

**BRAND PERCEPTION AND PURCHASING DECISIONS OF
OPHTHALMOLOGISTS REGARDING OPHTHALMIC/SURGICAL EQUIPMENT
IN DELHI**

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by

Stuti Kumar

Under the Supervision and Guidance of

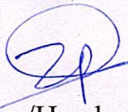
Dr. Ritu Vashistha

2026

CERTIFICATE

This is to certify that **Stuti Kumar** in partial fulfillment of the requirements for the award of the degree of MBA Healthcare Analytics from the IIHMR University, Jaipur has successfully completed her internship at **AdametNext** during **March 02 - June 15, 2026**.

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This is to certify that dissertation titled “**Brand Perception and purchasing decisions of ophthalmologists regarding ophthalmic/surgical equipment in Delhi**” is a record of the research work undertaken by STUTI KUMAR in partial fulfilment of the requirements for the award of the degree of MBA (Healthcare Analytics) from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

A blue ink signature of the Faculty Guide.

Faculty Guide
IIHMR University, Jaipur

Date

DECLARATION BY STUDENT

I hereby declare that this dissertation titled "Brand perception and purchasing decisions of ophthalmologists regarding ophthalmic/surgical equipment in Delhi" is the Bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.



(Signature)

Dr. Stuti Kumar

Roll No. IIHMR-U/01/2024-26/2060

MBA (Hospital and Health Management), Batch 01

Date: 21/06/2026

Place: Jaipur, Rajasthan

ABSTRACT

Healthcare institutions are increasingly dependent on sophisticated medical equipment to deliver accurate diagnosis, effective treatment, and improved patient outcomes. As investments in healthcare technology continue to grow, procurement decisions have become more complex and involve a range of clinical, financial, and operational considerations. This study investigates the factors that influence medical equipment purchasing decisions among healthcare professionals involved in procurement and equipment utilization. A cross-sectional descriptive research design was adopted, and data was collected through structured questionnaires along with a review of relevant literature and industry reports. The analysis suggests that equipment quality, reliability, clinical effectiveness, and vendor support play a central role in purchasing decisions. While pricing and financing options remain important, respondents generally prioritized long-term value and service reliability over initial acquisition costs. The findings highlight the importance of evidence-based procurement practices and stronger collaboration between healthcare institutions and equipment vendors to support informed decision-making.

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LIST OF ABBREVIATIONS

Symbol /Abbreviation	Title
MoSPI	Ministry of Statistics and Programme Implementation
IOL	Intra-Ocular Lens
LASIK	Laser-Assisted In Situ Keratomileusis
PRK	Photorefractive Keratectomy
MIGS	Minimally Invasive Glaucoma Surgery
IABP	International Agency for the Prevention of Blindness
NIA	National Institute on Aging
CEC	Comprehensive Eye Care
OPD	Outpatient Department
TAT	Turn Around Time
AHP	Analytic Hierarchy Process
OCT	Optical Coherent Tomography

EXECUTIVE SUMMARY

Background: The study aims to explore the key elements that affect how ophthalmologists in Delhi perceive brands and make purchasing decisions for surgical equipment. The primary objective is to understand brand perception and identify the factors influencing purchase decisions, such as product quality, price perception, brand image, ease of use, technological advancements, after-sales service, and peer influence. The methodology involves collecting data through surveys and questionnaires from ophthalmologists, followed by statistical analysis to identify trends and patterns. This study is significant as it provides insights into the decision-making process of ophthalmologists, helping vendors and manufacturers tailor their products and marketing strategies. The expected outcomes include a comprehensive understanding of brand perception, identification of key drivers and barriers in the purchase decision process, and recommendations for vendors to improve their offerings and better meet the needs of ophthalmologists. This research is particularly relevant for stakeholders in the ophthalmic equipment industry, including manufacturers, vendors, and healthcare institutions, as it provides valuable insights into market dynamics and customer preferences.

Methodology: A cross-sectional descriptive analytical study was conducted between April 2026 to June 2026 among ophthalmologist in Delhi. The survey was conducted on a sample size of 50, through a structured validated questionnaire. The survey included questions related to knowledge regarding Factors Influencing Purchase Decisions of Surgical Equipment Used by Ophthalmologists in Delhi aims to explore the key elements that affect ophthalmologists in selection, retention and purchasing of Surgical Equipment.

Result: The study investigated the knowledge and practices related to ophthalmological equipment usage and maintenance, factors influencing purchase decisions, and satisfaction with current vendors and services. All participants were ophthalmologist surgeons based in the southern region of Delhi. The respondents were from standalone centres (62.8%), eye care specialty chains (23.3%), and multispecialty hospitals (14%).

The study revealed varying levels of knowledge regarding ophthalmological practices and highlighted differences in purchase patterns across different facility sizes. Key factors affecting the purchase and switching of surgical equipment included cost, technological advancements, vendor reliability, and after-sales service. Satisfaction levels with current vendors were generally high, but

certain factors, such as equipment performance and service quality, could lead to replacing and switching equipment within the standard specified time.

Additionally, the study identified that standalone centers prioritized cost-effectiveness, Credit terms, bundling discounts and reliability, while eye care specialty chains and multispecialty hospitals placed a higher emphasis on advanced technology, patient comfort, ease of use and comprehensive service packages. These insights can help vendors tailor their offerings to better meet the specific needs of different types of ophthalmological facilities.

Conclusion: The study conducted among ophthalmologists in Delhi explores brand perception and factors influencing purchase decisions of surgical equipment. The findings reveal that product quality, cost-effectiveness, and after-sales service are the primary factors influencing purchase decisions. A significant portion of respondents prefer advanced features and ease of use, though there is a gap in knowledge regarding the latest technological advancements.

Demographic factors such as age, experience, and specialization influence brand perception and purchase decisions. The study highlights the need for targeted education and vendor engagement initiatives to promote informed decision-making. Strategies like professional workshops, awareness campaigns, and involvement of key opinion leaders are proposed to enhance education and awareness.

In conclusion, understanding the knowledge, attitudes, and perceptions of ophthalmologists regarding surgical equipment is vital for improving patient care and technological adoption. Professional-driven efforts, combined with institutional support, can lead to lasting positive changes.

CHAPTER 1

INTRODUCTION

1.1 Background:

The study explores how ophthalmologists in Delhi perceive brands and make purchasing decisions for surgical equipment, focusing on factors like quality, price, and after-sales service. It aims to provide insights for vendors to improve their products and marketing strategies based on ophthalmologists' preferences and decision-making processes.

1.1.1- Introduction to Ophthalmology

The area of medicine known as ophthalmology is dedicated to identifying, managing, and prophylaxis situations that impact the eyes and visual system. Medical professionals who specialize in treating eye conditions are known as ophthalmologists. They are skilled in various eye care methods, from simple eye exams to intricate surgical treatments.

The anatomy, physiology, and diseases of the eye are the main topics of ophthalmology, an interdisciplinary field of medicine. This area of study includes a broad range of medical and surgical interventions for disorders of the eyes and vision. Ophthalmologists are medical professionals who specialize in treating eye conditions. They are skilled in diagnosing and treating conditions affecting the eyes, doing surgeries, and writing prescriptions for corrective actions.

Ophthalmology has a long and illustrious history that dates to prehistoric times. Early practitioners from Greece, Egypt, and India made important advances in our knowledge of the anatomy and conditions of the eyes. For example, the ancient Egyptians recorded many eye remedies and even carried out operations. Ophthalmology is a very modern branch of medicine today thanks to centuries' worth of advances in medical technology and scientific understanding.

1.1.2- Common Eye Disease

Ophthalmologists diagnose and treat a variety of eye diseases, each with its own set of characteristics, symptoms, and treatments. The most common diseases treated by surgeons ophthalmologists include Cataract, Excessive Tearing (Tear Duct Obstruction), Thyroid Eye Disease, Dry Eye Disease, Diabetic Retinopathy, Macular Degeneration and Glaucoma.

A typical large Eye Hospital is equipped to screen, diagnose and treat the above most common diseases of the eyes. However, smaller hospitals and those on a budget focus on the most common diseases and limit their investments into equipment accordingly to cater to high volume cases.

- The top three conditions leading to visual impairment are known to be refractive errors, cataract and glaucoma.
- The top three diseases leading to blindness are said to be cataract, glaucoma and macular degeneration.

1.1.3 Prevalence of Eye Diseases in India

This demonstrated that the prevalence of ocular illnesses is high and continuing to rise in India. In addition, the Ministry of Statistics and Programme Implementation (MoSPI), India's 2021 statistics state that by 2031, the number of males and females in the old population will be 92.9 million and 100.9 million, respectively. An expected rise in the rate of growth of the older population is also linked to an increase in the number of cataract surgeries conducted annually, which in turn reflects the nation's growing need for ophthalmic devices. For example, in May 2022, the nation's Union Health Minister estimates that 49 lakh procedures are required to eliminate the backlog of cataract-related blindness in the nation, and 53.63 lakh surgeries are required to clear the backlog of severe visual impairment due to cataract.

Conditions Requiring Ophthalmic Surgery

Ophthalmic surgery refers to a broad range of surgical procedures performed to diagnose, manage, or correct disorders affecting the eye and its associated structures. These procedures are carried out by ophthalmologists and play a crucial role in preserving vision, improving visual function, and enhancing the overall quality of life of patients. Advancements in medical technology have significantly improved the safety, accuracy, and effectiveness of ophthalmic surgical interventions.

Several ophthalmic conditions may require surgical treatment. Cataract surgery is among the most frequently performed ophthalmic procedures worldwide. It involves the removal of the eye's natural lens when it becomes opaque and interferes with vision. The cloudy lens is replaced with an artificial intraocular lens, allowing patients to regain clearer eyesight. Modern cataract surgery is generally performed using minimally invasive techniques that enable faster recovery and improved clinical outcomes.

Refractive surgical procedures are commonly undertaken to reduce dependence on spectacles or contact lenses. These procedures are designed to correct refractive errors such as myopia, hyperopia, and astigmatism by modifying the shape of the cornea. Laser-based technologies have significantly contributed to the popularity and success of refractive surgeries.

Glaucoma-related surgical interventions are performed when medication or laser therapy alone is insufficient to control intraocular pressure. The primary objective of these procedures is to prevent further optic nerve damage and preserve remaining vision. Recent innovations have led to the development of less invasive surgical approaches that offer improved safety profiles and shorter recovery periods.

Vitreoretinal surgeries are utilized in the management of retinal disorders, including retinal detachment, diabetic retinopathy, and macular abnormalities. These procedures often require specialized equipment and advanced surgical expertise due to the delicate nature of retinal tissues.

Corneal transplantation may be recommended for individuals with severe corneal damage, scarring, or disease affecting corneal transparency. By replacing the affected cornea with healthy donor tissue, visual function can often be significantly restored.

Additional ophthalmic procedures include surgeries involving the eyelids, tear drainage system, ocular muscles, and orbital structures. These interventions address both functional and cosmetic concerns and contribute to comprehensive eye care management.

1.1.4 Ophthalmic Equipment

- **Diagnostic**
- **Pre-Surgical, Surgical, Post-Surgical Equipment**
- **OT& Recovery equipment**

Pre-surgical, Surgical and Post-surgical equipment

The successful delivery of ophthalmic care relies heavily on specialized medical equipment used during various stages of diagnosis, surgery, and postoperative management. The selection of appropriate equipment directly influences surgical precision, patient safety, and clinical outcomes.

Ophthalmic Operating Microscope

The ophthalmic operating microscope is one of the most essential instruments used in eye surgery. Due to the microscopic structures involved in ophthalmic procedures, surgeons require highly magnified and well-illuminated views of the surgical field. Modern operating microscopes provide exceptional image clarity, depth perception, and illumination, enabling surgeons to perform delicate procedures with greater accuracy. Many contemporary systems also include digital imaging capabilities and teaching accessories that facilitate

observation and training.

Phacoemulsification System

Phacoemulsification technology is widely used during cataract surgery and represents one of the most important innovations in ophthalmic surgical practice. The procedure utilizes ultrasonic energy to fragment the cataractous lens, which is subsequently removed from the eye through a small incision. Following lens removal, an intraocular lens is implanted to restore visual function. Given the high volume of cataract surgeries performed globally, phacoemulsification systems are considered indispensable equipment in modern ophthalmic operating theatres.

Ophthalmic YAG Laser

The YAG laser is commonly employed in the management of posterior capsule opacification, a condition that may occur following cataract surgery. In certain cases, residual lens capsule tissue becomes cloudy over time, leading to reduced visual clarity. YAG laser capsulotomy creates a small opening in the clouded capsule, allowing light to pass through normally and restoring vision. The procedure is typically performed on an outpatient basis and requires minimal recovery time.

Phacoemulsification

Most popularly used in cataract surgery procedure in which the eye's internal lens which has developed cataract, is emulsified with an ultrasonic handpiece and aspirated from the eye using a Phaco machine. **Phacoemulsification** cataract surgery is followed by the insertion of an intraocular lens (IOL). Cataracts are the most common surgical procedure done in the eyes. Hence Phaco machine is the most common medical equipment for eye hospital in the OT along with the operating microscope.

Ophthalmic Yag Laser

During a cataract operation, a new plastic lens is put inside the lens membrane (called the bag or capsule) in eye, after removing the clouded original lens. In some patients, the capsule may thicken after surgery and becomes cloudy within a couple of year or even a few months. This again obstructs the light from reaching the retina. In a Yag Laser capsulotomy a laser beam is applied to the capsule creating a small hole in the centre of the capsule, to let light through. This is done as a walk-in procedure in the OPD setting.

Green Laser

Green lasers in cataract surgery treat secondary cataracts via capsulotomy, manage retinal conditions like diabetic retinopathy, and aid in glaucoma treatments, such as trabeculoplasty and peripheral iridotomy, to improve eye health.

1.1.5 Precision Surgery in Ophthalmology

Precision surgery in ophthalmology refers to the use of highly advanced and accurate surgical techniques and tools to perform delicate operations on the eye. Given the eye's intricate structure and the critical role it plays in vision, precision in surgical procedures is paramount to ensure

successful outcomes and minimize complications.

Precision surgery of a comparatively tiny, extremely delicate, and specialized structure is the focus of ophthalmology. For a specific surgical task, the instrument used in ophthalmologic surgeries needs to be accurate, lightweight, and well-controlled. With the introduction of the operating microscope, ophthalmology instruments saw a major shift, with lighter instruments with non-reflective surfaces becoming the standard. As a result, titanium alloy, which is lighter than steel, resistant to corrosion, and has a matte finish, was used to make ophthalmic instruments. However, titanium alloy's inability to retain sharp edges is a significant disadvantage.

Ophthalmic instruments have undergone significant evolution over the years, reflecting advancements in technology and surgical techniques. From rudimentary tools to sophisticated instruments, the field of ophthalmology has witnessed remarkable progress. So today, surgeons have access to a wide array of specialized instruments tailored to address diverse ocular conditions. Furthermore ophthalmic Procedures demands a accuracy and precision, where every instrument plays a harmonious role in achieving surgical success. Ophthalmic surgical instruments encompass a diverse range of tools designed to facilitate various stages of the surgical process. These instruments empower surgeons to execute complex procedures with confidence and accuracy.

The field of eye surgery is characterized by its relentless pursuit of excellence. Surgeons continually seek innovative solutions to enhance surgical precision and efficacy. In this pursuit, eye surgery instruments play a pivotal role, driving advancements that elevate the standards of care in ophthalmology.

However, the Acucut Ophthalmic Microsurgical Knives represent a highest precision in ophthalmic surgery. As surgeons tackle the complexities of eye surgeries, these advanced instruments serve as proof of innovation and excellence. Furthermore, in the constantly changing field of eye surgery, Acucut Ophthalmic Microsurgical Blades remain at the forefront, shaping the future of ophthalmology and guaranteeing the best results for patients worldwide.

1.1.6 The responsibility for purchasing ophthalmic equipment in a facility

In equipment procurement for eye units, the responsibility often varies depending on the type of facility. In standalone clinics, the ophthalmologist typically oversees equipment purchasing, while in chain hospitals or multi-specialty hospitals, the task may fall to an engagement manager or the

chief ophthalmologist. Regardless of who is responsible, careful planning and management are essential to ensure the unit is adequately equipped to provide effective care.

1.1.7 Important Considerations for Purchasing Equipment in Eye Units

Determining Equipment Needs

The decision-making process should involve assessing the durability, functionality, and local availability of the equipment as various other, as well as evaluating the cost of accessories, consumables, and spare parts. Reference tools such as the IAPB Standard List provide helpful guidance.

Budgeting for Equipment

Budgeting goes beyond the initial purchase cost and must include expenses for maintenance, training, and the required consumables. Annual maintenance costs typically range between 3-6% of the equipment's purchase price.

Supplier Selection

Choosing the right supplier is crucial. Evaluate potential suppliers based on their product offerings, customer feedback, and services such as installation, warranties, and training support.

Receiving and Testing Equipment

Once the equipment arrives, prompt inspection is essential to verify that it meets the order specifications. Testing and setup should ideally be done by a supplier's agent or trained staff to ensure proper functioning. (Cross & Hoare, 2010)

1.1.8 Global Ophthalmic Instruments Companies

Company Name	Headquarters	Founded	Description
BVI Medical	Waltham, Massachusetts, USA	1932	Specializes in vitreoretinal procedures, offering devices and surgical fluids for cataract, glaucoma, and other surgeries.
DORC Dutch Ophthalmic Research Center (International)	Zuidland, Netherlands	1983	Offers innovative solutions and technology for ophthalmic surgery and patient care.
Bausch + Lomb Surgical	Montpellier, France	N/A	Provides a range of surgical and ophthalmic products, specializing in cataract, retina, and laser procedures.
Haag-Streit	Koeniz, Bern, Switzerland	1858	Specializes in precision instruments for diagnostic ophthalmology, known for high-quality products.
Advancing Eyecare	Jacksonville, Florida, USA	2019	Supplies a wide selection of ophthalmic equipment, offering diagnostic equipment, repairs, and maintenance.
Carl Zeiss Iberia	Tres Cantos, Madrid, Spain	1846	Provides optical and medical equipment, including diagnostic tools, lenses, and surgical instruments.
MicroSurgical Technology	Redmond, Washington, USA	1976	Offers high-quality, surgeon-designed ophthalmic products, including devices for glaucoma management.
Visionix USA	Lombard, Illinois, USA	N/A	Specializes in vision care technology, offering assessment devices for visual and ocular pathologies.
Fci S.A.S.	Paris, Île-De-France, France	1984	Specializes in Oculoplasty and Retina medical and surgical products, providing instruments and training.
OASIS Medical	Glendora, California, USA	1987	Offers a range of ophthalmic surgical supplies and vision care products.
Marco Ophthalmic	Jacksonville, Florida, USA	1967	Provides innovative technology for optometry practices, specializing in refraction systems.
Tavana Abzar Parto (TAP Medicals)	Tehran, Tehran, Iran	2001	Offers a range of ophthalmology products and services, ranked among the top 5 in the Iranian market.
Ophtalmo Service	Oudenaarde, Vlaanderen, Belgium	N/A	Specializes in surgical consumables, medical devices, contact lenses, and care products.
Precision Lens	Minneapolis, Minnesota, USA	1991	Offers a wide range of glaucoma products, surgical products, lenses, viscoelastics, and pharma products.
Simovision	Overijse, Vlaams-Brabant, Belgium	2002	Supplies high-quality products to clinics and hospitals, focusing on innovative solutions in ophthalmology.
MDT Medical Devices Manufacturer	Kraków, Woj. Małopolskie, Poland	1998	Offers high-quality medical equipment and accessories for ophthalmologists and technicians.
OPTOtech Medical	Niepolomice, Lesser Poland Voivodeship, Poland	1999	Provides specialized equipment for eye examination and surgery.
Carleton Limited	Chesham, England, UK	1993	Premier supplier of ophthalmic equipment and solutions in the UK, offering a wide range of advanced products.
Rumex	Moscow, Moscow, Russian Federation	1994	Offers a wide range of medical equipment and solutions, specializing in surgical instruments and sterilization equipment.
INNOVA Medical Ophthalmics	Toronto, Ontario, Canada	1986	Provides clinical support, repairs, maintenance services, and a range of ophthalmic equipment and consumables.
Designs For Vision	Camperdown, New South Wales, Australia	1978	Specializes in veterinary and ophthalmic diagnostic technology, offering surgical consumables and instruments.
Roca Sac	Surco, Lima, USA	1979	Specializes in the supply and distribution of medical equipment and products across various medical fields.
Katena	Parsippany, New Jersey, USA	1975	Specializes in high-quality ophthalmic devices and surgical products, including single-use instruments and biologics.
Lombart Instrument	Norfolk, Virginia, USA	1979	Sells a wide range of optical instruments, equipment, and supplies, including pre-owned and new products.
EXTREME Slovenia	Ljubljana, Bohinj Commune, Slovenia	1992	Official representative and authorized service provider of modern medical equipment in ophthalmology.

Source - Biotech Careers. (n.d.). *Ophthalmology company core activity*.

Table 1- Global Ophthalmic Instruments Companies

1.2. Global Ophthalmological Market

The Ophthalmic Devices market is expected to witness significant growth in the coming years. According to projections, the market's revenue is set to reach an impressive US\$42.60bn by 2030. This growth is anticipated to continue at a steady pace, with an estimated annual growth rate (CAGR 2026-2029) of 5.42%. As a result, the market volume is projected to expand to US\$55.47bn by 2029. Government campaigns to raise awareness of visual impairment are also expected to contribute to market expansion. The aging population, particularly vulnerable to age-related ocular disorders, is increasing the demand for ophthalmic devices. The National Institute on Aging (NIA) estimates that by 2030, there will be approximately 72 million older people globally. Rising rates of diabetes and related blindness, especially in low- and middle-income countries, further drive market growth.

The COVID-19 pandemic has increased screen time, leading to more eye diseases and a higher demand for eye exams. Technological advancements have improved the diagnosis and treatment of ocular disorders, with minimally invasive techniques like femtosecond laser surgery, ultrasound phacoemulsification, and LASIK surgery becoming more popular due to quicker recovery times and better outcomes.

Industry players are developing innovative products to meet this demand. For instance, Bausch & Lomb introduced ophthalmic viscosurgical devices to the US market in April 2023, and WaveFront Dynamics Inc. launched the WaveDyn Vision Analyzer in March 2023. These initiatives help raise awareness about eye conditions and improve access to diagnostic tools.

1.2.1 Indian Ophthalmological Market

- 2 The ophthalmology devices market in India has experienced steady growth over recent years, driven by increasing awareness of eye health, technological advancements, and a growing demand for specialized ophthalmic care. Factors such as population ageing, rising prevalence of vision-related disorders, and improved access to healthcare services have contributed significantly to market expansion.
- 3 The burden of ophthalmic diseases in India continues to increase, creating a greater need for diagnostic and surgical interventions. Conditions such as cataracts, glaucoma, diabetic retinopathy, refractive errors, and dry eye disease remain major contributors to visual impairment. As a result, healthcare providers are increasingly investing in advanced ophthalmic equipment to improve diagnostic accuracy and treatment outcomes.
- 4 In addition to demographic and epidemiological factors, innovations in surgical technologies and increasing adoption of minimally invasive procedures are supporting the growth of the ophthalmology devices sector. These developments have encouraged

healthcare institutions and eye care specialists to upgrade existing infrastructure and invest in technologically advanced equipment, thereby creating significant opportunities for manufacturers and suppliers operating within the Indian ophthalmology market.

Region	Key Players
Indian Key Players	Matronix India Corporation, Appasamy Associates, Intuivision Labs
Global Key Players	Bausch Health Companies, Inc. (Canada), Alcon (Switzerland), Carl Zeiss Meditec AG (Germany), Johnson & Johnson (US), Hoya Corporation (Japan), The Cooper Companies, Inc. (US), EssilorLuxottica (France), Canon Inc. (Japan), Glaukos Corporation (US), Nidek Co., Ltd. (Japan), Topcon Corporation (Japan), Ziemer Ophthalmic Systems (Switzerland), Staar Surgical (US), Haag-Streit (Switzerland), Quantel Medical (US), Coburn Technologies, Inc. (US), FCI Ophthalmics (US), HEINE Optotechnik (Germany), Visionix (France), Neo Vision (Korea), Clear Lab (Singapore), BVI (US), DORC (Netherlands), CORZA Medical (US), Ophtec BV (Netherlands), Lumenis (Israel)

Source - Biotech Careers. (n.d.). *Ophthalmology company core activity*.

Table 2- Key Players in Ophthalmology: Indian and Global Perspectives

1.3 Rationale of the Study:

The healthcare sector is witnessing rapid technological advancement, making the selection of surgical and diagnostic equipment increasingly important for healthcare professionals. Purchasing decisions are no longer based solely on cost; they also involve considerations such as product performance, reliability, service support, technological innovation, and brand reputation.

This study was undertaken to better understand how healthcare professionals evaluate these factors while making procurement decisions. Insights gained from the research can help manufacturers and vendors align their products and services with the expectations of healthcare institutions. The findings may also support healthcare organizations in adopting more structured and evidence-based procurement practices, ultimately contributing to improved operational efficiency and patient care outcomes.

CHAPTER 2

AIM & OBJECTIVES

2.1 Aim of the study:

The aim of this study is to explore the nuanced relationship between **brand perception** and the **purchasing behavior of ophthalmologists** in **Delhi** regarding **surgical equipment**, with a focus on understanding the key drivers shaping their decisions.

2.2 Objectives of the study:

1. To assess awareness and perception of ophthalmologists regarding surgical brands.
2. To identify factors influencing equipment's brand selection/retention and resultant purchase decisions.
3. To assess their level of satisfaction and identify unmet needs.

CHAPTER 3

LITERATURE

REVIEW

The landscape of ophthalmic practice and equipment procurement reveals a multifaceted interplay of factors influencing the delivery of eye care services globally. **Mashige and Naidoo (2010)** provide a foundational understanding through their survey of optometric practices in KwaZulu-Natal, South Africa. Their findings highlight a predominance of female and Indian practitioners, with urban-centric practices often lacking major diagnostic equipment. Despite varied financial turnovers, patient needs remained a priority, underscoring the delicate balance between fair pricing and business sustainability to maintain public trust. Transitioning to the broader challenges of equipment procurement, **Cross and Hoare (2002)** emphasize the critical role of meticulous planning in aligning with VISION 2020's goal of eliminating avoidable blindness. They advocate for eye care unit managers to maintain comprehensive inventories and consider factors such as accessory costs and infrastructure compatibility, using resources like the IAPB Standard List to guide durable equipment selection.

The article "India's Pharmaceutical Ophthalmic Market Outlook" by **Dr. Sarita Aggarwal et al (2022)** provides an in-depth overview of the rapidly growing pharmaceutical ophthalmic market in India. The global pharmaceutical market is projected to double by 2020, and India is positioned as a major player, particularly in generic drug exports. India ranks sixth in market size and is the largest global exporter of generic drugs, with significant growth in ophthalmic devices and equipment. This outlook provides insights into India's role in the global pharmaceutical market and its growing ophthalmic sector, emphasizing both current trends and future opportunities.

Priya L. Dabasia et al (2014) explores the use of diagnostic equipment and information technology (IT) in UK optometric practices. The study highlights the increasing adoption of enhanced services, such as glaucoma referral refinement and cataract referrals. The most widely used diagnostic tool was the fundus camera (74% of respondents), while Optical Coherence Tomography (OCT) was utilized by 15%, with 43% of those planning to invest in specialist equipment indicating they would purchase an OCT within 12 months. Despite the clinical benefits of specialist equipment and IT systems, such as improved care and management, financial concerns around the costs of acquisition and maintenance persist.

Al-Akily et al. (2014) shed light on the disparities in ophthalmic equipment distribution in Yemen. Their survey reveals a dominance of privately-owned eye care facilities, with significant gaps in meeting comprehensive care standards, especially in rural regions. This highlights an urgent need for strategic investment and equitable distribution to bridge service delivery gaps. Delving into the decision-making processes of ophthalmologists, **Smith et al. (2020)** identify a complex matrix of considerations influencing equipment purchases. Technological advancements, cost, supplier reliability, and the impact on diagnostic accuracy emerge as pivotal factors. The study underscores the necessity for a holistic evaluation encompassing both financial and operational aspects to optimize equipment acquisition.

In the context of Tehran's hospitals, **Tourani et al. (2014)** utilize the Analytic Hierarchy Process (AHP) model to ascertain that quality stands as the paramount criterion in medical equipment procurement, followed by after-sales services, brand reputation, and price. This prioritization reflects a commitment to enhancing service quality and ensuring precise diagnoses through reliable equipment. Echoing similar sentiments, **Abam et al. (2019)** focus on Iranian public hospitals, where quality, initial cost, ease of use, and regulatory compliance dominate the decision-making landscape. Their qualitative study advocates for standardized criteria to maximize resource utilization and elevate health service quality. Additionally, **Fazlzadeh et al. (2011)** explore the downstream effects of after-sales service quality. Their research reveals a direct correlation between high-quality after-sales services, customer satisfaction, and positive behavioral intentions such as repurchase and word-of-mouth referrals. This underscores the integral role of after-sales support in not only enhancing the overall offering but also in fortifying customer relationships.

Cicinelli et al. (2020) further broadens the discourse by emphasizing a holistic approach to comprehensive eye care (CEC). They identify substantial challenges in low- and middle-income countries, including human resource shortages, limited educational capacities, funding constraints, and restricted access to essential equipment. The authors call for better integration of primary eye care into national health systems and the adoption of technological innovations to surmount these hurdles.

Setya Murda Mustofa et al (2019) investigates the impact of brand image, company image, and price on purchasing decisions and customer satisfaction in the medical device market. The study emphasizes on various factors like Brand Image does not significantly affect purchasing decisions, Price has a positive and significant influence on purchasing decisions, Purchasing Decisions positively and significantly affect customer satisfaction, Company Image also has a positive impact on customer satisfaction through its influence on purchasing decisions. The study highlights the importance of company image and pricing in shaping customer purchasing behaviour and satisfaction in the competitive medical device industry.

Satria Mulia Chaerudin et al (2021) explores how product quality, service quality, and price impact purchasing decisions and consumer satisfaction in the medical device market. In his study, Product Quality, Service Quality, and Price each have a positive and significant impact on purchasing decisions for medical devices. These same factors Product Quality, Service Quality, and Price also positively and significantly affect consumer satisfaction. **Anastasia Chalkidou et al (2022)** explores the various processes, methods, and approaches hospitals in high-income countries use to procure high-cost medical devices and equipment. There was an overarching emphasis on the need for evidence-based approaches to procurement. Methods such as hospital- based health technology assessments, ergonomic assessments, and user trials were identified as key strategies that could improve the quality and efficacy of purchasing decisions. Ultimately, the study calls for further investigation to better understand and refine the complex processes involved in the acquisition of diagnostic equipment.

Collectively, these studies paint a comprehensive picture of the multiple factors influencing ophthalmic practice and equipment procurement. They underscore the necessity for transparency, strategic planning, quality prioritization, and robust after-sales support to advance the efficacy and accessibility of eye care services worldwide.

CHAPTER 4

RESEARCH

METHODOLOGY

In the context of ophthalmologists in Delhi, the most important step in any investigation is to evolve a suitable research methodology, especially when the study is empirical. This chapter outlines the research methodology used in the study. The basic structure of this study is to find out “Brand Perception and Factors Influencing Purchase Decisions of Surgical Equipment Used by Ophthalmologists in Delhi”. This chapter discusses the underlying research design used, the respondents, sampling technique, research tool, data sources, procedure of data gathering, and statistical treatment that was used for accurate data analysis and interpretation.

4.1 Study Design:

The study design is a descriptive questionnaire based **cross-sectional study** among Ophthalmologists Surgeons in Delhi. The field of study was limited to the Surgeons Ophthalmologist in Delhi. Delhi, being the capital of India represents diverse set of surgeons from different states of the country. Therefore, Delhi representing a cross section of society, all economic and social groups, was selected for the study.

4.2 Type of Study: Study is descriptive, and data is based on primary research.

4.3 Duration of the study: Study was conducted between the period April 2026 to June 2026.

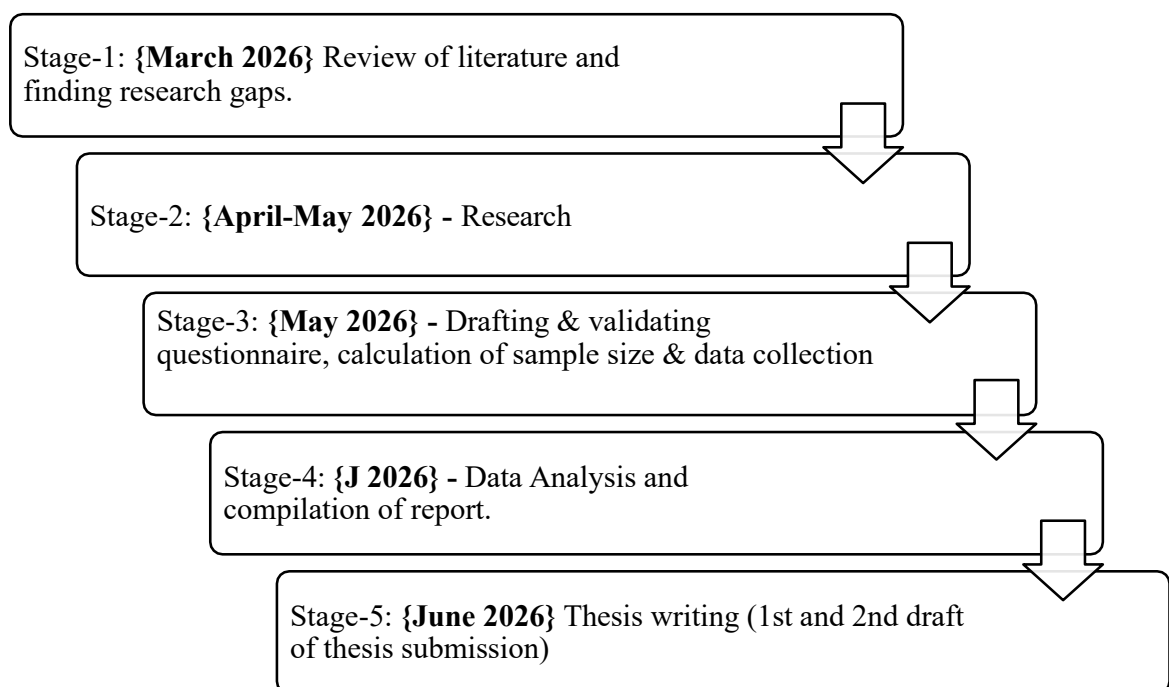


Figure 1 - Duration of the study

4.4 Study Tool: Structured questionnaire, close ended. Questionnaire in this study were related to various aspect of study.

The questionnaire was designed and constructed in line with the objectives of the study. It included various aspects of brand perception and factors influencing purchase decisions of surgical equipment among ophthalmologists.

The questionnaire had a total of 35 questions, divided into 4 sections as follows:

- **Socio-Demographic Profile of the Respondents** – 5 questions
- **Knowledge and Practices about Equipment Usage and Maintenance** – 12 questions
- **Factors Influencing Purchase Decisions** – 9 questions
- **Satisfaction with Current Vendors and Services** – 9 questions

This approach ensured a comprehensive understanding of the factors influencing brand perception and purchase decisions of surgical equipment among ophthalmologists in the region.

4.5 Sampling Technique: The sampling technique for selecting key stakeholders in Ophthalmologist will be *Judgmental sampling (Non-Probability Sampling)*. Participants will be selected based on their practice and involvement in Eye Care (Surgery).

- **Inclusion criteria:** Key stakeholders will be individuals who are currently practicing as ophthalmologist (Surgeons) in Standalone center, Multi-Chain Hospitals, Multi-specialty hospitals and NGOs.
- **Exclusion criteria:** Ophthalmological practitioners not currently practicing surgery and optometrists are excluded from the study.

4.6 Sample Size: A sample size of 50 was taken for the study for the region Delhi. From the data collection, a total of 50 responses were collected, of which 43 were included in the study whereas 7 were excluded due to the incomplete form submission with a 86 % response rate.

4.7 Data Collection: Data was collected by visiting clinics and Hospitals in South Region of Delhi, India and doing primary research from residents of Ophthalmology department in Multispecialty hospital and collecting details of respondents through structured questionnaire. A total of 43 responses were collected. No monetary rewards were given to participants.

Following an explanation of the study goal to the participants, the study was done among Ophthalmologist Surgeons in South-Delhi. The confidentiality of the information was ensured. During data gathering, all ethical criteria were followed, the questions were asked to the respondents and the participants were required to respond to all the questions and responses were recorded in spreadsheet.

4.8 Method of Data Analysis: Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 28. Descriptive statistics (frequencies, percentages, means and standard deviations) was applied.

CHAPTER 5

RESULT

&

DISCUSSION

This chapter discusses the analysis of data of the 43 respondents. The results are calculated by using Microsoft Excel. The Descriptive statistics was used in this study to calculate various variables. The analysis has been done under following components:

- Socio-Demographic Profile of the Respondents – 5 questions
- Knowledge and Practices about Equipment Usage and Maintenance – 12 questions
- Factors Influencing Purchase Decisions – 9 questions
- Satisfaction with Current Vendors and Services – 9 questions

5.1 Socio-Demographic profile of the respondents:

5.1.1 Primary Role

The survey included a question to determine the primary role of the respondents. As the questionnaire was specifically designed to target ophthalmologist surgeons, the responses were as follows:

- **Ophthalmologist Surgeon:** 43 respondents

Out of a total of 43 respondents:

- **100%** identified as Ophthalmologist Surgeons.

This data confirms that the entire sample population consists of ophthalmologist surgeons, ensuring that the perspectives gathered are specific to professionals involved in surgical ophthalmology.

5.1.2 Primary Facility of Practice

Row Labels	Sum of Number of Respondents	Sum of Percentage of Respondents
Eye Care Speciality Chains	10	0.2326
Multi-Speciality Hospital Chains	6	0.1395
Standalone Centres	27	0.6279
Grand Total	43	1

Table 3 - Primary Facility of Practice

These percentages highlight that standalone centres are the preferred practice setting for ophthalmologist surgeons in your study, followed by eye care specialty chains, and a smaller proportion in multi-speciality hospital chains.

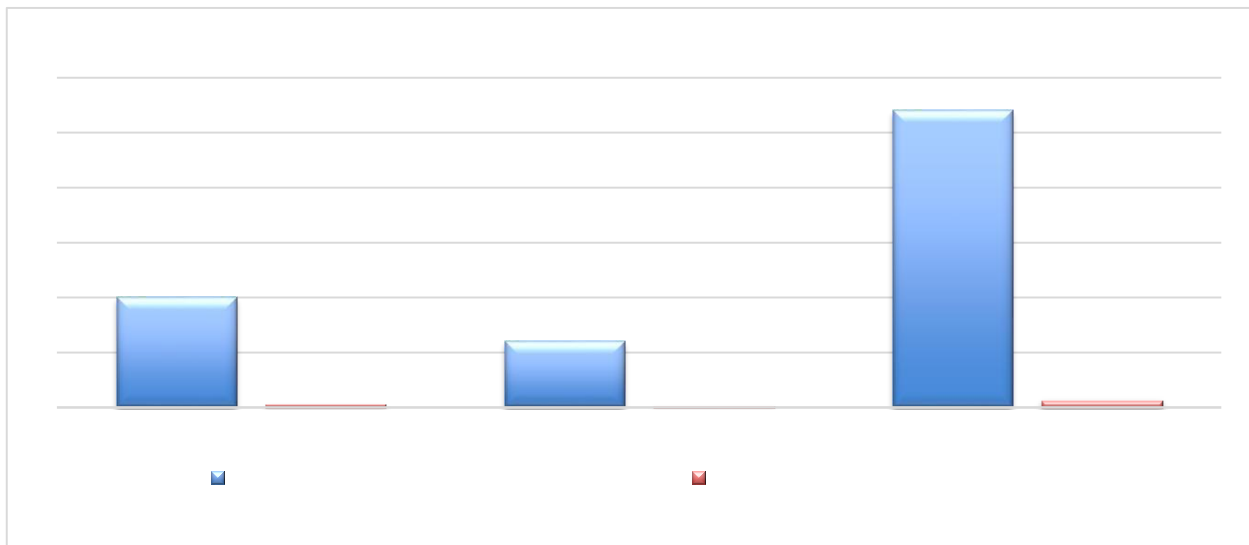


Fig 2 – Primary Facility of Practice

It is inferred from the table and figure from the total of 43 respondents, 62.8% of the participants were Standalone center while 14% were from Multispecialty Hospital chain and Eye-Care specialty chains were 23.3%.

5.2 Equipment Brands Usage and Investment Trends

5.2.1 Brands considered By the Ophthalmologist to purchase

Brand	Microscope (n=43)	Phacoemulsification Machine (n=43)	Green Laser (n=43)	YAG Laser (n=43)
Appasamy	11 (25.58%)	4 (9.30%)	1 (2.33%)	21 (48.84%)
Alcon	4 (9.30%)	7 (16.28%)	6 (13.95%)	2 (4.65%)
Johnson & Johnson	3 (6.98%)	10 (23.26%)	-	-
Zeiss	5 (11.63%)	5 (11.63%)	15 (34.88%)	10 (23.26%)
Haag Streit	3 (6.98%)	-	1 (2.33%)	-
Bausch & Lomb	16 (37.21%)	15 (34.88%)	-	-
Topcon	1 (2.33%)	-	4 (9.30%)	3 (6.98%)
Nidek	-	2 (4.65%)	13 (30.23%)	7 (16.28%)
Iridex	-	-	3 (6.98%)	-

Table 4 – Brands considered By the Ophthalmologist to purchase

Interpretations:

1. Microscope Brands Considered: Bausch & Lomb (37.21%) and Appasamy (25.58%) are the most considered brands. Zeiss, Alcon, and Haag Streit are each considered by a smaller segment (6.98% to 11.63%), while Johnson & Johnson and Topcon have limited consideration.

2. Phacoemulsification Machine Brands Considered: Bausch & Lomb (34.88%) is the most considered brand, followed by Johnson & Johnson (23.26%). Alcon, Zeiss, Appasamy, and Nidek have lower levels of consideration.

3. Green Laser Brands Considered: Zeiss (34.88%) and Nidek (30.23%) are the most considered brands. Alcon is considered by 13.95% of respondents, while Iridex and Topcon have lower levels of consideration. Appasamy and Haag Streit are considered by only one respondent each.

4. YAG Laser Brands Considered: Appasamy (48.84%) is the most frequently considered brand, followed by Zeiss (23.26%) and Nidek (16.28%). Topcon and Alcon have lower levels of consideration.

It Reflects that the ophthalmologists in this region are aware of other brands which they have certain opinion to switch depending of factors like after sales service, patient comfort , credit terms, ease of use and turn-around time (TAT).

5.2.2 Brands Currently used by the Ophthalmologist:

Brand	Microscope (n=43)	Phacoemulsification Machine (n=43)	Green Laser (n=43)	YAG Laser (n=43)
Zeiss	34 (79.07%)	1 (2.33%)	15 (34.88%)	7 (16.28%)
Haag Streit	3 (6.98%)	1 (2.33%)	-	-
Appasamy	4 (9.30%)	-	-	17 (39.53%)
Alcon	1 (2.33%)	36 (83.72%)	3 (6.98%)	3 (6.98%)
Bausch & Lomb	1 (2.33%)	4 (9.30%)	1 (2.33%)	-
Johnson & Johnson	-	1 (2.33%)	-	-
Nidek	-	-	15 (34.88%)	10 (23.26%)
Iridex	-	-	5 (11.63%)	-
Topcon	-	-	4 (9.30%)	6 (13.95%)

Table 5 – Current Brand used by the ophthalmologist

Interpretations:

- **Microscope Brands:** The majority of respondents (79.07%) use Zeiss microscopes, indicating a strong preference for this brand. Haag Streit and Appasamy are used by 6.98% and 9.30% of respondents, respectively, while Alcon and Bausch & Lomb are each used by 2.33% of respondents.
- **Phacoemulsification Machine Brands:** Alcon is the predominant brand, used by 83.72% of respondents. Bausch & Lomb is used by 9.30% of respondents, with Zeiss, Johnson & Johnson, and Haag Streit each used by 2.33% of respondents.
- **Green Laser Brands:** Nidek and Zeiss are the most used brands, each used by 34.88% of respondents. Iridex and Topcon are used by 11.63% and 9.30% of respondents, respectively, while Alcon and Bausch & Lomb have lower usage rates (6.98% and 2.33%, respectively).
- **YAG Laser Brands:** Appasamy is the most frequently used brand, with 39.53% of respondents using it. Nidek is also widely used, with a 23.26% usage rate. Zeiss and Topcon are used by 16.28% and 13.95% of respondents, respectively, while Alcon is used by 6.98% of respondents.

5.2.3 Key Purchasing Criteria

Criteria	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5	Rank 6	Rank 7	Rank 8	Rank 9	Rank 10
Patient Vision Outcomes	6 (13.95%)	1 (2.33%)	3 (6.98%)	2 (4.65%)	2 (4.65%)	3 (6.98%)	5 (11.63%)	3 (6.98%)	5 (11.63%)	13 (30.23%)
Product Quality	3 (6.98%)	8 (18.60%)	0 (0.00%)	1 (2.33%)	4 (9.30%)	5 (11.63%)	4 (9.30%)	4 (9.30%)	11 (25.58%)	4 (9.30%)
Low Cost/Affordability	5 (11.63%)	3 (6.98%)	6 (13.95%)	3 (6.98%)	1 (2.33%)	2 (4.65%)	2 (4.65%)	10 (23.26%)	8 (18.60%)	3 (6.98%)
Margins for the Clinic	4 (9.30%)	5 (11.63%)	4 (9.30%)	5 (11.63%)	6 (13.95%)	2 (4.65%)	10 (23.26%)	1 (2.33%)	2 (4.65%)	4 (9.30%)
TAT for Order Fulfillment	4 (9.30%)	3 (6.98%)	5 (11.63%)	8 (18.60%)	6 (13.95%)	4 (9.30%)	2 (4.65%)	5 (11.63%)	2 (4.65%)	4 (9.30%)
Credit Days Provided	3 (6.98%)	7 (16.28%)	9 (20.93%)	4 (9.30%)	6 (13.95%)	8 (18.60%)	3 (6.98%)	2 (4.65%)	0 (0.00%)	1 (2.33%)
After Sales Service	7 (16.28%)	7 (16.28%)	2 (4.65%)	5 (11.63%)	4 (9.30%)	6 (13.95%)	7 (16.28%)	2 (4.65%)	2 (4.65%)	1 (2.33%)
Bundling with Other Equipment	2 (4.65%)	4 (9.30%)	4 (9.30%)	4 (9.30%)	5 (11.63%)	6 (13.95%)	0 (0.00%)	7 (16.28%)	5 (11.63%)	6 (13.95%)
Quality of Sales Personnel	2 (4.65%)	3 (6.98%)	5 (11.63%)	6 (13.95%)	6 (13.95%)	3 (6.98%)	7 (16.28%)	6 (13.95%)	4 (9.30%)	1 (2.33%)
Brand Image and Familiarity	7 (16.28%)	2 (4.65%)	5 (11.63%)	5 (11.63%)	4 (9.30%)	4 (9.30%)	3 (6.98%)	3 (6.98%)	4 (9.30%)	6 (13.95%)

Table 6 - Key Purchasing Criteria

Interpretations:

1. **Patient Vision Outcomes:** This criterion is highly valued, with 30.23% of respondents ranking it as the most important (Rank 10). Overall, it has a strong emphasis on higher ranks.
2. **Product Quality:** Product quality is also crucial, with 25.58% of respondents ranking it at Rank 9. It shows a significant preference for higher importance.
3. **Low Cost/Affordability for Patients:** This criterion has a mixed distribution, with notable percentages at Rank 8 (23.26%) and Rank 9 (18.60%), indicating varying importance among respondents.
4. **Margins for the Clinic:** Margins are important, with 23.26% of respondents ranking it at Rank 7. It shows a spread across different ranks, reflecting diverse priorities.
5. **Turn Around Time (TAT) for Order Fulfillment:** TAT has a balanced distribution, with the highest percentage at Rank 4 (18.60%). It indicates moderate importance.
6. **Credit Days Provided by Vendor:** This criterion has a higher emphasis on mid-ranks, with 20.93% at Rank 3 and 18.60% at Rank 6, showing moderate importance.
7. **After Sales Service Offered:** After-sales service is valued, with 16.28% of respondents ranking it at Rank 1 and Rank 2. It shows a spread across different ranks.
8. **Bundling with Other Surgical/Diagnostic Equipment:** This criterion has a varied distribution, with the highest percentage at Rank 8 (16.28%). It indicates moderate importance.
9. **Quality of Sales Personnel / Level of Engagement:** This criterion has a balanced distribution, with the highest percentage at Rank 7 (16.28%). It shows moderate importance.
10. **Brand Image and Familiarity Among Patients:** Brand image is important, with 16.28% of respondents ranking it at Rank 1. It shows a spread across different ranks, reflecting diverse priorities.

Patient Vision Outcomes and Product Quality are top priorities. Affordability, Margins, Turnaround Time, and Credit Days hold moderate importance, while After-Sales Service, Sales Personnel Engagement, and Brand Image show varying importance among respondents.

5.2.4 Changes in Investments Over the Past 12 Months

The survey asked respondents to indicate how their investments in four categories of ophthalmic equipment (microscope, phacoemulsification machine, green laser, and YAG laser) have changed in the last 12 months (2022-23).

Investment Change	Microscope (n=43)	Phacoemulsification Machine (n=43)	YAG Laser (n=43)	Green Laser (n=43)
30%+ higher investments	1 (2.33%)	-	-	-
20-30% higher investments	11 (25.58%)	3 (6.98%)	3 (6.98%)	5 (11.63%)
10-20% higher investments	16 (37.21%)	16 (37.21%)	13 (30.23%)	7 (16.28%)
0-10% higher investments	8 (18.60%)	13 (30.23%)	13 (30.23%)	16 (37.21%)
0-10% lower investments	5 (11.63%)	11 (25.58%)	13 (30.23%)	11 (25.58%)
Greater than 10% lower investments	2 (4.65%)	-	1 (2.33%)	4 (9.30%)

Table 7 – Changes in Investments Over the Past Year

Interpretations:

- 1. Microscope Investment Changes:** The majority of respondents (37.21%) reported a 10-20% increase in investments, followed by 25.58% reporting a 20-30% increase. A smaller segment (18.60%) reported a 0-10% increase, while 11.63% reported a 0-10% decrease and 4.65% reported a greater than 10% decrease.
 - 2. Phacoemulsification Machine Investment Changes:** Most respondents (37.21%) reported a 10-20% increase in investments, followed by 30.23% reporting a 0-10% increase. A smaller segment (25.58%) reported a 0-10% decrease, while 6.98% reported a 20-30% increase.
 - 3. YAG Laser Investment Changes:** The responses are evenly distributed, with 30.23% of respondents each reporting a 10-20% increase, 0-10% increase, and 0-10% decrease. A smaller segment (6.98%) reported a 20-30% increase, while 2.33% reported a greater than 10% decrease.
 - 4. Green Laser Investment Changes:** The majority of respondents (37.21%) reported a 0-10% increase in investments, followed by 25.58% reporting a 0-10% decrease. A smaller segment (16.28%) reported a 10-20% increase, while 11.63% reported a 20-30% increase and 9.30% reported a greater than 10% decrease.
- The data can be utilised for forecasting the future purchase of equipments and after sales support.

5.2.5 Investment Trends for the Next 3 Years: Growth or Slowdown (Based on Respondents' Views)

Investment Growth Expectation	Number of Respondents	Percentage (%)
Investment will grow	41	95.35
Investment will slow down	2	4.65

Table 8 - Investment Trend In Next 3 Years

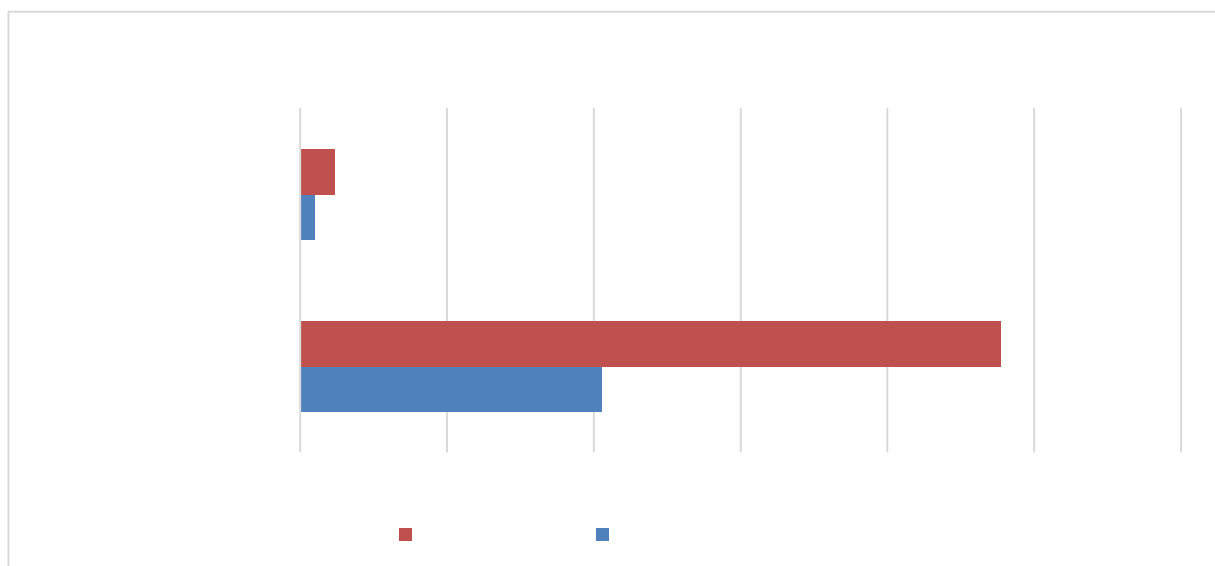


Figure 3- Investment Trend In Next Three Years

Interpretation:

- Investment Growth: A significant majority (95.35%) of respondents expect their investments to grow. Among these:
 - 48.78% expect rapid expansion of existing clinics/centres.
 - 34.15% anticipate an increase in the replacement of existing equipment.
 - 14.63% foresee an acceleration in new clinic/centre openings.
 - 2.44% believe Covid-led purchase increases will continue to play out.

A small segment (4.65%) of respondents anticipate slowing investments, mainly due to delays in replacing existing equipment. Vendors in the Indian market can target those with a more optimistic outlook, offering both similar and novel products to accelerate sales. The 48.78% in the rapid expansion category represent prime leads.

5.2 Spent and Future Outlook

5.2.6 Frequency of purchasing a new equipment

Frequency of Purchase	Microscope (n=43)	Phacoemulsification Machine (n=43)	Green Laser (n=43)	YAG Laser (n=43)
Once a year	0 (0.00%)	0 (0.00%)	1 (2.33%)	0 (0.00%)
Once every 2 years	0 (0.00%)	0 (0.00%)	13 (30.23%)	12 (27.91%)
Once every 2-5 years	13 (30.23%)	14 (32.56%)	24 (55.81%)	25 (58.14%)
Once every 5-10 years	28 (65.12%)	29 (67.44%)	5 (11.63%)	5 (11.63%)
Once every 10+ years	2 (4.65%)	0 (0.00%)	0 (0.00%)	1 (2.33%)
Never bought	0 (0.00%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

Table 9 - Frequency of purchasing a new equipment

Interpretation:

- Microscope: Most respondents (65.12%) purchase new microscopes once every 5-10 years, followed by 30.23% who purchase once every 2-5 years. A small segment (4.65%) purchases once every 10+ years.
- Phacoemulsification Machine: Most respondents (67.44%) purchase new phacoemulsification machines once every 5-10 years, followed by 32.56% who purchase once every 2-5 years.
- Green Laser: The majority of respondents (55.81%) purchase new green lasers once every 2-5 years, followed by 30.23% who purchase once every 2 years. A smaller segment (11.63%) purchases once every 5-10 years, and 2.33% purchase once a year.
- YAG Laser: Most respondents (58.14%) purchase new YAG lasers once every 2-5 years, followed by 27.91% who purchase once every 2 years. A smaller segment (11.63%) purchases once every 5-10 years, and 2.33% purchase once every 10+ years.

The data suggests that high-cost equipment like microscopes and phacoemulsification machines are typically replaced every 5-10 years by a majority of respondents (65.12% for microscopes, 67.44%

for phaco machines). This indicates their longer lifespan and higher replacement cost. In contrast, lasers (green and YAG) have a shorter replacement cycle, with most respondents upgrading every 2-5 years, reflecting either faster technological advancements or wear-and-tear.

5.2.7 Equipment purchased in last 3 years.

Equipment Category	Number of Respondents	Percentage (%)
Microscope	22	51.16
Phaco - Machine	23	53.49
Green Laser	31	72.09
YAG Laser	21	48.84

Table 10 - Equipment purchased in last 3 years.

43 responses

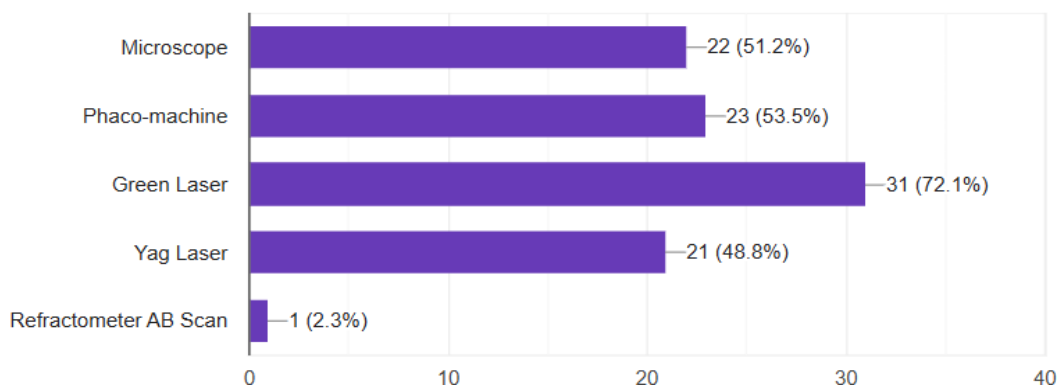


Figure 4- Equipment purchased in last 3 years.

The data shows that green lasers are the most commonly used ophthalmological equipment, with 72.09% of respondents relying on them. Phacoemulsification machines and microscopes are also widely used, with 53.49% and 51.16% of respondents, respectively. YAG lasers are used by 48.84% of respondents. This indicates a strong preference for green lasers, followed by phacoemulsification machines and microscopes, highlighting their importance in ophthalmic procedures.

5.2.8 Equipment purchase plan for next 3 years

Investment Plan for Next 3 Years	Number of Respondents	Percentage (%)
Higher investments (Option 1)	14	32.56
Similar levels of investment (Option 2)	24	55.81
Reduced investments (Option 3)	5	11.63

Table 11– Plan of purchasing equipment in next 3 years

43 responses



Figure 5 - Plan of purchasing equipment in next 3 years

Interpretation: Most respondents (55.81%) plan to maintain similar levels of investment in ophthalmic equipment over the next three years, indicating a stable outlook. A significant portion (32.56%) has an optimistic outlook, expecting to increase their investments. However, a smaller segment (11.63%) anticipates reducing their investments, suggesting some caution or potential budget constraints within this group. Overall, the data reflects a generally positive investment sentiment with a focus on maintaining or increasing current investment levels.

5.4 Factor Influencing selection, retention and promotion to others

5.4.1 Key Drivers for selection and promotion

Vendor	Good patient vision outcomes)	High Product Quality	Good Brand Image	Low Cost	High Margins	Low TAT	Ease of Credit	Good After-Sales	Ease of Bundling
Appasamy	7 (16.28%)	14 (32.56%)	3 (6.98%)	4 (9.30%)	0 (0.00%)	2 (4.65%)	2 (4.65%)	6 (13.95%)	1 (2.33%)
Alcon	3 (6.98%)	11 (25.58%)	13 (30.23%)	1 (2.33%)	1 (2.33%)	1 (2.33%)	1 (2.33%)	1 (2.33%)	3 (6.98%)
Johnson & Johnson	0 (0.00%)	4 (9.30%)	10 (23.26%)	0 (0.00%)	0 (0.00%)	0 (0.00%)	1 (2.33%)	0 (0.00%)	0 (0.00%)
Zeiss	6 (13.95%)	2 (4.65%)	19 (44.19%)	2 (4.65%)	2 (4.65%)	3 (6.98%)	2 (4.65%)	0 (0.00%)	3 (6.98%)
Haag Streit	0 (0.00%)	1 (2.33%)	3 (6.98%)	6 (13.95%)	7 (16.28%)	1 (2.33%)	1 (2.33%)	0 (0.00%)	0 (0.00%)
Nidek	1 (2.33%)	1 (2.33%)	6 (13.95%)	6 (13.95%)	10 (23.26%)	2 (4.65%)	0 (0.00%)	4 (9.30%)	0 (0.00%)
Iridex	0 (0.00%)	1 (2.33%)	0 (0.00%)	3 (6.98%)	5 (11.63%)	0 (0.00%)	3 (6.98%)	1 (2.33%)	0 (0.00%)
Bousch & Lomb	2 (4.65%)	2 (4.65%)	5 (11.63%)	1 (2.33%)	1 (2.33%)	3 (6.98%)	3 (6.98%)	3 (6.98%)	2 (4.65%)
Topcon	2 (4.65%)	0 (0.00%)	0 (0.00%)	2 (4.65%)	3 (6.98%)	0 (0.00%)	4 (9.30%)	3 (6.98%)	2 (4.65%)

Table 12- Key Drivers for Selection & Promotion

Interpretation-

1. Least Recommended:

- **Haag Streit:** 6.98% rated it 1, and 4.65% rated it 2.
- **Iridex:** 2.33% rated it 1, and 2.33% rated it 2.

2. Somewhat Recommended:

- **Johnson & Johnson:** 4.65% rated it 4.
- **Zeiss:** 2.33% rated it 2, and 2.33% rated it 3.

3. Neutral:

- **Haag Streit:** 27.91% rated it 5.
- **Iridex:** 44.19% rated it 5.

4. Recommended:

- **Appasamy:** 37.21% rated it 7.
- **Johnson & Johnson:** 48.84% rated it 7.

5. Highly Recommended:

- **Alcon:** 53.49% rated it 8, **Zeiss:** 27.91% rated it 9.

5.4.2 Key drivers for detraction

Brand	Key Detractor	Percentage	Other Concerns
Appasamy	Poor Brand Image and Familiarity	74.42%	Low Product Quality (2.33%), High Cost (9.30%), Low Margins (2.33%), High TAT (2.33%)
Alcon	High Cost/Unaffordable for Patients	30.23%	Low Product Quality (16.28%), Low Margins (11.63%), Poor After-Sales Services (16.28%), Limited Credit (9.30%), Poor Quality of Sales Personnel (4.65%)
Johnson & Johnson	High Cost/Unaffordable for Patients	16.28%	Poor Patient Vision Outcomes (2.33%), Low Product Quality (4.65%), Low Margins (9.30%), High TAT (2.33%), Poor After-Sales Services (6.98%), Poor Quality of Sales Personnel (6.98%)
Zeiss	High Cost/Unaffordable for Patients	25.58%	Poor Patient Vision Outcomes (9.30%), Poor Brand Image (6.98%), Low Margins (13.95%), High TAT (11.63%), Limited Credit (6.98%), Poor After-Sales Services (18.60%), Poor Quality of Sales Personnel (4.65%)
Haag Streit	Low Margins for the Clinic/Hospital	9.30%	Low Product Quality (2.33%), Poor Brand Image (11.63%), High Cost (2.33%), High TAT (4.65%), Limited Credit (4.65%), Poor Quality of Sales Personnel (2.33%)
Nidek	Limited Credit Period Provided by Vendor	25.58%	Low Product Quality (6.98%), Poor Brand Image (2.33%), High Cost (2.33%), Low Margins (16.28%), High TAT (9.30%), Poor After-Sales Services (6.98%), Poor Quality of Sales Personnel (6.98%)
Iridex	Poor Brand Image and Familiarity	11.63%	Poor Patient Vision Outcomes (2.33%), High Cost (2.33%), Low Margins (4.65%), High TAT (4.65%), Limited Credit (6.98%), Poor Quality of Sales Personnel (2.33%)
Bousch & Lomb	Poor After-Sales Services	20.93%	Low Product Quality (2.33%), High Cost (4.65%), Low Margins (4.65%), High TAT (4.65%), Limited Credit (9.30%), Poor Quality of Sales Personnel (20.93%)
Topcon	Poor Quality of Sales Personnel	11.63%	Low Product Quality (6.98%), Poor Brand Image (4.65%), High Cost (6.98%), Low Margins (6.98%), High TAT (2.33%), Poor After-Sales Services (6.98%)

Table 13- Key Drivers for detraction

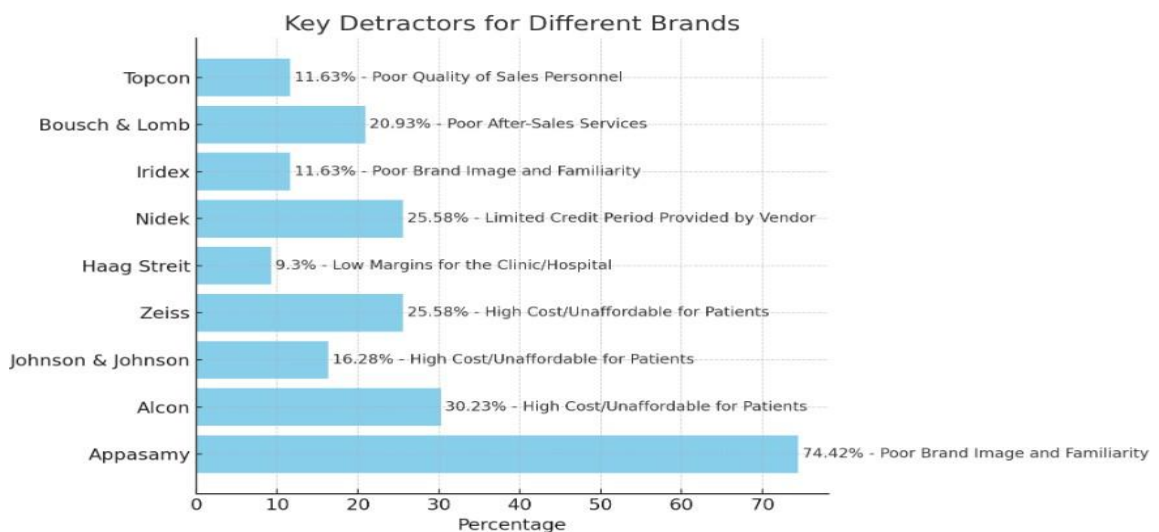


Figure 6 - Bar Graph Showing Key Drivers Of Detraction

Interpretation for Each Brand:

1. Appasamy

- **Key Detractor: Poor Brand Image and Familiarity (74.42%)**
 - The majority of respondents indicated that Appasamy suffers from a poor brand image, which significantly impacts its reputation and recommendation.
- **Other Concerns:**
 - Low Product Quality (2.33%), High Cost (9.30%), Low Margins (2.33%), High TAT (2.33%)

2. Alcon

- **Key Detractor: High Cost/Unaffordable for Patients (30.23%)**

- A significant portion of respondents found Alcon's products to be too expensive, which is a major barrier to recommendation.

- **Other Concerns:**

- Low Product Quality (16.28%), Low Margins (11.63%), Poor After-Sales Services (16.28%), Limited Credit (9.30%), Poor Quality of Sales Personnel (4.65%)

3. Johnson & Johnson

- **Key Detractor: High Cost/Unaffordable for Patients (16.28%)**

- Cost is a notable concern for Johnson & Johnson, affecting its recommendation.

- **Other Concerns:**

- Poor Patient Vision Outcomes (2.33%), Low Product Quality (4.65%), Low Margins (9.30%), High TAT (2.33%), Poor After-Sales Services (6.98%), Poor Quality of Sales Personnel (6.98%)

4. Zeiss

- **Key Detractor: High Cost/Unaffordable for Patients (25.58%)**

- Cost is a major issue for Zeiss, impacting its recommendation.

- **Other Concerns:**

- Poor Patient Vision Outcomes (9.30%), Poor Brand Image (6.98%), Low Margins (13.95%), High TAT (11.63%), Limited Credit (6.98%), Poor After-Sales Services (18.60%), Poor Quality of Sales Personnel (4.65%)

5. Haag Streit

- **Key Detractor: Low Margins for the Clinic/Hospital (9.30%)**

- Margins are a primary concern for Haag Streit, affecting its recommendation.

- **Other Concerns:**

- Low Product Quality (2.33%), Poor Brand Image (11.63%), High Cost (2.33%), High TAT (4.65%), Limited Credit (4.65%), Poor Quality of Sales Personnel (2.33%)

6. Nidek

- **Key Detractor: Limited Credit Period Provided by Vendor (25.58%)**

- Credit terms are a significant issue for Nidek, impacting its recommendation.

- **Other Concerns:**

- Low Product Quality (6.98%), Poor Brand Image (2.33%), High Cost (2.33%), Low Margins (16.28%), High TAT (9.30%), Poor After-Sales Services (6.98%), Poor Quality of Sales Personnel (6.98%)

7. Iridex

- **Key Detractor: Poor Brand Image and Familiarity (11.63%)**

- Brand image is a notable concern for Iridex, affecting its recommendation.

- **Other Concerns:**

- Poor Patient Vision Outcomes (2.33%), High Cost (2.33%), Low Margins (4.65%), High TAT (4.65%), Limited Credit (6.98%), Poor Quality of Sales Personnel (2.33%)

8. Bousch & Lomb

- **Key Detractor: Poor After-Sales Services (20.93%)**

- After-sales support is a major issue for Bousch & Lomb, impacting its recommendation.

- **Other Concerns:**

- Low Product Quality (2.33%), High Cost (4.65%), Low Margins (4.65%), High TAT (4.65%), Limited Credit (9.30%), Poor Quality of Sales Personnel (20.93%)

9. Topcon

- **Key Detractor: Poor Quality of Sales Personnel (11.63%)**

- Sales personnel quality is a significant concern for Topcon, affecting its recommendation.

- **Other Concerns:**

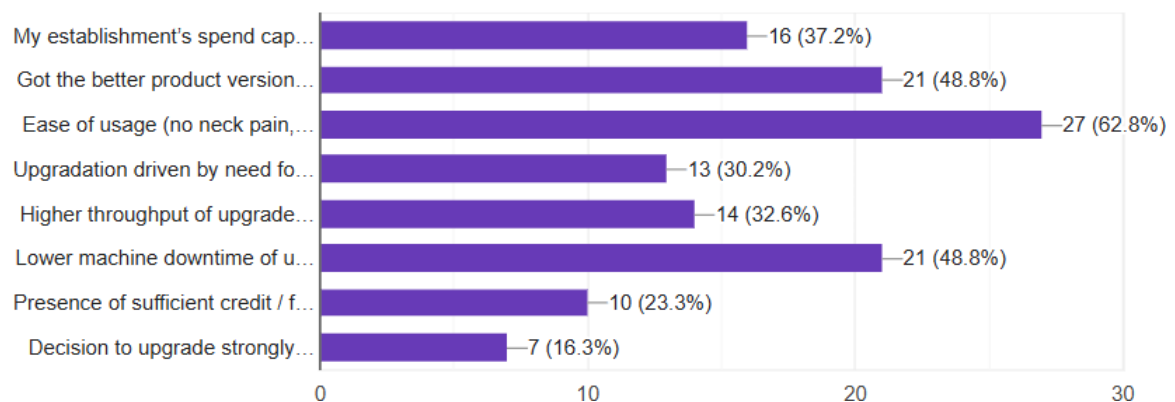
- Low Product Quality (6.98%), Poor Brand Image (4.65%), High Cost (6.98%), Low Margins (6.98%), High TAT (2.33%), Poor After-Sales Services (6.98%)

5.4.3 Top triggers for replacing or switching Equipment

Trigger	Number of Respondents	Percentage (%)
My establishment's spend capacity / investment budget increased – hence upgraded to better product version	16	25.0%
Got the better product version at a reasonable / discounted price – was not very expensive vs. the existing model's cost	21	32.8%
Ease of usage (no neck pain, comfort while operating, etc.)	27	42.2%
Upgradation driven by need for higher accuracy and better patient outcomes through more advanced features with lower chances of error	13	20.3%
Higher throughput of upgraded models – hence allowing us to serve more patients	14	21.9%
Lower machine downtime of upgraded models with minimal effort in maintenance	21	32.8%
Presence of sufficient credit / financing options for the upgraded model	10	15.6%
Decision to upgrade strongly driven by market practices i.e., most other clinics had updated their equipment to more premium models	7	10.9%

Table 14- Top triggers for replacing or switching Equipment

43 responses



Figures 7 - Top triggers for replacing or switching Equipment

Interpretation:

The data indicates that the most common trigger for replacing or switching equipment among respondents is Ease of usage, with 42.2% of respondents selecting this option. This suggests that comfort and ergonomics are highly valued in the decision-making process.

Other significant triggers include:

- Reasonable/discounted price and Lower machine downtime, both selected by 32.8% of respondents. This highlights the importance of cost-effectiveness and reliability in equipment choices.
- Increased spend capacity/investment budget was chosen by 25.0% of respondents, indicating that budget increases also play a crucial role in upgrading equipment.
- Higher throughput and Need for higher accuracy and better patient outcomes were selected by 21.9% and 20.3% of respondents, respectively, showing that efficiency and advanced features are also important considerations.

Less influential triggers include:

- Presence of sufficient credit/financing options, chosen by 15.6% of respondents.
- Market practices, chosen by 10.9% of respondents, indicating that peer influence is the least significant factor among the listed triggers.

Overall, the data suggests that practical considerations like ease of use, cost, and reliability are the primary drivers for equipment replacement or upgrades in your field.

5.4.4 Satisfaction level with present vendors performance

(Respondents could choose multiple option)

Vendor	Number of Respondents	Percentage (%)
Appasamy	18	64.3%
Alcon	34	71.4%
Johnson & Johnson	1	50.0%
Zeiss	33	91.7%
Haag Streit	3	33.3%
Nidek	14	60.9%
Iridex	0	0.0%
Bausch & Lomb	5	45.5%
Topcon	2	28.6%

Table 15- Satisfaction level with present vendors performance

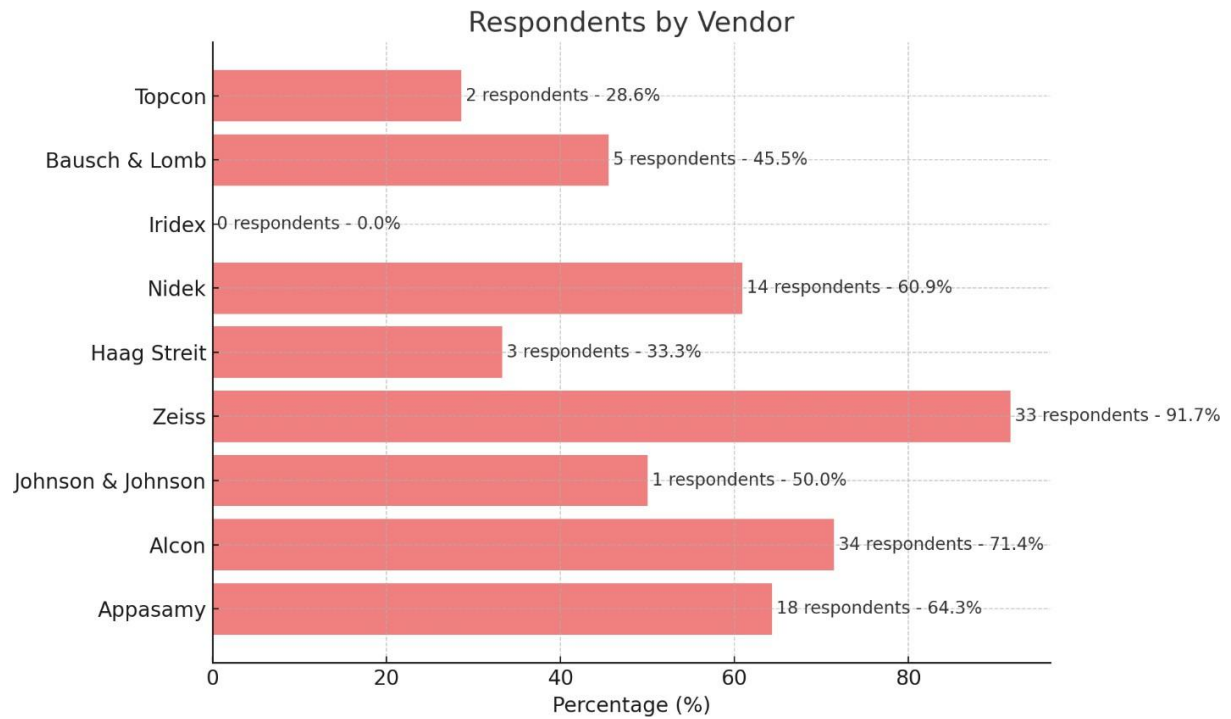


Figure 8 - Satisfaction level with present vendors performance

Interpretation:

- Zeiss and Alcon are the most highly rated vendors, with the highest percentages (91.7% & 71.4% respectively) of respondents satisfied with their performance and services.
- 64.3% & 60.9% of respondents were found to be satisfied with Appasamy and Nidek respectively. Other vendors like Johnson & Johnson, Haag Streit, Bausch & Lomb, and Topcon showed moderate to lower satisfaction level among respondents while None of respondents was found to be satisfied with Iridex.

Discussion

The present study focuses on ophthalmologists based in the southern region of Delhi, examining their knowledge, practices, and decision-making processes related to the purchase and retention of ophthalmological equipment. It aims to identify key factors influencing equipment selection, including cost, technological advancements, vendor reliability, and after-sales service. The research also assesses satisfaction with current vendors and explores how facility size impacts purchasing patterns, with standalone centers, specialty chains, and multispecialty hospitals each prioritizing different elements in their equipment procurement strategies. The study highlights cost, technological advancements, vendor reliability, and after-sales service as critical factors in purchasing decisions for ophthalmological equipment. This mirrors findings from studies like Smith et al. (2020), which similarly noted the importance of cost and technological reliability in the decision-making process of ophthalmologists. Both studies emphasize the role of vendor reliability and the impact of equipment performance on customer satisfaction.

Cross and Hoare (2002) stressed the importance of strategic equipment planning to meet VISION 2020 goals, emphasizing thorough inventory management and infrastructure compatibility, which parallels the Delhi study's findings on the importance of after-sales service and equipment replacement within standard timeframes. Additionally, the survey by Al-Akily et al. (2014) revealed significant gaps in equipment distribution in rural areas of Yemen, whereas this study, focused on urban settings, showed a more consistent access to advanced equipment, especially in specialty chains and multispecialty hospitals.

Tourani et al. (2014) and Abam et al. (2019) emphasized that quality and after-sales services were vital in medical equipment procurement, further aligning with this study's emphasis on these criteria. Both studies underscore the importance of service quality in enhancing satisfaction and shaping purchasing decisions. Moreover, Fazlzadeh et al. (2011) noted the strong correlation between after-sales service quality and customer loyalty, similar to how this study identifies service quality as a major factor in equipment replacement and switching decisions.

However, a key distinction from studies like Dabasia et al. (2014) was found, which explores the use of diagnostic equipment and information technology (IT) in UK optometric practices. The study highlights the increasing adoption of enhanced services, is that the present study's participants exhibited a knowledge gap regarding advanced technologies, reflecting a lower adoption rate of the latest innovations.

This suggests that while cost and service reliability are universally important, technology adoption levels vary by region, potentially influenced by education and vendor engagement.

In conclusion, the Delhi study's findings align with global trends in emphasizing cost, technological reliability, and vendor service quality, but it also highlights specific regional differences in knowledge and adoption of cutting-edge ophthalmological equipment. These insights suggest the need for more targeted education, improved vendor relationships, and enhanced credit support to bridge the knowledge, and need gap and encourage technological advancements in the region. The study reflects the nuanced relationship between the type of facility and their preferential factors for Selection, purchasing and retention. The study also suggests the current satisfaction level of vendors marking their future needs and factors to switch with their budget and spent.

CHAPTER 6

CONCLUSION

The results of this study offer valuable insights into the knowledge and practices related to purchase behavior and influencing factors in acquiring ophthalmological surgical equipment in Delhi. These findings have significant implications for understanding buying patterns and preferences, which can inform suppliers and manufacturers in tailoring their strategies to better meet the needs of healthcare professionals. Additionally, the study highlights potential areas for improvement in procurement processes and can guide policy development to enhance the efficiency and effectiveness of purchasing practices in the region.

The demographic profile of the respondents in this study reveals notable trends. All participants were ophthalmologist surgeons, a key demographic for analysing purchasing patterns and selection criteria for ophthalmological surgical equipment. Additionally, the study included a balanced mix of female and male respondents, underscoring the gender neutrality of the influencing factors. Regarding educational background, all respondents were ophthalmologist surgeons with postgraduate degrees and specialized training, complemented by significant prior experience in the field.

The study reveals distinct purchasing patterns among ophthalmologist surgeons.

Key trends include:

- **Brand Preference:** Many surgeons demonstrate a preference for established brands known for reliability and advanced technology. Brand reputation significantly influences their decision-making process.
- **Product Features:** Surgeons prioritize specific features that enhance surgical precision and patient outcomes. Equipment with cutting-edge technology or unique functionalities tends to be favoured.

Cost Considerations: While quality is paramount, cost also plays a crucial role. Surgeons often weigh the benefits of high-end equipment against its cost, seeking a balance between value and expenditure.

There are several factors impacting the purchase decisions of ophthalmologist surgeons:

- **Technical Support and Service:** The availability of robust technical support and after-sales service is a significant factor. Surgeons prefer suppliers who offer comprehensive maintenance and prompt assistance.

- **Peer Recommendations:** Recommendations from colleagues and professional networks heavily influence purchasing decisions. Positive experiences and endorsements from peers can sway choices towards specific brands or models.
- **Training and Usability:** Surgeons look for equipment that comes with thorough training and is user-friendly. The ease of use and the learning curve associated with new technology are critical considerations.

The frequency of equipment replacement varies significantly between different types of facilities:

- **Stand-alone Centers:** These facilities tend to replace their equipment after a longer duration. For example, microscopes and phacoemulsification machines are typically replaced after 10 years, while YAG and green lasers are replaced after 2-5 years. Key factors influencing their decisions include bundling discounts and shorter lead times for maintenance.
- **Multispeciality Centers:** These centers fall somewhere in between stand-alone centers and multispeciality chains in terms of replacement frequency. Their decisions are influenced by a moderate patient footfall and usage rates.
- **Multispeciality Chains:** These facilities replace equipment more frequently due to higher patient footfall and usage rates. Their primary concerns are usage efficiency and consumer satisfaction, with an emphasis on minimizing turnaround time.

6.1 Summary

This study provides valuable insights into the decision-making processes of ophthalmologists in the region. The findings highlight that product quality, cost-effectiveness, and after-sales service are the primary factors influencing purchase decisions. A significant portion of respondents prefer advanced features and ease of use, though there is a gap in knowledge regarding the latest technological advancements.

Factors such as type of facility, experience, and specialization influence brand perception and purchase decisions. The study underscores the need for targeted education and vendor engagement initiatives to promote informed decision-making. Strategies like professional workshops, awareness campaigns, and involvement of key opinion leaders are proposed to enhance education

and awareness. There are facilities who prefer the lower turnaround time whereas few prefer patient comfort as the study suggests the stand-alone centres prefer bundling of equipment and cost advantage whereas Eye speciality chains & multi-speciality prefer patient comfort and best in class service and delivery.

The survey of 43 ophthalmologist surgeons highlights key preferences and trends in ophthalmic equipment. **Zeiss** and **Alcon** are preferred for microscopes and phacoemulsification machines due to their high product quality and strong brand image. However, both face criticism for high costs, with Zeiss also noted for poor after-sales service. **Appasamy** and **Nidek** are considered for lasers, but Appasamy struggles with brand image issues, while Nidek's limited credit terms are a concern. **Haag Streit** and **Bausch & Lomb** face challenges related to margins and after-sales service. Investment in equipment is expected to grow, with most ophthalmologists planning to maintain or increase their spending. Key purchasing factors include patient outcomes and product quality, with a strong emphasis on improving brand image and service quality being necessary for better market positioning. Bausch & Lomb and Topcon, Zies international market players struggle with after service support while the Indian players are better at after sales services and cutting lead time to enhance their sales relationship while Appasamy on the other hand has excellent edge over other in terms of after sales services and credit terms.

The study highlights Haag Streit and Iridex as the least recommended vendors, receiving lower ratings from respondents. Johnson & Johnson and Zeiss are somewhat recommended, with moderate rankings. Haag Streit and Iridex also had a significant portion of neutral feedback,. On the positive side, Appasamy and Johnson & Johnson are recommended by a fair share of respondents, while Alcon and Zeiss stand out as the most highly recommended vendors, receiving the highest praise for their performance. Lastly the satisfaction from vendor performance indicates, Zeiss and Alcon lead in customer satisfaction, with 91.7% and 71.4% of respondents satisfied with their services. Appasamy and Nidek also received positive feedback, while Johnson & Johnson, Haag Streit, Bausch & Lomb, and Topcon had moderate ratings, and none were satisfied with Iridex.

Recommendations

1. To address customer concerns and build stronger loyalty, brands like Zeiss and Haag Streit should prioritize upgrading their after-sales support systems. This could involve offering more comprehensive training for service personnel, expanding the availability of support channels, and ensuring quicker response times to service requests.
2. High-cost equipment providers such as Alcon may benefit from revising their pricing structures. Introducing tiered pricing models, offering bundled packages, or implementing flexible financing options could make these products more accessible and attractive to a broader range of customers.
3. Appasamy should focus on strengthening its brand image by investing in marketing and public relations efforts. Enhanced visibility, positive customer testimonials, and improved product quality can help shift perceptions and foster greater trust in the brand.
4. For companies like Nidek, offering more flexible credit terms could ease financial barriers for ophthalmologists. Extended payment plans or leasing options may help customers afford high-cost equipment and encourage more widespread adoption.
5. All brands should continuously invest in research and development to enhance product quality and innovation. Keeping up with technological advancements and maintaining high standards will be crucial in meeting the evolving needs of ophthalmic professionals.

7.1 Limitations

1. The study's sample size of 43 ophthalmologists may not fully capture the diverse preferences and experiences of the wider market. A larger and more diverse sample could provide a more comprehensive view.
2. The findings might be influenced by the geographic distribution of respondents. Preferences and challenges may vary significantly across different regions, potentially limiting the applicability of the results to other areas.
3. Reliance on self-reported data introduces potential for biases or inaccuracies. Respondents' views and opinions might not always reflect the objective performance of the equipment & services.

7.3 Future Prospects

Ophthalmic equipment industry is expected to see ongoing technological innovations. Advances in areas such as laser systems, imaging technologies, and diagnostic tools could shape future trends and customer preferences. As the demand for advanced ophthalmic equipment grows, there will be opportunities for companies to expand their market share by addressing existing pain points and offering improved solutions.

When patients choose a health care provider, there may now be more focus on the facility and function, juxtaposed with higher demands placed on quality, safety, and professionalism. This will be the same demand for ophthalmic surgery patients and ophthalmologists, therefore future trends may include closer partnerships between equipment manufacturers and healthcare providers. Such collaborations could lead to better alignment of products with clinical needs, improved service quality, and more effective solutions for ophthalmic practices.

CHAPTER 8

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QUESTIONNAIRE

Section – 1 : Demographic Information

1. Facility name and Address

*

Your answer

This is a required question

2. Which of this primarily describes your role? *

- (a) Ophthalmologist Surgeon
- (b) Ophthalmologist Physician

3. Which of the following best describes the primary facility at which you practice your profession? *

*

- (a) Standalone centres
- (b) Eye-care specialty chains
- (c) Multi-specialty hospital chains
- (d) NGOs/ government establishment

4. Does your organization use surgical equipment? *

*

- (a) Yes
- (b) No

5. Do you play any role in purchase decision making process? *

*

- (a) Yes
- (b) No

6. Which Equipment brands are considered by you/ your organisation?

	<i>Appasamy</i>	<i>Alcon</i>	<i>Johnson & Johnson</i>	<i>Zeiss</i>	<i>Haag Streit</i>	<i>Nidek</i>	<i>Iridex</i>	<i>Bausch & Lomb</i>	<i>Topcon</i>
<i>Microscope</i>									
<i>Phacoemulsion</i>									
<i>Green Laser</i>									
<i>Yag Laser</i>									

7. Which Equipment brands are you currently using? *

	Appasamy	Alcon	Johnson & Johnson	Zeiss	Haag Streit	Nidek	Iridex	Bausch & Lomb	Topcon
Microscope									
Phacoemulsion									
Green Laser									
Yag Laser									

8. Please rank (between 1-10) your key purchasing criteria while finalizing the brands. (where 1- least important , 10- Most important)

*

	Ranks	1	2	3	4	5	6	7	8	9	10
Patient vision outcomes: No secondary cataract/PCO complaints											
Product quality (accuracy of power (dioptr), quality of raw material, ease of use, etc.)											
Low cost/ affordability for patients											
Margins for the clinic											
Turn Around Time (TAT) for order fulfilment											
Credit days provided by vendor											
After sales service offered											
Bundling with other surgical/diagnostic equipment											
Quality of sales personnel / level of engagement											
Brand image and familiarity among patients											

9. How has your investment changed in last 12 months?

*

	30%+ higher investments in last 12 months (2022-23)	20-30% higher Investments in last 12 months (2022-23)	20-10% higher investments in last 12 months (2022-23)	0-10% higher investments in last 12 months (2022-23)	0-10% lower investments in last 12 months (2022-23)	10%+ lower investments in last 12 months (2022-23)
Microscope						
Phaco-Machine						
Yag Laser						
Green Laser						

10. Do you believe your investment in next 3 years will slow down or grow?

*

- (a) Grow
- (b) Slow

For Growth

11. 1 Why do you believe that the investments in ophthalmological equipment will grow over the next 3 years?

- (a) New clinic / centre openings will accelerate
- (b) Expansion of existing clinics / centres would grow rapidly
- (c) Covid-led purchase increase (e.g., pent-up demand) will continue to play out
- (d) Replacement of existing equipment will increase across centres

Section – 2 : Spent and Future Outlook

12. How often do you purchase a new equipment?

*

	<i>Once in a year</i>	<i>Once in 2 years</i>	<i>Once every 2-5 years</i>	<i>Once every 5-10 years</i>	<i>Once in 10+ years</i>	<i>Never bought</i>
<i>Microscope</i>						
<i>Phacoemulsion</i>						
<i>Green Laser</i>						
<i>Yag Laser</i>						

13. What have you purchased in last 3 years?

*

- (a) *Microscope*
- (b) *Phaco-machine*
- (c) *Green Laser*
- (d) *Yag Laser*

Other: _____

14. What are the plan for equipment you will be purchasing in the next 3 years ?

*

- (a) *Optimistic outlook towards higher investments in the future vs. today*
- (b) *Likely to maintain similar levels of investment in the future as today*
- (c) *Expecting to reduce investments in the future vs. today*

15. Please rate your existing vendors on scale of (1-10) on each of the key purchasing criteria

*

	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
<i>Patient vision outcomes: No secondary cataract/PCO complaints</i>										
<i>Product quality (accuracy of power (diopetre), quality of raw material, ease of use, etc.)</i>										
<i>Low cost/ affordability for patients</i>										
<i>Margins for the clinic</i>										
<i>Turn Around Time (TAT) for order fulfilment</i>										
<i>Credit days provided by vendor</i>										
<i>After sales service offered</i>										
<i>Bundling with other surgical/diagnostic equipment</i>										
<i>Quality of sales personnel / level of engagement</i>										
<i>Brand image and familiarity among patients</i>										

16. Kindly evaluate the following vendors on scale of 1-9 if you have to recommend these to others?

*

	1	2	3	4	5	6	7	8	9
<i>Appasamy</i>									
<i>Alcon</i>									
<i>Johnson & Johnson</i>									
<i>Zeiss</i>									
<i>Aurolab</i>									
<i>Caregroup</i>									
<i>Biotech</i>									
<i>Bausch & Lomb</i>									
<i>Hoya</i>									

Section-3 Factors influencing selection retention and promotion

17. What can be key drivers for Promotion of vendors mentioned below.

*

	Good patient vision outcomes, no PCO complaints or subsequent surgeries required	High product quality, g. accurate power	Good brand image and familiarity among patients	Low cost/affordable for patients	High margins for the clinic /Hospital	Low Turn Around Time (TAT)	Ease of credit with long credit period provided by vendor	Good after-sales services, easy exchange policy	Ease of bundling with other surgical equipment by same vendor	Established relationship with the Sales manager	High quality of sales personnel and personalized engagement
<i>Appasamy</i>											
<i>Alcon</i>											
<i>Johnson & John</i>											
<i>Zeiss</i>											
<i>Aurolab</i>											
<i>Caregroup</i>											
<i>Biotech</i>											
<i>Bausch & Lomb</i>											
<i>Hoya</i>											

18. What can be key drivers for detraction of vendors mentioned below.

	<i>Poor patient vision outcomes, no PCO complaints or subsequent surgeries required</i>	<i>Low product quality, e.g. accurate power (diopter), superior raw material</i>	<i>Poor brand image and familiarity among patients</i>	<i>High cost/ unaffordable for patients</i>	<i>Low margins for the clinic/hospital</i>	<i>High Turn Around Time (TAT)</i>	<i>Limited credit with long credit period provided by vendor</i>	<i>Poor after-sales services easy exchange policy for powers not used</i>	<i>Poor quality of sales personnel and personalized engagement</i>
<i>Appasamy</i>									
<i>Alcon</i>									
<i>ohnson & Johnson</i>									
<i>Zeiss</i>									
<i>Aurolab</i>									
<i>Caregroup</i>									
<i>Biotech</i>									
<i>Bausch & Lomb</i>									
<i>Hoya</i>									

19. Please Mark your top triggers for replacing or switching Equipment?

*

(a) My establishment's spend capacity / investment budget increased – hence upgraded to better product version

(b) Got the better product version at a reasonable / discounted price – was not very expensive vs. the existing model's cost

(c) Ease of usage (no neck pain, comfort while operating, etc.)

(d) Upgradation driven by need for higher accuracy and better patient outcomes through more advanced features with lower chances of error

(e) Higher throughput of upgraded models – hence allowing us to serve more patients

(f) Lower machine downtime of upgraded models with minimal effort in maintenance

(g) Presence of sufficient credit / financing options for the upgraded model

(h) Decision to upgrade strongly driven by market practices, i.e., most other clinics had updated their equipment to more premium models

20. How satisfied are you with your present vendor? Please rank them accordingly?

	1	2	3	4	5	6	7	8	9	10
<i>Appasamy</i>										
<i>Alcon</i>										
<i>Johnson & Johnson</i>										
<i>Zeiss</i>										
<i>Aurolab</i>										
<i>Caregroup</i>										
<i>Biotech</i>										
<i>Bausch & Lomb</i>										

PUBLICATION

No	Publication	Status
1	Obesity Treatment Redefined: New Drugs and Market Insights for 2026	Under review