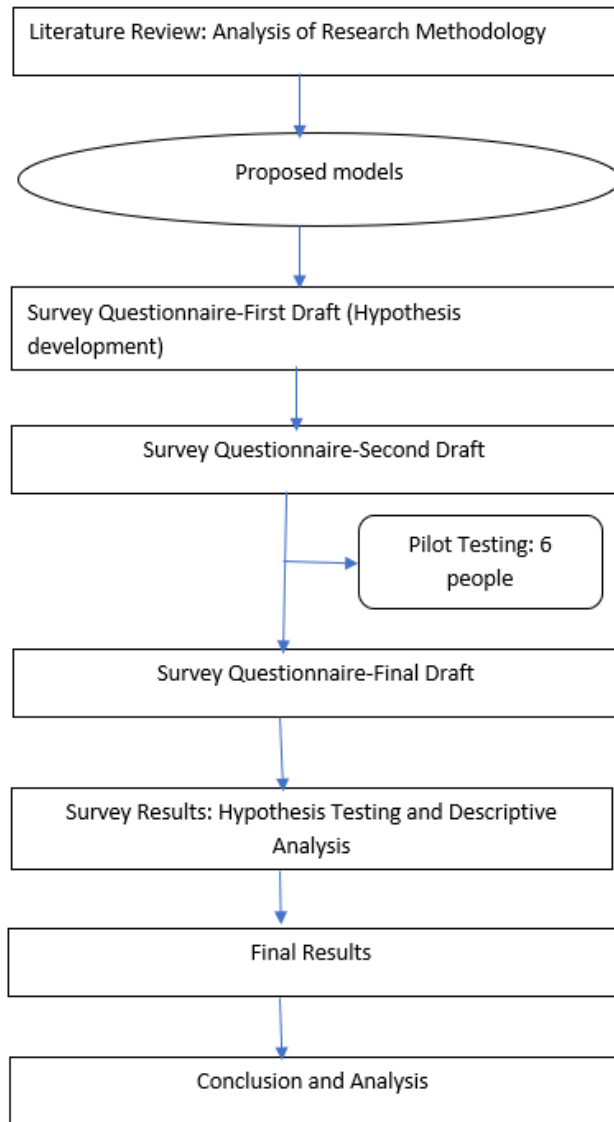
**Figure 4: Research Process Workflow**

## 4.2 Research Approach

Inductive and deductive research methodologies are the two key categories of research approaches. The research approach stood on the second tier of Saunder's research onion (Saunders et al., 2012), and is based on which the researcher decides upon research strategies, research choices, and techniques and procedures for conducting the research. The deductive approach is related to generating hypotheses and designing an appropriate research strategy to test those hypotheses (testing theories). On the other hand, an inductive approach is one in which a theory is developed based on empirical analysis after data is

collected (Saunders et al., 2012). In natural science, deductive theories are also termed the dominant research approach because the outcome is predictable (Saunders et al., 2012). Based on the nature of the research model, a deductive approach is most suitable for this study since some underlying ideas and hypotheses were pre-defined before the data collection, which is also included in many research articles and may guide this paper in addressing the challenges of ecommerce adoption among Nepalese users.

## 4.3 Research Strategy

The research strategy acts as the bridge between the data collection and the research philosophy and is used to answer the research questions, as seen in "The Research Onion" (Saunders et al., 2012). Out of the six research strategies listed by Oates (2022): survey, design and creation, case study, experiment, philosophy, and action research, this study adopts a survey. Oates (2022) defines a survey as "the method focusing on gaining the same kinds of data from a wide number of people (or events) consistently and systematically." According to Saunders et al. (2012), the survey strategy is included in the deductive approach. This research adopted surveys as the most popular and common strategy in management and business research (Saunders et al., 2012). Furthermore, questionaries were used as the data generation method, which was performed through an online survey service called https://nettskjema.no/ (affiliated with the University of Oslo) and distributed as a link via social media.

## 4.4 Quantitative Approach

The research choices fall on the 4th tier of "the research onion," and this study adapts the mono method as it uses only one research approach, the quantitative approach. We chose the mono method because this research used questionnaires as a data collection method and is combined with a corresponding quantitative data analysis procedure (Saunders et al., 2012). Creswell and Creswell (2009) defines the quantitative approach as a "means for testing objective theories by examining the relationship between variables" (Lama, 2018). Simply said, research that is positioned on the measurement of quantity/amount is called quantitative research (Kothari, 2004). The quantitative method is suitable for directing this

study, as it allows for the gathering of numerical data and employs statistical methods to test the hypotheses.

## 4.4.1. Data Collection and Sampling Procedure

According to Oates (2022), after forming a sampling frame, there are two possible sampling procedures, namely probability, and non-probability sampling procedures, which will help to select actual people for the survey.

Concerning time availability, expenditure, and accessibility, surveying a large population is a challenging task (Saunders et al., 2012). This study focused on the population that makes electronic purchases from online retailers. Based on this criterion, we have decided to use non-probability sampling. To clarify, we did not know "whether the sample of people or events is representative; different members might have a unique characteristic that is not shared with the overall population," as explained by Oates (2022). Moreover, the reason this study does not use probability sampling is that not all Nepalese use ecommerce services. Hence, the research used convenience sampling integrated with snowball sampling. These are the most efficient and cost-effective methods of data collection. The selection of respondents is based on how easily we can reach them. In addition, snowball sampling was used, where professors or teachers were chosen from a particular college and requested to be distributed to the students.

## 4.4.2 Questionnaires

The questionnaires are divided into sections: the first section consists of the demographic characteristics of the population, and the second part consists of the elements that define our research model. Each participant's demographics and past experiences with internet buying were gathered through the questionnaire. It was also used to capture data about the preferences of customers regarding online shopping and their opinions regarding trust, satisfaction, usefulness, ease of use, and repurchasing intention. These data were utilized to quantify the build of the study model.

### 4.4.3 Pilot Test

According to Oates (2022), it is a better idea to perform pilot testing on questionnaires, and having asked for a suggestion, they complete it as if they were a target respondent. Six people representing the population under study were recruited to validate the task instructions and the questionnaires. The questionnaires were validated as a result of this pilot to ensure that the questions were understandable, that it took enough time to complete the survey, that the questions were not too vague, and that people could follow the guidelines for answering them (Oates, 2022). As per the feedback from the representatives, the necessary changes were made.

# 5. Data Analysis and Results

This section presents the outcomes of the quantitative research methodology. The section is divided into two sections: section one consists of the descriptive analysis of demographic statistics and section two consists of the descriptive analysis of variables. Firstly, in section one the demographic profile of the respondents is tabulated and then represented in charts and table form for a better visual presentation. Similarly, the descriptive analysis of latent variables is done in the second section using the Smart PSL Tool, which is described below in detail.

## 5.1 Descriptive Analysis of demographic statistics

Descriptive statistics are one of the quantitative analysis tools used for summarizing the sample, making estimates, and testing the hypothesis. The survey consists of 100 respondents' records altogether and the demographic profiles are analyzed based on their gender, age, education level, place, most visited ecommerce site, and payment method used, which is shown in Table 10 and then plotted in the pie chart and bar diagrams.

**Table 10: Demographic characteristics of the respondents.**

| Demographic | Characteristics | Frequency | % |
|---|---|---|---|
| Gender | Male | 57 | 57% |
| | Female | 43 | 43% |
| Age | 15-24 | 33 | 33% |
| | 25-34 | 46 | 46% |
| | 35-44 | 15 | 15% |
| | 45-54 | 5 | 5% |
| | 55-64 | 1 | 1% |
| | 65 years or older | 0 | 0% |
| Education Level | Primary education | 1 | 1% |
| | Lower secondary education | 2 | 2% |
| | School leaving certificate | 7 | 7% |
| | HSEB certificate | 13 | 13% |

| | | | |
|---|---|---|---|
| | Diploma certificate | 9 | 9% |
| | Bachelors | 30 | 30% |
| | Masters | 35 | 35% |
| | Ph.D. | 2 | 2% |
| | Others | 1 | 1% |
| Place | Province No. 1 | 10 | 10% |
| | Madhesh Province | 3 | 3% |
| | Bagmati Province | 61 | 61% |
| | Gandaki Province | 10 | 10% |
| | Lumbini province | 15 | 15% |
| | Karnali Province | 1 | 1% |
| | Sudurpashchim Province | 0 | 0% |
| Most visited Online stores (last 6 months/ user can choose up to three options) | Daraz.com.np | 84 | 84% |
| | Pasal.com.np | 15 | 15% |
| | Sastodeal.com | 33 | 33% |
| | Shopmandu.com | 13 | 13% |
| | Hamrobazar.com | 36 | 36% |
| | Socheko.com | 2 | 2% |
| | Smartdoko.com | 4 | 4% |
| | Meroshopping.com | 12 | 12% |
| | Thulo.com | 2 | 2% |
| | Okdam.com | 1 | 1% |
| | Muncha.com | 5 | 5% |
| Payment methods used (can choose more than 1) | Cash on delivery | 68 | 68% |
| | Credit/debit card | 25 | 25% |
| | Digital wallet | 41 | 41% |
| | Bank transfer | 37 | 37% |
| | Others; | 2 | 2% |
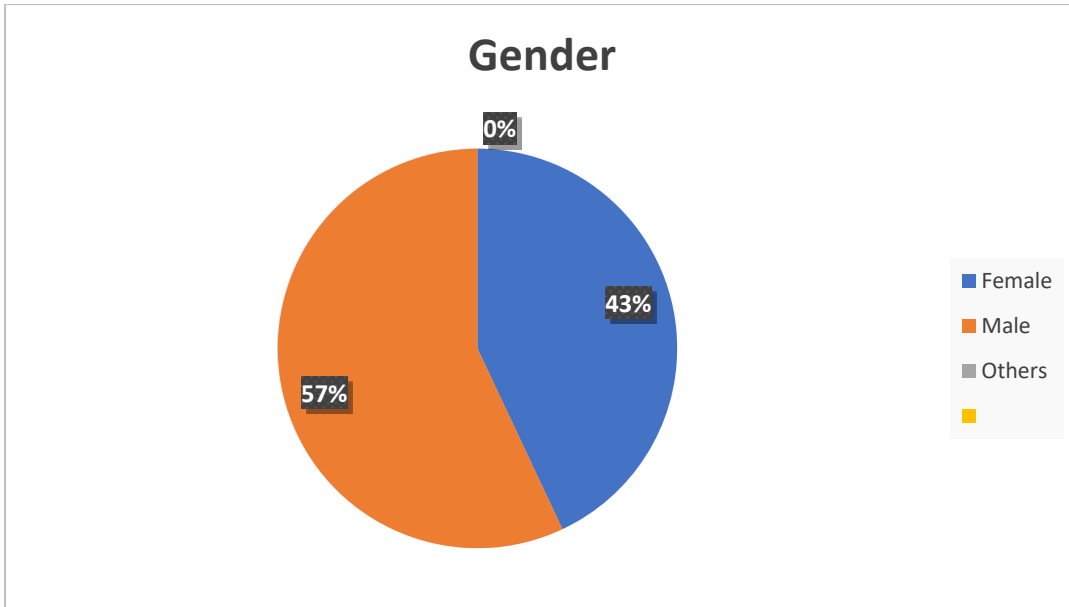
**Figure 5: Gender of the respondents**

The given pie chart shows that Male respondents are more in number (57) than female respondents (43), in percentage Males 56.2% and females 43.8%. The others gender category was not recorded in the survey (0%).
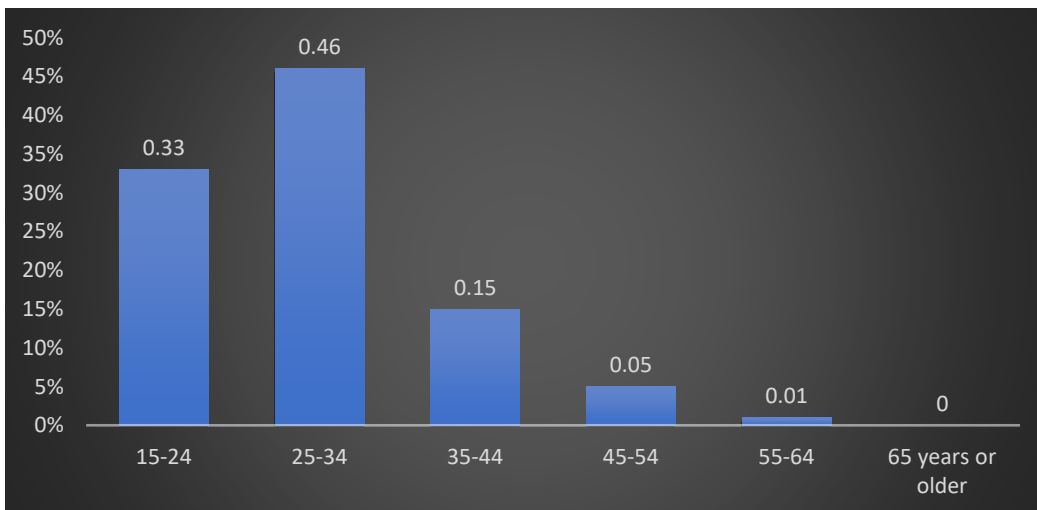


**Figure 6: Age group of the respondents**

It can be seen from above figure 6 that nearly half of the respondents (46%) belong to the 25-34 age group, followed by the age group 15-24, which is 33% of the total population, 35-44 is 15%, 45-54 is 5%, 55-64 is 1% and there were no respondents above 65 years.
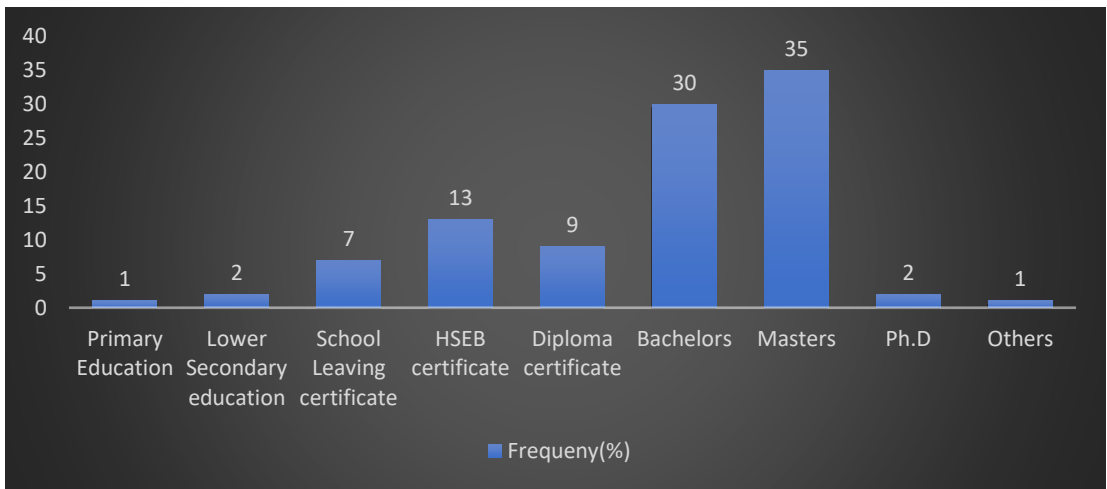
**Figure 7: Education level of the respondents**

The bar diagram is plotted for the Education level of the respondents and figure 7 reveals that the majority of online shoppers have the Master's degree comprising 35% of the total respondents, followed by respondents with a Bachelor's degree (30%), 13% have HSEB certificate, 9% of the population have diploma certificate, 7% have a school leaving certificate, 2% have lower secondary education, 2% have Ph.D., 1% has Primary education, 1% another degree.
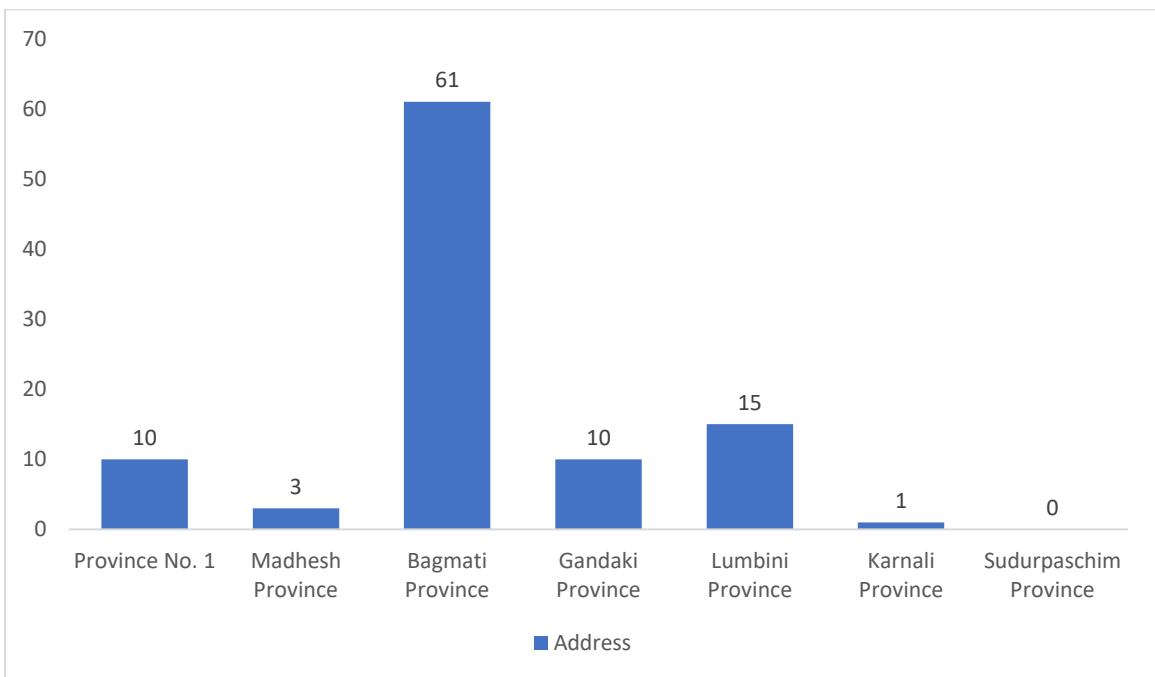


**Figure 8: Place of the respondents**

People from the Bagmati province are the active online buyers which comprise 61% of total respondents, Lumbini province consists of 15% of total respondents, Province no. 1 and Gandaki Province consist of an equal percentage of online shoppers (10%), Madhesh Province comprises of 3%, and Karnali Province consisting of 1%, there was no any respondents from Sudurpashchim Province.
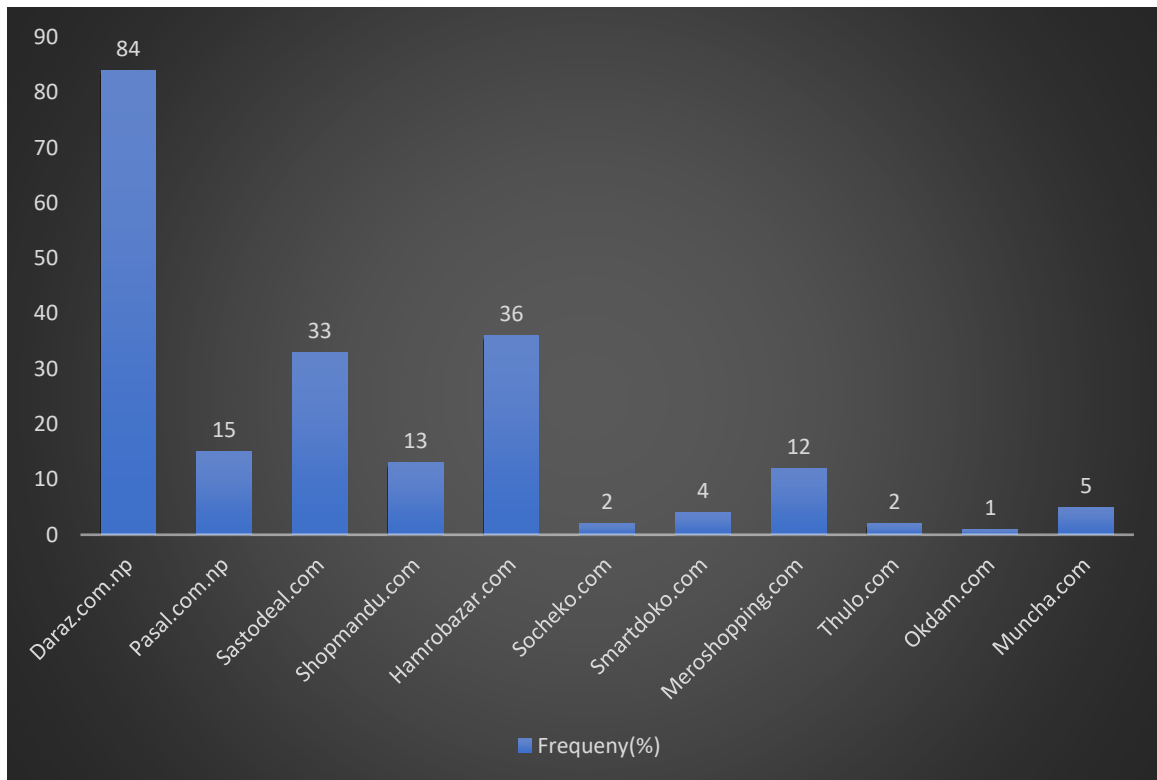


**Figure 9: Most visited online stores (last 6 months)**

When asked user to make a choice about the most visited online stores in the last 6 months, and allow them to choose up to 3 websites, Daraz.com.np stood as the most visited online website in 6 months consisting of 84%, followed by hamrobazar.com (36%), Sastodeal.com (33%), pasal.com.np (15%). Furthermore, Shopmandu.com consist of 13%, Meroshopping.com consist of 12%, Muncha.com comprises 5%, and Smartdoko.com consist of 4%. Specifically, Okdam.com (1%) is the least visited website in the 6 months. Fewer respondents buy from socheko.com and thulo.com.
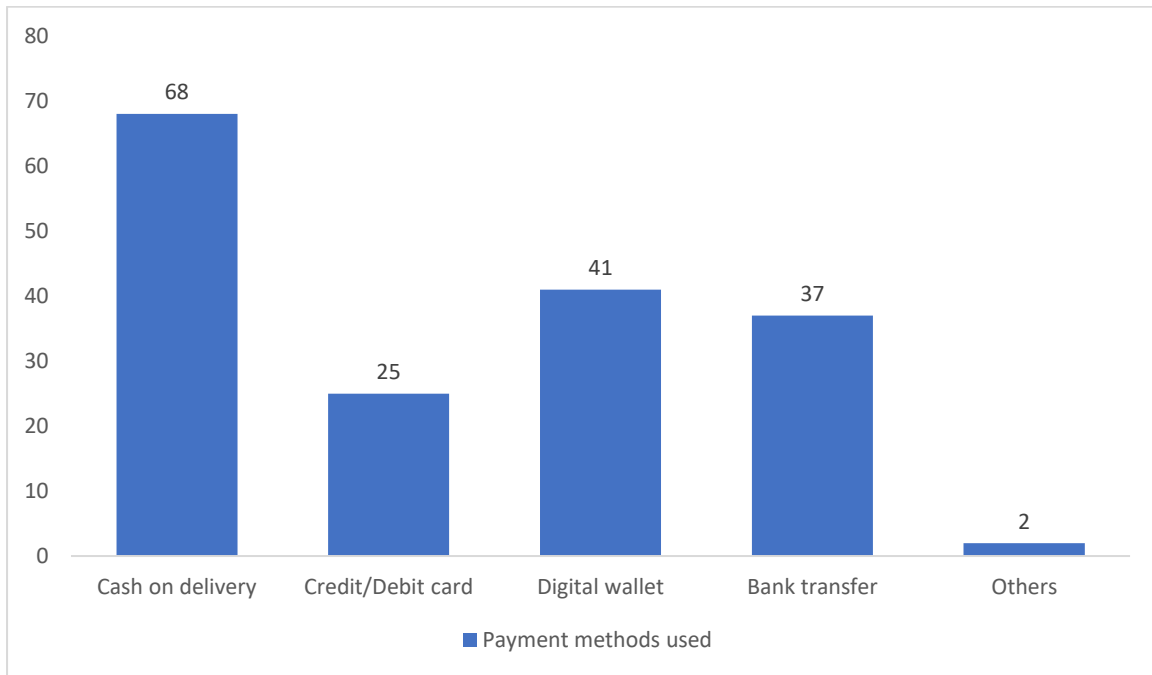
**Figure 10: Payment methods used**

Figure 10 above illustrates the pie chart of the payment method used by the people where multiple choices are allowed. The results illustrate that Cash on delivery (68%) is the most used payment method, followed by Digital wallet (41%), Bank transfer (37%). Additionally, 25% of respondents from the total population used credit/debit for making a purchase and 2% choose another method for making a purchase.

## 5.2 Descriptive analysis of Variables

As part of the second part of the questionnaire, a Likert scale (1-7) is used to evaluate the relationship between items and the adoption of ecommerce among Nepalese. The highest scale is 7 representing "strongly agree", and 1 representing "strongly disagree". For analysing our data and testing of hypothesis, we used SmartPSL 3.3.9, a partial least square analysis tool (SmartPLS GmbH, 2015). SmartPLS tool, known for its effectiveness, is used for testing validity (convergent and discriminant) and is reliable even for small sample data. Our first step is to analyze the measurement model and then to measure the structural model to verify the research hypotheses by analyzing different factors (Lee et al., 2018). PLS-SEM combines principal component analysis with ordinary least square regressions to estimate partial model

structure (Jr et al., 2018). SEM consists of two distinct statistical methods: confirmatory factor analysis and path analysis (Fan et al., 2016). Confirmatory factor analysis is best known to estimate attitude and satisfaction (latent psychological traits). Path analysis creates a path diagram to find the causal relationship among the variables (Fan et al., 2016). PLS-SEM results are evaluated by examining the measurement models, which are based on either reflective or formative constructs. The assessment of the structural model needs to be done if the measurement model fulfils the necessary criteria (Jr et al., 2018).

**Table 11: Descriptive statistics of constructs**

| Items | Mean | Median | Standard Deviation | Kurtosis | Skewness |
|---|---|---|---|---|---|
| Perceived Usefulness | | | | | |
| PU1 | 4.590 | 4.000 | 1.289 | -0.031 | 0.068 |
| PU2 | 4.570 | 5.000 | 1.243 | -0.026 | -0.178 |
| PU3 | 4.780 | 5.000 | 1.180 | 0.404 | -0.081 |
| PU4 | 4.600 | 5.000 | 1.241 | 0.483 | -0.376 |
| Perceived Ease of Use | | | | | |
| PEOU1 | 4.570 | 4.000 | 1.512 | -0.090 | -0.224 |
| PEOU2 | 4.600 | 5.000 | 1.476 | 0.186 | -0.530 |
| PEOU3 | 4.660 | 5.000 | 1.343 | 0.233 | -0.210 |
| PEOU4 | 4.940 | 5.000 | 1.287 | 0.293 | -0.458 |
| PEOU5 | 4.720 | 5.000 | 1.393 | 0.204 | -0.430 |
| | | | | | |
| Customer Satisfaction | | | | | |
| CS1 | 4.060 | 4.000 | 1.333 | 0.718 | 0.480 |
| CS2 | 4.140 | 4.000 | 1.233 | 0.454 | 0.508 |
| CS3 | 3.900 | 4.000 | 1.367 | 0.454 | 0.541 |
| Trust | | | | | |
| T1 | 4.480 | 4.000 | 1.292 | -0.085 | 0.257 |
| T2 | 4.420 | 4.000 | 1.320 | 0.469 | -0.234 |
| T3 | 4.220 | 4.000 | 1.446 | 0.126 | -0.313 |

| | | | | | |
|---|---|---|---|---|---|
| T4 | 4.660 | 5.000 | 1.321 | 0.168 | -0.221 |
| T5 | 4.650 | 5.000 | 1.322 | -0.300 | -0.120 |
| T6 | 4.670 | 5.000 | 1.335 | -0.521 | -0.167 |
| Repurchase Intention | | | | | |
| RI1 | 4.610 | 4.000 | 1.182 | 0.164 | 0.249 |
| RI2 | 4.630 | 5.000 | 1.230 | 1.201 | -0.502 |
| RI3 | 3.810 | 4.000 | 1.647 | -0.733 | -0.154 |

The descriptive statistics of the individual construct of the latent variables are displayed in Table 11. While analysing the mean scores of all the constructs based on their particular latent variable, PU3(4.780), PEOU4(4.940), CS2(4.140), T6(4.670), and RI2(4.630) consist of the highest mean scores. Furthermore, the low SD value indicates that the data are close to the mean value of the data sets. The cut-off value of skewness and Kurtosis as claimed by Lewis-Beck et al. (2003) lies between +2 to -2. We can see that there is uneven skewness of the construct frequency distributions that range from -0.530 to 0.541. That implies that the answers to the 7-point Likert scale are uneven (not always concentrated at one end of the Likert scale). Similarly, the kurtosis scores also fall under the cut-off value. Hence, the data is normal.

## 5.2.1 Measurement Model Assessment

The measurement Model is used to examine the link between the latent variables and their measures.

Indicators with factor loading less than 0.70 are excluded from the model (Hulland, 1999). Factors such as PU1, PEOU3, T2, T3, T4, and RI3 are removed from the model as their factors loading is found to be less than 0.70. Out of 21 constructs, 6 constructs were deleted. To evaluate the measurement model, we need to discover the construct's convergent and discriminant validity as well as internal consistency(reliability).

The measurement model is used for outer model assessment (Wong, 2019). The factor loading, composite reliability, Average variance extracted (AVE), and Cronbach's Alpha for each indicator are illustrated in Table 12.

Reliability Test

The analysis performed on the measurement model to test its extent of reliability in measuring the intended latent construct is called reliability (Awang, 2015).   If the results can be consistently reproduced then we can say the model is reliable. For the assessment of the reliability of a measurement model, we calculated Internal reliability (IR), Composite Reliability (CR), and Average Variance Extracted (AVE).  According to Hossain et al. (2018), the requirements for result analysis of reliability are based on the following criteria:

1. IR-the value of Cronbach's Alpha>0.6, which represents significant variable reliability (Hossain et al., 2018).

2. The value of CR>0.7-Required for the achievement of CR for a construct

3. AVE>0.5- Indicative of how consistently the measurement model measures the construct.

**Table 12: Reliability coefficients for constructs**

| Constructs/Items | Loading | AVE (Minimum 0.5) | CR (Minimum 0.7) | Cronbach's Alpha |
|---|---|---|---|---|
| CS | | 0.843 | 0.906 | 0.762 |
| CS1 | 0.843 | | | |
| CS2 | 0.893 | | | |
| CS3 | 0.891 | | | |
| PEOU | | 0.798 | 0.869 | 0.623 |
| PEOU1 | 0.806 | | | |
| PEOU2 | 0.832 | | | |
| PEOU4 | 0.765 | | | |
| PEOU5 | 0.752 | | | |
| PU | | 0.721 | 0.842 | 0.640 |
| PU2 | 0.803 | | | |
| PU3 | 0.828 | | | |
| PU4 | 0.768 | | | |

| | | | | |
|---|---|---|---|---|
| RI | | 0.724 | 0.873 | 0.775 |
| RI1 | 0.936 | | | |
| RI2 | 0.821 | | | |
| Trust | | 0.861 | 0.915 | 0.782 |
| T1 | 0.773 | | | |
| T5 | 0.925 | | | |
| T6 | 0.945 | | | |

Table 12 shows that the Cronbach alpha value for all the items is greater than 0.70. Additionally, we can also see that the AVE for all the latent variables is higher than 0.5 and the CR scores for all constructs are higher than 0.6. Hence, we can conclude that the data in the research is reliable and possess a good level of internal consistency as the study matched all the requirements of the evaluation of the model measurements (see table 12).

Validity Test

Validity represents the ability of a tool for measuring what it is supposed to measure for a latent construct (Awang, 2015). According to Awang (2015), there are three types of validity Convergent validity, Construct Validity, and Discriminant Validity. We measured the construct validity by calculating Cronbach's Alpha and composite reliability and both of the values should be greater than 0.7. Table 12 above shows that all the Cronbach's alpha results and the CRs value were greater than 0.7 which indicates that the measurements were reliable and the consistency of the factors measuring the constructs are valid.

For measuring the convergent validity, the assessment was based on the value of AVE, which should be 0.5 or greater than 0.5 (Awang, 2015). Discriminant validity is measured through the Fornell-Larcker criterion and HTMT criterion, which are explained below.

To achieve the discriminant validity, we use the classical approach proposed by Fornell and Larcker (1981) called the Fornell-Larcker Criterion, in which the square root of the AVE was compared with all the cases of correlations between each pair of constructs. The discriminant validity is said to be recognized if the square root of the AVE is greater than the associations between each pair of constructs (Lee et al., 2018). Table 13 demonstrates that every square root of the AVE (diagonal elements in bold) is higher than 0.5 and also higher than the value

in its row and column, proving that each measurement adequately explained the targeted construct without overlapping an adjacent construct. According to Fornell and Larcker (1981), the validity of the variables can be accepted if the correlation value of a particular variable with itself is greater than the correlation variable with other constructs. Thus, from table 13 we can conclude that discriminant validity for all five constructs is achieved (Awang, 2015).

**Table 13: Fornell-Larcker criterion (discriminant Validity)**

|       | CS    | PEOU  | PU    | RI    | Trust |
|-------|-------|-------|-------|-------|-------|
| CS    | **0.873** |       |       |       |       |
| PEOU  | 0.520 | **0.790** |       |       |       |
| PU    | 0.491 | 0.570 | **0.800** |       |       |
| RI    | 0.550 | 0.721 | 0.589 | **0.880** |       |
| Trust | 0.522 | 0.375 | 0.482 | 0.460 | **0.885** |

## 5.2.2 Structural Model Assessment

Assessing the structural model is the next step in evaluating the PLS-SEM, after the satisfactory results of the measurement model assessment. The structural model is calculated to find the relationships between different constructs in a model, and how they directly or indirectly affect another latent variable (Jr et al., 2018). The structural model is used for inner model assessment (Wong, 2019). We use bootstrapping to find out path coefficients and test the significance of the latent variables. The assessment criteria to find out the significance of the path coefficient as defined by Wong (2019) is the value of T-statistics must be greater than 1.96 for two-tailed (significance level of 5%). In this model, the inner model was examined for the assessment of the relationship between variables which was done by testing the hypothesis. The analysis of the results in table 14 showed that all hypotheses (H1, H2, H3, H4, H5, H6) were supported as the t-values for these are found to be statistically significant (t>1.96) which is described in detail in the discussion section. The threshold for the statistical significance weights (p-value) should be less than 0.05 (Jr et al., 2018). The results from table 14 illustrate that PEOU and PU have a direct impact on customer satisfaction. The likelihood of making another purchase is also significantly influenced by customer satisfaction and trust.

**Table 14: Path coefficient**

| Hypothesis | Relationship | t-value | P-value | Beta | Result |
|---|---|---|---|---|---|
| H1 | PU->CS | 2.129 | 0.034 | 0.290 | Supported |
| H2 | PEOU->CS | 2.274 | 0.023 | 0.354 | Supported |
| H3 | PEOU->PU | 4.595 | 0.000 | 0.453 | Supported |
| H4 | T->PU | 3.759 | 0.000 | 0.312 | Supported |
| H5 | T->RI | 2.020 | 0.044 | 0.233 | Supported |
| H6 | CS->RI | 3.127 | 0.002 | 0.427 | Supported |

The bootstrapping method was executed for the calculation of the hypothesis testing and path coefficients. Table 14 summarizes the hypothesis test results of the study. We also measured the $R^2$ value of the endogenous constructs, which is used to determine the predictive power of the constructs (Jr et al., 2018). According to Jr et al. (2018), the cutoff value of $R^2$ ranges from 0 to 1. Moreover, there are certain guidelines determining $R^2$ values such as values of 0.75 indicating substantial, likewise, 0.50 indicating moderate, and 0.25 indicating weak. The findings reveal a significant correlation between perceived utility and perceived ease of use (B=0.453, p=0.000<0.05, t=4.595>1.96, $R^2$=0.409).

Thus, hypothesis H3: "Perceived ease of use (PEOU) has a direct positive effect on perceived usefulness (PU)" is supported.

Similarly, the association between trust and perceived usefulness is also found significantly effective with P value=0.000(p<0.05), t-value=3.759(>1.96), $R^2$=0.409, and B value value=0.312. Thus, hypothesis H4: "Trust has a direct beneficial effect on perceived usefulness" is supported.

Likewise, we can see from Table 14 that there is a strong optimistic relationship between Customer Satisfaction and Repurchase Intention (B=0.427, p=0.002<0.05, t=3.127>1.96, $R^2$=0.341). Thus, hypothesis H6:" Customer Satisfaction (CS) has a direct positive effect on Repurchase Intention (RP) is supported."

Furthermore, the hypotheses regarding Perceived ease of use and customer satisfaction are also supported and stood third strong relationship in this study with a B value of 0.354, t value

(2.274), $R^2$=0.327, and p-value of 0.023 (which is less than 0.05). Thus, hypothesis H2:" Perceived Ease of Use has a direct positive impact on Customer Satisfaction (CS)" is supported. Similarly, Hypotheses "H1: Consumer's perceived usefulness has a significant positive effect on customer satisfaction with online repurchasing" is supported (B=0.290, t value=2.131, P value=0.034<0.05, $R^2$=0.341). The path coefficient is statistically significant between trust and repurchase intention with t value=2.020 which is greater than 1.96, B value=0.233, $R^2$=0.341, and p value=0.044 which is less than 0.05. Thus, from the analysis, we can conclude that the Hypothesis is supported. "H5: Trust has a direct positive effect on the Repurchase intention". The findings also suggest that the p-value of all the hypotheses is less than 0.05 which indicates there is a statistically significant difference between the variables. To evaluate the model of fit, we need to find a standardized root mean square residual (SRMR). In a more conservative version, the threshold value for considering good fit values is less than 0.10 and 0.08 (Hu & Bentler, 1999). The SRMR value of this study is found to be 0.08 which is acceptable (Hu & Bentler, 1999).

The result after assessing the structural model is presented in the figure below:
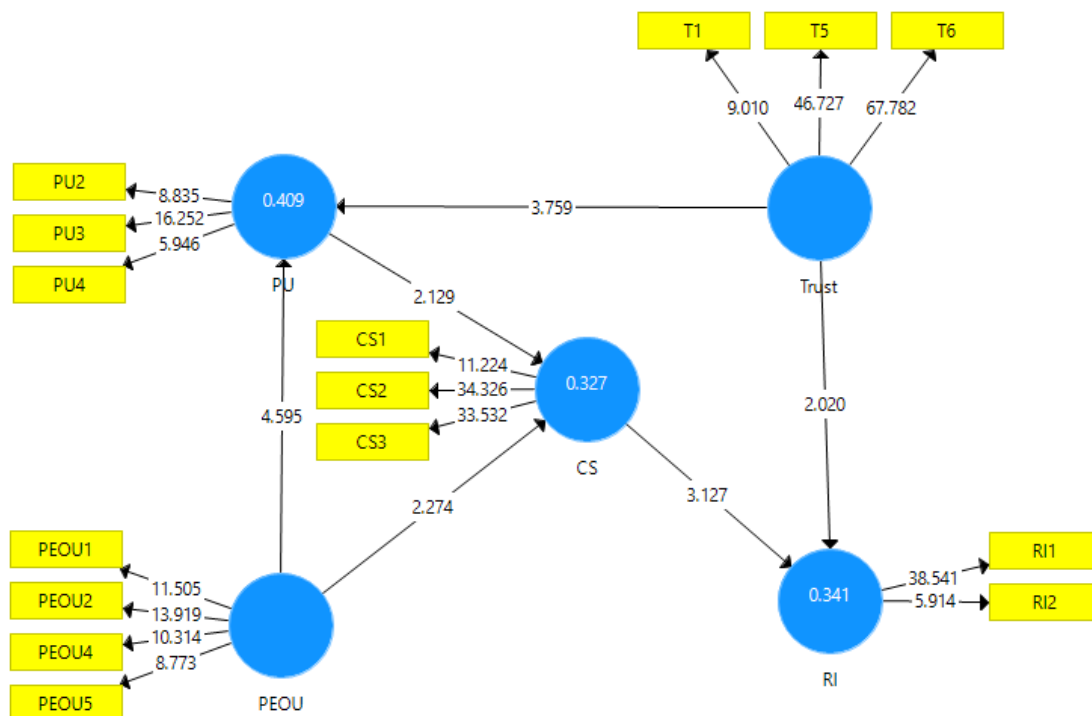


**Figure 11: Results of the Structural Model**

# 6. Discussion

This research aims at finding the effect of perceived usefulness, and perceived ease of use on customer satisfaction and repurchase intention on Nepalese consumers on B2C ecommerce adoption. This section will focus on the major findings of the study, and an explanation of why the findings are important, we will also try to relate our findings with another similar study (Hess, 2004). This section is divided into three sections: A summary of the findings, Implications, and Limitations & future research.

## 6. 2 Summary of the Findings

We are examining the perception of users to purchase from virtual stores and the factors affecting B2C ecommerce adoption in this study. A baseline model was adopted from the TAM model, along with an ISCM that connected PU, PEOU, CS, and RI. As Online purchasing is largely influenced by trust (Eid & Mustafa, 2011), so we tested the impact of trust in our model on PU and Intention to Repurchase. Our research model and the results of our SEM analysis validated all 6 hypothesized models. This study supports the hypothesis that PEOU and PU of the Nepalese customer towards ecommerce services directly influence their satisfaction and hence have a positive impact on repurchase intentions. A customer's trust in an ecommerce service influences the perceived usefulness of that service and their repurchase intentions.

The PEOU-PU link has formerly been studied and confirmed in Ecommerce adoption, and online repurchase intention research (Gefen & Straub, 2000; Mangin et al., 2011; Sawitri & Giantari, 2020). This indicates that, if a person finds the use of technology easy for purchasing online then s/he will be more likely to find shopping from virtual stores useful. A mobile-friendly website, simple payment methods, customizable themes, etc. needs to be considered to provide acceptance of using ecommerce services.

The data acquired depict that Trust in ecommerce is a positive predictor of perceived usefulness and repurchase intention. Trust is validated to have a significant impact on PU (Lee et al., 2018; Marinkovic & Kalinic, 2017). Henceforth, if the user trusts online purchasing, then s/he is likely to find ecommerce useful for shopping.

From our findings, we can see that Trust is a strong predictor of repurchase intention, which is constant with earlier studies (Eid & Mustafa, 2011; Lee et al., 2018; Qureshi et al., 2009; Sawitri & Giantari, 2020, p. 2020). The online shopping users' trust leads to a repurchase intention. If the user finds the virtual store trustworthy then, there is a high chance of repurchasing from the same store.

The CS-RI relationship has been validated by many researchers (Bhattacherjee, 2001b; Eid & Mustafa, 2011; Noori, 2019) related to continuance intention research, which is consistent with our findings also. The result depicts that, if the customer is satisfied with online shopping, then s/he develops a positive attitude towards online shopping and intent to repurchase in the future.

Furthermore, perceived ease of use is a strong predictor of customer satisfaction and are being studied previously to study their relationship (Davis, 1989; Noori, 2019), which exactly agreed with our model. That means if a customer finds it easy to use the online shopping platform, and finds it useful, understandable, and fruitful for information seeking then it can lead to customer satisfaction.

Similarly, perceived usefulness is confirmed as the determinant factor of user satisfaction and continuance intention. The benefit imparted by online retailers has a direct consequence on customer happiness. If the customer finds online purchasing useful to buy things, satisfy with the content and product possessed by the virtual stores, and if they think the virtual store would enhance their effectiveness then they will be satisfied. Otherwise, they will switch to traditional shopping.

The results of our analysis are consistent with the previous studies that claimed that PU is a critical determinant factor for a continued intention to use ecommerce (Marinkovic & Kalinic, 2017). Similarly, as argued by (Bhattacherjee, 2001b; Mangin et al., 2011; Shukla & Sharma, 2018), PU having a significant impact on determining customer satisfaction aligns with our results. The $R^2$ value for the endogenous constructs PU, RI, and CS which represents the variance explained by exogenous variables are 41%, 34%, and 33% respectively. This implies that our endogenous constructs have a moderate predictive power towards their exogenous variables.

Hence, Ecommerce vendors need to deliver new features of ecommerce services, provide services accurately and with high speed, and ensure the stability of the system, focusing on

ease of system usability, so that users can gain maximum profit and hence be satisfied with overall ecommerce services.

## 6.3 Implications

This study imparts a contribution towards ecommerce adoption, both in academia and practice, basically in the study related to ecommerce and online shopping behavior. Both aspects are described below:

### 6.3.1 Implications for research

This study contributes to the theoretical approach by proposing a conceptual approach with the adaption of a combination of TAM and ISCM, with the inclusion of a new scale variable i.e., Trust to analyze the factors affecting ecommerce adoption by Nepalese consumers. It also investigates the user's continuance intention from the perspective of Nepalese people. To my knowledge, this study is one of the few studies that has attempted to investigate users' perception of ecommerce adoption and repurchase intention by combining TAM and ISCM. Even though many researchers have studied the challenges in ecommerce adoption among users, applying TAM in online shopping, and ISCM for users' continuance, till now (to my knowledge) no study has investigated the integrated model (TAM & ISCM), especially in the case of Nepal. Overall, the findings provided a better understanding of the relationships between major factors used in the model, PU, PEOU, CS, RI, and Trust, in the adoption of B2C ecommerce. In addition, comparing the relationship between trust and repurchase intention, customer satisfaction, and repurchase intention among Nepali and international users helps add to the knowledge of ecommerce.

### 6.3.2 Implications for practice

Apart from the theoretical contribution, this study may impart some practical implications for the B2C ecommerce vendors, marketers, developers, and many professionals involved in Ecommerce. First, this study has a great practical implication for marketers as it helps to promote virtual shopping as well as raise customer purchase intention. Secondly, the results show that both PEOU and PU significantly and positively influenced the CS, thus positively

influencing the Repurchase intention. Regarding this, B2C ecommerce operators should focus on providing customer satisfaction by imparting the best usage related to websites, products, and services and making the technology, and service user-friendly and dependable.

Meanwhile, marketers and developers should make a system user-friendly considering different age groups, as they have varying habits and different perceptions.

Furthermore, our findings demonstrated that customer trust has a direct impact on PU and RI. Thus, marketers should ensure that they win customer trust by providing them with consistent quality and services, fulfilling the needs of customers. As well as providing trustworthy information on websites through price and quality, trust can also be gained through price comparisons.

## 6.4 Limitations and Future Research

After completing the research, and analysis and reaching the conclusion, we have found some limitations based on our study despite my confidence in the outcome. The first issue is a smaller sample size as the sample size we have used may not be sufficient to conclude the 30 million population. Even though the same size was sufficient to assess the normal distribution and significance test, based on our study the larger sample size could have generated more efficient results and improved the study's dependability. It has been encouraged by numerous researchers to have a large sample size for quantitative data analysis.

The second issue is a limitation in the choices of variables which is general, even though all the hypotheses are supported by the chosen variables, there may be additional determinants influencing trust, satisfaction, and perceived usefulness, the more accurate results could have been developed if the supportive variables were used. For example areas such as trust in vendors, trust in the system, and trust in management could be explored likewise satisfaction can be measured through user interface quality, information quality, and security. External variables such as price and convenience could be explored to measure perceived usefulness. The addition of these factors can help us learn more about Nepalese customers' trust in ecommerce and their satisfaction when they utilize ecommerce services.

This research exclusively focuses on B2C ecommerce adoption. Future research may be carried out examining the adoption of other types of ecommerce (B2B, C2C, m-commerce, social commerce, e-government, etc.) and users continued usage.

Additionally, future research can be carried out by the addition of more influential factors such as confirmation, customer loyalty, security, risk aversion, etc. As ecommerce in Nepal is in the growing stage, more research needs to be done on challenges faced by Nepalese customers while adopting ecommerce facilities, with participation participating from all parts of the country. Thus, the bigger sample size would create a better result, understanding, and deeper insights along with increasing the statistical power.

# 7. Conclusion

In this paper, we examined how various factors affect B2C ecommerce customers in Nepal and what challenges they face. PU, PEOU, CS, RI, and Trust are five determinant factors that influence the adoption of ecommerce and the relationships between those variables are diagnosed in the thesis report. In addition to providing a base for conducting the research, the set of variables also supported the development of the integrated model. Trust being the added external factor. It was found that all the hypotheses were supported statistically, and the findings indicated that PU is positively related to PEOU. A similar relationship exists between PU and PEOU and customer satisfaction. Customers' satisfaction with ecommerce services depends on their perception of the usability and how effortless it feels to use them. Customer repurchase intentions are directly influenced by customer satisfaction and the trust the user has in the ecommerce provider. Additionally, perceived usefulness is directly influenced by the trust.

In conclusion, the adoption of ecommerce by Nepalese customers is strongly supported by the integration of the TAM model with IS continuity, and additional ideas for future research are being investigated. Along with outlining some research limitations, the study also makes some recommendations for future work and practical applications.

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# Appendix: Survey Questionnaire

This survey serves as part of the master thesis on "Challenges in Ecommerce Adoption among Nepalese Consumers". The purpose of the study is to find out the factors influencing Ecommerce adoption in Nepal among Nepalese citizen. This survey will take around 5-10 mins and your identity, as well as answers, are completely anonymous. I want to assure that the information will be kept confidential and there will be no misuse of the information.

What is your gender? *

◯ Female                    ◯ Male

◯ Prefer not to answer

What is your age range? *

◯ 15-24                     ◯ 25-34

◯ 35-44                     ◯ 45-54

◯ 55-64                     ◯ 65+

What is the highest degree or level of education you have completed? *

◯ Primary education         ◯ Lower secondary

◯ School leaving certificate ◯ Hseb certificate

◯ Diploma certificate       ◯ Bachelors

◯ Masters                   ◯ Ph.D.

◯ Others

Where do you live? *

○ Province No. 1                    ○ Madhesh Province
○ Bagmati Province                  ○ Gandaki Province
○ Lumbini Province                  ○ Karnali Province
○ Sudurpaschim Province

How do you purchase and how often? *

|  | Daily | Weekly | Monthly | Rarely |
|---|---|---|---|---|
| Buying in person | ○ | ○ | ○ | ○ |
| Digital purchasing(via an app or websites) | ○ | ○ | ○ | ○ |
| Telephone Buying | ○ | ○ | ○ | ○ |

To what extent you prefer to shop online? *

( 1 )  ( 2 )  ( 3 )  ( 4 )  ( 5 )  ( 6 )  ( 7 )

Not at all                                    Very much

How often do you purchase from online stores? (Based on various items) *

|  | Daily | Weekly | Monthly | Rarely |
|---|---|---|---|---|
| Kitchen Accessories | ○ | ○ | ○ | ○ |
| Books and stationery | ○ | ○ | ○ | ○ |
| Entertainment and Gadgets | ○ | ○ | ○ | ○ |
| Fashion product | ○ | ○ | ○ | ○ |
| Electronic Appliances | ○ | ○ | ○ | ○ |

Which online stores have you used for purchasing products in the last 6 months? (can choose more than one upto 3 choices ) *

- [ ] Daraz.com.np
- [ ] Pasal.com.np
- [ ] Sastodeal.com
- [ ] Shopmandu.com
- [ ] Hamrobazar.com
- [ ] Socheko.com
- [ ] Smartdoko.com
- [ ] Meroshopping.com
- [ ] Thulo.com
- [ ] Okdam.com
- [ ] Muncha.com
- [ ] Other

Which payment methods do you use while purchasing online? (can choose more than one) *

- [ ] Cash on delivery
- [ ] Credit/Debit card
- [ ] Digital wallet
- [ ] Bank transfer
- [ ] Others

How would you describe your satisfaction of online shopping based on following items: *

| | Very dissatisfied | 2 | 3 | 4 | 5 | 6 | Very satisfied |
|---|---|---|---|---|---|---|---|
| Variety of products | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Price of the product | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Delivery process | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Customer service | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Return and refund policy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Payment security | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Quality of the product | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

What do you think regarding trust in ecommerce? *

| | Very dissatisfied | 2 | 3 | 4 | 5 | 6 | Very satisfied |
|---|---|---|---|---|---|---|---|
| I believe online stores are consistent in quality and services | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe that eCommerce is trustworthy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe online stores are honest | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe that online stores are focusing on fulfilling my needs | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe that the eCommerce is dependable | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I believe that eCommerce has high integrity | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## What problems have you faced while shopping online? *

|  | Strongly disagree | 2 | 3 | 4 | 5 | 6 | Strongly agree |
|---|---|---|---|---|---|---|---|
| Lack of products I want | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Delay in product delivery | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Low-quality product | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Payment system error | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Poor customer service experience | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Defective product deliverance | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## In your opinion, which services should ecommerce vendors focus more on: *

|  | Strongly disagree | 2 | 3 | 4 | 5 | 6 | Strongly agree |
|---|---|---|---|---|---|---|---|
| Payment security | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Product delivery | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Personal privacy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Purchasing privacy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Convenient return and refund policy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## What is your experience regarding the ease of use of the online store? *

|  | Strongly disagree | 2 | 3 | 4 | 5 | 6 | Strongly agree |
|---|---|---|---|---|---|---|---|
| Learning to use "the online store" was easy for me | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I found it easy to use "the online store" to find what I wanted. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| My interaction with the "online store" was clear and understandable | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| It was easy for me to become skilled at using "the virtual store." | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I found "the virtual store" easy to use. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Below, we ask you to consider some claims related to usefulness: *

| | Strongly disagree | 2 | 3 | 4 | 5 | 6 | Strongly agree |
|---|---|---|---|---|---|---|---|
| Overall, I found purchasing online is useful in buying things or information seeking | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I think purchasing online is valuable to me as it increases my productivity in shopping or information seeking | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| The content/product on this online website is useful to me | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Using "the virtual store" would enhance my effectiveness in purchasing or information seeking | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

What are you intentions regarding repurchasing from ecommerce vendor? *

| | Strongly disagree | 2 | 3 | 4 | 5 | 6 | Strongly agree |
|---|---|---|---|---|---|---|---|
| I intend to repurchase from online stores | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| My intentions are to continue my use of online purchasing from these websites | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| If possible, I will discontinue purchasing from the online stores. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

How likely is it that you would recommend online shopping to others? *

(1) (2) (3) (4) (5)     (6) (7)

Not at all likely                          Extremely Likely

In your opinion, which factors should be considered for the enhancement of ecommerce in Nepal? *

| | Strongly disagree | 2 | 3 | 4 | 5 | 6 | Strongly agree |
|---|---|---|---|---|---|---|---|
| Integration of google maps | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Proper quality check of the product before delivering | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Better customer services | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Flexible return policy | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Safety of personal information (while making payment) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Flexible payment method | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

How satisfied are you with shopping online through virtual stores? *

| | Strongly disagree | 2 | 3 | 4 | 5 | 6 | Strongly agree |
|---|---|---|---|---|---|---|---|
| I am extremely satisfied | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| I am extremely satisfied | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| My expectations were exceeded | ○ | ○ | ○ | ○ | ○ | ○ | ○ |