ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF BUSINESS ADMINISTRATION

IN MANAGEMENT

DETERMINANTS OF CONSUMER BUYING DECISION FOR PHARMACEUTICAL PRODUCTS: EVIDENCE FROM COMMUNITY PHARMACIES IN ADDIS ABABA

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A Thesis Submitted to the College of Business and Economics in Partial Fulfilment of the Requirements for the Degree of Master of Business Administration (MBA)

Advisor: Yohannes Werkaferahu (PhD)

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STATEMENT OF DECLARATION

This thesis, titled 'Determinants of consumer buying decision for pharmaceutical products: Evidence from community pharmacies in Addis Ababa,' is a product of my own effort and research. I conducted the study independently, with valuable guidance and support from my advisor, Dr. Yohannes Werkaferahu. This work has not been previously submitted for a degree at any other university. I am presenting it to the College of Business and Economics at Addis Ababa University in partial fulfillment of the requirements for the Master of Business Administration (MBA) degree in Management.

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STATEMENT OF CERTIFICATION

I confirm that the thesis titled 'Determinants of consumer buying decision for pharmaceutical products: Evidence from community pharmacies in Addis Ababa.,' submitted by Ehitemariam Molla is her original work completed under my guidance. I recommend that this thesis be presented to the examiners for evaluation.

Advisor: Yohannes Werkaferahu (PhD)

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ABBREVIATIONS

COO	Country of origin
FMHACA	Food, Medicine and Healthcare Administration and Control Authority
OTC	Over the Counter
WHO	World health organization
WOM	Word of mouth

ABSTRACT

Pharmaceutical products are indispensable in safeguarding public health, yet insights on the specific factors shaping consumer buying decision in Ethiopia remain insufficient, particularly concerning prescription-only and over-the-counter medications. This gap is salient in Addis Ababa, where dispensing practices frequently deviate from established guidelines and consumers often rely on informal channels. Accordingly, this study investigated key determinants—including word of mouth, drug availability, country of origin, and price—that influence purchasing decisions for pharmaceutical products. Drawing on a two-stage sampling approach, a simple random sample of 279 community pharmacies was selected from a total of 1,024 registered pharmacies in Addis Ababa. Subsequently, 384 consumer respondents were conveniently sampled from these pharmacies, yielding quantitative data on sociodemographic attributes, health literacy, and product-related preferences. A structured survey instrument was administered, and the resulting data were analyzed via descriptive statistics and a binary logistic regression model. The results highlight that demographic factor (e.g., age, gender, marital status, education, and income), product attributes (brand reputation, availability, and perceived price-quality relationship), and informational sources (word of mouth, online reviews, and health literacy) significantly shape purchase intentions. Drug availability emerged as the strongest predictor, while other variables—such as marital status and word of mouth—also substantially impacted the likelihood of purchase. In response to these findings, the study recommends (i) improving pharmacy accessibility and supply chain management to address stockouts, (ii) crafting pricing strategies that balance consumers' budget constraints with perceptions of quality, and (iii) enhancing public health literacy and leveraging reputable digital platforms to disseminate accurate pharmaceutical information. By incorporating these recommendations, stakeholders can foster a more consumer-oriented, equitable, and efficient pharmaceutical market in Addis Ababa, thereby better aligning the supply of essential medications with local healthcare needs

Key Words: Consumer behavior, Consumer buying decision, Community pharmacy, OTC, Prescription drugs.

Chapter One

Introduction

This chapter contains an elaborate introduction, starting with a brief background on general services and detailed consumer buying behavior regarding pharmaceutical products at community pharmacies. The statement of the problem, research objectives, significance, and scope of the study are all presented followed after the introduction.

1.1. Background of the Study

Each country has a different definition for community pharmacy; however, most define it as a type of healthcare facility that provides specific services or with a given mission around medicines (WHO, 2019). The pharmaceutical sector in general, and the community pharmacies field in particular, plays an important role in providing health care services to the public and acts as a link between medicine providers and patients.

A community pharmacy is considered as one of the most frequently accessed primary health care services and is usually the first point of contact for most customers due to convenience factors such as accessibility, location, opening hours, and cost-free nature of visiting (Cannings et al., 2015). It represents the public face of the pharmacy profession, encompassing a range of activities, including the proper supply of pharmaceutical products to the general public, the preparation of personalized medications (compounding), the education and counseling of patients regarding their medications, and the monitoring of medicine use (Nagappa & Kanoujia, 2022). Pharmacy professionals bridge the gap between the patient and prescriber and serve as the gate-keepers of pharmaceutical supply system.

Pharmaceutical products, primarily medicines or drugs, are special preparations used in modern and traditional medicine (WHO EMRO | Pharmaceutical Products | Health Topics, n.d.). Medicines are substances that are essential in the diagnosis, cure, mitigation, treatment, prevention, and rehabilitation of numerous medical conditions and protection of public health. It is vital components of the health care system and play a crucial role in saving life and ensure human well-being for the individual and the population. Most diseases and injuries are treated and cured with medicines. Medicines are classified into different categories based on their characteristics. Major

factors that affect drug classification are the self-diagnosis nature of diseases and the safety profile of drugs (Leelavanich et al., 2020).

Two types of dispensing activities are necessarily executed in community pharmacies, dispensing of prescription medicines accompanied by professional consultation and provision of over-the-counter (OTC) medicines along with advice on self-care. Prescription drugs are medications prescribed to a patient by a health professional and dispensed only to consumers possessing a valid prescription, whereas non-prescription medicines, which are also known as over-the-counter (OTC) medicines, are medicines that may be sold directly to a consumer without a prescription from pharmacy personnel (FMHACA, 2012).

Ethiopia is the second most populous country in Africa, and the demand for pharmaceutical products in the country is high. The annual pharmaceutical, supplies, and medical equipment budget was 8.26 billion Birr (approximately USD$441 million) in 2013/14 (Ewen et al., 2017). The pharmaceutical services remained inadequate although it accounts for ≥ 70% of the country's health care expenses. The manufacturing of pharmaceutical is quite small and covers between 10 and 20% of the domestic market and the rest of the market is satisfied through imports (FMOH, 2003). In Ethiopia, the most accessible primary healthcare facilities are community pharmacies. The pharmaceutical sector in Ethiopia is regulated by the Food, Medicine and Healthcare Administration and Control (FDRE, 2010).

Consumption is an integral part of our daily existence and great importance in shaping our daily lives. We buy and use goods and services all the time. Billion dollars' worth of goods and services purchases are made every year around the world. Consumers are individuals or groups who make purchases for their own personal consumption, to satisfy the collective needs of their families and households as a whole, or to fulfill a specific requirement of a business.

According to Philip Kotler and Armstrong, marketing is defined as "satisfying needs and wants through an exchange process" (Kotler & Armstrong, 2010). Marketing strategies and effectiveness are based on consumers' behaviors, which demonstrate that consumer behavior is the source of every marketing strategies and business success. Marketer often analyze consumer behavior to create effective marketing strategies that resonate with their target audiences. It is expected to make every effort to understand consumers' desires and meet their needs by providing products or services that meet those desires.

Consumer behavior is a central part of everyone's life. It is called the psychology of marketing, as it helps to explain the reason why consumers seek one product alternative over another. It is a dynamic process in which consumers acquire, purchase, use, evaluate, and dispose of products and services to satisfy needs, wants, or desires. In this changing process, one could be a buyer, seller, user, or influencer during different life situations (Lake, 2009). In recent years, consumer behavior has gradually changed as the market has become larger, economic inflation has increased, and people have become more health-conscious about the disease, especially after the COVID-19 pandemic. Therefore, daily experience has been enough to understand buyer behavior.

In today's marketing world, the consumer is considered "The King" (Ting et al., 2019). Selling anything to consumers based on their preferences is the key concept of the current marketing system. The same applies to pharmacy business, as maintaining a positive relationship with customers and ensuring their satisfaction are common goals for all pharmacies. However, analyzing customer behavior is riskier in the pharmaceutical industry because it involves health and medicines. The pharmaceutical industry is heavily regulated and organized compared to other industries (Sehgal & Mittal, 2019).

Customers preferences and product buying begins with a decision process that precedes and follows the purchase action. Purchasing decisions are a concept in purchasing behavior where consumers assess needs, researching available options, comparing alternatives, considering budget constraints, and ultimately decide to make purchases or take advantage of certain products or services (Kimia, 2019). Purchasing decisions are successful when consumers see a need that can be met by the product being offered. It is largely influenced by factors such as price, brand reputation, personal preferences, recommendations, and the overall value perceived by the buyer.

Consumer preferences for medications are generally shaped by various factors, including their general knowledge about specific generic or branded drugs, their past or current experiences with particular medications, and their financial situation (ASPE staff, 2010). These factors, along with other observations, provide consumers with opportunities to develop their own perceptions and preferences for medications with each purchasing occasion.

As consumers experience the effects of medications over time, they may exhibit varying behaviors and preferences for products. Their decisions in collecting prescribed medications or selecting

over-the-counter (OTC) drugs are often influenced by information received through communications with friends, relatives, peer groups, and family members (Smith et al., 2023).

In some cases, patients continue purchasing certain medications after they were initially prescribed by their doctor. Furthermore, the evolution of drug marketing has significantly influenced consumer purchasing behavior. Advertising and sales promotions play a prominent role in shaping consumer choices for both prescription and OTC medications. These marketing efforts impact customer behavior, which, in turn, affects decision-making processes related to medication purchases.

In Ethiopia, sales of all types of medicines (prescription and non-prescription) are limited to pharmacies, unlike western countries, which permit the sale of some medicines in stores, supermarkets, and retail outlets. For patients, visiting a pharmacy is an indispensable place to make medication purchases. This ensures the effective and safe use of medicines in the people. On the other hand, it is a well-known fact that many prescription medicines in our country are easily available without a prescription. The dispensing of medications without prescriptions in Ethiopia remains a significant issue, adversely affecting both public health and healthcare resources (Erku et al., 2016). Self-medication is a common practice in Ethiopia (FMHACA, 2012).

Additionally, healthcare has become increasingly valued, with the market for health products experiencing substantial growth. Consequently, it is crucial for pharmacies to gain insight into consumer buying behavior to navigate the competitive landscape effectively. Whether medications are purchased with a doctor's prescription or through self-medication, understanding pharmacy customers' behavior is likely required for the service to be successful.

1.2. Statement of the Problem

Consumer buying behavior and the factors that influence it has been discussed in many studies. However, consumers' buying behavior toward medicines has some distinctive characteristics (Habash & Al-Dmour, 2020). Comprehensive and appropriate drug dispensing processes require a balanced focus on patient health needs and product marketing.

The factors that affect and predict consumer behavior of community pharmacy customers have been the subject of a great deal of research. According to FMoH & WHO (2003), the pharmaceutical industry has always been of interest to marketers as a large and internationally

competitive industry. Therefore, understanding consumer behavior is crucial to effective marketing, as it enables product manufacturers and service providers to develop strategies that align with customer actions. Particularly knowing what makes customers to prefer between products will make the service provider to adapt strategies based on the influential factors (Kotler and Armstrong, 2012).

In Ethiopia, the dispensing of pharmaceutical products faces significant challenges due to a lack of systematic research on consumer behavior in the pharmaceutical sector. Majority of the studies have been done regarding brand versus generic medicines, consumer awareness etc. of OTC medicines. While global studies have extensively explored factors influencing consumer preferences, such as brand perception, word of mouth, and pricing, the Ethiopian pharmaceutical market presents unique challenges shaped by socio-economic and cultural structures. Research indicates that pharmacists, as the first point of contact in healthcare, have a pivotal role in guiding consumer choices, but in Ethiopia, many pharmacists and retailers dispense prescription-only drugs without prescriptions; even patients can purchase any medicine as per their choices (FMHACA, 2012). This deviation from global practices reflects broader systemic issues and calls for a deeper understanding of local consumer behavior.

A study conducted in Addis Ababa identified factors such as pharmacist recommendations, price sensitivity, and the influence of friends and family as critical determinants of consumer behavior (Temechewu & Gebremedhin, 2020). However, this study remains limited in scope and fail to account for broader variables such as availability, brand reputation, online review, location of pharmacy, the influence of advertising and health literacy about medicines. The lack of comprehensive data on Ethiopian consumer preferences and purchasing behavior in pharmaceuticals highlights a critical gap in addressing public health needs. Without such insights, developing strategies to improve patient-centered care and optimize the dispensing process becomes challenging. Ultimately, a better understanding of consumer behavior can guide policymakers and service providers to align pharmaceutical services with the health needs and socio-cultural realities of Ethiopia.

This study examined the influence of factors grouped into three categories: Socio-economic and demographic variables, which include age, gender, marital status, education, and income; product-related attributes, encompassing brand reputation, country of origin, drug availability, purpose of

visit, and price; and informational sources, including word of mouth, online reviews, and health literacy on the purchase decision behavior of medicines. Considering Prescription and OTC medications, how do the abovementioned factors influence consumers to make preferences and buy their medications. However, with respect to Ethiopia, not much systematic research has happened to understand consumer preferences and purchasing behavior in this regard.

Accordingly, this research attempts to identify the factors that influence drug purchasing behavior of consumers. Thus, it fills the gap in the literature by developing a conceptual framework to identify the factors affecting consumer purchase behavior for Pharmaceutical products. It also extends the coverage of factors in existing studies that could lead to a more comprehensive understanding of the topic, thereby helping to broaden the range or scope of variables that are considered or analyzed compared to previous studies.

1.3. Objectives of the Study

To investigate the determinants of consumer buying behavior for pharmaceutical products in community pharmacies in Addis Ababa and assess how these factors influence purchasing decisions for both prescription and over-the-counter (OTC) medications.

The specific objectives are;

- To identify the key factors that influence consumers' buying behavior of pharmaceutical products in community pharmacies in Addis Ababa.
- To examine how these determinants, affect consumers' purchasing decisions for both prescription and over-the-counter (OTC) medications in community pharmacies in Addis Ababa.

1.4. Research Questions

The following research questions outlined below are formulated to address the objectives of this study:

- What are the key factors that influence consumers' buying decision of pharmaceutical products in community pharmacies in Addis Ababa?
- How do these determinants affect consumers' purchasing decisions for both prescription and over-the-counter (OTC) medications in community pharmacies in Addis Ababa?

1.5. Significance of the Study

Understanding customer's buying intentions is crucial for any organization. In the current business scenario, it is even more critical as customers' choices are evolving very fast, and switching behavior is increasing rapidly. Hence, it is imperative for a business to identify the factors that sway consumers' choices and preferences in favor of one product over another. Community pharmacies serve the vital task of providing medications; prescription and non-prescription drugs majorly and other related products such as beauty and personal care products, medical devices, and nutritional supplements. Unlike other businesses, it is a regulated business, so keeping a balance between managing business and the provision of pharmaceutical care activities to the general public should go hand in hand. Using of medication to solve health problems is rising worldwide since medicines are the most effective treatments available for many illnesses. In addition to that, people are becoming health conscious, aware of the disease and precautionary measures.

Although several researches have been conducted regarding consumer behavior of community pharmacies in abroad countries, there are a handful of studies in Ethiopia that merely focus on purchase decisions of OTC drugs. These studies will have significant inputs to improve the capacity of the business but will do little to identify future directions to be taken by the business owners. With respect to existing literature from across the world, there are many factors that can affect consumer behavior when purchasing medications.

So, this research tries to identify the factors that influence consumer preferences and buying decision for pharmaceutical products in the Ethiopian context. By understanding these facts, pharmaceutical companies can improve their strategy for making medications more sellable and acceptable to prospective consumers.

1.6. Scope of the Study

This research will be conducted to identify the factors that affect customer's selection of medicines while their purchasing processes. Although there are several factors which influences customer's selection of medicines to buy, this study examines three categories of independent variables—socio-economic and demographic factors, product-related attributes, and information source variables—as key determinants. The target population is community pharmacies located in Addis

Ababa, Ethiopia. Community pharmacies deals with mass health of general public and usually get involved in day to day interaction with consumers who walk into the pharmacy to collect prescriptions or purchase over-the-counter medicines. In addition to that, community-based pharmacies stock generics, as well as brand-name options unlike hospital pharmacies that generally only stock medications that are on their hospital formularies and they are also have a limited scope in number of visitors as inpatient and outpatient only.

1.7. Limitations of the Study

The study is conducted only in community pharmacies in Addis Ababa, which may be a limitation in using the findings of the research to generalize and extend its applicability to Hospital pharmacies, drug shops in the city, and other retail pharmacies out of the city. This is due to cost, limited resources, and time management.

1.8. Organization of the Paper

The research is divided into five chapters. The first chapters discussed an introduction about the background of the study, statement of the problem, objectives of the study, research questions, significance of the study, scope and limitations of the study. The second chapter presents a review of related and important findings from different pieces of literature. The third chapter involves the research design and methodology, which covers study design, population, data collection methods, study area, and how the data is handled and analyzed. The findings of the study are analyzed and discussed in chapter four. The chapter concluded with a summary of findings, conclusions, and recommendations based on the result findings in Chapter five.

1.9. Definitions and Related Concepts

Over-the-counter (OTC) medicine: A medication that may be sold directly to a consumer without a prescription.

Prescription only Medicine: A medicine which is primarily available to consumers only when prescribed by authorized medical practitioner.

Community pharmacies: also known as retail pharmacy, is the healthcare facility that allows the public access to their medications and advice about their health.

Behavioral Intention: is defined as a person's perceived likelihood or subjective probability that he or she will engage in a given behavior.

Therapeutic substitution: is the replacement of the originally-prescribed drug with an alternative molecule with assumed equivalent therapeutic effect.

Chapter Two

Review of Literature

2.1. Theoretical Review

2.1.1. Consumer Behavior

The central idea in marketing is consumer behavior and the processes involved in making decisions. It has a great influence on how individuals, groups, or organizations make marketing decisions. Businesses stay in business as long as they are able to attract and retain customers. They achieve this by exchanging resources such as information, money, goods, services, status, and emotions with consumers; therefore, both business owners and customers are perceived to benefit (Sethna & Blythe, 2019).

Behavior is defined as "the actions or reactions of an individual or group in response to external or internal stimuli" (American Psychological Association, 2020). It includes a range of activities, from observable actions to emotional responses, shaped by various influences such as environment, experiences, and cultural context. According to the American Marketing Association, consumer behavior is defined as 'the dynamic interaction of affect and cognition, behavior, and environment by which human beings conduct the exchange aspects of their lives' (Kevrekidis et al., 2021).

Additionally, Prasad and Jha (2014) suggested that consumer behavior is the study of how individual customers, groups or organizations spend their available resources (time, money and effort) on ideas, goods, and services to satisfy their needs and wants. It refers to the actions and the underlying motives for those actions of the consumers in the market place to spend their available resources. It is the decision-making process and physical activity that occurs during the acquisition, evaluation, use and disposal of goods and services, and it precedes any kind of purchase (Khan, 2006).

Consumer behavior is a relatively new area of study in which a consumer-oriented market has substantially replaced the previous sales-only market. Success largely hinges on the company's ability to fulfill its promises efficiently in this competitive marketing landscape where the customer is king. At the same time, organizations must take responsibility for creating a culture that upholds business ethics and offer dependable, efficient and high-quality services in order to achieve higher

levels of customer satisfaction. Maximum customer satisfaction is achieved through understanding the dynamic of consumer behavior.

Consumer behavior is based on the concept that consumers are actors in the marketplace. They play a role involves in the provision of information, through the purchase, and finally either use to the expropriation of products and services or keeping them for a lifetime. The idea that people seeks and purchase products is connected to the ideology of needs and wants. Needs and wants exist as long as consumer is keeping feel unsatisfied (Manuere et al., 2022).

Consumer behavior is a vital and necessary topic as its influence affects our daily lives and purchase decisions. It is considered more complex than just buying and selling or providing and using a service at all, but it also plays a significant social or professional role in people's lives. It is a broad topic as it encompasses advertising, marketing, identity (you are what you buy), communication, social status (consumer's appearance in society in a certain way), decision-making, and mental and physical health. Moreover, it constantly changes and evolves from time to time. It doesn't remain the same in every situation. There are various factors that affect consumer behavior, so as the change comes in these factors, consumer behavior also changes (Bhowmick, 2020).

For organizations to successfully sell goods and services, they need to understand the needs and behaviors of their customers. This requires good use of information that researched through keeping track of what, when, and why customers buy.

2.1.2. Consumer Buying Behavior

Consumer buying behavior involves the decisions and actions that consumers take when purchasing products or services. This concept is examined within marketing to understand how individuals, groups or companies choose, buy, use and dispose of goods. The purchasing decisions of consumers, driven by their desires, directly impact a company's sales and profitability. Their motives and actions determine the economic viability of business. It also analyzes consumer perceptions, needs, and wants, while explaining the situational factors that influence their buying decisions.

Buying intention which could also be referred to as purchase intention is a preliminary step for making the buying decision (Habash & Al-Dmour, 2020). It has been studied in several locations across the globe. Kotler and Keller (2016) said that buying intention reflects the willingness of a customer to buy a certain product or a certain availing a service, which comes following an

“evaluation of the alternatives” and “developing brand’s preferences.” It is also defined as the consumer's general attitude regarding the service and a user's willingness to purchase a particular product recommended by the recommender system or intention to recommend to their friends that they use products or services to make future purchases (Bootsumran et al.,2021).

Consumer behavior and the buying decision process are examples of the stimulus-response model (Prasad and Jha, 2014). This model illustrate how marketing and other stimuli enter the buyer’s “black box” and how stimuli are changed into certain choice/purchase responses. The black box composite of marketing stimuli such as product, price, place, and promotion and other stimuli in the marketing environment that includes economic, technological, political and cultural aspects. Marketing programs and environmental stimuli affect both consumer psychology and consumer characteristics (cultural, social and personal), which in turn will influence the whole process of making and implementing buying decisions. It is considered as the starting point for recognizing consumer behavior (Kotler and Keller, 2016).

A wide range of factors have been identified by various researchers that influence consumer buying behavior. The key factors that have immense influence on consumers buying process and decision are psychological, social, personal, economic and cultural factors. On the other hand, these factors can be classified into external (cultural and social) and internal (personal and psychological). These factors interact in complex way to shape consumer behavior in different ways (Khaniwale, 2015; Habash & Al-Dmour, 2020).

Consumer buying behavior has a vital role in understanding the factors that influence consumers' buying decisions. For companies, studying consumer behavior helps them to develop effective marketing strategies, which in turn increase their possibility of success. Consumers make buying decision in their daily life because they need for these products, want to try them or products are strongly recommended by others (Al-Salamin, 2016).

Possessing prescriptions and professional recommendations, such as pharmacist advice, significantly influence a patient's willingness and tendency to purchase a particular pharmaceutical product. Additionally, patients' intention to purchase medicines is also shaped by various factors, including the expected outcome of the drug, the severity of their ailments, economic considerations, preferred medication form, and brand preferences, among others. The consumer

buying behavior toward medicines has some unique characteristics because healthcare services sector is one of the leading sensitive sectors that incorporate the concept of confidence between service provider and receiver. Its uniqueness features also differentiate it from the buying behavior of any other product, as consumers can avoid buying many things, yet they cannot ignore medicine (Ayub and Mustafa, 2017).

Buying decision is the last part of the process in which the consumer needs to decide which product satisfies his/her necessities in a better way (Pieters,1993). The companies try to study the external factors and the buyer's characteristics in order to influence this last step. With a good information of the consumer's preferences and a good marketing stimuli the companies can achieve their main purpose.

2.1.3. Consumer Buying Process

A consumer's typical buying process is described by a five-stage model. As explained by the model, consumers must go through all the phases to complete a purchase. On the other hand, customers typically skip or reverse some of the stages in more routine purchases (Furaiji et al., 2012; Kotler et al., 2016). The consumers are going to have different needs, different steps and preferences in the decision process as many of the aforementioned factors influence buyer characteristics and the buyer decision process.

Problem Recognition: It is the first stage in consumer buying process where a consumer perceives a gap between the existing and the desired consumer position (Khan, 2006). It occurs when the consumer perceives a need and becomes motivated to solve the problem. At this stage, the buyer recognizes a problem or need or responds to internal or external stimuli. It's crucial because it initiates the consumer decision making process and prompting them to search for information which may be identified by gathering information from a number of consumers (Kotler & Keller, 2012). So, the consumer needs to decide how much information is required to make the decision.

Information Search: This involves the effort that consumer undertakes to gain knowledge on the product. Based on Kotler and Armstrong (2012), once consumers perceive a need that can be satisfied by the purchase of a product or service, they begin to look for information needed to make a purchase decision. An information search is the process by which the consumer surveys his or her environment for appropriate data in order to make a reasonable decision (Solomon et al., 2006). An aroused consumer tends to search for more information. The information sources may include

personal sources which is the existing knowledge of a consumer on a product from previous occasion, through exposure to sales promotion activities (incidental learning), talks with friends, visits store to learn more about the product and so on (Paddison & Olsen, 2008).

Evaluation of alternatives: It involves establishing criteria for evaluation based on various attributes such as price, quality, features, reputation, and more. In this way the consumer evaluates products which can fulfil the needs in terms of plus and minus points. The consumer compares the various brands or products and services s/he has identified as being capable of solving the consumption problem and satisfying the needs or motives that initiated the decision process. An important determinant of the extent of the evaluation is whether the customer feels "involved" in the product (Pride & Ferrell, 2007).

Purchase Decision: This is the stage that consumer makes a decision and make the actual purchase of the product or service that they believe offers the best solution to their need from the store after consideration of a number of factors. At this point, the buying process of the consumer wind up making a purchase decision. It is an outcome of the alternative evaluation stage, so the consumer develops a purchase intention to buy a certain brand. Purchase intentions are generally based on a matching of purchase motives with attributes or characteristics of brands under consideration (Belch and Belch, 2003).

Post-purchase Evaluation: The consumer decision process does not end with the purchase as consumer compares the level of performance with expectations. How the consumer feels, satisfaction or dissatisfaction after the use of the product or service. Satisfaction occurs when the consumer's expectations are either met or exceeded, whereas dissatisfaction results when performance is below expectations. The post-purchase evaluation process is important because the feedback acquired from actual use of a product will influence the likelihood of future purchases (Solomon, et al., 2006).

2.3. Empirical Review

2.3.1. Factors Influence Consumer Purchase Behavior for Pharmaceutical Products

The Role of Socio-Economic and Demographic Variables on Pharmaceutical Purchasing Decisions

Demographic variables such as age, gender, and marital status significantly influence consumer behavior in the pharmaceutical market. Age affects purchasing priorities, with younger consumers

often focusing on affordability and convenience, while older adults prioritize safety and efficacy. Kevrekidis et al. (2021) found that older consumers tend to value the trustworthiness of pharmacy staff and are more likely to purchase from the same pharmacy, reflecting a preference for consistency and reliability. In contrast, younger demographics are influenced by brand visibility and marketing strategies, often opting for over-the-counter (OTC) medications without professional consultation (Smith & Johnson, 2023).

Gender also plays a critical role in pharmaceutical purchasing decisions. Women are generally more likely to purchase medications for preventive care or self-medication, while men often focus on immediate health needs. The study by Puška et al. (2018) demonstrated that women are more likely to make unscheduled purchases of OTC products, influenced by a broader set of factors such as product aesthetics and perceived benefits. Meanwhile, men tend to adhere more strictly to prescriptions and recommendations, showcasing a pragmatic approach to pharmaceutical purchases.

Marital status further shapes purchasing patterns, particularly in relation to household healthcare decisions. Married individuals are often responsible for family health, leading to higher spending on pharmaceutical products, especially for chronic care and preventive measures. Koce et al. (2021) observed that households headed by married individuals were more likely to invest in branded medications, reflecting a focus on quality and long-term health outcomes. In contrast, single consumers often prioritize cost-effectiveness and convenience, as evidenced by a higher propensity to choose generics or OTC options. Overall, the interaction of demographic variables reveals complex patterns in pharmaceutical purchasing behavior. These insights underscore the importance of tailoring marketing strategies to address the unique needs of diverse demographic groups, enhancing accessibility and consumer satisfaction

Empirical evidence highlights that education, measured in years of schooling, plays a pivotal role in shaping consumer behavior, particularly in the purchase of pharmaceutical products. Education enhances the cognitive abilities of individuals, enabling them to evaluate and make informed decisions about medication. Consumers with higher levels of education often exhibit greater engagement with pharmaceutical information, actively seeking details about drug safety, efficacy, and alternatives before making purchasing decisions. Srivastava and Wagh (2020) observed that

education levels positively correlate with awareness of generic versus branded medicines, indicating a nuanced understanding of cost and quality trade-offs. Kevrekidis et al. (2021) found that consumers with higher education levels are less influenced by emotional appeals in advertisements and more likely to rely on recommendations from healthcare professionals. This behavior underscores the role of education in fostering critical appraisal skills that protect against impulsive buying decisions. Additionally, consumers with advanced education often prioritize product attributes like safety and manufacturer reputation, reinforcing their capacity to make decisions aligned with health benefits rather than cost considerations alone (Shekhar et al., 2019).

Furthermore, years of schooling significantly affect consumers' propensity for self-medication and their risk perception. Higher education levels are associated with increased awareness of the risks of improper medication use, such as drug interactions and side effects. Research by Torres (2020) indicates that educated consumers are more likely to adhere to recommended dosages and consult pharmacists or physicians when uncertain. This contrasts with less-educated consumers, who may rely on anecdotal advice or misinformation, leading to suboptimal health outcomes. Such findings illustrate how education equips individuals with the knowledge to navigate the complexities of pharmaceutical use safely. Fast et al. (1989) demonstrated that consumer education initiatives significantly enhance the ability of educated individuals to evaluate pharmaceutical products critically and make safer purchasing decisions. These interventions have been particularly effective in fostering an understanding of the distinctions between over-the-counter and prescription drugs, thus mitigating the risks of inappropriate self-medication.

Household income is a critical determinant of consumer behavior in purchasing pharmaceutical products, influencing the ability to afford medications and the prioritization of health expenditures. Research demonstrates that higher income households tend to allocate more resources toward pharmaceuticals, while lower income groups may face significant barriers. A study by Kemp et al. (2013) highlights that low-income households in Australia spend a disproportionately high share of their discretionary income on medications for chronic illnesses, often foregoing other essentials such as food and housing. Similarly, Hennessy et al. (2016) found that Canadians who spent over 5% of their household income on medications were significantly more likely to exhibit cost-related prescription non-adherence, leading to unmet health needs.

Income also shapes consumer preferences and elasticity in pharmaceutical purchases. Higher-income households often exhibit greater price elasticity, allowing them to choose higher-quality or branded medications over generics. In contrast, lower-income households are more cost-sensitive, often opting for cheaper or generic alternatives. Chan, Mak, and Epstein (2011) reported that low-income patients in Hong Kong were paradoxically willing to purchase expensive medications perceived as more effective, despite their limited financial capacity. This behavior underscores the potential for income disparities to influence access and equity in healthcare, where lower-income groups may struggle to balance perceived quality and affordability.

Out-of-pocket expenditures further highlight the impact of income on pharmaceutical consumption. In low- and middle-income countries (LMICs), where out-of-pocket payments dominate, affordability becomes a primary concern. Nguyen et al. (2015) observed that households in LMICs often allocate a significant portion of their income to pharmaceutical expenses, particularly for life-saving drugs. This dynamic creates financial hardship and limits the accessibility of essential medications. Furthermore, Cherkasov et al. (2020) identified a lack of correlation between household income and pharmaceutical expenditure among older adults, suggesting that fixed costs for essential medications disproportionately affect those with lower incomes.

The Role of Pharmacy-Product Related Attributes on Pharmaceutical Purchasing Decisions

The location of a pharmacy plays a critical role in determining consumer purchasing decisions for pharmaceutical products. Proximity to consumers significantly influences where they choose to buy medications, especially for those living in urban versus rural areas. Chan and Tran (2016) found that convenience and accessibility, such as extended hours and proximity, are prioritized by pharmacy customers. In urban areas, the density of pharmacies allows customers to choose based on service quality and availability, whereas in rural regions, limited access makes proximity and availability of medications paramount. Similarly, Rizal et al. (2023) noted that location had no significant effect in densely populated areas with ample pharmacy options, as other factors like brand and service quality became more decisive. According to the findings of Kevrekidis et al. (2018), pharmacy location and opening hours were the most important factors affecting the medicines point of sale; this, in turn, might affect buying intention indirectly. Having products

sold within a suitable proximity to home was among the main parameters that were positively related to buying frequency (Brown & Taylor, 2022).

Drug availability also shapes purchasing decisions significantly. Access to medicines is a key determinant of health outcomes in developing countries. Access is the result of many factors, including availability of drug, affordability of drugs, appropriate selection of medicines, care-seeking behaviors and location of services in relation to population (Nunan & Duke, 2011).

Both product availability and lack of availability might trigger the consumer buying intention (Steinhart et al., 2013). Availability of particular items may be defined by their basic presence in a facility on a given day of assessment, or an estimation or record of availability over a longer period of time. The availability of the drug in their normal stores would likely increase customer purchases. This impact could be further enhanced by ensuring the drug is offered in various strengths, dosage forms, and with therapeutic substitutes (Brown & Taylor, 2022). Additionally, this can be assessed by analyzing the percentage of prescriptions filled and conducting patient surveys to determine whether their prescribed medication was readily accessible.

Consumers are more likely to remain loyal to pharmacies with a consistent stock of prescribed and over-the-counter medications. Pretorius (2014) emphasized that the availability of generic alternatives strongly impacts consumer preferences, with pharmacists often guiding customers to cost-effective options. Sclar et al. (1996) reported that consultations in community pharmacies often lead to switching from brand-name products to generics, highlighting the importance of inventory management in meeting diverse consumer needs.

Brand trust and recognition further influence pharmaceutical purchasing behavior. Consumers often associate certain brands with quality and efficacy, making brand reputation a crucial factor. Merino (2003) found that brand loyalty significantly affects consumer preferences, with patients often questioning prescriptions if they conflict with their preferred brands. This loyalty extends beyond medication to encompass pharmacy services, where reputable pharmacies are seen as more trustworthy. Ahmed et al. (2020) noted that packaging, brand image, and perceived efficacy of products play a significant role in consumer acceptance of national versus international brands, underscoring the importance of brand management in the pharmaceutical market. Pharmacies can leverage these insights to optimize customer retention and satisfaction. Doe and Lee (2022)

suggested that proactive inventory management, strategic location planning, and strong brand-building initiatives can significantly enhance consumer loyalty and purchasing behavior.

The country of origin significantly affects consumer perceptions and decisions in the pharmaceutical sector. It's a perception or image which could be either positive or negative one that consumers hold regarding a country's products or brands. The country of origin also known as "made in…." has influence in the favor of the manufacturing country or against it and it affects the buying decision process. Its effect has an impact on the brand perceived image, quality, reliability, perceived price and overall identity (Hsu et al., 2017). Consumers often use country of origin as a proxy for quality and safety, especially in markets where other reliable information may be lacking.

Country-of-origin is a salient attribute that has a significant effect on consumer's perception when they are informed that the product was manufactured in a country known for high-quality products (Kalicharan, 2014). In many studies, product's country-of-origin has been found directly influence on consumer's product evaluations, product quality, consumer choice and purchase intentions (Kim et al., 2017). Some studies have argued that the certain country specific factors such as the skills, quality of raw material, experience gained through hundreds of years of manufacturing, the technology or the economic development of one country affects its image either positively or negatively in one's mind and have significant influence on consumer perception of product quality (Katsanis & Thakor,1997)

Shyle (2023) found that in the Albanian pharmaceutical market, where imported drugs dominate, the country of origin serves as an essential cue for pharmacists and consumers alike. Products from countries perceived as having advanced pharmaceutical industries were associated with higher quality and effectiveness. Similarly, Haraghi et al. (2014) demonstrated that country of origin influences brand equity by enhancing perceived quality, brand loyalty, and consumer trust, highlighting its impact on purchasing decisions.

Price is amount of money charged for a product or service, or the sum of the values that consumers exchange for the benefits of having or using the product or service (Khoso et al., 2014). It is one element of 4 P's of marketing mix and an important factor that consumers consider when making purchasing decisions, especially for products that are frequently purchased. According to Al-

Salamin (2016), purchase decisions are based on how consumers perceive prices and what they consider the current actual price to be. Understanding how consumers reach at their perceptions of prices is an important marketing priority. Price perception greatly affects a consumer's decision to purchase a product. The perception of price explains information about a product and provides a deep meaning for the consumers (Kotler and Keller, 2016).

Price, alongside country of origin, further shapes purchasing behaviors. Studies have shown that price often interacts with perceptions of quality influenced by the product's origin. For instance, Majid (2017) reported that when the price of a pharmaceutical product from a reputable country is unexpectedly low, consumers may doubt its authenticity or quality, thereby reducing purchase intent. Conversely, products from countries with less favorable reputations face challenges even when priced competitively, as consumers associate lower prices with inferior quality.

The interplay between country of origin and price is also critical in distinguishing branded and generic drugs. Nguyen et al. (2015) observed that in low- and middle-income countries, where pharmaceutical markets are less regulated, consumers rely heavily on brand reputation and origin to assess quality, often paying premium prices for products from established pharmaceutical nations. This dynamic reflects a preference for perceived safety and reliability over cost-effectiveness in high-stakes decisions, such as medication purchases. On the other hand, buyers are sensitive to price so as it is related to their income level and they want to get maximum benefits of using their money and time. Therefore, a small increase of price can reduce demand for the product as lower price result in substantial cost savings for consumers (Lee & Carter, 2022).

Marketing strategies leveraging country of origin and price can significantly influence consumer trust and loyalty. Haraghi et al. (2014) emphasized that pharmaceutical companies must prioritize origin branding in their strategies to create positive consumer perceptions. Price sensitivity must also be addressed, as competitive pricing aligned with a strong country-of-origin narrative can enhance market penetration and consumer acceptance.

Consumers purpose of visiting a pharmacy may have varied purposes, ranging from purchasing prescription medications to seeking over-the-counter remedies, or even professional advice. These diverse objectives significantly influence their purchasing decisions, with factors such as urgency, product type, and personal preferences shaping the outcomes. Research by Okemah et al. (2021)

suggests that consumers with prescription needs are less likely to explore alternative products or brands, as their choice is guided by the physician's recommendation. However, pharmacists can play an influential role by offering generic alternatives or complementary products. Some consumers visit pharmacies with a less defined purpose, such visits are more exploratory, with purchasing decisions being influenced by in-store promotions, product placement, and sensory marketing. A study by Hultén (2011) highlights that visual and sensory cues significantly impact decisions during exploratory shopping experiences. Studies have shown that consumers during high-stress or urgent situations, consumers are more likely to select well-known brands or trust the pharmacist's recommendations, as these provide a sense of reliability and quick resolution (Sheth, 2020).

The Role of Information Source Variables on Pharmaceutical Purchasing Decisions

Health literacy plays a pivotal role in influencing consumers' ability to make informed decisions about pharmaceutical products. Defined as the capacity to obtain, process, and understand basic health information, health literacy directly impacts medication adherence, understanding of prescriptions, and the ability to evaluate pharmaceutical options.

Mosher et al. (2012) found that patients with lower health literacy had significantly poorer medication knowledge, affecting their ability to correctly identify and use prescribed drugs. Similarly, Ngoh (2009) highlighted that low health literacy is associated with medication non-adherence, errors in administration, and higher medical expenses, underscoring its critical role in effective pharmaceutical use. The relationship between health literacy and self-medication also highlights its critical influence. Muflih et al. (2020) found a significant association between low health literacy and inappropriate self-medication practices, particularly in contexts of where over-the-counter purchases are common.

Moreover, health literacy influences consumers' engagement with pharmaceutical advertisements and decision-making processes. Chiang and Jackson (2016) demonstrated that individuals with higher health literacy are more likely to critically evaluate pharmaceutical advertisements, using cognitive processing to assess product information. Conversely, those with lower health literacy may struggle to understand or interpret these advertisements effectively, which can lead to poor or uninformed purchasing decisions. Additionally, the study by Cordina et al. (2018) revealed that

individuals with limited health literacy often experience difficulties understanding medication labels and package inserts, directly impacting their ability to follow instructions and make safe purchasing choices.

Health literacy also affects decision-making involvement. Seo et al. (2016) reported that individuals with higher health literacy levels are more inclined to participate actively in healthcare decisions, including choices related to medication. This involvement fosters better alignment between consumer preferences and prescribed treatments, enhancing satisfaction and adherence. Conversely, limited health literacy can hinder effective communication with healthcare providers, leaving patients less empowered in their purchasing and treatment decisions.

Online reviews are a critical factor influencing consumer purchasing decisions, particularly for pharmaceutical products, as they offer peer evaluations and shared experiences that guide choices. Chen et al. (2022) found that consumers are highly attentive to negative comments in online reviews, which significantly impact purchasing intentions. This effect is particularly pronounced among women, who exhibit greater sensitivity to negative feedback compared to men. Furthermore, the study revealed that consumers often fail to discern false or misleading reviews, highlighting the need for better review management and authenticity verification. Similarly, Dai and Jiang (2016) demonstrated that the quality and relevance of online reviews, including clarity and trustworthiness, play a significant role in shaping consumer behavior.

The dynamics of online reviews extend beyond the content itself, as factors such as the valence (positive or negative tone) and timeliness of reviews also influence consumer trust and decision-making. Jing-bo et al. (2014) showed that the quality and valence of reviews significantly shape consumer perceptions of pharmaceutical products. Positive reviews enhance trust and perceived efficacy, while negative reviews, even if scarce, can create disproportionate aversion. Additionally, the timeliness of reviews was shown to impact consumer confidence, with recent reviews carrying more weight in decision-making processes.

Interestingly, the impact of online reviews is mediated by consumer characteristics and product-specific factors. Ibrahim (2023) observed that reviewer credibility and perceived expertise strongly influence how consumers evaluate and act upon online reviews. Consumers tend to value reviews from sources perceived as knowledgeable or similar to themselves. Additionally, consumers place

considerable emphasis on the alignment of reviews with their health needs, underscoring the importance of personalized and contextually relevant feedback. Management responses to online reviews further shape purchasing decisions. Dai and Jiang (2016) highlighted the moderating effect of company responses to negative reviews, finding that prompt, empathetic responses can mitigate the adverse effects of negative feedback and restore consumer trust.

Word of mouth has always been a popular and vital source of information for consumers. WOM exerts a strong influence on consumer product preferences, purchase decisions and ultimately, firm's financial performance (Chen & Yuan 2020). This mode of communication is especially influential in the pharmaceutical industry, where trust and perceived efficacy are paramount (Smith & Taylor, 2020). Consumers often rely on recommendations from family member, friends, peer, acquaintances, and online communities when selecting over-the-counter medications or supplements. In the context of our country, this reliance extends even to the selection and purchase of prescription drugs. WOM is perceived as a trustworthy source because it originates from individuals who share personal experiences rather than commercial motives (Zhang et al., 2020).

Studies have shown that customers are more likely to trust recommendations from friends, family, or healthcare professionals over traditional advertising. For instance, Sweeney et al. (2014) found that positive WOM increases consumer confidence in over-the-counter (OTC) medication purchases. Furthermore, WOM's impact is amplified in scenarios where consumers lack sufficient knowledge or are overwhelmed by the variety of choices available (Kumar et al., 2018).

In addition, digital platforms have amplified the reach and impact of WOM, making it easier for consumers to access reviews and testimonials about pharmaceutical products. For example, Schlosser et al. (2020) demonstrated that online WOM, such as reviews on e-commerce platforms, directly correlates with an increase in sales for both prescription and OTC medications. Online reviews and social media discussions provide consumers with accessible and diverse opinions, making WOM a key factor in shaping perceptions of product efficacy and safety (Chen & Lu, 2021). For pharmaceutical companies, managing WOM effectively through targeted engagement and addressing consumer feedback can build brand loyalty and drive sales (Kumar et al., 2019).

In addition, healthcare professionals, including pharmacists, often serve as key sources of WOM by providing personalized advice based on the consumer's health needs. A study by Nguyen and

Lapointe (2021) highlighted that pharmacist-led WOM significantly influences customer loyalty and purchase intent in retail pharmacy settings.

2.4. Conceptual Framework

In this study, the conceptual framework is developed from theoretical and empirical literature review of previous researches.

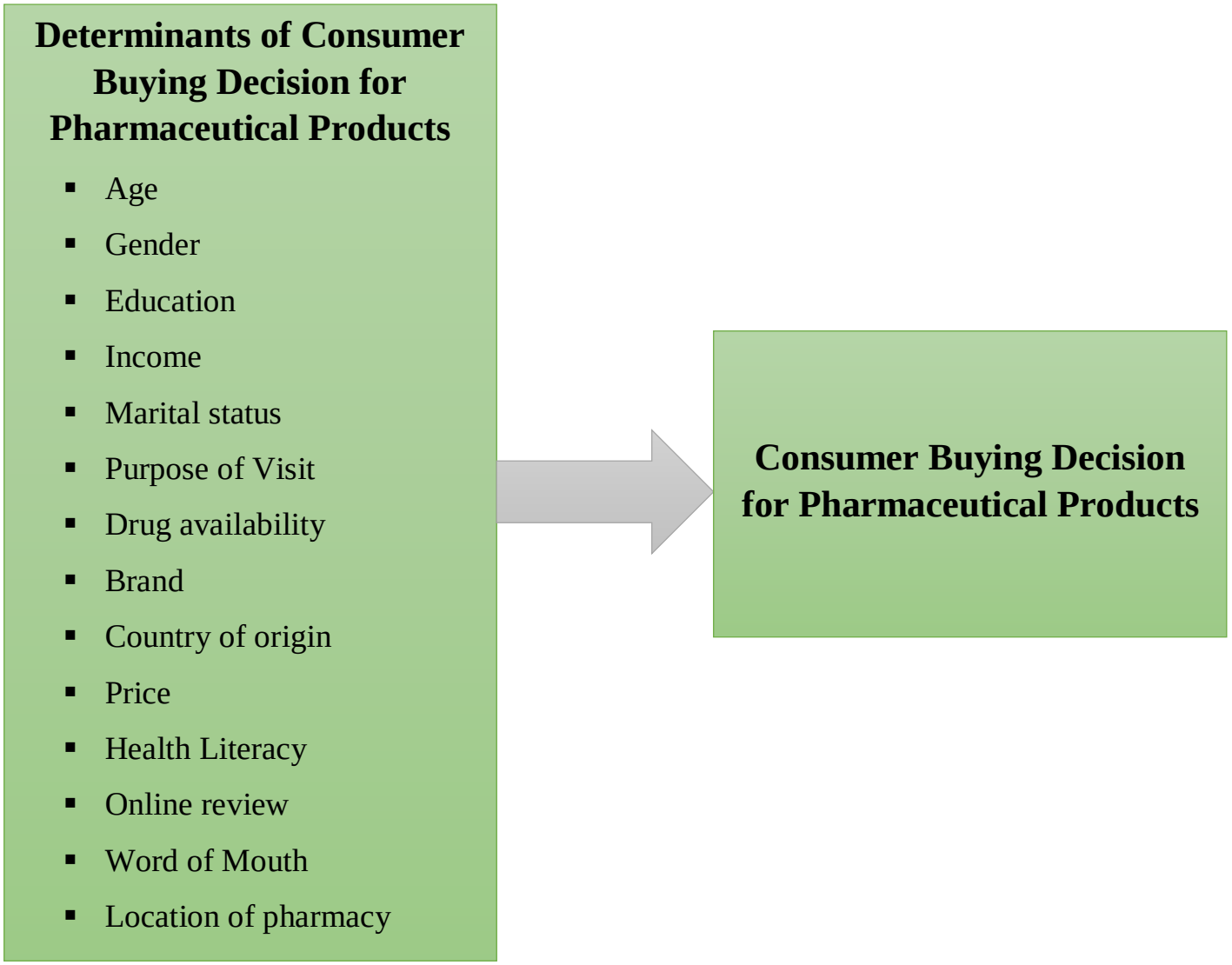

Figure 1. Conceptual Framework ***(Source**: Temechewu et al., 2020, Habash & Al-Dmour, 2020, Bootsumran, 2021)*

Chapter Three

Research Methodology

3.1. Description of the Study Area

The research survey was conducted in community pharmacies located in Addis Ababa, the capital city of Ethiopia. Addis Ababa is situated at an altitude ranging from 2,200 to 3,000 meters above sea level, with a predominantly mild climate. As the economic, political, and cultural hub of the country, the city is home to over 5 million inhabitants according to the Central Statistical Agency of Ethiopia (CSA, 2022). It covers an area of approximately 527 square kilometers, divided into 10 sub-cities and 116 districts ("kebeles").

The community pharmacies in Addis Ababa serve a diverse population, including residents from various socio-economic and demographic backgrounds. These pharmacies operate under regulations set by the Ethiopian Food and Drug Administration (EFDA) and provide a wide range of pharmaceutical products and services. The study targeted pharmacies across all sub-cities to ensure a comprehensive representation of consumer buying behavior for pharmaceutical products.

Figure 2. Map of Addis Ababa City

3.2. Type and Source of Data

To address the research questions and achieve the study's objectives on the determinants of consumer buying behavior for pharmaceutical products, both primary and secondary data were utilized.

Primary data were collected directly from consumers through structured questionnaires administered at selected community pharmacies across Addis Ababa. These questionnaires were designed to capture various factors influencing consumer purchasing decisions, including demographics, preferences, and perceptions about pharmaceutical products and services. In addition to the consumer responses, pharmacy staff and managers served as key informants, providing valuable insights into customer behavior, sales trends, and operational practices.

Secondary data were obtained from various published and unpublished sources, including reports from the Ethiopian Food and Drug Administration (EFDA), pharmacy industry analyses, academic studies, and market research reports. These secondary data sources were used to complement and enrich the primary data, providing a broader context for understanding consumer behavior in the pharmaceutical sector.

3.3. Sampling Technique and Sample Size

3.3.1. Target Population

The study was conducted in Addis Ababa, Ethiopia, the nation's capital and largest city, which had an estimated population of 5.46 million in 2023, reflecting a 4.45% increase from 2022 (UNDP, 2021). Covering an area of 540 square kilometers, Addis Ababa is divided into 11 sub-cities and serves as a hub for various social, economic, and health-related activities. The target population for this study included customers aged above 18 years who purchase pharmaceutical products from community pharmacies across Addis Ababa. According to data from the Addis Ababa Food, Medicine, and Health Care Administration and Control Authority (FMHACA), there are 1,024 community pharmacies operating in the city. Data collection was conducted between March 1 and April 15, 2024, to ensure comprehensive coverage of the study population.

3.3.2. Sampling Method

The study employed a two-stage sampling technique to ensure a representative and robust sample. In the first stage, simple random sampling was used to select community pharmacies from the sampling frame, ensuring that every pharmacy had an equal probability of being included. This probability sampling method ensured fairness and minimized bias in the selection process. In the second stage, convenience sampling was applied to select customers who purchase pharmaceutical products. Convenience sampling, a non-probability technique, allowed for the selection of respondents based on their availability and accessibility, ensuring practical feasibility while achieving the desired sample size. This combination of techniques ensured that the study effectively captured data from both the pharmacies and their customers.

3.3.3. Sample Size Determination

The sample size for community pharmacies was determined using Cochran's finite population formula, which considers the total population size and desired precision level. Using a 95% confidence level (Substituting the values, the calculated sample size was approximately 279. This ensured sufficient representation of community pharmacies across Addis Ababa.

The following sampling formula was used to determine sample size of target population

$$\boldsymbol{n = \frac{z^2 \cdot p \cdot q \cdot N}{e^2(N-1) + z^2 \cdot p \cdot q}}$$

Where;

n= sample size

z= value on standardized normal distribution curve corresponding to the level of significance. It is 1.96 at 95% Confidence level

p= sample proportion (Assume 50%), q=1-p

e= 0.05 which is acceptable sample error;

N = number of total populations; N= 1024

It is total number of community pharmacies in Addis Ababa

$$n = \frac{1.96^2 \cdot 0.5 \cdot 0.5 \cdot 1024}{0.05^2(1024-1) + 1.96^2 \cdot 0.5 \cdot 0.5} = 279.56 \sim 279$$

The sample size is calculated for all community pharmacies in Addis Ababa and found to be 279.

Table 1:Total number of community pharmacies and pharmacy representative samples.

S.N	Sub cities	Total number of Pharmacies	Sample size
1	Addis-ketema	92	25
2	Akaki-Kalti	46	12
3	Arada	65	18
4	Bole	176	48
5	Gullele	45	12
6	Kirkos	50	14
7	Kolfe	118	32
8	Lemikura	172	47
9	Lideta	70	19
10	Nifas-Silk	118	32
11	Yeka	72	20
Total		**1,024**	**279**

The following sampling formula for infinite population have been used to determine the sample size.

$$\boldsymbol{n_0 = \frac{z^2 pq}{e^2}}$$

Where;

n_0= sample size

z= A 95% confidence level is used to select the appropriate sample size and the value of Z is 1.96.

p= level of variability,

q=1-p

e= the level of precision (±5%)

$$\boldsymbol{n_0 = \frac{1.96^2 \cdot 0.5 \cdot 0.5}{0.05^2}} \textbf{=384}$$

For the customer sample size, the formula for infinite populations was applied: Using the same confidence level and variability assumptions, the initial sample size was calculated as 384. The sampling approach ensured that each sub-city within Addis Ababa was proportionately represented in the study, capturing diverse customer perspectives and pharmacy practices. This methodology

provides a robust framework for exploring pharmaceutical purchasing behaviors and service utilization within community pharmacies in Addis Ababa.

3.4. Method of Data Analysis

In this study, both descriptive statistics and econometric methods were used to analyze the determinants of consumer buying behavior for pharmaceutical products. Descriptive statistics, such as means and standard deviations, were applied to summarize the socio-economic and demographic characteristics of the respondents. The collected survey data was coded and entered into statistical software packages, including SPSS version 21 and STATA version 17, for thorough analysis. Microsoft Excel was used for data cleaning and initial organization.

3.4.1. Descriptive Statistics

Descriptive statistical tools, including mean, standard deviation, frequency distribution, and percentages, were employed to provide a comprehensive understanding of the characteristics of the sample population. These statistics offered a clear picture of variables such as consumer demographics, income levels, education, and preferences for pharmaceutical products. Chi-square tests and t-tests were also applied to compare variations across different groups of respondents and assess relationships between key explanatory variables.

3.4.2. Econometric Model

3.4.2.1. Logistic Regression Model

The study employed a binary logistic regression model to examine the determinants of consumer buying behavior for pharmaceutical products. The logistic model is appropriate when the dependent variable is binary, taking a value of 1 if a consumer purchased a pharmaceutical product and 0 otherwise. This model estimates the probability of a specific outcome by applying the cumulative logistic distribution function.

The advantage of using the logistic regression model lies in its ability to constrain the predicted probabilities between 0 and 1 and account for the non-linear relationship between the dependent and independent variables. The model assumes that the log-odds of the dependent variable are a linear combination of the independent variables, which include income, education level, product availability, price sensitivity, and health awareness.

The logistic regression equation is expressed as follows:

$$P_i = E(Y = 1/Xi) = \frac{1}{1+e^{-(\beta 0+\beta 1Xi}} \ldots\ldots\ldots\ldots\ldots\ldots \text{Eq. (1)}$$

For ease of exposition, Eq. (1) can be expressed as

$$P_i = \frac{1}{1+e^{-Zi}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{Eq. (2)}$$

$$Z_i = \beta o + \beta_j X_{Ji} \quad \forall j \in V, \forall i \in N$$

Where V is a set of explanatory variable and N is the set of all observations. If $P_i$is the probability of being purchasing pharmaceuticals products, then the probability of not purchasing pharmaceuticals

$$P_i = E(Y = 1/Xi) = \frac{1}{1+e^{-(\beta 0+\beta 1Xi}} \ldots\ldots\ldots\ldots\ldots\ldots \text{Eq. (1)}$$

For ease of exposition, Eq. (1) can be expressed as

$$P_i = \frac{1}{1+e^{-Zi}} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \text{Eq. (2)}$$

$$Z_i = \beta o + \beta_j X_{Ji} \quad \forall j \in V, \forall i \in N$$

Where V is a set of explanatory variable and N is the set of all observations. If $P_i$is the probability of being purchasing pharmaceuticals products, then the probability of not purchasing pharmaceuticals is given by $1-P_i$, which is expressed as follows:

$$1 - P_i = \frac{1}{1+e^{Zi}} \ldots\ldots\ldots\ldots\ldots\ldots \text{Eq. (3)}$$

Therefore, this can be written as;

$$\frac{P_i}{1-P_i} = \frac{1+e^{Zi}}{1+e^{-Zi}} = e^{Zi} \ldots\ldots\ldots \text{Eq. (4)}$$

where P_i / ($1-P_i$) is simply the odds ratio in favor of being purchasing pharmaceuticals products, the ratio of the probability that the household will be purchasing pharmaceuticals products to the probability that it will be not purchasing pharmaceuticals products Taking the natural log of Eq. (4) above, it is possible to arrive at a log of odds ratio, which is linear not only in X's but also in the parameters:

$$L_{i=} \text{ Ln } (\frac{P_i}{1-P_i}) = \ Z_i = \beta o + \beta_j X_{Ji} \ \ \forall j \in V, \forall i \in N \ldots\ldots\ldots \text{Eq. (5)}$$

where P_i is the probability of being purchasing pharmaceuticals ranging from 0 to 1; V is a set of explanatory variable and N is the set of all observations; If the disturbance term (U_i) is introduced, the logit model becomes:

$$Z_i = \beta o + \beta_j X_{Ji} + U_i \ldots\ldots\ldots \text{Eq. (6)}$$

Not being purchasing pharmaceuticals products is given by $1-P_i$, which is expressed as follows:

$$1 - P_i = \frac{1}{1+e^{Zi}} \text{..... Eq. (3)}$$

Therefore, this can be written as;

$$\frac{P_i}{1-P_i} = \frac{1+e^{Zi}}{1+e^{-Zi}} = e^{Zi} \text{ ..... Eq. (4)}$$

where P_i / ($1-P_i$) is simply the odds ratio in favor of being purchasing pharmaceuticals products, the ratio of the probability that the household will be purchasing pharmaceuticals products to the probability that it will be not purchasing pharmaceuticals products. Taking the natural log of Eq. (4) above, it is possible to arrive at a log of odds ratio, which is linear not only in X's but also in the parameters:

$$L_{i=} \text{ Ln } (\frac{P_i}{1-P_i}) = \ Z_i = \beta o + \beta_j X_{Ji} \ \ \forall j \in V, \forall i \in N \text{..... Eq. (5)}$$

where P_i is the probability of being purchasing pharmaceuticals, products ranging from 0 to 1; V is a set of explanatory variable and N is the set of all observations; If the disturbance term (U_i) is introduced, the logit model becomes:

$$Z_i = \beta o + \beta_j X_{Ji} + U_i \text{..... Eq. (6)}$$

3.5. Definitions of Working Variables and Hypotheses

Dependent Variable

Purchasing Decision Group

This is a binary variable that takes the value of 1 if a consumer decides to purchase pharmaceutical products and 0 otherwise. It measures the consumer's final decision regarding the purchase of pharmaceutical products from community pharmacies.

Independent Variables

Gender of Respondents: It is a categorical variable measured as male or female. Gender is hypothesized to significantly influence purchasing decisions, with societal roles and decision-making power potentially leading to differences in purchase behavior between males and females.

Age of Respondents: This is a continuous variable measured in years. It is hypothesized that older consumers are more likely to purchase pharmaceutical products due to increased health concerns and greater experience with healthcare needs.

Marital Status of Respondents: This is a dummy variable that takes the value of 1 if the respondent is married and 0 otherwise. It is hypothesized that married individuals are more likely to purchase pharmaceutical products due to shared financial stability and responsibility for family healthcare needs.

Purpose of Visit to Pharmacy: This is a categorical variable that indicates whether the visit is for prescription or over-the-counter (OTC) products. It is hypothesized that consumers visiting for prescriptions are more likely to purchase pharmaceutical products compared to those visiting for OTC items, as prescriptions often signal specific medical needs.

Price of Drugs: This is a binary variable indicating whether price influences the purchasing decision (1 = influenced, 0 = not influenced). Price is hypothesized to have a significant impact, with higher-priced drugs possibly being associated with better quality, thereby influencing purchasing behavior.

Availability of Drugs: This is a binary variable indicating whether the availability of drugs influences the purchasing decision (1 = influenced, 0 = not influenced). It is hypothesized that the availability of pharmaceutical products positively impacts purchasing decisions, as consumers prioritize access to necessary medications.

Brand of Drugs: This is a binary variable indicating whether the brand influences the purchasing decision (1 = influenced, 0 = not influenced). Brand preference is hypothesized to positively influence purchasing behavior, as consumers may associate branded products with higher quality and reliability.

Word of Mouth: This is a binary variable indicating whether word of mouth influences the purchasing decision (1 = influenced, 0 = not influenced). It is hypothesized that recommendations from peers or family significantly encourage purchasing behavior by building trust and credibility.

Country of Origin: This is a binary variable indicating whether the country of origin influences the purchasing decision (1 = influenced, 0 = not influenced). It is hypothesized that consumers associate certain countries of origin with higher quality standards, positively influencing their purchasing decisions.

Online Resource Reviews: This is a binary variable indicating whether online reviews influence the purchasing decision (1 = influenced, 0 = not influenced). It is hypothesized that access to online information and reviews enhances consumers' awareness and confidence, positively affecting their purchasing behavior.

Health Literacy: This is a binary variable indicating whether health literacy influences the purchasing decision (1 = influenced, 0 = not influenced). It is hypothesized that individuals with higher health literacy are better equipped to evaluate the benefits and risks of pharmaceutical products, positively influencing their purchasing decisions.

Years of Schooling: This is a continuous variable measured in years. It is hypothesized that individuals with more years of schooling are more likely to purchase pharmaceutical products, as education enhances their ability to assess and understand the value and necessity of medications.

Location of Pharmacy: This is a continuous variable measured as the distance from the respondent's home to the pharmacy (e.g., in meters or kilometers). It is hypothesized that consumers living closer to pharmacies are more likely to purchase pharmaceutical products due to easier accessibility.

Annual Income Level: This is a continuous variable measured in monetary terms (e.g., Ethiopian Birr). It is hypothesized that higher annual income levels positively influence purchasing decisions by increasing the affordability of pharmaceutical products.

3.5.1. Summary of Variables and Their Expected Sign

Table 2: Summary of Variables and Their Expected Sign

Variables	Variable Type	Description of Variable	Expected Sign
Dependent Variable			

Purchasing Decision	Dummy	Binary variable indicating if the respondent purchased pharmaceutical products (1 = yes, 0 = no)	
Explanatory Variables			
Gender	Categorical	Gender of the respondent (male/female)	+/-
Age	Continuous	Age of the respondent measured in years	+
Marital Status	Dummy	Marital status of the respondent (1 = married, 0 = otherwise)	+
Purpose of Visit	Categorical	Purpose of visiting the pharmacy (prescription/OTC)	+
Price Influence	Dummy	Whether price influenced the decision (1 = yes, 0 = no)	+/-
Availability of Drugs	Dummy	Whether drug availability influenced the decision (1 = yes, 0 = no)	+
Brand of Drugs	Dummy	Whether brand influenced the decision (1 = yes, 0 = no)	+
Word of Mouth	Dummy	Whether word of mouth influenced the decision (1 = yes, 0 = no)	+
Country of Origin	Dummy	Whether the country of origin influenced the decision (1 = yes, 0 = no)	+
Online Resource Reviews	Dummy	Whether online reviews influenced the decision (1 = yes, 0 = no)	+
Health Literacy	Dummy	Whether health literacy influenced the decision (1 = yes, 0 = no)	+
Years of Schooling	Continuous	Education level of the respondent measured in years	+
Location of Pharmacy	Continuous	Distance from the respondent's home to the pharmacy measured in kilometers/meters	+
Annual Income Level	Continuous	Annual income level of the respondent measured in ETB (birr)	+

3.6. Diagnostic Tests

To ensure the robustness of the logistic regression model used in this study, diagnostic tests are performed to check for specification errors and multicollinearity.

3.6.1. Specification Tests

The Link test is employed to assess whether the logistic regression model is correctly specified. This test examines whether additional predictors would improve the model's fit or if the inclusion of irrelevant variables distorts the analysis. A correctly specified model is expected to have a significant coefficient for the predicted variable (hat) and an insignificant coefficient for its squared term (hatsq), indicating no omitted variables or misspecification issues in the model.

3.6.2. Multicollinearity Tests

Multicollinearity is assessed using the Variance Inflation Factor (VIF) for all continuous and dummy explanatory variables. High VIF values (typically above 10) indicate severe multicollinearity, which could undermine the reliability of estimated coefficients. Addressing multicollinearity may involve excluding or combining highly correlated variables, ensuring the stability and interpretability of the regression estimates.

3.7. Ethical Consideration

The study was performed in compliance with the university's guidelines, laws, and regulations. A written consent letter was issued from the university to undertake the research project in all necessary places. The data gathered was used solely to the study and the entire process was adhered to all associations and university policies. The purpose of the survey was disclosed on the questionnaires. Before starting data collection, a brief clarification regarding the objective of the study was given to all respondents and all facilities to carry out this survey. Respondents identity and company’s profile was kept confidential. A participant’s willingness to take part in a study was respected.

Chapter Four

Result and Discussion

This chapter presents the results of the data analysis and discussion of the major findings of the study. It is divided into two broad sections. The first section presents the descriptive analysis of the socio-economic and demographic characteristics of the respondents. The second section discusses econometrics results from the quantitative data in relation to the specific objectives and hypotheses of the study.

4.1. Descriptive Analysis

4.1.1. Socio-economic and Demographic Characteristics of the Respondents

The socio-economic and demographic characteristics of the respondents provide essential background information regarding the participants in this study. The data gathered includes key variables such as age, gender, education level, and marital status, etc. all of which have significant implications for understanding respondents' character.

The Gender of Respondent's

The analysis of gender distribution among respondents provides insights into purchasing decisions related to pharmaceutical products. Among the total 384 respondents, male respondents accounted for 214 individuals (55.73%), while female respondents represented 170 individuals (44.27%).

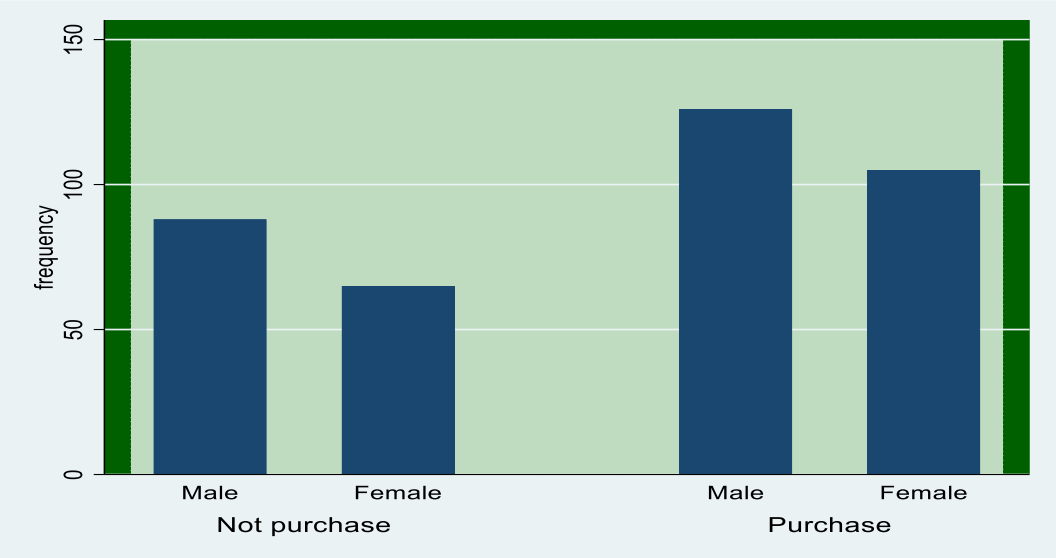

Figure 3: The Gender of Respondent's

Source: own's computation, 2024.

Within the purchasing group, which consists of respondents who decided to purchase pharmaceutical products, male respondents comprised 126 individuals (54.55%), whereas female respondents accounted for 105 individuals (45.45%). In the non-purchasing group, representing those who chose not to purchase pharmaceutical products, male respondents constituted 88 individuals (57.52%), and female respondents represented 65 individuals (42.48%).

These results indicate that the distribution of gender varies across purchasing and non-purchasing groups, suggesting a potential influence of gender as a variable in shaping consumers' purchasing decisions for pharmaceutical products

The Age of the Respondent's

The analysis of age distribution among respondents reveals significant variations between the purchasing and non-purchasing groups. Among the 384 respondents, those in the purchasing group, who decided to purchase pharmaceutical products, had an average age of 43.68 years with a standard deviation of 11.131 years. The minimum age in this group was 19 years, and the maximum age was 70 years.

Table 3: Age of the Respondent's

Purchase Decision Group	N	Mean	SD	Min	Max
Not purchase	153	36.386	10.486	18	67
Purchase	231	43.68	11.131	19	70

Source: own's computation, 2024.

In contrast, respondents in the non-purchasing group, who chose not to purchase pharmaceutical products, had a lower average age of 36.386 years with a standard deviation of 10.486 years. The minimum age in this group was 18 years, and the maximum age was 67 years. These findings highlight a notable age-related difference between the two groups, suggesting that purchasing decisions for pharmaceutical products may vary across different age cohorts.

The marital status of the respondent's

The analysis of marital status among respondents illustrates differences in purchasing decisions for pharmaceutical products. Out of the total 384 respondents, 187 individuals (48.70%) were single, and 197 individuals (51.30%) were married.

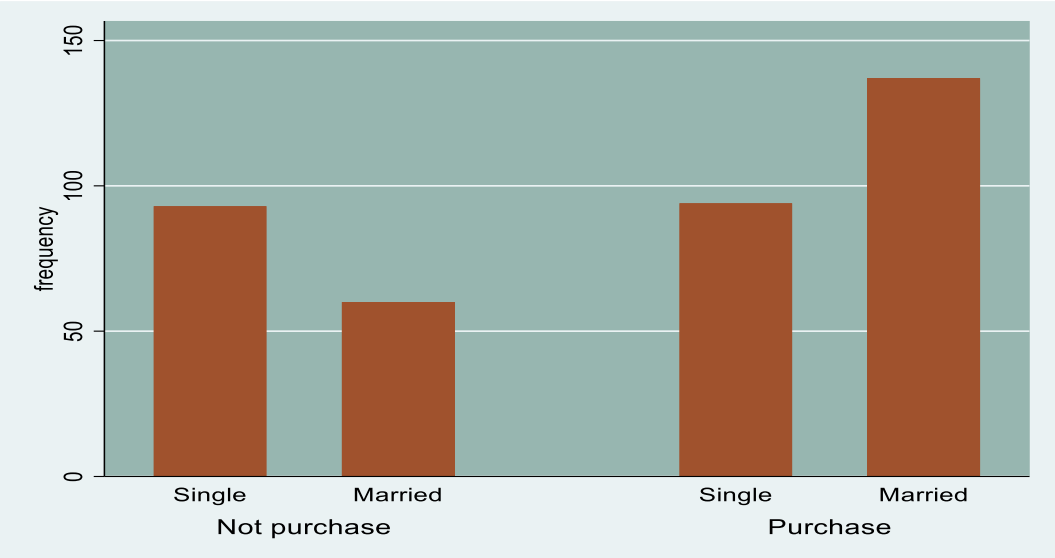

Figure 4: The marital status of the respondent's

Source: own's computation, 2024.

Within the purchasing group, comprising respondents who decided to purchase pharmaceutical products, 94 individuals (40.69%) were single, while 137 individuals (59.31%) were married. Conversely, in the non-purchasing group, representing those who chose not to purchase pharmaceutical products, 93 individuals (60.78%) were single, and 60 individuals (39.22%) were married. These findings underscore the distribution of marital status across purchasing and non-purchasing groups, with married respondents showing a higher proportion in the purchasing group compared to their single counterparts.

Respondent's purpose of visit a Pharmacy

The analysis of respondents' purpose for visiting a pharmacy, categorized as either for prescriptions or over-the-counter (OTC) products, reveals variations in purchasing decisions. Among the total 384 respondents, 206 individuals (53.65%) visited the pharmacy for prescriptions, while 178 individuals (46.35%) visited for OTC products.

Table 4: Respondent's purpose of visit a Pharmacy

Purchase Decision Group	Purpose of Visit		
	Prescription	OTC	Total
Not purchase	90	63	153
Purchase	116	115	231
Total	206	178	384

Source: own's computation, 2024.

In the purchasing group, which includes respondents who decided to purchase pharmaceutical products, 116 individuals (50.22%) visited for prescriptions, and 115 individuals (49.78%) visited for OTC products. On the other hand, within the non-purchasing group, representing those who chose not to purchase pharmaceutical products, 90 individuals (58.82%) visited for prescriptions, while 63 individuals (41.18%) visited for OTC products. These results highlight the distribution of respondents' purpose of visit across purchasing and non-purchasing groups, indicating a relatively balanced proportion of prescription and OTC visits among purchasers, with a slightly higher inclination toward prescriptions among non-purchasers.

Price Influence on Purchasing Decisions

The analysis of respondents' purchasing decisions based on the influence of price highlights notable differences between the purchasing and non-purchasing groups. Among the total 384 respondents, 238 individuals (61.98%) reported that price influenced their decision to purchase pharmaceutical products, while 146 individuals (38.02%) stated that price did not influence their decision.

Table 5: Price Influence on Purchasing Decisions

Purchase Decision Group	Price		
	no	yes	Total
Not purchase	88	65	153
Purchase	58	173	231
Total	146	238	384

Source: own's computation, 2024.

Within the purchasing group, which consists of respondents who decided to purchase pharmaceutical products, 173 individuals (74.89%) reported that price influenced their decision,

while 58 individuals (25.11%) indicated that price did not affect their choice. In the non-purchasing group, 88 individuals (57.52%) stated that price did not influence their decision, whereas 65 individuals (42.48%) reported that price was a factor in their non-purchase decision. These results provide an overview of the distribution of respondents regarding the role of price in their purchasing decisions for pharmaceutical products.

The Availability of the drugs for pharmaceutical products

The analysis of the influence of drug availability on purchasing decisions reveals distinct patterns between the purchasing and non-purchasing groups. Among the total 384 respondents, 252 individuals (65.63%) indicated that the availability of drugs influenced their purchasing decision, while 132 individuals (34.38%) stated that availability did not affect their decision.

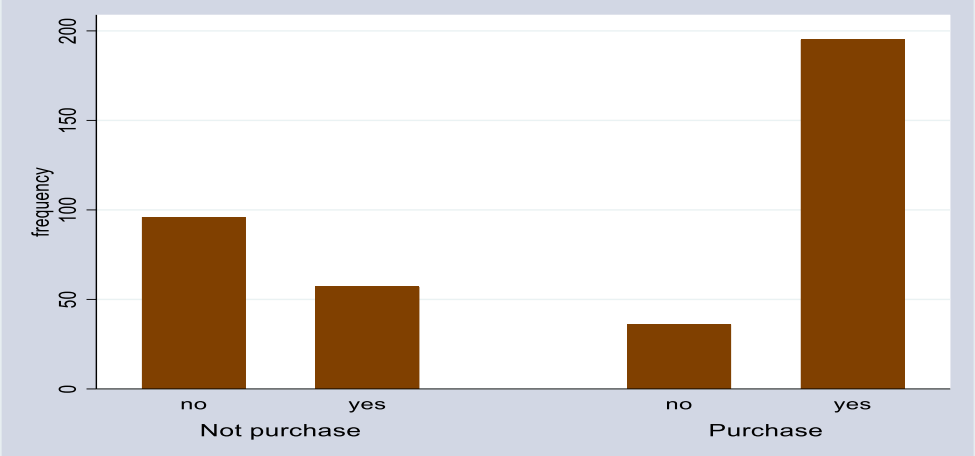

Figure 5: The Availability of the drugs for pharmaceutical products

Source: own's computation, 2024.

Within the purchasing group, consisting of respondents who decided to purchase pharmaceutical products, 195 individuals (84.42%) reported that availability influenced their decision, whereas 36 individuals (15.58%) indicated that availability did not impact their choice. In the non-purchasing group, 96 individuals (62.75%) stated that availability did not influence their decision, while 57 individuals (37.25%) reported that availability was a factor in their decision not to purchase. These results summarize the distribution of respondents regarding the role of drug availability in their purchasing decisions for pharmaceutical products.

The Brand of drugs on Purchasing Decisions

The analysis of the influence of brand of drugs on purchasing decisions highlights notable differences between the purchasing and non-purchasing groups. Among the total 384 respondents, 220 individuals (57.29%) indicated that brand influenced their purchasing decision, while 164 individuals (42.71%) stated that brand did not affect their decision.

Table 6: The Brand of drugs on Purchasing Decisions

Purchase Decision Group	Brand of drugs		
	no	yes	Total
Not purchase	100	53	153
Purchase	64	167	231
Total	164	220	384

Source: own's computation, 2024.

Within the purchasing group, consisting of respondents who decided to purchase pharmaceutical products, 167 individuals (72.29%) reported that brand of drugs influenced their decision, whereas 64 individuals (27.71%) indicated that brand of drugs did not play a role in their choice. In the non-purchasing group, 100 individuals (65.36%) stated that brand of drugs did not influence their decision, while 53 individuals (34.64%) reported that brand was a factor in their decision not to purchase. These results summarize the distribution of respondents regarding the role of brand in their purchasing decisions for pharmaceutical products.

Influence of Word of Mouth on Purchasing Decisions

The analysis of the influence of word of mouth on purchasing decisions shows notable differences between the purchasing and non-purchasing groups. Among the total 384 respondents, 259 individuals (67.45%) reported that word of mouth influenced their purchasing decision, while 125 individuals (32.55%) stated that it did not.

Table 7: Influence of Word of Mouth on Purchasing Decisions

Purchase Decision Group	Words of Mouth		
	no	yes	Total
Not purchase	71	82	153
Purchase	54	177	231
Total	125	259	384

Source: own's computation, 2024.

Within the purchasing group, which consists of respondents who decided to purchase pharmaceutical products, 177 individuals (76.62%) indicated that word of mouth influenced their decision, whereas 54 individuals (23.38%) reported that it did not. In the non-purchasing group, 82 individuals (53.59%) stated that word of mouth influenced their decision, while 71 individuals (46.41%) indicated that it did not. These results summarize the distribution of respondents regarding the role of word of mouth in their purchasing decisions for pharmaceutical products.

Country of Origin on Purchasing Decisions

The analysis of respondents' purchasing decisions highlights the role of country of origin in influencing consumer choices for pharmaceutical products. Out of the total 384 respondents, 242 individuals (63.02%) indicated that the country of origin influenced their purchasing decision, while 142 individuals (36.98%) reported that it did not.

Table 8: Country of Origin on Purchasing Decisions

Purchase Decision Group	Country of origin		
	no	yes	Total
Not purchase	87	66	153
Purchase	55	176	231
Total	142	242	384

Source: own's computation, 2024.

In the purchasing group, consisting of respondents who decided to purchase pharmaceutical products, 176 individuals (76.19%) acknowledged that the country of origin influenced their decision, whereas 55 individuals (23.81%) indicated that it did not. Conversely, in the non-purchasing group, representing those who chose not to purchase pharmaceutical products, 87 individuals (56.86%) stated that the country of origin did not influence their decision, while 66 individuals (43.14%) reported that it was a factor in their non-purchase decision. These findings provide a comprehensive summary of the distribution of respondents based on the influence of country of origin in shaping their purchasing decisions for pharmaceutical products.

Online Resource Reviews on Purchasing Decisions

The analysis of respondents' purchasing decisions highlights the role of online resource reviews in influencing consumer behavior toward pharmaceutical products. Among the total 384 respondents,

230 individuals (59.90%) indicated that online reviews influenced their purchasing decisions, while 154 individuals (40.10%) reported that online reviews did not have an impact.

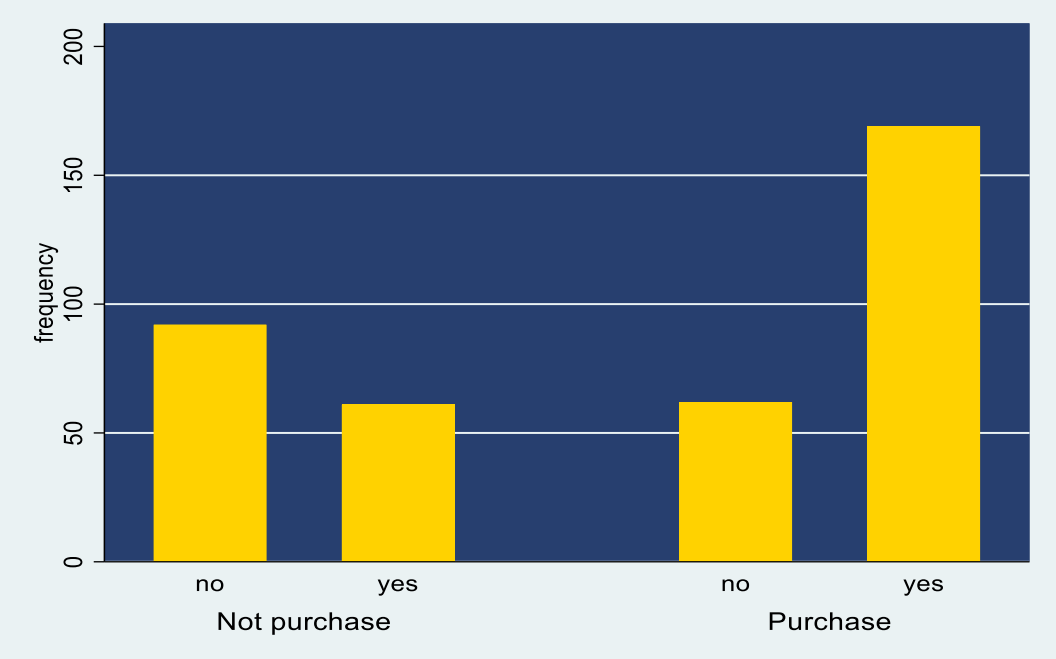

Figure 6: Online Resource Reviews on Purchasing Decisions

Source: own's computation, 2024

Within the purchasing group, consisting of respondents who decided to purchase pharmaceutical products, 169 individuals (73.16%) acknowledged that online reviews influenced their decisions, whereas 62 individuals (26.84%) stated that they were not influenced by online reviews. In the non-purchasing group, 92 individuals (60.13%) reported that online reviews did not affect their decision, while 61 individuals (39.87%) indicated that online reviews influenced their non-purchasing choice. These results summarize the distribution of respondents based on the influence of online resource reviews in shaping their purchasing decisions for pharmaceutical products.

Health Literacy on Purchasing Decisions

The analysis of respondents' purchasing decisions reveals the impact of health literacy on consumer behavior regarding pharmaceutical products. Among the total 384 respondents, 237 individuals (61.72%) indicated that health literacy influenced their purchasing decisions, while 147 individuals (38.28%) reported that it did not.

Table 9: Health Literacy on Purchasing Decisions

Purchase Decision Group	Health Literacy		
	no	yes	Total
Not purchase	85	68	153
Purchase	62	169	231
Total	147	237	384

Source: own's computation, 2024

In the purchasing group, which includes respondents who decided to purchase pharmaceutical products, 169 individuals (73.16%) stated that health literacy influenced their decision, whereas 62 individuals (26.84%) reported that it did not. Conversely, in the non-purchasing group, representing those who chose not to purchase pharmaceutical products, 85 individuals (55.56%) indicated that health literacy did not affect their decision, while 68 individuals (44.44%) stated that it was a factor influencing their choice. These results provide an overview of the distribution of respondents regarding the role of health literacy in shaping their purchasing decisions for pharmaceutical products.

Descriptive Statistics of Continuous Variables by Purchasing Decision

The descriptive statistics for continuous variables provide an overview of the differences between the purchasing and non-purchasing groups regarding years of schooling, proximity to pharmacies, and annual income levels.

Summary statistics: N mean sd min max by(Purchasing Decision)

Purchase Decision Group: Not purchase

Table 10: Descriptive Statistics of Continuous Variables by Purchasing Decision

		N	Mean	SD	Min	Max
Not purchase	Years of schooling	153	10.843	5.891	0	23
	Location Pharmacy	153	1490.588	1227.196	50	7000
	Annual Income level	153	128270.59	49499.997	15000	300000
Purchase	Years of schooling	231	14.472	6.618	0	23
	Location Pharmacy	231	2322.727	1784.052	50	9000
	Annual Income level	231	196188.31	99935.676	42000	600000

Source: own's computation, 2024

The descriptive statistics for continuous variables—Years of Schooling, Location of Pharmacy, and Annual Income Level—reveal notable differences between the purchasing (N=231) and non-purchasing (N=153) groups, pointing to deeper socioeconomic and behavioral dynamics influencing pharmaceutical buying behavior.

Years of Schooling

A striking disparity emerges in educational attainment: respondents who opted not to purchase medication report an average of 10.84 years of schooling (SD=5.89), whereas purchasers average 14.47 years (SD=6.62). This gap of over three years highlights the potential role of education in shaping health-related decision-making. Individuals with greater formal education may be more adept at recognizing the value of timely medication and navigating healthcare systems, thus translating into higher likelihoods of purchasing. Additionally, higher education could correlate with stronger health literacy, reinforcing the capacity to assess drug quality, understand dosage instructions, and weigh potential risks—a pattern observed in other consumer health contexts.

Location of Pharmacy

The average distance to pharmacies is notably higher among purchasers (2,322.73 units, SD=1,784.05) than non-purchasers (1,490.59 units, SD=1,227.20). Although it might initially seem paradoxical that those farther from pharmacies display higher purchasing rates, these results may reflect socioeconomic factors such as private vehicle ownership or residence in suburban areas where more upscale or specialized pharmacies are located. Alternatively, individuals with greater resources may be willing or able to travel longer distances for perceived higher-quality products. These findings invite further investigation into the interplay between spatial access, perceived quality of local pharmacies, and willingness to commute for medication.

Annual Income Level

Income distinctions between the two groups are similarly pronounced. The non-purchasing cohort shows a mean annual income of 128,270.59 (SD=49,500.00), compared to 196,188.31 (SD=99,935.68) among purchasers. This gap underscores the importance of financial capacity in sustaining pharmaceutical purchases, as income can directly mediate both affordability and perceived necessity of drug therapy. Higher-income consumers may exhibit more discretionary spending on brand-name medications, broader insurance coverage, or simply fewer fiscal

constraints that could otherwise deter timely purchases of pharmaceutical products. This pattern echoes broader evidence linking disposable income with increased healthcare utilization and medication adherence.

4.2. Econometrics Analysis

Determinants of consumer's buying behaviors of pharmaceuticals products

Logistic regression Model Estimated Results

The logistic regression results underscore multiple significant predictors of consumers' pharmaceutical purchasing decisions, with the model explaining a substantial portion of variability (pseudo R-squared = 0.544). Overall, the chi-square statistic (281.110, $p<0.000$) confirms strong model significance, and the Akaike (AIC = 265.272) and Bayesian (BIC = 324.532) information criteria indicate a robust fit. Below is a discussion of each key determinant, focusing on their signs, magnitudes, and statistical significance:

Gender

The coefficient for Gender is negative (–0.746) and significant at the 5% level, suggesting that gender-based differences are present in purchasing behavior. This outcome indicates a lower likelihood of purchase for one gender category relative to the other.

Age

Age shows a positive and significant effect (0.034, $p<0.05$), implying that as individuals grow older, their propensity to purchase pharmaceutical products rises. Although the effect size is moderate, the significance highlights age-related variation in buying tendencies.

Purpose of Visit

Purpose of Visit (0.165) does not attain significance, indicating no discernable relationship between the reason for seeking medical attention and the decision to purchase.

Years of Schooling

The coefficient for Years of Schooling (0.059, $p<0.05$) is positive and significant, reflecting that individuals with higher levels of education exhibit a greater likelihood of purchasing. The magnitude, while not large, reinforces the idea that more educated consumers may be inclined to buy pharmaceutical products.

Marital Status

Marital Status (1.637, $p<0.01$) displays one of the largest positive effects on purchasing decisions. Married or otherwise partnered consumers appear much more likely to buy pharmaceutical products compared to their single counterparts.

Location of Pharmacy

Location of Pharmacy is statistically significant at the 1% level, despite the small reported coefficient. This result implies that factors related to pharmacy location—such as accessibility or convenience—can substantially influence purchase outcomes.

Annual Income Level

Annual Income Level is also highly significant ($p<0.01$). Although the coefficient estimate is very small (displayed as 0.000), its positivity suggests that higher income is associated with an increased probability of buying pharmaceutical products.

Price of Drugs

Price of Drugs (0.838, $p<0.05$) emerges as a positively signed predictor, indicating that consumers respond to pricing in a way that increases their likelihood of purchase, possibly reflecting perceived value or quality signals associated with higher-priced medications.

Availability of Drugs

Availability of Drugs (2.05, $p<0.01$) shows one of the strongest positive associations in the model. Consumers are substantially more inclined to complete a purchase when medications are readily in stock, highlighting the importance of supply-side factors.

Brand of Drugs

Brand of Drugs (1.079, $p<0.01$) significantly raises the probability of purchase, indicating notable consumer preference for brand-name products over generic alternatives. This preference may stem from perceptions of quality, safety, or effectiveness linked with branded options.

Word of Mouth

Word of Mouth (1.441, $p<0.01$) also exerts a strong positive effect, demonstrating that recommendations from social networks play an influential role in shaping consumers' purchasing behavior for pharmaceutical goods.

Country of Origin

Country of Origin (0.789, $p<0.05$) shows a positive and significant coefficient, suggesting that the manufacturing source of a pharmaceutical product contributes to consumers' buying decisions, possibly due to perceived quality standards or brand reputation associated with certain countries.

Review of Online Sources

Review of Online Sources (0.786, $p<0.05$) contributes positively to purchase likelihood, indicating that consumers who consult digital reviews or health-related websites are more inclined to finalize a purchase decision.

Health Literacy

Health Literacy (1.184, $p<0.01$) stands out as another key determinant, positively influencing consumers to make informed pharmaceutical purchases. This emphasis on literacy underscores the role of consumer understanding in evaluating medication benefits and risks.

Constant

The negative constant (–9.055, $p<0.01$) points to a low baseline probability of purchase absent any explanatory factors, underscoring the importance of the included predictors in driving consumer decisions.

In summary, the statistically significant and generally positive coefficients across various sociodemographic, economic, and product-related variables highlight the multifaceted nature of consumers' pharmaceutical purchasing choices. These findings, reinforced by the model's strong explanatory power, suggest that enhancing drug availability, leveraging brand reputation, improving health literacy, and disseminating positive word of mouth can each play meaningful roles in shaping consumer demand in the pharmaceutical market.

Table 11: Logistic regression model results

Logistic regression

Purchasing_Decision	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Gender	-.746	.36	-2.07	.038	-1.452	-.04	**
Age	.034	.016	2.06	.04	.002	.066	**
PurposeofVisit	.165	.343	0.48	.63	-.507	.838	
Yearsofschooling	.059	.028	2.12	.034	.004	.114	**
MaritalStatus	1.637	.374	4.37	0	.903	2.371	***
Location_Pharmacy	0	0	3.11	.002	0	.001	***
AnnualIncomelevel	0	0	2.90	.004	0	0	***
Price_Drugs	.838	.349	2.40	.016	.154	1.522	**
Availability_Drugs	2.05	.376	5.45	0	1.312	2.787	***
Brand_Drugs	1.079	.346	3.12	.002	.402	1.757	***
wordsofmouth	1.441	.366	3.94	0	.725	2.158	***
Country_origin	.789	.35	2.25	.024	.103	1.474	**
Review_onlinesources	.786	.355	2.21	.027	.09	1.483	**
Health_Literacy	1.184	.369	3.21	.001	.462	1.907	***
Constant	-9.055	1.132	-8.00	0	-11.273	-6.836	***

Mean dependent var	0.602	SD dependent var	0.490
Pseudo r-squared	0.544	Number of obs	384
Chi-square	281.110	Prob > chi2	0.000
Akaike crit. (AIC)	265.272	Bayesian crit. (BIC)	324.532

*** p<.01, ** p<.05, * p<.1

Source: Authors' own estimate, 2024

Marginal Effects

The marginal effects offer insights into the probability change in purchasing decisions for a one-unit increase in continuous variables (or a shift from 0 to 1 for binary variables), holding all other factors constant. Overall, the results confirm the importance of multiple drivers, with most showing statistically significant influences on consumer purchasing of pharmaceutical products.

Gender: The negative marginal effect (–0.152, $p<0.05$) indicates that, all else equal, a one-category change in Gender decreases the probability of making a purchase by about 15%. This suggests meaningful gender-based disparities in purchasing behaviors.

Age: Age shows a positive and significant marginal effect (0.007, $p<0.05$), suggesting that each additional year increases the likelihood of purchase by roughly 0.7%. Although modest, this effect highlights an age-related trend in pharmaceutical buying decisions

Purpose of Visit; The marginal effect (0.034) is not statistically significant, implying that the reason for seeking medical attention does not substantially alter the probability of purchase when controlling for other factors.

Years of Schooling: The marginal effect (0.012, $p<0.05$) is positive, indicating that more education raises the probability of making a purchase. Though the absolute change may appear small, its significance suggests that even incremental increases in schooling can translate into higher purchasing likelihood.

Marital Status: Marital Status (0.333, $p<0.01$) emerges as one of the strongest predictors, increasing purchase probability by approximately 33% for married (or similarly categorized) individuals compared to singles. This sizable effect underscores how household or family structures can influence buying decisions.

Location of Pharmacy: Although the marginal effect (0.000, $p<0.01$) is reported as zero due to rounding, its significance highlights that pharmacy accessibility or convenience positively shapes the decision to buy. Even a slight change in location factors can meaningfully impact consumer behavior.

Annual Income Level: As with location, the marginal effect (0.000, $p<0.01$) is small but indicates that higher income increases purchasing probability. This is consistent with the notion that disposable income plays a critical role in pharmaceutical product consumption.

Price of Drugs: Price (0.170, $p<0.05$) exerts a positive influence, implying that higher drug prices—possibly perceived as indicators of quality—raise the probability of purchase by about

17%. This outcome might reflect consumers' valuation of more expensive drugs or their belief in a price-quality link.

Availability of Drugs: Availability (0.417, $p<0.01$) has the largest marginal effect, suggesting that when medications are in stock, the likelihood of purchase increases by around 42%. This underscores the pivotal role of supply-side factors in driving consumption.

Brand of Drugs: Brand (0.219, $p<0.01$) displays a substantially positive impact, indicating that brand-name pharmaceuticals boost the probability of purchase by about 22%. Consumer preferences for trusted or well-known brands appear influential in shaping purchase decisions.

Word of Mouth: Word of Mouth (0.293, $p<0.01$) also exerts a strong effect on buying likelihood, reflecting the importance of personal recommendations and social networks in guiding consumers' pharmaceutical choices.

Country of Origin: The marginal effect (0.160, $p<0.05$) signals that products sourced from certain countries may enjoy higher credibility or perceived quality, thereby increasing purchase probability by 16%.

Review of Online Sources: Consumers who consult online sources (0.160, $p<0.05$) also show a 16% higher probability of making a purchase. This suggests that exposure to digital information—such as product reviews or medical advice websites—strongly influences buying behavior.

Health Literacy: Finally, Health Literacy (0.241, $p<0.01$) stands out as a key enabler, with more informed consumers being nearly 24% more likely to proceed with a purchase. This finding highlights how understanding of medical and pharmaceutical information can empower consumers to act on perceived benefits.

In sum, these marginal effects underscore the complexity of pharmaceutical purchasing decisions, with demographic, socioeconomic, and product-related factors all shaping consumer behavior. The largest impacts emerge from drug availability, marital status, and word of mouth, along with strong contributions from brand preferences, health literacy, and location/income considerations.

Table 12: Marginal effect estimate by delta method

	Delta-method					
	dy/dx	std.	err.	z	P>z	[95%
Gender	-0.152	0.074	-2.050	0.040	-0.297	-0.007
Age	0.007	0.003	2.040	0.041	0.000	0.014
PurposeofVisit	0.034	0.070	0.480	0.630	-0.103	0.171
Yearsofschooling	0.012	0.006	2.130	0.033	0.001	0.023
MaritalStatus	0.333	0.075	4.470	0.000	0.187	0.479
Location_Pharmacy	0.000	0.000	3.120	0.002	0.000	0.000
AnnualIncomelevel	0.000	0.000	3.090	0.002	0.000	0.000
Price_Drugs	0.170	0.072	2.370	0.018	0.030	0.311
Availability_Drugs	0.417	0.080	5.210	0.000	0.260	0.573
Brand_Drugs	0.219	0.070	3.130	0.002	0.082	0.357
wordsofmouth	0.293	0.075	3.880	0.000	0.145	0.441
Country_origin	0.160	0.072	2.220	0.027	0.019	0.302
Review_onlinesources	0.160	0.071	2.240	0.025	0.020	0.300
Health_Literacy	0.241	0.076	3.160	0.002	0.092	0.390

Source: Authors' own estimate, 2024

4.3. Diagnostic tests

Specification error

The link test results show a significant coefficient for the linear predictor (hat_hathat) but a non-significant coefficient for the squared term (hatsq_hatsqhatsq). This indicates no strong evidence of a specification error. Consequently, the model appears to be appropriately specified under this diagnostic.

Table 13: Model specifications test result

Purchase Decision	Coefficient	Std.	err.	z	P>z	[95%
_hat	1.049	0.118	8.920	0.000	0.818	1.279
_hatsq	-0.047	0.037	-1.260	0.208	-0.120	0.026
_cons	0.111	0.190	0.580	0.560	-0.262	0.484

Source: Authors' own estimate, 2024

Multicollinearity

The variance inflation factor (VIF) results provide insight into whether significant multicollinearity exists among the predictors in the logistic regression model. Typically, VIF values below 5 (and certainly below 10) suggest that multicollinearity is not a major concern. In this analysis, all variables exhibit VIFs near or below 1.6, with an overall mean VIF of 1.217, indicating relatively low levels of correlation among the explanatory variables. Below is a more detailed discussion of the findings:

Magnitude of VIFs; The highest VIF is 1.564 (Annual Income Level), and the lowest is 1.052 (Word of Mouth). Given that none of these exceed 5—much less the more conservative threshold of 10—it appears that there is no severe inflation of standard errors due to collinearity in the model. The low VIF values imply that each predictor contributes independent explanatory power and is not excessively overlapping with other variables.

Impact on Standard Errors; Because all VIFs remain close to 1, there is likely minimal inflation in the standard errors of the coefficient estimates. This stability in estimated coefficients means researchers can have greater confidence that the observed significance levels and effect sizes are not being distorted by redundancy among predictors.

Interpretation of Specific Variables; Annual Income Level (1.564): Despite being the highest VIF in the table, it remains well below concerning thresholds. This suggests that while Annual Income Level does share some correlation with other predictors (possibly with Age, Price of Drugs, or Education), it does not introduce problematic multicollinearity.

Country of Origin, Health Literacy, Location of Pharmacy, Age, Review of Online Sources, Availability of Drugs, Brand Drugs: These variables have moderately higher VIFs than some

others, but they are still around 1.2–1.3, comfortably in the "safe" range. Each appears sufficiently distinct in how it contributes to the model.Years of Schooling, Price of Drugs, Marital Status, Gender, Purpose of Visit, Word of Mouth: These variables present the lowest VIF levels (between 1.05 and 1.18), indicating very little correlation with other predictors.

Mean VIF; The overall mean VIF of 1.217 further reinforces the conclusion that the model does not suffer from notable multicollinearity. A low average VIF suggests that on the whole, the predictors collectively offer relatively independent contributions to the model.

Practical Implications

Because multicollinearity is low, the model's parameter estimates and inference (p-values and confidence intervals) are likely reliable. Researchers can proceed with interpreting the logistic regression results confidently, knowing that each factor is measured distinctly enough to capture separate dimensions of consumers' purchasing behavior.

In sum, the VIF analysis indicates that the regression model is not compromised by collinearity issues. Each predictor contributes unique explanatory information, lending credibility to the significance tests and substantive conclusions drawn from the logistic regression.

***Table 14**: Variance inflation factor*

	VIF	1/VIF
AnnualIncomelevel	1.564	.639
Country origin	1.328	.753
Health Literacy	1.317	.759
Location Pharmacy	1.293	.773
Age	1.268	.789
Review onlinesources	1.241	.806
Availability Drugs	1.232	.811
Brand Drugs	1.187	.842
Yearsofschooling	1.177	.85

Price Drugs	1.156	.865
MaritalStatus	1.085	.922
Gender	1.081	.925
PurposeofVisit	1.06	.944
wordsofmouth	1.052	.95
Mean VIF	1.217	.

Chapter Five

Conclusion and Recommendations

5.1. Summary

The study on the determinants of consumer buying decision for pharmaceutical products in community pharmacies in Addis Ababa provides robust evidence on the multifaceted factors influencing purchasing decisions. The findings, grounded in rigorous descriptive and econometric analysis, highlight the interplay of demographic, socioeconomic, and behavioral factors.

The demographic variables confirm a complex interplay between individuals' backgrounds and their pharmaceutical purchasing decisions. Descriptively, the purchasing group exhibits a higher mean age, and the econometric results (Age: Coef. = 0.034, $p<0.05$; marginal effect = 0.007) reinforce that each additional year modestly raises the probability of purchase—an outcome consistent with Chekol et al. (2022). Gender differences, highlighted by a negative coefficient (–0.746, $p<0.05$; marginal effect = –0.152), suggest that female consumers may face distinct attitudinal or resource-based barriers, aligning with evidence presented by Getie and Imiru (2021). Marital status, strongly significant (Coef. = 1.637, $p<0.01$; marginal effect = 0.333), underscores that those in partnerships exhibit more pronounced readiness to purchase, corroborating descriptive statistics showing a higher proportion of married individuals in the purchasing group. Similarly, years of schooling (Coef. = 0.059, $p<0.05$; marginal effect = 0.012) has a positive impact, mirrored in the descriptive finding that more educated respondents demonstrate greater willingness to procure medication, resonating with Demerew et al. (2021) on the link between education and informed healthcare decisions.

Economic variables also display notable effects in both descriptive and econometric analyses. The purchasing group reports significantly higher mean annual income, and this pattern translates into a positive and highly significant coefficient for Annual Income Level ($p<0.01$; marginal effect close to 0.000, owing to scaling). This finding aligns with the broader consensus that greater disposable income elevates healthcare spending and medication uptake (Chekol et al., 2022). Meanwhile, the coefficient for Location of Pharmacy, although numerically minute, is significant at the 1% level (marginal effect effectively 0.000 but still $p<0.01$). The descriptive statistics

indicating longer mean distances for purchasers may initially seem counterintuitive, yet the significant logistic result suggests that any marginal improvement in accessibility—whether through proximity or convenience—can decisively shape consumer behavior. Price of Drugs, with a positive coefficient (0.838, $p<0.05$; marginal effect = 0.170), confirms the possibility that consumers interpret higher prices as indicators of better quality, reflecting findings by Getie and Imiru (2021).

Product-level characteristics further underscore how brand reputation and availability drive purchases. Brand of Drugs (Coef. = 1.079, $p<0.01$; marginal effect = 0.219) emerges as a key predictor, in line with descriptive evidence showing a far higher proportion of brand-conscious buyers in the purchasing group. Availability of Drugs, boasting one of the largest coefficients (2.05, $p<0.01$; marginal effect = 0.417), highlights the extent to which uninterrupted supply spurs actual transactions, echoing Chekol et al. (2022) on the adverse impact of drug shortages. Country of Origin (Coef. = 0.789, $p<0.05$; marginal effect = 0.160) similarly conveys that externally perceived quality and regional reputation matter, aligning with the descriptive data that a majority of purchasers considered origin as a decisive factor. These outcomes collectively illustrate that attributes conveying reliability—whether via brand identity or stable product availability—have strong empirical backing in motivating purchases.

Lastly, informational and relational variables shape consumer engagement in nuanced ways. Word of Mouth (Coef. = 1.441, $p<0.01$; marginal effect = 0.293) demonstrates how interpersonal recommendations can override uncertainties about product efficacy, consistent with findings by Demerew et al. (2021) on communal knowledge-sharing. Similarly, Review of Online Sources (Coef. = 0.786, $p<0.05$; marginal effect = 0.160) underscores the growing digital dimension of healthcare, where informed consumers increasingly rely on virtual platforms to validate purchasing choices. The substantial coefficient for Health Literacy (1.184, $p<0.01$; marginal effect = 0.241) reveals that consumers equipped with foundational medical understanding are better positioned to appraise pharmaceutical benefits, paralleling broad evidence from Ethiopian contexts linking literacy to proactive health behaviors (Chekol et al., 2022). These results confirm that awareness, recommendations, and digital information collectively reinforce purchasing tendencies, providing a vital complement to the product, demographic, and economic determinants.

5.2. Conclusion

The study on consumer buying decisions for pharmaceutical products in Addis Ababa's community pharmacies offers compelling evidence that purchasing decisions arise from a complex interplay of demographic, economic, product-level, and informational factors. The econometric and descriptive analyses consistently reveal that age, marital status, education, and income are pivotal demographic and socioeconomic determinants, with older, married, and more educated individuals exhibiting higher purchase probabilities. Gender disparities, however, signal the need to address potential barriers faced by female consumers.

Economic factors, particularly income and pharmacy location, highlight the role of financial capacity and accessibility in shaping consumer choices, while price sensitivity reflects a quality–price perception link. Product characteristics such as brand reputation, availability, and country of origin further emphasize the importance of perceived reliability and continuous supply in driving transactions.

Beyond these structural factors, interpersonal influences and information access significantly sway consumer decisions. Word of mouth, online reviews, and health literacy collectively empower consumers to make more confident, informed decisions, reinforcing purchasing tendencies through communal trust and digital knowledge platforms.

5.3. Recommendations

- **Enhance Targeted Consumer Engagement Based on Socio-Demographic Segments**

Given the significant role of gender and marital status, policymakers and pharmaceutical retailers should adopt differentiated strategies that cater to these demographic profiles. For instance, tailored outreach programs for female consumers can address potential barriers such as financial constraints or limited access to trusted information channels. At the same time, promoting family-oriented pharmaceutical benefits or couple-focused campaigns can leverage the strong positive effect of marital status on purchasing decisions, encouraging shared responsibility for health expenditures.

- **Improve Physical Accessibility and Convenience of Pharmacies**

Although the coefficient for pharmacy location is numerically small, it is highly significant, indicating that even small gains in geographic or logistical accessibility can incentivize more frequent purchases. Stakeholders—particularly regional health bureaus and private sector players—should collaborate to expand pharmacy networks or offer mobile pharmacy services in underserved areas. Aligning transportation infrastructure improvements with pharmacy placement can further reduce the burden on consumers, mitigating distance-related challenges and ensuring that essential medications are readily available to wider segments of the population.

- **Adopt Pricing and Income-Sensitive Strategies**

The positive association of both price and income levels with purchase decisions suggests that consumers perceive higher-priced drugs as higher quality, yet affordability remains a crucial limiting factor. Policymakers might consider implementing a dual pricing system or offering subsidies for low-income groups, ensuring that cost does not become an insurmountable barrier to medication access. Simultaneously, pharmacies can use transparent pricing strategies and highlight comparative quality aspects for branded versus generic medications, allowing consumers at various income levels to make informed purchasing decisions in line with their budget constraints.

- **Strengthen Supply Chain Management and Product Credibility**

Drug availability exerts one of the strongest effects on purchasing behavior, underscoring the need for efficient supply chain systems. To address recurrent stockouts, pharmaceutical suppliers and retailers should invest in real-time inventory tracking and predictive demand models. Emphasizing reputable brands and providing verifiable information on country of origin can further bolster consumer confidence, as the results point to brand reputation and manufacturing origin as significant factors. Policymakers should also consider incentivizing pharmacies to maintain diverse stock, especially in areas with limited competition, ensuring that consumers encounter a reliable supply of essential medicines.

- **Foster Health Literacy and Digital Information Outreach**

Health literacy stands out as a powerful driver of pharmaceutical purchases, suggesting that informed consumers are significantly more likely to recognize the benefits of timely medication use. Hence, stakeholder collaboration—among government agencies, healthcare providers, and educational institutions—should focus on rolling out community-level health education programs and integrating pharmacy counseling services that address common misconceptions. Furthermore, the positive impact of online reviews and word-of-mouth points to the growing need for accessible,

trustworthy digital platforms. Developing official health websites, partnering with credible medical influencers, and encouraging user-generated reviews can collectively guide consumers toward safer and more informed purchasing decisions.

Implementing these recommendations can lead to a more inclusive and efficient pharmaceutical market in Addis Ababa, one that accounts for diverse demographic attributes, leverages strategic pricing and accessibility measures, and empowers consumers through high-quality information and reliable product availability.

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Annex

Addis Ababa University, College of Business and Economics, Department of Business Administration Post-Graduate Program Customer Survey Questionnaire

Dear Respondent,

This questionnaire is prepared to collect primary data regarding a research on **Determinants of consumer buying decision for pharmaceutical products: Evidence from community pharmacies in Addis Ababa**, for the partial fulfillment of a Master's degree in Business Administration from Addis Ababa University. The information you provide in this survey will be used for academic purpose only and will be held confidential. It will not be necessary to mention your name. I greatly appreciate your voluntary participation in this survey and would like to thank you in advance for your cooperation and time in answering the questions. The questionnaire has two sections. Section I presents Demographic Detail of Participants and Section II states Factors Affecting Buying Behavior of Pharmaceutical Products.

Section I. Demographic Information

Please put your response in the space provided

1. **What is your gender?**

   ☐ Male ☐ Female

2. **What is your age?** ☐

3. **What is your academic qualification?**

   - No formal education ☐
   - High school completed ☐
   - Diploma and below ☐

- Bachelors ☐
- Master's Degree ☐
- PhD and above ☐

4. What is your marital status?

☐ Married ☐ Unmarried

5. What is your purpose of visit?

- Prescription medicine purchase ☐
- OTC ☐
- Other ☐

6. What is your monthly income (in Birr)? ☐

Section II. Factors affecting buying behavior of pharmaceutical products

How do you rate the factors that affect buying behavior of pharmaceutical products?

Direction: Please select the appropriate response you choose by encircling the number next to each question as follows:

1= Yes 2= No

S.N	Factors	Yes	No
1	Does the location of a pharmacy, specifically its proximity to your home, accessibility, and placement in a well-known area, affect your decision to purchase pharmaceutical products?	**1**	**0**
2	Does the availability of pharmaceutical products in alternative doses (strengths), dosage forms, and therapeutic substitutes influence your purchasing decisions?	**1**	**0**
3	Do the brand reputation of the drug influence your purchasing decision of pharmaceutical products?	**1**	**0**
4	Does the country of manufacture influence your trust in a pharmaceutical product and your decision to purchase it?	**1**	**0**
5	Do you actively compare prices between different brands and pharmacies when selecting pharmaceutical products?	**1**	**0**

6	Do you rely on your health-related understanding and knowledge in addition to the information provided by professionals when you choose to purchase pharmaceutical products?	**1**	**0**
7	Do you check online reviews before purchasing a pharmaceutical product to help you decide whether to choose or avoid it?	**1**	**0**
8	Do you have the experience of buying medicine that someone (friends, family, peer) recommended you without healthcare professional's prescription?	**1**	**0**

Thank you for your cooperation!