FACTORS INFLUENCING PRICING DECISIONS OF CUSTOMERS IN MEDICAL DEVICE INDUSTRY ACROSS GEOGRAPHIES

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Dedication

This dissertation is dedicated to the unwavering support and love of my family, whose encouragement and belief in me have been my guiding light throughout this journey.

To my parents, thank you for your endless sacrifices, encouragement, and belief in my dreams. Your unwavering support has been the foundation upon which I have built my academic pursuits.

To my wife, your patience, understanding, and unwavering belief in me have been my source of strength during the challenging times of this journey. Your love has been my refuge and inspiration.

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Special thanks are due to my family for their unwavering love, understanding, and encouragement, without which this journey would not have been possible.

Lastly, I am grateful to all the participants who generously contributed their time and insights to this study.

ABSTRACT

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2024

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Pricing is one of most important yet neglected marketing fundamentals in the healthcare industry. With the help of the price optimization, many organization can improve their revenues and profitability. With home care medical device industry growing a rapid rate, it is important for the business to understand how to optimize the prices using different factors. While pricing a product, many internal factors like product cost, company vision, company's focus on the current and next financial year and objectives they are trying to achieve from a product or product category are considered while ignoring the consumer behavior aspect. The consumer behavior varies by geographies; hence the research is conducted for multiple countries and considering important consumer behavior factors to have a comparative analysis and provides the global vision to the organization.
The study uses the quantitative methods which provides insights on the importance of the various factors which are forming the decision-making process of the customers while purchasing a medical device like blood pressure monitoring system, blood sugar

detection devices and oximeter. The analysis also helps in understanding the psychological and discount behavior of the customer.

There are 23 hypotheses created for the study and are validated with the data generated for 5046 respondents. The data is analyzed using statistical measures like ANOVA and regression to understand the importance and influence of various factors and quantifying the decisions to understand the improvement in their profitability.

The findings from the study are helpful for small as well as large organization. It will also be helpful to the new entrants for the home health care industry. The results can be used to understand the impact to their business if they target different demographics and other key factors, they need to work to influence their respective consumers. The results and insights generated can be used by the business and organization in their pricing strategy, digital marketing and positioning their product.

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CHAPTER 1 : INTRODUCTION

1.1 Introduction

With the COVID-19 introduction to the human world, the lives and believes of human beings have changed forever. It has a profound impact on almost every industry, especially the healthcare industry across the globe. It has brought increase in demand on the healthcare system and new variants are launching for the benefit of mankind, almost every day (Leite et al., 2020) .

Diabetes, hypertension etc. are becoming new normal in the current scenario and people are constantly monitoring their vitals. This has turned the game for the medical device industry and there has been a rush in the products like blood sugar detection devices, blood pressure monitoring system and oximeter to name a few (Bolla and Priefer, 2020). People are spending and investing a lot more time and money on health as the importance of health is understood like never before.

Industry leaders as well as new players are introducing the products across the segments. Some companies are focusing on innovation while others on features and quality (Bitkina et al., 2020). Customers are confused with so many options being available and purchase behavior of every customer is different yet can be segmented in multiple brackets.

Pandemic is global and single pricing strategy might not work across the globe. Customer behavior, price sensitivity and investment vary by region to region and contributes to the decision-making process while purchasing a medical device.

1.2 Problem Statement

Many companies are unable to survive in the competitive market due to many reasons like lack of consumer understanding and focusing only on internal metrics such as cost to arrive at price point rather customer perceived value and single strategy for all countries (Jones and Sasser, 1995). Hence, there is a need of the hour for the companies to explore different ways to increase their profitability. Pricing, as a weapon, need to be the applied carefully in the medical device industry, which is now moving rapidly towards B2C (business to consumer) space from B2B (business to business). This needs to be coupled with consumer buying behavior attributes. Optimal and right pricing strategy can help the companies to gain more market share, build better brand image and ultimately, improve top and bottom line (Christensen and Bower, 1996).

In summary, there is a need to understand the factors for which customers are ready and motivated to buy the product and factors which can encourage them to pay the premium. The questions which will be answered by the research are as follows:

a. What is the product related factors like design, accuracy, warranty etc. consumer check while purchasing the medical devices?

b. Does special pricing strategy like psychological pricing, higher discount perceive pricing methods helps?

c. What is the role of the online reviews, ratings, and peer/doctor recommendations on the purchase behavior?

d. How the demographics of the consumers impact the pricing?

e. Does motivation and/or urgency plays an important role during a transaction?

1.3 Objectives

The objective of the research is to understand the consumer perception in detail and leveraging the same in day-to-day activity. The long-term objective is to develop the mechanism in the medical device study to calculate the prices as per the marketing, operational and business requirements.

The study has following sub-objectives:

a. To provide list of factors to be considered while advertising and communicating about the product

b. To come up with the factors to be focused on the product like packaging, accuracy, and service and warranty

c. To prepare the roadmap for the pricing strategy for different markets and geographies

d. To improve the revenue and margins of the product through price optimization

e. To develop a plan for the new products launching

f. To tap the untapped zones and influencing factors using digital marketing

With this key information, a business can work and focus on the factors which are relevant to the consumers and improve their Return on Investment (ROI) by optimizing prices and targeting the right set of customers.

1.4 Introduction to Medical Devices

Medical devices play a crucial role in the diagnosis, treatment, and management of various medical conditions and diseases. From simple diagnostic tools to complex, high-tech devices, medical devices have a profound impact on the healthcare industry and the lives of patients. It is considered as is one of the most impactful industries for the human life. For patients, medical device can provide accurate diagnosis, effective treatment, and improved quality of life (Wyss, 2019) while healthcare providers benefit from improved patient outcomes and increased efficiency in the patient care. There is decline in mortal fatalities by more than 17% in United States (Wike, 2014), implying the impact the medical devices and technology can create and can add the life expectancy by over 5 years (Health, United States, 2014: with special feature on adults aged 55–64, 2015).

The use of medical devices has a significant impact on the healthcare system around the world, offering many benefits to the patients and the healthcare providers alike. The use of medical devices has a significant impact on the healthcare system around the world, offering many benefits to patients and healthcare providers alike.

The development, manufacturing, and distribution of medical devices is complex process that involves many different stages including research and development, clinical trials, regulatory approval, manufacturing, and distribution. This process is closely regulated by the Regional, National, and International Agencies such as US Food and Drug Administration (US FDA), The European Medicines agencies (EMA) and we have various agencies in Asia Pacific market a country level like for India, Japan, and

Australia. These regulatory agencies ensure that medical devices are safe, effective and are of high quality.

As per section 201(h) of the Federal Food, Drug, and Cosmetic Act in US FDA, medical devices have been defined as nothing but the instrument or the apparatus, machines, implants, or similar articles which are intended for the use of diagnosis, treatment or prevention of disease or any other medical condition. They come in a wide range of forms and designs and serve various purposes, such as monitoring vital signs, delivering medication, and assisting with surgical procedures.

The use of medical devices can be traced back to ancient times when primitive tools and techniques were used for surgical and diagnostic purposes. However, with the advancement of technology, medical devices have evolved significantly, becoming more sophisticated, efficient, and effective (Xue et al., 2008). Today, medical devices play a crucial role in modern healthcare and are an essential component of modern medical practice.

Medical devices are classified into various categories based on their intended use, design, and level of invasiveness. The three main categories of medical devices are Class I, Class II, and Class III. Class I medical devices are low-risk devices, such as tongue depressors and elastic bandages, and are subject to general controls. Class II medical devices, such as powered wheelchairs and blood glucose monitors, are considered moderate-risk devices and are subject to special controls. Class III medical devices, such as implantable pacemakers and artificial heart valves, are high-risk devices that are subject to the most stringent regulations.

The manufacturing of medical devices is a highly specialized field that requires advanced knowledge and skills. Medical device manufacturers must meet stringent quality and safety standards, as well as comply with regulatory requirements, to bring their products to market. They must also ensure that their devices are reliable, effective, and user-friendly, and that they meet the needs of both healthcare providers and patients.

1.5 Market Size

The global medical device market is a rapidly growing industry that is constantly evolving with the advancement of technology and innovation. Medical devices are essential in modern healthcare, and the global medical device market size has been increasing steadily in recent years.

The global medical device market size is USD 512.29 billion in 2022. The market size is expected to grow at a compound annual growth rate (CAGR) of 5.9% from 2023 to 2030. The market size is estimated to reach USD 800 billion by the end of year 2030 (Fortune business insights, 2023).

The increasing demand for medical devices is due to the growing geriatric population, the rising prevalence of chronic diseases, and the technological advancement in healthcare also contributes to driving the growth of the market (Medical Devices Market Share, Growth, Trends: Forecast [2030], 2023) .

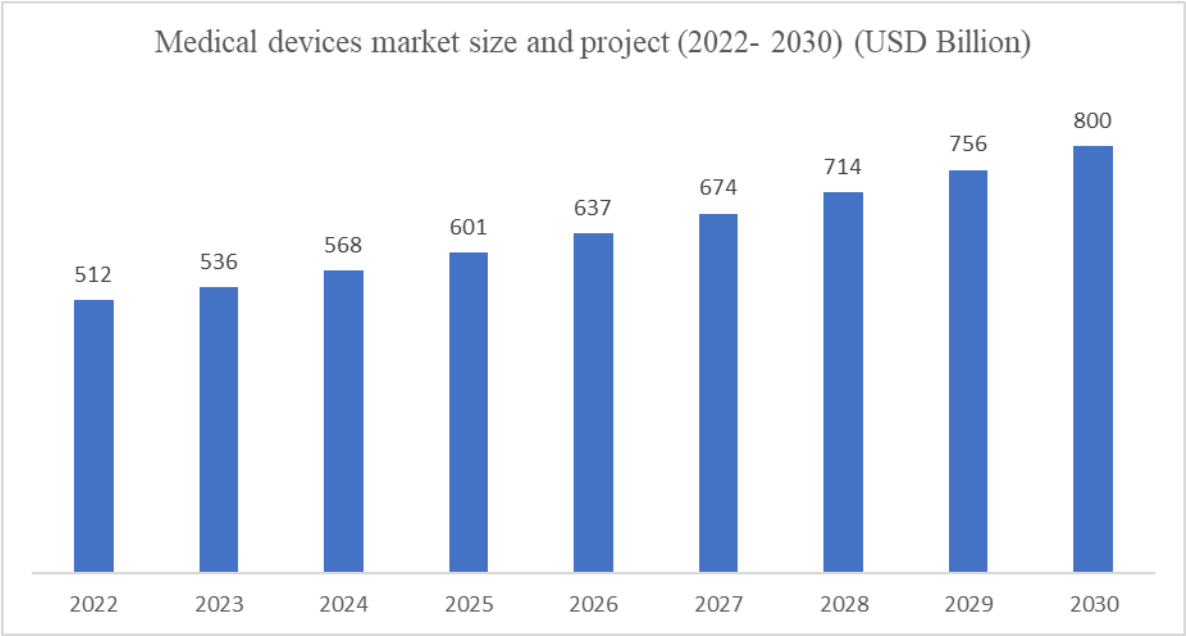


Figure 1 Medical devices market size and project (2022- 2030)

The market includes various types of medical devices such as surgical instruments, diagnostic devices, implantable devices, and others. The surgical instruments segment dominated the market in 2020, accounting for the largest share of the global medical device market. Surgical instruments include tools such as scalpels, forceps, and scissors that are used during surgical procedures.

The diagnostic devices segment is expected to grow at a significant rate over the forecast period. Diagnostic devices are used to diagnose diseases or medical conditions, and they include tools such as X-ray machines, CT scanners, and MRI machines. The rising prevalence of chronic diseases such as cancer, cardiovascular diseases, and diabetes is driving the demand for diagnostic devices.

The implantable devices segment is also expected to grow at a significant rate over the forecast period. Implantable devices are medical devices that are surgically implanted

into the body to replace or support damaged organs or tissues. Examples of implantable devices include pacemakers, defibrillators, and artificial joints.

1.6 Regional Analysis

North America and Europe are the major markets for medical devices, followed by the Asia Pacific region. The North American market is driven by the high prevalence of chronic diseases, the well-established healthcare infrastructure, and the presence of key market players in the region. The European market is driven by the increasing geriatric population, the rising prevalence of chronic diseases, and the presence of key market players in the region.

The Asia Pacific region is expected to grow at the highest CAGR over the forecast period. The increasing demand for medical devices in the region is driven by the rising healthcare expenditure, the growing geriatric population, and the increasing prevalence of chronic diseases. The Asia Pacific region also offers significant growth opportunities for market players due to the large population and the increasing awareness about healthcare (Status of the Global Medical Device Market, 2021). Below is the market share split by regions:

Table 1 Total medical device market share by regions

Regions	Market Share in USD Million						% of total	CAGR
	2014	2015	2016	2017	2018	2019		
Americas	153870	159182	166309	175760	186195	194665	48.1	4.8
Asia (including Australia)	64001	63059	68480	72813	80157	85306	21.1	5.9
Eastern Europe	16812	13754	13976	15004	15907	16358	4	-0.5
Middle East and Africa	9297	9017	8321	8923	9759	10345	2.6	2.2
Western Europe	89633	81407	84242	88449	95888	97812	24.2	1.8

1.7 Key Players

The global medical device market is highly competitive, with a large number of players operating in the market. Some of the key players in the market include Johnson & Johnson, Medtronic plc, General Electric Company, Siemens AG, Baxter International Inc., Becton, Dickinson and Company, Stryker Corporation, Philips Healthcare, Boston Scientific Corporation, and Abbott Laboratories.

These players are focused on product innovation, mergers and acquisitions, and partnerships and collaborations to maintain their market position and expand their product portfolio. For an instance, in February 2021, Medtronic plc acquired privately

held Medicrea International, a pioneer in the field of artificial intelligence, predictive modeling, and patient-specific implants. This acquisition is expected to enhance Medtronic's position in the spinal surgery market (Medtronic Completes Acquisition of Medicrea, 2020).

1.8 Home Health Care Industry

Home health care devices are a vital component of modern medical care, allowing patients to receive treatment and support in the comfort of their own homes. These devices can range from simple and straightforward, such as blood pressure monitors, to more complex and sophisticated, such as oxygen concentrators and ventilators. The use of these devices can provide significant benefits to both patients and healthcare providers, including improved outcomes, reduced costs, and increased convenience and independence.

There are also several other home health care devices that can be used to manage various medical conditions. For example, glucose monitors are used to track blood sugar levels in patients with diabetes, while pulse oximeters are used to monitor oxygen saturation levels in patients with respiratory problems. Other devices, such as nebulizers, can be used to deliver medication directly to the lungs, and mobility aids, such as walkers and wheelchairs, can help patients with mobility difficulties.

One of the key benefits of home health care devices is their ability to improve patient outcomes. By allowing patients to receive treatment and support in their own homes, these devices can help to reduce hospital stays, improve recovery times, and reduce the risk of complications and infections. Additionally, home health care devices can provide

patients with greater independence, allowing them to live more fulfilling lives, even with chronic medical conditions.

Another benefit of home health care devices is cost savings. By reducing the need for hospital stays and other inpatient care, these devices can help to reduce healthcare costs for both patients and healthcare providers. Furthermore, home health care devices can also reduce the need for frequent visits to healthcare providers, helping to save time and resources for both patients and healthcare providers.

Finally, home health care devices can provide greater convenience and accessibility for patients. Rather than having to travel to healthcare providers for treatment, patients can receive care and support in the comfort of their own homes. This can be especially beneficial for patients with mobility difficulties or those living in remote or rural areas.

Overall, home health care devices play a vital role in modern medical care, providing significant benefits to patients and healthcare providers. From blood pressure monitors and oxygen concentrators to ventilators and glucose monitors, these devices can help to improve patient outcomes, reduce costs, and increase convenience and independence. Whether used to manage chronic conditions or provide life-saving support, home health care devices are an essential component of modern healthcare.

1.9 Research background and scope

The medical and healthcare industry is too big and have numerous products in the portfolio. For the research purpose, the scope of the research is limited to home health care medical devices like blood sugar level detection devices (popularly known as

glucometer), blood pressure measuring devices, oxygen level indicator in the blood (oximeter), thermometers and similar products. The home health care market size is increasing at a rapid rate and expected to grow at 9% CAGR worldwide from 2023 to 2028 (Home Healthcare Market Size, Share, Trends and Revenue Forecast, 2024).
The countries are selected on the basis of the

a. Market size of the healthcare products
b. Growth rate
c. Ease of getting the data

The countries considered are divided into 4 major groups :

a. United States of America (USA)
b. India
c. Developed European market (Germany)
d. Australia

1.10 Assumptions and Limitations

The study conducted for the research is intense and exhaustive in nature, but it has certain limitations and assumptions. The research does not cover all the countries in the world, but limited countries which has the major proportion of the market size and strong outlook. It is possible that the countries which are not considered in the research may have entirely different consumer behavior and buying decision making process as compared to the neighboring nation or nation with similar culture and ideology.
The number of products in the home health care industry are in thousands and almost every day, new product is entering into the market. For the research purpose, the scope of

the research is limited to home health care medical devices like blood sugar level detection devices (popularly known as glucometer), blood pressure measuring devices, oxygen level indicator in the blood (oximeter), thermometers and similar products which are available across the globe.

Price variations exists across the geography due to regional, cultural, and other factors. Since the research is based on survey mechanism, it is possible that all the cultures, subcultures and linguistic people are not considered or not considered proportionately. It is assumed that the respondents understand the English language, as the primary research is in English. And they have appropriate understand of the medical devices and willingness to share the price points.

CHAPTER 2 : LITERATURE REVIEW

2.1 Overview

A literature review is a critical component of any thesis or research project. Shah (2012) positively argues that sophisticated and thorough literature review is pre-mandate condition for any good research. It is a comprehensive review of existing literature on a specific topic, which is used to identify gaps, inconsistencies, and areas for further research (Boote and Beile, 2005). A literature review provides a theoretical framework for the research, helps to define the research questions, and establishes the research methodology. Rother (2007) mentioned that by conducting a thorough literature review, researchers can ensure that their research is relevant, up-to-date, and contributes to the existing body of knowledge in the field . As a result of extensive literature review, one can establish clear and precise problems and gaps in the existing world and studies. Literature review suggests that previous and existing studies are primarily focused on the medical devices' innovation and how quality and brand image can help in increasing the customer purchase intent (Lee et al., 2011). Studies have shown that socio-demographics and health factors play a very important role in impacting the use of the medical devices and health goods (Cheah, 2014).

Many companies are deriving promoting the final price to the customer mainly using internal metrics i.e., cost, and there is a need to arrive at the factors which can influencing the pricing decision of the customers while buying the product. Dimara and Skuras (2003) and Bucciol et al. (2020) have shown the geography or location of residence plays

a critical role in the way the medical devices are used, and ultimately is a factor to be considered while pricing the products right.

2.2 Defining Price

Pricing is defined in the dissertation as the price at which consumers are willing to buy the product or company is selling the product. There is a concept called MRP or maximum retail price, prevalent in many countries. It means the highest price the company can charge from its consumers. Since there can be a discount, the prices can vary from customer to customer depending upon number of units (Charnes et al., 1978) they are purchasing, promotions, festival / seasonal behavior (Felsenstein and Fleischer, 2003), emotions (Han et al., 2007) and/or many other reasons and factors. The final price paid by the customers is the number considered for entire analysis and representation. This price is often referred as ASP (Average Selling Price) or Net Price.

2.3 Importance of Pricing

Product pricing is a critical aspect of any business strategy. Pricing decisions impact a business's revenue, profitability, and ability to compete in the market. Consumer decisions are heavily influenced by price, as it is often a critical factor in determining the value of a product. Businesses must carefully consider their pricing strategies to maximize their revenue and appeal to their target market. By understanding the importance of product pricing and its impact on consumer decision-making, businesses can make effective strategies to improve their revenue, margins and market shares and thus improving the health of the business. Udell (1964) explains that the consumer is most important parameters to be considered, apart from the product, in the determining the strategy of the company and its future. Hence, it is important to understand how

consumer is thinking and the prices they are ready to invest in any particular product. Directly and indirectly, prices become an essential point for any business growth. This thought is also well supported by Piercy et al. (2010) and mentions the increase or decreasing price is a strategic decision and therefore, requires high research.

Product pricing is important for several reasons. First and foremost, pricing decisions directly impact a business's revenue and profitability. Lijesen (2007) shows that if a product is priced too high, it may deter potential customers from purchasing the product, resulting in lower sales and revenue. Conversely, if a product is priced too low, the business may not be able to cover its costs, resulting in lower profitability. This concept is called price elasticity, though exceptions do exist.

Pricing also plays a crucial role in a business's ability to compete in the market. In a crowded market, businesses must differentiate their products and services from their competitors (Grossman and Stiglitz, 1976). One way to differentiate is through pricing strategies. For example, a business may choose to offer a premium product at a higher price point to appeal to customers looking for high-quality products (Erdem et al., 2002). Alternatively, a business may offer a lower-priced product to appeal to price-sensitive customers (Han et al., 2007).

Finally, pricing can impact a business's brand image and reputation (Novansa and Ali, 2017). Customers may associate a higher price point with better quality, while lower prices may suggest a lower quality product. This perception can impact a business's brand image and reputation, making it important for businesses to carefully consider their pricing strategies.

Pricing is the most neglected parameter in the marketing and sales world, and it is not managed properly to gain market share and customer trust. Cost-based pricing or following only one strategy won't lead to generate the full potential impact (Shipley and Jobber, 2001). It is evident from the past studies that price play an important part in influencing the customer decision while buying the medical device product (Akano et al., 2021).

2.4 Consumer Decisions and Price

Consumer decisions are heavily influenced by price. Consumers have a limited budget and must make decisions about which products to purchase based on their perceived value for the price. In this section, we will explore how price impacts consumer decision-making.

2.4.1 Perceived value

Perceived value is a critical factor in consumer decision-making. Perceived value refers to the perceived benefits of a product or service relative to its price (Sánchez-Fernández and Iniesta-Bonillo, 2007). Consumers are more likely to purchase a product if they perceive it to have a higher value for the price. For example, a customer may be willing to pay a higher price for a product that is of higher quality or has additional features (Ryu et al., 2012). Customers are ready to pay a base price i.e., minimum price for the product catering to the primary needs of the customers. The incremental prices are added by the customers once they feel that the additional features or any other associated factors have higher notional or perceived value than the incremental amount they are adding. This is one of the most important parameters marketers used to generating additional revenue (Li and Green, 2011).

2.4.2 Brand Perception

Price can also impact a customer's perception of a brand (Sharma et al., 2020). A higher price point may lead customers to perceive a brand as more prestigious or of higher quality. This perception can be important for businesses looking to differentiate themselves in a crowded market. Alternatively, a lower price point may suggest a lower quality product or bargain deal (Rani, 2014). This perception can be important for businesses looking to appeal to price-sensitive customers.

2.4.3 Competition

Price can also impact a customer's decision to purchase a product in a competitive market (Lichtenstein et al., 1993). Customers may compare the prices of different products when making purchasing decisions. A business may choose to offer a lower-priced product to appeal to price-sensitive customers or a premium product at a higher price point to differentiate themselves from their competitors (Oh, 2000).

2.4.4 Psychological Pricing

Psychological pricing is a pricing strategy that leverages the psychological impact of price on consumer decision-making. For example, businesses may choose to price products at $9.99 instead of $10.00 (El Sehity et al., 2005). This strategy is based on the belief that customers are more likely to purchase a product when the price is below a whole number. Psychological pricing can also be used to create a perception of value (Larson, 2014). For example, a business may offer a discount on a product to create a perception of value for the customer.

Overall, pricing is an important parameter which needs to be optimized for various reasons as mentioned and can become a game changer decision for the organization.

Nelson, 1970 states that the price can be influenced by various parameters and there is a positive relationship between price and consumer buying behavior pattern.

2.5 Demographics factors & its influence on the consumer buying behavior pattern.

Girard et al. (2003) highlights the importance of the demographics in the buying experience of the customers. It suggests that the demographics factors play an important role in shaping consumer decisions. Demographic factors can include many determinants such as age, gender, income, education, and ethnicity and they are individually and or in combination can have a significant impact on consumer decisions (Vermeir and Verbeke, 2006). Understanding the demographic profile of consumers can help businesses to develop marketing strategies and products that are tailored to their specific needs and preferences. Moreover, demographic factors can also help businesses to identify new market opportunities and expand their customer base. By recognizing the impact of demographics on consumer behavior, businesses can make informed decisions and remain competitive in the market (Assael, 2005)

2.5.1 Age

Wood (2004) shows the importance of age as one of the factors which can influence the decision while purchasing the products. It shows that the age is one of the most significant demographic factors that can impact consumer decisions. Different age groups have different needs, preferences, and values, which can influence their buying behavior. For example, younger consumers are more likely to be interested in technology and fashion, while older consumers are more likely to be interested in health and wellness products (Green, 2017). Moreover, the purchasing power of different age groups varies,

with younger consumers being more price-sensitive than older consumers (van Dijk et al., 2008).

2.5.2 Gender

Coley and Burgess (2003) explains how the male and female think different while purchasing the product and emphasis on the fact the purchase is mostly driven by impulse. This makes gender as another demographic, and important, factor that can impact consumer decisions. Bakshi (2012) explains the behavioral and attitude paradigms of the two genders and shows the difference in mindset while purchasing the products. Men and women have different buying behavior, preferences, and values. For example, men are more likely to be interested in sports, gadgets, and cars, while women are more likely to be interested in beauty, fashion, and home decor products. Moreover, gender roles and stereotypes can also influence buying behavior. For example, women are often responsible for purchasing household items, while men are responsible for purchasing cars and electronics.

2.5.3 Income

Gajjar (2013) highlights the income as a factor which is extremely important to be considered for the analysis in the consumer behavior for product purchasing. Both individual and family income are a significant demographic factor that can impact consumer decisions. Consumers with higher income levels have greater purchasing power and are more likely to make luxury purchases. On the other hand, consumers with lower income levels are more price-sensitive and are more likely to prioritize necessities over luxuries. Moreover, income levels can also influence the choice of brands and

retailers, with higher-income consumers being more likely to shop at upscale stores and luxury brands (Wang et al., 2000).

2.5.4 Education

Solomon et al. (2012) explains the importance of education and awareness and how it can impact the consumer behavior decision making process. This makes education another demographic factor that can impact consumer decisions. Consumers with higher levels of education are more likely to be aware of different product options, features, and benefits. Moreover, they are more likely to research and evaluate different products before making a purchase decision. On the other hand, consumers with lower levels of education may rely on advertising and word-of-mouth recommendations for making purchase decisions (Zsóka et al., 2013).

2.5.5 Ethnicity

Consumer behavior is directly proportional to the judgement of the individual (Shoham et al., 2017). With domestic attributes part of the cultures and products, the willingness to purchase the product impact directly the local people and/or group of individuals or ethnic group. Faber et al. (1987) shows that ethnicity is a demographic factor that can impact consumer decisions and needs to be considered for the analysis. Different ethnic groups have different values, beliefs, and cultural norms, which can in fluence their buying behavior. For an instance, Asian consumers are more likely to prioritize quality and value for money, while Hispanic consumers are more likely to prioritize family and community. Moreover, ethnic groups may have specific preferences for certain types of products, such as food and beverages (Kim and Kang, 2001).

2.5.6 Socio-Cultural

Nayeem (2012) examines the Socio-cultural factors which can have a significant impact on consumer behavior. Culture, social class, reference groups, family, and religion are just a few examples of the socio-cultural factors that can influence consumer decisions. Understanding these factors can help businesses to develop marketing strategies and products that are tailored to the specific needs and preferences of different consumer segments (Lai, 1995). By recognizing the impact of socio-cultural factors on consumer behavior, businesses can make informed decisions and remain competitive in the market.

2.5.7 Culture

Durmaz et al. (2011) shows the belief of the individual, their traditions, and the customs they follows are integral part of the decision making. Combining these variables makes culture as one of the most significant socio-cultural factors that can impact consumer decisions. Culture refers to the shared beliefs, values, and practices of a group or society. Different cultures have different norms, customs, and traditions, which can influence consumer behavior (De Mooij and Hofstede, 2011). For example, in some cultures, it may be considered rude to negotiate prices, while in others, it may be expected. Moreover, cultural differences can also impact the choice of products and brands, with consumers preferring products and brands that align with their cultural values and beliefs (Kim et al., 2002).

2.5.8 Social Class

Jisana (2014) explains the social class as an arrangement which is hierarchical in nature and signifies societal class or gentry. Mihić and Čulina (2006) highlights that

different social class have different buying patterns and purchase behavior. This makes social class as another socio-cultural factor that can impact consumer decisions. Social class refers to the hierarchical ranking of individuals based on their social and economic status. Consumers from different social classes have different needs, values, and preferences, which can influence their buying behavior. For example, consumers from higher social classes may be more interested in luxury and status products, while consumers from lower social classes may be more price-sensitive and prioritize basic necessities (Eastman et al., 1999).

2.5.9 Reference Groups

Reference groups are another socio-cultural factor that can impact consumer decisions. Reference groups refer to the individuals or groups that consumers look up to and aspire to emulate. These groups can include family members, friends, celebrities, and social media influencers (Bearden and Etzel, 1982). Reference groups can influence consumer behavior by shaping attitudes, beliefs, and preferences. For example, if a celebrity endorses a product, it may influence the purchasing decisions of their fans and followers (White and Dahl, 2006).

2.5.10 Family

Family is another socio-cultural factor that can impact consumer decisions. Family members can influence consumer behavior by providing advice, recommendations, and financial support. Moreover, family members can also influence the choice of products and brands, with children often influencing the purchasing decisions of their parents (Darley et al., 2010). For example, if a child expresses interest in a particular toy or game, their parents may be more likely to purchase it for them.

2.5.11 Religion

Different religion may have different ideology results in different upbringing of the people. Hence it becomes an important socio-cultural factor which can impact consumer decision making process. Religion can influence consumer behavior by shaping values, beliefs, and practices. For example, some religions may prohibit the consumption of certain types of food or alcohol, which can impact the choice of products and brands (Bailey and Sood, 1993). Moreover, religious holidays and celebrations can also influence consumer behavior, with consumers purchasing gifts, decorations, and food items to celebrate these occasions (Al-Hyari et al., 2012).

2.6 Importance of Health and awareness

Product awareness and health awareness are two key factors that can significantly impact consumer decisions (Rana and Paul, 2017). By understanding the importance of these factors and their impact on consumer behavior, businesses can develop effective marketing strategies and engage with consumers in meaningful ways. By prioritizing product quality and safety and emphasizing the health benefits of their products, businesses can appeal to health-conscious consumers and build long-term brand loyalty (Mancini et al., 2017).

2.6.1 Product Awareness

Product awareness is the degree to which consumers are aware of a particular product or service (Collins, 2007). The level of product awareness can impact consumer decisions in numerous ways, including:

a. Perception of Value: Consumers who are aware of a product or service are more likely to perceive its value and benefits, which can influence their decision to purchase (Lin and Huang, 2012).

b. Comparison Shopping: Consumers who are aware of multiple products or services in the same category are more likely to engage in comparison shopping, which can impact their purchasing decisions (Moschis and Churchill Jr, 1979).

c. Brand Loyalty: Consumers who are aware of a particular brand or product may be more likely to develop brand loyalty, which can impact their purchasing decisions in the long-term (Chi et al., 2009).

d. Word-of-Mouth: Consumers who are aware of a product or service may be more likely to share their experiences with others, which can impact the purchasing decisions of their friends and family (Reza Jalilvand and Samiei, 2012).

e. Repeat Purchases: Consumers who are aware of a product or service may be more likely to make repeat purchases, which can impact the long-term success of a product or brand (Hoyer, 1984).

2.6.2 Importance of Health

Health awareness is another key factor that can impact consumer decisions, particularly when it comes to food, pharmaceuticals, and other health-related products (Tudoran et al., 2009). The level of health awareness can impact consumer decisions in a number of ways, including:

a. Perceived Benefits: Consumers who are health-conscious are more likely to perceive the benefits of health-related products or services, which can influence their purchasing decisions (Magnusson et al., 2003).

b. Safety and Quality: Consumers who are health-conscious are more likely to prioritize safety and quality when making purchasing decisions, particularly when it comes to health related decision (Roman et al., 2013)

c. Trust and Reputation: Consumers who are health-conscious are more likely to trust and value brands or products that have a strong reputation for safety and health benefits (Wang et al., 2019).

d. Price Sensitivity: Consumers who are health-conscious may be more price-sensitive when it comes to health-related products or services, particularly if they perceive the product or service to be essential to their health (Hsu et al., 2017).

e. Compliance: Consumers who are health-conscious may be more likely to comply with recommended health behaviors or treatment plans, which can impact their long-term health outcomes (Bowman et al., 2004).

2.6.3 Impact on Consumer Behavior

Product awareness and health awareness can impact consumer behavior in a number of ways, including:

a. Information-Seeking: Consumers who are aware of a product or service may seek out additional information to inform their purchasing decisions, such as reviews, recommendations, or product information.

b. Decision-Making: Consumers who are aware of multiple products or services may engage in comparison shopping or weigh the benefits and drawbacks of each option before making a decision.
c. Brand Loyalty: Consumers who are aware of a particular brand or product may be more likely to develop brand loyalty and repeat purchases over time.
d. Value Perception: Consumers who are aware of a product or service may perceive its value differently based on their level of product awareness and health awareness.
e. Word-of-Mouth: Consumers who are aware of a product or service may share their experiences with others, which can impact the purchasing decisions of their friends and family.

2.7 Psychological Factors

Consumer behavior is a complex process influenced by various factors, including psychological factors (Yuen et al., 2020). Di Crosta et al. (2021) highlights and explains the importance of psychological factors and define it as the internal factors that may influence a consumer's decision-making process. Perception, motivation, learning, attitudes, personality, emotions, and memory are just a few examples of the psychological factors that can influence consumer behavior (Vainikka, 2015). Understanding these factors can help businesses to develop marketing strategies and products that appeal to the specific needs and preferences of different consumer segments. By recognizing the impact of psychological factors on consumer behavior,

businesses can make informed decisions and remain competitive in the market (Nugroho and Irena, 2017)

2.7.1 Perception

Perception refers to the way consumers interpret and organize sensory information. The way consumers perceive a product or service can have a significant impact on their decision-making process (Bloch and Richins, 1983). For example, consumers may perceive a product to be of high quality based on its packaging or brand name, even if they have not used the product before (Ueltschy et al., 2004).

2.7.2 Motivation

Motivation refers to the internal drive that stimulates consumers to take action. Motivation can be influenced by a variety of factors, including personal goals, needs, and desires (Veronika, 2013). For example, consumers may be motivated to purchase a product that meets their basic needs, such as food or shelter. On the other hand, consumers may be motivated to purchase a product that satisfies their social or self-esteem needs, such as luxury goods or designer clothing (Hausman, 2000).

2.7.3 Learning

Hoyer et al. (2012) explains importance of consumer memory and how it can deeply impact the buying process. Learning refers to the process by which consumers acquire knowledge, skills, and attitudes. Learning can be influenced by a variety of factors, including experience, education, and exposure to advertising (Solomon et al., 2014). For example, consumers may learn about a product through advertising or word-of-mouth recommendations. As they gain more knowledge about the product, their

perception of the product may change, leading to a decision to purchase or not purchase the product (Mason and Bequette, 1998).

2.7.4 Attitudes

Attitudes refer to the beliefs and evaluations consumers hold about a product or service. Attitudes can be influenced by a variety of factors, including personal values, past experiences, and exposure to advertising (Shavitt, 1989). For example, consumers may hold positive attitudes towards a particular brand based on their past experiences with the brand or the advertising campaigns they have seen (Asiegbu et al., 2012).

2.7.5 Personality

Personality refers to the unique set of traits and characteristics that define an individual's behavior. Personality can influence consumer behavior by shaping attitudes and preferences. For example, consumers with a high level of openness to experience may be more likely to try new products, while consumers with a high level of neuroticism may be more risk-averse and less likely to try new products (Kassarjian, 1971).

2.7.6 Emotions

Emotions refer to the feelings and moods that consumers experience. Emotions can have a significant impact on consumer behavior by influencing the decision-making process (Soodan and Pandey, 2016). For example, consumers may be more likely to purchase a product when they are in a positive mood or experiencing positive emotions. On the other hand, negative emotions may lead consumers to avoid certain products or brands (Achar et al., 2016).

2.7.7 Memory

Memory refers to the ability of consumers to retain and recall information about products or services. Memory can influence consumer behavior by shaping attitudes and preferences(Puccinelli et al., 2009). For example, consumers may have positive memories of a particular brand based on past experiences, leading them to have a positive attitude towards the brand and a preference for the brand over competitors (Shapiro and Krishnan, 1999).

2.8 Economical

Economic factors play a significant role in consumer decision-making. Disposable income, unemployment, inflation, interest rates, economic growth, and global economic factors are just a few examples of the economic factors that can influence consumer behavior (Ramya and Ali, 2016). Understanding these factors can help businesses to develop marketing strategies and products that appeal to the specific needs and preferences of different consumer segments (Voinea and Filip, 2011). By recognizing the impact of economic factors on consumer behavior, businesses can make informed decisions and remain competitive in the market.

2.8.1 Disposable Income

Disposable income is the amount of money consumers have available to spend after paying for essential expenses such as rent, bills, and groceries (Carriker et al., 1993). Disposable income is an important economic factor that can impact consumer decisions. Consumers with higher disposable incomes may be more likely to purchase luxury goods and services, while those with lower disposable incomes may prioritize affordability and value (Horáková, 2015).

2.8.2 Unemployment

Unemployment is another important economic factor that can impact consumer decisions (Weitzman, 1982). High levels of unemployment can lead to decreased consumer confidence and reduced spending, as consumers may be more cautious about their finances and less likely to make discretionary purchases. On the other hand, low levels of unemployment can lead to increased consumer confidence and higher levels of spending (Kaplan and Menzio, 2016).

2.8.3 Inflation

Inflation refers to the rate at which prices for goods and services are increasing over time. Inflation is an important economic factor that can impact consumer decisions (Eggoh and Khan, 2014). High levels of inflation can lead to decreased consumer confidence and reduced spending, as consumers may be more cautious about their finances and less likely to make discretionary purchases. On the other hand, low levels of inflation can lead to increased consumer confidence and higher levels of spending (Kelley and Scheewe, 1975).

2.8.4 Interest Rates

Interest rates are the cost of borrowing money (Sarel, 1996). High interest rates can lead to decreased consumer spending, as consumers may be less likely to take out loans or use credit cards to make purchases. On the other hand, low interest rates can lead to increased consumer spending, as consumers may be more likely to take advantage of credit offers and other financing options (Haghshenas et al., 2013).

2.8.5 Economic Growth

Economic growth refers to the overall increase in the production and consumption of goods and services in an economy (Çalışkan, 2015). Economic growth is an important economic factor that can impact consumer decisions (Mainieri et al., 1997). High levels of economic growth can lead to increased consumer confidence and higher levels of spending, as consumers may feel more secure about their finances and more willing to make discretionary purchases. On the other hand, low levels of economic growth can lead to decreased consumer confidence and reduced spending (Shende, 2014).

2.8.6 Global Economic Factors

Global economic factors can also impact consumer decisions. Changes in global trade policies, currency exchange rates, and economic conditions in other countries can have ripple effects on the overall economy and consumer behavior. For example, a decrease in the value of a country's currency can lead to increased demand for exports and decreased demand for imports, which can impact consumer purchasing decisions (Planing, 2015).

2.9 Peer Influence

Peer recommendations and social media have become important factors in shaping consumer behavior. Peer recommendations are based on trust, convenience, and personalization, and are a powerful influence on consumer decision-making (Niu, 2013). Social media platforms have provided consumers with access to influencers, reviews, and user-generated content, and have become an important source of information and advice for consumers (Suki and Suki, 2019). By understanding the impact of peer

recommendations and social media on consumer behavior, businesses can develop effective marketing strategies and engage with consumers in meaningful ways.

2.9.1 Peer Recommendations

Peer recommendations refer to the advice or opinions of friends, family, or other acquaintances. Peer recommendations can be a powerful influence on consumer behavior, as consumers are often more likely to trust the opinions of people they know and respect (Gillani, 2012).

2.9.2 Trust

One of the key reasons why peer recommendations are so influential is that they are based on trust. Consumers trust the opinions and experiences of their peers and are more likely to follow their recommendations than those of strangers or businesses. This trust is often built on personal relationships and shared experiences, which can lead to a strong sense of loyalty and advocacy among consumers (Ozdemir et al., 2020).

2.9.3 Convenience

Peer recommendations are also convenient for consumers. They provide a quick and easy way to gather information and make decisions, without the need for extensive research or comparisons. Consumers can often rely on the advice of their peers to quickly narrow down their options and make a confident decision (Yale and Venkatesh, 1986).

2.9.4 Personalization

Peer recommendations are also personalized to the needs and preferences of individual consumers. Unlike generic marketing messages or advertisements, peer recommendations are tailored to the specific tastes and interests of the consumer. This personalized approach can make the recommendation more appealing and relevant to the

consumer, increasing the likelihood that they will make a purchase (Xia and Bechwati, 2008).

2.9.5 Social Media

Social media has become an important platform for peer recommendations and a significant influence on consumer behavior. Social media platforms like Facebook, Twitter, and Instagram allow consumers to connect with their friends and peers, share experiences, and gather information about products and services (Nolcheska, 2017).

2.9.6 Influencers

Social media influencers are individuals who have built large followings on social media platforms, and who have the ability to influence the opinions and purchasing decisions of their followers (Wang et al., 2012). Influencers often promote products or services to their followers and can have a significant impact on consumer behavior. Influencers are often perceived as trustworthy and relatable, and can be an effective way for businesses to reach a targeted audience (Sheth and Kim, 2017).

2.9.7 Reviews

Social media platforms also provide consumers with access to user reviews and ratings of products and services. These reviews can be a powerful influence on consumer behavior, as they provide firsthand accounts of the quality and value of a product or service (Darley et al., 2010). Consumers often rely on reviews to make informed decisions and to avoid products or services that have received negative feedback (Lee and Jin Ma, 2012).

2.9.8 User-Generated Content

Social media platforms also allow consumers to create and share their own content, such as photos, videos, and posts. This user-generated content can be an effective way for businesses to engage with consumers and to build brand awareness (Bahtar and Muda, 2016). Consumers often share their experiences with products and services on social media, providing valuable insights and feedback for businesses (Hazari et al., 2017).

2.9.9 Motivation, urgency, and Recommendation

Time to finalize the decision is crucial thing which goes around the mind of the consumer while finalizing the product. This creates the concept of the value of urgency and price variations (Bento et al., 2014). Whether the medical devices are required on an immediate basis, or they are purchased as a precautionary mechanism can also determine the way the purchase process is completed. With internet being part of life, products are thoroughly reviewed online, and peer and doctor are consulted while purchasing medical devices (Chatterji et al., 2008)

2.10 Brand Value Perception and product features

Brand name plays an important role in the buying decision process since medical devices are considered as paramount product (Pauly and Burns, 2008). History of the companies is also taken into consideration by the people before finalizing the health-related products. Revolutionary and innovative products along with the product image are also part of the thinking process of the consumers (Widyastuti and Said, 2017). It is thus imperative for the organization to be careful with the brand values and marketing communication presented to the public. With country sentiments playing an important

role and government focusing on the manufacturing of products in their backyard, country of origin is a key attribute to be focused while finalizing any product prices. (Amine et al., 2005)

Brand value and features are two important factors that can impact consumer decisions. Brand value can provide reassurance and confidence in the quality and reliability of a product or service, while features can provide information about the functionality, usability, and value of a product or service (Malik et al., 2013). By understanding the impact of brand value and features on consumer behavior, businesses can develop effective marketing strategies and engage with consumers in meaningful ways (Hanzaee and Yazd, 2010). Ataman and Ülengin (2003) highlights that the consumer is biased towards their well-known brands and their decision is severely impacted if they encounter the known brand while purchasing a product.

2.10.1 Brand Value

Brand value refers to the perceived value and reputation of a brand (Kamakura and Russell, 1993). Brand value can be built through a variety of factors, such as product quality, customer service, marketing, and public perception. Brand value is important to consumers, as it can provide reassurance and confidence in the quality and reliability of a product or service (Chakraborty and Bhat, 2018).

2.10.2 Brand Trust

One of the key reasons why brand value is important to consumers is that it builds trust. Consumers are often more likely to trust established and reputable brands, as they have a proven track record of delivering quality products and services (Keh and Xie, 2009). Brand value can also help to build loyalty among consumers, as they are more

likely to return to brands that they trust and have had positive experiences with (Ba and Pavlou, 2002).

2.10.3 Brand Perception

Brand value is also important because it can shape consumer perception of a product or service (Chovanová et al., 2015). Consumers often associate certain qualities or values with specific brands, such as luxury, quality, or affordability. These perceptions can influence consumer behavior, as consumers may be more likely to choose brands that align with their values or preferences (Foroudi et al., 2018).

2.10.4 Brand Recognition

Brand value can also be important because it can increase brand recognition (Barth et al., 1998). Consumers are often more likely to remember and recognize well-established and reputable brands, which can lead to increased brand awareness and exposure. This can be particularly important for businesses that are trying to build a strong brand presence in a competitive market (Macdonald and Sharp, 2000).

2.10.5 Features

Features refer to the specific attributes and characteristics of a product or service. Features can include anything from technical specifications to design elements and user experience. Features are important to consumers, as they provide information about the functionality, usability, and value of a product or service (Bagram and Khan, 2012).

2.10.6 Functionality

One of the key reasons why features are important to consumers is that they provide information about the functionality of a product or service (Keller, 2012). Consumers want products and services that are reliable, effective, and easy to use, and

features can provide reassurance that a product or service will meet these expectations (Bhat and Reddy, 1998). For example, a laptop with a fast processor and ample storage capacity may be more appealing to consumers than a laptop with slower processing speeds and limited storage.

2.10.7 Usability

Features are also important because they provide information about the usability of a product or service. Consumers want products and services that are easy to use and intuitive, and features can provide information about how user-friendly a product or service is (Baek and Yoo, 2018). For example, a smartphone with a simple and intuitive user interface may be more appealing to consumers than a smartphone with a more complex and confusing interface.

2.10.8 Value to customers

Features are also important because they provide information about the value of a product or service (Saad-Filho, 1996). Consumers want products and services that offer good value for money, and features can provide information about how a product or service compares to its competitors in terms of price, quality, and functionality (Djaelani and Darmawan, 2021). For example, a car with advanced safety features and high fuel efficiency may be more appealing to consumers than a car with fewer features and higher operating costs.

2.11 Value to customers

Price variations are significant and changes by demographics and geography (Cantrell et al., 2013). Price can be inelastic at an overall level but it is important to have a look at sub-groups levels as well, where the elasticity or significant price variations for

different age groups, income and occupation of the respondent are present (Sauerborn et al., 1994). Number of family member along with number of earning members also impact the pricing decision ability of the family (Rasoli and Siddayya, 2021). It is important for the organization to understand the gender of the decision maker since it impacts the buying pattern due to emotional intelligence playing a critical role in medical device industry.

Geography is an important factor that can impact consumer decisions in a variety of ways. From regional differences in tastes and preferences to variations in climate and culture, geography plays a significant role in shaping consumer behavior (Shimp and Sharma, 1987). By understanding the impact of geography on consumer behavior, businesses can develop effective marketing strategies and engage with consumers in meaningful ways.

2.11.1 Regional Tastes and Preferences

One of the keyways in which geography can impact consumer decisions is through regional differences in tastes and preferences. Different regions may have unique cultural or historical influences that shape the way people perceive and value certain products or services (Pícha et al., 2018). For example, consumers in certain regions may have a stronger preference for spicy food or local cuisine, while others may prioritize environmental sustainability or social responsibility.

2.11.2 Language and Communication

Geography can also impact consumer decisions through language and communication barriers. Consumers who speak different languages may have different needs and preferences, and businesses may need to tailor their marketing strategies and

product offerings accordingly (Legohérel et al., 2009). In addition, consumers may be more likely to purchase products or services that are marketed in their native language, which can impact the success of marketing campaigns in different regions (Douglas and Craig, 1997).

2.11.3 Climate and Weather

Geography can also impact consumer decisions through variations in climate and weather. Consumers in different regions may have different needs and preferences when it comes to clothing, food, and other products and services (Tobler et al., 2011). For example, consumers in colder climates may be more likely to purchase products that provide warmth and protection from the elements, while consumers in warmer climates may prioritize products that offer breathability and ventilation.

2.11.4 Transportation and Accessibility

Geography can also impact consumer decisions through transportation and accessibility factors. Consumers who live in remote or rural areas may have limited access to certain products or services, which can impact their purchasing decisions (Swarbrooke, 2022). In addition, transportation costs and logistics may vary depending on the location of the consumer and the location of the business, which can impact pricing and availability of products and services.

2.11.5 Local Laws and Regulations

Geography can also impact consumer decisions through local laws and regulations. Different regions may have different regulations around product safety, labeling, and other factors, which can impact the availability and accessibility of certain products or services. In addition, businesses may need to comply with different tax laws

or licensing requirements in different regions, which can impact pricing and availability of products and services (Behera and Mishra, 2017)

2.11.6 Cultural and Social Factors

Finally, geography can impact consumer decisions through cultural and social factors. Different regions may have different cultural or social norms around consumer behavior, such as attitudes towards conspicuous consumption or environmental sustainability(Alothman and Fogarty, 2020). These cultural and social factors can impact the way consumers perceive and value different products or services, which can in turn impact their purchasing decisions (Qazzafi, 2020).

CHAPTER 3 : RESEARCH METHODOLOGY

3.1 Research Problem

In today's competitive environment, it is not easy to survive solely based on marketing and product and/or service. It is very important to focus on the pricing as consumers are getting price sensitive and decisions are highly influenced by it. Correct pricing is of utmost importance for any business, especially in the medical and healthcare industry. Pricing helps in the following:

a. Profitability : Setting right price helps in the maximizing revenue and most importantly, profits for the company. Prices are usually set higher than the cost to avoid any loss.
b. Competitive edge: Pricing helps in providing the competitive edge to the company and organization within the market. If price is set too low or too high than the competitor without offering any additional value, it is likely that the customers may chose alternate products, thereby leading to the loss of market share and subsequently impacting the health of the company.
c. Revenue optimization: Usually, price and demand of a product are highly correlated with each other. Organization can optimize the revenue by balancing the price and demand.
d. Branding and image: Premium pricing may create a perception of luxury while low prices might label product as cheap. The chosen price, hence, should align with the organization goals and brands' overall strategy, target market and desired perception of the brand.

e. Perceived value: Pricing influences perception of the consumers and price tag is associated with the quality of the product. By setting a optimal price, business can shape consumers' perception and positioning itself appropriately within the market.

Many companies often go bankrupt due to lack of pricing strategy. Many companies struggle to survive for various reasons such as lack of understanding consumer behavior, focusing solely on internal metrics like cost rather than customer perceived value, and adopting a single strategy for all countries. Therefore, it is crucial for companies to explore different approaches to enhance their profitability. In the medical device industry, which is rapidly transitioning from a business-to-business (B2B) to a business-to-consumer (B2C) space, pricing becomes a vital tool that should be wielded carefully. It is essential to consider consumer buying behavior attributes alongside pricing strategies. By implementing an optimal and appropriate pricing strategy, companies can seize more market share, cultivate a positive brand image and enhance their top and bottom line.

In summary, there is a need to understand the factors for which customers are ready and motivated to buy the product and factors which can encourage them to pay the premium.

The questions which will be answered by the research are as follows:

a. What is the product related factor like design, size, warranty etc., a consumer check while purchasing the medical devices?

b. Does special pricing strategy like psychological pricing, higher discount perceive pricing methods helps?

c. What is the role of the online reviews, ratings and peer/doctor recommendations on the purchase behavior?

d. How the demographics of the consumers impact the pricing?

e. Does motivation and/or urgency plays an important role during a transaction?

3.2 Research Objectives

The objective of the research is to understand the consumer perception in detail and leveraging the same in day-to-day activity. The long-term objective is to develop the mechanism in the medical device study to calculate the prices as per the marketing, operational and business requirements.

The study has following sub-objectives:

a. To provide list of factors to be considered while advertising and communicating about the product

b. To come up with the promotional content on the packaging and design

c. To develop the pricing strategy for different markets and geographies

d. To improve the revenue and margins of the product

e. To improve the market share of the company

f. To develop a plan for the new products launching

g. To tap the untapped zones and influencing factors using digital marketing

With this key information, a business can work and focus on the factors which are relevant to the consumers and improve their Return on Investment (ROI).

With this research, we intend to demonstrate that the pricing of medical devices is dependent upon various demographics, cultural, personal, psychological, economical and peer influence along with location of residence.

3.3 Research design

The study begins with the identification of the various purchase factors and intentions, and it is coupled with the price. The primary research method is the surveys of the people in different age groups across geographical locations. The study identifies the various factors which are highly influencing the pricing decision of the customer while purchasing the medical devices.

The locations considered for the study and comparison is the United States of America (USA), India (growing emerging market), developed European country (Germany), and Australia.

Research is more quantitative analysis to understand the impact of factors on the pricing. A linear regression model will be developed to understand the variable importance of the different buying factors and statistical analysis will be performed to understand the relationship of various factors and their influencing on the pricing decisions. This will help in quantifying the influence of the factors on the pricing and hence it can be used in the practical and real world.

Data is collected using the survey format which is floated online as well personal visits to the consumers' place and survey on the medical shops purchasing the concerned products for the research.

The overview of the research design is as shown below :

a. Conduct thorough literature review and come up with the factors to be analyzed
b. Define the research problem and objectives
c. Define the research questions and equations
d. Define the research approach
e. Define the sampling technique and data collection methodology
f. Conduct the quantitative analysis using the surveys
g. Analyze the data and generate the findings
h. Connect the insights from the research with the research objectives and provide recommendations to the business

3.4 Research Questions

The study is conducted from the second half of 2022 to first half of 2023, simultaneously for all the locations considered.

Various factors considered in the research are as follows:

a. Demographics: Age, Gender, Personal income, Family income, Education, Occupation
b. Cultural: Importance of health, awareness
c. Personal: Number of members in the family, existing medical issues in the family etc.

d. Psychological: Motivation to buy the product

e. Economical: Current Discount, psychological pricing, subsidies etc.

f. Peer Influence: Online rating, recommendation by peer/doctors etc., review in e-commerce websites

g. Brand Value: Known brand name in the similar segment vs unknown entity

h. Product: Product features, brand ambassador, picture on the package

i. Geography: Country of origin, place of purchase

The above list is summarized version of the variables and features to be considered while buying the product along with the potential price they are willing to pay.

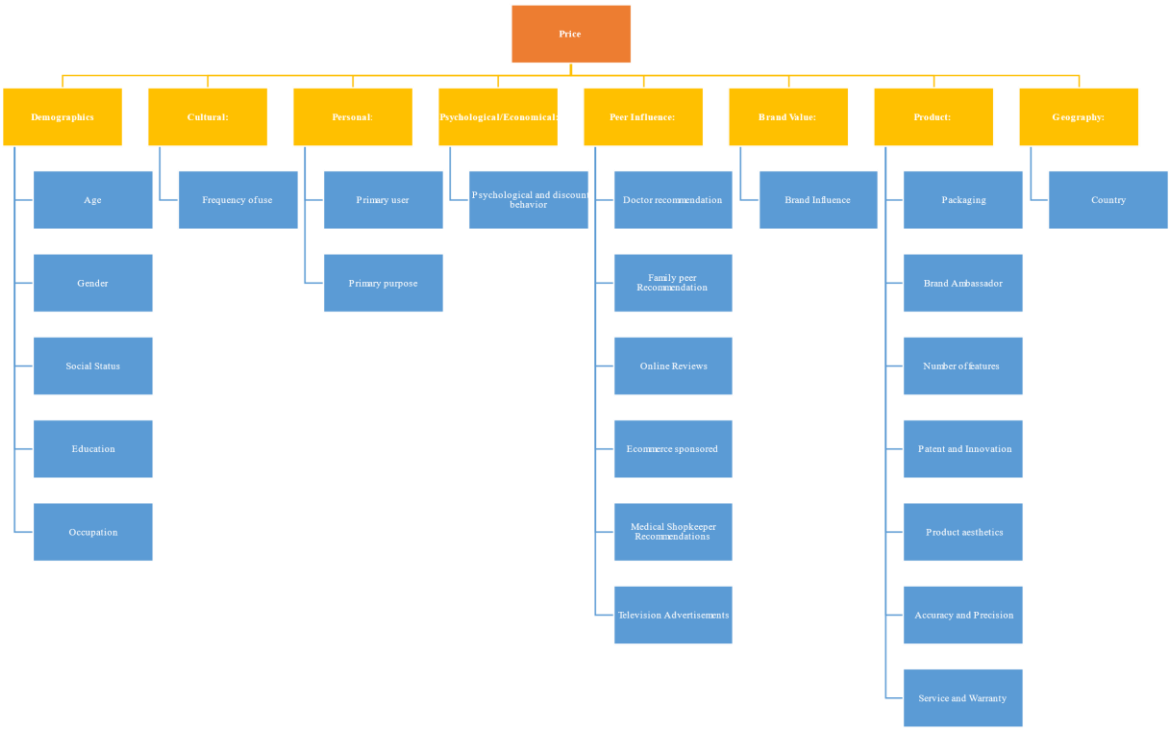


Figure 2 Summary of factors and variables for the research

3.5 Research Equation and hypothesis

The coefficient and dependency of the factors will be computed as per the following equation:

Pricing = *f* {demographics, cultural, personal, psychological, economical, peer influence, brand value, product}

Also, following null hypothesis are created which are tested statistically to arrive at the business decisions.

a. The average prices are same among the different Primary users
b. The average prices are same for the different Primary purposes
c. The average prices are same for the different frequency of use
d. The average prices are same among the different age groups
e. The average prices are same among the different gender groups
f. The average prices are same among the different social status groups
g. The average prices are same among the different educational background groups
h. The average prices are same among the different occupation groups
i. The average prices are same among the different importance of the brand influence
j. The average prices are same among the different importance of the doctor's recommendation
k. The average prices are same among the different importance of the family peer recommendation
l. The average prices are same among the different importance of the online reviews

m. The average prices are same among the different importance of the ecommerce sponsorships
n. The average prices are same among the different importance of the medical shopkeeper recommendation
o. The average prices are same among the different importance of the television advertisements
p. The average prices are same among the different importance of the packaging
q. The average prices are same among the different importance of the brand ambassador
r. The average prices are same among the different importance of the number of features
s. The average prices are same among the different importance of the patent and innovation
t. The average prices are same among the different importance of the product aesthetics
u. The average prices are same among the different importance of the accuracy and precision
v. The average prices are same among the different importance of the service and warranty
w. The average prices are same among the different psychological and discount behavior

3.6 Sampling technique and Data collection technique

There are 4 countries (The United States, India, Germany, and Australia) which are part of the research. The sampling technique is used in such a way that the number of respondents is higher for the country having highest population. As a result, India has the highest number of respondents, followed by The United States then Germany and lastly, Australia.

The respondents are selected at random through various means as below:

a. Online surveys : participants are selected randomly and communicated through various digital channels like WhatsApp, social media platform and emails.
b. Personal visits : participants are selected based on
    a. different parts of the country so that all the major areas are covered – East, West, North and South
    b. different economic conditions of the places – tier 1, tier 2, and tier 3 cities
    c. visiting different medical shops and discussion with the respondents.

This is performed since the entire population of cannot be surveyed and sampling strategy helps in the representation of the entire population while surveying a set of population. For the medical devices, more than 5000 respondents participated, and the insights form the ground for the entire analysis and findings.

3.7 Research instrument

For the analysis, questionnaire is the instrument used to capture the key details which is in line with the literature review and research objectives. The questionnaire is available in the Appendix B. The entire questionnaire is designed in such a way that it captures all categories of information like demographics, peer influence, brand value,

psychological behavior, and the price point at which they are ready to buy the medical devices like blood sugar detection devices, blood pressure monitoring systems and pulse oximeter.

In the questionnaire, there

a. are choice based questions where respondents' personal details are captured in categories so that it is easy for them to share.
b. are rating or score related questions are there, to understand their importance and influence factors and it helps in understanding of their priority order of various factors.
c. is a scenario-based question to understand the discount behavior and psychological uncertainty.
d. is a price point related free text question which shows the price point at which respondent is comfortable to buy the medical device. This serves as the inflection point where consumers can finalize their buying decisions.

3.8 Data analysis and coding

The data is in quantitative in nature. Hence, the analysis started with the exploratory data analysis (EDA) to understand the overview of the respondent's summary. The entire data is prepared and cleaned in the Microsoft Excel where all the information is stored, and correct order of data type is maintained. The exploratory data analysis is performed in Microsoft Excel where the respondent's distribution for various factors is plotted.

Post the summarized view of importance and influence is available, the research is then moved next level of analysis which is conducted in R. R is statistical programming language which requires coding and can perform various statistical test like ANOVA and machine learning algorithm like regression.

ANOVA analysis is used to check whether the mean (average prices) for the groups in a particular variable or factor are different or not. It helps in identifying the cases where deep research is required. If the p-value is less than 0.05, then it can be concluded that prices are significantly different from each other among the categories. The hypothesis is created to understand the impact and importance of each of the factors considered in the research. Post the ANOVA analysis, regression analysis is performed with Price as the dependent variable and factors considered, one at a time, as independent variable. It shows that if all the constraints are constant, what is the impact of any group on the pricing. It helps in understanding the variable importance of the different buying factors and influence on the pricing decisions. This helps in taking the strategically decision and quantification of the results. Regression analysis is also performed in the R language.

3.9 Summary

Questionnaire is the main source of the data, and it helps to understand how consumer are thinking before purchasing a medical devices and factors influencing the buying behavior. The results are converted into quantitative format to make sure that the results are easy to implement and can track the impact from any changes in the pricing strategy. It also helps the business to focus on the areas which can generate the highest impact for their product.

CHAPTER 4 : EXPLORATORY DATA ANALYSIS

The survey is conducted for different parts of The United States, India, Germany, and Australia from August 2022 to March 2023, simultaneously. The total number of respondents participated in the research is 5046. The split of the respondents by different geographies is as below:

a. The United States : 1582
b. India: 2136
c. Germany : 824
d. Australia: 504
e. With this research, we intend to demonstrate that the pricing of medical devices is dependent upon various demographics, cultural, personal, psychological, economical and peer influence along with location of residence.

4.1 Respondents summary for the Primary Users

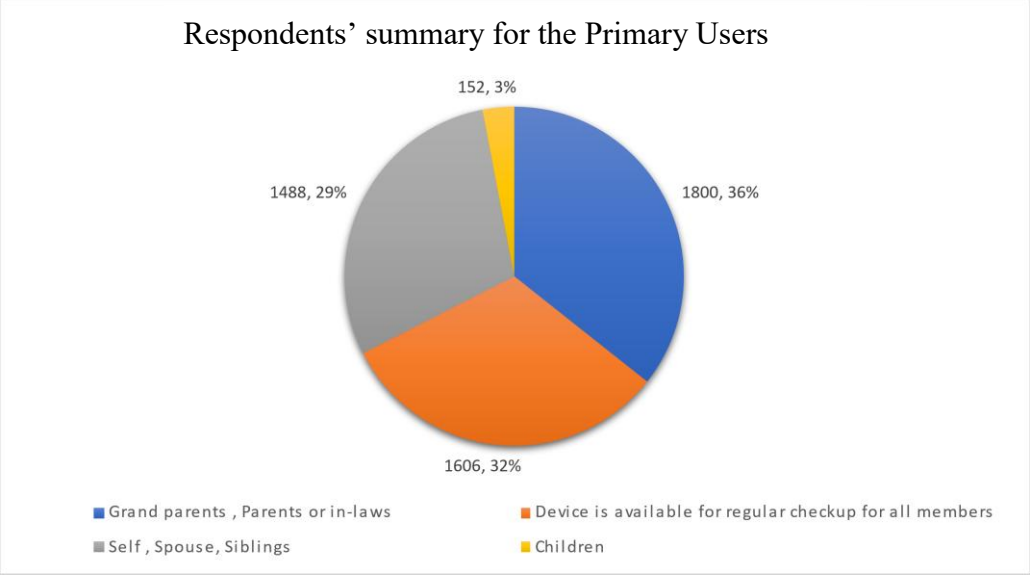


Figure 3 Respondents summary for the Primary Users

It denotes the primary user for whom the respondent usually buys the product. They are categorized into following four types:

a. Grandparents, Parents or in-laws
b. Device is available for regular checkup for all members
c. Self, Spouse, Siblings, and
d. Children

Out of the 5046 respondents, there wasn't a clearly majority or preference to any primary user. Though, only 3% of the respondents are buying the medical devices for their children. This could be attributed to that fact that older people are likely to consume the product more than children. 36% of respondents are buying the product for the skip level generations i.e. grandparents or parents and in-laws, while for almost 1/3rd of the respondents is purchasing for generic purposes not for specific family member. 29% of the respondents are purchasing the product for their and similar generation self-use.

4.1.1 Respondents distribution for Primary Users in the United States

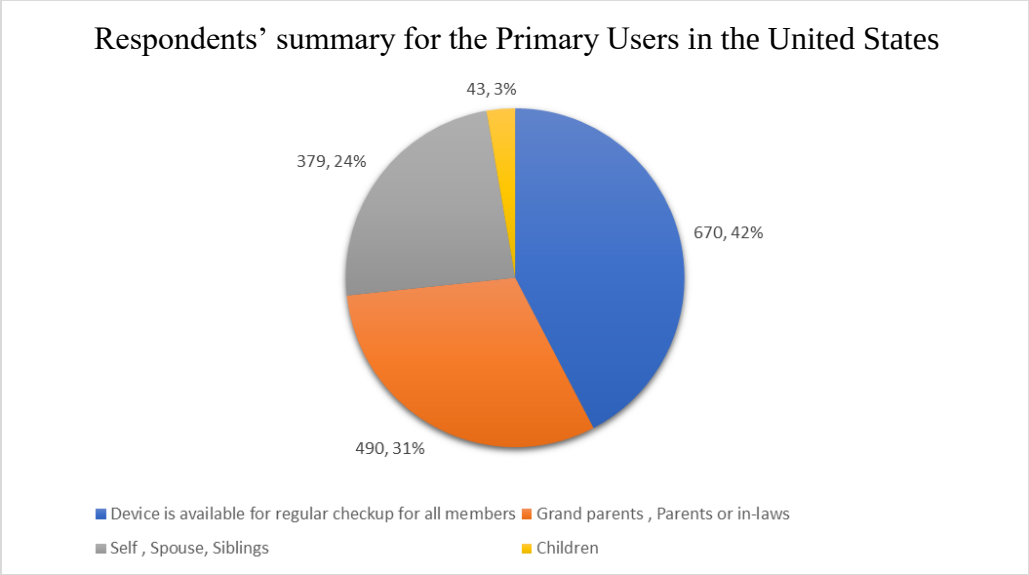


Figure 4 Respondents distribution for Primary Users in the United States

For the United States (US), there is a slight preference towards the generic or regular purpose. Almost 42% of the respondents are buying the products for regular checkup for all the family members. There seems to be no bias towards any family members among the US respondents.

4.1.2 Respondents distribution for Primary Users in India

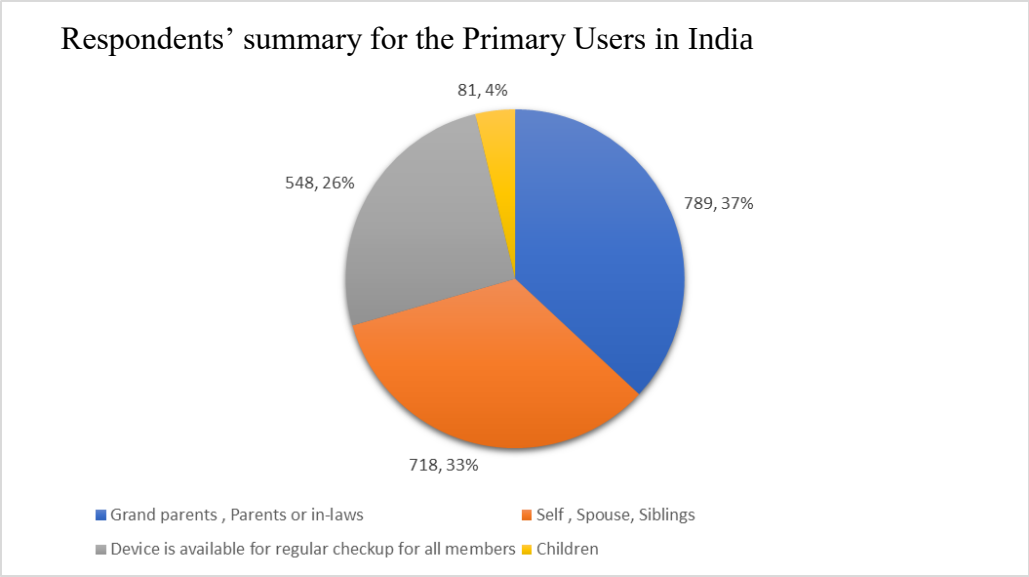


Figure 5 Respondents distribution for Primary Users in India

Among the 2136 respondents in India, there is slight preference of purchasing a medical device for the elderly members of the family like Parents, grand-parents, and spouse. 37% of the respondents are purchasing the products for their Grandparents, Parents, or in-laws. While 26% of the respondents are purchasing for the regular checkup for all family members, which is 10% lower than entire universe of the 5046 respondents in the study.

4.1.3 Respondents distribution for Primary Users in Germany

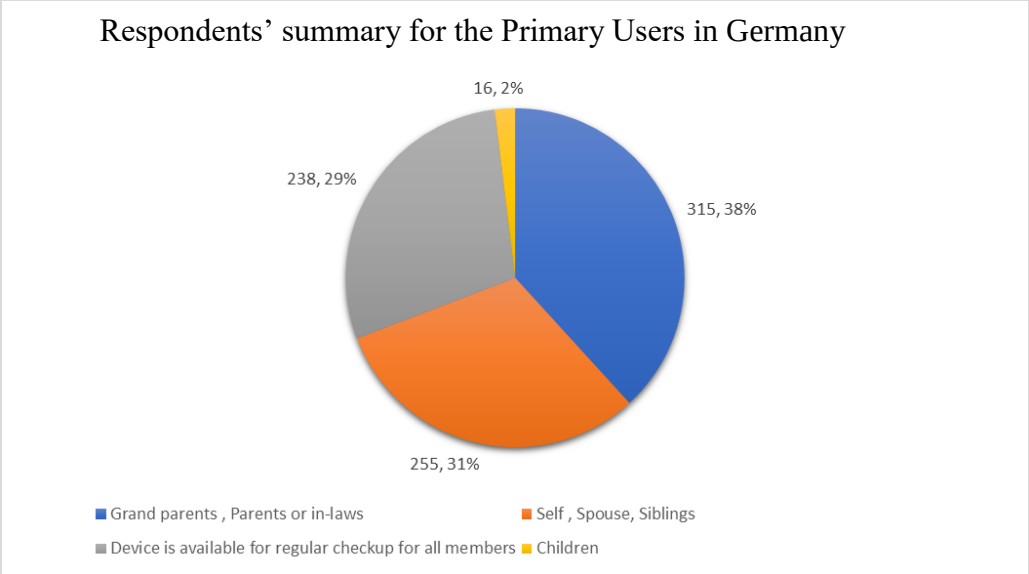


Figure 6 Respondents distribution for Primary Users in Germany

A total of 824 respondents in Germany shows similar preference to India in terms of the primary user. 38% of the respondents are purchasing the medical devices for their Grandparents, Parents or in-laws. Regular checkup for all members and self, spouse and siblings' categories have highest response rate. Children (2%) has the lowest response rate among the European giant, Germany, respondents.

4.1.4 Respondents distribution for Primary Users in Australia

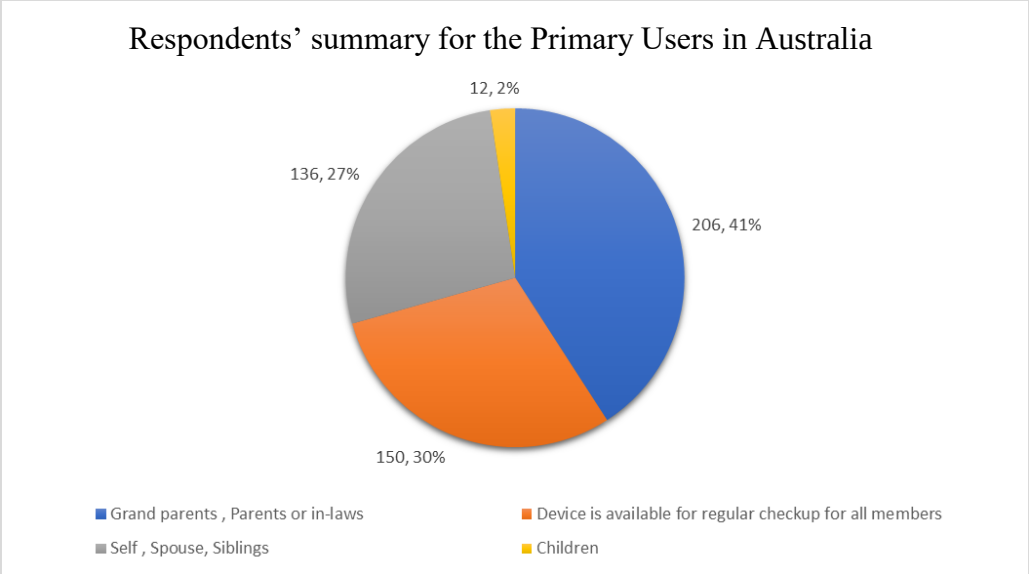


Figure 7 Respondents distribution for Primary Users in Australia

Like Germany, Australian respondents are buying majorly for the elderly members of the family. 41% of the respondents are purchasing the medical devices for the Grandparents, Parents, and in-laws. Children continues to be lowest, 2%, among the options provided to the respondents.

4.2 Respondents summary for the Primary Purpose

It shows the reasoning and purpose behind purchasing the medical devices by the consumers. Four choices provided to the respondents are as follows:

a. It helps in checking the vitals at regular intervals, for healthy lifestyle

b. Have medical condition in family, so need to track the fluctuations

c. It is available for any emergency vital checks

d. It helps in saving medical expenses since it is cheaper and convenient at home

It helps in understanding the usage patterns and how it can lead to pricing of the products and willingness to spend on the medical devices.

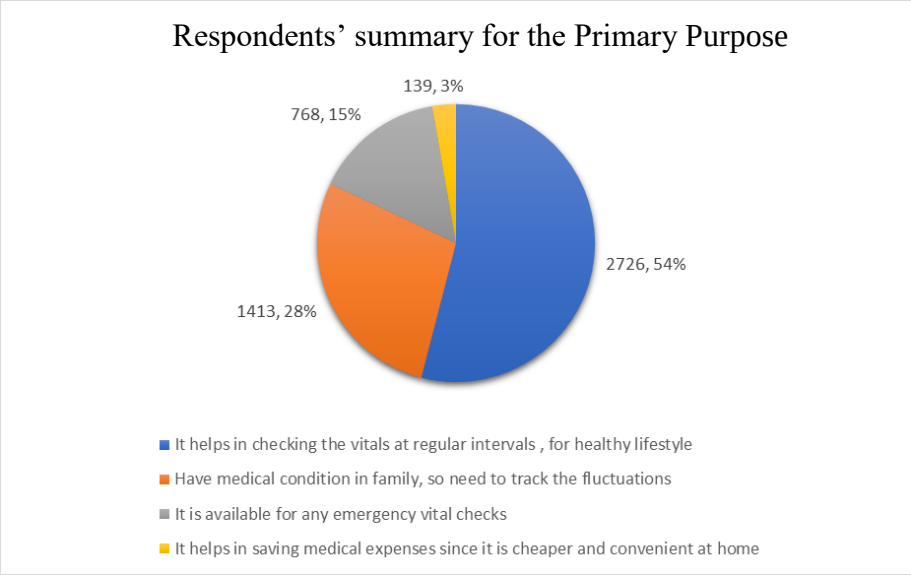


Figure 8 Respondents summary for the Primary Purpose

Across the participants, the participants, there is a clear majority towards the regular intervals of health checkup for healthy lifestyle. Almost 54% of the respondents choose that medical device helps in checking the vitals in regular intervals. Approximately one-fourth of the respondents (28%) are purchasing the devices to track and monitor the changes in the health conditions for a patient in the family. Only 3% of the population think that the medical devices are cheaper way of treatment in the home and saves medical expenses. 15% of the respondents have been purchasing medical devices for emergency situations as a precautionary measure.

4.2.1 Respondents distribution for Primary purpose in the United States

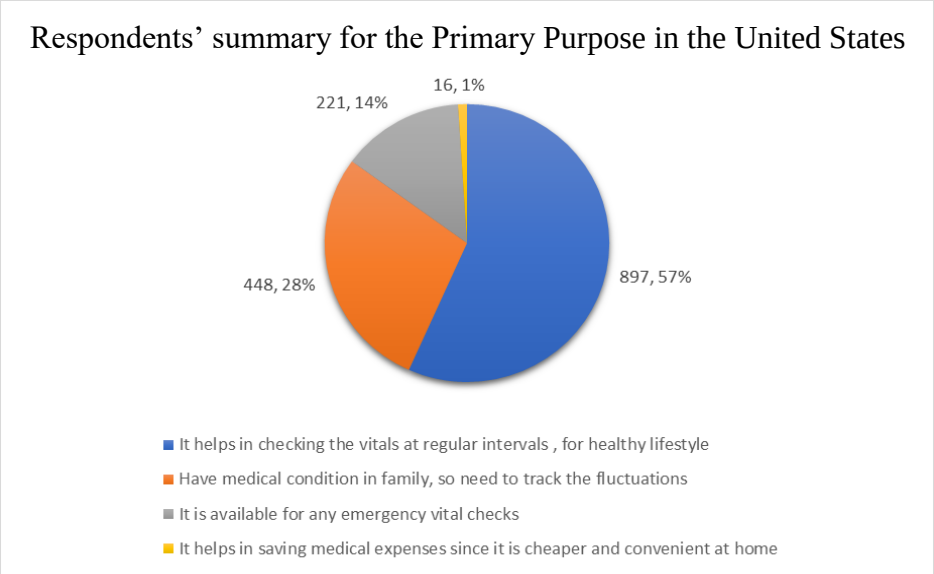


Figure 9 Respondents distribution for Primary purpose in the United States

In the United States, the primary purpose behind purchasing medical devices is similar to the global averages. More than half of the participants (57%) keeps track of their health and monitor the vitals at regular intervals. Healthy lifestyle is the most important factor and reason behind purchasing the products. Meagre 1% of the United States respondents prefers the medical devices since it is cheaper than testing in the pathology and laboratory. 28% and 14% respondents have been purchasing the products to track the existing medical condition and for emergency situations simultaneously.

4.2.2 Respondents distribution for Primary purpose in India

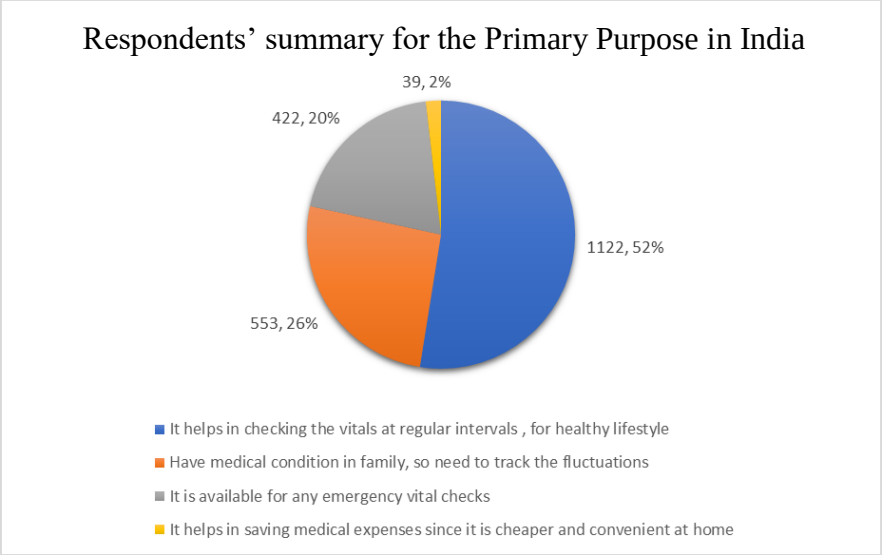


Figure 10 Respondents distribution for Primary purpose in India

In 2136 respondents in India, regular checking of the vitals is in majority with 52% selection rate. 20% of the respondents (highest in the survey) are purchasing and preparing for the medical emergencies. It shows that there can be an increase in the number of patients among family members and hereditary medical conditions.

4.2.3 Respondents distribution for Primary purpose in Germany

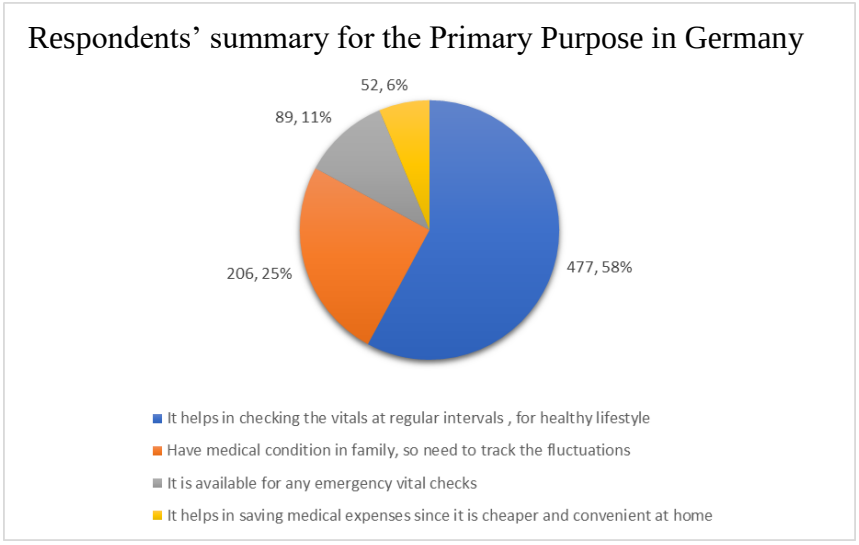


Figure 11 Respondents distribution for Primary purpose in Germany

Germany respondents shows not much deviation from rest of the population in terms of selection rate of the choices provided. 58% of the respondents have been buying the medical devices for regular checkups of their vitals. One-fourth of the respondents have existing medical conditions, and they are purchasing the devices to track the fluctuations. 6% of the respondents buys the medical devices at home since they feel that it is cheaper and helps in saving medical related expenses.

4.2.4 Respondents distribution for Primary purpose in Australia

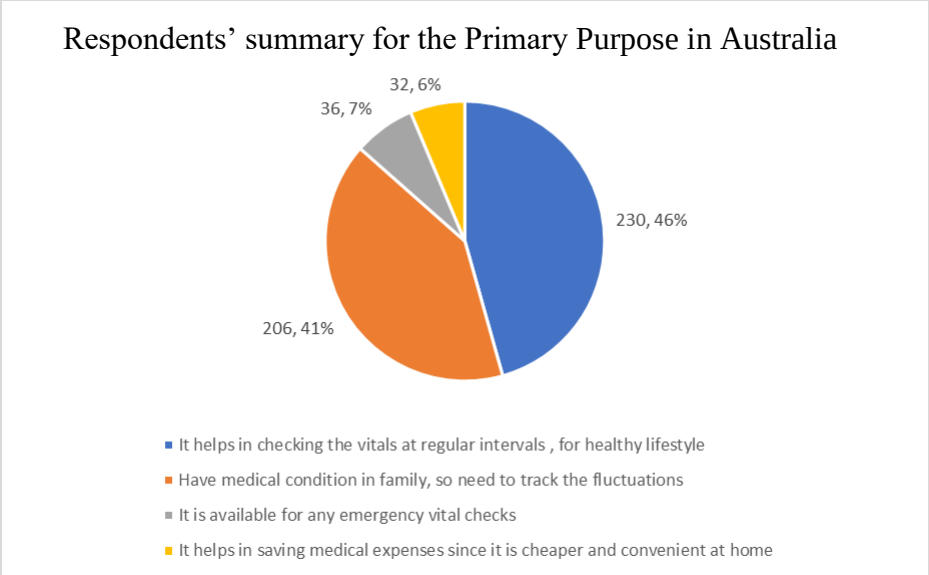


Figure 12 Respondents distribution for Primary purpose in Australia

Australian respondents show slightly different behavior than rest of the global respondents. While majority of the participants (46%) are buying the medical devices, 41% of the participants have been tracking the fluctuations periodically due to existing medical condition in the family. 7% of the respondents are keeping it emergency situations and rest thinks that the medical devices help in saving the medical expenses.

4.3 Respondents summary for the Frequency of Use

It shows that how frequently the medical devices are used by the respondents and/or their family members. Five choices are provided to the respondents, they are

a. Daily
b. Once in a week
c. Once in a month
d. Once in 3 months
e. Once in a year

It helps in understanding the usage patterns and how it can lead to pricing of the products and willingness to spend on the medical devices.

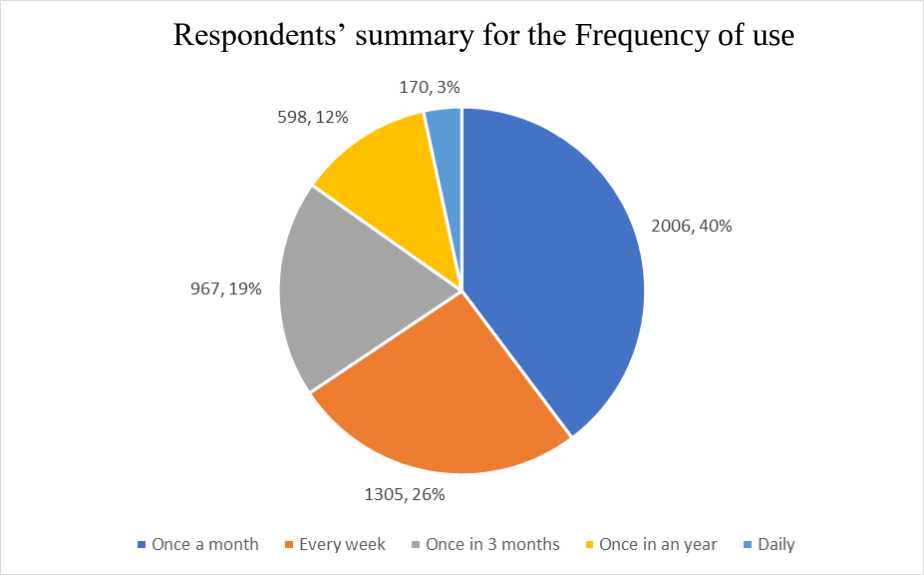


Figure 13 Respondents summary for the Frequency of Use

Across all the responses received, 40% of the respondents are using the medical devices once in a month. This shows that the need of the products and how they are now integral part of the household. One-fourth of the participants are using the products once a week

and 19% are quarterly users. Only 3% of the respondents are daily user while 12% are once in a year user. It shows that medical devices are important to the users and weekly and monthly tracking is the most common usage pattern among the respondents.

4.3.1 Respondents distribution for Frequency of Use in the United States

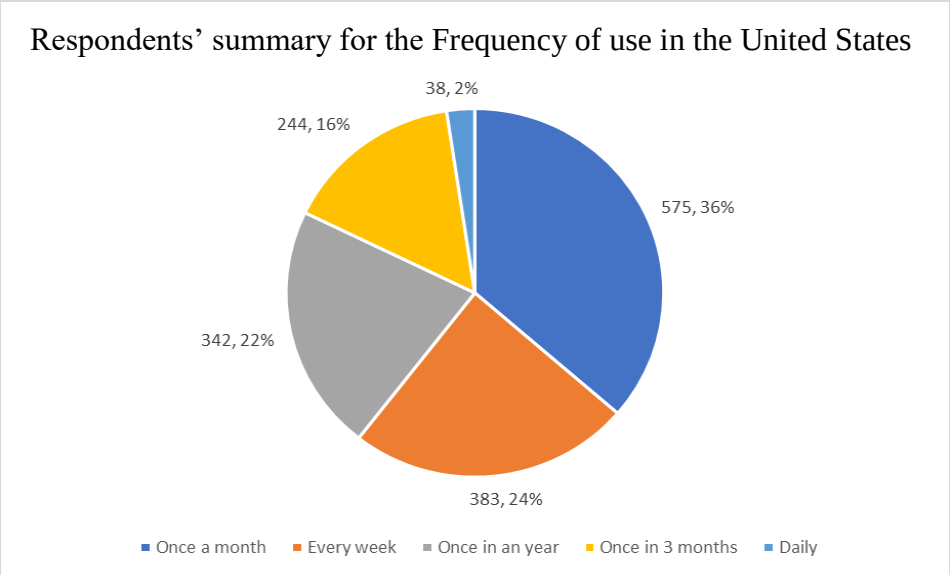


Figure 14 Respondents distribution for Frequency of Use in the United States

The United States participants have a similar pattern as global, with majority of the respondents are using the medical devices regularly. 36% of them are monthly users, 24% of the respondents are using the medical devices on a weekly basis and 22% of using once in 3 months. It shows that 82% of the participants are regularly users and consumer of the medical devices. Daily users are only 2% while 22% of the participants are using the products once in a year.

4.3.2 Respondents distribution for Frequency of Use in India

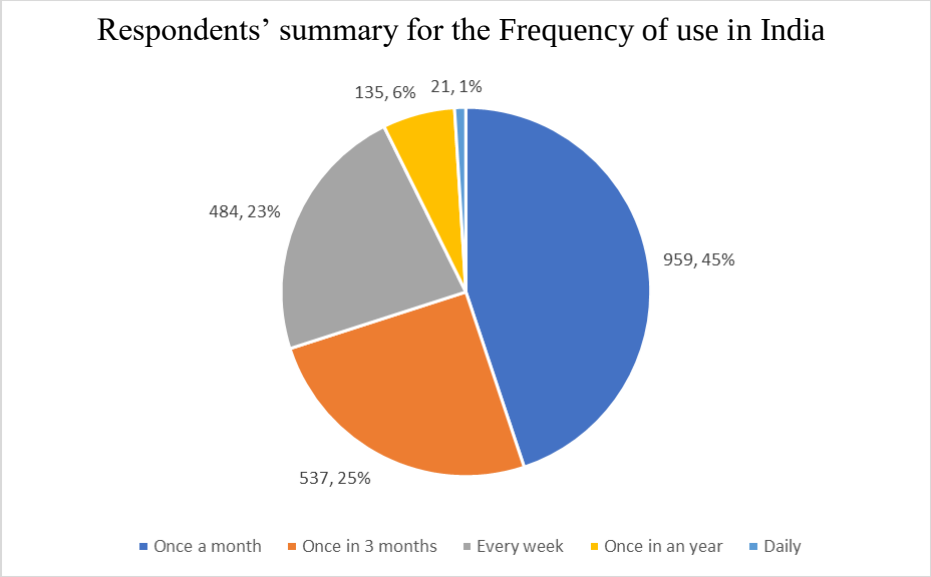


Figure 15 Respondents distribution for Frequency of Use in India

The participants from the India have a slightly longer frequency to use duration than global averages. Almost half of the respondents (45%) are once in a month user and 25% of the respondents are once in a quarter, highest among the participating countries. 23% of the respondents are weekly users and 6% being yearly users. Only 1% of the respondents are daily users. This shows that the people are not aware of the medical devices, and they are not tracking the vital as frequently as others. One of the plausible reasons for high frequency of use could be the low cost of the medical test in the nearby locality. Since Government of India has been investing a lot in the on-ground facilities and providing the medical treatment for low or free of cost (Gupta and Bhatia, 2018).

4.3.3 Respondents distribution for Frequency of Use in Germany

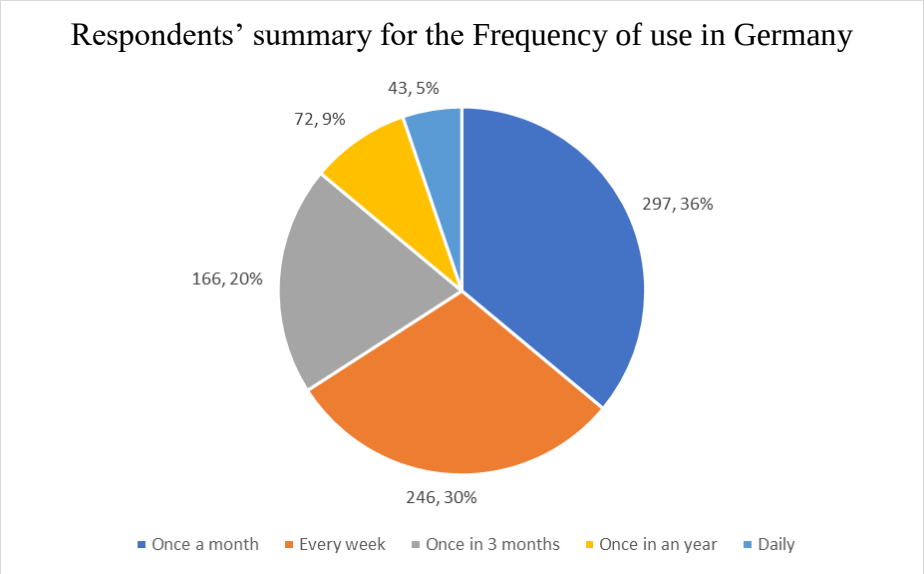


Figure 16 Respondents distribution for Frequency of Use in Germany

Germany respondents have a much higher frequency of usage, with 5% of the respondents using the medical devices at daily level. 30% of respondents are using the medical devices on a weekly basis while 36% are in once-a-month category. Quarterly users stand at 20% and rest 9% in low frequent category i.e., once in a year.

4.3.4 Respondents distribution for Frequency of Use in Australia

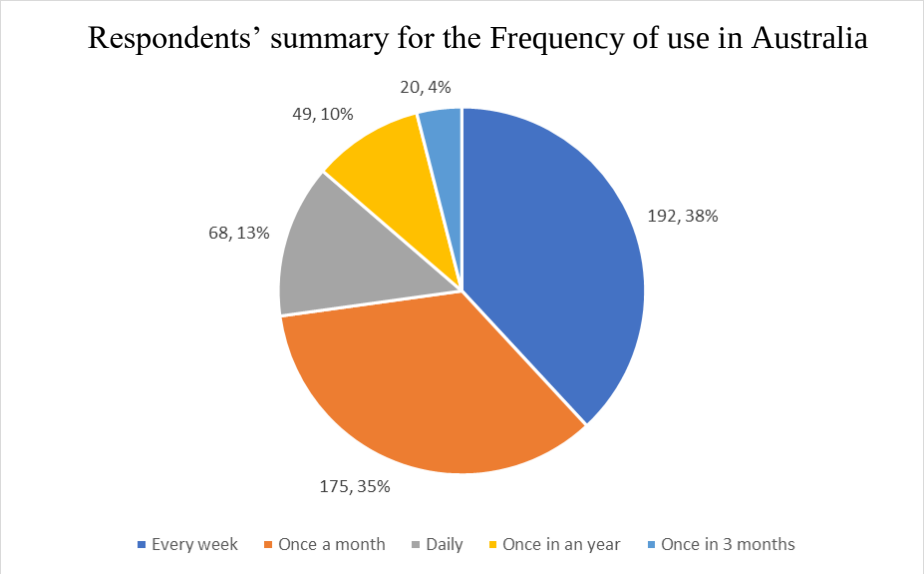


Figure 17 Respondents distribution for Frequency of Use in Australia

The survey shows that the Australian respondents have the shortest frequency of usage of the medical devices. 13% (highest among the participating countries) of the respondents are daily users which shows the importance of the medical devices in Australia. It also shows that they are integral part of the household and necessity. 38% of the participants are weekly users and 35% being once in a month. It shows that 86% of the respondents are using the medical devices at least once a month. 10% of the respondents are using rarely (once in a year) while 4% are quarterly user.

4.4 Respondents distribution for Age groups

It represents the age category of the respondents. It helps in understanding the demographics of the respondents and helps in targeted marketing. The age category is divided into 5 categories, they are as below:

a. Less than 18 years

b. 18 to 25 years

c. 25 to 35 years

d. 35 to 50 years

e. 50 years and above

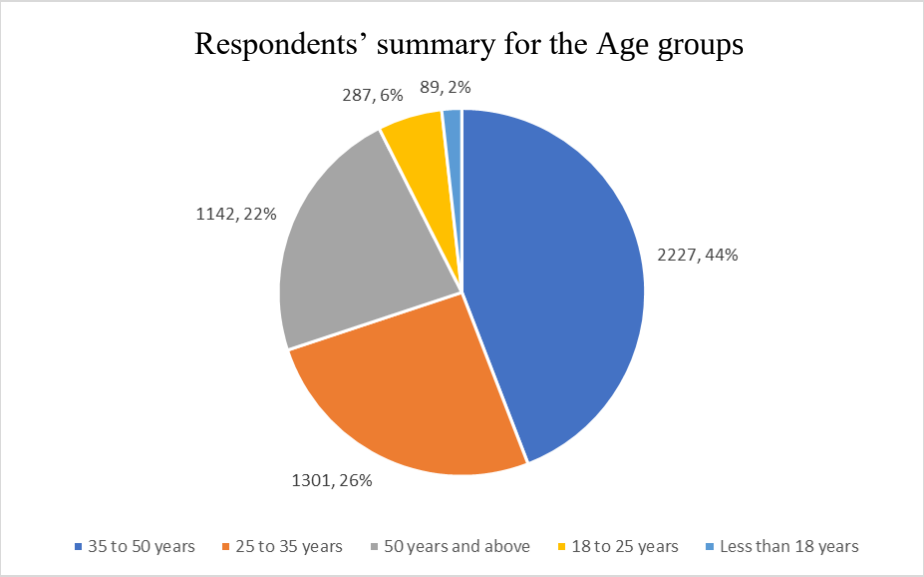


Figure 18 Respondents distribution for Age groups

Across all the participants, 44% of them belongs to the 35 to 50 years category while 26% belongs to 25 to 50 years category. 22% of the respondents slightly aged with age category being 50 years and above. Meagre 2% of the respondents are below 18 years and rest 6% belong 18 to 25 years.

4.4.1 Respondents distribution for Age groups in the United States

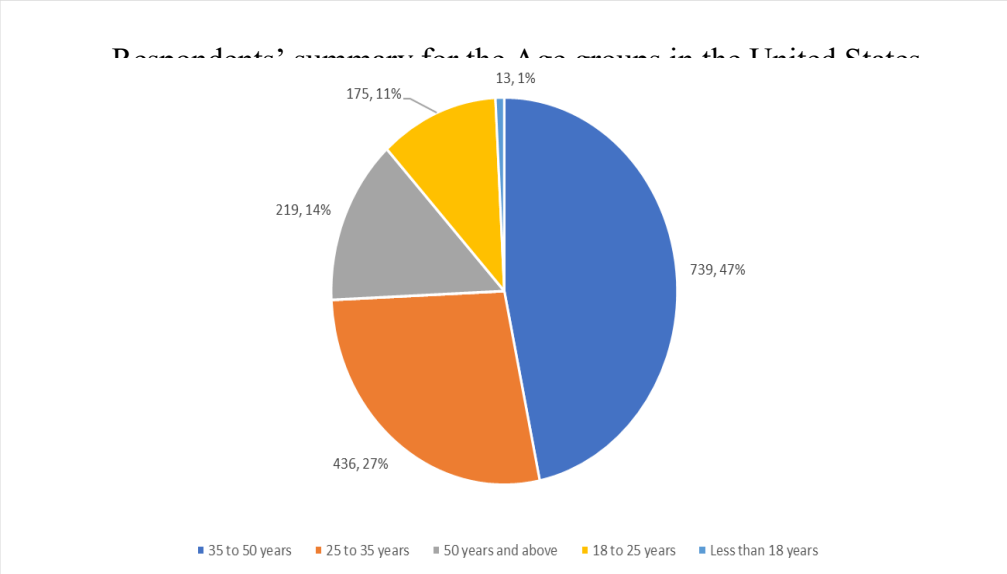


Figure 19 Respondents distribution for Age groups in the United States

All the participants from United States have similar distribution in terms of age categories and not much significantly different. The United States respondents have almost three-fourth of the participants belong to age between 25 and 50 years. 47% being in 35 to 50 years category while 27% belonging to 25 to 35 years category. 14% of the participants are of highest age category (50 years and above). 1% of the respondents belongs to 18 years or less and remaining 11% of the participants belongs to the 18 to 25 years age category.

4.4.2 Respondents distribution for Age groups in India

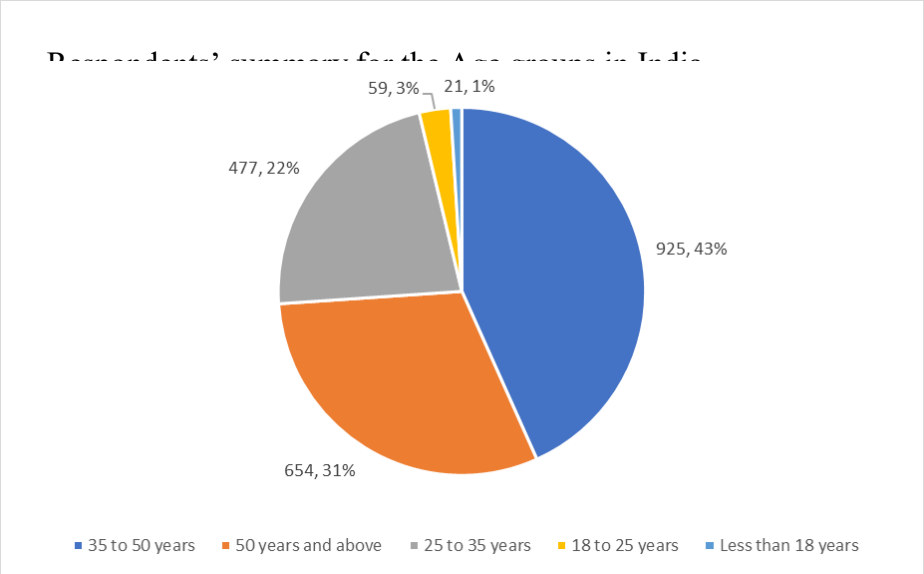


Figure 20 Respondents distribution for Age groups in India

Among the Indian respondents, 43% of them belongs with dominating 35 to 50 years age category while 22% belongs to 25 to 35 years age group. The age group of 50 years or above shows uncharacteristically high proportion among the Indian respondents with 31% of them belongs to the same. Only 3% of them belongs to 18 to 25 years while 1% belongs to 18 years or less.

4.4.3 Respondents distribution for Age groups in Germany

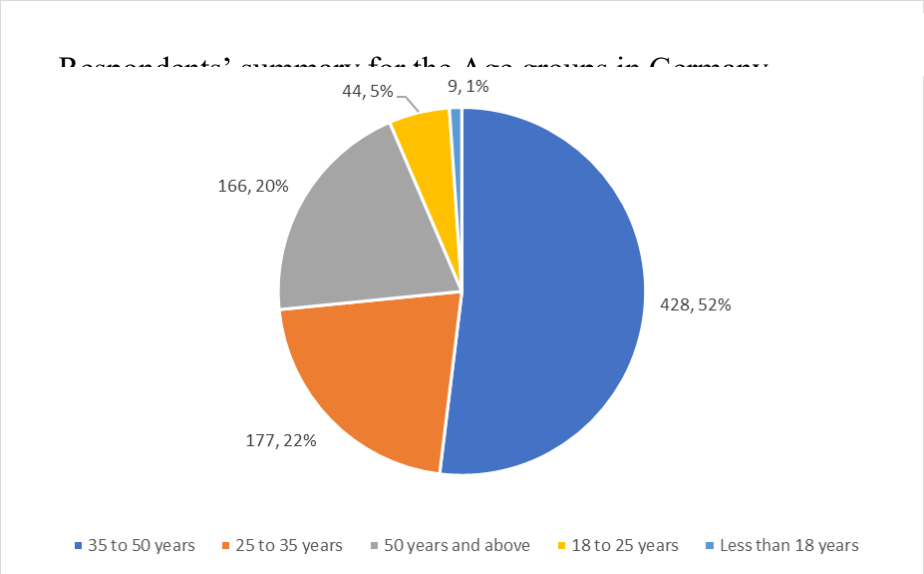


Figure 21 Respondents distribution for Age groups in Germany

Among the 824 respondents in Germany, just more than half of them belong to the 35 to 50 years age category while 22% belongs to the 25 to 35 years age category. Less than 18 years of age category has least proportion i.e., 1%. 50 years or above age category has 20% of the participants and 5% of the respondents belongs to the younger 18 to 25 years age category.

4.4.4 Respondents distribution for Age groups in Australia

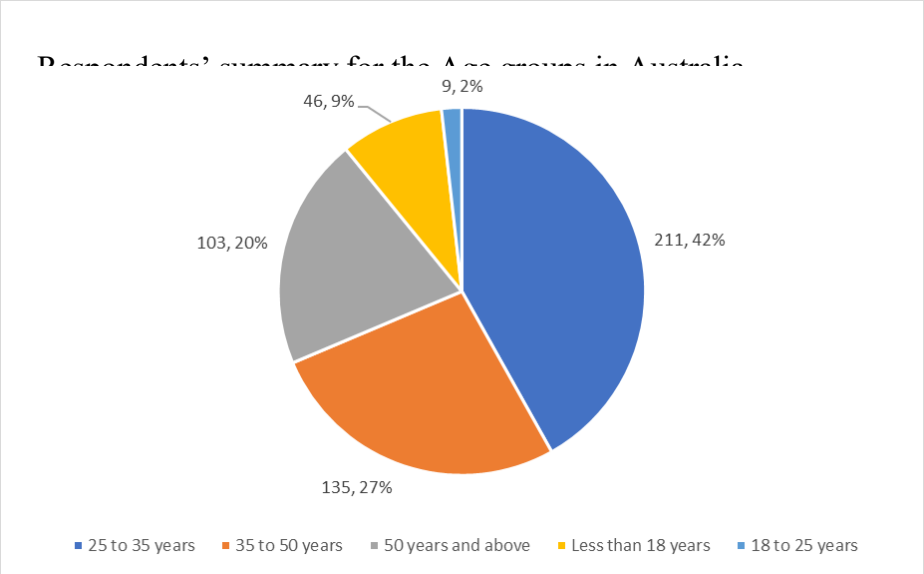


Figure 22 Respondents distribution for Age groups in Australia

The 25 to 35 years age category is majority for the Australian respondents, with 42% of the participants belong to it. 27% of the respondents belongs to the 35 to 50 years age category, making 69% of the participants belonging to the 25 to 50 years age group. One-fifth of the participants (20%) belongs to older age of 50 years and above. Among the younger age groups, 9% belongs to 18 to 25 years and remaining 2% are 18 years or younger.

4.5 Respondents distribution for Gender

To have a detailed understanding of the demographics of the respondents, their gender is asked to have clarity on the consumer behavior on purchasing the medical devices. Option of non-disclosure of the gender was provided and “other” gender is provided to make sure all kinds of demographic information is covered. The respondents are encouraged to select the gender to the analysis more targeted and clearer. None of the respondents choose the “other” category. The gender categories are as below:

a. Male

b. Female

c. Prefer not to disclose

d. Other

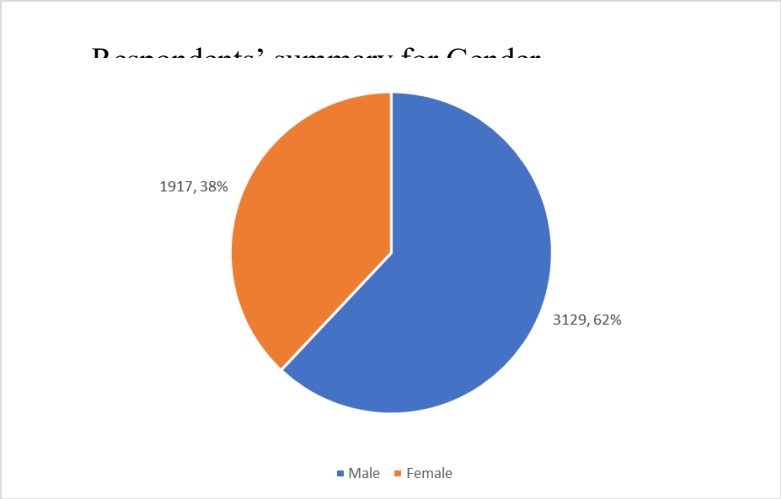


Figure 23 Respondents distribution for Gender

All the respondents selected either Male or Female option. 62% of the respondents are male while rest 38% are female.

4.5.1 Respondents distribution for Gender in the United States

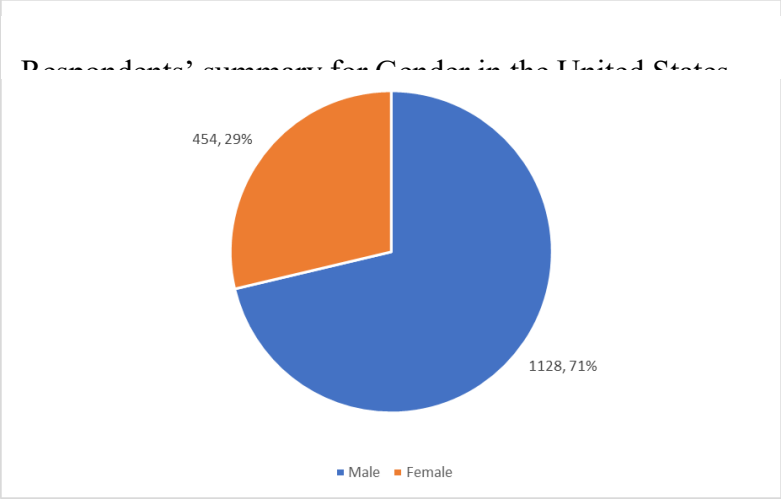


Figure 24 Respondents distribution for Gender in the United States

The United States respondents also shows most of the respondents being male with 71% of the participants are male and rest 29% female.

4.5.2 Respondents distribution for Gender in India

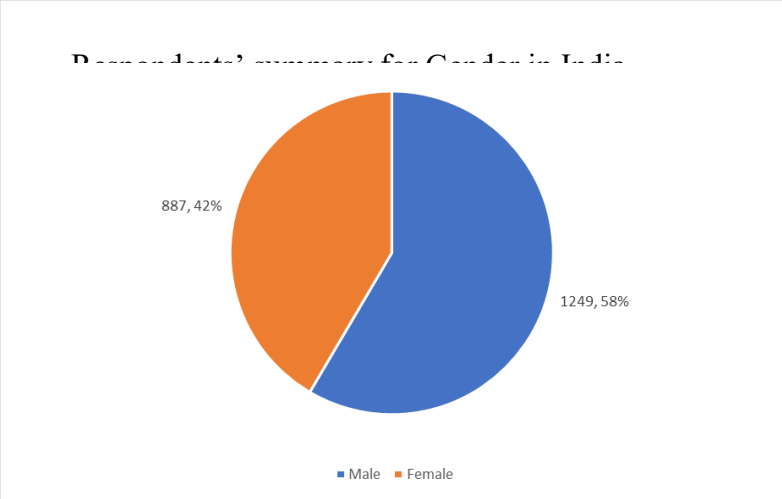


Figure 25 Respondents distribution for Gender in India

Indian respondents, similar to United States, have majority of respondents (58%) being male and rest 42%.

4.5.3 Respondents distribution for Gender in Germany

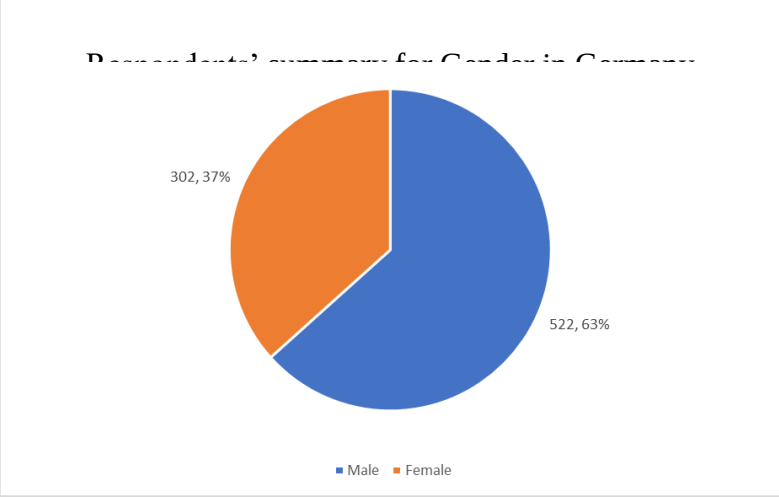


Figure 26 Respondents distribution for Gender in Germany

Participants from the Germany region as well have most of the respondents in the male category. 63% of the respondents are male while rest 37% being female.

4.5.4 Respondents distribution for Gender in Australia

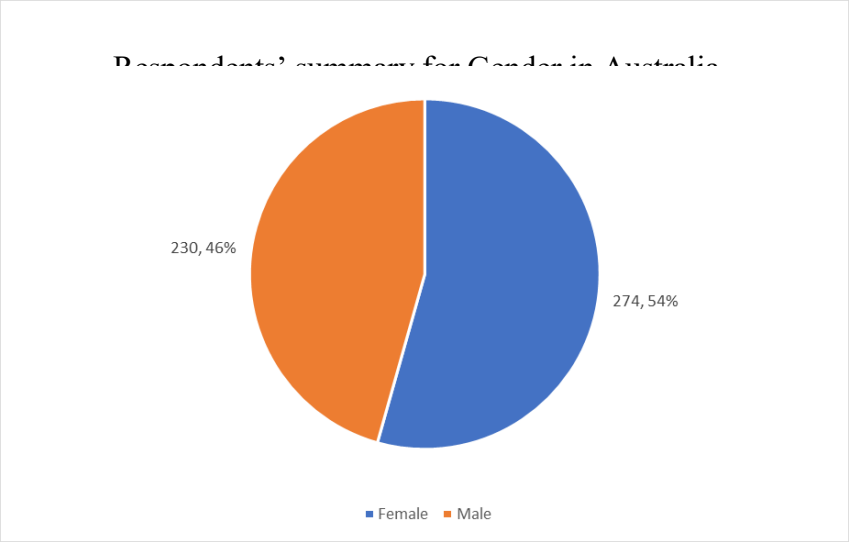


Figure 27 Respondents distribution for Gender in Australia

Australia respondents are the exception in the gender demographic category. Majority of the respondents are female with 54%. Male respondents, though in minority, are not much far away in proportion with 46%.

4.6 Respondents distribution for Social Status

Social status represents another category in the demographics umbrella. It represents the social class and status of the respondents on the basis on their income. Income categorization is not done in terms of the numbers but as per the thinking ability of the respondents. The categories under the social status are as follows:

a. Below poverty line

b. Lower middle class

c. Middle class

d. Upper middle class

e. Upper class

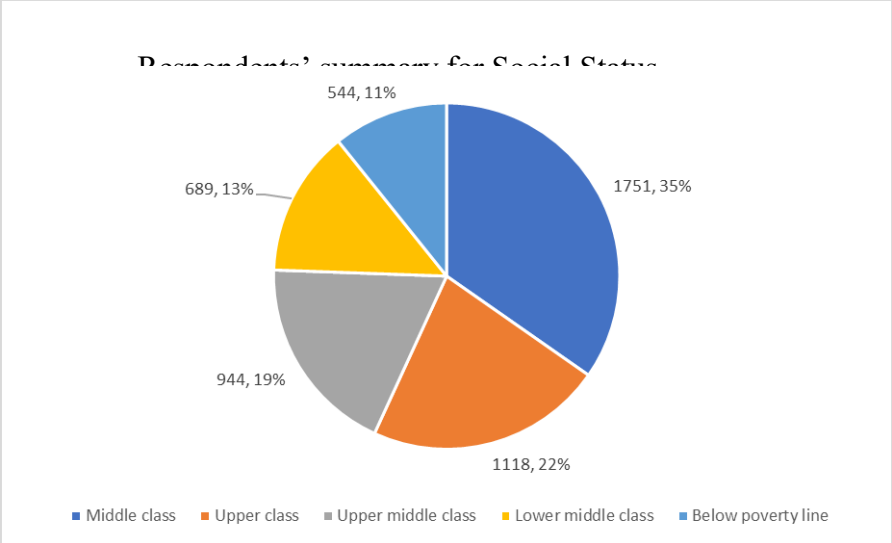


Figure 28 Respondents distribution for Social Status

Middle class represents the 35% of the respondents across the countries participated in the survey. Upper class and Upper middle class represent the 22% and 19% of the respondents respectively. Below poverty line has the lowest proportion among the social-economic categories provided, with 11% of the respondents falling in the same. Rest 13% of the respondents are in lower middle class.

4.6.1 Respondents distribution for Social Status in the United States

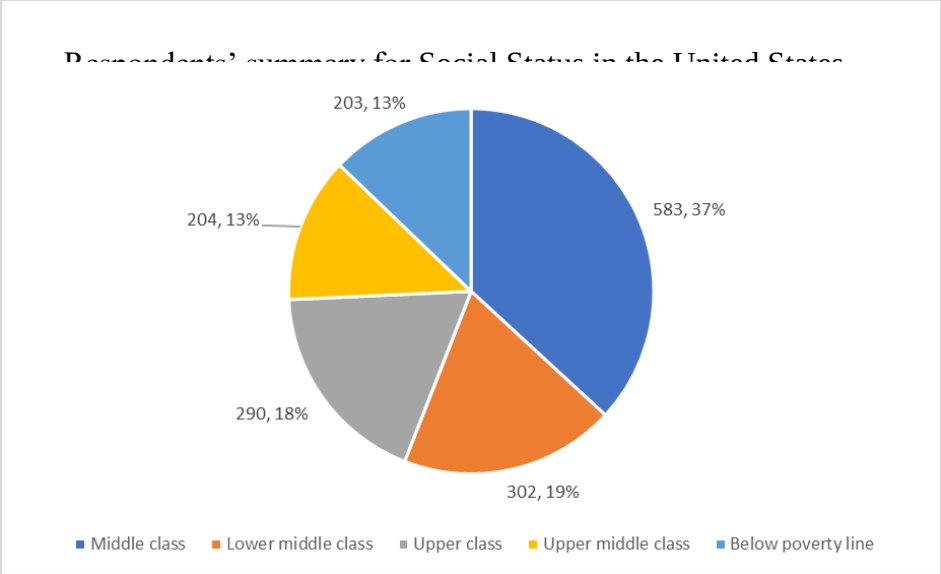


Figure 29 Respondents distribution for Social Status in the United States

The United States follows similar pattern to the global averages with middle class representation being the highest (37%). Upper middle class and upper-class categories are next with 19% and 18% respectively. Respondents belonging to the Lower middle class and Below poverty line are among the lower proportion with 13% each. It represents that 37% of the respondents are in above middle-class category while 26% below middle-class category of the social status.

4.6.2 Respondents distribution for Social Status in India

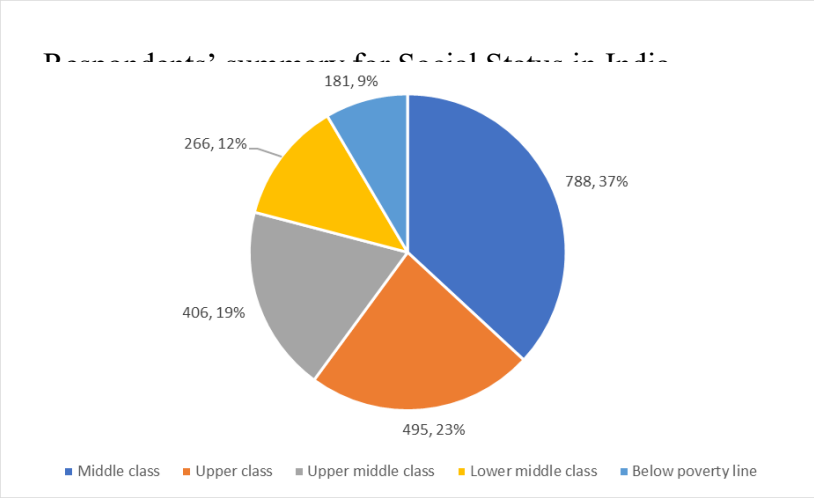


Figure 30 Respondents distribution for Social Status in India

The Middle class continues to be highest proportion of the social status category. Among the Indian respondents 37% represents the middle class, same as United States participants. Above middle-class category consists of 42% participants with 23% from upper class and 19% in the upper middle class. Below middle-class categories have 21% of the respondents with 9% in below poverty line and 12% in the lower middle-class category.

4.6.3 Respondents distribution for Social Status in Germany

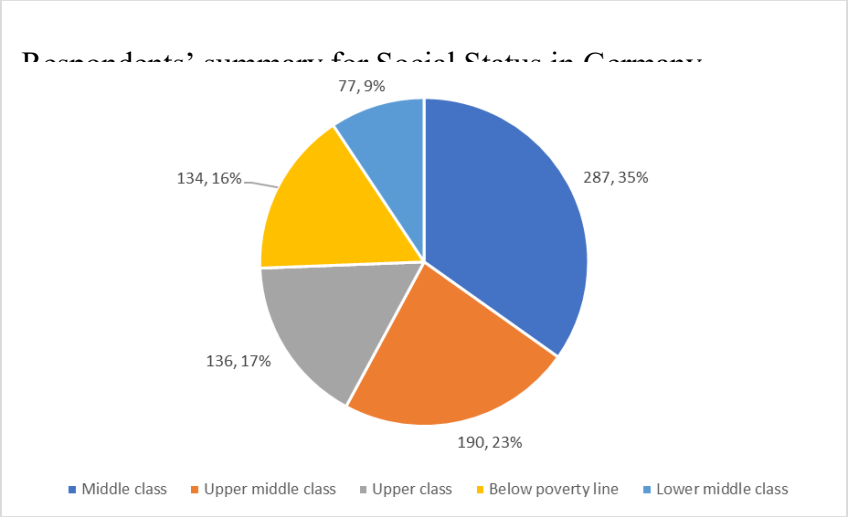


Figure 31 Respondents distribution for Social Status in Germany

With 35% of the respondents, middle class category has the highest proportion among all the categories in the social-economic class. Above middle-class categories consist of 40% of the respondents with 17% being in the upper middle class while 13% in the upper class. Below middle-class proportion is 25% with 9% is lower middle class and remaining 16% in the below poverty line, making it highest proportion among the geographies.

4.6.4 Respondents distribution for Social Status in Australia

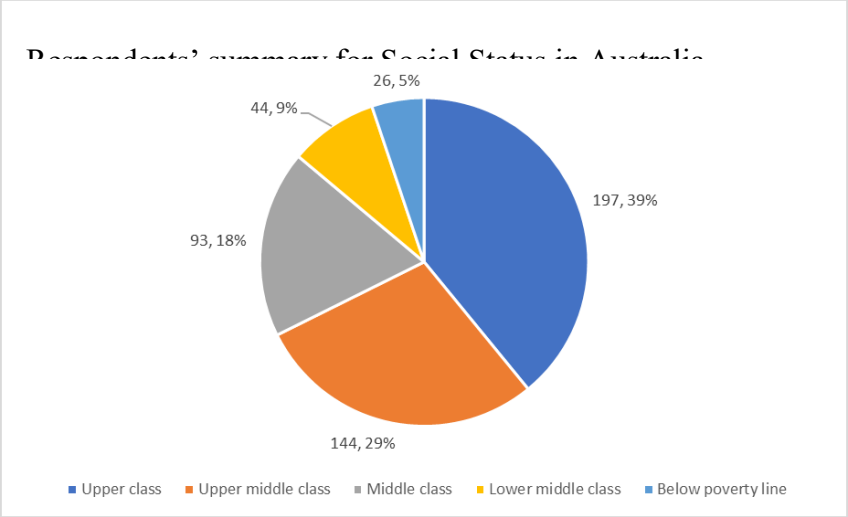


Figure 32 Respondents distribution for Social Status in Australia

Australian respondents have slightly different profile in terms of the social status. Above middle class is the majority proportion with 68% which constitutes of 39% and 29% from the upper class and upper middle class respectively. 18% of the respondents falls in the middle-class category. Respondents belonging to the Lower middle class and below poverty are 9% and 5% respectively.

4.7 Respondents distribution for Education background

Education background categories represents the education qualification of the respondents. It shows level of highest completed education grade they have achieved. It is divided into 5 categories; they are as follows:

a. High school or below

b. Graduate

c. Post-Graduate

d. Doctorate

e. Professional – it represents the professionals like C.A. etc.

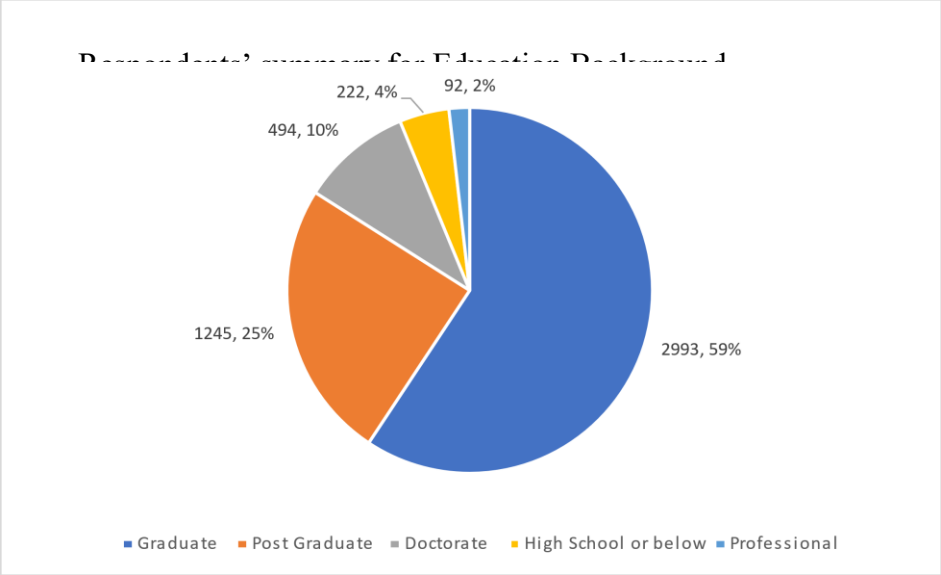


Figure 33 Respondents distribution for Education background

Overall, among the 5046 respondents, majority have highest completed education as graduate. It represents 60% of the participants in the survey. 25% of the respondents have the highest education as postgraduate.10% of the respondents are highly educated and qualified, having completed their doctoral level of education. 4% of the respondents are either not educated or high school or below students. Rest 2% of the participants are having professional qualifications like chartered accountant (CA).

4.7.1 Respondents distribution for Education background in the United States

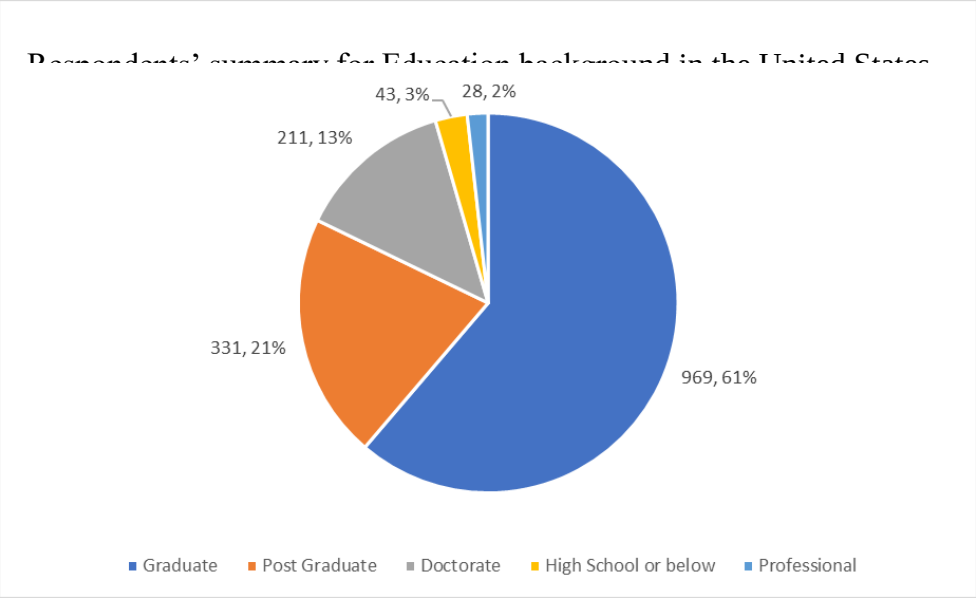


Figure 34 Respondents distribution for Education background in the United States

Among the respondents in the United States, 61% have graduation being the highest completed education qualification. 21% of the respondents are post graduate and 13% of the respondents have completed their doctoral education. Only 3% and 2% of the participants are high school or below and professional respectively.

4.7.2 Respondents distribution for Education background in India

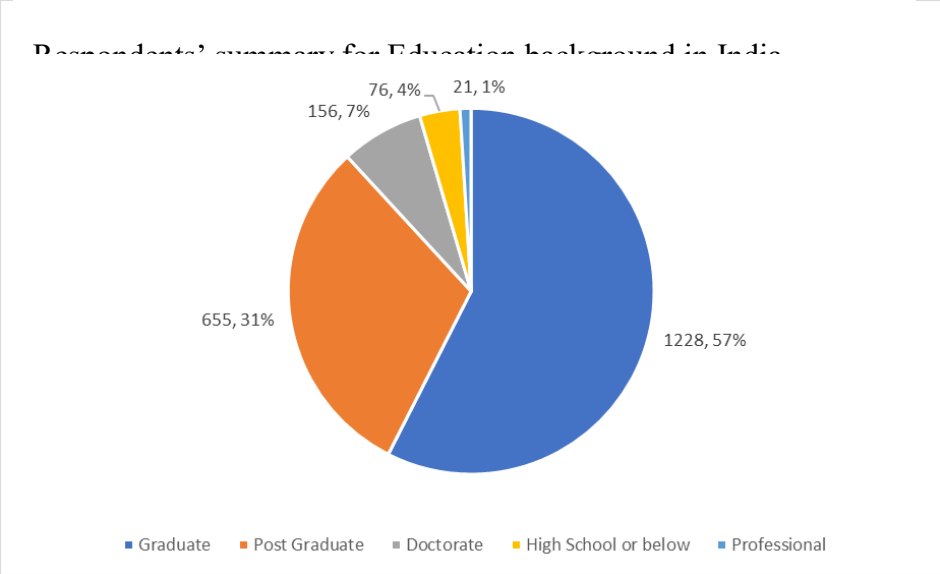


Figure 35 Respondents distribution for Education background in India

Similar to the overall geographical response, majority of the respondents are graduate among the Indian respondents. 57% of the respondents have the highest completed education being graduate while 31% of the participants are post graduate. In terms of the highly qualified respondents, 7% of the respondents have completed the doctoral degree. Only 1% of the respondents are in the professional category while 4% of the respondents haven't the high school and are part of the high school or below category.

4.7.3 Respondents distribution for Education background in Germany

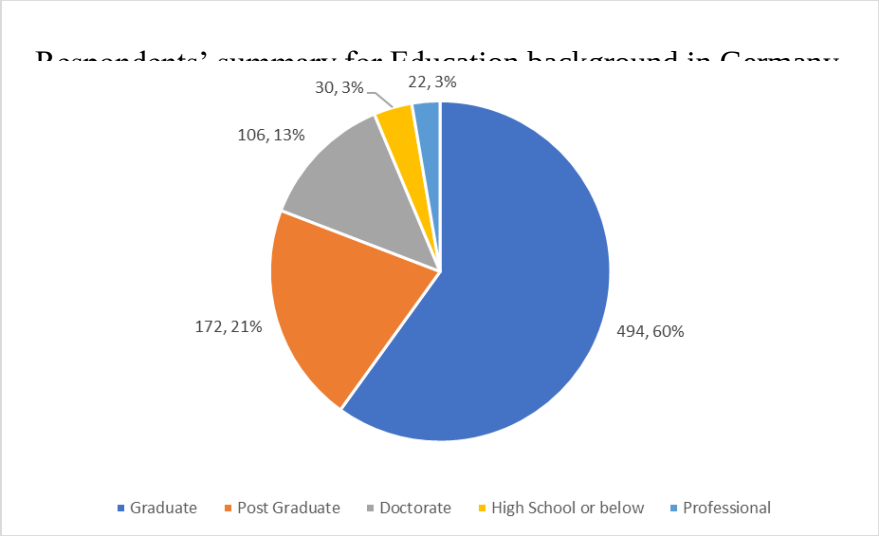


Figure 36 Respondents distribution for Education background in Germany

60% of the respondents in Germany have graduation degree as their highest qualification. 21% of the respondents are more qualified with the highest qualification being the postgraduate. 13% of the respondents have doctoral degree while 3% haven't completed their high school. 3% of the participants are professionally qualified.

4.7.4 Respondents distribution for Education background in Australia

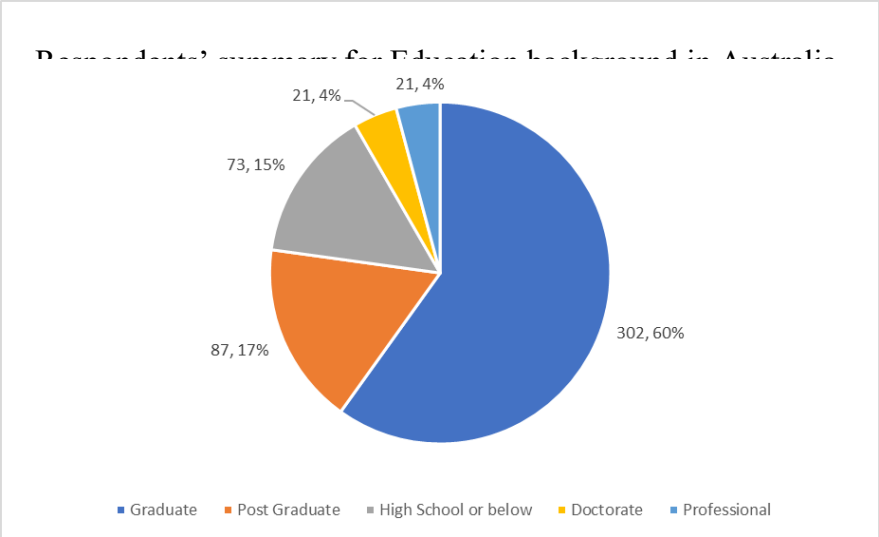


Figure 37 Respondents distribution for Education background in Australia

Respondents with the highest education qualification being graduation, continues to the majority proportion among the respondents. 60% of respondents are graduates while 17% of respondents have completed their post-graduation. As an outlier, high school or below proportion among the Australian respondents is highest globally with 15% of the participants haven't completed their high school. 4% each of the respondents possess the doctoral degree and professional qualification.

4.8 Respondents distribution for Occupation

Occupation represents the nature of work the respondents are currently doing. It only represents the sector of work. It has 4 categories for the respondents.

a. Unemployed or Not working or Retired or Home maker – it consists of the respondents presently not working due to any reason, be it student, retired and mentioned options like unemployed or home maker
b. Private sector job
c. Government sector job – it is similar to public sector job as well.
d. Self-employed – it also includes the entrepreneur, family business and freelancers

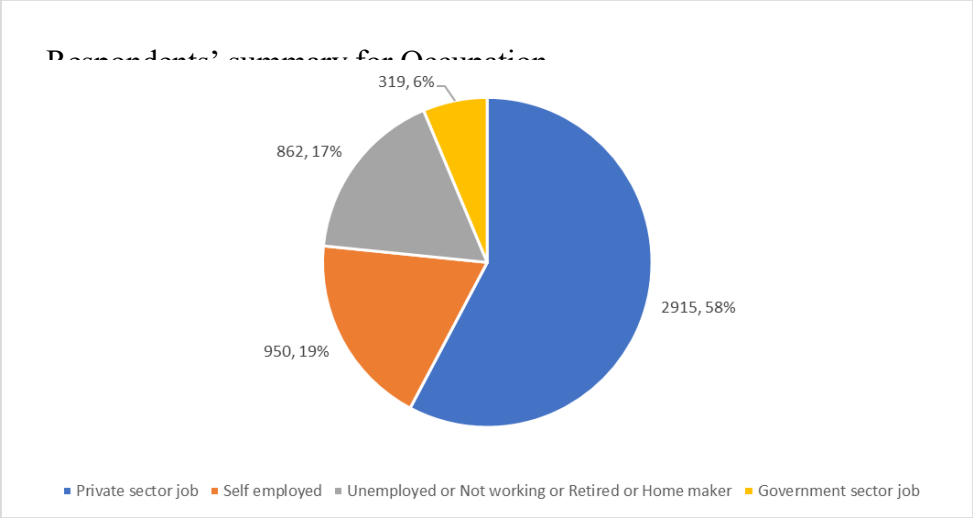


Figure 38 Respondents distribution for Occupation

Among the respondents surveyed, 58% of the respondents are currently part of the private sector companies and organization. 19% of the participants are either self-employed or having a start-up or are part of the family business. 17% of the respondents belongs the non-working class while 6% of the respondents are in the public or government related job and public servants.

4.8.1 Respondents distribution for Occupation in the United States

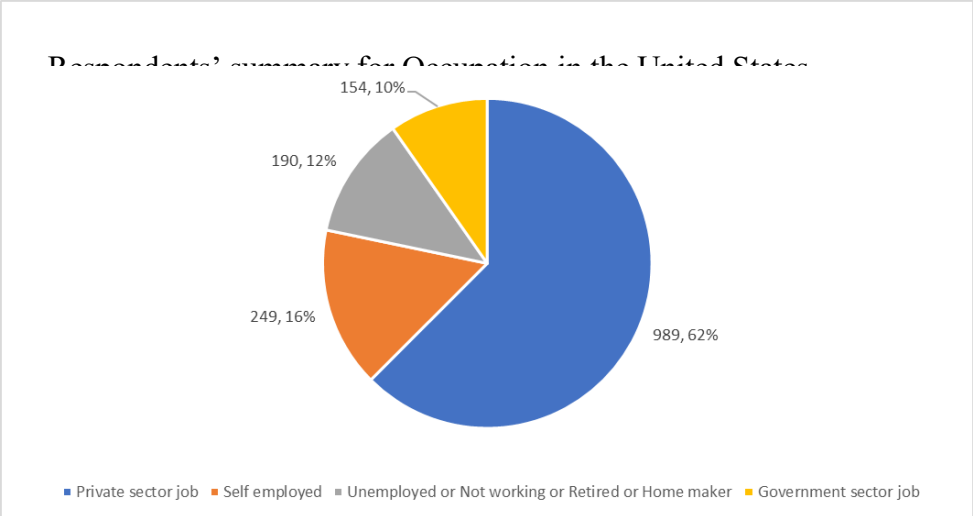


Figure 39 Respondents distribution for Occupation in the United States

62% of the respondents in the United States are in the private sector work environment while 10% of the respondents in the public sector. 16% of the respondents are self-employed or running their own startup or are part of the family business. Remaining 12% of the respondents are currently non-working.

4.8.2 Respondents distribution for Occupation in India

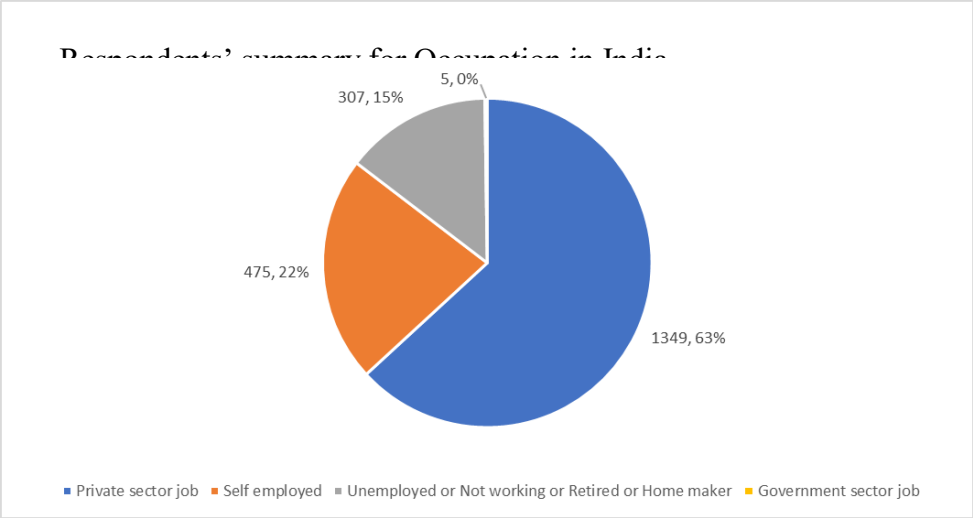


Figure 40 Respondents distribution for Occupation in India

Among the respondents in India, 63% of the respondents are working in the private organization while the numbers are almost 0 for the counterpart public or government organization. 22% of the respondents are currently pursuing their business and rest 15% are non-working not earning category.

4.8.3 Respondents distribution for Occupation in Germany

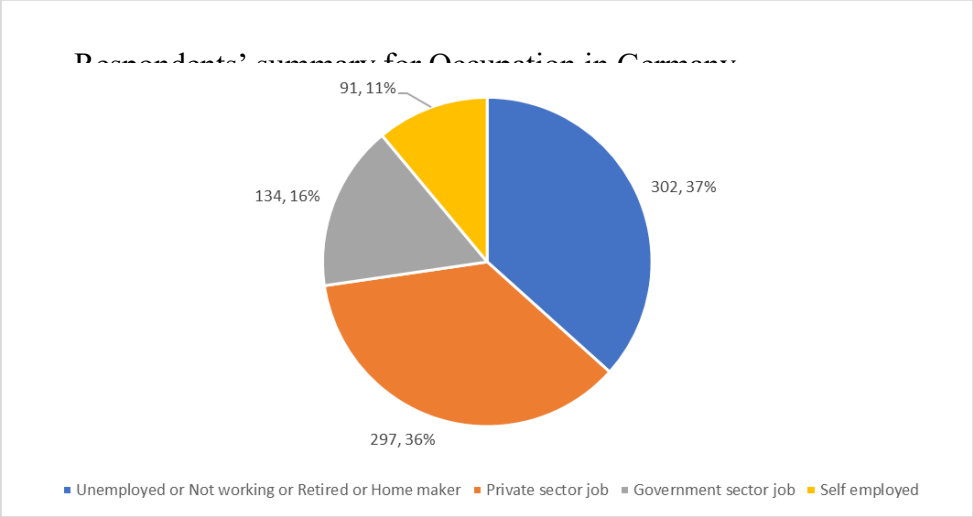


Figure 41 Respondents distribution for Occupation in Germany

Germany respondents show a lot of deviation from the global averages in terms of the occupation. More than one-third of the proportion are currently not working. This is due to that fact that majority of the participants are students and currently studying or home makers. 36% of the respondents are in the private sector while 16% in government sector. 11% of the participants are in the self-employed category.

4.8.4 Respondents distribution for Occupation in Australia

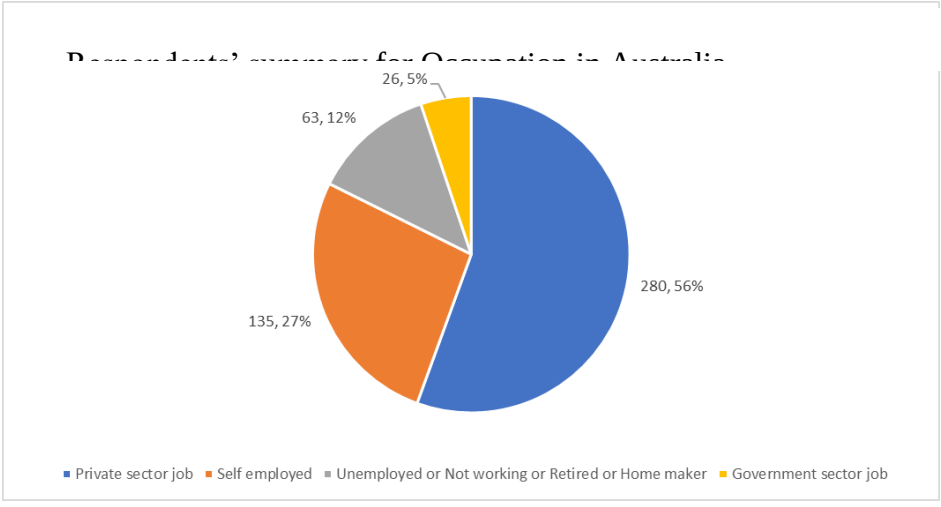


Figure 42 Respondents distribution for Occupation in Australia

Private sector continues to dominate the participants occupation category, with 56% of the respondents are currently working in the private organization. 27% of the participants are self-employed or working as a freelancer. 5% of the respondents are in government manager companies while 12% are non-employed.

4.9 Respondents distribution for Brand influence

Brand names and their ability to influence the customer decision making process is evaluated using the "Brand influence" category. It is done on the Likert scale where the respondents can select one of the five following options:

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

The options above in the order of the influence power or scale where very low influencing represents that the brand name does not impact the customer decision making process and a prominent factor for the price determination. Very high influencing shows that the customer considers the brand name as a very important factor to be considered while buying a medical device and brand name also drives price related decision making. It is important to note that the high proportion does not always signify that the category is statistically significant as well for the pricing decision. It is discussed in the next chapter where the statistical analysis is presented.

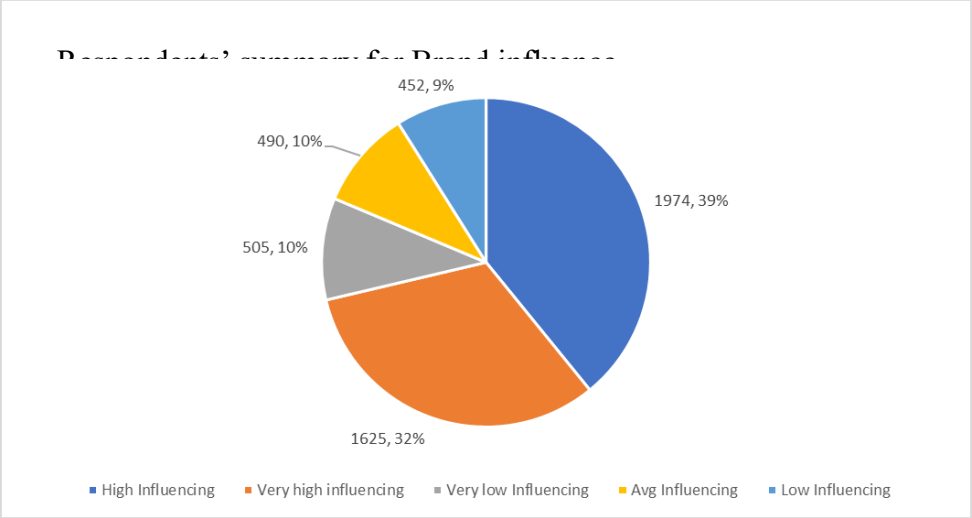


Figure 43 Respondents distribution for Brand influence

Out of the 5046 respondents across the globe, brand name is considered as an influencing factor by 71% of the respondents. 39% of respondents consider brand name as the high influencing factor 32% consider the brand name as the very high influencing factor. 10% of respondents consider brand name as average influencing factor and when coupled with other factors, it can drive the customer decision making process. Rest 19% of the respondents does not have a much influence of the brand on their price related decisions of the medical devices. It shows that brand name which are popular and associated with the medical and similar industries impacts the decision making of the respondents while purchasing a medical device.

4.9.1 Respondents distribution for Brand influence in the United States

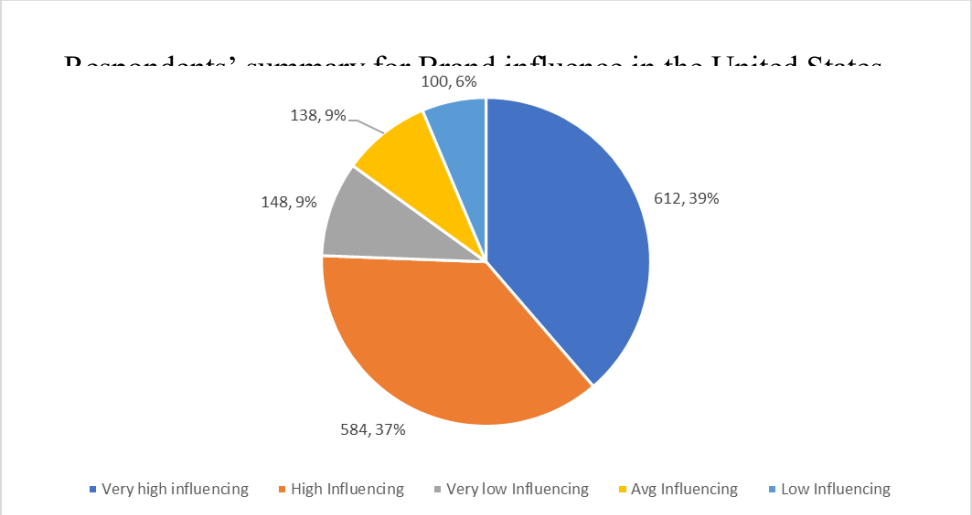


Figure 44 Respondents distribution for Brand influence in the United States

Among the United States respondents, there is clear pattern and importance given to the brand image. With 76% of the respondents agrees that the brand name is an influencing factor for the pricing decision while purchasing a medical device. 39% are very highly influenced while 37% are highly influenced by the brand name. Average influencing respondents are 9% in proportion. Aggregating 15% of the respondents, who are not much influenced by the brand name.

4.9.2 Respondents distribution for Brand influence in India

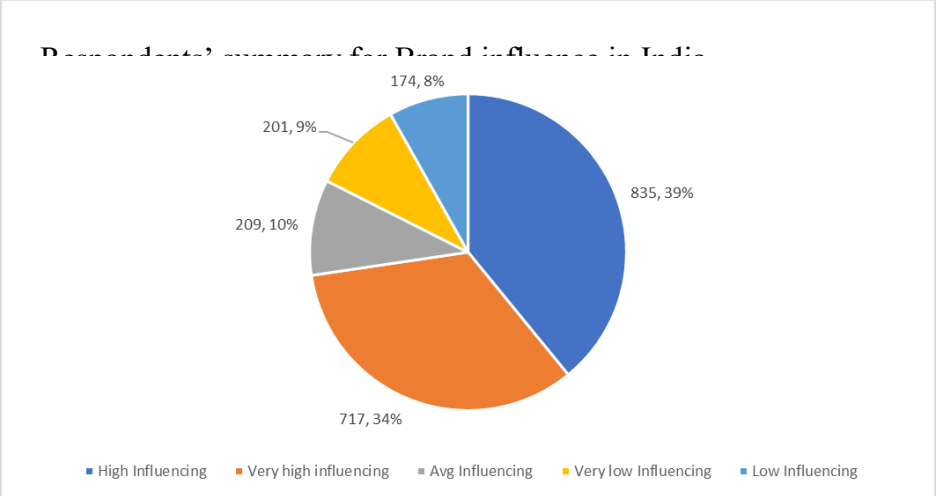


Figure 45 Respondents distribution for Brand influence in India

The respondents in India as well have selected the high influencing option for the brand image. 73% of the respondents are highly and very highly influenced by the brand name of the medical devices. 9% and 8% of the respondents are very low and low respectively influenced by the brand name of the medical device. Rest 10% of the respondents are neither highly nor low influenced by the brand name.

4.9.3 Respondents distribution for Brand influence in Germany

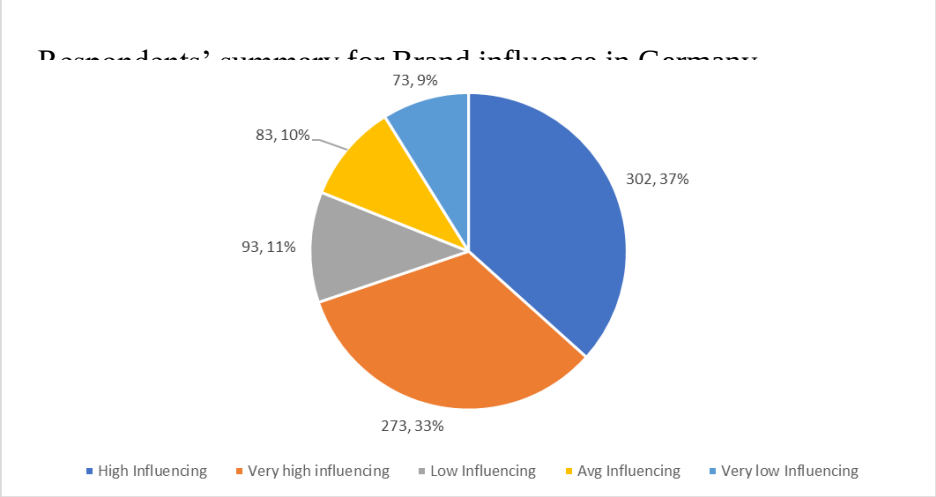


Figure 46 Respondents distribution for Brand influence in Germany

Brand name being the influential factors is not an exception to Germany respondents as well. 70% of the respondents get impacted by the brand name of the medical devices, with 37% are highly influenced and 33% being very highly influenced. Low and very low influenced proportion are 11% and 9% respectively. 10% of the respondents are average influenced by the brand name.

4.9.4 Respondents distribution for Brand influence in Australia

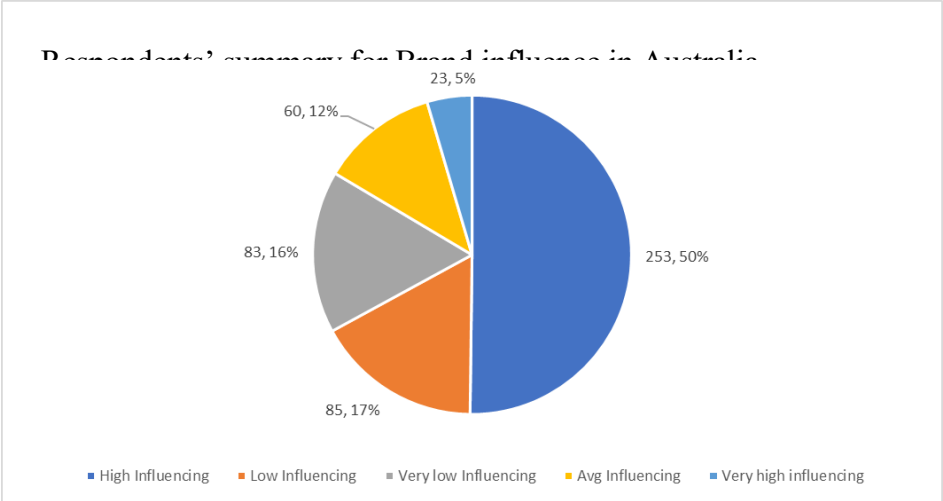


Figure 47 Respondents distribution for Brand influence in Australia

Half of the respondents are highly influenced by brand name among the Australian respondents. Only 5% of the participants are very highly influenced by the brand name. One-third of the respondents are not influenced by the brand name with 17% are low influenced and 16% in very low influencing category. 12% of the respondents are neither highly nor low influenced by the brand name of the medical devices.

4.10 Respondents distribution for Doctor's Recommendation

It represents the influence a doctor's recommendation makes on the customers purchasing a medical device and on the pricing process. . It is done on the Likert scale where the respondents can select one of the five following options:

a. Very low Influencing – no influence

b. Low Influencing

c. Avg Influencing – Average influencing

d. High Influencing

e. Very high Influencing

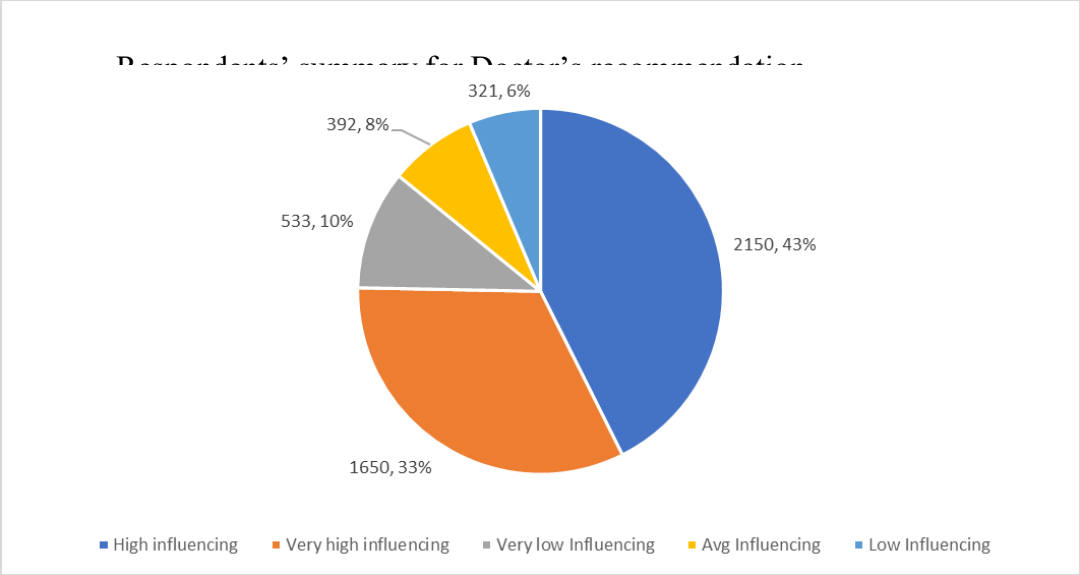


Figure 48 Respondents distribution for Doctor's Recommendation

Out of the total 5046 respondents, 43% of the respondents consider doctor's recommendation as the high influencing factor in their decision-making process. One third of respondents of respondents are a step ahead and consider doctor's recommendation as a very high influencing factor on their decision-making process of purchasing a medical device. This shows that more than three-fourth of the respondents are influenced significantly by the doctor's recommendation of any medical device product. 10% and 6% are very low and low influenced while 8% of the respondents are

neither largely influenced nor low influenced by the recommendations received from the doctor.

4.10.1 Respondents distribution for Doctor's Recommendation in the United States

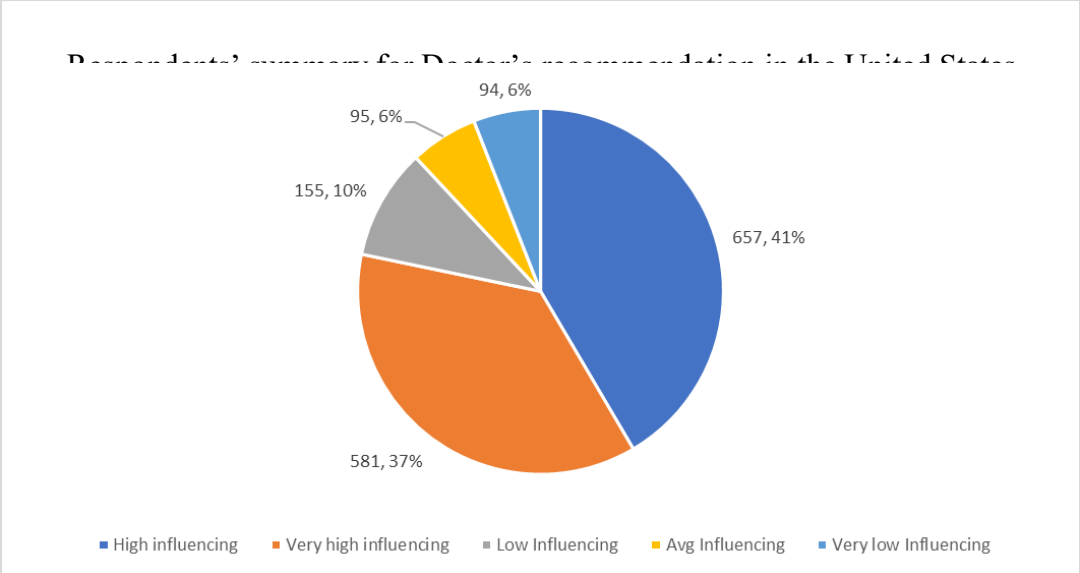


Figure 49 Respondents distribution for Doctor's Recommendation in the United States

Doctor's recommendation plays a significant role in the decision-making process of the respondents in the United States. More than three-fourth of the respondents are significantly impacted by the doctor's recommendation on the medical devices. 41% of the respondents are highly influenced while 37% are very highly influenced by the doctor's recommendation. 6% of respondents are neutral towards the advice from the doctor. 10% and 6% of the respondents low and very low influenced by the doctor's recommendations.

4.10.2 Respondents distribution for Doctor's Recommendation in India

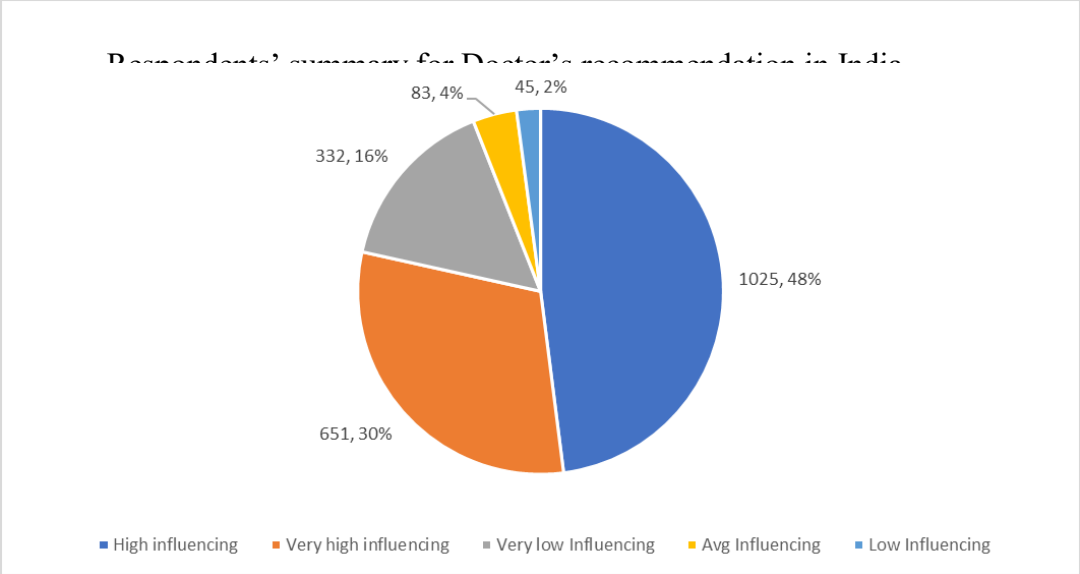


Figure 50 Respondents distribution for Doctor's Recommendation in India

Very similar to the United States respondents, Indian respondents as well as largely influenced by the doctor's recommendation. 78% of the respondents are impacted positively by the recommendations received from the doctor and medical practitioner. Almost half (48%) of the respondents are highly influenced by the doctor's recommendation while the proportion is 30% for the very highly influenced category. 16% of the respondents are not at all influenced or very low influenced. Neutral category and low influenced categories proportion are 4% and 2% respectively.

4.10.3 Respondents distribution for Doctor's Recommendation in Germany

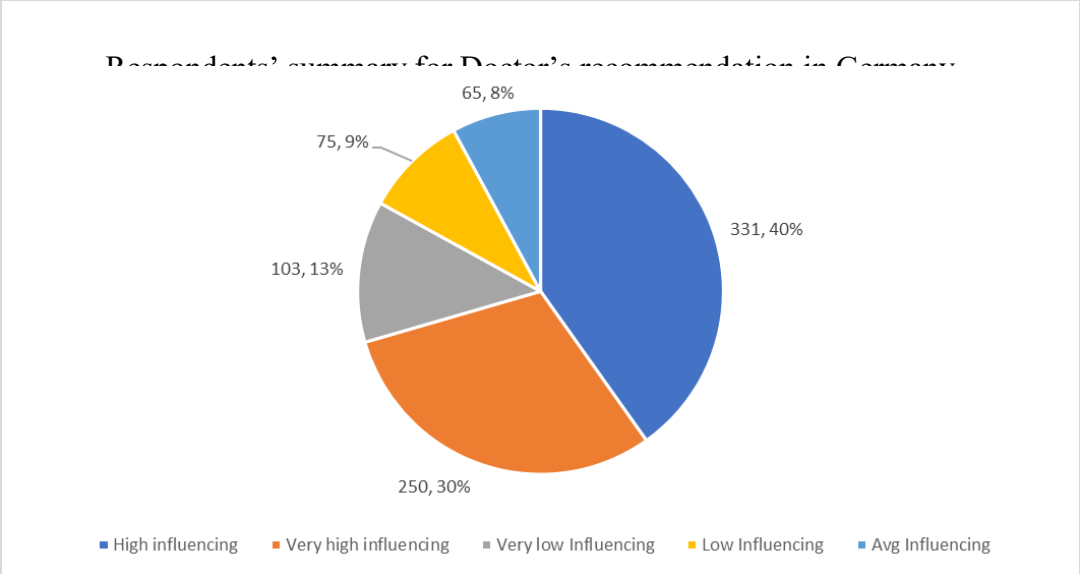


Figure 51 Respondents distribution for Doctor's Recommendation in Germany

The respondents in Germany are also influenced by the recommendations provided by the doctors. 70% of the respondents are influenced while 22% are not influenced by the recommendations. Rest 8% of the respondents are neutral towards the recommendations. 40% and 30% of respondents are highly and very highly influenced by the recommendations while proportion for the respondents having very low influencing power stands at 13%.

4.10.4 Respondents distribution for Doctor's Recommendation in Australia

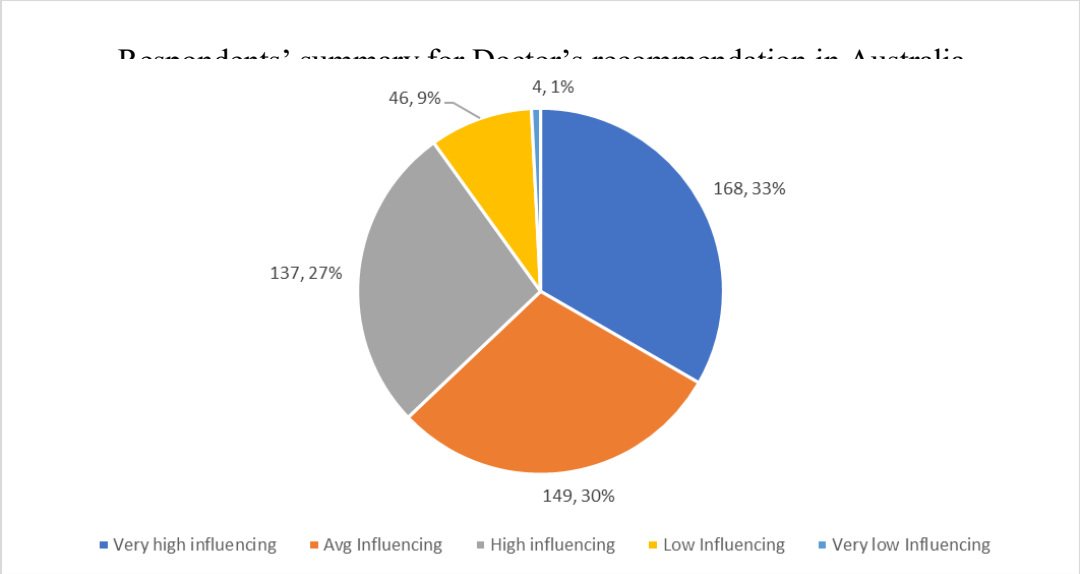


Figure 52 Respondents distribution for Doctor's Recommendation in Australia

Australian respondents are also majorly impacted by the recommendation given by the doctors. 60% of the respondents are influenced by the doctor's recommendations, with 33% of the respondents are in the very highly influenced category. Very highly influenced has the largest proportion among the categories. Almost one-third (30%) of the respondents are neutral towards the doctor's recommendation. Only 10% of the respondents are in category where they are not much impacted and influenced by the doctor's recommendation, with very low influenced proportion being 1%.

4.11 Respondents distribution for Family & Peer Recommendation

The importance of the recommendation and advice from the friends, family and peers are evaluated using the "Family Peer recommendation" category. It is done on the Likert scale where the respondents can select one of the five following options:

a. Very low Influencing – no influence

b. Low Influencing

c. Avg Influencing – Average influencing

d. High Influencing

e. Very high Influencing

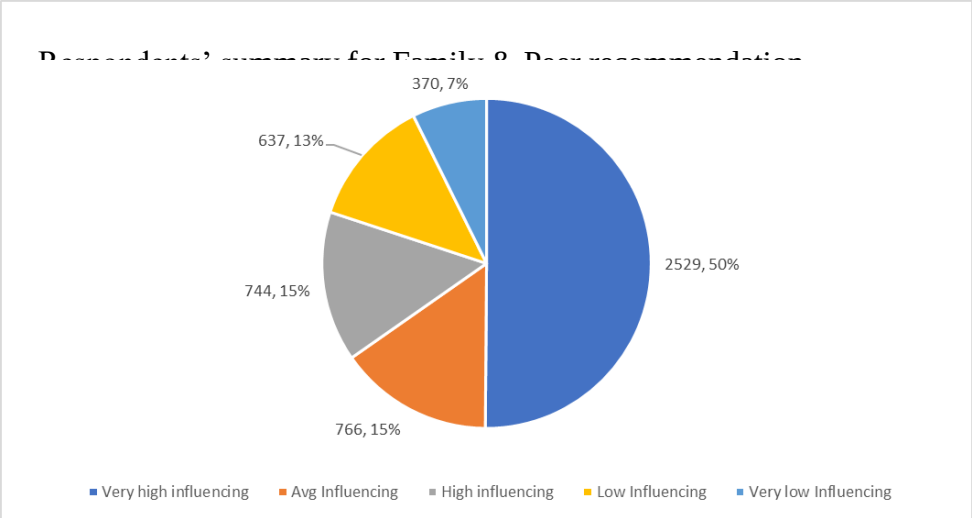


Figure 53 Respondents distribution for Family & Peer Recommendation

All the 5046 respondents participated in the category and 2529 ,just over 50%, respondents are in the very highly influential category. This shows the importance of the recommendations received from the people who are close to the decision maker, and they can trust on them. The proportion for categories showing high influence and neutral influence are 15% each. 20% of the respondents are not much impacted by the family and peer's recommendations, 7% being in the very low influencing category.

4.11.1 Respondents distribution for Family & Peer Recommendation in the United States

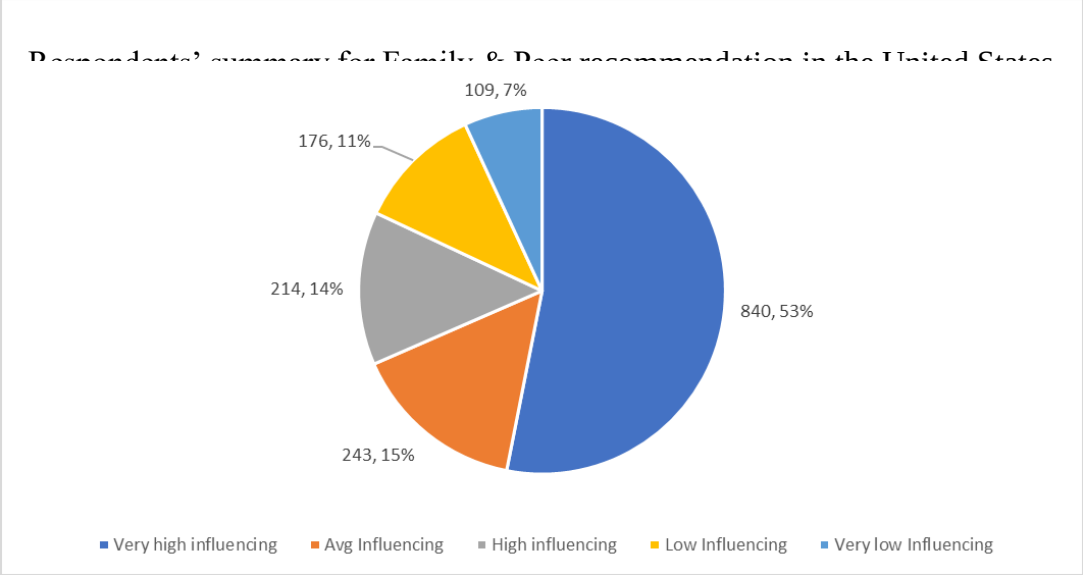


Figure 54 Respondents distribution for Family & Peer Recommendation in the United States

More than two-third of the United States respondents (67%) are influenced by the medical devices' recommendations from the friends and family, with 53% of the respondents are in the very highly influenced category – making it the largest category. 15% of the respondents are neutral or non-biased towards the recommendations from the friends and family. 18% of the respondents are not influenced by those recommendations, with 7% of respondents in the very low influenced or no influenced category.

4.11.2 Respondents distribution for Family & Peer Recommendation in India

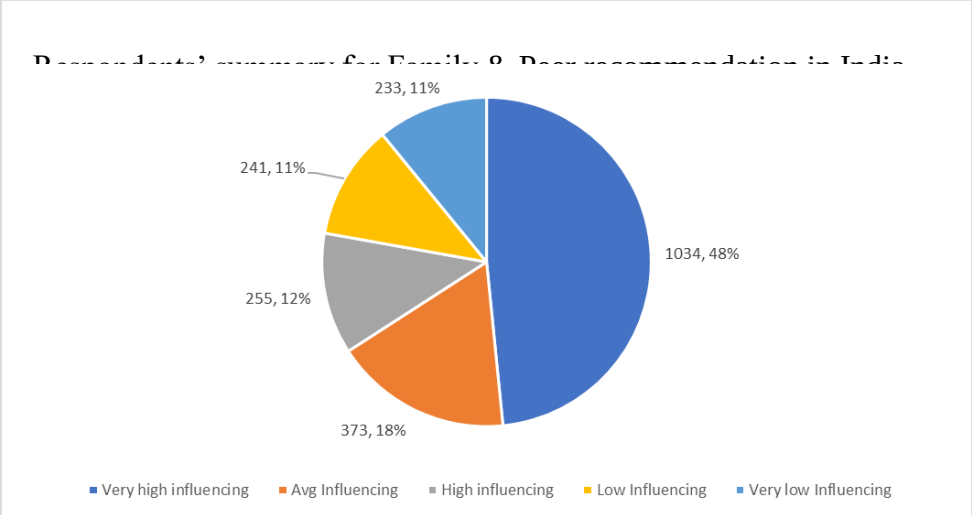


Figure 55 Respondents distribution for Family & Peer Recommendation in India

Almost half of the respondents in India (48%) are very highly influenced by the family and friends' recommendations. This shows how important the recommendations are in the decision making of the consumer purchasing a medical device. 18% of the respondents are neutrally biased towards the recommendations while 12% of the respondents are highly influenced. 22% of respondents (11% each from low and very low influenced categories) are not influenced by the recommendations received on the medical devices.

4.11.3 Respondents distribution for Family & Peer Recommendation in Germany

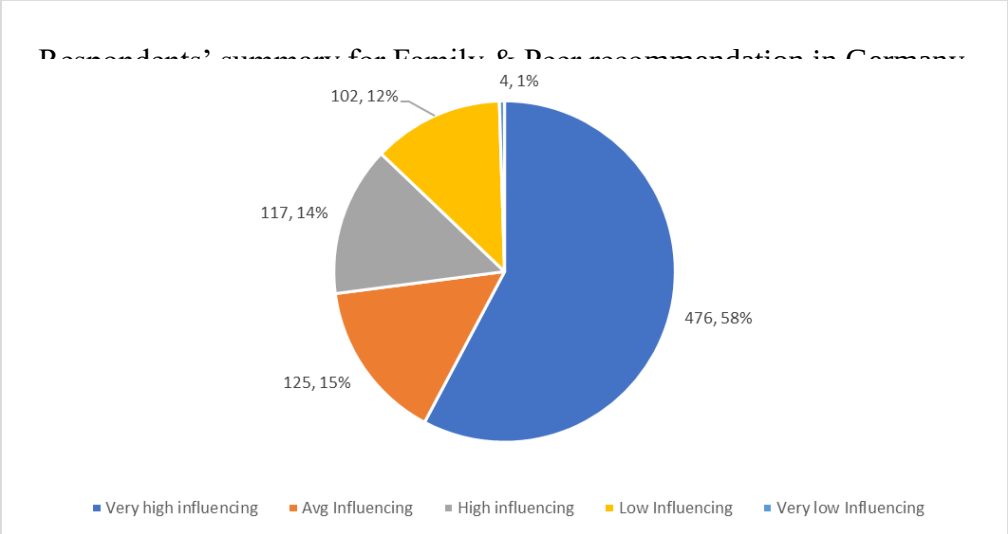


Figure 56 Respondents distribution for Family & Peer Recommendation in Germany

With 72% of the respondents in the influenced categories, German respondents shows how important the family and friends' recommendation are for them. This shows that it is very important decision-making criteria and factor which is considered while purchasing a medical device. 58% of the respondents belongs to the very high influencing category while 14% in the high influencing category. 15% of respondents are neutral towards these recommendations. 13% of the respondents agrees to the fact that they are not much impacted from the family and friends' recommendations, with 1% of the respondents in very low influencing category.

4.11.4 Respondents distribution for Family & Peer Recommendation in Australia

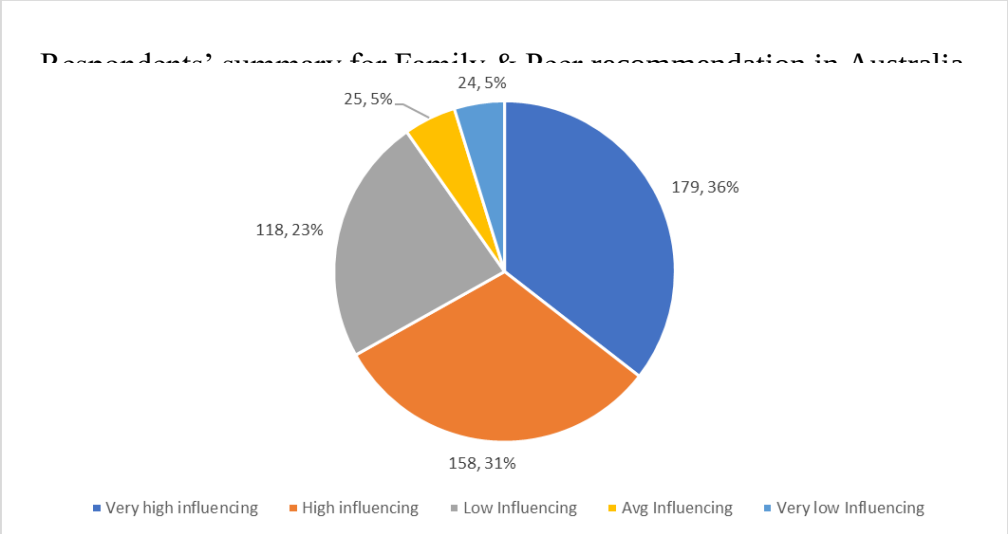


Figure 57 Respondents distribution for Family & Peer Recommendation in Australia

Australian respondents are no exception when it comes to the importance of the recommendation from the family and friends and its impact of the decision-making capability during the purchase of a medical device. Top two categories having highest proportion are very highly influencing (36%) and high influencing (31%). This shows how largely they are impacted by the recommendations received. 23% of the respondents are neutral or in average influencing category. Only 10% of the respondents are in categories which signify low importance. 5% each are in low and very low influencing category.

4.12 Respondents distribution for Online Reviews

With internet growing faster than ever, the importance of online reviews is growing and gaining popularity. The category “Online Reviews” helps in understanding the importance of the reviews available online for the medical devices and how they can be

an integral part of the decision-making process. It is done on the Likert scale where the respondents can select one of the five following options:

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

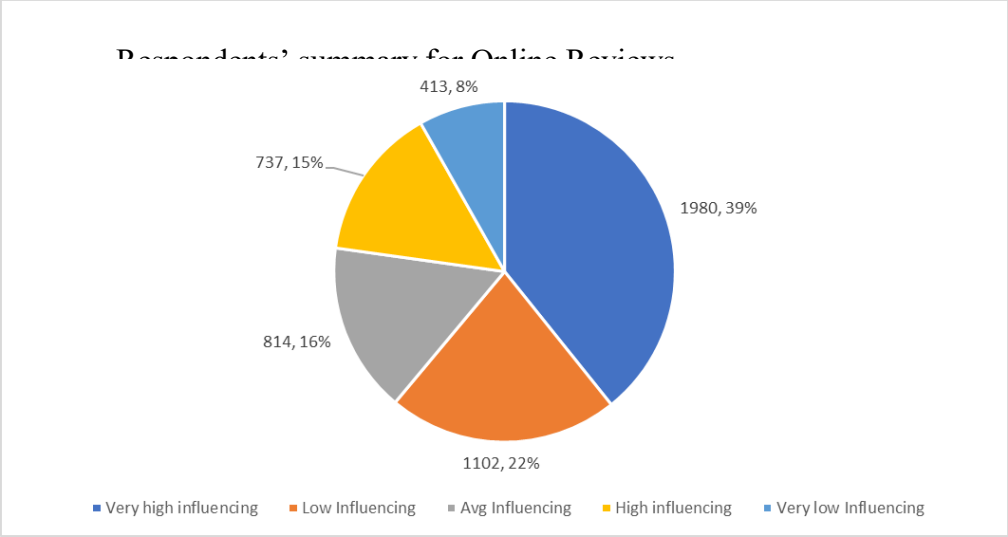


Figure 58 Respondents distribution for Online Reviews

There is no biasness towards any category or influencing state in the online review recommendation. 39% of the respondents are very highly influenced by the online reviews of the medical devices. On the contrary, 22% of respondents are in the category of the low influencing. 16% of the respondents are neutral towards the recommendation. High influencing and very low influencing proportion are 15% and 8% respectively. Overall, there is a slight majority towards the recommendation.

4.12.1 Respondents distribution for Online Reviews in the United States

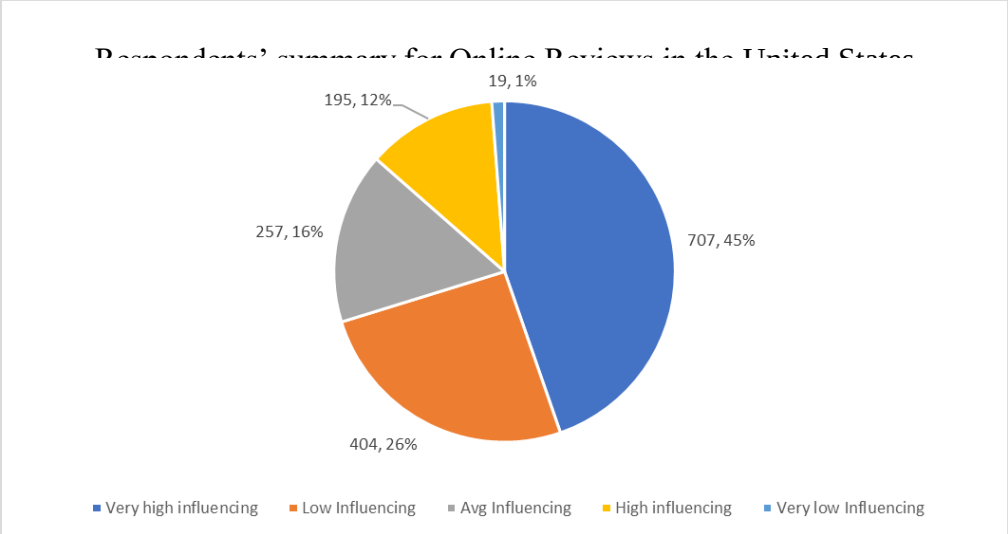


Figure 59 Respondents distribution for Online Reviews in the United States

Among the United States respondents, 57% of the respondents are influenced by the online reviews with 45% of the respondents agreeing to the fact that the online reviews plays are a very influential factor while making a decision of purchasing a medical devices. 16% of the respondents are average influenced by the online reviews. 27% of the respondents are not much influenced by the online reviews, with only 1% of the respondents in the no influenced category.

4.12.2 Respondents distribution for Online Reviews in India

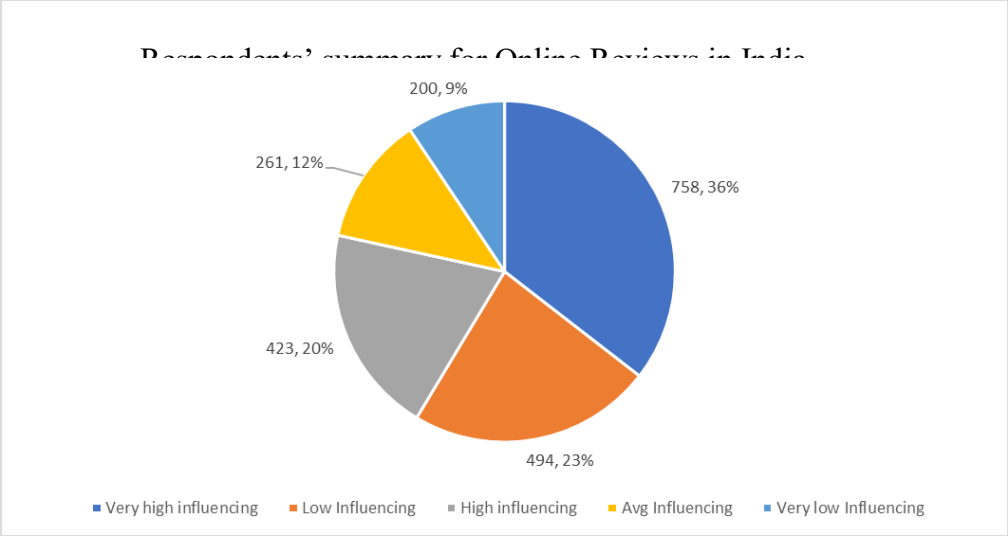


Figure 60 Respondents distribution for Online Reviews in India

Among the Indian respondents as well, there is no category with very high proportion or biasness. Very highly influencing factor has the highest proportion with 36%. Proportion of respondents selecting the high influencing factor for the online reviews are at 20%. This makes 56% as the total proportion of respondents who considered online reviews are an important factor while purchasing a medical device. 12% of the respondents are neutral or average influenced. 32% of the respondents are not much influenced by the online reviews, with 9% of them are in the not at all influenced categories.

4.12.3 Respondents distribution for Online Reviews in Germany

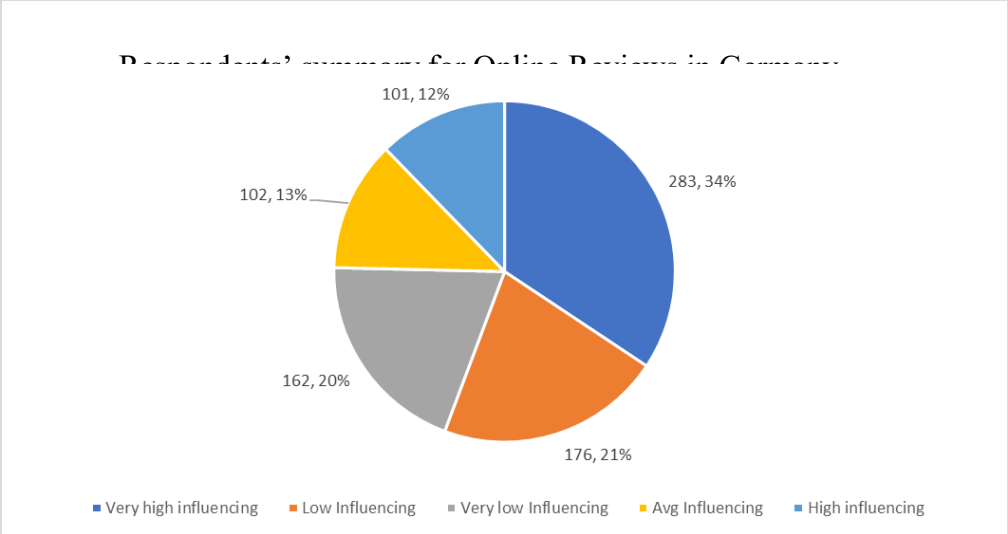


Figure 61 Respondents distribution for Online Reviews in Germany

Germany respondents shows a contrasting story of the online review influence on the decision-making process. 34% of the respondents (which is highest in the category) shows that they are very highly influenced by online reviews but 12% (which is lowest in the category) are highly influenced. 21% of the respondents are not much influenced and are in the low influencing category while 20% of the respondents in the no influence category. Remaining 13% of the respondents are in neutral category.

4.12.4 Respondents distribution for Online Reviews in Australia

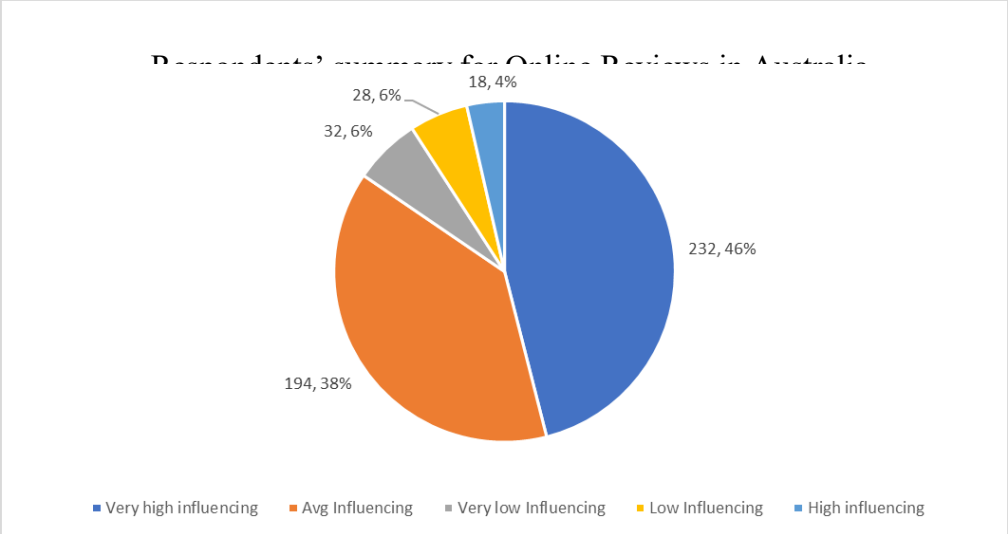


Figure 62 Respondents distribution for Online Reviews in Australia

Among the Australian respondents, 46% are very highly influenced by the online review and while a large proportion (38%) are neutral, or average influenced by the online reviews and posts. Very low influencing factor or no influence, Low influencing and highly influencing proportions are very low with 6%, 6% and 4% respectively.

4.13 Respondents distribution for Ecommerce sponsorship

Many medical devices are available over the various online websites, and it is easy to influence the decisions of the consumers by showing the products on the top through an advertisement and highlighting certain products in exchange for a fee. “Ecommerce sponsored” evaluates the influence of such promotions in the decision-making process of the medical devices. It is done on the Likert scale where the respondents can select one of the five following options:

a. Very low Influencing – no influence

b. Low Influencing

c. Avg Influencing – Average influencing

d. High Influencing

e. Very high Influencing

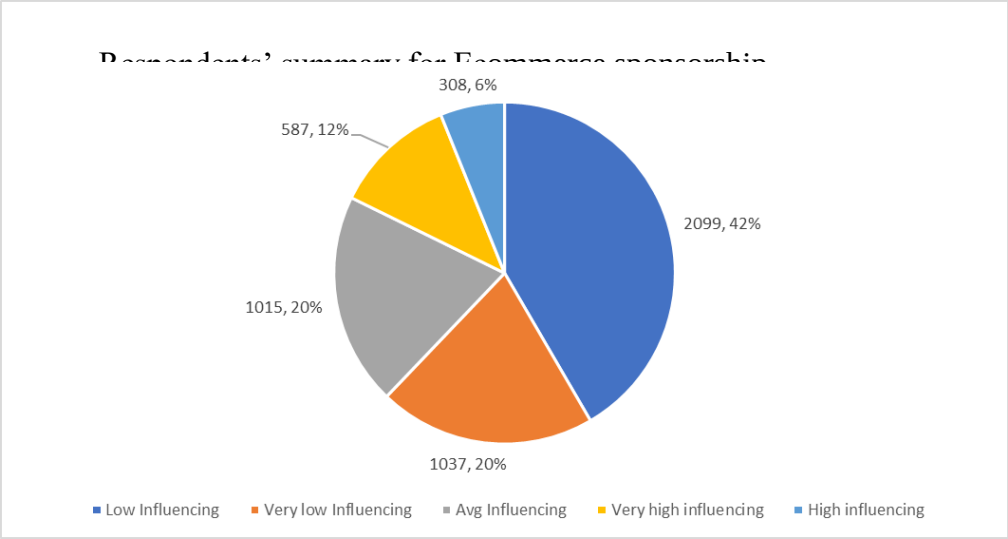


Figure 63 Respondents distribution for Ecommerce sponsorship

A majority of the respondents are not much influenced by the ecommerce sponsorships and highlighting certain brands or the products. 62% of the respondents are in the low and very low influenced category. 20% of the respondents are not all influenced by the ecommerce sponsorship while 42% are low influenced by the same. 20% of the respondents are neutral towards the ecommerce sponsorship. Only 18% of the respondents are impacted by the ecommerce sponsorship, with 12% in the very high influencing category and 6% in the high influencing category.

4.13.1 Respondents distribution for Ecommerce sponsorship in the United States

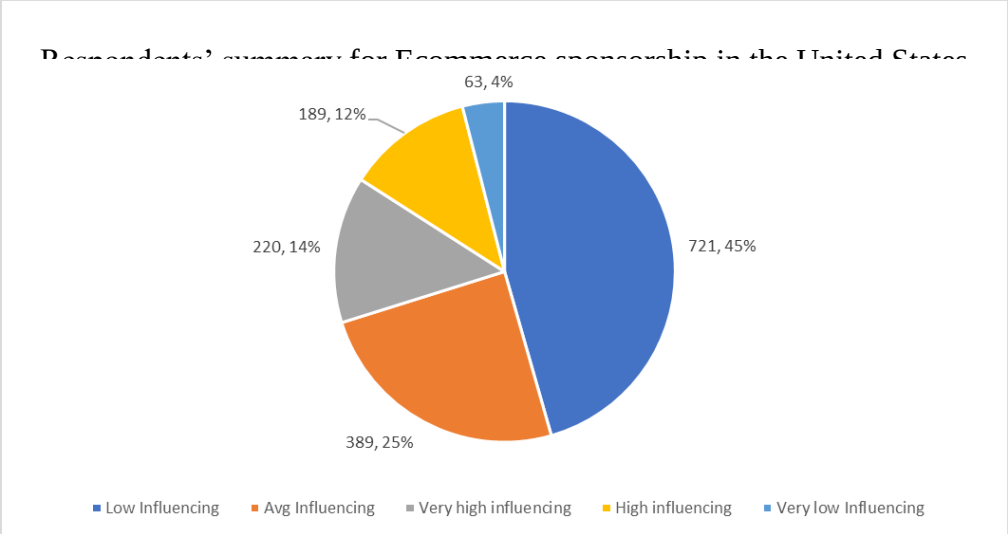


Figure 64 Respondents distribution for Ecommerce sponsorship in the United States

Among the United States respondents, ecommerce sponsorship doesn't have clear majority towards any influencing category. 42% of the respondents are not much influenced by the advertisements in the ecommerce websites and applications. 4% of the respondents are not at all influenced by the same. 25% of the respondents are neutral towards the ecommerce sponsorship while 26% of the respondents are impacted by the ecommerce highlighting the products and plays an important role in purchasing a medical device. Out of the 26%, 14% belongs to the very highly influencing category while rest 12% belongs to the high influencing category.

4.13.2 Respondents distribution for Ecommerce sponsorship in India

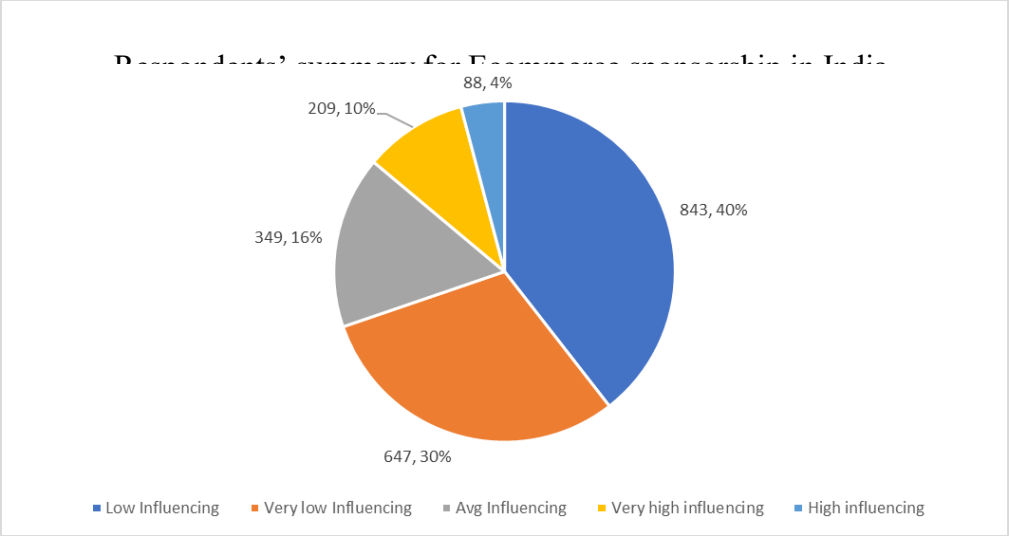


Figure 65 Respondents distribution for Ecommerce sponsorship in India

Ecommerce sponsorship does not play an important role in the decision making of purchasing a medical device in India. It is evident from the 70% proportion of the respondents being in the low and very low influencing category. 40% of the respondents are not much impacted by the ecommerce sponsorship while 30% of the respondents are not all the influenced by the same. 16% of the respondents are average influenced or neutral towards the promotions and campaigns on the ecommerce platform. 14% of the respondents are influenced by the ecommerce advertisements with 10% of them are in the very high influencing category.

4.13.3 Respondents distribution for Ecommerce sponsorship in Germany

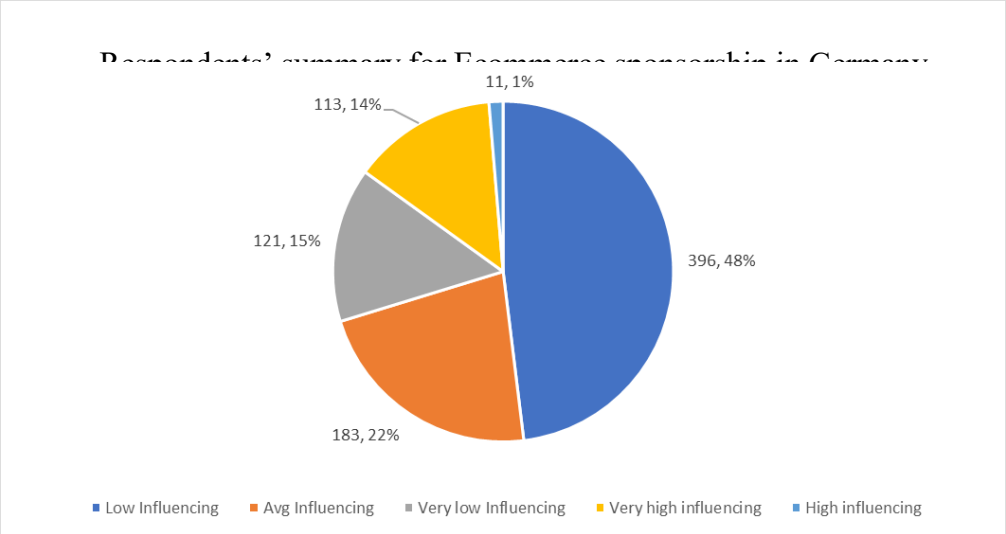


Figure 66 Respondents distribution for Ecommerce sponsorship in Germany

Ecommerce sponsorship among the German respondents is also not an influencing factor. 48% of the respondents are not much influenced by the product sponsorship on the websites and different shopping platforms. On top of that, 15% of the respondents are not at all influenced by these promotions over the platforms and websites. 22% of the respondents are neutral or average influenced by the ecommerce sponsorship. 15% of the respondents are influenced by the ecommerce sponsorship with 14% proportion of the respondents in the very high influencing category.

4.13.4 Respondents distribution for Ecommerce sponsorship in Australia

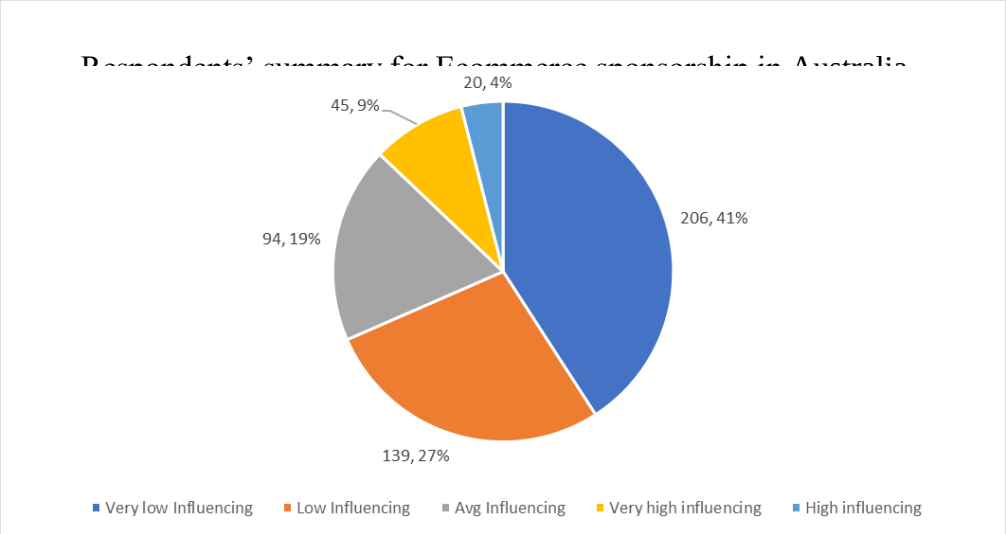


Figure 67 Respondents distribution for Ecommerce sponsorship in Australia

The impact of the ecommerce sponsorship among the Australian respondents is also non-significant, with 68% of the respondents in the very low or not at all influencing category (41%) and 27% in the low influencing category. 19% of the respondents are partially or average influenced by the ecommerce sponsorship. 13% of the respondents are impacted by the products highlighted by the ecommerce websites on their platforms, with 9% of the respondents in the very high influencing category.

4.14 Respondents distribution for Medical Shopkeeper Recommendations

Most of the medical devices like thermometer, blood pressure monitoring system, blood sugar or glucose detecting devices are available in the medical shops and can be purchased without any prescription or doctor's approval in many parts of the world. To evaluate the effectiveness of the product and brand recommendations provided by the medical shopkeeper "Medical Shopkeeper Recommendations" is used. . It is done on the Likert scale where the respondents can select one of the five following options:

a. Very low Influencing – no influence

b. Low Influencing

c. Avg Influencing – Average influencing

d. High Influencing

e. Very high Influencing

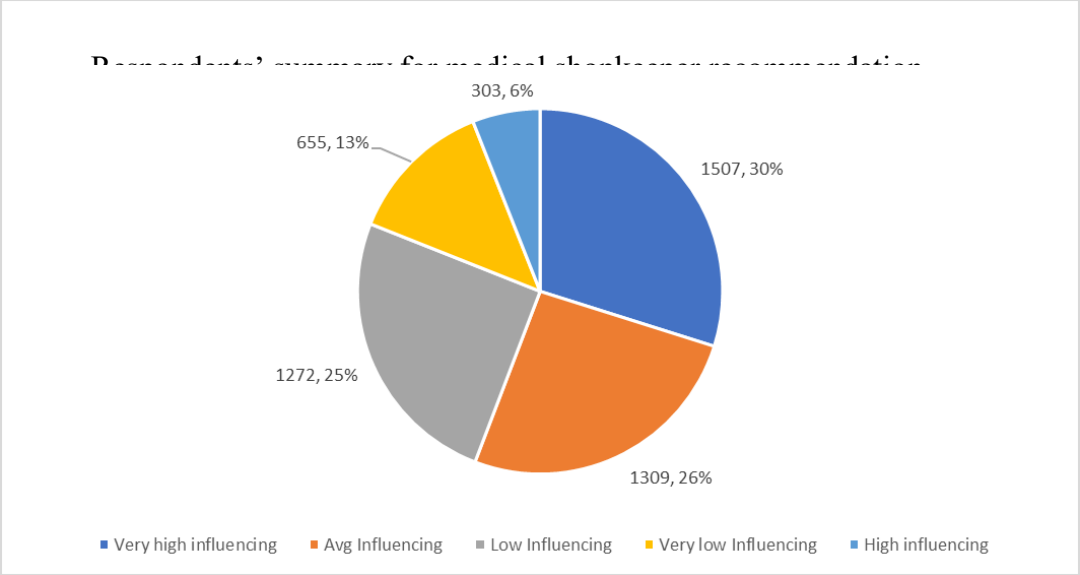


Figure 68 Respondents distribution for Medical Shopkeeper Recommendations

Among the respondents across the global, there is no clear biasness towards any influential category. 36% of the respondents are influenced by the recommendations received from the medical shopkeeper or pharmacist. Among them, 30% of the respondents are very highly influenced and 6% are highly influenced from the products and brands as suggested by the pharmacist. Just over one-fourth of the respondents (26%) are average influenced by the recommendations. 38% of the respondents are not much impacted by the product recommendations from the shops, with 13% of the respondents are not at all influenced by those recommendations.

4.14.1 Respondents distribution for Medical Shopkeeper Recommendations in the United States

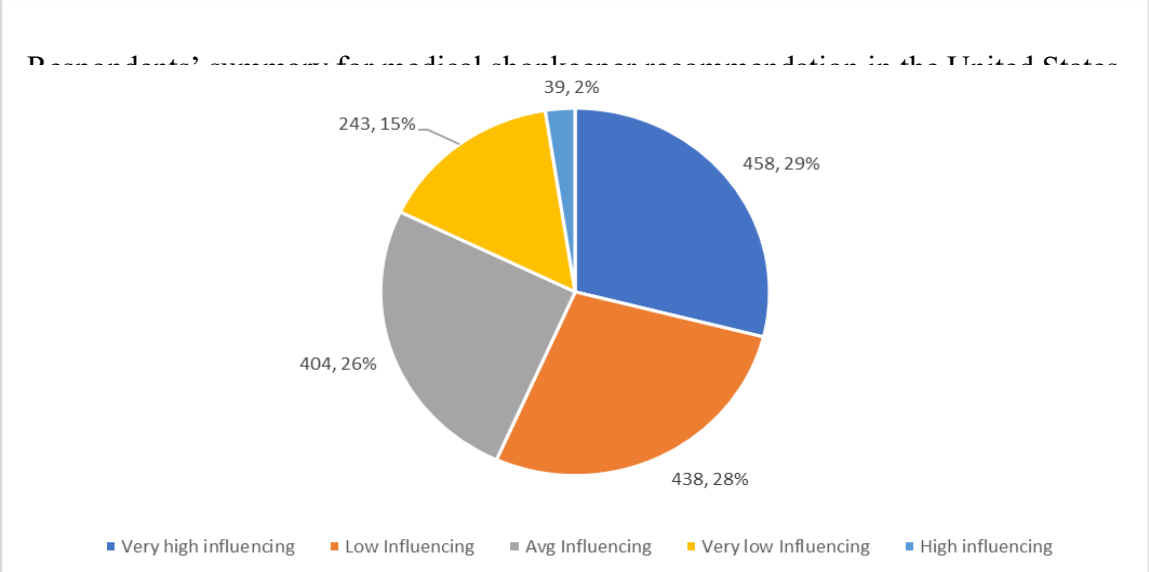


Figure 69 Respondents distribution for Medical Shopkeeper Recommendations in the United States

Among the United States respondents, there is not sufficient majority towards any influencing category. It can be shown by the fact that the highest proportion for any category is less than 30%. Very high influencing category emerged as the highest proportion for the medical shopkeeper recommendations with 29%. Not influencing category such as low influencing category and not at all influencing category stands at 28% and 15% respectively. 26% of the respondents are averagely influenced by the recommendations received from the shopkeepers.

4.14.2 Respondents distribution for Medical Shopkeeper Recommendations in India

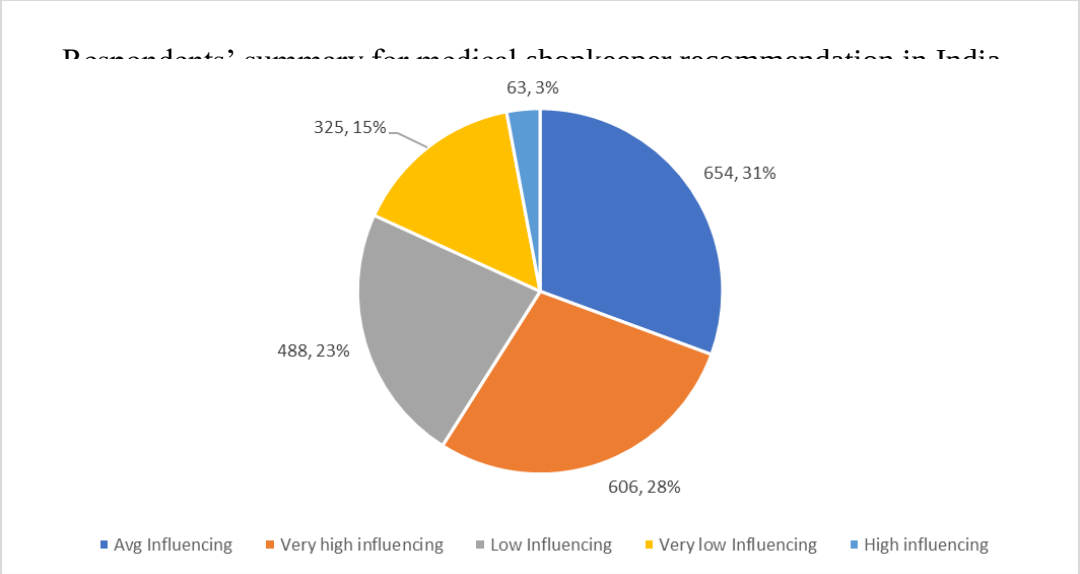


Figure 70 Respondents distribution for Medical Shopkeeper Recommendations in India

With 31% of the respondents, average influenced by the recommendations received from the shopkeepers is the largest category. Among the categories which shows that there is an influenced by the recommendations, 28% of the respondents are very highly influenced while only 3% are highly influenced by the recommendations. 23% of the respondents have low impact on the decision making of purchasing a medical device and 15% of the respondents have no impact at all on their behavior.

4.14.3 Respondents distribution for Medical Shopkeeper Recommendations in Germany

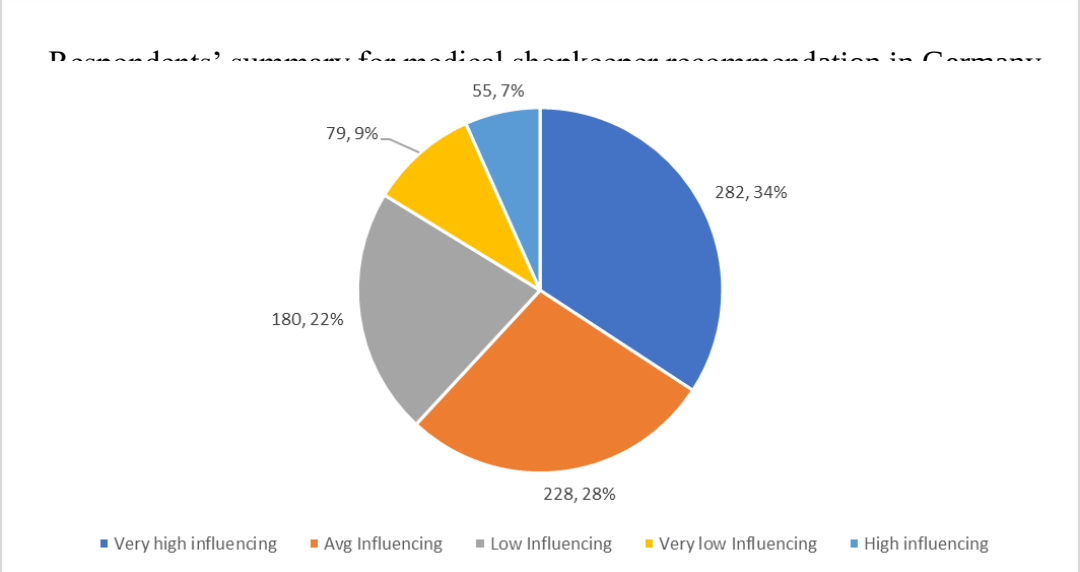


Figure 71 Respondents distribution for Medical Shopkeeper Recommendations in Germany

One-third of the respondents (34%) are very highly influenced by the product and brand recommendations received from the medical shopkeepers. 28% of the respondents are neutral towards the recommendations received and are average influenced. 22% of the respondents are not much impacted by the recommendations received and 9% are not impacted at all. Remaining 7% of the respondents are highly impacted from the medical shopkeeper advice.

4.14.4 Respondents distribution for Medical Shopkeeper Recommendations in Australia

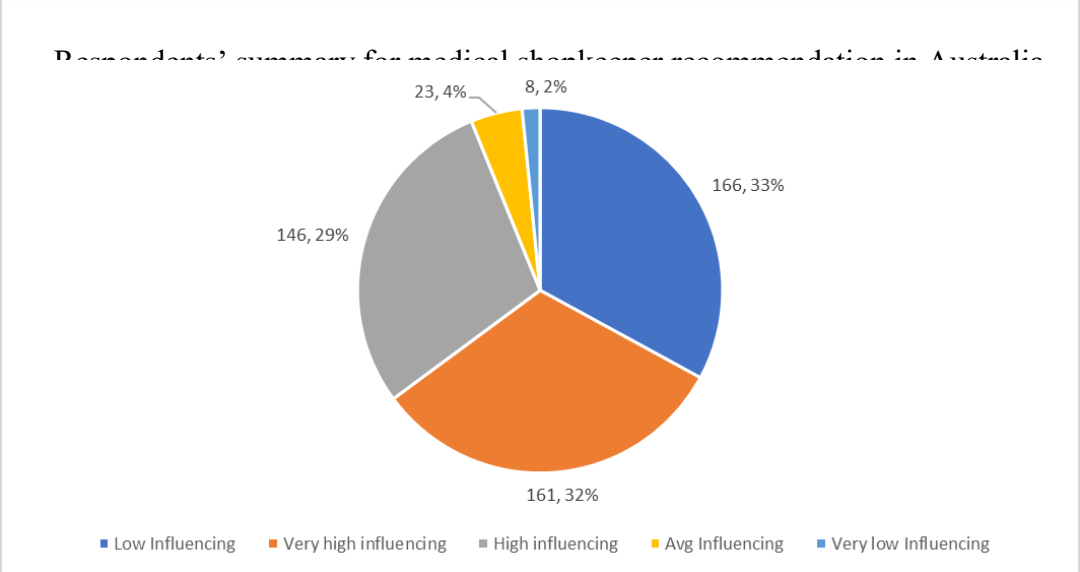


Figure 72 Respondents distribution for Medical Shopkeeper Recommendations in Australia

61% of the Australian respondents are influenced by the medical shopkeeper recommendations. This shows the importance of product and brands recommended by the medical stores. 32% of the respondents are very highly influenced while 29% of the respondents are highly influenced by the recommendations. 35% of the survey respondents are not much influenced by the recommendations, with 33% of the respondents in the low influencing category. 4% of the respondents are in neutral or average influencing category.

4.15 Respondents distribution for Television Advertisements

Television plays an important role in the lives of human beings. The impact of the advertisement on the television industry and how it can impact the decision making of purchasing the medical devices is evaluated using the “Television Advertisements”

category. It is done on the Likert scale where the respondents can select one of the five following options:

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

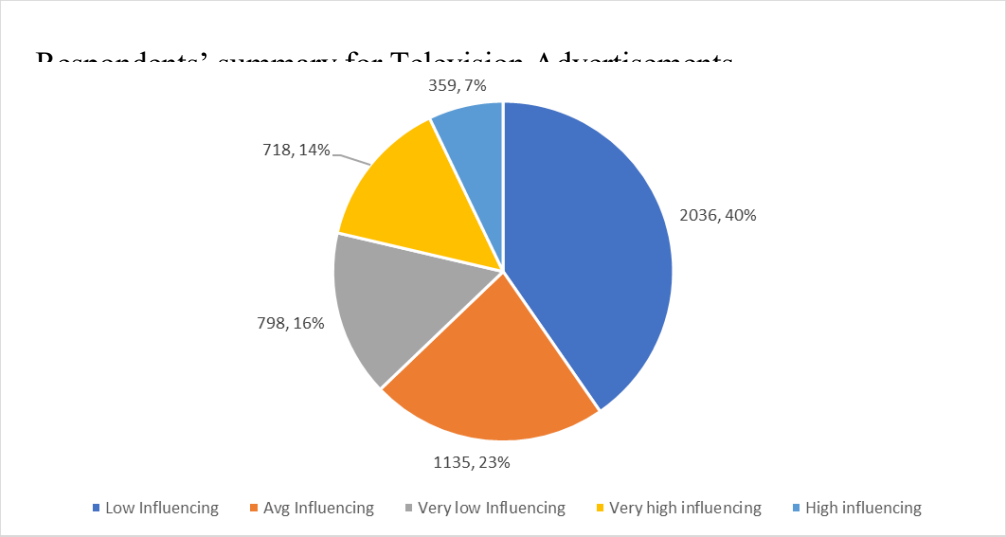


Figure 73 Respondents distribution for Television Advertisements

56% of the respondents are not much influenced by the advertisements on the television platforms. 40% of the respondents are low influenced while 16% of the respondents are not at all influenced by the television advertisement and sponsorships. 23% of the respondents are neutral or average influenced by the television advertisement. Only 21% of the respondents are in the category which shows the influence of the television on the purchasing of the medical devices. 14% of the respondents are very highly influenced and 7% being in the high influencing category.

4.15.1 Respondents distribution for Television Advertisements in the United States

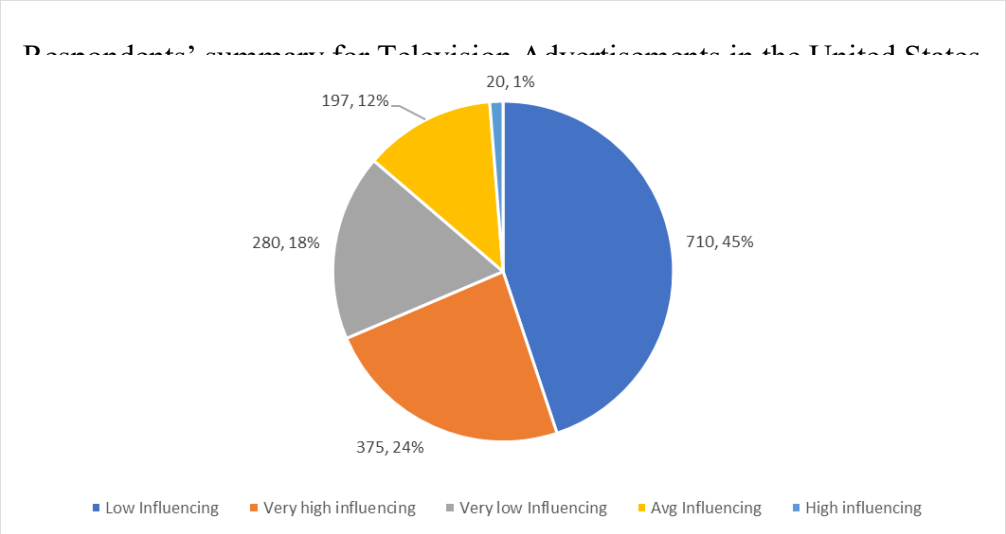


Figure 74 Respondents distribution for Television Advertisements in the United States

63% of the respondents agrees that the television advertisements do not impact the purchasing behavior and does not play a significant role in their decision-making process of the medical devices. 45% of the respondents are not much impacted and are low influenced by the advertisements. 18% of the respondents are not at all influenced by the television. 25% of the respondents are influenced by the television advertisements, with 24% of the respondents are very highly influenced. 12% of the respondents are neutral or average influenced by the television advertisements.

4.15.2 Respondents distribution for Television Advertisements in India

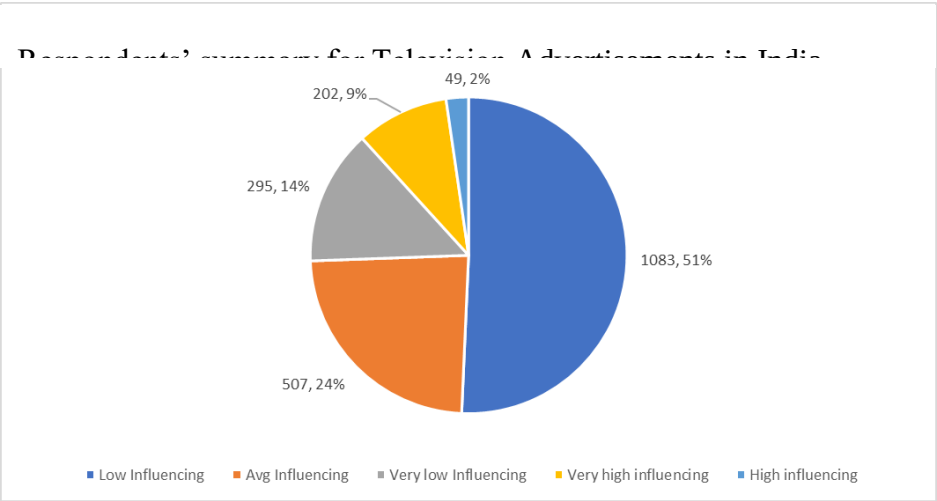


Figure 75 Respondents distribution for Television Advertisements in India

65% of the Indian respondents are not much impacted by the television advertisements, with 14% of the respondents do not get influenced by the advertisements at all. 24% of the respondents are average influenced and only 11% of the respondents are impacted by the advertisements and plays an important role in their decision-making process. 9% of the respondents are very highly influenced by the advertisements.

4.15.3 Respondents distribution for Television Advertisements in Germany

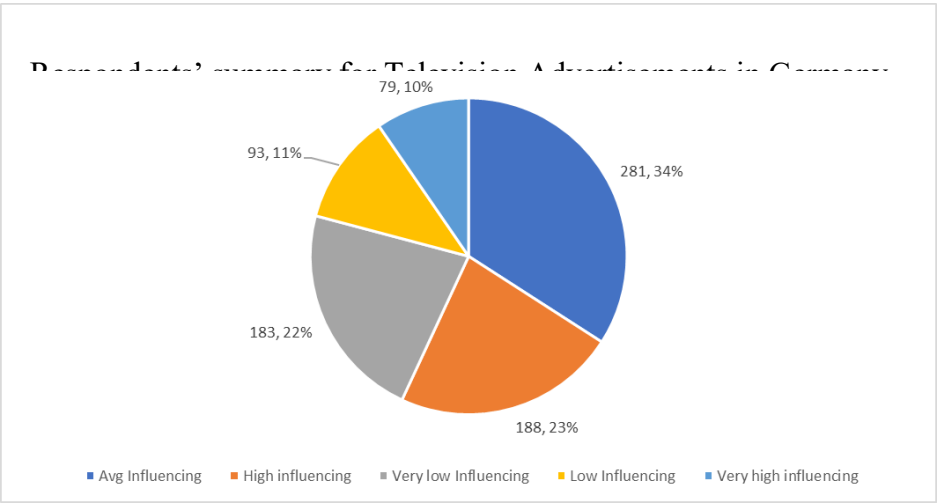


Figure 76 Respondents distribution for Television Advertisements in Germany

German respondents for the television advertisements are evenly distributed for all the influencing categories. 33% of the respondents are influenced by the television advertisements while same proportion of the respondents are not impacted by the television. 34% of the respondents are in the middle category or average influenced category.

4.15.4 Respondents distribution for Television Advertisements in Australia

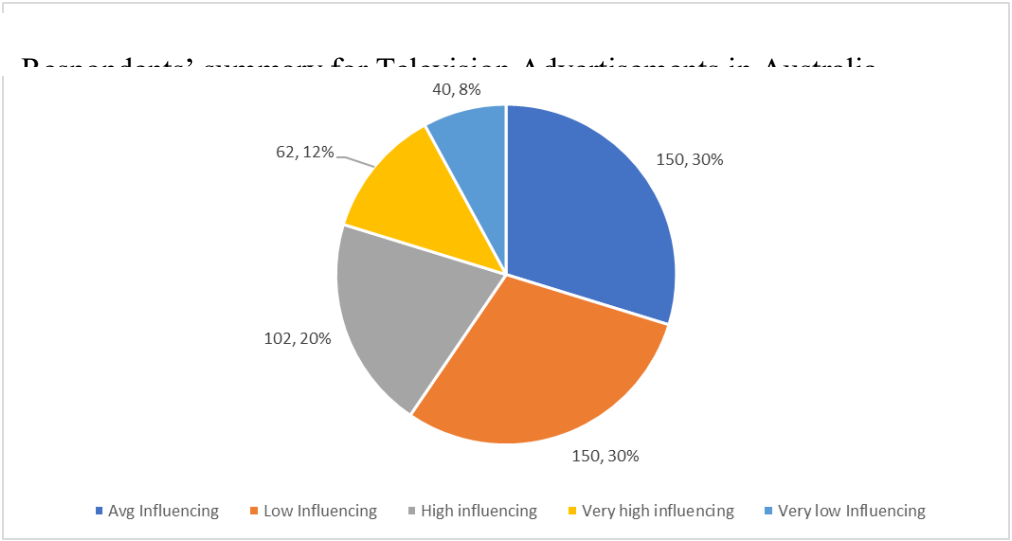


Figure 77 Respondents distribution for Television Advertisements in Australia

Same as German respondents, Australian respondents also does not have any pattern or biasness towards any category. All the categories are approximately evenly distributed. 30% of the respondents are in the middle zone or average influenced category. 32% of the respondents are impacted by the television advertisements while the remaining 38% of the respondents are not much impacted by the television advertisement.

4.16 Respondents distribution for Packaging

It shows the importance of various pictures, numbers, images etc. on the product and cover as the part of the packaging and how it can influence the consumer in their

decision-making process while purchasing the medical devices. It is done on the Likert scale where the respondents can select one of the five following options:

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

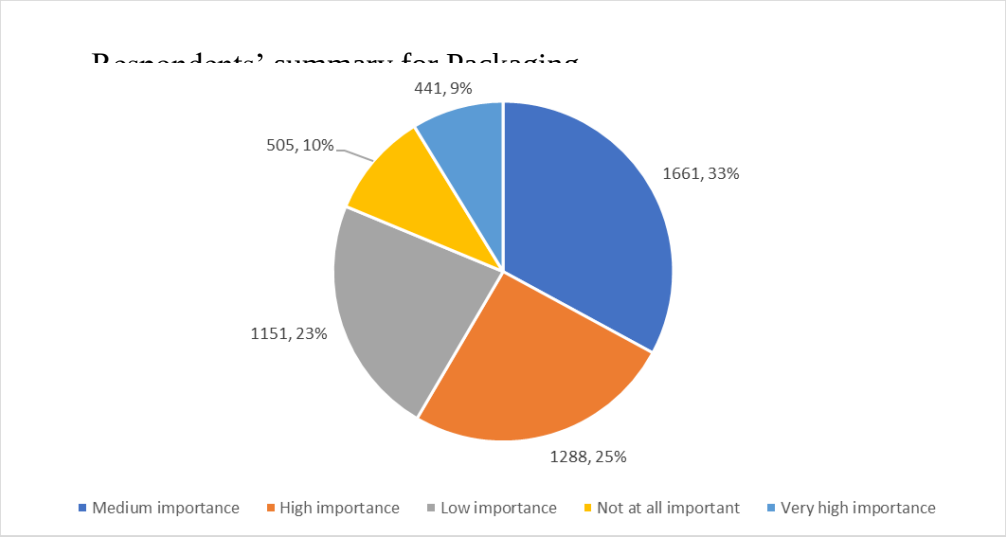


Figure 78 Respondents distribution for Packaging

Among the respondents participated, 30% of the respondents have a medium importance to the packaging of the medical devices and products. 34% of the respondents have a relatively high importance to the packaging with 9% of the respondents have a very high importance of packaging in their decision-making process. 33% of the respondents have a relatively low importance of packaging with 10% of the respondents consider packaging to be not at all important factor while purchasing a medical device.

4.16.1 Respondents distribution for Packaging in the United States

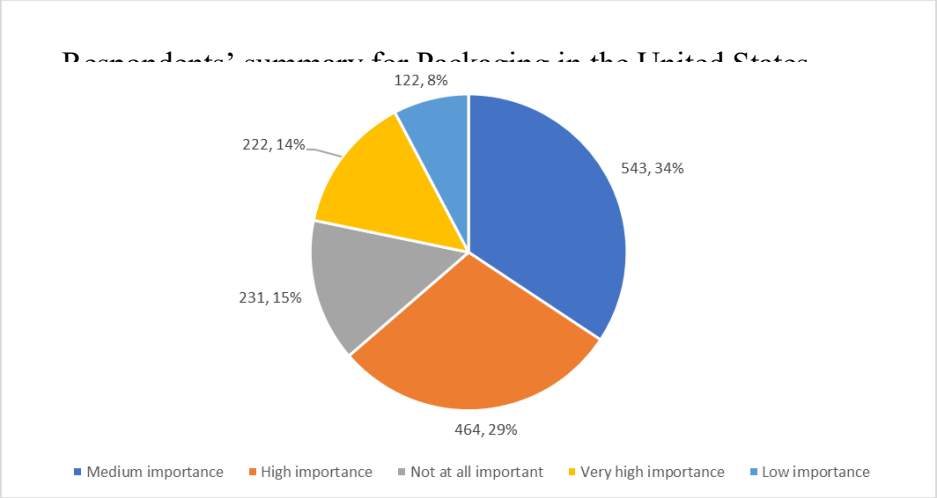


Figure 79 Respondents distribution for Packaging in the United States

Importance of the packaging among the United States respondents is towards medium to high side, with 34% of the respondents have medium importance for the packaging while purchasing a medical device. 43% of the respondents have a relatively higher importance for the packaging with 14% of the respondents having very high importance. 8% and 15% of the respondents have low and no importance for the packaging respectively.

4.16.2 Respondents distribution for Packaging in India

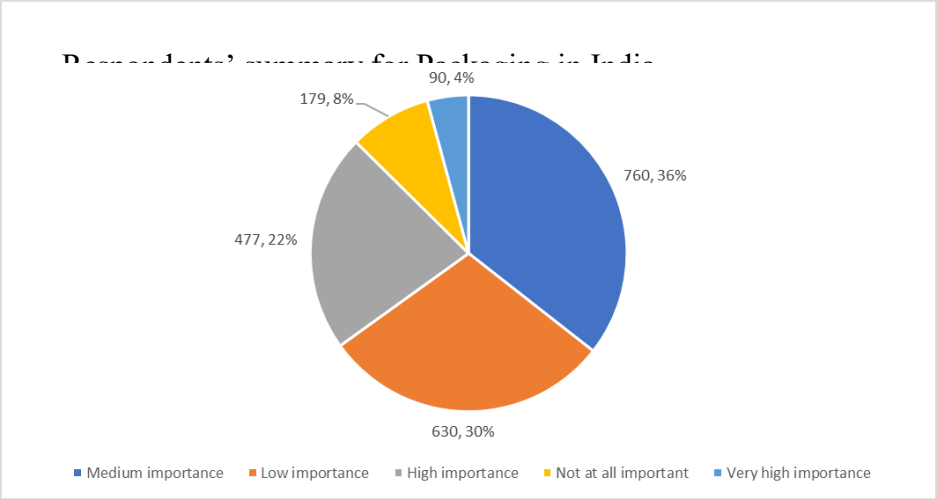


Figure 80 Respondents distribution for Packaging in India

More than one-third of the respondents (36%) have a medium importance for the packaging while purchasing a medical device. 38% of the respondents have a relatively low importance for the packaging, with 8% of the respondents have no importance at all. 22% of the respondents have a high importance for the packaging while 4% of the participants have a very importance for the packaging.

4.16.3 Respondents distribution for Packaging in Germany

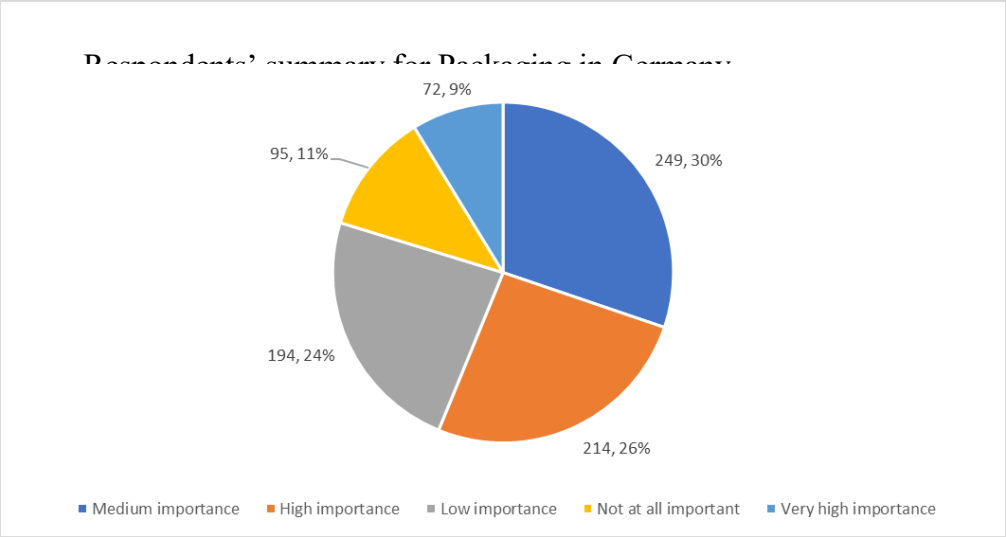


Figure 81 Respondents distribution for Packaging in Germany

The importance of the packaging on the decision-making process of the consumer in Germany is evenly distributed for the high, medium and low. 35% of the respondents have high importance to the packaging with 9% having very high importance. 30% of the respondents have medium importance while 35% of the respondents have low importance. 11% of the respondents have no importance to packaging in their decision-making process.

4.16.4 Respondents distribution for Packaging in Australia

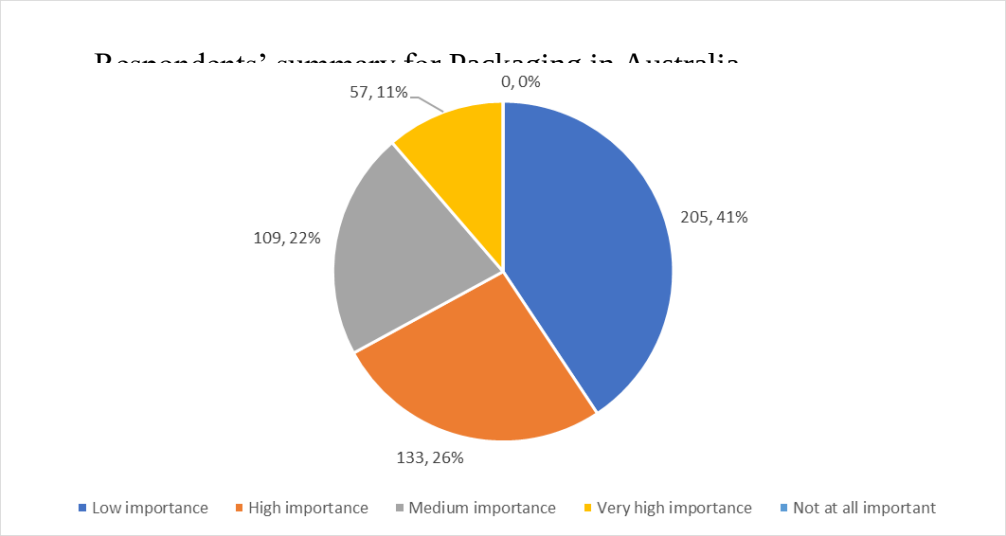


Figure 82 Respondents distribution for Packaging in Australia

41% of the Australian respondents have low importance to the packaging of the medical devices and it does not impact much their thought process while purchasing a medical device. 37% of the respondents have a relatively high importance to the packing with 11% of the participants have a very high importance to the packaging. 22% of the respondents have a medium importance to the packaging while none of the participants have no importance behavior.

4.17 Respondents distribution for Brand Ambassador

People have been influencing with the various influencers through television, advertisements, social media platforms and endorsements. “Brand ambassador” shows the importance of various celebrities, film and television stars, sport personalities and other influential people on the respondents and importance they have on the participants on the decision-making process while purchasing a medical device. It is done on the Likert scale where the respondents can select one of the five following options:

a. Not at all important

b. Low importance

c. Medium importance

d. High importance

e. Very high importance

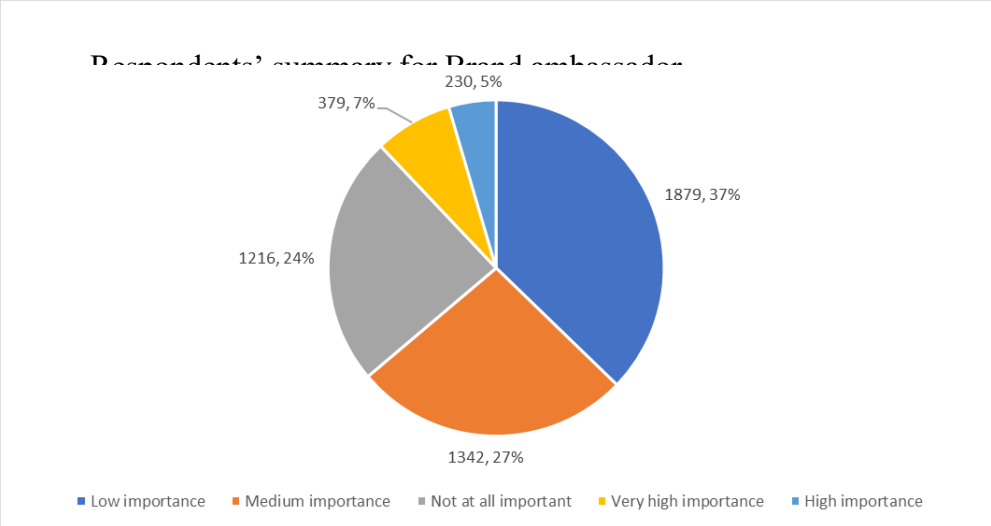


Figure 83 Respondents distribution for Brand Ambassador

61% of the respondents have very low or none impact from the brand ambassador and influencers on their decision making while purchasing a medical device. Out of 44%, 37% of the respondents have low importance while 24% of the participants have no importance to the brand ambassadors. It shows that the influencers do not influence the respondents in general and does not play a significant role in a medical device purchase. 27% of the respondents have a medium importance while only 12% of the respondents give a relatively high importance to the brand ambassador endorsed products and brands. 5% of the respondents have a very high influence from the brand ambassador and social media influencers.

4.17.1 Respondents distribution for Brand Ambassador in the United States

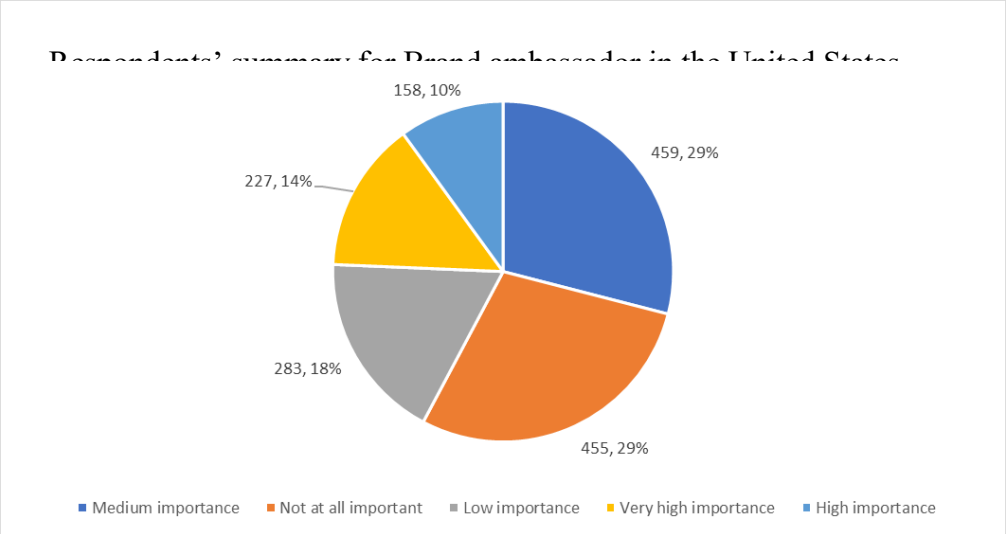


Figure 84 Respondents distribution for Brand Ambassador in the United States

Among the United States respondents, brand ambassadors and influencers do not play an important role in the decision-making process while purchasing a medical device. 29% of the respondents give no or zero importance to the product and brands endorsed by the celebrities. While similar proportion of the respondents have a medium importance and preference. 18% of the respondents have a low preference and importance. 24% of the respondents have a relatively high preference and influenced by the brands and products as endorsed by them, with 14% of the respondents have a very high importance.

4.17.2 Respondents distribution for Brand Ambassador in India

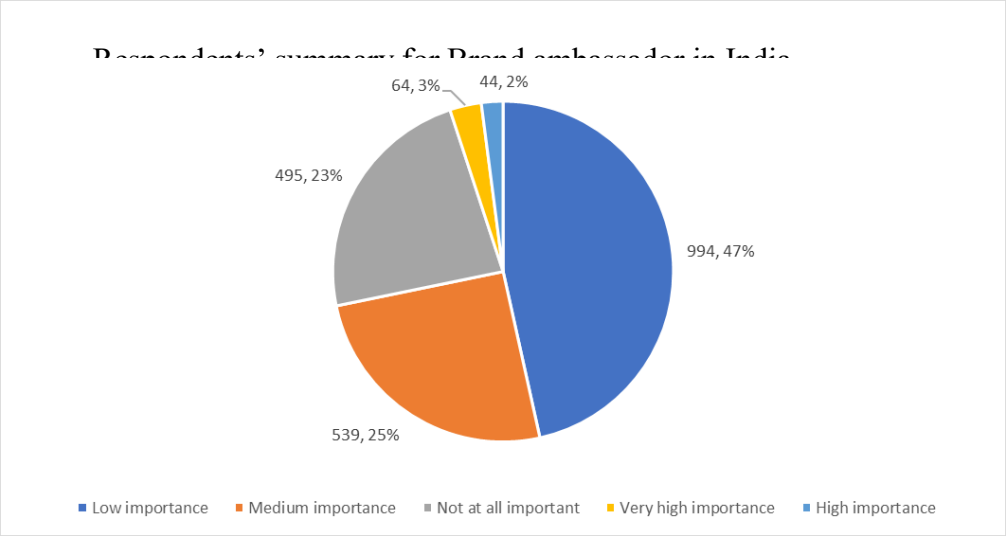


Figure 85 Respondents distribution for Brand Ambassador in India

Importance of the brand ambassadors and influencers drop sharply among the Indian respondents as compared to the global averages. 70% of the respondents are not much influenced by the endorsements of the medical devices and it does not play a significant factor while purchasing a medical device. Among the 70%, 23% have not at all importance for the celebrities endorsing a medical device. 25% of the respondents are neutral and have a medium importance. Only 5% of the respondents actually have a significant role to play in their decision-making process.

4.17.3 Respondents distribution for Brand Ambassador in Germany

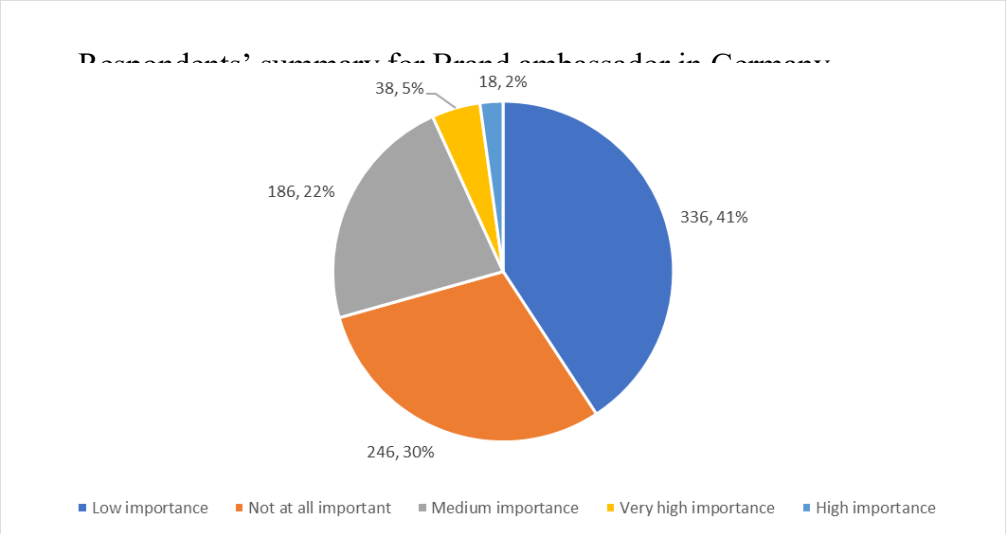


Figure 86 Respondents distribution for Brand Ambassador in Germany

German respondents, on the similar lines of the Indian respondents, have a low or no impact from the brand ambassadors and influencers on their decision making while purchasing a medical device. 71% of the respondents have low importance while 30% of the respondents have no importance of the endorsements. 22% of the respondents have a medium importance while only 7% of the respondents have a relatively high importance. 5% of the respondents are very highly influenced by the product endorsed by the brand ambassadors and influencers.

4.17.4 Respondents distribution for Brand Ambassador in Australia

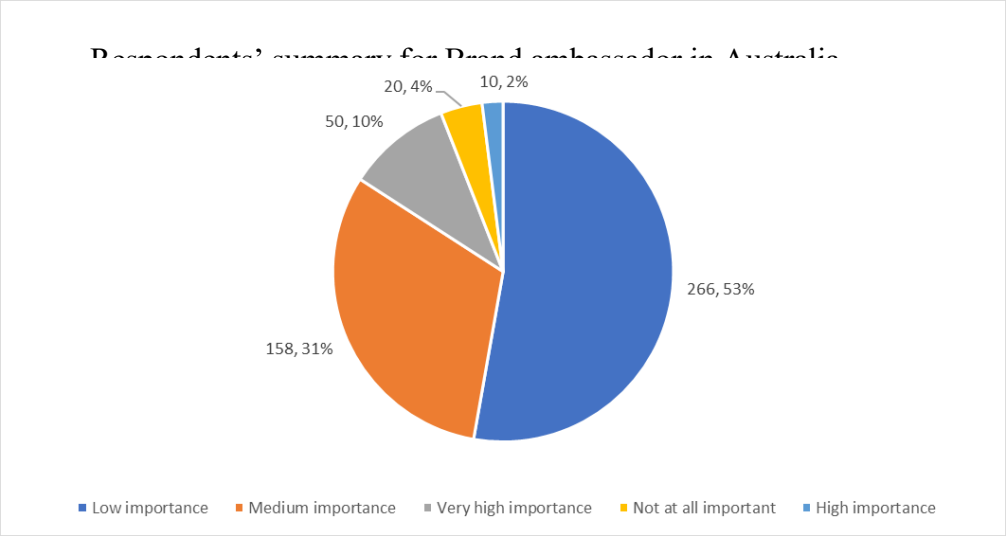


Figure 87 Respondents distribution for Brand Ambassador in Australia

Australian respondents have a low importance to the brand ambassadors and influencers' endorsements. More than half ,53%, of the respondents have a low impact from the brand ambassador while 4% of the respondents have no influence at all. 31% of the participants have a medium preference of the brands endorsed by the celebrities while 2% of the participants have a high preference. 10% of the participants have a very high influence on their decision making from the products and brands endorsed by the brand ambassadors and social media influencers.

4.18 Respondents distribution for Number of features

In the current medical devices, there can be many features available which are required in day to day uses and it becomes one of the ways to distinguish a product and brand from others. "Number of features" is used to understand the importance of various add-on features, apart from the main functionality of the product, such as storing multiple past medical records, rechargeable batteries, digital features, different colors and lights

based on the reading and similar features. It is done on the Likert scale where the respondents can select one of the five following options:

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

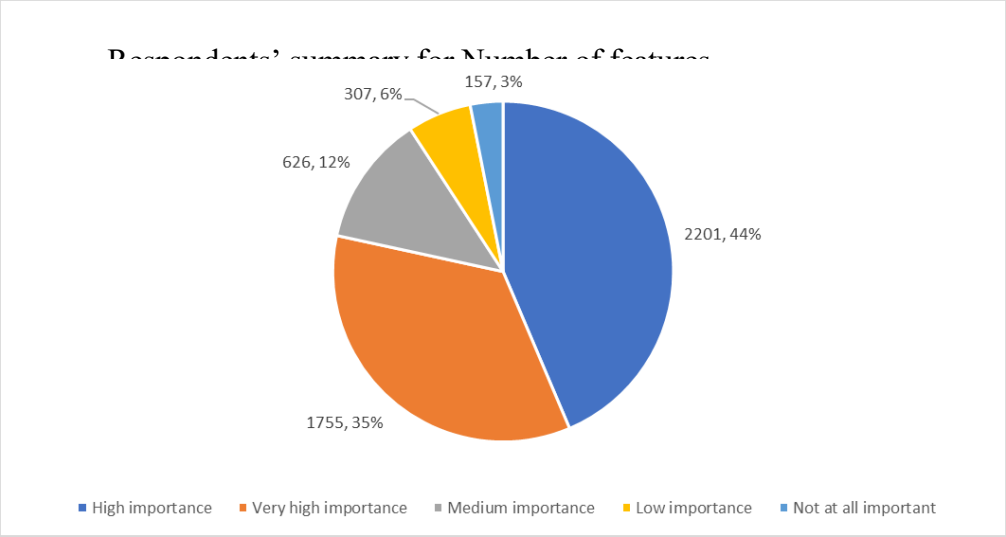


Figure 88 Respondents distribution for Number of features

More than three-fourth of the respondents (79%) have responded to the high and very high importance to the number of features in a medical device. It shows that these features play an important role in the decision-making process while purchasing a medical device. 44% of the respondents have a high impact from the number of features while 35% of the respondents have a very high influence from the number of features. 12% of the respondents have a medium influence and importance while 9% of the

respondents have a relatively low importance. Only 3% of the respondents have no importance from the number of features.

4.18.1 Respondents distribution for Number of features in the United States

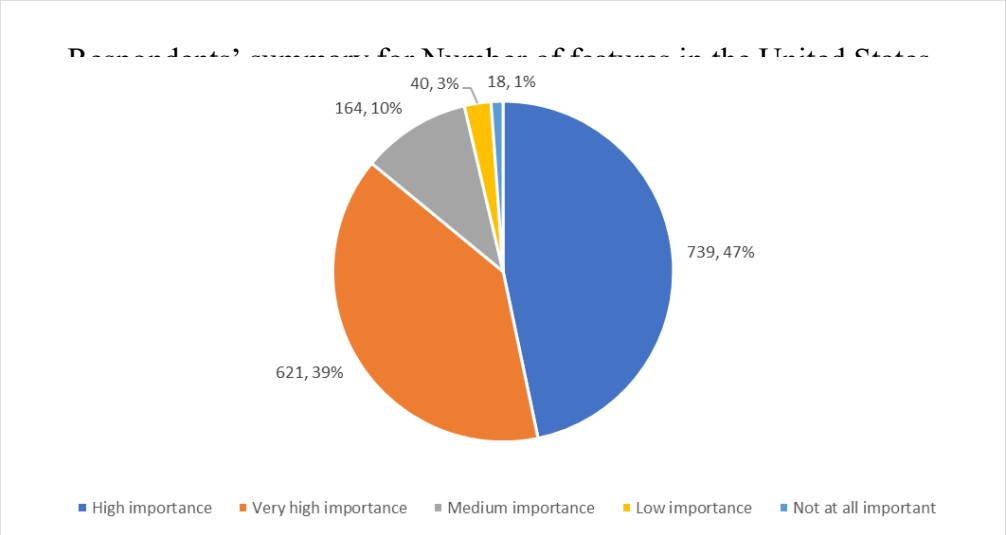


Figure 89 Respondents distribution for Number of features in the United States

The United States respondents are hugely impacted from the number of features available in the medical devices and 86% of the participants have a significantly high importance of the number of features on their decision-making process. 39% of the respondents have a very importance of number of features while 47% of the respondents have a high impact on their decision-making process while purchasing a medical device. 10% of the respondents have a medium impact on their purchasing behavior. Only 1% of the respondents have almost no importance while 3% of the respondents have a low impact on their purchasing.

4.18.2 Respondents distribution for Number of features in India

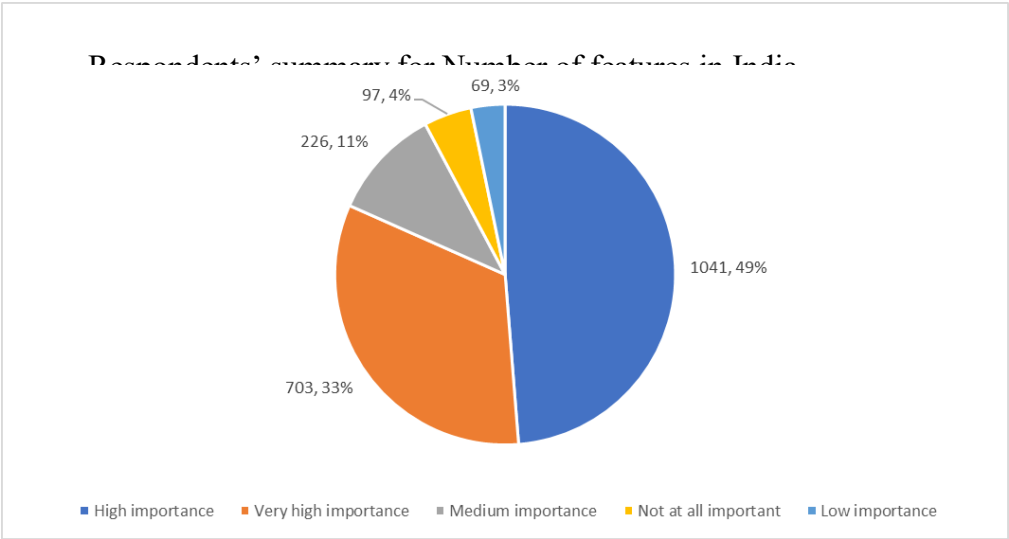


Figure 90 Respondents distribution for Number of features in India

Among the Indian respondents as well, the importance of number of features is quite evident. 82% of the respondents have a relatively high importance of number of features and it plays an important role while purchasing a medical device. 33% of the respondents have a very high importance while 49% of the respondents have a high importance. 11% of the respondents have a medium impact from the number of features. Only 7% of the respondents have a low or no impact with 3% of the respondents have no importance of number of features in decision making process.

4.18.3 Respondents distribution for Number of features in Germany

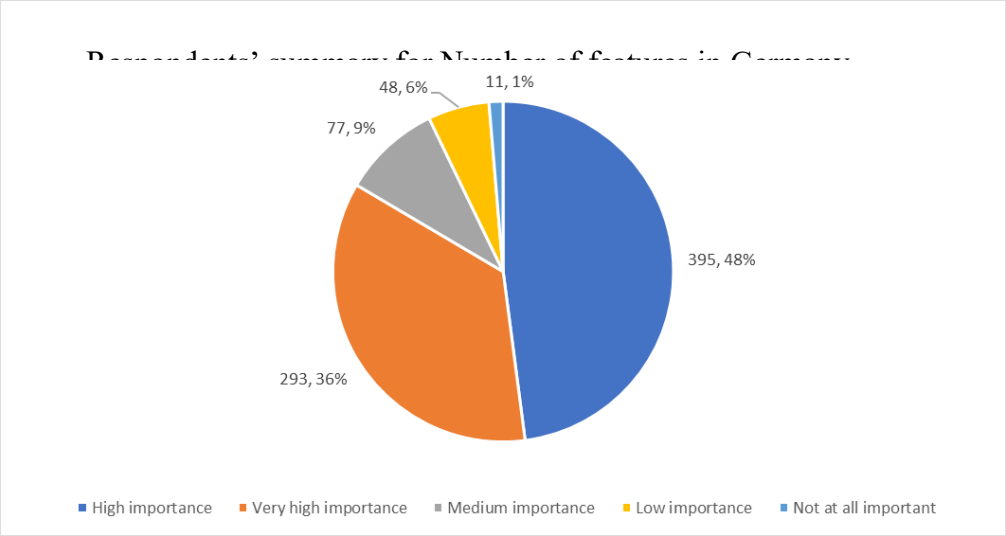


Figure 91 Respondents distribution for Number of features in Germany

The importance of number of features while purchasing a medical device is visible among the German respondents as well. 84% of the participants give a high or very high importance to the number of features as a factor in their decision-making process. 36% of the respondents have a very high influence while 48% of the participants have a high influence from the number of features available in a medical device. 9% of the respondents have a medium influence. Only 1% of the respondents have no impact from the number of features and 6% of the respondents have a low influence.

4.18.4 Respondents distribution for Number of features in Australia

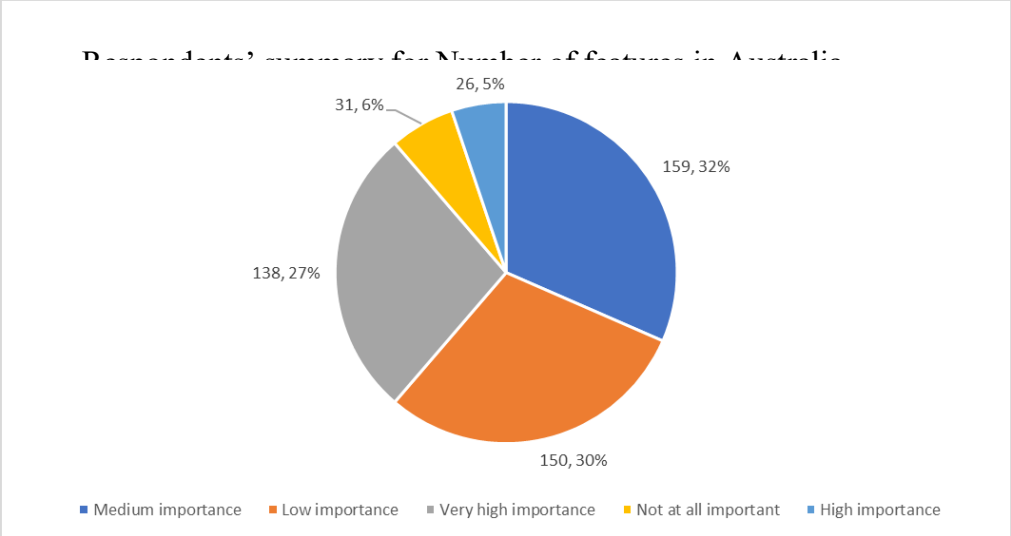


Figure 92 Respondents distribution for Number of features in Australia

The importance of number of features is very less than global averages among Australian respondents. Among 32% of the respondents, number of features play an important role while purchasing a medical device, with 27% of the respondents having a very high influencing factor on their decision-making process. 32% of the respondents have a medium impact from the number of feature while 36% of the respondents have a relatively low impact. 6% of the respondents have no impact from the number of features.

4.19 Respondents distribution for Patent and Innovation

With the innovation age booming faster and ever, the importance of innovation and patent among the people is increasing day by day. Patent and innovation refer to the unique features available in the medical devices which enhances the usual work and improve the effectiveness, efficiency and experience of the customers. It can be concerned with improved test methods and technology used to determine the values

which improves accuracy under various constraints and conditions. It is done on the Likert scale where the respondents can select one of the five following options:

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

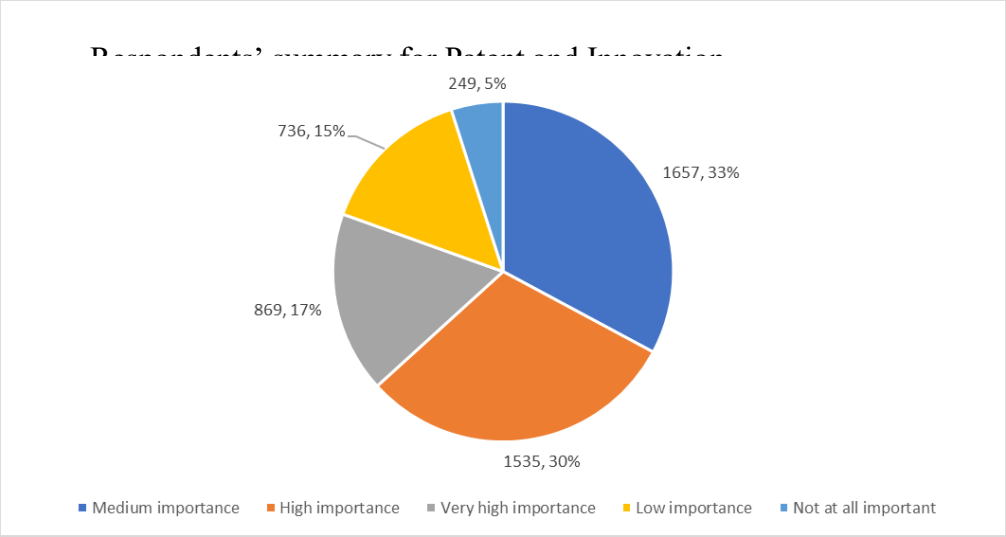


Figure 93 Respondents distribution for Patent and Innovation

47% of the respondents have a high and very high importance of the patents and innovation in the medical devices. 33% of the respondents have a medium importance to the unique features. This shows that innovation plays an important role in the decision-making process of the customers while purchasing a medical device. 17% of the respondents have a very high importance of the innovations against 5% of the respondents who have no importance to such qualities available in the product. 15% of

the respondents have a relatively low impact on their decision-making process from the innovation and patents in the product.

4.19.1 Respondents distribution for Patent and Innovation in the United States

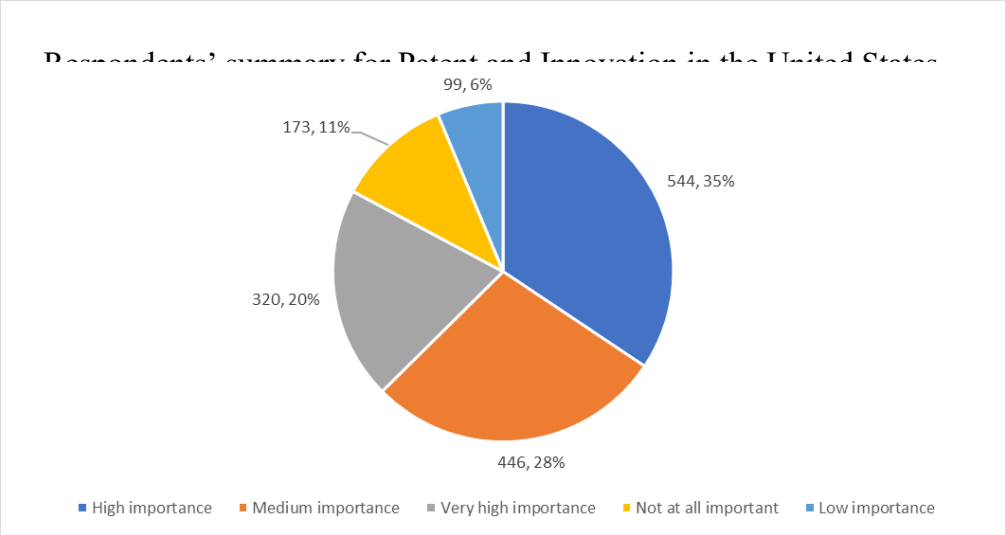


Figure 94 Respondents distribution for Patent and Innovation in the United States

Only 17% of the respondents have a low or no influence on their decision-making process from the patents and innovations mentioned in the medical devices. This shows the importance of the patents and innovations among the US respondents. 55% of the respondents have a high or very high impact on the patents and innovations, with 20% of the respondents have a very high influence on their decision-making process. 28% of the respondents have a medium impact on their decision-making process.

4.19.2 Respondents distribution for Patent and Innovation in India

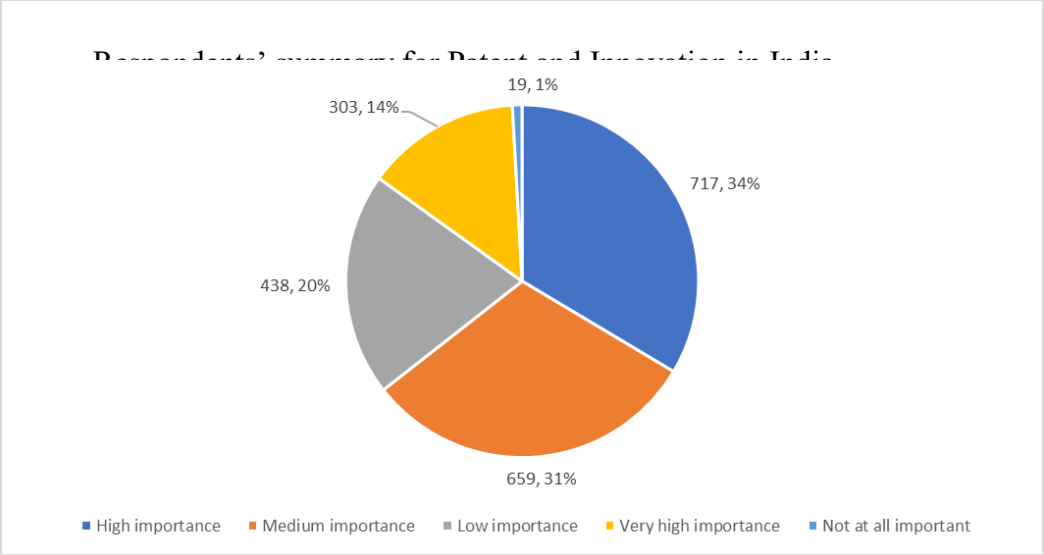


Figure 95 Respondents distribution for Patent and Innovation in India

Majority of the respondents in India have low to high impact on their decision-making process from the patent and innovations. The proportion of the respondents having very high impact and very low or no impact is 14% and 1% respectively. 34% of the respondents have a high influence from the innovative technology while 30% of the respondents have a medium influence. 20% of the respondents have a low impact from the patents and innovations.

4.19.3 Respondents distribution for Patent and Innovation in Germany

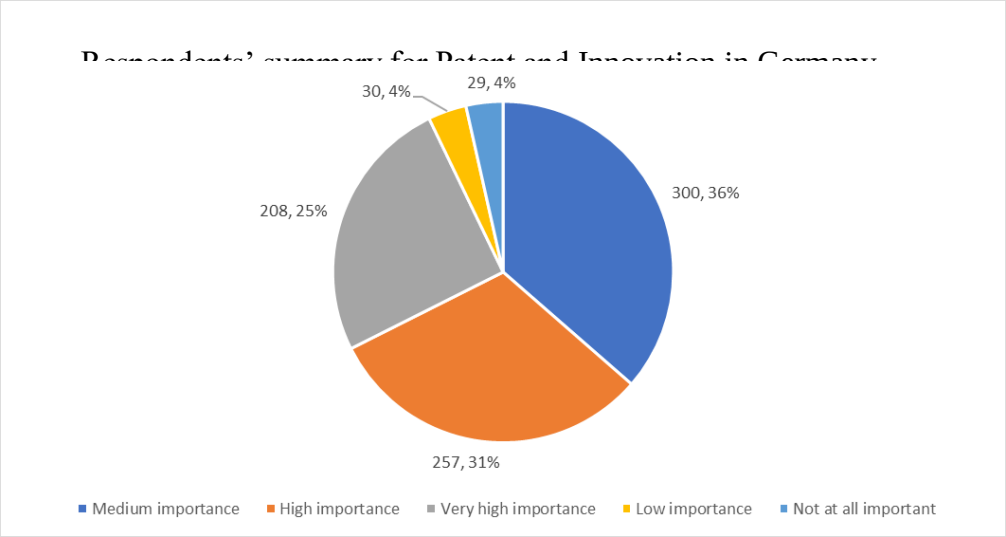


Figure 96 Respondents distribution for Patent and Innovation in Germany

With 92% of the respondents falling under medium to very high importance bracket, the impact patents and innovations create, on the decision-making process while purchasing a medical device, is enormous. 4% of the participants each have low influence and no importance to the patents and innovations. 56% of the participants prefers new and latest technologies in the medical devices as well, with 25% of the participants have a very high importance of the latest technology. 36% of the participants have a medium importance.

4.19.4 Respondents distribution for Patent and Innovation in Australia

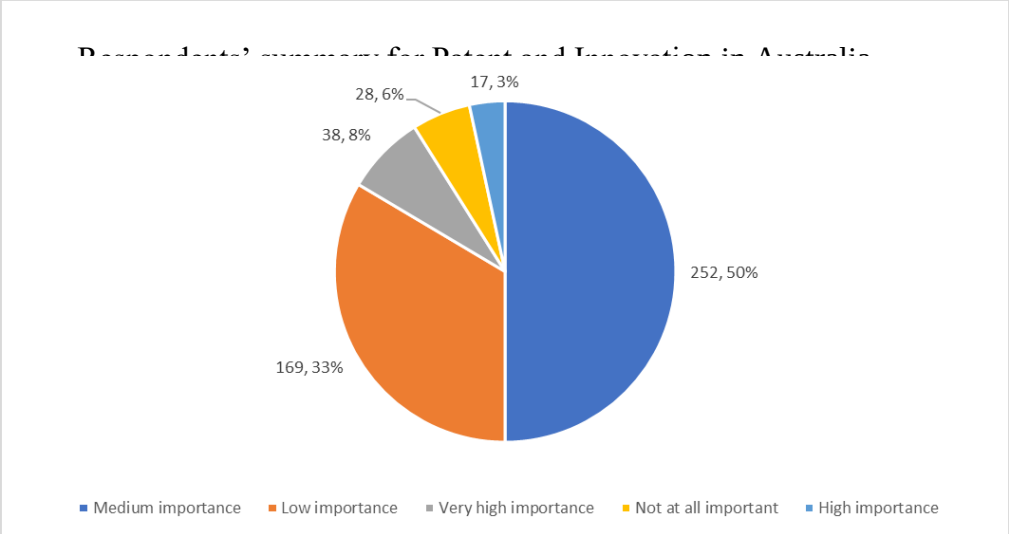


Figure 97 Respondents distribution for Patent and Innovation in Australia

Half of the participants have a medium importance to the patents and intellectual property in the medical devices, which it is an important factor while purchasing but not highly influencing and major decision driver. 33% of the respondents have a low influence from the innovation driven products and brands. 8% of the respondents have a very high influence while 6% of the respondents have no influence at all. Remaining 3% of the participants have a relatively high influence on their decision-making process.

4.20 Respondents distribution for Product Aesthetics

The design of the product, colors, how easy it is to visualize the values, quality, and brightness of the light, how easy it is to hold the product etc. are covered under the "Product aesthetics". It shows the importance of various factors which are tangible as well nontangible. It is done on the Likert scale where the respondents can select one of the five following options:

a. Not at all important

b. Low importance

c. Medium importance

d. High importance

e. Very high importance

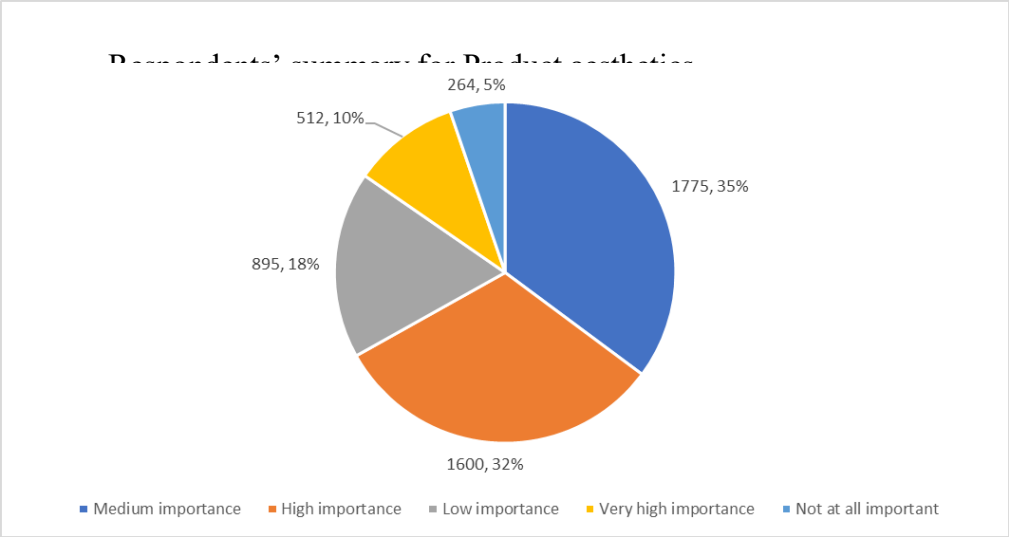


Figure 98 Respondents distribution for Product Aesthetics

The product aesthetic is of medium to high importance among the respondents across the geographies. 42% of the respondents have a relatively higher importance of the product while purchasing a medical device while 35% of the respondents have a medium importance. 10% of the respondents have a very high importance towards the product aesthetics against the 4% of the respondents having no impact from the same. 18% of the participants have a low influence from the product aesthetics.

4.20.1 Respondents distribution for Product Aesthetics in the United States

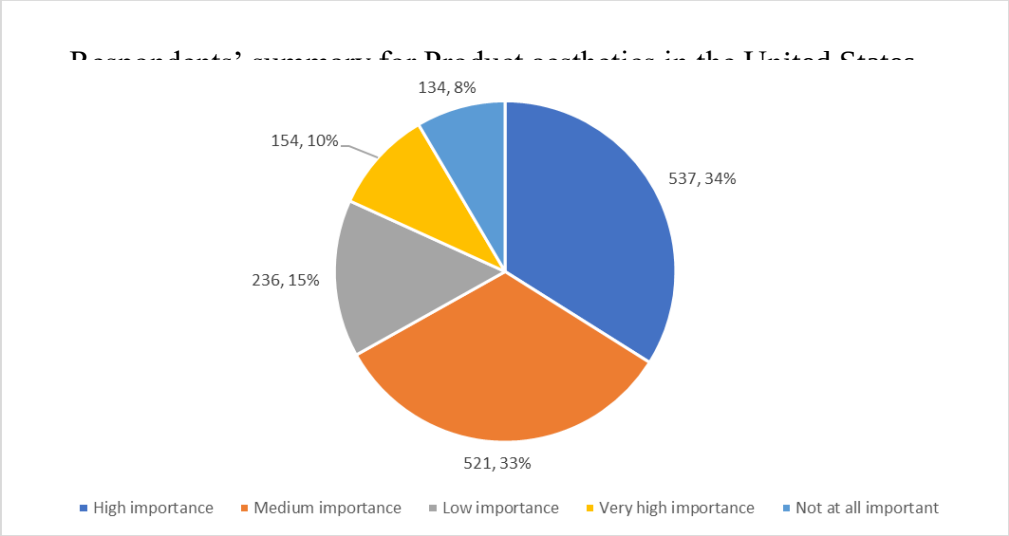


Figure 99 Respondents distribution for Product Aesthetics in the United States

The United States respondents have a similar proportion to global averages with majority of the respondents in medium to high importance categories in product aesthetics. 44% of the respondents have a high or very high impact, on their decision-making process while purchasing a medical device, from the product aesthetics, with 10% of the participants have a very high influence from the same. 33% of the participants have a medium influence while 15% of the participants have a low impact. 8% of the participants have no impact from the product aesthetics.

4.20.2 Respondents distribution for Product Aesthetics in India

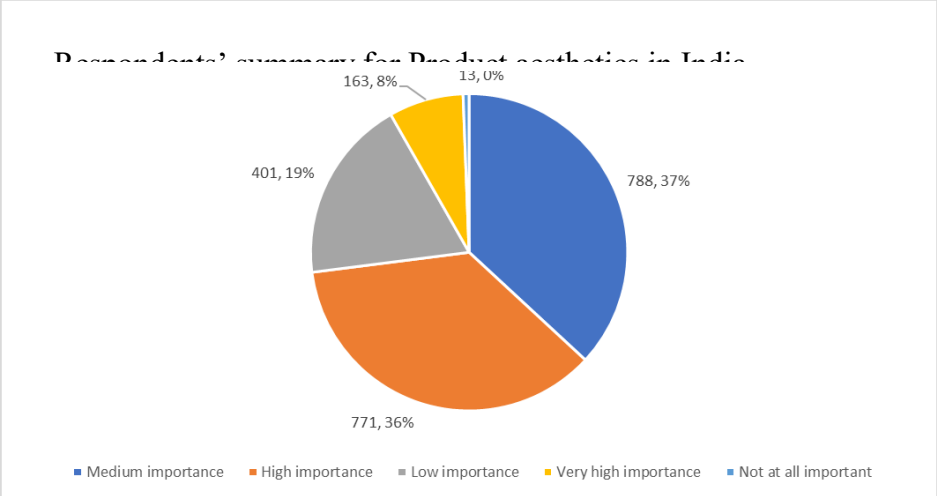


Figure 100 Respondents distribution for Product Aesthetics in India

With 37%, the medium importance category has the highest proportion of the respondents in India. 44% of the respondents have a relatively higher importance, with 8% of the respondents have a very high impact on their decision-making capability from the product aesthetics. Product aesthetics do not play a significant role while purchasing a medical device in 19% of the respondents.

4.20.3 Respondents distribution for Product Aesthetics in Germany

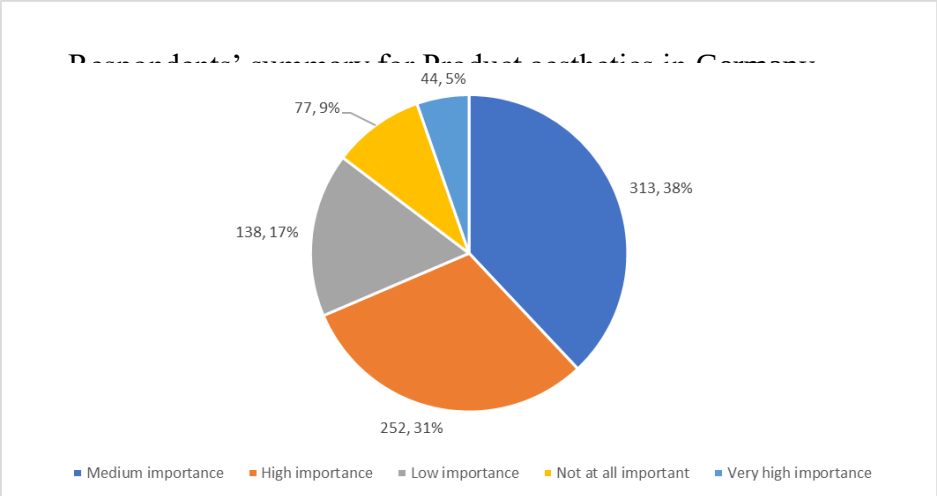


Figure 101 Respondents distribution for Product Aesthetics in Germany

Among the German respondents, the importance of the product aesthetics ranges majorly from the medium to high category. 40% of the respondents have a high or very high impact on their decision-making process while 38% of the participants have a medium importance. 26% of the respondents have a low or very low impact on their decision-making process. Only 5% of the respondents have a very high impact on their decision making against 9% of the respondents having no influence from the product aesthetics.

4.20.4 Respondents distribution for Product Aesthetics in Australia

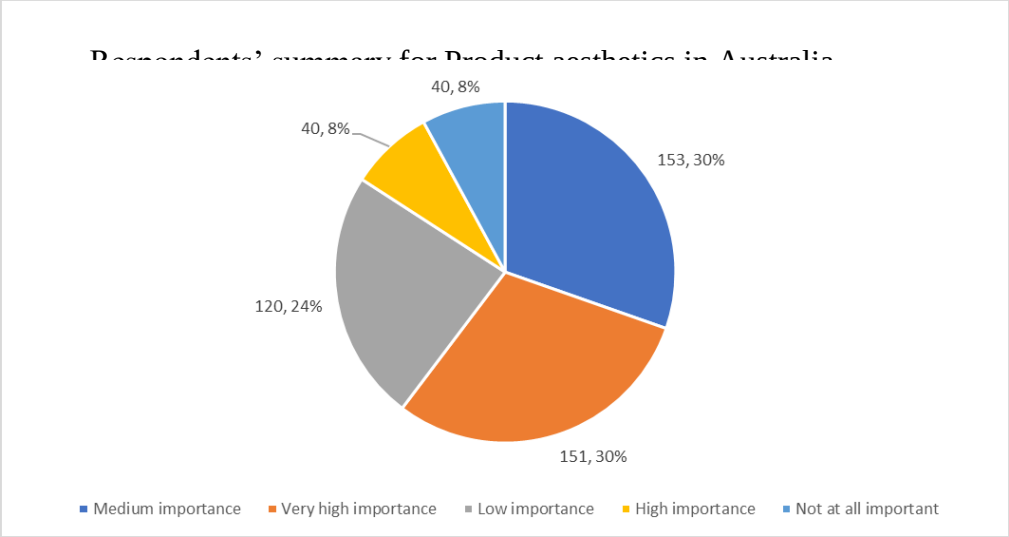


Figure 102 Respondents distribution for Product Aesthetics in Australia

Product aesthetic plays a significant role while purchasing a medical device among Australian respondents. 30% of the respondents have a very impact on their decision-making process against the 8% of the participants having no influence from the product aesthetics. 8% of the participants have a high importance for the product aesthetics while 30% of the proportion of the respondents have a medium importance. Remaining 24% of the respondents have a low impact from the product aesthetics.

4.21 Respondents distribution for Accuracy and Precision

Accuracy in the medical industry is defined as the how the observed values are close to the actual or true values. On the other hand, precision is defined as the ability of the medical device to the generate the values in more significant digits like more decimal places. The importance of the effectiveness of the medical devices are lied on the accuracy and precision of the devices. To the understand the importance of these parameters on the purchasing behavior of the customer "Accuracy and Precision" category is used. It is done on the Likert scale where the respondents can select one of the five following options:

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

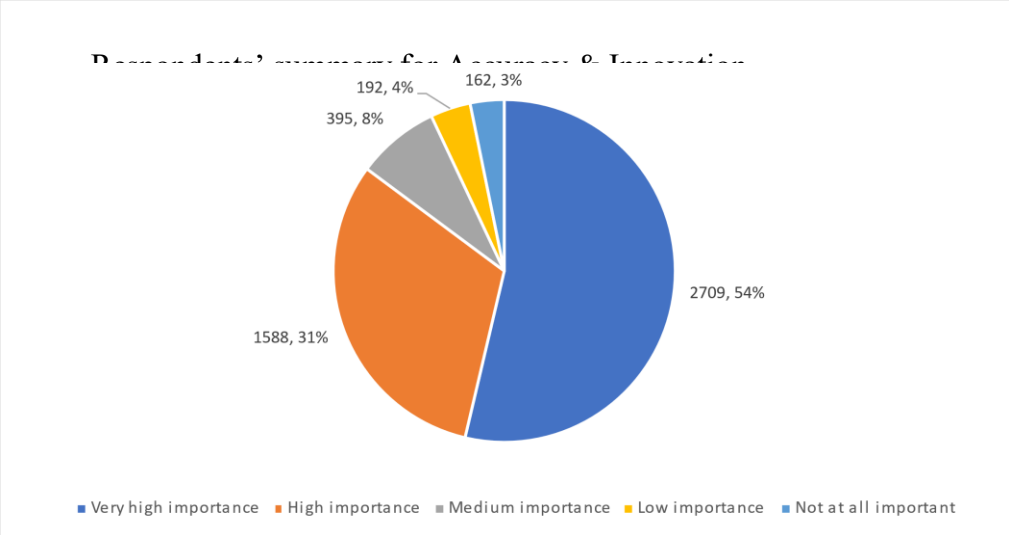


Figure 103 Respondents distribution for Accuracy and Precision

The importance of the accuracy and precision is in the ascending order of importance across the world-wide with very high importance having the highest proportion of the respondents and no importance category has the least proportion of the respondents. More than half of the respondents (54%) give a very importance the accuracy and precision of the medical devices. 31% of the respondents have a high impact on their decision making while 8% of the respondents have a medium importance to the accuracy and precision. Only 7% of the respondents have a relatively low importance to the accuracy and precision with 3% of the respondents have no importance to their decision making.

4.21.1 Respondents distribution for Accuracy and Precision in the United States

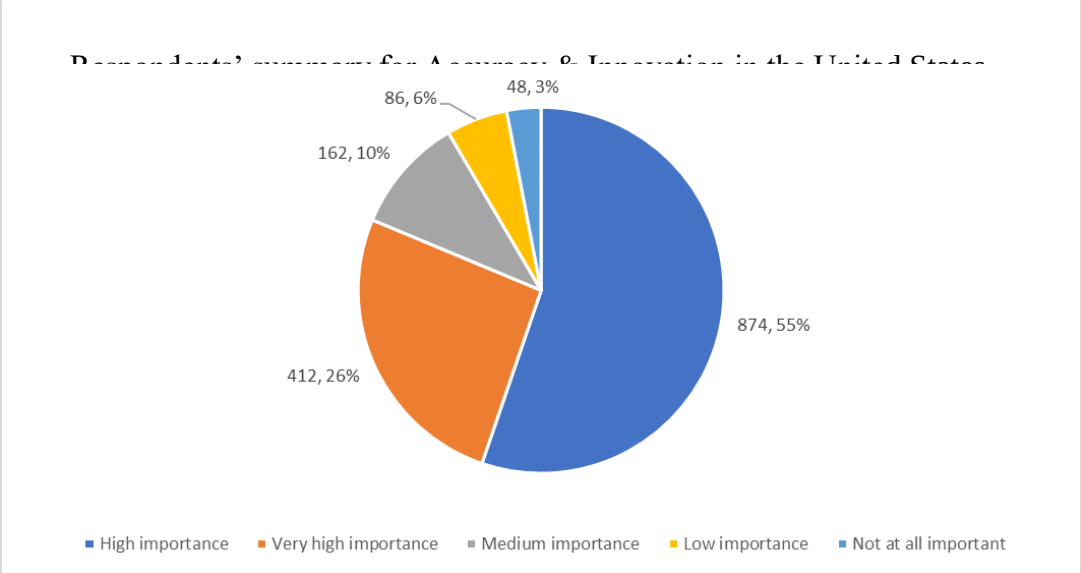


Figure 104 Respondents distribution for Accuracy and Precision in the United States

Accuracy and precision play an important role in the decision-making process of the medical devices among the United States respondents. 81% of the respondents have a high or very high influence from the effectiveness of the medical devices and they are looking for the products which can provide absolutely correct values so that best

medication can be taken. 26% of the participants have a very high importance against the 3% of the respondents having no influence from the accuracy. The proportion of the respondents having medium and low importance are 10% and 6% respectively.

4.21.2 Respondents distribution for Accuracy and Precision in India

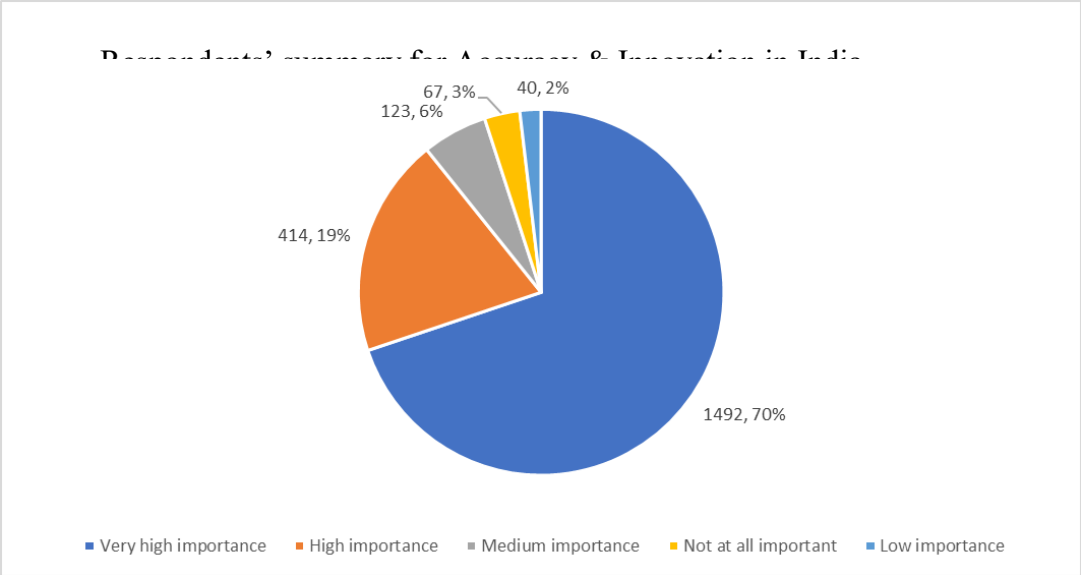


Figure 105 Respondents distribution for Accuracy and Precision in India

The importance of the accuracy and precision is significantly very high among the Indian respondents, with 70% of the respondents have a very importance of the accuracy and precision in the medical devices. 19% of the respondents have a high influence of the effectiveness of the medical device. The proportion of the respondents having medium, low and no impact from the medical devices stands at 6%, 3% and 2% respectively.

4.21.3 Respondents distribution for Accuracy and Precision in Germany

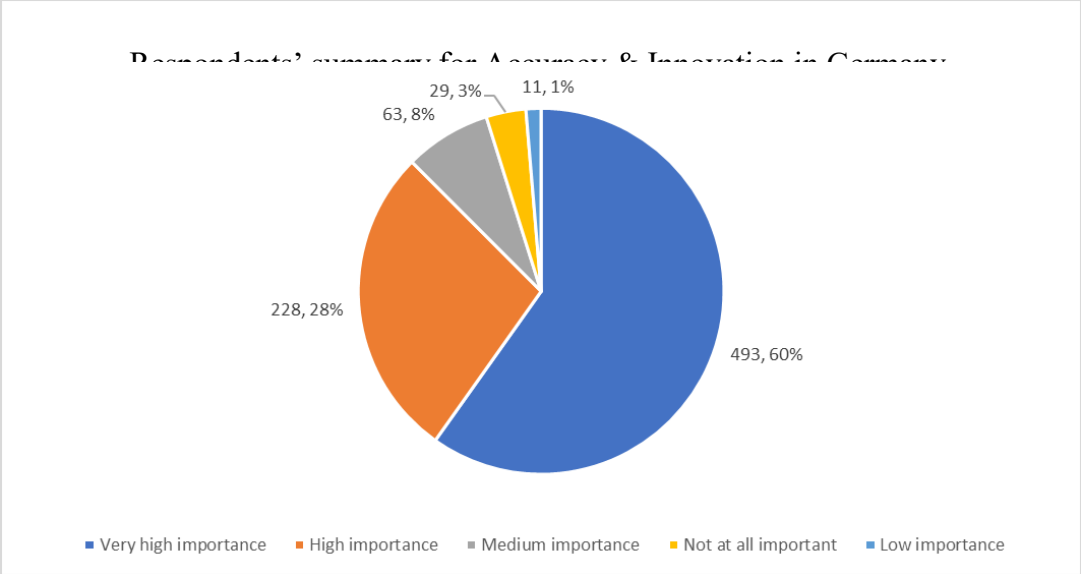


Figure 106 Respondents distribution for Accuracy and Precision in Germany

The importance of the accuracy and precision in a medical device is not an exception among the German respondents as well. 96% of the respondents have a medium to very high importance of the accuracy and precision and it plays an important in their decision-making process. 60% of the respondents have a very high influence against the 1% of the participants have no impact of the accuracy and precision. 28% of the respondents have a high influence against the 3% of the participants have a low influence. 8% of the respondents have a medium impact while purchasing a medical device.

4.21.4 Respondents distribution for Accuracy and Precision in Australia

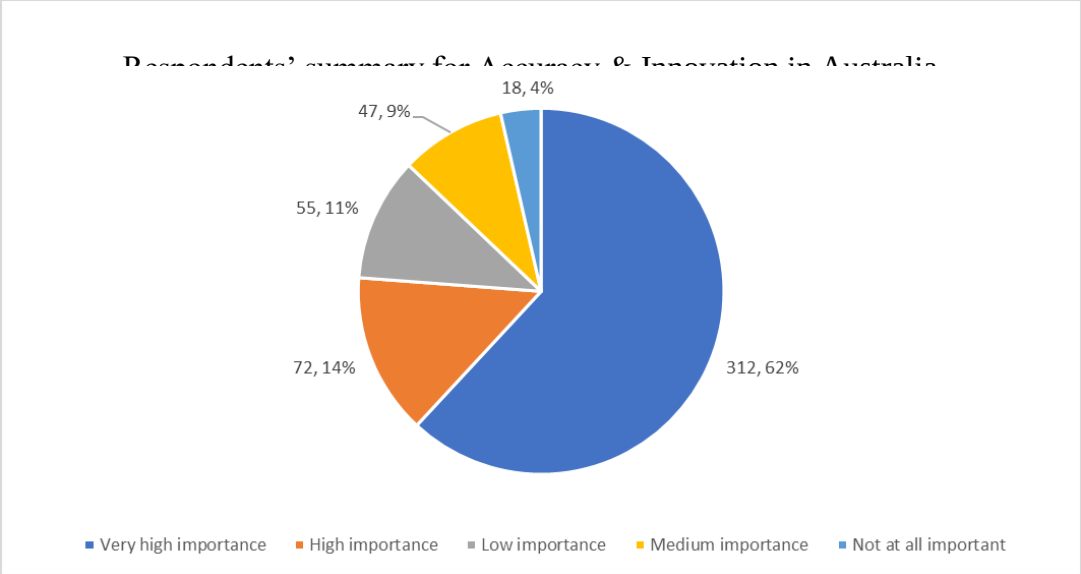


Figure 107 Respondents distribution for Accuracy and Precision in Australia

With 85% of the respondents falling under the medium to very high importance category, the significance of the accuracy and precision in medical devices in the purchasing behavior is observed. 62% of the respondents have a very high importance of the accuracy and precision while 14% of the respondents have a high impact. The importance is the medium category among 9% of the respondents. 11% and 4% of the participants have a low and no influence respectively from the accuracy and precision.

4.22 Respondents distribution for Service and Warranty

Service and Warranty refers to the service provided the manufacturer or third party like an insurance which caters to the needs of the customer in case of any default found in the product. It includes the repairs, labor cost, manufacturing defects and any other kind of malfunction in the medical device which has happened due to the manufacture and shipment process. It does not include the defects due to mishandling of the product by the

customers. It is done on the Likert scale where the respondents can select one of the five following options:

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

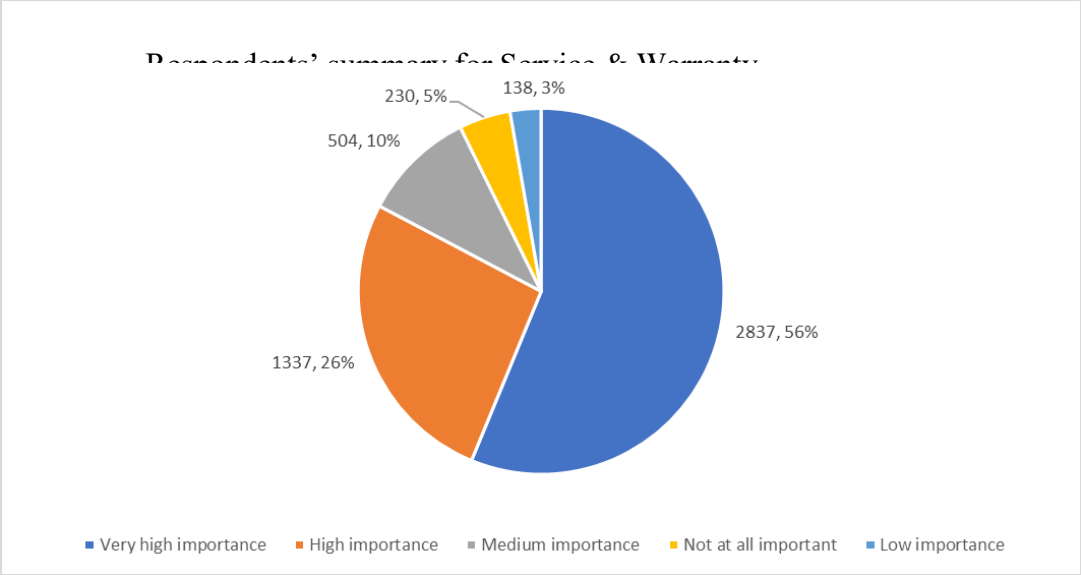


Figure 108 Respondents distribution for Service and Warranty

The assurance of the service provider for the medical devices and products play an important role in the decision-making process of purchasing. More than half of the respondents (56%) have a very high influence of the service and warranty provided. 92% of the respondents have a medium to very high influence on the purchasing behavior of the customers with 26% and 10% of the participants having high and medium importance

respectively. Only 8% of the participants have a relatively low influence with 3% of the respondents are not impacted at all by the service and warranty of the product.

4.22.1 Respondents distribution for Service and Warranty in the United States

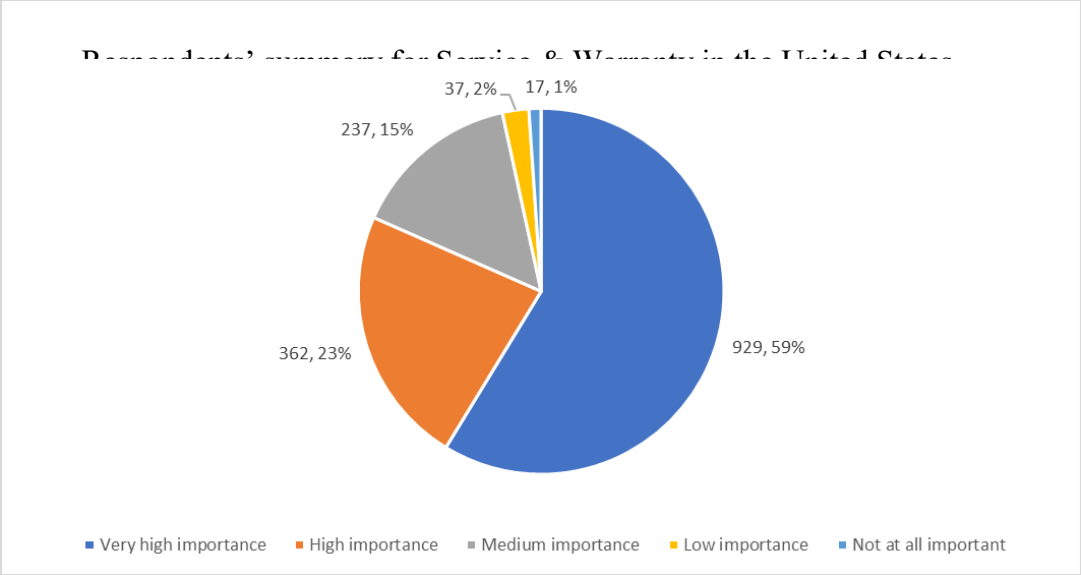


Figure 109 Respondents distribution for Service and Warranty in the United States

Only 3% of the respondents in the United States having low or no importance to the service and warranty of the product, the significance of assurance provided to the safety of the medical device and making it defect free, is visible. 59% of the respondents have a very impact on their decision-making process against the 1% of the respondents having no impact at all. 23% of the respondents have a high importance while 15% of the respondents have a medium influence of the service and warranty provided.

4.22.2 Respondents distribution for Service and Warranty in India

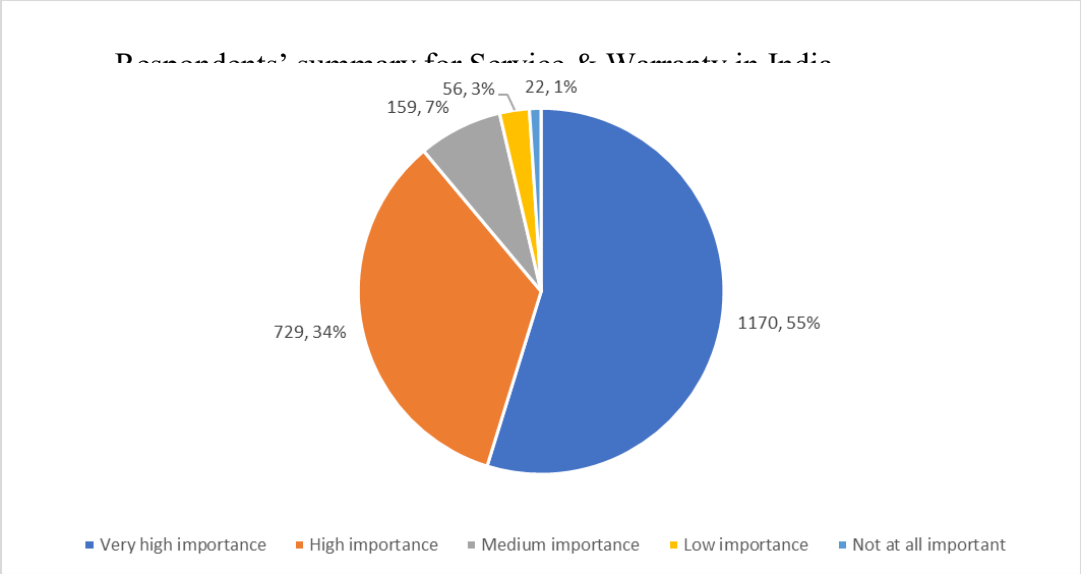


Figure 110 Respondents distribution for Service and Warranty in India

55% of the respondents have a very importance to the service and warranty provided to the medical devices among Indian respondents. 34% of the respondents have a high influence while 7% of the participants have a medium impact to their decision-making process from the service and warranty. While purchasing a medical device, the impact from the service and warranty is not significant among 4% of the participants, with 1% of the participants having no impact at all.

4.22.3 Respondents distribution for Service and Warranty in Germany

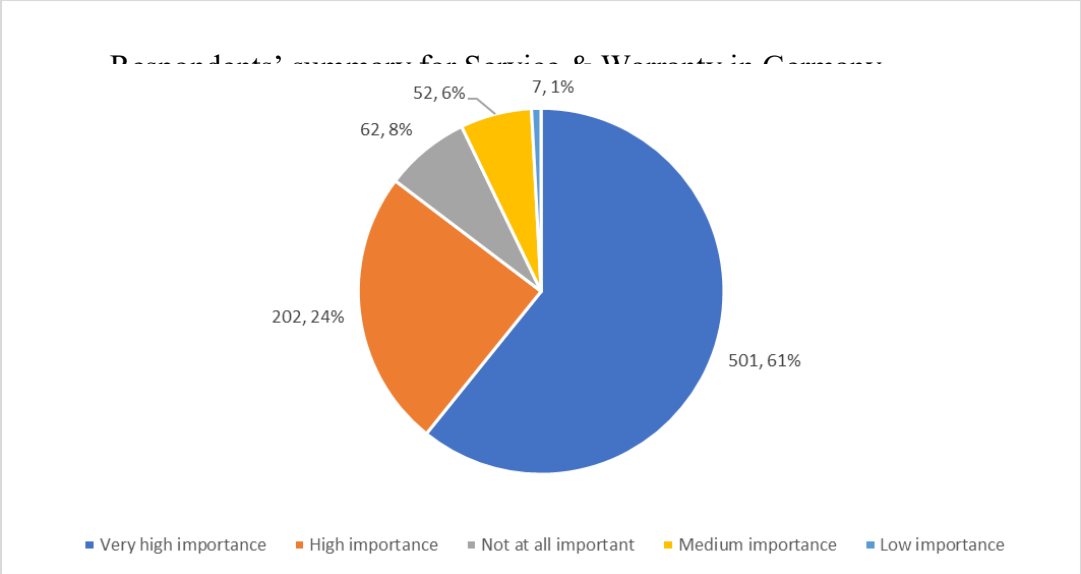


Figure 111 Respondents distribution for Service and Warranty in Germany

The importance of service and warranty continues to play a significant role in the purchase of medical devices among German respondents as well. 61% of the respondents have a very high impact of the service and warranty while 24% of the participants have a high influence on their decision-making process while purchasing a medical device. 8% of the respondents have a medium influence while 7% of the participants have a relatively low importance. 1% of the respondents are not impacted by the service and warranty provided in purchasing a medical device.

4.22.4 Respondents distribution for Service and Warranty in Australia

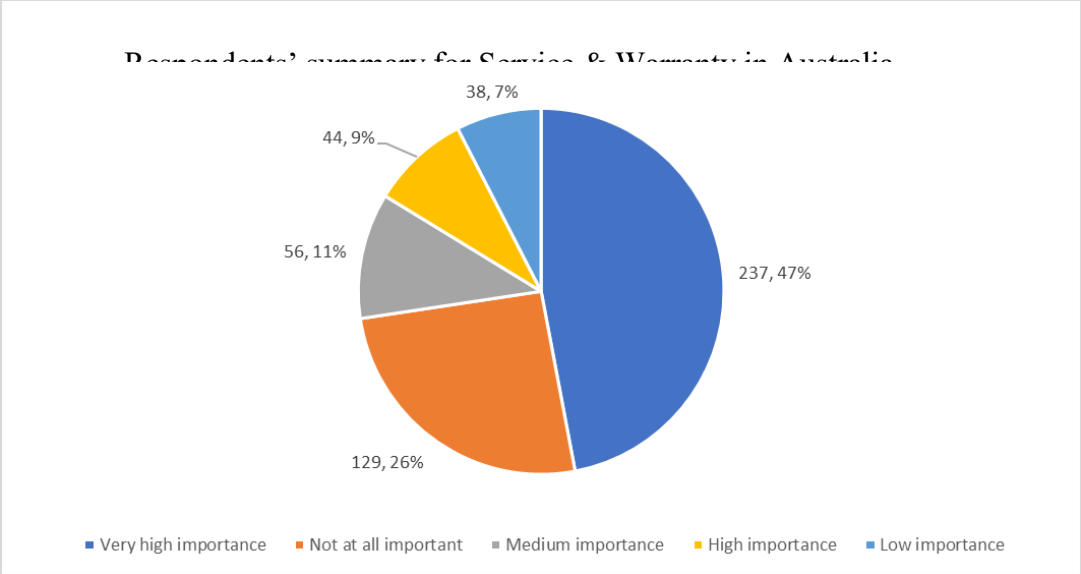


Figure 112 Respondents distribution for Service and Warranty in Australia

Australian respondents have an extreme behavior towards the service and warranty of the medical devices. 47% of the respondents are very highly impacted by the service and warranty while 26% of the participants are absolutely not influenced by the same. 11% of the respondents have a medium importance to the service and warranty. 9% and 7% of the respondents have a high and low influence respectively from the service and warranty on the purchasing behavior.

4.23 Respondents distribution for Psychological and discount behavior

Discounting plays an important role in the minds on consumer while purchasing a medical device. “Psychological and discount behavior” helps in understanding the pricing points which can impact the decision-making process. Psychological prices refer to the pricing strategy where the prices are ending with 9 to make it more attractive and consumer perceive it too much lesser than it is. Discounting refers to the deduction in prices from the original price or MRP (maximum retail price). It has below 5 options

a. Product price is 1999 : it is type of psychological pricing where it is priced at 1999 in local currency instead of 2000 in local currency to make much attainable and attractive to buy
b. Product price is 2000 : it can counter intuitive of the psychological pricing where the product is priced at 2000 in local currency to easily understand the amount
c. Product price was 3,000 and now, it is available at 1999 : it shows that the original price is 3000 in local currency and now, it has been discounted by approximately 30% and is offered at 1999 in local currency. It shows the importance of small discounting provided.
d. Product price was 5,000 and now, it is available at 1999 : it shows that the original price is 5000 in local currency and now, it has been discounted by approximately 60% and is offered at 1999 in local currency. It shows the importance of high discounting provided.
e. Product price was 10,000 and now, it is available at 1999 : it shows that the original price is 10,000 in local currency and now, it has been discounted by approximately 80% and is offered at 1999 in local currency. It shows the importance of very high discounting provided.

High prices often referred to the product having more features and better quality. Thus, different discounting pattern helps in understanding the consumer behavior towards the discounting and impact of psychological pricing while purchasing a medical device.

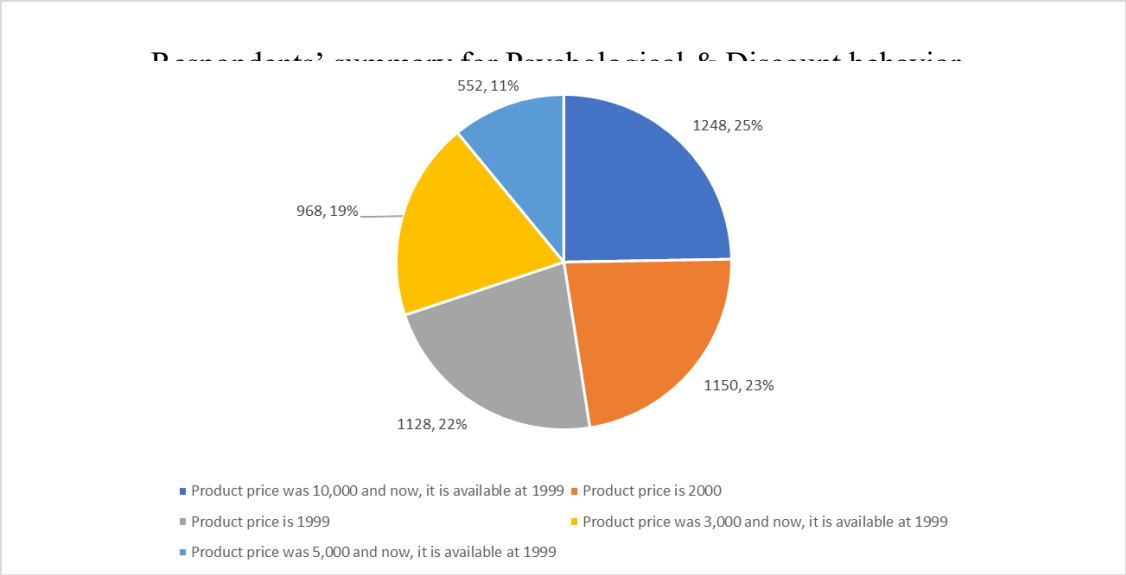


Figure 113 Respondents distribution for Psychological and discount behavior

Across all the respondents, highest proportion of respondents have a preference towards the very high discount. Among the comparison of psychological pricing, there is not much significance in the proportion of the respondents, with 23% and 22% of the participants in 2000 priced product and 1999 priced product respectively. Middle discount behavior i.e. product priced at 5000 is available at 1999 has the least proportion at 11%. 19% of the participants have a preference towards the deals small discount is provided.

4.23.1 Respondents distribution for Psychological and discount behavior in the United States

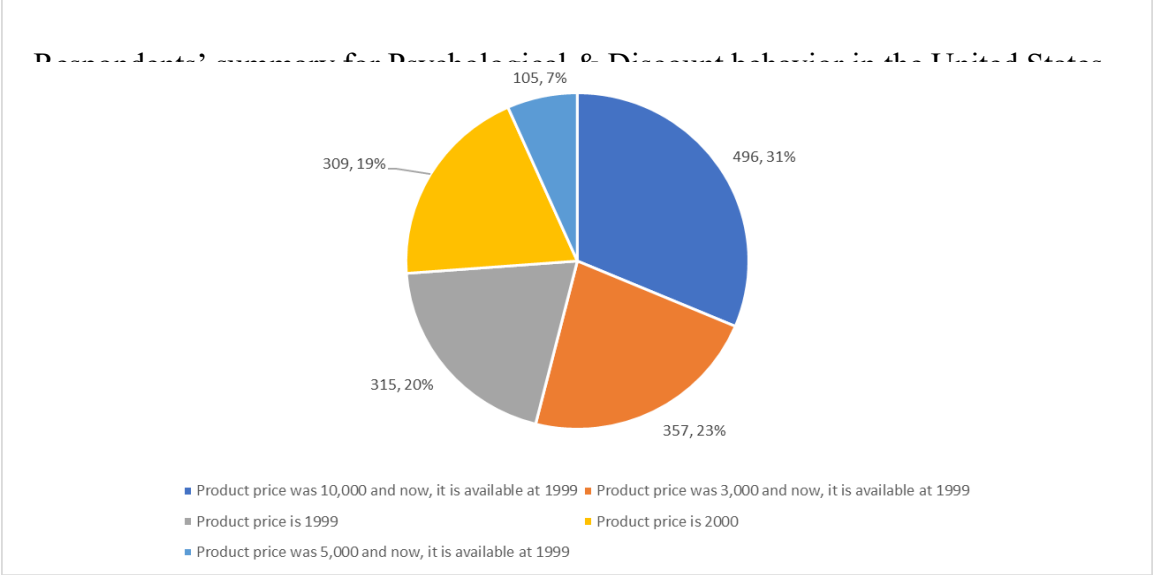


Figure 114 Respondents distribution for Psychological and discount behavior in the United States

Discount play an important role in the decision-making process while purchasing a medical device in the United States respondents. 31% of the respondents preferred very high discounting for the medical device while 19% of the respondents preferred low discounting. Among the comparison of the psychological and non-psychological pricing, there is no clear preference. 20% of the respondents have a preference towards no discount psychological pricing while 19% of the respondents prefers rounded off pricing. Only 7% of the respondents have a preference for the medium discount.

4.23.2 Respondents distribution for Psychological and discount behavior in India

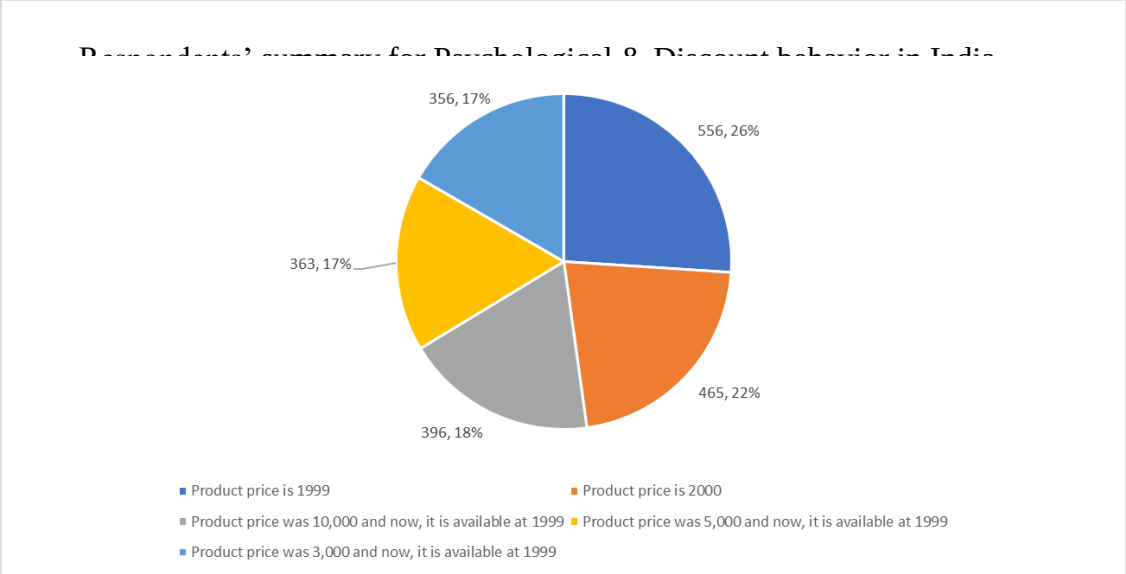


Figure 115 Respondents distribution for Psychological and discount behavior in India

Among the Indian respondents, the preference to discount is secondary to the actual prices. Psychological prices of 1999 in local currency have the highest proportion of the respondents (26%), followed by the round off prices of 2000 in local currency (22%). The preference of discount pattern is in the decreasing order. The highest discount has the highest proportion of the respondents (18%) followed by the proportion (17%) for medium discount. 17% of the respondents prefers the products with low discount. It shows that the discount when plays a role in India, higher the discount higher the preference for the medical device is.

4.23.3 Respondents distribution for Psychological and discount behavior in Germany

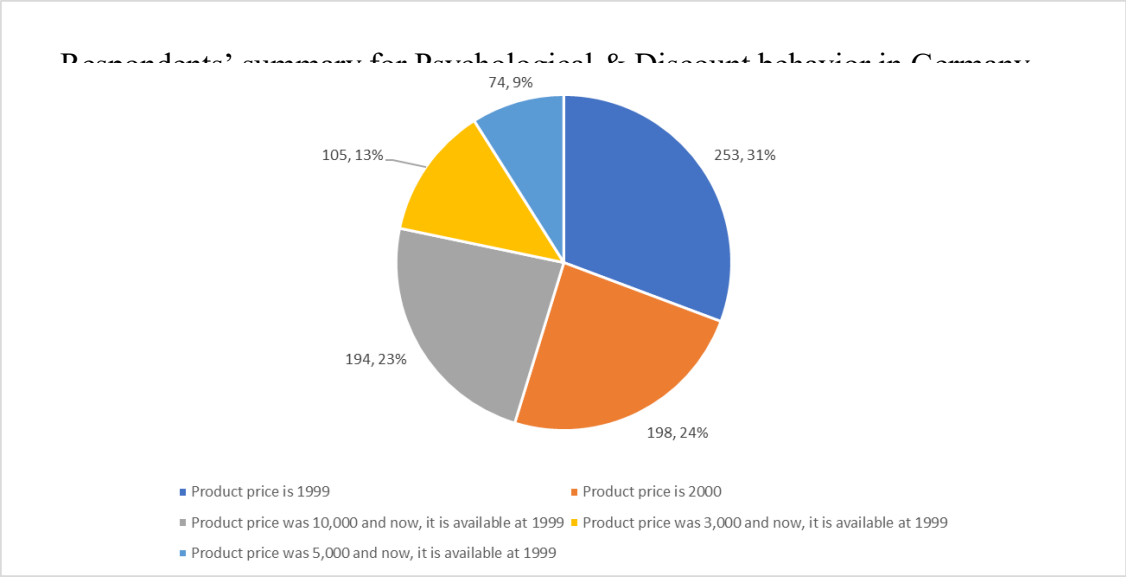


Figure 116 Respondents distribution for Psychological and discount behavior in Germany

With 31% of the respondents, product price as1999 in local currency has the highest proportion. It shows the importance of the psychological pricing among the German participants. 24% of the respondents prefers the round off price as 2000 in local currency. Discounts play a secondary role as all the discount related category have lower preference. 23% of the respondents prefers very high discounts while low discounts are preferred by 13% of the respondents. Middle or medium discounts are preference for the 9% of the respondents.

4.23.4 Respondents distribution for Psychological and discount behavior in Australia

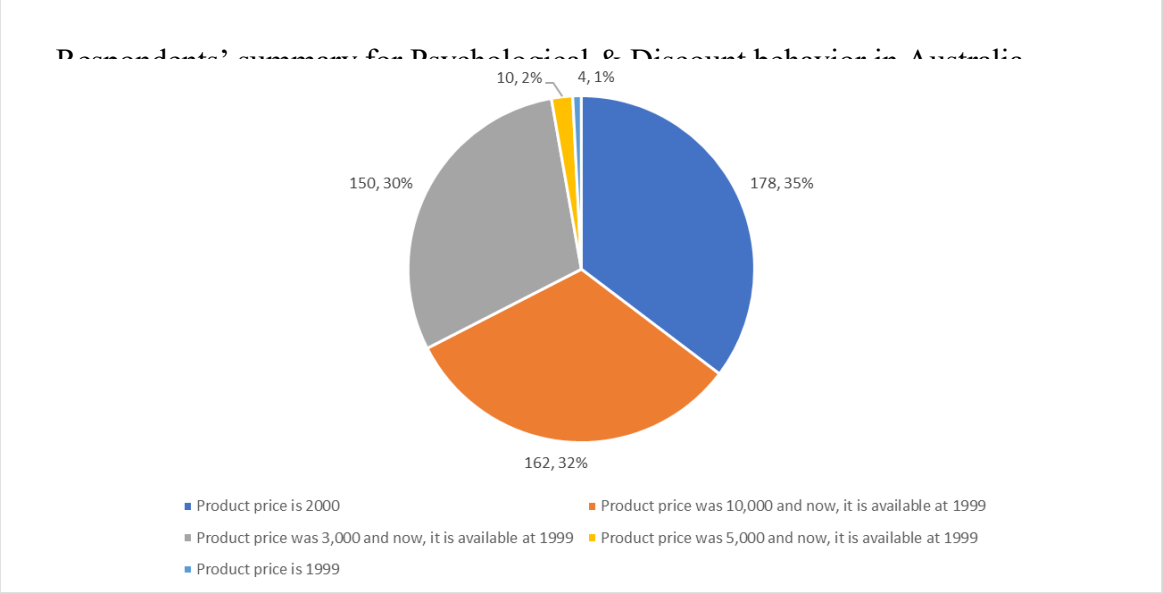


Figure 117 Respondents distribution for Psychological and discount behavior in Australia

Australian have a clear demarcation for the psychological price for the medical devices. 35% of the respondents have a preference towards the round off prices rather the psychological pricing. Only 1% of the respondents have a preference for the psychological pricing. In terms of the discounts, very high discounts take precedence over the low and medium discounts, with 32% of the participants have a preference for the very high discounts. 30% of the participants have a preference for low discounts while medium discounts have been a preference for only 2% of the participants.

4.23 Summary of factors importance

Below is the summarized table for the factors and their importance and influence on the decision-making process of the consumers while purchasing a medical device.

Table 2 Summary of importance and influence of the factors

S.No.	Variable	Overall	United States	India	Germany	Australia
1	Brand Influence	High to very high	Very High	High to very high	High to very high	High
2	Doctor recommendation	High to very high	High to very high	High	High	Very High
3	Family peer Recommendation	Very high	Very high	Very high	Very high	Very high
4	Online Reviews	Very high	Very high	Average	Very high	High
5	Ecommerce sponsored	Low	Low	Low	Low	Very Low
6	Medical Shopkeeper Recommendations	No specific category	No specific category	No specific category	No specific category	No specific category
7	Television Advertisements	Low	Low	Low	Average to high	Average
8	packaging	Medium	Medium	Low to medium	Medium to high	Low
9	Brand	Low	Medium to	Low	Low	Low

	Ambassador		Low			
10	Number of features	High	High	High	High	Medium
11	Patent and Innovation	Medium to high	Medium to high	Medium to high	Medium to high	Medium
12	Product aesthetics	Medium to high	Medium to high	Medium to high	Medium to high	Medium to high
13	Accuracy and Precision	Very high	High	Very high	Very high	Very high
14	Service and Warranty	Very high	Very high	Very high	Very high	Very high
15	Psychological and discount behavior	High Discounts	Very High discounts with Psychological Pricing	Very High discounts	Psychological Pricing	Non-Psychological Pricing

CHAPTER 5 : RESULTS

To evaluate the actual importance of the various factors on the pricing, statistical tests are conducted which shows the relationship between the pricing and the factors considered in the research. To understand whether the factor is significant, ANOVA test is conducted. It shows the significance of various groups in the factor considered and shows whether they are significantly different from each other or not. If the groups are

significantly different, then it shows that the pricing for each of the groups in a particular variable or factor are significantly different from each other and hence, there is an opportunity for the marketing team to utilize the information and set the optimal prices by charging a premium or providing a discount to the existing price.

ANOVA test is performed to understand whether the customer prices for different groups in the primary users are significantly different from each other. If the p-value is less than 0.05, then it can be concluded that prices are significantly different from each other among the categories.

Post the ANOVA analysis, regression analysis is performed with “Price” as the dependent variable and variables as the independent variable, one at a time. The prices are in the local currency.

1. United States prices are in United States Dollar (USD).
2. India prices are in Indian Rupees (INR).
3. Germany prices are in Euro (Euro).
4. Australia prices are in Australian Dollar (AUD).

The estimated values or the coefficients represents the premium price (if the coefficient is positive) or the discounted price (if the coefficient is negative) for every 1 unit change in the variable. This will help in taking the most optimal decision by the organization and prioritize the factors for their product and gives the estimated earning of the revenue with the strategy change.

5.1 Hypothesis list

Table 3 List of hypotheses

S.No.	Variable	Null Hypothesis (H0)	Alternate Hypothesis (H1)
1	Primary user	The average prices are same among the different Primary users	The average prices are different among the different Primary users
2	Primary purpose	The average prices are same for the different Primary purposes	The average prices are different for the different Primary purposes
3	Frequency of use	The average prices are same for the different frequency of use	The average prices are different for the different frequency of use
4	Age	The average prices are same among the different age groups	The average prices are different among the different age groups
5	Gender	The average prices are same among the different gender groups	The average prices are different among the different gender groups
6	Social status	The average prices are same among the different social status groups	The average prices are different among the different social status groups

7	Education background	The average prices are same among the different educational background groups	The average prices are different among the different educational background groups
8	Occupation	The average prices are same among the different occupation groups	The average prices are different among the different occupation groups
9	Brand Influence	The average prices are same among the different importance of the brand influence	The average prices are different among the different importance of the brand influence
10	Doctor recommendation	The average prices are same among the different importance of the doctor's recommendation	The average prices are different among the different importance of the doctor's recommendation
11	Family peer Recommendation	The average prices are same among the different importance of the family peer recommendation	The average prices are different among the different importance of the family peer recommendation

12	Online Reviews	The average prices are same among the different importance of the online reviews	The average prices are different among the different importance of the online reviews
13	Ecommerce sponsored	The average prices are same among the different importance of the ecommerce sponsorships	The average prices are different among the different importance of the ecommerce sponsorships
14	Medical Shopkeeper Recommendations	The average prices are same among the different importance of the medical shopkeeper recommendation	The average prices are different among the different importance of the medical shopkeeper recommendation
15	Television Advertisements	The average prices are same among the different importance of the television advertisements	The average prices are different among the different importance of the television advertisements
16	packaging	The average prices are same among the different importance of the packaging	The average prices are different among the different importance of the packaging

17	Brand Ambassador	The average prices are same among the different importance of the brand ambassador	The average prices are different among the different importance of the brand ambassador
18	Number of features	The average prices are same among the different importance of the number of features	The average prices are different among the different importance of the number of features
19	Patent and Innovation	The average prices are same among the different importance of the patent and innovation	The average prices are different among the different importance of the patent and innovation
20	Product aesthetics	The average prices are same among the different importance of the product aesthetics	The average prices are different among the different importance of the product aesthetics
21	Accuracy and Precision	The average prices are same among the different importance of the accuracy and precision	The average prices are different among the different importance of the accuracy and precision
22	Service and Warranty	The average prices are same among the different	The average prices are different among the

		importance of the service and warranty	different importance of the service and warranty
23	Psychological and discount behavior	The average prices are same among the different psychological and discount behavior	The average prices are different among the different psychological and discount behavior

5.2 Hypothesis 1: Impact of Primary user on the medical device prices

Objective 1: To understand the readiness and the differential price, a customer is expected pay on the basis of the primary user of the device.

Null Hypothesis (H_0) : The average prices are same among the different Primary users.

Alternate Hypothesis (H_1) : The average prices are different among the different Primary users.

The groups in the primary user are :

a. Grandparents, Parents or in-laws
b. Device is available for regular checkup for all members
c. Self, Spouse, Siblings, and
d. Children

“Children” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.2.1 Impact of Primary user on the medical device prices in the United States

```
               Df  Sum Sq Mean Sq F value  Pr(>F)
primary_user    3    8739  2912.9     4.5 0.00377 **
Residuals    1578 1021548   647.4
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 118 ANOVA results for Primary users in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other in the primary user groups. As a result, the null hypothesis is rejected and hence, it can be concluded that a medical device when purchased for different primary users, customers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ primary_user, data = dt_country)

Residuals:
   Min     1Q Median     3Q    Max
-9.843 -2.066 -0.066  2.157 10.518

Coefficients:
                                                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                       17.6512     0.4774  36.972   <2e-16 ***
primary_userDevice is available for regular checkup for all members  -0.8079     0.4925  -1.640    0.101
primary_userGrand parents , Parents or in-laws                    -0.1695     0.4979  -0.340    0.734
primary_userSelf , Spouse, Siblings                               -0.5852     0.5038  -1.162    0.246
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 119 Regression results for Primary users in the United States

The regression results shows that the prices are decreasing for rest of the groups, but they are not significant due to the large p-value. For the category “Device is available for the regular checkup for all members”, there is discounted price by 0.8 USD and p-value is 0.1 which is in slightly significant category. It shows that when consumers are purchasing the medical devices for generic purposes and not for specific family members, they are expected to pay 1 USD less than they are paying when purchasing for their children.

5.2.2 Impact of Primary user on the medical device prices in India

```
               Df    Sum Sq   Mean Sq F value Pr(>F)
primary_user    3 6.309e+08 210290882   67.48 <2e-16 ***
Residuals    2132 6.644e+09   3116124
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 120 ANOVA results for Primary users in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other in the primary user groups. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased for different primary users, customers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ primary_user, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1173.51  -173.72    12.53   212.53  1026.28

Coefficients:
                                                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                       1790.12      31.23  57.312  < 2e-16 ***
primary_userDevice is available for regular checkup for all members  -316.40      33.46  -9.455  < 2e-16 ***
primary_userGrand parents , Parents or in-laws                    -116.61      32.80  -3.555 0.000386 ***
primary_userSelf , Spouse, Siblings                               -202.66      32.95  -6.151 9.19e-10 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 121 Regression results for Primary users in India

The regression results shows that the prices are decreasing for rest of the groups, and they are significant due to the low p-value. For the category “Device is available for the regular checkup for all members”, there is discounted price by 316 INR (Indian Rupees) while consumer purchasing the medical devices for the Grandparents, parents or in-laws, there is a discounted price of INR 117. The discounted price is INR 203 when the primary user is self, spouse or siblings.

It shows that when consumers are purchasing the medical devices for children, they are paying the highest price for same kind and type of medical device and there is a drop of INR 100 to INR 300 for different primary users.

5.2.3 Impact of Primary user on the medical device prices in Germany

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
primary_user	3	2059	686	0.21	0.89
Residuals	820	2686481	3276		

Figure 122 ANOVA results for Primary users in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different from each other in the primary user groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different primary users, customers are not paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ primary_user, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-21.618  -6.159  -1.159   3.841  18.841

Coefficients:
                                                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                       26.8750     1.8315  14.674   <2e-16 ***
primary_userDevice is available for regular checkup for all members -0.2574     1.8920  -0.136    0.892
primary_userGrand parents , Parents or in-laws                    -0.7163     1.8774  -0.382    0.703
primary_userSelf , Spouse, Siblings                               -0.6005     1.8881  -0.318    0.751
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 123 Regression results for Primary users in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in primary user category. It can be concluded that in Germany, consumers are not paying significantly different prices and to attain premium pricing, primary users are not the criteria to be followed.

5.2.4 Impact of Primary user on the medical device prices in Australia

```
              Df  Sum Sq Mean Sq F value  Pr(>F)
primary_user   3   55161   18387   4.709 0.00298 **
Residuals    500 1952134    3904
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 124 ANOVA results for Primary users in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other in the primary user groups. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased for different primary users, customers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ primary_user, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-30.3641  -5.5882  -0.3641   6.4000  26.4000

Coefficients:
                                                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                       47.917      2.738  17.501   <2e-16 ***
primary_userDevice is available for regular checkup for all members   5.683      2.845   1.997   0.0463 *
primary_userGrand parents , Parents or in-laws                    2.447      2.817   0.869   0.3853
primary_userSelf , Spouse, Siblings                               2.672      2.856   0.935   0.3501
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 125 Regression results for Primary users in Australia

The regression results shows that the prices are increasing for rest of the groups, and they are significant due to the low p-value. For the category “Device is available for the regular checkup for all members”, there is premium price by 5.7 AUD (Australian Dollars) and p-values is less tha 0.05 which is in significant category. It shows that when consumers are purchasing the medical devices for generic purposes and not for specific

family members, they tend to pay 5.7 AUD higher price they are ready to pay when purchasing for their children or in general.

5.3 Hypothesis 2: Impact of Primary purpose on the medical device prices

Objective 2: To understand the readiness and the differential price, a customer is expected pay on the basis of the primary purpose of the device.

Null Hypothesis (H_0) : The average prices are same for the different Primary purpose.

Alternate Hypothesis (H_1) : The average prices are different for the different Primary purpose.

The groups in the primary purpose are :

a. It helps in checking the vitals at regular intervals, for healthy lifestyle
b. Have medical condition in family, so need to track the fluctuations
c. It is available for any emergency vital checks
d. It helps in saving medical expenses since it is cheaper and convenient at home

“Have medical condition in family, so need to track the fluctuations” group is considered as the base and the deviations, on the pricing are calculated from the same.

5.3.1 Impact of Primary purpose on the medical device prices in the United States

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
primary_purpose	3	3206	1068.6	1.642	0.178
Residuals	1578	1027081	650.9		

Figure 126 ANOVA results for Primary purpose in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different from each other in the primary purpose groups. As a result, the null hypothesis

is failed to reject and hence, it can be concluded that the medical device when purchased for different primary purposes, consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ primary_purpose, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.2486  -2.2486  -0.2486   1.9665  10.7514

Coefficients:
                                                                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                                       17.03348    0.14830 114.860   <2e-16 ***
primary_purposeIt helps in checking the vitals at regular intervals , for healthy lifestyle  0.21512    0.18159   1.185    0.236
primary_purposeIt helps in saving medical expenses since it is cheaper and convenient at home -0.09598    0.79861  -0.120    0.904
primary_purposeIt is available for any emergency vital checks                     -0.27330    0.25802  -1.059    0.290
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 127 Regression results for Primary purpose in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in primary purpose category. It can be concluded that in the United Sates, consumers are not paying significantly different prices and to attain premium pricing, primary purposes are not the criteria to be followed.

5.3.2 Impact of Primary purpose on the medical device prices in India

```
                   Df    Sum Sq Mean Sq F value Pr(>F)
primary_purpose     3 2.249e+07 7496039   2.204 0.0857 .
Residuals        2132 7.252e+09 3401483
---
```

Figure 128 ANOVA results for Primary purpose in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different from each other in the primary purpose groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased

for different primary purposes, consumers are not paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ primary_purpose, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1112.83  -212.83   -12.83   216.27   916.27

Coefficients:
                                                                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                                     1583.725     12.491 126.789   <2e-16 ***
primary_purposeIt helps in checking the vitals at regular intervals , for healthy lifestyle    29.109     15.262   1.907   0.0566 .
primary_purposeIt helps in saving medical expenses since it is cheaper and convenient at home -19.623     48.666  -0.403   0.6868
primary_purposeIt is available for any emergency vital checks                    -4.578     18.987  -0.241   0.8095
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Figure 129 Regression results for Primary purpose in India

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in primary purpose category. It can be concluded that in India, consumers are not paying significantly different prices and to attain premium pricing, primary purposes are not the criteria to be followed.

5.3.3 Impact of Primary purpose on the medical device prices in Germany

```
                 Df  Sum Sq Mean Sq F value Pr(>F)
primary_purpose   3    3278    1093   0.334  0.801
Residuals       820 2685263    3275
```

Figure 130 ANOVA results for Primary purpose in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different from each other in the primary purpose groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different primary purposes, consumers are not paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ primary_purpose, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-21.5304  -5.9223  -0.9223   4.0777  19.3269

Coefficients:
                                                                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                                      25.9223     0.5101  50.816   <2e-16 ***
primary_purposeIt helps in checking the vitals at regular intervals , for healthy lifestyle     0.6081     0.6104   0.996    0.319
primary_purposeIt helps in saving medical expenses since it is cheaper and convenient at home  -0.2493     1.1363  -0.219    0.826
primary_purposeIt is available for any emergency vital checks                    0.7631     0.9287   0.822    0.412
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 131 Regression results for Primary purpose in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in primary purpose category. It can be concluded that in Germany, consumers are not paying significantly different prices and to attain premium pricing, primary purposes are not the criteria to be followed.

5.3.4 Impact of Primary purpose on the medical device prices in Australia

```
                  Df  Sum Sq Mean Sq F value Pr(>F)
primary_purpose    3    6240    2080    0.52  0.669
Residuals        500 2001055    4002
```

Figure 132 ANOVA results for Primary purpose in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different from each other in the primary purpose groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different primary purposes, consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ primary_purpose, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-31.5870  -5.8981  -0.8981   7.3611  29.1019

Coefficients:
                                                                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                                      50.8981     0.6685  76.134   <2e-16 ***
primary_purposeIt helps in checking the vitals at regular intervals , for healthy lifestyle     0.6889     0.9205   0.748    0.455
primary_purposeIt helps in saving medical expenses since it is cheaper and convenient at home  -0.1168     1.8232  -0.064    0.949
primary_purposeIt is available for any emergency vital checks                    1.7408     1.7333   1.004    0.316
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 133 Regression results for Primary purpose in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in primary purpose category. It can be concluded that in Australia, consumers are not paying significantly different prices and to attain premium pricing, primary purposes are not the criteria to be followed.

5.4 Hypothesis 3: Impact of Frequency of Use on the medical device prices

Objective 3: To understand the readiness and the differential price, a customer is expected pay on the basis of the usage frequency of the device.

Null Hypothesis (H_0) : The average prices are same for the different frequency of use.

Alternate Hypothesis (H_1) : The average prices are different for the different frequency of use.

The groups in the frequency of use are :

a. Daily
b. Once in a week
c. Once in a month
d. Once in 3 months
e. Once in a year

"Daily" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.3.1 Impact of Frequency of Use on the medical device prices in the United States

```
                    Df  Sum Sq Mean Sq F value Pr(>F)
frequency_of_use     4    4624  1156.0   1.777  0.131
Residuals         1577 1025663   650.4
```

Figure 134 ANOVA results for frequency of use in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different from each other in the frequency of use groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different frequency of use, consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ frequency_of_use, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.0887  -2.0887  -0.0887   2.1550  11.1550

Coefficients:
                              Estimate Std. Error t value Pr(>|t|)
(Intercept)                    16.7105     0.5091  32.824   <2e-16 ***
frequency_of_useEvery week      0.6837     0.5338   1.281    0.200
frequency_of_useOnce a month    0.3782     0.5257   0.719    0.472
frequency_of_useOnce in 3 months  0.4780   0.5473   0.873    0.383
frequency_of_useOnce in an year   0.1345   0.5366   0.251    0.802
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 135 Regression results for frequency of use in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in frequency of use category. It can be concluded that in

the United States, consumers are not paying significantly different prices and to attain premium pricing, frequency of use are not the criteria to be followed.

5.3.2 Impact of Frequency of Use on the medical device prices in India

```
                    Df    Sum Sq  Mean Sq F value   Pr(>F)
frequency_of_use     4 1.304e+08 32588658   9.721 8.63e-08 ***
Residuals         2131 7.144e+09  3352461
---
```

Figure 136 ANOVA results for frequency of use in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other in the frequency to use groups. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased for different frequency of use, consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ frequency_of_use, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1057.73  -211.68   -11.68   188.32   942.27

Coefficients:
                              Estimate Std. Error t value Pr(>|t|)
(Intercept)                    1576.19      63.67  24.754   <2e-16 ***
frequency_of_useEvery week       64.72      31.10   2.081    0.030 *
frequency_of_useOnce a month     35.49      64.37   0.551    0.581
frequency_of_useOnce in 3 months -18.46     64.91  -0.284    0.776
frequency_of_useOnce in an year  -69.52      68.45  -1.016    0.310
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 137 Regression results for frequency of use in India

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. For the category “Every week”, there is

premium price by 65 INR (Indian Rupees). It shows that when consumers are purchasing the medical devices for once-a-week usage frequency, they are ready to pay 65 INR higher price they tend to pay when purchasing for daily use.

5.3.3 Impact of Frequency of Use on the medical device prices in Germany

```
                   Df  Sum Sq Mean Sq F value   Pr(>F)
frequency_of_use    4   63893   15973   4.984 0.000566 ***
Residuals         819 2624647    3205
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Figure 138 ANOVA results for frequency of use in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other in the frequency to use groups. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased for different frequency of use, consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ frequency_of_use, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-21.4646  -5.6627  -0.6627   3.7500  19.3373

Coefficients:
                               Estimate Std. Error t value Pr(>|t|)
(Intercept)                      22.326      1.105  20.203  < 2e-16 ***
frequency_of_useEvery week        5.052      1.198   4.218 2.74e-05 ***
frequency_of_useOnce a month      4.139      1.182   3.501 0.000489 ***
frequency_of_useOnce in 3 months  3.337      1.240   2.691 0.007262 **
frequency_of_useOnce in an year   3.924      1.397   2.810 0.005071 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Figure 139 Regression results for frequency of use in Germany

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. For the category “Every week”, there is premium price by 5 Euros while for the once-a-month frequency usage, there is a premium of 4 Euros. For once a quarter or 3 months usage, premium pricing is 3 Euros, and it is 4 Euros for the once in a year usage.

It shows that when consumers are purchasing the medical devices for a longer usage duration, the preferential price is decreasing except for the consumer who are using the medical devices at an annual basis.

5.3.4 Impact of Frequency of Use on the medical device prices in Australia

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
frequency_of_use	4	25665	6416	1.616	0.169
Residuals	499	1981630	3971		

Figure 140 ANOVA results for frequency of use in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different from each other in the frequency of use groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different frequency of use, consumers are not paying significantly different prices in

Australia.

```
Call:
lm(formula = (Final_price) ~ frequency_of_use, data = dt_country)

Residuals:
   Min     1Q Median     3Q    Max
 -32.5   -5.2   -0.2    7.5   27.5

Coefficients:
                              Estimate Std. Error t value Pr(>|t|)
(Intercept)                    51.8382     1.1590  44.726   <2e-16 ***
frequency_of_useEvery week      0.6618     1.3487   0.491    0.624
frequency_of_useOnce a month   -1.6382     1.3658  -1.200    0.231
frequency_of_useOnce in 3 months  -0.5882     2.4312  -0.242    0.809
frequency_of_useOnce in an year   -1.7362     1.7910  -0.969    0.333
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 141 Regression results for frequency of use in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in frequency of use category. It can be concluded that in Australia, consumers are not paying significantly different prices and to attain premium pricing, frequency of use are not the criteria to be followed.

5.5 Hypothesis 4: Impact of Age Group on the medical device prices

Objective 4: To understand the impact by age group purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for the different age groups.

Alternate Hypothesis (H_1) : The average prices are different for the different age groups.

The groups in the age category are :

a. Less than 18 years

b. 18 to 25 years

c. 25 to 35 years

d. 35 to 50 years

e. 50 years and above

“18 to 25 years” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.5.1 Impact of Age Group on the medical device prices in the United States

```
             Df Sum Sq Mean Sq F value   Pr(>F)
age           4  41645   10411   16.61 2.44e-13 ***
Residuals  1577 988642     627
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 142 ANOVA results for age group in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other in the age groups. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different age groups, consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ age, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.0596  -1.9087   0.0913   2.0913   9.9404

Coefficients:
                    Estimate Std. Error t value Pr(>|t|)
(Intercept)          16.10857    0.23285  69.179  < 2e-16 ***
age25 to 35 years     1.95106    0.27565   7.078 2.19e-12 ***
age35 to 50 years     0.76964    0.25896   2.972   0.0030 **
age50 years and above 0.80010    0.31233   2.562   0.0105 *
ageLess than 18 years -0.03165    0.88550  -0.036   0.9715
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 143 Regression results for age group in the United States

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. For the age category “25 to 35 years”, there is premium price by 2 USD, and it is USD 1 for each “35 to 50 years” and “50 years and above” age groups.

It shows that the middle age groups are ready to pay premium price for the medical devices as compared to 18 to 25 years age group. Higher age groups also tend to pay slightly premium prices for the medical devices.

5.5.2 Impact of Age Group on the medical device prices in India

```
              Df    Sum Sq  Mean Sq F value Pr(>F)
age            4 2.786e+08 69637545   21.21 <2e-16 ***
Residuals   2131 6.996e+09  3282918
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Figure 144 ANOVA results for age group in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other in the age groups. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different age groups, consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ age, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1104.32  -204.32    -4.32   195.68   895.68

Coefficients:
                    Estimate Std. Error t value Pr(>|t|)
(Intercept)          1457.63      37.59  38.775  < 2e-16 ***
age25 to 35 years     223.30      39.85   5.604 2.37e-08 ***
age35 to 50 years     146.70      38.77   3.784 0.000159 ***
age50 years and above  88.09      39.25   2.244 0.024914 *
ageLess than 18 years -24.29      73.37  -0.331 0.740597
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 145 Regression results for age group in India

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. For the age category "25 to 35 years", there is premium price by 223 INR, and it is INR 147 for "35 to 50 years" age group. For "50 years and above" age group, the premium price that can be charged is INR 88.

It shows that as the age increase, the premium price which can be charged on the medical devices decreases. The middle age groups are ready to pay highest premium price for the medical devices which shows the importance and awareness of health and preventive checks.

5.5.3 Impact of Age Group on the medical device prices in Germany

```
             Df  Sum Sq Mean Sq F value Pr(>F)
age           4   25747    6437    1.98 0.0957 .
Residuals   819 2662794    3251
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 146 ANOVA results for age group in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the age groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different age groups, consumers are not paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ age, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-23.068  -5.993  -0.993   4.007  19.007

Coefficients:
                     Estimate Std. Error t value Pr(>|t|)
(Intercept)            28.068      1.102  25.463   <2e-16 ***
age25 to 35 years      -1.119      1.232  -0.908   0.3639
age35 to 50 years      -2.075      1.158  -1.793   0.0734 .
age50 years and above  -1.924      1.240  -1.552   0.1212
ageLess than 18 years  -1.957      2.675  -0.732   0.4646
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 147 Regression results for age group in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in age category. It can be concluded that in Germany, consumers are not paying significantly different prices and to attain premium pricing, age groups are not the criteria to be followed.

5.5.4 Impact of Age Group on the medical device prices in Australia

```
             Df  Sum Sq Mean Sq F value Pr(>F)
age           4   23204    5801   1.459  0.214
Residuals   499 1984091    3976
```

Figure 148 ANOVA results for age group in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the age groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different age groups, consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ age, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-30.874  -6.141  -0.037   6.522  28.057

Coefficients:
                     Estimate Std. Error t value Pr(>|t|)
(Intercept)           50.5556     3.1870  15.863   <2e-16 ***
age25 to 35 years      1.3876     3.2543   0.426    0.670
age35 to 50 years     -0.5185     3.2915  -0.158    0.875
age50 years and above  0.3182     3.3233   0.096    0.924
ageLess than 18 years  2.9227     3.4849   0.839    0.402
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 149 Regression results for age group in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in age category. It can be concluded that in Australia, consumers are not paying significantly different prices and to attain premium pricing, age groups are not the criteria to be followed.

5.6 Hypothesis 5: Impact of Gender on the medical device prices

Objective 5: To understand the impact by gender purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for the different gender.

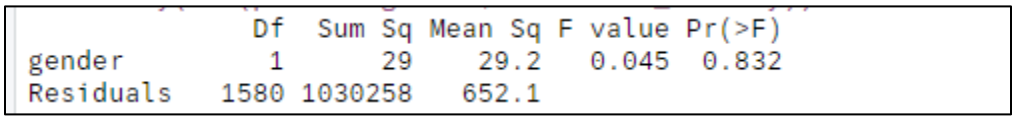
Alternate Hypothesis (H_1) : The average prices are different for the different gender.

The groups in the gender are :

a. Male
b. Female
c. Prefer not to disclose
d. Other

“Prefer not to disclose” and “other” gender categories have no responses. “Female” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.6.1 Impact of Gender on the medical device prices in the United States



	Df	Sum Sq	Mean Sq	F value	Pr(>F)
gender	1	29	29.2	0.045	0.832
Residuals	1580	1030258	652.1		

Figure 150 ANOVA results for gender in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the gender groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different gender, consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ gender, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.1294  -2.1294  -0.1294   1.9163  10.8706

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 17.08370    0.14744 115.867   <2e-16 ***
genderMale   0.04573    0.17461   0.262    0.793
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 151 Regression results for gender in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in age category. It can be concluded that in the United States, consumers are not paying significantly different prices and to attain premium pricing, gender is not the criteria to be followed.

5.6.2 Impact of Gender on the medical device prices in India

```
              Df    Sum Sq Mean Sq F value Pr(>F)
gender         1 6.060e+06 6060259   1.779  0.182
Residuals   2134 7.268e+09 3405993
```

Figure 152 ANOVA results for gender in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the gender groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different gender, consumers are not paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ gender, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1090.71  -190.71     9.29   209.29   909.29

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept) 1607.666      9.869 162.900   <2e-16 ***
genderMale   -16.954     12.906  -1.314    0.189
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 153 Regression results for gender in India

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in age category. It can be concluded that in India, consumers are not paying significantly different prices and to attain premium pricing, gender is not the criteria to be followed.

5.6.3 Impact of Gender on the medical device prices in Germany

```
             Df  Sum Sq Mean Sq F value   Pr(>F)
gender        1   91931   91931    29.1 8.98e-08 ***
Residuals   822 2596610    3159
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 154 ANOVA results for gender in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other among the gender. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different genders, consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ gender, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-22.9801  -5.3927  -0.3927   4.6073  19.6073

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  27.9801     0.4150  67.415  < 2e-16 ***
genderMale   -2.5874     0.5215  -4.962 8.49e-07 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 155 Regression results for gender in Germany

The regression results shows that the p-value is less than 0.05 for the male category making the category and prices significant. It shows that males are expected to Euro 3 less than female while purchasing same medical devices. It can be concluded that to attain premium female must be targeted to generate additional Euro 3 per product.

5.6.4 Impact of Gender on the medical device prices in Australia

```
             Df  Sum Sq Mean Sq F value Pr(>F)
gender        1    1320    1320    0.33  0.566
Residuals   502 2005975    3996
```

Figure 156 ANOVA results for gender in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the gender groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased for different gender, consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ gender, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-31.065  -6.187  -1.065   8.449  28.935

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  51.5511     0.5791  89.017   <2e-16 ***
genderMale   -0.4859     0.8573  -0.567    0.571
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 157 Regression results for gender in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in age category. It can be concluded that in Australia, consumers are not paying significantly different prices and to attain premium pricing, gender is not the criteria to be followed.

5.7 Hypothesis 6: Impact of Social Status on the medical device prices

Objective 6: To understand the impact of consumer in different social status, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumer in the different social status.

Alternate Hypothesis (H_1) : The average prices are different for consumer in the different social status.

The groups in the social status are :

a. Below poverty line
b. Lower middle class

c. Middle class

d. Upper middle class

e. Upper class

“Below poverty line” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.7.1 Impact of Social Status on the medical device prices in the United States

```
                Df Sum Sq Mean Sq F value Pr(>F)
social_status    4  60325   15081   24.52 <2e-16 ***
Residuals     1577 969962     615
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 158 ANOVA results for social status in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other among the social classes and social status category. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different social classes, consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ social_status, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.3284  -2.0629  -0.1321   1.9371  10.6601

Coefficients:
                              Estimate Std. Error t value Pr(>|t|)
(Intercept)                    16.3399     0.2141  76.327  < 2e-16 ***
social_statusLower middle class  -0.2770     0.2768  -1.001  0.31719
social_statusMiddle class         0.7922     0.2486   3.187  0.00147 **
social_statusUpper class          1.5325     0.2791   5.490 4.67e-08 ***
social_statusUpper middle class   1.9885     0.3024   6.576 6.54e-11 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 159 Regression results for social status in the United States

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. “Middle class” social status consumers are ready to pay approximately 1 USD premium when compared to the “Below poverty line” social status. Upper middle and Upper class can have the premium prices by USD 1.5 and USD 2 respectively.

It shows that as the social class moves up the ladder, consumers are the expected to pay higher prices for the same medical device.

5.7.2 Impact of Social Status on the medical device prices in India

```
                Df    Sum Sq   Mean Sq F value Pr(>F)
social_status    4 7.538e+08 188439151   61.58 <2e-16 ***
Residuals     2131 6.521e+09   3059922
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 160 ANOVA results for social status in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different

from each other among the social classes and social status category. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different social classes, consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ social_status, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1055.15  -189.16   -13.32   186.68   886.68

Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                      1406.63      20.72  67.872   <2e-16 ***
social_statusLower middle class    28.71      26.87   1.069    0.285
social_statusMiddle class         206.70      22.98   8.994   <2e-16 ***
social_statusUpper class          248.52      24.22  10.261   <2e-16 ***
social_statusUpper middle class   282.53      24.92  11.338   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 161 Regression results for social status in India

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. “Middle class” social status consumers are ready to pay 207 INR premium when compared to the “Below poverty line” social status. Upper middle and Upper class can have the premium prices by INR 249 and INR 283 respectively.

It shows that as the social class moves up the ladder, consumers are the expected to pay higher prices for the same medical device.

5.7.3 Impact of Social Status on the medical device prices in Germany

```
                Df  Sum Sq Mean Sq F value Pr(>F)
social_status    4  301940   75485    25.9 <2e-16 ***
Residuals      819 2386601    2914
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 162 ANOVA results for social status in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other among the social classes and social status category. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different social classes, consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ social_status, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-24.375  -4.375   0.625   3.972  22.922

Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                      23.4328     0.5992  39.104  < 2e-16 ***
social_statusLower middle class  -1.3549     0.9920  -1.366  0.17235
social_statusMiddle class         2.5950     0.7258   3.576  0.00037 ***
social_statusUpper class          5.9422     0.8443   7.038 4.13e-12 ***
social_statusUpper middle class   4.9882     0.7825   6.375 3.06e-10 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

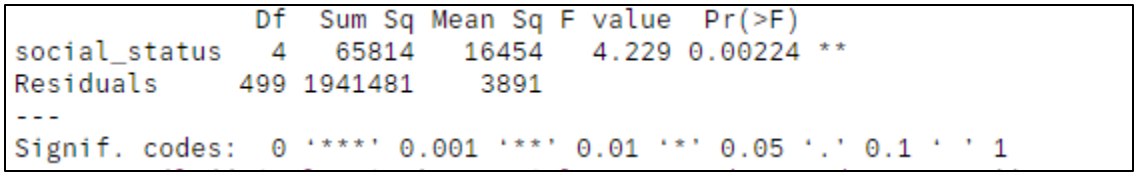
Figure 163 Regression results for social status in Germany

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. “Middle class” social status consumers are ready to pay Euro 3 premium when compared to the “Below poverty line” social status.

Upper middle and Upper class can have the premium prices by Euro 6 and Euro 5 respectively.

It shows that as the social class moves up the ladder, consumers are the expected to pay higher prices for the same medical device and upper class are ready to spend the most among all the social classes.

5.7.4 Impact of Social Status on the medical device prices in Australia



```
               Df  Sum Sq Mean Sq F value  Pr(>F)
social_status   4   65814   16454   4.229 0.00224 **
Residuals     499 1941481    3891
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 164 ANOVA results for social status in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other among the social classes and social status category. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different social classes, consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ social_status, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-27.9545  -6.9097  -0.1075   7.2081  27.2081

Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                      47.1154     1.8538  25.415  < 2e-16 ***
social_statusLower middle class   0.8392     2.3383   0.359  0.71984
social_statusMiddle class         2.9921     2.0970   1.427  0.15425
social_statusUpper class          5.6765     1.9724   2.878  0.00417 **
social_statusUpper middle class   4.7943     2.0143   2.380  0.01768 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 165 Regression results for social status in Australia

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. “Middle class” social status consumers are ready to pay AUD 3 premium when compared to the “Below poverty line” social status. Upper middle and Upper class can have the premium prices by AUD 6 and AUD 5 respectively.

It shows that as the social class moves up the ladder, consumers are the expected to pay higher prices for the same medical device and upper class are ready to spend the most among all the social classes.

5.8 Hypothesis 7: Impact of Educational background on the medical device prices

Objective 7: To understand the impact of consumer having different educational background, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumer having different educational background.

Alternate Hypothesis (H_1) : The average prices are different for consumer having different educational background.

The groups in the social status are :

a. High school or below
b. Graduate
c. Post-Graduate
d. Doctorate
e. Professional – it represents the professionals like C.A. etc.

"Doctorate" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.8.1 Impact of Educational background on the medical device prices in the United States

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
education_background	4	1376	343.9	0.527	0.716
Residuals	1577	1028911	652.4		

Figure 166 ANOVA results for education background in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the education background groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased by different educational background customers, consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ education_background, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-10.031  -2.031  -0.031   1.969  10.804

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                         17.32227    0.21634  80.068   <2e-16 ***
education_backgroundGraduate        -0.29132    0.23874  -1.220    0.223
education_backgroundHigh School or below -0.01995    0.52581  -0.038    0.970
education_backgroundPost Graduate   -0.12590    0.27684  -0.455    0.649
education_backgroundProfessional    -0.03656    0.63207  -0.058    0.954
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 167 Regression results for education background in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in educational background category. It can be concluded that in the United States, consumers are not paying significantly different prices and to attain premium pricing, education background is not the criteria to be followed.

5.8.2 Impact of Educational background on the medical device prices in India

```
                      Df    Sum Sq  Mean Sq F value  Pr(>F)
education_background    4 4.987e+07 12466554   3.677 0.00545 **
Residuals            2131 7.225e+09  3390231
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 168 ANOVA results for education background in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other among the educational background categories. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when

purchased by different educational background customers, consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ education_background, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-1073.7  -214.5   -14.5   185.5   926.3

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                          1547.44      23.48  65.916  < 2e-16 ***
education_backgroundGraduate           67.06      24.92   2.691  0.00719 **
education_backgroundHigh School or below    97.30      41.02   2.372  0.01777 *
education_backgroundPost Graduate      26.30      26.12   1.007  0.31406
education_backgroundProfessional       23.99      68.15   0.352  0.72485
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 169 Regression results for education background in India

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. Customer with "Graduate" educational background are expected to pay INR 67 higher than base group while "High School or below" education background consumers are expected to pay a premium of INR 97. It shows that less education qualified customers are ready to premium prices to the medical devices.

5.8.3 Impact of Educational background on the medical device prices in Germany

```
                     Df  Sum Sq Mean Sq F value Pr(>F)
education_background   4   15678    3919   1.201  0.309
Residuals            819 2672863    3264
```

Figure 170 ANOVA results for education background in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly

different from each other in the education background groups. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased by different educational background customers, consumers are not paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ education_background, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-22.123  -5.494  -1.011   3.472  20.909

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                          27.1226     0.7096  38.223   <2e-16 ***
education_backgroundGraduate         -0.5943     0.7820  -0.760   0.4475
education_backgroundHigh School or below  -0.1226     1.5108  -0.081   0.9353
education_backgroundPost Graduate    -1.6285     0.9021  -1.805   0.0714 .
education_backgroundProfessional     -3.0317     1.7116  -1.771   0.0769 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 171 Regression results for education background in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in educational background category. It can be concluded that in Germany, consumers are not paying significantly different prices and to attain premium pricing, education background is not the criteria to be followed.

5.8.4 Impact of Educational background on the medical device prices in Australia

```
                     Df  Sum Sq Mean Sq F value Pr(>F)
education_background   4   13492    3373   0.844  0.498
Residuals            499 1993803    3996
```

Figure 172 ANOVA results for education background in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the education background groups. As a result, the null

hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased by different educational background customers, consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ education_background, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-31.325  -6.324  -1.325   6.905  28.675

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                          52.3810     2.0928  25.029   <2e-16 ***
education_backgroundGraduate         -1.0564     2.1644  -0.488    0.626
education_backgroundHigh School or below  -0.4631     2.3749  -0.195    0.845
education_backgroundPost Graduate    -2.2660     2.3318  -0.972    0.332
education_backgroundProfessional      0.9524     2.9597   0.322    0.748
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 173 Regression results for education background in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in educational background category. It can be concluded that in Australia, consumers are not paying significantly different prices and to attain premium pricing, education background is not the criteria to be followed.

5.9 Hypothesis 8: Impact of Occupation on the medical device prices

Objective 8: To understand the impact of consumer having different occupation, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumer having different occupation.

Alternate Hypothesis (H_1) : The average prices are different for consumer having different occupation.

The groups in the social status are :

a. Unemployed or Not working or Retired or Home maker – it consists of the respondents presently not working due to any reason, be it student, retired and mentioned options like unemployed, home maker
b. Private sector job
c. Government sector job – it is similar to public sector job as well.
d. Self-employed – it also includes the entrepreneur, family business and freelancers

"Government sector job" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.9.1 Impact of Occupation on the medical device prices in the United States

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
occupation	3	3552	1184.2	1.82	0.142
Residuals	1578	1026735	650.7		

Figure 174 ANOVA results for occupation in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the occupation group. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased by different occupation background customers, consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ occupation, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.1901  -2.1901  -0.1901   2.0737  10.6299

Coefficients:
                                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                                          17.3701     0.2530  68.669   <2e-16 ***
occupationPrivate sector job                         -0.1800     0.2719  -0.662   0.5080
occupationSelf employed                              -0.5589     0.3218  -1.737   0.0826 .
occupationUnemployed or Not working or Retired or Home maker  -0.4438     0.3404  -1.304   0.1924
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 175 Regression results for occupation in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in occupation category. It can be concluded that in the United States, consumers are not paying significantly different prices and to attain premium pricing, occupation is not the criteria to be followed.

5.9.2 Impact of Occupation on the medical device prices in India

```
               Df    Sum Sq Mean Sq F value Pr(>F)
occupation      3 2.021e+07 6737646    1.98  0.115
Residuals    2132 7.254e+09 3402550
```

Figure 176 ANOVA results for occupation in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the occupation group. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased by different occupation background customers, consumers are not paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ occupation, data = dt_country)

Residuals:
   Min     1Q Median     3Q    Max
 -1106   -206     -6    194    894

Coefficients:
                                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                                           1460.0      131.4  11.115   <2e-16 ***
occupationPrivate sector job                           146.0      131.6   1.109    0.267
occupationSelf employed                                109.7      132.0   0.831    0.406
occupationUnemployed or Not working or Retired or Home maker   147.2      132.4   1.111    0.267
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 177 Regression results for occupation in India

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in occupation category. It can be concluded that in India, consumers are not paying significantly different prices and to attain premium pricing, occupation is not the criteria to be followed.

5.9.3 Impact of Occupation on the medical device prices in Germany

```
              Df  Sum Sq Mean Sq F value   Pr(>F)
occupation     3  194851   64950   21.36 2.51e-13 ***
Residuals    820 2493689    3041
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 178 ANOVA results for occupation in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different from each other among the occupation categories. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical device when purchased by different occupation of the customers, consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ occupation, data = dt_country)

Residuals:
   Min     1Q Median     3Q    Max
-20.07  -5.00   0.00   5.00  20.30

Coefficients:
                                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                                        24.7015     0.6127  40.315  < 2e-16 ***
occupationPrivate sector job                        4.0864     0.7381   5.536 4.16e-08 ***
occupationSelf employed                             0.2985     0.9634   0.310    0.757
occupationUnemployed or Not working or Retired or Home maker   0.3647     0.7362   0.495    0.620
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 179 Regression results for occupation in Germany

The regression results shows that the prices are increasing for majority of the groups, and they are significant due to the low p-value. Customer with "Private Sector job" are expected to pay Euro 4 as the premium pricing for the same medical device, over the base group. It shows that the customer in private sector group are health conscious and premium pricing ensures that they are purchasing the product which can help them to meet their goals.

5.9.4 Impact of Occupation on the medical device prices in Australia

```
             Df  Sum Sq Mean Sq F value Pr(>F)
occupation    3   16067    5356   1.345  0.259
Residuals   500 1991229    3982
```

Figure 180 ANOVA results for occupation in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05. It represents that the average prices are not significantly different from each other in the occupation group. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical device when purchased by different occupation background customers, consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ occupation, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-30.625  -5.625  -0.625   7.500  29.375

Coefficients:
                                                      Estimate Std. Error t value Pr(>|t|)
(Intercept)                                           52.50000    1.87774  27.959   <2e-16 ***
occupationPrivate sector job                          -1.87500    1.96298  -0.955    0.340
occupationSelf employed                               -0.46296    2.05060  -0.226    0.821
occupationUnemployed or Not working or Retired or Home maker -0.03968    2.23182  -0.018    0.986
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 181 Regression results for occupation in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in occupation category. It can be concluded that in Australia, consumers are not paying significantly different prices and to attain premium pricing, occupation is not the criteria to be followed.

5.10 Hypothesis 9: Impact of Brand Name on the medical device prices

Objective 9: To understand the impact of brand name on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the brands.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the brands.

The importance categories in the brands are :

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing

e. Very high Influencing

"Average influencing" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.10.1 Impact of Brand Name on the medical device prices in the United States

```
                   Df Sum Sq Mean Sq F value   Pr(>F)
brand_influence     4  34386    8597   13.61 6.49e-11 ***
Residuals        1577 995901     632
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 182 ANOVA results for brand influence in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for different brands. As a result, the null hypothesis is rejected and hence, it can be concluded that the brands of the medical device play an important role and consumers are paying significantly different prices in the United States for different brands.

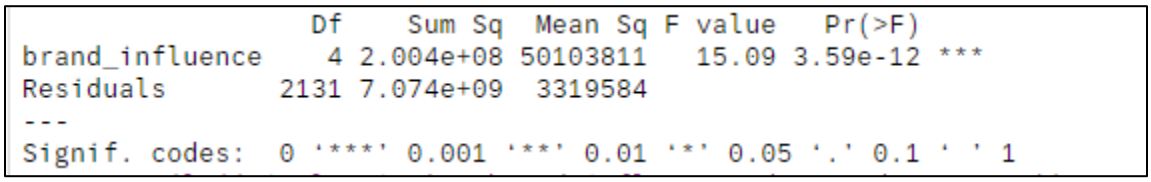
```
Call:
lm(formula = (Final_price) ~ brand_influence, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.9189  -1.9726   0.0274   2.0811  11.3382

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       17.7246     0.2630  67.388  < 2e-16 ***
brand_influenceHigh Influencing   -0.7520     0.2925  -2.571  0.01022 *
brand_influenceLow Influencing     0.9854     0.4058   2.428  0.01528 *
brand_influenceVery high influencing -1.0629  0.2912  -3.650  0.00027 ***
brand_influenceVery low Influencing  0.1943  0.3656   0.531  0.59525
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 183 Regression results for brand influence in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence of the brand are likely to pay discounted price for the medical device while customers with low influence of the brand are likely to pay premium prices. High and very high influencing customers discounting the prices by USD 1each. Low influencing customers are ready to pay premium prices by USD 1.

It shows that the brand influence is playing an important role among the customers and higher the influence lowers the prices.

5.10.2 Impact of Brand Name on the medical device prices in India



```
                   Df    Sum Sq  Mean Sq F value   Pr(>F)
brand_influence     4 2.004e+08 50103811   15.09 3.59e-12 ***
Residuals        2131 7.074e+09  3319584
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

Figure 184 ANOVA results for brand influence in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for different brands. As a result, the null hypothesis is rejected and hence, it can be concluded that the brands of the medical device play an important role and consumers are paying significantly different prices in India for different brands.

```
Call:
lm(formula = (Final_price) ~ brand_influence, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1091.87  -166.67    33.33   208.13   937.93

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       1591.87      20.08  79.280  < 2e-16 ***
brand_influenceHigh Influencing     64.06      22.45   2.853  0.00437 **
brand_influenceLow Influencing     -29.80      29.79  -1.000  0.31731
brand_influenceVery high influencing  -42.77      22.82  -1.874  0.06100 .
brand_influenceVery low Influencing   -25.20      28.68  -0.879  0.37965
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 185 Regression results for brand influence in India

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence of the brand are likely to pay premium price for the medical device by INR 64.

It shows that the brand influence is playing an important role among the customers and higher the influence higher the prices.

5.10.3 Impact of Brand Name on the medical device prices in Germany

```
                  Df  Sum Sq Mean Sq F value Pr(>F)
brand_influence    4    3518     880   0.268  0.898
Residuals        819 2685022    3278
```

Figure 186 ANOVA results for brand influence in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different for different brands. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the brands of the medical device do not play an important role,

and consumers are not paying significantly different prices in Germany for different brands.

```
Call:
lm(formula = (Final_price) ~ brand_influence, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-21.557  -6.325  -1.325   3.675  19.140

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                      26.32530    0.80458  32.719   <2e-16 ***
brand_influenceHigh Influencing   0.03231    0.90844   0.036    0.972
brand_influenceLow Influencing   -0.46509    1.10683  -0.420    0.674
brand_influenceVery high influencing  0.23148    0.91878   0.252    0.801
brand_influenceVery low Influencing  -0.22941    1.17617  -0.195    0.845
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 187 Regression results for brand influence in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different groups in brand influence category. It can be concluded that in Germany, consumers are not paying significantly different prices for different brands and to attain premium pricing, brand is not the criteria to be followed.

5.10.4 Impact of Brand Name on the medical device prices in Australia

```
                Df  Sum Sq Mean Sq F value  Pr(>F)
brand_influence   4   72494   18124   4.674 0.00103 **
Residuals       499 1934801    3877
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 188 ANOVA results for brand influence in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for different brands. As a result, the null hypothesis is rejected and hence, it can be

concluded that the brands of the medical device play an important role and consumers are paying significantly different prices in Australia for different brands.

```
Call:
lm(formula = (Final_price) ~ brand_influence, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-29.8024  -4.8024   0.1976   6.0588  26.0588

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        50.9167     1.2201  41.733   <2e-16 ***
brand_influenceHigh Influencing    -1.1143     1.3571  -0.821   0.4120
brand_influenceLow Influencing      3.0245     1.5935   1.898   0.0583 .
brand_influenceVery high influencing  0.6051     0.2516   2.405   0.0160 *
brand_influenceVery low Influencing   2.6376     1.6014   1.647   0.1002
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 189 Regression results for brand influence in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence of the brand are likely to pay premium price for the medical device by AUD 1.

It shows that the brand influence is playing an important role among the customers and higher the influence higher the prices.

5.11 Hypothesis 10: Impact of Doctor's recommendation on the medical device prices

Objective 10: To understand the impact of doctor's recommendation on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the doctor's recommendations.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the doctor's recommendations.

The importance categories in the doctors' recommendations are :

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

"Average influencing" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.11.1 Impact of Doctor's recommendation on the medical device prices in the United States

```
                        Df Sum Sq Mean Sq F value Pr(>F)
doctor_recommendation    4  54669   13667   22.09 <2e-16 ***
Residuals             1577 975618     619
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 190 ANOVA results for doctor's recommendation in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for products recommended by doctor. As a result, the null hypothesis is rejected and hence, it can be concluded that the doctors' recommendation of the medical device play an important role and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ doctor_recommendation, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-9.7245 -1.8072  0.1928  2.1928 10.1928

Coefficients:
                                       Estimate Std. Error t value Pr(>|t|)
(Intercept)                             17.5053     0.3139  55.763  < 2e-16 ***
doctor_recommendationHigh influencing    0.7808     0.3359   2.325 0.020198 *
doctor_recommendationLow Influencing    -1.4238     0.3987  -3.571 0.000366 ***
doctor_recommendationVery high influencing  0.6980     0.3386   2.061 0.039467 *
doctor_recommendationVery low Influencing  -0.8777     0.4451  -1.972 0.048784 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 191 Regression results for doctor's recommendation in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence of doctor's recommendations are likely to pay premium pricing by USD 1 and customer who are very highly influenced by doctor's recommendations are likely to premium prices for the medical devices by USD 1. Consumers having low influence and very low influence of the doctor's recommendations are likely to pay discounted prices by USD 1 each.

It shows that the doctor's recommendations influence the prices of the medical devices and customers having higher influences are likely to premium prices while customers with low influence are likely to pay discounted prices, when compared to the average influenced customers.

5.11.2 Impact of Doctor's recommendation on the medical device prices in India

```
                        Df    Sum Sq   Mean Sq F value Pr(>F)
doctor_recommendation    4 4.175e+08 104385800   32.44 <2e-16 ***
Residuals             2131 6.857e+09   3217694
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 192 ANOVA results for doctor's recommendation in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for products recommended by doctor. As a result, the null hypothesis is rejected and hence, it can be concluded that the doctors' recommendation of the medical device play an important role and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ doctor_recommendation, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1084.78  -184.78    15.22   215.22   915.22

Coefficients:
                                      Estimate Std. Error t value Pr(>|t|)
(Intercept)                            1756.63      31.36  56.014  < 2e-16 ***
doctor_recommendationHigh influencing   171.85      32.61   5.270 1.50e-07 ***
doctor_recommendationLow Influencing   -172.26      52.89  -3.257 0.000429 ***
doctor_recommendationVery high influencing   214.23      33.30   6.433 1.54e-10 ***
doctor_recommendationVery low Influencing    -94.88      35.06  -2.706 0.006864 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 193 Regression results for doctor's recommendation in India

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence of doctor's recommendations are likely to pay premium pricing by INR 172 and customer who are very highly influenced by doctor's recommendations are likely to premium prices for the medical devices by INR 214. Consumers having low influence and very low influence of the doctor's recommendations are likely to pay discounted prices by INR 172 and INR 95 respectively.

It shows that the doctor's recommendations influence the prices of the medical devices and customers having higher influences are likely to premium prices while customers

with low influence are likely to pay discounted prices, when compared to the average influenced customers.

5.11.3 Impact of Doctor's recommendation on the medical device prices in Germany

```
                        Df  Sum Sq Mean Sq F value Pr(>F)
doctor_recommendation    4  297290   74322   25.45 <2e-16 ***
Residuals              819 2391251    2920
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 194 ANOVA results for doctor's recommendation in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for products recommended by doctor. As a result, the null hypothesis is rejected and hence, it can be concluded that the doctors' recommendation of the medical device play an important role and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ doctor_recommendation, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-21.000  -4.577   0.200   5.200  19.900

Coefficients:
                                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                                31.0000     0.8587  36.102  < 2e-16 ***
doctor_recommendationHigh influencing      -6.4230     0.9392  -6.839 1.56e-11 ***
doctor_recommendationLow Influencing       -1.2000     1.1732  -1.023    0.307
doctor_recommendationVery high influencing -5.9000     0.9639  -6.121 1.44e-09 ***
doctor_recommendationVery low Influencing  -1.4369     1.0966  -1.310    0.190
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 195 Regression results for doctor's recommendation in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence of doctor's recommendations are likely to pay

discounted pricing by Euro 1 and customer who are very highly influenced by doctor's recommendations are likely to discounted prices for the medical devices by Euro 6.

It shows that the doctor's recommendations influence the prices of the medical devices and customers having higher influences are likely to lower prices, when compared to the average influenced customers.

5.11.4 Impact of Doctor's recommendation on the medical device prices in Australia

```
                        Df  Sum Sq Mean Sq F value   Pr(>F)
doctor_recommendation    4   75196   18799   4.855 0.000754 ***
Residuals              499 1932099    3872
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 196 ANOVA results for doctor's recommendation in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for products recommended by doctor. As a result, the null hypothesis is rejected and hence, it can be concluded that the doctors' recommendation of the medical device play an important role and consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ doctor_recommendation, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-33.188  -5.693   0.435   5.774  29.307

Coefficients:
                                      Estimate Std. Error t value Pr(>|t|)
(Intercept)                             53.188      0.772  68.897  < 2e-16 ***
doctor_recommendationHigh influencing    2.494      1.115   2.236 0.025793 *
doctor_recommendationLow Influencing     1.377      1.589   0.867 0.386621
doctor_recommendationVery high influencing  3.962   1.060   3.736 0.000209 ***
doctor_recommendationVery low Influencing   1.812   4.774   0.380 0.704452
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 197 Regression results for doctor's recommendation in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence of doctor's recommendations are likely to pay premium pricing by AUD 2 and customers who are very highly influenced by doctor's recommendations are likely to premium prices for the medical devices by AUD 4.

It shows that the doctor's recommendations influence the prices of the medical devices and customers having higher influences are likely to premium prices, when compared to the average influenced customers.

5.12 Hypothesis 11: Impact of peer influence on the medical device prices

Objective 11: To understand the impact of family and peer recommendation on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the family and peer recommendations.

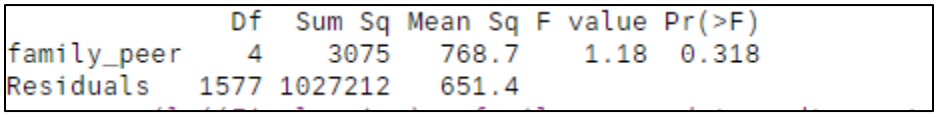
Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the family and peer recommendations.

The importance categories in the family and peer recommendations are :

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

"Average influencing" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

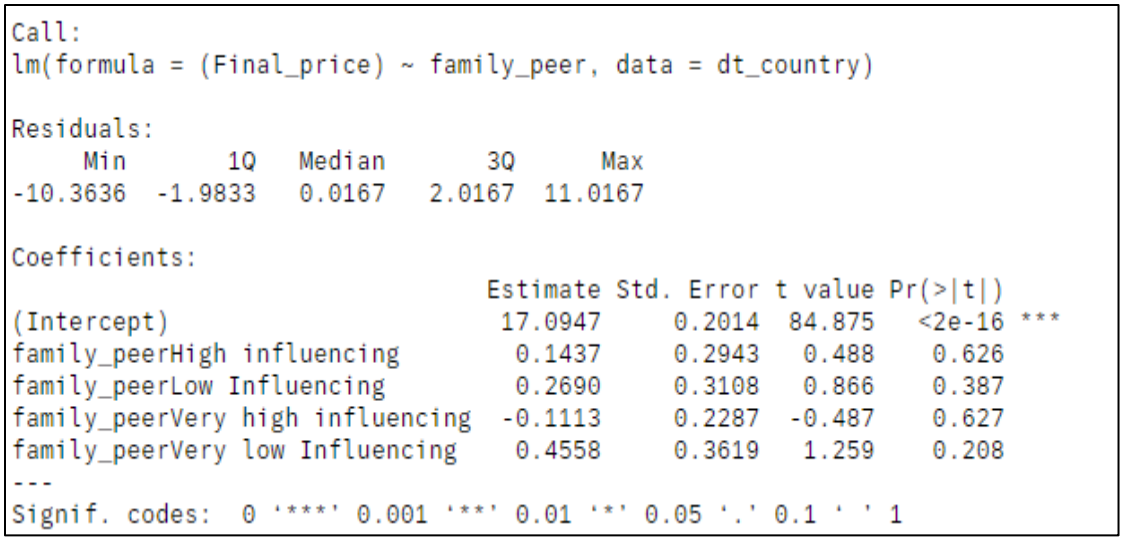
5.12.1 Impact of peer influence on the medical device prices in the United States



```
              Df  Sum Sq Mean Sq F value Pr(>F)
family_peer    4    3075   768.7    1.18  0.318
Residuals   1577 1027212   651.4
```

Figure 198 ANOVA results for family and peer influence in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different for products recommended by family and peers. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the family and peer recommendation of the medical device does not play an important role, and consumers are not paying significantly different prices in the United States.



```
Call:
lm(formula = (Final_price) ~ family_peer, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.3636  -1.9833   0.0167   2.0167  11.0167

Coefficients:
                              Estimate Std. Error t value Pr(>|t|)
(Intercept)                    17.0947     0.2014  84.875   <2e-16 ***
family_peerHigh influencing     0.1437     0.2943   0.488    0.626
family_peerLow Influencing      0.2690     0.3108   0.866    0.387
family_peerVery high influencing -0.1113     0.2287  -0.487    0.627
family_peerVery low Influencing  0.4558     0.3619   1.259    0.208
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 199 Regression results for family and peer influence in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different influence groups in family and peer's category. It can be concluded that in the United States, consumers are not paying significantly different

prices for product recommended by family and peers, and to attain premium pricing, family and peer recommendation is not the criteria to be followed.

5.12.2 Impact of peer influence on the medical device prices in India

```
               Df    Sum Sq  Mean Sq F value   Pr(>F)
family_peer     4 8.994e+07 22484431   6.669 2.48e-05 ***
Residuals    2131 7.185e+09  3371427
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 200 ANOVA results for family and peer influence in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for products recommended by family and peers. As a result, the null hypothesis is rejected and hence, it can be concluded that the family and peer recommendation of the medical device play an important role, and consumers are paying significantly different prices in India.

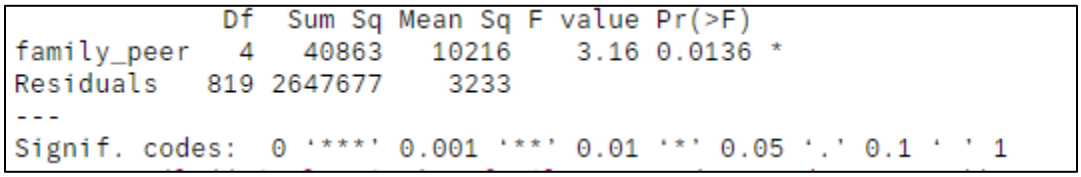
```
Call:
lm(formula = (Final_price) ~ family_peer, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1117.31  -217.31   -17.31   182.69   882.69

Coefficients:
                               Estimate Std. Error t value Pr(>|t|)
(Intercept)                     1567.56      15.14 103.547  < 2e-16 ***
family_peerHigh influencing      -39.33      23.76  -1.655  0.09802 .
family_peerLow Influencing        27.88      24.16   1.154  0.24879
family_peerVery high influencing  49.75      17.66   2.817  0.00489 **
family_peerVery low Influencing  -70.21      24.41  -2.876  0.00407 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 201 Regression results for family and peer influence in India

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence of family and peer's recommendations are likely to pay premium pricing by INR 50. Consumers having very low influence of the family and peer's recommendations are likely to pay discounted prices by INR 70.

It shows that the family and peer's recommendations influence the prices of the medical devices and customers having higher influences are likely to premium prices while customers with low influence are likely to pay discounted prices, when compared to the average influenced customers.

5.12.3 Impact of peer influence on the medical device prices in Germany



```
             Df  Sum Sq Mean Sq F value Pr(>F)
family_peer   4   40863   10216    3.16 0.0136 *
Residuals   819 2647677    3233
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 202 ANOVA results for family and peer influence in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different for products recommended by family and peers. As a result, the null hypothesis is rejected and hence, it can be concluded that the family and peer recommendation of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ family_peer, data = dt_country)

Residuals:
   Min     1Q Median     3Q    Max
-21.67  -6.56  -1.56   3.44  18.44

Coefficients:
                              Estimate Std. Error t value Pr(>|t|)
(Intercept)                    26.5600     0.6513  40.777   <2e-16 ***
family_peerHigh influencing     0.1067     0.9368   0.114   0.9094
family_peerLow Influencing     -2.1482     0.9717  -2.211   0.0273 *
family_peerVery high influencing   0.1102     0.7319   0.151   0.8804
family_peerVery low Influencing   -6.5600     3.6989  -1.773   0.0765 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 203 Regression results for family and peer influence in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very low influence and low influence of family and peer's recommendations are likely to pay discounted pricing by Euro 7 and Euro 2 respectively. It shows that the family and peer's recommendations influence the prices of the medical devices and customers having lower influences are likely to discounted prices, when compared to the average influenced customers. While higher influence customers are not likely to pay any premium prices over the average influenced customers.

5.12.4 Impact of peer influence on the medical device prices in Australia

```
             Df  Sum Sq Mean Sq F value Pr(>F)
family_peer   4   27667    6917   1.743  0.139
Residuals   499 1979629    3967
```

Figure 204 ANOVA results for family and peer influence in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different for products recommended by family and peers. As a result, the null hypothesis

is failed to reject and hence, it can be concluded that the family and peer recommendation of the medical device does not play an important role, and consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ family_peer, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-32.310  -7.000   0.084   7.690  30.084

Coefficients:
                              Estimate Std. Error t value Pr(>|t|)
(Intercept)                   52.00000    1.91127  27.207   <2e-16 ***
family_peerHigh influencing    0.31013    2.05693   0.151    0.880
family_peerLow Influencing     0.07627    2.10402   0.036    0.971
family_peerVery high influencing -2.08380    2.04038  -1.021    0.308
family_peerVery low Influencing  -0.95833    2.73096  -0.351    0.726
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 205 Regression results for family and peer influence in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different influence groups in family and peer's category. It can be concluded that in Australia, consumers are not paying significantly different prices for product recommended by family and peers, and to attain premium pricing, family and peer recommendation is not the criteria to be followed.

5.13 Hypothesis 12: Impact of online reviews on the medical device prices

Objective 12: To understand the impact of online reviews on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the online reviews.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the online reviews.

The importance categories in the online reviews are :

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

"Average influencing" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.13.1 Impact of online reviews on the medical device prices in the United States

```
                 Df Sum Sq Mean Sq F value Pr(>F)
online_reviews    4  54697   13674    22.1 <2e-16 ***
Residuals      1577 975590     619
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 206 ANOVA results for online review influence in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the online reviews. As a result, the null hypothesis is rejected and hence, it can be concluded that the online reviews of the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ online_reviews, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-9.4427 -1.9767  0.0233  2.0866 10.0866

Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                     17.97665    0.19083  94.205  < 2e-16 ***
online_reviewsHigh influencing   1.32024    0.29053   4.544 5.93e-06 ***
online_reviewsLow Influencing   -0.06329    0.24409  -0.259    0.795
online_reviewsVery high influencing  1.53394    0.22283   6.884 8.37e-12 ***
online_reviewsVery low Influencing   0.33914    0.72730   0.466    0.641
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 207 Regression results for online review influence in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence and high influence from the online reviews are likely to pay premium pricing by USD 2 and USD 1 respectively.

It shows that the online reviews influence the prices of the medical devices and customers having higher influences are likely to premium prices, when compared to the average influenced customers.

5.13.2 Impact of online reviews on the medical device prices in India

```
                 Df    Sum Sq   Mean Sq F value Pr(>F)
online_reviews    4 4.811e+08 120270430   37.73 <2e-16 ***
Residuals      2131 6.793e+09   3187878
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 208 ANOVA results for online review influence in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the online reviews. As a result, the null hypothesis is rejected and hence, it can be

concluded that the online reviews of the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ online_reviews, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1050.53  -210.64   -11.34   188.66   855.94

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        1644.06      17.61  93.334  < 2e-16 ***
online_reviewsHigh influencing      133.42      22.40   5.957 3.01e-09 ***
online_reviewsLow Influencing       -67.27      21.78  -3.089  0.00203 **
online_reviewsVery high influencing  93.53      20.42   4.580 4.93e-06 ***
online_reviewsVery low Influencing  -24.06      26.74  -0.900  0.36837
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 209 Regression results for online review influence in India

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence and high influence from the online reviews are likely to pay premium pricing by INR 94 and INR 133 respectively. The customers having low influence from the online reviews are likely to pay discounted prices for the medical devices by INR 67.

It shows that the online reviews influence the prices of the medical devices and customers having higher influences are likely to premium prices while lower influences are likely to pay lower prices, when compared to the average influenced customers.

5.13.3 Impact of online reviews on the medical device prices in Germany

```
                 Df  Sum Sq Mean Sq F value Pr(>F)
online_reviews    4  331579   82895    28.8 <2e-16 ***
Residuals       819 2356962    2878
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 210 ANOVA results for online review influence in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the online reviews. As a result, the null hypothesis is rejected and hence, it can be concluded that the online reviews of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ online_reviews, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-20.5556  -4.1343   0.8657   5.8657  17.0739

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       24.0196     0.6818  35.230  < 2e-16 ***
online_reviewsHigh influencing     4.0497     0.9666   4.190 3.10e-05 ***
online_reviewsLow Influencing     -1.0935     0.8569  -1.276    0.202
online_reviewsVery high influencing   5.1147     0.7952   6.432 2.14e-10 ***
online_reviewsVery low Influencing    1.5359     0.8704   1.765    0.078 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 211 Regression results for online review influence in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence and high influence from the online reviews are likely to pay premium pricing by Euro 5 and Euro 4 respectively.

It shows that the online reviews influence the prices of the medical devices and customers having higher influences are likely to premium prices, when compared to the average influenced customers.

5.13.4 Impact of online reviews on the medical device prices in Australia

```
                Df  Sum Sq Mean Sq F value Pr(>F)
online_reviews   4   16777    4194   1.051   0.38
Residuals      499 1990518    3989
```

Figure 212 ANOVA results for online review influence in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the online reviews. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the online reviews of the medical device do not play an important role, and consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ online_reviews, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-31.422  -6.422  -1.263   6.389  28.737

Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                      51.2629     0.6883  74.479   <2e-16 ***
online_reviewsHigh influencing    2.3482     2.3621   0.994    0.321
online_reviewsLow Influencing    -2.5129     1.9381  -1.297    0.195
online_reviewsVery high influencing   0.1595     0.9327   0.171    0.864
online_reviewsVery low Influencing    0.7684     1.8291   0.420    0.675
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 213 Regression results for online review influence in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different influence groups in the online reviews category. It can be concluded that in Australia, consumers are not paying significantly different prices for the medical devices irrespective of the online reviews, and to attain premium pricing, online reviews is not the criteria to be followed.

5.14 Hypothesis 13: Impact of ecommerce sponsorship on the medical device prices

Objective 13: To understand the impact of ecommerce sponsored products on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the ecommerce sponsored products.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the ecommerce sponsored products.

The importance categories in the ecommerce sponsored products are :

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

“Average influencing” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.14.1 Impact of ecommerce sponsorship on the medical device prices in the United States

```
                  Df Sum Sq Mean Sq F value   Pr(>F)
ecom_sponsored     4  45357   11339   18.16 1.37e-14 ***
Residuals       1577 984930     625
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 214 ANOVA results for ecommerce influence in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the ecommerce sponsorship. As a result, the null hypothesis is rejected and hence, it can be concluded that the ecommerce sponsorship of the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ ecom_sponsored, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.5146  -2.0952  -0.0952   2.0818  10.5707

Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                     17.42931    0.15581 111.860  < 2e-16 ***
ecom_sponsoredHigh influencing   1.33407    0.27248   4.896 1.08e-06 ***
ecom_sponsoredLow Influencing    0.08526    0.19333   0.441    0.659
ecom_sponsoredVery high influencing  1.51112    0.25924   5.829 6.75e-09 ***
ecom_sponsoredVery low Influencing   0.44371    0.41735   1.063    0.288
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 215 Regression results for ecommerce influence in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence and high influence from the ecommerce sponsored products are likely to pay premium pricing by USD 2 and USD 1 respectively.

It shows that the ecommerce sponsorship influences the prices of the medical devices and customers having higher influences are likely to premium prices, when compared to the average influenced customers.

5.14.2 Impact of ecommerce sponsorship on the medical device prices in India

```
                  Df    Sum Sq   Mean Sq F value Pr(>F)
ecom_sponsored     4 4.539e+08 113466715   35.45 <2e-16 ***
Residuals       2131 6.821e+09   3200649
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 216 ANOVA results for ecommerce influence in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the ecommerce sponsorship. As a result, the null hypothesis is rejected and hence, it can be concluded that the ecommerce sponsorship of the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ ecom_sponsored, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1055.16  -206.82   -26.12   173.88   873.88

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       1534.67      15.25 100.657  < 2e-16 ***
ecom_sponsoredHigh influencing     127.85      33.98   3.763 0.000172 ***
ecom_sponsoredLow Influencing     -120.49      18.13  -6.646 3.81e-11 ***
ecom_sponsoredVery high influencing   70.56      24.91   2.832 0.004669 **
ecom_sponsoredVery low Influencing   -91.45      18.92  -4.834 1.43e-06 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 217 Regression results for ecommerce influence in India

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence and high influence from the ecommerce sponsored products are likely to pay premium pricing by INR 71 and INR 128 respectively. While the customers having very low (or no influence) and low influence from the ecommerce sponsored products are likely to pay discounted prices by INR 91 and INR 120 respectively.

It shows that the ecommerce sponsorship influences the prices of the medical devices and customers having higher influences are likely to premium prices and customers having low influences are likely to pay lower prices, when compared to the average influenced customers.

5.14.3 Impact of ecommerce sponsorship on the medical device prices in Germany

```
                Df  Sum Sq Mean Sq F value   Pr(>F)
ecom_sponsored   4  244561   61140   20.49 4.18e-16 ***
Residuals      819 2443980    2984
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 218 ANOVA results for ecommerce influence in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the ecommerce sponsorship. As a result, the null hypothesis is rejected and hence, it can be concluded that the ecommerce sponsorship of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ ecom_sponsored, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-17.399  -5.973  -1.694   3.306  19.026

Coefficients:
                                Estimate Std. Error t value Pr(>|t|)
(Intercept)                     27.32240    0.51689  52.859  < 2e-16 ***
ecom_sponsoredHigh influencing  -4.14059    2.17071  -1.907   0.0568 .
ecom_sponsoredLow Influencing    0.07659    0.62501   0.123   0.9025
ecom_sponsoredVery high influencing  6.34895    0.83657   7.589 8.76e-14 ***
ecom_sponsoredVery low Influencing  -0.62819    0.81930  -0.767   0.4435
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 219 Regression results for ecommerce influence in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence from the ecommerce sponsored products are likely to pay premium pricing by Euro 6.

It shows that the ecommerce sponsorship influences the prices of the medical devices and customers having very higher influence are likely to premium prices, when compared to the average influenced customers.

5.14.4 Impact of ecommerce sponsorship on the medical device prices in Australia

```
                Df  Sum Sq Mean Sq F value Pr(>F)
ecom_sponsored   4   96437   24109   6.296  6e-05 ***
Residuals      499 1910858    3829
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 220 ANOVA results for ecommerce influence in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the ecommerce sponsorship. As a result, the null hypothesis is rejected and hence,

it can be concluded that the ecommerce sponsorship of the medical device play an important role, and consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ ecom_sponsored, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-25.9043  -6.6505  -0.9043   6.6187  28.3495

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        50.9043     0.9680  52.587   <2e-16 ***
ecom_sponsoredHigh influencing      6.1543     2.3111   2.663   0.0080 **
ecom_sponsoredLow Influencing      -2.4770     1.2533  -1.976   0.0487 *
ecom_sponsoredVery high influencing  3.5709     1.7013   2.099   0.0363 *
ecom_sponsoredVery low Influencing   0.7462     1.1682   0.639   0.5232
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 221 Regression results for ecommerce influence in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence and high influence from the ecommerce sponsored products are likely to pay premium pricing by AUD 4 and AUD 6 respectively. While the customers having low influence from the ecommerce sponsored products are likely to pay discounted prices by AUD 2.

It shows that the ecommerce sponsorship influences the prices of the medical devices and customers having higher influences are likely to premium prices and customer having low influences are likely to pay lower prices, when compared to the average influenced customers.

5.15 Hypothesis 14: Impact of medical shopkeeper recommendation on the medical device prices

Objective 14: To understand the impact of recommended medical shopkeeper products on the consumer purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the medical shopkeeper recommendation.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the medical shopkeeper recommendation.

The importance categories in the medical shopkeeper recommended products are :

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

"Average influencing" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.15.1 Impact of medical shopkeeper recommendation on the medical device prices in the United States

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
medical_shopkeeper_recom	4	1833	458.3	0.703	0.59
Residuals	1577	1028454	652.2		

Figure 222 ANOVA results for medical shopkeeper influence in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the medical shopkeeper recommendation. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical shopkeeper recommendation of the medical device does not play an important role, and consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ medical_shopkeeper_recom, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.4359  -2.1667  -0.1354   2.0743  10.8333

Coefficients:
                                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                                16.9257     0.1563 108.271   <2e-16 ***
medical_shopkeeper_recomHigh influencing    0.5102     0.5269   0.968    0.333
medical_shopkeeper_recomLow Influencing     0.2409     0.2167   1.112    0.267
medical_shopkeeper_recomVery high influencing   0.2096     0.2145   0.977    0.328
medical_shopkeeper_recomVery low Influencing    0.3294     0.2551   1.291    0.197
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 223 Regression results for medical shopkeeper influence in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different influence groups in the medical shopkeeper recommendation category. It can be concluded that in the United States, consumers are not paying significantly different prices for the medical devices irrespective of the medical shopkeeper recommendation, and to attain premium pricing, medical shopkeeper recommendations are not the criteria to be followed.

5.15.2 Impact of medical shopkeeper recommendation on the medical device prices in India

```
                           Df    Sum Sq  Mean Sq F value   Pr(>F)
medical_shopkeeper_recom    4 1.991e+08 49787270   14.99 4.31e-12 ***
Residuals                2131 7.075e+09  3320178
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 224 ANOVA results for medical shopkeeper influence in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the medical shopkeeper recommendation. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical shopkeeper recommendation of the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ medical_shopkeeper_recom, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1111.93  -168.65    -6.76   188.07   950.77

Coefficients:
                                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                                1611.93      11.36 141.925  < 2e-16 ***
medical_shopkeeper_recomHigh influencing    110.34      38.32   2.880  0.00402 **
medical_shopkeeper_recomLow Influencing     -56.72      17.37  -3.265  0.00111 **
medical_shopkeeper_recomVery high influencing  50.54      16.38   3.086  0.00205 **
medical_shopkeeper_recomVery low Influencing  -62.70      19.71  -3.181  0.00149 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 225 Regression results for medical shopkeeper influence in India

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence and high influence from the medical shopkeeper recommended products are likely to pay premium pricing by INR 51and INR

111 respectively. While the customers having very low (or no influence) and low influence from the medical shopkeeper recommended products are likely to pay discounted prices by INR 63 and INR 57 respectively.

It shows that the medical shopkeeper recommendation influences the prices of the medical devices and customers having higher influences are likely to premium prices and customers having low influences are likely to pay lower prices, when compared to the average influenced customers.

5.15.3 Impact of medical shopkeeper recommendation on the medical device prices in Germany

```
                          Df  Sum Sq Mean Sq F value Pr(>F)
medical_shopkeeper_recom   4   34026    8506   2.624 0.0336 *
Residuals                819 2654515    3241
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 226 ANOVA results for medical shopkeeper influence in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the medical shopkeeper recommendation. As a result, the null hypothesis is rejected and hence, it can be concluded that the medical shopkeeper recommendation of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ medical_shopkeeper_recom, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-21.6009  -5.7801  -0.7801   4.2199  19.2199

Coefficients:
                                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                                26.6009     0.4824  55.140   <2e-16 ***
medical_shopkeeper_recomHigh influencing    2.5809     1.0943   2.359   0.0186 *
medical_shopkeeper_recomLow Influencing    -0.6842     0.7263  -0.942   0.3464
medical_shopkeeper_recomVery high influencing  -0.8207     0.6488  -1.265   0.2062
medical_shopkeeper_recomVery low Influencing   -0.0186     0.9510  -0.020   0.9844
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 227 Regression results for medical shopkeeper influence in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence from the medical shopkeeper recommended products are likely to pay premium pricing by Euro 3. It shows that the medical shopkeeper recommendation influences the prices of the medical devices and customers having higher influences are likely to premium prices, when compared to the average influenced customers.

5.15.4 Impact of medical shopkeeper recommendation on the medical device prices in Australia

```
                          Df  Sum Sq Mean Sq F value Pr(>F)
medical_shopkeeper_recom   4    8997    2249   0.562  0.691
Residuals                499 1998298    4005
```

Figure 228 ANOVA results for medical shopkeeper influence in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the medical shopkeeper recommendation. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the medical shopkeeper

recommendation of the medical device does not play an important role, and consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ medical_shopkeeper_recom, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-31.416  -6.370  -1.118   8.584  28.584

Coefficients:
                                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                                 53.043      2.002  26.495   <2e-16 ***
medical_shopkeeper_recomHigh influencing    -1.674      2.154  -0.777    0.438
medical_shopkeeper_recomLow Influencing     -1.628      2.136  -0.762    0.446
medical_shopkeeper_recomVery high influencing -1.925    2.140  -0.900    0.369
medical_shopkeeper_recomVery low Influencing  -4.918    3.941  -1.248    0.213
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 229 Regression results for medical shopkeeper influence in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different influence groups in the medical shopkeeper recommendation category. It can be concluded that in Australia, consumers are not paying significantly different prices for the medical devices irrespective of the medical shopkeeper recommendation, and to attain premium pricing, medical shopkeeper recommendations are not the criteria to be followed.

5.16 Hypothesis 15: Impact of television advertisements on the medical device prices

Objective 15: To understand the behavior of television advertisements on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the television advertisements.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the television advertisements.

The importance categories in the television advertisements are :

a. Very low Influencing – no influence
b. Low Influencing
c. Avg Influencing – Average influencing
d. High Influencing
e. Very high Influencing

"Average influencing" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.16.1 Impact of television advertisements on the medical device prices in the United States

```
              Df Sum Sq Mean Sq F value Pr(>F)
tv_ads         4  52235   13059   21.06 <2e-16 ***
Residuals   1577 978052     620
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 230 ANOVA results for television advertisement influence in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the television advertisements. As a result, the null hypothesis is rejected and hence, it can be concluded that the television advertisements of the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ tv_ads, data = dt_country)

Residuals:
   Min     1Q Median     3Q    Max
-9.162 -2.162 -0.162  1.838  9.838

Coefficients:
                          Estimate Std. Error t value Pr(>|t|)
(Intercept)               17.24873    0.21854  78.926  < 2e-16 ***
tv_adsHigh influencing    -0.99873    0.71987  -1.387 0.165522
tv_adsLow Influencing     -0.08676    0.24701  -0.351 0.725456
tv_adsVery high influencing  1.11006    0.26991   4.113 4.11e-05 ***
tv_adsVery low Influencing  -1.02984    0.28525  -3.610 0.000315 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 231 Regression results for television advertisement influence in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence from the television advertisements are likely to pay premium pricing by USD 1. While the customers having very low (or no influence) influence from the television advertisements are likely to pay discounted prices by USD 1.

It shows that the television advertisements influence the prices of the medical devices and customers having higher influences are likely to premium prices and customers having low influences are likely to pay lower prices, when compared to the average influenced customers.

5.16.2 Impact of television advertisements on the medical device prices in India

```
              Df    Sum Sq Mean Sq F value Pr(>F)
tv_ads         4 2.739e+07 6847850   2.014   0.09 .
Residuals   2131 7.247e+09 3400778
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 232 ANOVA results for television advertisement influence in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the television advertisements. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the television advertisements of the medical device do not play an important role, and consumers are not paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ tv_ads, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1107.66  -207.66    -7.66   192.34   892.34

Coefficients:
                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                1579.09      13.04 121.078   <2e-16 ***
tv_adsHigh influencing      -60.73      43.93  -1.382   0.1670
tv_adsLow Influencing        28.57      15.80   1.808   0.0707 .
tv_adsVery high influencing  43.68      24.43   1.788   0.0740 .
tv_adsVery low Influencing   10.40      21.50   0.484   0.6287
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 233 Regression results for television advertisement influence in India

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different influence groups in the television advertisement category. It can be concluded that in India, consumers are not paying significantly different prices for the medical devices irrespective of the television advertisements, and to attain premium pricing, television advertisements are not the criteria to be followed.

5.16.3 Impact of television advertisements on the medical device prices in Germany

```
             Df  Sum Sq Mean Sq F value Pr(>F)
tv_ads        4   40694   10174   3.131 0.0143 *
Residuals   819 2660841    3249
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 234 ANOVA results for television advertisement influence in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the television advertisements. As a result, the null hypothesis is rejected and hence, it can be concluded that the television advertisements of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ tv_ads, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-20.8470  -5.6915  -0.6915   4.3085  19.3085

Coefficients:
                           Estimate Std. Error t value Pr(>|t|)
(Intercept)                 27.4377     0.4348  63.108   <2e-16 ***
tv_adsHigh influencing       1.7462     0.6867   2.543   0.0112 *
tv_adsLow Influencing       -2.0076     0.8719  -2.303   0.0215 *
tv_adsVery high influencing -1.2352     0.9281  -1.331   0.1836
tv_adsVery low Influencing  -1.5907     0.6923  -2.298   0.0218 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 7.288 on 819 degrees of freedom
Multiple R-squared:  0.01228,   Adjusted R-squared:  0.007451
F-statistic: 2.545 on 4 and 819 DF,  p-value: 0.03833
```

Figure 235 Regression results for television advertisement influence in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having high influence from the television advertisements are likely to pay premium pricing by Euro 2. While the customers having very low (or no influence) and low influence from the television advertisements are likely to pay discounted prices by Euro 2 each.

It shows that the television advertisements influence the prices of the medical devices and customers having higher influences are likely to premium prices and customers having low influences are likely to pay lower prices, when compared to the average influenced customers.

5.16.4 Impact of television advertisements on the medical device prices in Australia

```
             Df  Sum Sq Mean Sq F value   Pr(>F)
tv_ads        4  157255   39314    10.6 2.97e-08 ***
Residuals   499 1850040    3707
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 236 ANOVA results for television advertisement influence in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the television advertisements. As a result, the null hypothesis is rejected and hence, it can be concluded that the television advertisements of the medical device play an important role, and consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ tv_ads, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-29.4333  -6.0667   0.5667   5.8333  25.5667

Coefficients:
                           Estimate Std. Error t value Pr(>|t|)
(Intercept)                 51.0667     0.7549  67.644  < 2e-16 ***
tv_adsHigh influencing      -1.9000     1.1866  -1.601  0.10997
tv_adsLow Influencing       -3.3667     1.0676  -3.153  0.00171 **
tv_adsVery high influencing  4.4538     1.3960   3.190  0.00151 **
tv_adsVery low Influencing   2.4333     1.6453   1.479  0.13979
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 237 Regression results for television advertisement influence in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high influence from the television advertisements are likely to pay premium pricing by AUD 4. While the customers having low influence from the television advertisements are likely to pay discounted prices by AUD 3.

It shows that the television advertisements influence the prices of the medical devices and customers having higher influences are likely to premium prices and customers having low influences are likely to pay lower prices, when compared to the average influenced customers.

5.17 Hypothesis 16: Impact of packaging on the medical device prices

Objective 16: To understand the impact of packaging of medical devices on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the packaging.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the packaging.

The importance categories in the packaging are :

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

“Medium importance” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.17.1 Impact of packaging on the medical device prices in the United States

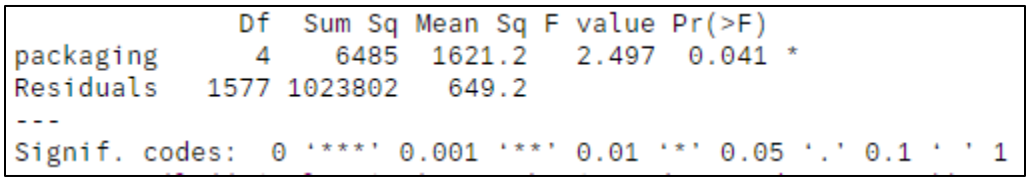


Figure 238 ANOVA results for packaging importance in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the packaging of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the packaging of the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ packaging, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.4309  -2.0323  -0.0323   1.9697  10.5691

Coefficients:
                             Estimate Std. Error t value Pr(>|t|)
(Intercept)                   17.4309     0.1345 129.566   <2e-16 ***
packagingHigh importance       0.3986     0.1982   2.011   0.0445 *
packagingLow importance       -0.7096     0.3141  -2.259   0.0240 *
packagingNot at all important -0.4006     0.2463  -1.627   0.1040
packagingVery high importance  0.6021     0.2497   2.411   0.0160 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 239 Regression results for packaging importance in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. Customers having very high and high importance from the packaging are likely to pay premium pricing by USD 0.6 and USD 0.4. While the customers having low importance from the packaging are likely to pay discounted prices USD 0.7.

It shows that the packaging influences the prices of the medical devices and customers having higher importance are likely to premium prices and customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.17.2 Impact of packaging on the medical device prices in India

```
              Df    Sum Sq  Mean Sq F value  Pr(>F)
packaging      4 6.228e+07 15570098   4.601 0.00106 **
Residuals   2131 7.212e+09  3384406
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 240 ANOVA results for packaging importance in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the packaging of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the packaging of the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ packaging, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1067.62  -209.22    -9.22   190.78   932.38

Coefficients:
                            Estimate Std. Error t value Pr(>|t|)
(Intercept)                  1627.11      10.63 153.098  < 2e-16 ***
packagingHigh importance      -17.88      17.11  -1.045 0.296250
packagingLow importance       -59.49      15.79  -3.768 0.000169 ***
packagingNot at all important -62.30      24.34  -2.559 0.010553 *
packagingVery high importance -61.55      32.66  -1.884 0.059636 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 241 Regression results for packaging importance in India

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having no importance and low importance from the packaging are likely to pay discounted prices INR 62 and INR 59 respectively.

It shows that the packaging influences the prices of the medical devices and customers having higher importance are not likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.17.3 Impact of packaging on the medical device prices in Germany

```
             Df  Sum Sq Mean Sq F value   Pr(>F)
packaging     4   96973   24243   7.661 4.62e-06 ***
Residuals   819 2591568    3164
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 242 ANOVA results for packaging importance in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the packaging of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the packaging of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ packaging, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-22.5467  -5.4124  -0.4124   4.5876  19.5876

Coefficients:
                             Estimate Std. Error t value Pr(>|t|)
(Intercept)                  25.50201    0.45708  55.793  < 2e-16 ***
packagingHigh importance      2.04472    0.67232   3.041  0.00243 **
packagingLow importance      -0.08964    0.69071  -0.130  0.89678
packagingNot at all important -0.13359    0.86979  -0.154  0.87797
packagingVery high importance  3.94244    0.96512   4.085 4.84e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 243 Regression results for packaging importance in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance from the packaging are likely to pay premium prices Euro 4 and Euro 2 respectively.

It shows that the packaging influences the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are not likely to pay lower prices, when compared to the medium influenced customers.

5.17.4 Impact of packaging on the medical device prices in Australia

```
              Df  Sum Sq Mean Sq F value Pr(>F)
packaging      3   19322    6441    1.62  0.184
Residuals    500 1987974    3976
```

Figure 244 ANOVA results for packaging importance in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the packaging of the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the packaging of the medical device does not play an important role, and consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ packaging, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-31.3910  -6.1009  -0.7317   6.2281  29.2683

Coefficients:
                            Estimate Std. Error t value Pr(>|t|)
(Intercept)                  51.1009     0.9161  55.780   <2e-16 ***
packagingHigh importance      0.2901     1.2358   0.235   0.8145
packagingLow importance      -0.3692     1.1338  -0.326   0.7448
packagingVery high importance  2.6710     1.5634   1.708   0.0882 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 245 Regression results for packaging importance in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the packaging category. It can be concluded that in Australia, consumers are not paying significantly different prices for the medical devices irrespective of the packaging, and to attain premium pricing, packaging is not the criteria to be followed.

5.18 Hypothesis 17: Impact of brand ambassador on the medical device prices

Objective 17: To understand the impact of brand ambassador of medical devices on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the brand ambassador.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the brand ambassador.

The importance categories in the brand ambassador are :

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

“Medium importance” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.18.1 Impact of brand ambassador on the medical device prices in the United States

```
                   Df  Sum Sq Mean Sq F value Pr(>F)
brand_ambassador    4    1205   301.4   0.462  0.764
Residuals        1577 1029082   652.6
```

Figure 246 ANOVA results for brand ambassador importance in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the brand ambassador of the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the brand ambassador of the medical device does not play an important role, and consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ brand_ambassador, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.0283  -2.1363  -0.1363   1.9717  11.0881

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                      17.19172    0.14669 117.199   <2e-16 ***
brand_ambassadorHigh importance   0.09942    0.28987   0.343    0.732
brand_ambassadorLow importance   -0.16345    0.23752  -0.688    0.491
brand_ambassadorNot at all important -0.05546    0.20790  -0.267    0.790
brand_ambassadorVery high importance -0.27983    0.25500  -1.097    0.273
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 247 Regression results for brand ambassador importance in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the brand ambassador category. It can be concluded that in the United States, consumers are not paying significantly different

prices for the medical devices irrespective of the brand ambassador, and to attain premium pricing, brand ambassador is not the criteria to be followed.

5.18.2 Impact of brand ambassador on the medical device prices in India

```
                    Df    Sum Sq  Mean Sq F value  Pr(>F)
brand_ambassador     4 2.427e+08 60665829   18.39 7.3e-15 ***
Residuals         2131 7.032e+09  3299759
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 248 ANOVA results for brand ambassador importance in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the brand ambassador of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the brand ambassador of the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ brand_ambassador, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1088.28  -188.28    11.72   211.72   911.72

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        1645.45      12.47 131.997  < 2e-16 ***
brand_ambassadorHigh importance     143.18      45.38   3.155  0.00163 **
brand_ambassadorLow importance      -87.41      15.48  -5.646 1.86e-08 ***
brand_ambassadorNot at all important -57.17     18.02  -3.173  0.00153 **
brand_ambassadorVery high importance 109.23     38.26   2.855  0.00435 **
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

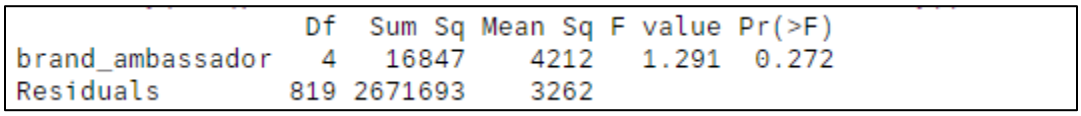
Figure 249 Regression results for brand ambassador importance in India

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the brand ambassador are

likely to pay premium prices by INR 109 and 143 respectively. The customers having no and low importance of the brand ambassador are likely to pay discounted prices by INR 57 and 87 respectively.

It shows that the brand ambassador influences the prices of the medical devices and customers having higher importance are not likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.18.3 Impact of brand ambassador on the medical device prices in Germany



	Df	Sum Sq	Mean Sq	F value	Pr(>F)
brand_ambassador	4	16847	4212	1.291	0.272
Residuals	819	2671693	3262		

Figure 250 ANOVA results for brand ambassador importance in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the brand ambassador of the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the brand ambassador of the medical device does not play an important role, and consumers are not paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ brand_ambassador, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-21.463  -6.012  -1.012   3.988  18.988

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        27.2043     0.5359  50.766   <2e-16 ***
brand_ambassadorHigh importance    -2.7599     1.8040  -1.530   0.1264
brand_ambassadorLow importance     -1.1924     0.6679  -1.785   0.0746 .
brand_ambassadorNot at all important -0.7409   0.7101  -1.043   0.2971
brand_ambassadorVery high importance -2.0727   1.3010  -1.593   0.1115
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 251 Regression results for brand ambassador importance in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the brand ambassador category. It can be concluded that in Germany, consumers are not paying significantly different prices for the medical devices irrespective of the brand ambassador, and to attain premium pricing, brand ambassador is not the criteria to be followed.

5.18.4 Impact of brand ambassador on the medical device prices in Australia

```
                 Df  Sum Sq Mean Sq F value Pr(>F)
brand_ambassador   4   21216    5304   1.333  0.257
Residuals        499 1986080    3980
```

Figure 252 ANOVA results for brand ambassador importance in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the brand ambassador of the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the brand ambassador of

the medical device does not play an important role, and consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ brand_ambassador, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-30.9962  -5.9962  -0.9962   4.0038  25.0000

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                      51.04430    0.76033  67.134   <2e-16 ***
brand_ambassadorHigh importance   5.45570    3.11643   1.751   0.0806 .
brand_ambassadorLow importance   -0.04806    0.95994  -0.050   0.9601
brand_ambassadorNot at all important  3.95570    2.26828   1.744   0.0818 .
brand_ambassadorVery high importance  0.45570    1.55077   0.294   0.7690
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 253 Regression results for brand ambassador importance in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the brand ambassador category. It can be concluded that in Australia, consumers are not paying significantly different prices for the medical devices irrespective of the brand ambassador, and to attain premium pricing, brand ambassador is not the criteria to be followed.

5.19 Hypothesis 18: Impact of number of features on the medical device prices

Objective 18: To understand the impact of number of features available in the medical devices on the consumer and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the number of features.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the number of features.

The importance categories in the number of features are :

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

“Medium importance” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.19.1 Impact of number of features on the medical device prices in the United States

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
number_features	4	3080	770.0	1.182	0.317
Residuals	1577	1027207	651.4		

Figure 254 ANOVA results for number of features importance in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the number of features in the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the number of features in the medical device does not play an important role, and consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ number_features, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.1299  -2.1299  -0.1299   1.9211  10.9211

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        17.3293     0.2452  70.680   <2e-16 ***
number_featuresHigh importance     -0.1994     0.2710  -0.736   0.4621
number_featuresLow importance      -1.0793     0.5537  -1.949   0.0514 .
number_featuresNot at all important  0.5041     0.7796   0.647   0.5180
number_featuresVery high importance -0.2504     0.2757  -0.908   0.3639
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 255 Regression results for number of features importance in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the number of features category. It can be concluded that in the United States, consumers are not paying significantly different prices for the medical devices irrespective of the number of features, and to attain premium pricing, number of features is not the criteria to be followed.

5.19.2 Impact of number of features on the medical device prices in India

```
                   Df    Sum Sq   Mean Sq F value Pr(>F)
number_features     4 4.293e+08 107314144   33.41 <2e-16 ***
Residuals        2131 6.845e+09   3212198
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 256 ANOVA results for number of features importance in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the number of features in the medical devices. As a result, the null hypothesis is

rejected and hence, it can be concluded that the number of features in the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ number_features, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1089.24  -189.24    10.76   210.76   910.76

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       1547.35      18.99  81.468  < 2e-16 ***
number_featuresHigh importance      41.90      20.95   1.999  0.04569 *
number_featuresLow importance     -195.17      39.27  -4.970 7.24e-07 ***
number_featuresNot at all important  -98.89      34.66  -2.853  0.00437 **
number_featuresVery high importance  123.92      21.83   5.676 1.57e-08 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 257 Regression results for number of features importance in India

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the number of features are likely to pay premium prices by INR 123 and 42 respectively. The customers having no and low importance of the number of features are likely to pay discounted prices by INR 99 and 195 respectively.

It shows that the number of features influences the prices of the medical devices and customers having higher importance are not likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.19.3 Impact of number of features on the medical device prices in Germany

```
                  Df  Sum Sq Mean Sq F value Pr(>F)
number_features    4   16604    4151   1.272  0.279
Residuals        819 2671936    3262
```

Figure 258 ANOVA results for number of features importance in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the number of features in the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the number of features in the medical device does not play an important role, and consumers are not paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ number_features, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-22.3377  -5.9215  -0.9215   4.0785  19.0785

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       27.3377     0.8336  32.796   <2e-16 ***
number_featuresHigh importance    -1.0212     0.9112  -1.121    0.263
number_featuresLow importance     -0.4627     1.3452  -0.344    0.731
number_featuresNot at all important  1.7532  2.3577   0.744    0.457
number_featuresVery high importance -1.4162   0.9367  -1.512    0.131
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 259 Regression results for number of features importance in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the number of features category. It can be concluded that in Germany, consumers are not paying significantly different prices for

the medical devices irrespective of the number of features, and to attain premium pricing, number of features is not the criteria to be followed.

5.19.4 Impact of number of features on the medical device prices in Australia

```
                  Df  Sum Sq Mean Sq F value   Pr(>F)
number_features    4  123986   30997   8.213 2.03e-06 ***
Residuals        499 1883309    3774
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 260 ANOVA results for number of features importance in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the number of features in the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the number of features in the medical device play an important role, and consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ number_features, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-28.6000  -5.4839   0.0725   5.4043  26.4000

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        50.9434     0.7380  69.032  < 2e-16 ***
number_featuresHigh importance      0.4028     1.9685   0.205 0.837969
number_featuresLow importance      -2.3434     1.0592  -2.212 0.027388 *
number_featuresNot at all important -0.4595     1.8270  -0.252 0.801515
number_featuresVery high importance  3.9841     1.0826   3.680 0.000259 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 261 Regression results for number of features importance in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high importance of the number of features are likely to pay premium prices by AUD 4. The customers having low importance of the number of features are likely to pay discounted prices by AUD 2.

It shows that the number of features influences the prices of the medical devices and customers having higher importance are not likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.20 Hypothesis 19: Impact of patent and innovation on the medical device prices

Objective 19: To understand the impact of patent and innovation in the medical devices on the consumer and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the patent and innovation.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the patent and innovation.

The importance categories in the patent and innovation are :

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

"Medium importance" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.20.1 Impact of number of patent and innovation on the medical device prices in the United States

```
                     Df Sum Sq Mean Sq F value Pr(>F)
patent_innovation     4  67801   16950   27.77 <2e-16 ***
Residuals          1577 962486     610
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 262 ANOVA results for patent and innovation importance in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the patent and innovation in the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the patent and innovation in the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ patent_innovation, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-8.7735 -2.2719 -0.2222  2.2265  9.7281

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                          16.7735     0.1439 116.527  < 2e-16 ***
patent_innovationHigh importance      0.6051     0.1942   3.116  0.00186 **
patent_innovationLow importance      -0.5513     0.3377  -1.632  0.10280
patent_innovationNot at all important -1.2244     0.2723  -4.497  7.4e-06 ***
patent_innovationVery high importance  1.4983     0.2227   6.728  2.4e-11 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 263 Regression results for patent and innovation importance in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the patent and innovation are likely to pay premium prices by USD 1 each. The customers having no importance of the patent and innovation are likely to pay discounted prices by USD 1.

It shows that the patent and innovation influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.20.2 Impact of number of patent and innovation on the medical device prices in India

```
                    Df    Sum Sq  Mean Sq F value   Pr(>F)
patent_innovation    4 1.086e+08 27140640   8.071 1.86e-06 ***
Residuals         2131 7.166e+09  3362687
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 264 ANOVA results for patent and innovation importance in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the patent and innovation in the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the patent and innovation in the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ patent_innovation, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1151.14  -172.94   -14.87   185.13   940.03

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        1614.87      11.38 141.908  < 2e-16 ***
patent_innovationHigh importance     54.90      15.76   3.482 0.000507 ***
patent_innovationLow importance     -36.27      18.01  -2.014 0.044136 *
patent_innovationNot at all important  -20.13      67.98  -0.296 0.767117
patent_innovationVery high importance   41.93      20.28   2.068 0.038753 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 265 Regression results for patent and innovation importance in India

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the patent and innovation are likely to pay premium prices by INR 42 and INR 55 respectively. The customers having low importance of the patent and innovation are likely to pay discounted prices by INR 36.

It shows that the patent and innovation influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.20.3 Impact of number of patent and innovation on the medical device prices in Germany

```
                   Df  Sum Sq Mean Sq F value Pr(>F)
patent_innovation   4   26190    6548   2.014 0.0906 .
Residuals         819 2662350    3251
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 266 ANOVA results for patent and innovation importance in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the patent and innovation in the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the patent and innovation in the medical device does not play an important role, and consumers are not paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ patent_innovation, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-21.4333  -5.8366  -0.8366   4.1634  19.1634

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       26.4333     0.4214  62.733   <2e-16 ***
patent_innovationHigh importance  -0.5968     0.6203  -0.962    0.336
patent_innovationLow importance   -2.4333     1.3975  -1.741    0.082 .
patent_innovationNot at all important  -0.7437     1.4192  -0.524    0.600
patent_innovationVery high importance   0.8263     0.6585   1.255    0.210
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 267 Regression results for patent and innovation importance in Germany

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the patent and innovation category. It can be concluded that in Germany, consumers are not paying significantly different prices for the medical devices irrespective of the patent and innovation, and to attain premium pricing, patent and innovation is not the criteria to be followed.

5.20.4 Impact of number of patent and innovation on the medical device prices in Australia

```
                    Df  Sum Sq Mean Sq F value   Pr(>F)
patent_innovation    4   87546   21886   5.689 0.000175 ***
Residuals          499 1919750    3847
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 268 ANOVA results for patent and innovation importance in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the patent and innovation in the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the patent and innovation in the medical device play an important role, and consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ patent_innovation, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-32.059  -4.821   1.154   6.974  26.974

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        52.8571     0.5939  89.007  < 2e-16 ***
patent_innovationHigh importance   -0.7983     2.3623  -0.338    0.736
patent_innovationLow importance    -4.0110     0.9373  -4.279 2.25e-05 ***
patent_innovationNot at all important  -3.0357     1.8779  -1.617    0.107
patent_innovationVery high importance   0.1692     1.6405   0.103    0.918
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 269 Regression results for patent and innovation importance in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having low importance of the patent and innovation are likely to pay discounted prices by AUD 4.

It shows that the patent and innovation influence the prices of the medical devices and customers having higher importance are not likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.21 Hypothesis 20: Impact of product aesthetics on the medical device prices

Objective 20: To understand the impact of product aesthetics of the medical devices on the consumer and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the product aesthetics.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the product aesthetics.

The importance categories in the product aesthetics are :

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

“Medium importance” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.21.1 Impact of number of product aesthetics on the medical device prices in the United States

```
                      Df  Sum Sq Mean Sq F value   Pr(>F)
product_aesthetics     4   24116    6029   9.449 1.51e-07 ***
Residuals           1577 1006171     638
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 270 ANOVA results for product aesthetics importance in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the product aesthetics of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the product aesthetics of the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ product_aesthetics, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-9.7161 -1.9443 -0.2208  2.0557 11.2839

Coefficients:
                                   Estimate Std. Error t value Pr(>|t|)
(Intercept)                         16.9443     0.1362 124.366  < 2e-16 ***
product_aestheticsHigh importance    0.3871     0.1912   2.024   0.0431 *
product_aestheticsLow importance    -0.2282     0.2440  -0.935   0.3498
product_aestheticsNot at all important -0.5861  0.3012  -1.946   0.0519 .
product_aestheticsVery high importance  1.2764  0.2852   4.475 8.19e-06 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 271 Regression results for product aesthetics importance in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the product aesthetics are likely to pay premium prices by USD 1 and USD 0.4 respectively.

It shows that the patent and innovation influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are not likely to pay lower prices, when compared to the medium influenced customers.

5.21.2 Impact of number of product aesthetics on the medical device prices in India

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
product_aesthetics	4	1.171e+06	292710	0.086	0.987
Residuals	2131	7.273e+09	3413082		

Figure 272 ANOVA results for product aesthetics importance in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the product aesthetics of the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the product aesthetics of the medical device does not play an important role, and consumers are not paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ product_aesthetics, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1102.00  -196.89     3.11   203.11   903.81

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                         1596.1929    10.4819 152.280   <2e-16 ***
product_aestheticsHigh importance      0.6943    14.9052   0.047    0.963
product_aestheticsLow importance       5.8021    18.0493   0.321    0.748
product_aestheticsNot at all important  11.4994    82.2784   0.140    0.889
product_aestheticsVery high importance   1.9666    25.3185   0.078    0.938
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 273 Regression results for product aesthetics importance in India

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the product aesthetics category. It can be concluded that in India, consumers are not paying significantly different prices for the medical devices irrespective of the product aesthetics, and to attain premium pricing, product aesthetics is not the criteria to be followed.

5.21.3 Impact of number of product aesthetics on the medical device prices in Germany

```
                    Df  Sum Sq Mean Sq F value   Pr(>F)
product_aesthetics   4  244791   61198   20.51 4.03e-16 ***
Residuals          819 2443749    2984
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 274 ANOVA results for product aesthetics importance in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the product aesthetics of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the product aesthetics of the medical device

play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ product_aesthetics, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-23.353  -3.804   1.196   4.773  17.859

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                          27.1406     0.3961  68.525  < 2e-16 ***
product_aestheticsHigh importance     1.2126     0.5931   2.045   0.0412 *
product_aestheticsLow importance     -3.3362     0.7160  -4.659 3.70e-06 ***
product_aestheticsNot at all important -5.4523     0.8914  -6.117 1.48e-09 ***
product_aestheticsVery high importance -1.9133     1.1282  -1.696   0.0903 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 275 Regression results for product aesthetics importance in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having high importance of the product aesthetics are likely to pay premium prices by Euro 1 while the customers having no and low importance of the product aesthetics are likely to pay discounted prices by Euro 5 and Euro 3 respectively. It shows that the patent and innovation influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.21.4 Impact of number of product aesthetics on the medical device prices in Australia

```
                    Df  Sum Sq Mean Sq F value Pr(>F)
product_aesthetics   4   15205    3801   0.952  0.433
Residuals          499 1992090    3992
```

Figure 276 ANOVA results for product aesthetics importance in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the product aesthetics of the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the product aesthetics of the medical device does not play an important role, and consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ product_aesthetics, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-31.159  -6.159  -1.159   5.875  28.750

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        51.6340     0.7736  66.747   <2e-16 ***
product_aestheticsHigh importance  -0.3840     1.6992  -0.226    0.821
product_aestheticsLow importance   -1.3840     1.1668  -1.186    0.236
product_aestheticsNot at all important  2.4910     1.6992   1.466    0.143
product_aestheticsVery high importance  -0.4750     1.0976  -0.433    0.665
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 277 Regression results for product aesthetics importance in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the product aesthetics category. It can be concluded that in Australia, consumers are not paying significantly different prices for

the medical devices irrespective of the product aesthetics, and to attain premium pricing, product aesthetics is not the criteria to be followed.

5.22 Hypothesis 21: Impact of accuracy and precision on the medical device prices

Objective 21: To understand the impact of accuracy and precision of the medical devices on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the accuracy and precision.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the accuracy and precision.

The importance categories in the accuracy and precision are :

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

“Medium importance” group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.22.1 Impact of number of accuracy and precision on the medical device prices in the United States

```
                      Df Sum Sq Mean Sq F value Pr(>F)
accuracy_precision     4 155326   38831   69.99 <2e-16 ***
Residuals           1577 874962     555
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 278 ANOVA results for accuracy and precision importance in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the accuracy and precision of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the accuracy and precision of the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ accuracy_precision, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-9.7975 -1.7975  0.2025  2.2025 10.2025

Coefficients:
                                   Estimate Std. Error t value Pr(>|t|)
(Intercept)                         14.4877     0.2277  63.616   <2e-16 ***
accuracy_precisionHigh importance    3.3098     0.2479  13.349   <2e-16 ***
accuracy_precisionLow importance     0.7100     0.3867   1.836   0.0666 .
accuracy_precisionNot at all important -0.4460  0.4763  -0.936   0.3493
accuracy_precisionVery high importance  2.9759  0.2688  11.071   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 279 Regression results for accuracy and precision importance in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the accuracy and precision are likely to pay premium prices by USD 3 each.

It shows that the accuracy and precision influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are not likely to pay lower prices, when compared to the medium influenced customers.

5.22.2 Impact of number of accuracy and precision on the medical device prices in India

```
                     Df    Sum Sq  Mean Sq F value Pr(>F)
accuracy_precision    4 2.957e+08 73933805   22.58 <2e-16 ***
Residuals          2131 6.979e+09  3274854
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 280 ANOVA results for accuracy and precision importance in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the accuracy and precision of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the accuracy and precision of the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ accuracy_precision, data = dt_country)

Residuals:
   Min     1Q Median     3Q    Max
 -1012   -212    -12    188    888

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                          1495.12      25.98  57.556  < 2e-16 ***
accuracy_precisionHigh importance     137.97      29.59   4.663  3.3e-06 ***
accuracy_precisionLow importance     -200.12      52.44  -3.816 0.000139 ***
accuracy_precisionNot at all important  -63.78      43.74  -1.458 0.144994
accuracy_precisionVery high importance  116.88      27.03   4.324  1.6e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 281 Regression results for accuracy and precision importance in India

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the accuracy and precision are likely to pay premium prices by INR 117 and INR 138 respectively. The customers having low importance of the accuracy and precision are likely to pay discounted prices by INR 200.

It shows that the accuracy and precision influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.22.3 Impact of number of accuracy and precision on the medical device prices in Germany

```
                     Df  Sum Sq Mean Sq F value   Pr(>F)
accuracy_precision    4  128616   32154   10.29 3.94e-08 ***
Residuals           819 2559924    3126
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 282 ANOVA results for accuracy and precision importance in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the accuracy and precision of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the accuracy and precision of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ accuracy_precision, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-21.177  -5.714  -1.177   3.824  18.823

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        25.7143     0.9020  28.507  < 2e-16 ***
accuracy_precisionHigh importance   2.2024     1.0191   2.161 0.030973 *
accuracy_precisionLow importance   -3.8961     2.3396  -1.665 0.096243 .
accuracy_precisionNot at all important  -5.8867     1.6067  -3.664 0.000264 ***
accuracy_precisionVery high importance   0.4622     0.9579   0.482 0.629598
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

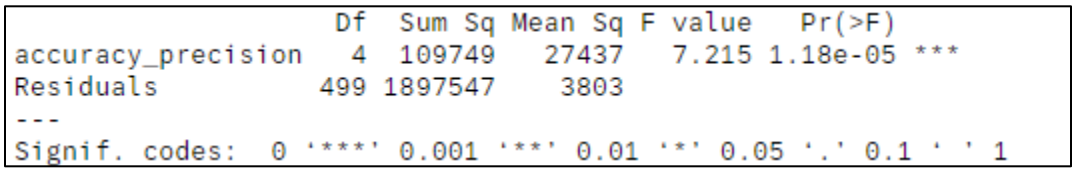
Figure 283 Regression results for accuracy and precision importance in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having high importance of the accuracy and precision are likely to

pay premium prices by Euro 2 while the customer having no importance of the accuracy and precision are likely to pay discounted prices by Euro 6.

It shows that the accuracy and precision influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.22.4 Impact of number of accuracy and precision on the medical device prices in Australia



```
                    Df  Sum Sq Mean Sq F value   Pr(>F)
accuracy_precision   4  109749   27437   7.215 1.18e-05 ***
Residuals          499 1897547    3803
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 284 ANOVA results for accuracy and precision importance in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the accuracy and precision of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the accuracy and precision of the medical device play an important role, and consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ accuracy_precision, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-27.454  -7.003  -2.003   7.545  27.997

Coefficients:
                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                          53.0851     1.3658  38.868  < 2e-16 ***
accuracy_precisionHigh importance    -0.7934     1.7559  -0.452 0.651549
accuracy_precisionLow importance     -5.6306     1.8599  -3.027 0.002595 **
accuracy_precisionNot at all important -10.0296     2.5954  -3.864 0.000126 ***
accuracy_precisionVery high importance  -1.0819     1.4650  -0.738 0.460572
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 285 Regression results for accuracy and precision importance in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having no and low importance of the accuracy and precision are likely to pay discounted prices by AUD 10 and AUD 6 respectively.

It shows that the accuracy and precision influence the prices of the medical devices and customers having higher importance are not likely to premium prices while customers having low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.23 Hypothesis 22: Impact of service and warranty on the medical device prices

Objective 22: To understand the impact of service and warranty of the medical devices on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the service and warranty.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the service and warranty.

The importance categories in the service and warranty are :

a. Not at all important
b. Low importance
c. Medium importance
d. High importance
e. Very high importance

"Medium importance" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.23.1 Impact of number of service and warranty on the medical device prices in the United States

	Df	Sum Sq	Mean Sq	F value	Pr(>F)
service_warranty	4	938	234.5	0.359	0.838
Residuals	1577	1029349	652.7		

Figure 286 ANOVA results for service and warranty importance in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are not significantly different due to the service and warranty of the medical devices. As a result, the null hypothesis is failed to reject and hence, it can be concluded that the service and warranty of the medical device does not play an important role, and consumers are not paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ service_warranty, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-10.0525  -2.1529  -0.1529   1.9072  10.9475

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                       17.09283    0.20418  83.713   <2e-16 ***
service_warrantyHigh importance   -0.04034    0.26265  -0.154    0.878
service_warrantyLow importance     0.20447    0.55565   0.368    0.713
service_warrantyNot at all important -0.68106    0.78925  -0.863    0.388
service_warrantyVery high importance  0.06003    0.22875   0.262    0.793
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 287 Regression results for service and warranty importance in the United States

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the service and warranty category. It can be concluded that in the United States, consumers are not paying significantly different prices for the medical devices irrespective of the service and warranty, and to attain premium pricing, service and warranty is not the criteria to be followed.

5.23.2 Impact of number of service and warranty on the medical device prices in India

```
                    Df    Sum Sq  Mean Sq F value Pr(>F)
service_warranty     4 2.986e+08 74655140   22.81 <2e-16 ***
Residuals         2131 6.976e+09  3273500
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 288 ANOVA results for service and warranty importance in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the service and warranty of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the service and warranty of the medical

device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ service_warranty, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-1092.59  -192.59     7.41   174.84   866.41

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       1425.16      22.84  62.404  < 2e-16 ***
service_warrantyHigh importance    167.44      25.21   6.643 3.89e-11 ***
service_warrantyLow importance      17.70      44.75   0.396    0.692
service_warrantyNot at all important   79.39      65.51   1.212    0.226
service_warrantyVery high importance  208.43      24.34   8.563  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 289 Regression results for service and warranty importance in India

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the service and warranty are likely to pay premium prices by INR 208 and INR 167 respectively.

It shows that the service and warranty influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are not likely to pay lower prices, when compared to the medium influenced customers.

5.23.3 Impact of number of service and warranty on the medical device prices in Germany

```
                  Df  Sum Sq Mean Sq F value   Pr(>F)
service_warranty   4  207757   51939   17.15 1.63e-13 ***
Residuals        819 2480783    3029
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 290 ANOVA results for service and warranty importance in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the service and warranty of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the service and warranty of the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ service_warranty, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-22.345  -6.436  -1.436   3.564  18.564

Coefficients:
                                 Estimate Std. Error t value Pr(>|t|)
(Intercept)                       22.7885     0.9781  23.298  < 2e-16 ***
service_warrantyHigh importance    3.6472     1.0968   3.325 0.000923 ***
service_warrantyLow importance    -9.2170     2.8397  -3.246 0.001219 **
service_warrantyNot at all important -0.4498  1.3263  -0.339 0.734625
service_warrantyVery high importance  4.5568  1.0276   4.434 1.05e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 291 Regression results for service and warranty importance in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high and high importance of the service and warranty are likely to pay premium prices by Euro 5 and Euro 4 respectively. The customers having low importance of the service and warranty are likely to pay discounted prices by Euro 9 respectively.

It shows that the service and warranty influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having

low importance are likely to pay lower prices, when compared to the medium influenced customers.

5.23.4 Impact of number of service and warranty on the medical device prices in Australia

```
                   Df  Sum Sq Mean Sq F value Pr(>F)
service_warranty    4   39838    9959   2.526   0.04 *
Residuals         499 1967458    3943
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 292 ANOVA results for service and warranty importance in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the service and warranty of the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the service and warranty of the medical device play an important role, and consumers are paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ service_warranty, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-32.194  -7.194   0.039   7.368  27.806

Coefficients:
                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                        49.1964     1.2744  38.604   <2e-16 ***
service_warrantyHigh importance     3.0763     1.9212   1.601   0.1100
service_warrantyLow importance      3.4352     2.0043   1.714   0.0872 .
service_warrantyNot at all important   0.7648     1.5261   0.501   0.6165
service_warrantyVery high importance   2.9977     1.4170   2.116   0.0349 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 293 Regression results for service and warranty importance in Australia

The regression results shows that the prices are significant due to the p-values less than 0.05. The customers having very high importance of the service and warranty are likely to pay premium prices by AUD 3.

It shows that the service and warranty influence the prices of the medical devices and customers having higher importance are likely to premium prices while customers having low importance are not likely to pay lower prices, when compared to the medium influenced customers.

5.24 Hypothesis 23: Impact of psychological pricing on the medical device prices

Objective 23: To understand the impact of psychological pricing and discounts of the medical devices on the consumer, purchasing the medical device and its impact on the medical device prices.

Null Hypothesis (H_0) : The average prices are same for consumers irrespective of the psychological pricing and discounts.

Alternate Hypothesis (H_1) : The average prices are different for consumers irrespective of the psychological pricing and discounts.

The categories in the psychological pricing and discounts are :

a. Product price is 1999
b. Product price is 2000
c. Product price was 3,000 and now, it is available at 1999
d. Product price was 5,000 and now, it is available at 1999
e. Product price was 10,000 and now, it is available at 1999

"Product price is 1999" group is considered as the base and the deviations, or the premium or discounted pricing are calculated from the same.

5.24.1 Impact of number of psychological pricing on the medical device prices in the United States

```
                  Df Sum Sq Mean Sq F value Pr(>F)
pshychological     4  58522   14630   23.74 <2e-16 ***
Residuals       1577 971765     616
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 294 ANOVA results for psychological pricing in the United States

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the psychological pricing and discounts on the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the psychological pricing and discounts on the medical device play an important role, and consumers are paying significantly different prices in the United States.

```
Call:
lm(formula = (Final_price) ~ pshychological, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-8.9871 -2.0141 -0.0141  2.0129  9.9748

Coefficients:
                                                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                         16.91746    0.17207  98.320  < 2e-16 ***
pshychologicalProduct price is 2000                                 -0.93041    0.24452  -3.805 0.000147 ***
pshychologicalProduct price was 10,000 and now, it is available at 1999  0.09665    0.22002   0.439 0.660512
pshychologicalProduct price was 3,000 and now, it is available at 1999   1.10775    0.23607   4.692 2.93e-06 ***
pshychologicalProduct price was 5,000 and now, it is available at 1999   1.51111    0.34413   4.391 1.20e-05 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 295 Regression results for psychological pricing in the United States

The regression results shows that the prices are significant due to the p-values less than 0.05. It shows that the customers are likely to pay premium prices at psychological pricing given the deals are perceived as the discounted one.

Customers are likely to pay premium prices by USD 2 for the medium discounted deals while USD 1 for the small-discounted deals in the pricing. Non-psychological prices are perceived as non-favorable, and customers are likely to pay discounted price by USD 1.

5.24.2 Impact of number of psychological pricing on the medical device prices in India

```
                  Df    Sum Sq   Mean Sq F value Pr(>F)
pshychological     4 8.687e+08 217173661   72.25 <2e-16 ***
Residuals       2131 6.406e+09   3005985
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 296 ANOVA results for psychological pricing in India

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the psychological pricing and discounts on the medical devices. As a result, the null hypothesis is rejected and hence, it can be concluded that the psychological pricing and discounts on the medical device play an important role, and consumers are paying significantly different prices in India.

```
Call:
lm(formula = (Final_price) ~ pshychological, data = dt_country)

Residuals:
    Min      1Q  Median      3Q     Max
-1031.1  -167.5    25.0   169.7   869.7

Coefficients:
                                                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                       1531.12      11.71 130.703  < 2e-16 ***
pshychologicalProduct price is 2000                               -63.59       17.36  -3.663 0.000255 ***
pshychologicalProduct price was 10,000 and now, it is available at 1999    99.19      18.16   5.461 5.29e-08 ***
pshychologicalProduct price was 3,000 and now, it is available at 1999    143.88      18.75   7.674 2.52e-14 ***
pshychologicalProduct price was 5,000 and now, it is available at 1999    224.26      18.64  12.032  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 297 Regression results for psychological pricing in India

The regression results shows that the prices are significant due to the p-values less than 0.05. It shows that the customers are likely to pay premium prices at psychological pricing given the deals are perceived as the discounted one.

Customers are likely to pay premium prices by INR 99 for the high discounted deals while INR 224 and INR 144 for the medium and small discounted deals respectively in the pricing. Non-psychological prices are perceived as non-favorable, and customers are likely to pay discounted price by INR 64.

5.24.3 Impact of number of psychological pricing on the medical device prices in Germany

```
                Df  Sum Sq Mean Sq F value Pr(>F)
pshychological   4   38583    9646   2.967 0.0189 *
Residuals      819 2662958    3251
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 298 ANOVA results for psychological pricing in Germany

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is less than 0.05 . It represents that the average prices are significantly different due to the psychological pricing and discounts on the medical devices. As a result, the

null hypothesis is rejected and hence, it can be concluded that the psychological pricing and discounts on the medical device play an important role, and consumers are paying significantly different prices in Germany.

```
Call:
lm(formula = (Final_price) ~ pshychological, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-22.4286  -5.5808  -0.5808   4.4192  20.2703

Coefficients:
                                                                    Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                         26.69960    0.45849  58.233   <2e-16 ***
pshychologicalProduct price is 2000                                 -1.11880    0.69197  -1.617   0.1063
pshychologicalProduct price was 10,000 and now, it is available at 1999 -0.02435    0.69596  -0.035   0.9721
pshychologicalProduct price was 3,000 and now, it is available at 1999   0.72897    0.84660   0.861   0.3895
pshychologicalProduct price was 5,000 and now, it is available at 1999  -1.96988    0.96381  -2.044   0.0413 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 299 Regression results for psychological pricing in Germany

The regression results shows that the prices are significant due to the p-values less than 0.05. It shows that the customers are likely to pay highest prices at psychological pricing without any discounts in the deals.

Customers are likely to pay discounted prices by Euro 2 for the medium discounted deals in the pricing.

5.24.4 Impact of number of psychological pricing on the medical device prices in Australia

```
                Df  Sum Sq Mean Sq F value Pr(>F)
pshychological   4   26167    6542   1.648  0.161
Residuals      499 1981129    3970
```

Figure 300 ANOVA results for psychological pricing in Australia

The ANOVA results shows that the p-value (represented by the Pr (>F) parameter in the figure) is more than 0.05 . It represents that the average prices are significantly not different due to the psychological pricing and discounts on the medical devices. As a

result, the null hypothesis is failed to reject and hence, it can be concluded that the psychological pricing and discounts on the medical device does not play an important role, and consumers are not paying significantly different prices in Australia.

```
Call:
lm(formula = (Final_price) ~ pshychological, data = dt_country)

Residuals:
     Min       1Q   Median       3Q      Max
-30.5333  -5.5556  -0.5333   7.3315  27.3315

Coefficients:
                                                                  Estimate Std. Error t value Pr(>|t|)
(Intercept)                                                        50.0000     4.7811  10.458   <2e-16 ***
pshychologicalProduct price is 2000                                 2.6685     4.8346   0.552    0.581
pshychologicalProduct price was 10,000 and now, it is available at 1999   0.5556     4.8398   0.115    0.909
pshychologicalProduct price was 3,000 and now, it is available at 1999    0.5333     4.8445   0.110    0.912
pshychologicalProduct price was 5,000 and now, it is available at 1999    2.5000     5.6571   0.442    0.659
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Figure 301 Regression results for psychological pricing in Australia

Similar results are observed when regression is conducted. The p-values are higher than 0.05 for all the different importance groups in the psychological pricing and discounts category. It can be concluded that in Australia, consumers are not paying significantly different prices for the medical devices irrespective of the psychological pricing techniques and discounts, and to attain premium pricing, psychological pricing and discounts is not the criteria to be followed.

5.25 Hypothesis results summary

Below is the summary of the hypothesis results.

Table 4 Summary of hypothesis results for all geographies

Null Hypothesis and results						
S.No.	Variable	Null Hypothesis	United States	India	Germany	Australia
1	Primary user	The average prices are same among the different Primary users	Rejected	Rejected	Failed to Reject	Rejected
2	Primary purpose	The average prices are same for the different Primary purposes	Failed to Reject	Failed to Reject	Failed to Reject	Failed to Reject
3	Frequency of use	The average prices are same for the different frequency of use	Failed to Reject	Rejected	Rejected	Failed to Reject
4	Age	The average prices are same among the different age groups	Rejected	Rejected	Failed to Reject	Failed to Reject
5	Gender	The average prices are same among the different gender groups	Failed to Reject	Failed to Reject	Rejected	Failed to Reject

6	Social status	The average prices are same among the different social status groups	Rejected	Rejected	Rejected	Rejected
7	Education background	The average prices are same among the different educational background groups	Failed to Reject	Rejected	Failed to Reject	Failed to Reject
8	Occupation	The average prices are same among the different occupation groups	Failed to Reject	Failed to Reject	Rejected	Failed to Reject
9	Brand Influence	The average prices are same among the different importance of the brand influence	Rejected	Rejected	Failed to Reject	Rejected
10	Doctor recommendation	The average prices are same among the different importance of the doctor's recommendation	Rejected	Rejected	Rejected	Rejected
11	Family peer Recommendation	The average prices are same among the different importance of the family peer recommendation	Failed to Reject	Rejected	Rejected	Failed to Reject

12	Online Reviews	The average prices are same among the different importance of the online reviews	Rejected	Rejected	Rejected	Failed to Reject
13	Ecommerce sponsored	The average prices are same among the different importance of the ecommerce sponsorships	Rejected	Rejected	Rejected	Rejected
14	Medical Shopkeeper Recommendations	The average prices are same among the different importance of the medical shopkeeper recommendation	Failed to Reject	Rejected	Rejected	Failed to Reject
15	Television Advertisements	The average prices are same among the different importance of the television advertisements	Rejected	Failed to Reject	Rejected	Rejected
16	Packaging	The average prices are same among the different importance of the packaging	Rejected	Rejected	Rejected	Failed to Reject
17	Brand Ambassador	The average prices are same among the different importance of the brand	Failed to Reject	Rejected	Failed to Reject	Failed to Reject

		ambassador				
18	Number of features	The average prices are same among the different importance of the number of features	Failed to Reject	Rejected	Failed to Reject	Rejected
19	Patent and Innovation	The average prices are same among the different importance of the patent and innovation	Rejected	Rejected	Failed to Reject	Rejected
20	Product aesthetics	The average prices are same among the different importance of the product aesthetics	Rejected	Failed to Reject	Rejected	Failed to Reject
21	Accuracy and Precision	The average prices are same among the different importance of the accuracy and precision	Rejected	Rejected	Rejected	Rejected
22	Service and Warranty	The average prices are same among the different importance of the service and warranty	Failed to Reject	Rejected	Rejected	Rejected

23	Psychological and discount behavior	The average prices are same among the different psychological and discount behavior	Rejected	Rejected	Rejected	Failed to Reject

5.26 Premium and discounting pricing summary

Below is the summary for the premium and discounted pricing for all the factors across the countries.

Table 5 Summary for the premium and discounted pricing

Premium/ discounted pricing summary						
S.No.	Variable	Regression Analysis	United States	India	Germany	Australia
1	Primary user	"Children" as the base group	Device is available for regular checkup for all members : USD -0.8	Grandparents, Parents or in-laws : INR - 316 Device is available for regular checkup for all members: INR - 117 Self, Spouse, Siblings : INR - 203	None	Device is available for regular checkup for all members: AUD 5.7
2	Primary purpose	"Have medical condition in	None	None	None	None

		family, so need to track the fluctuations" as the base group				
3	Frequency of use	"Daily" as the base group	None	Every week : INR 65	Once in a week : Euro 5 Once in a month : Euro 4 Once in 3 months: Euro 3 Once in a year : Euro 4	None
4	Age	“18 to 25 years” as the base group	25 to 35 years : USD 2 35 to 50 years: USD 1	25 to 35 years : INR 223 35 to 50 years: INR 147	None	None

			50 years and above: USD 1	50 years and above: INR 88		
5	Gender	“Female” as the base group	None	None	Male : - 3 Euro	None
6	Social status	“Below poverty line” as the base group	Lower middle class : 0 Middle class : 1 USD Upper middle class: 1.5 USD Upper class : 2 USD	Lower middle class: 0 Middle class: INR 207 Upper middle class: INR 249 Upper class: INR 283	Lower middle class : 0 Middle class: Euro 3 Upper middle class: Euro 6 Upper class: Euro 5	Lower middle class: 0 Middle class: AUD 3 Upper middle class: AUD 6 Upper class: AUD 5
7	Education background	"Doctorate" as the base group	None	Graduate : INR 67 High school or below : 97	None	None

8	Occupation	"Government sector job “as the base group	None	None	Private sector job: Euro 4	None
9	Brand Influence	"Average Influence " as the base group	Very high influencing : USD -1 High influencing : USD -1 Low influencing : USD 1	High influencing : INR 64	None	Very high influencing : AUD 1
10	Doctor recommendation	"Average Influence " as the base group	Very high influencing : USD 1 High influencing : USD 1 Low influencing : USD -1 Very low influencin	Very high influencing : INR 214 High influencing : INR 172 Low influencing : INR -172 Very low influencing :	Very high influencing : Euro -6 High influencing : Euro -6	Very high influencing : AUD 2 High influencing : AUD 4

			g : USD -1	INR -95		
11	Family peer Recommendation	"Average Influence " as the base group	None	Very high influencing : INR 50 Very low influencing : INR -70	Very low influencing : Euro -7 Low influencing : Euro -2	None
12	Online Reviews	"Average Influence " as the base group	Very high influencing : USD 2 High influencing : USD 1	Very high influencing : INR 94 High influencing : INR 133 Low influencing : INR -67	Very high influencing : Euro 5 High influencing : Euro 4	None
13	Ecommerce sponsored	"Average Influence " as the base group	Very high influencing : USD 2 High influencing : USD 1	Very high influencing : INR 71 High influencing : INR 128	Very high influencing : Euro 6	Very high influencing : AUD 4 High influencing : AUD 6

				Low influencing : INR -120 Very low influencing : INR -91		Low influencing : AUD -2
14	Medical Shopkeeper Recommendations	"Average Influence " as the base group	None	Very high influencing : INR 51 High influencing : INR 111 Low influencing : INR -63 Very low influencing : INR -57	High influencing : Euro 3	None
15	Television Advertisements	"Average Influence " as the base group	Very high influencing : USD 1 Very low influencing : USD -1	None	High influencing : Euro 2 Low influencing : Euro -2	Very high influencing : AUD 4 Low influencing : AUD -3

					Very low influencing : Euro -2	
16	Packaging	"Medium importance" as the base group	Very high importance : USD 0.6 High importance : USD 0.4 Low importance : USD -0.7	Low importance: INR -59 Not at all important; INR -62	Very high importance : Euro 4 High importance : Euro 2	None
17	Brand Ambassador	"Medium importance" as the base group	None	Very high importance : INR 109 High importance : INR 143 Low importance: INR -87 Not at all important : INR -57	None	None

18	Number of features	"Medium importance" as the base group	None	Very high importance : INR 123 High importance : INR 42 Low importance: INR -195 Not at all important : INR -99	None	Very high influencing : AUD 4 Low influencing : AUD -2
19	Patent and Innovation	"Medium importance" as the base group	Very high importance : USD 1 High importance : USD 1 Not at all important: USD -1	Very high importance : INR 42 High importance : INR 55 Low importance: INR -36	None	Low influencing : AUD -4
20	Product aesthetics	"Medium importance" as the base	Very high importance : USD 1	None	High importance : Euro 1	None

		group	High importance : USD 0.4		Low importance : Euro -3 Not at all important : Euro -5	
21	Accuracy and Precision	"Medium importance" as the base group	Very high importance : USD 3 High importance : USD 3	Very high importance : INR 117 High importance : INR 138 Low importance: INR -200	High importance : Euro 2 Not at all important : Euro -6	Low importance : AUD -6 Not at all important : AUD -10
22	Service and Warranty	"Medium importance" as the base group	None	Very high importance : INR 208 High importance : INR 167	Very high importance : Euro 5 High importance : Euro 3 Low importance : Euro -9	Very high importance : AUD 3

23	Psychological and discount behavior	"Product price is 1999 " as the base group	Product price is 2000 : USD -1 Product price was 3,000 and now, it is available at 1999 : USD 1 Product price was 5,000 and now, it is available at 1999 : USD 2	Product price is 2000 : INR -64 Product price was 3,000 and now, it is available at 1999 : INR 144 Product price was 5,000 and now, it is available at 1999 : INR 224 Product price was 10,000 and now, it is available at 1999 : INR 99	Product price was 5,000 and now, it is available at 1999 : Euro -2	None

CHAPTER 6 : DISCUSSION

The results and insights generated can be used by the business and organization in their pricing strategy, digital marketing and positioning their product. The importance analysis can help the marketing and other relevant teams to take decisions on which factors and sections of the consumers they need to target as per their marketing strategy. While pricing a product, many internal factors like product cost, company vision, company's focus on the current and next financial year and objectives they are trying to achieve from a product or product category are considered while ignoring the consumer behavior aspect. The entire placement can vary from region to region due to difference in the demographics, purchase behavior and economic factors.

The coefficients from the regression analysis can also be helpful to many organizations in estimating the additional revenue and profits from any factor. It is not always easy to achieve the goals and meet the requirements for each factor considered. Companies then may take a judgmental decision depending on the cost involved for each factor and potential additional margins and revenue which can be generated. This will help in taking the most optimal decision on the pricing.

Organization can classify the action by different factors and can internally align whether they

a. are focusing on right demographics
b. are providing the right set of discounts and psychological pricing
c. are addressing the market with right set of features like product aesthetics
d. need to work on the word-of-mouth promotions

e. need to address the service and accuracy related measures which can be controlled internally, including collaboration with brand promoters

f. need to address the key features like packaging and aesthetics of the product

6.1 The United States

The organization in the United States can utilize the following categories :

a. Demographics : The business should be focusing on the age groups from 25 years to 50 years with 25-35 years of age groups being the priority. These age groups have the positive coefficient and hence, there is a potential for the business to set a premium pricing for the medical devices. In terms of the social status, organization should target the middle class and above, with upper class being the first on priority list.

b. Peer influence : The respondents in the United States are highly influenced by the peer's recommendations. Organization should be focusing on the consumer who are highly influenced by the doctors' recommendations, online reviews and ecommerce sponsorships. The consumer who are highly influenced by the television advertisements can also be the target from the premium pricing perspective.

c. Psychological and discount behavior : The consumers in the United States are attracted by the psychological pricing and medium discounting is the best way to position the medical devices.

d. Product related matrix : The consumers in the United States give higher importance to packaging, patent and innovation, aesthetics of the product and accuracy and precision can generate higher revenue for the organization.

e. Personal to customer : The business should not be projecting their product as “device for all” as it can lead to decrease in aspirational price. The business can focus on the consumer who are purchasing for their children.

f. Brand value : The companies should target the consumer who are less influenced by the brand name and focus on other parameters to generate additional revenue to the business.

6.2 India

The organization in India can utilize the following categories :

a. Demographics : The organization in India should focus on the age groups above 25 years, with 25 to 35 years age groups being the priority. They should be targeting the middle class, upper class and upper middle-class consumers. The consumers having educational backgrounds like graduates and high school or below can be targeted for the higher prices for the same medical devices.

b. Peer influence : India is the market where consumers can be highly influenced by the peer reviews and word of mouth. Organizations need to make sure that the consumers influenced by every channel possible be it medical shopkeeper, doctor, online reviews, or ecommerce sponsorship. Positive word of mouth will help the organization to grow as well as to mark themselves at a slightly higher priced product.

c. Psychological and discount behavior : The Indian consumers are positively influenced by the psychological pricing and discount. Organization should be adopting the psychological pricing strategy with medium discounts as the priority followed by low and very high discounts.

d. Product related matrix : Organization should be highlighting various product qualities such as number and extent of features, any patent or innovation in the product, better service or extended warranties and accuracy and precision for the better positioning of the product. Organization may involve a brand ambassador with whom mass can relate to. They also need to make the packaging attractive to the consumer and highlight the product features clearly on the box.

e. Personal to customer : The organization may target the daily users and consumers who are purchasing the medical devices for their children.

f. Brand value : Brand names play an important role among the Indian consumers. This becomes an opportunity for an established brand which bring trust as an image to change the price positively without any major effect on the volume.

6.3 Germany

The organization in Germany can utilize the following categories :

a. Demographics : Organization in Germany may focus more on the female consumer as they are likely to perceive higher value for same product as male do. They should be focusing on the private sector consumers by different workshops and seminars and middle class or above social status.

b. Peer influence : The consumers in Germany are highly influenced by the peer recommendations. Companies should be working on their online reviews, ecommerce sponsorship and television advertisements. Doctors' and medical shopkeeper recommendations plays an important role in premium pricing strategy.

c. Psychological and discount behavior : The psychological pricing strategy does not have any significant effect on the consumer behavior.

d. Product related matrix : Packaging and product aesthetics plays an important role in pricing strategy for the consumers in Germany. The organization should clearly mention and highlight the accuracy and precision and service and warranty related benefits for the consumers.

e. Personal to customer : The users who are using the medical devices occasionally like once in a month or more should be focus of the organization.

f. Brand value : Brand name does not have a significant impact on the consumer and organization should be prioritizing other parameters to arrive at the optimal prices.

6.4 Australia

The organization in Australia can utilize the following categories :

a. Demographics : Social status plays the most significant role in the demographic of the consumers for the organization in Australia. Middle class and above should be the target groups for the organization.

b. Peer influence : Recommendation from doctor, ecommerce sponsorship and television advertisements are the various ways of influencing the consumers.
c. Psychological and discount behavior : The psychological pricing strategy does not have any significant effect on the consumer behavior.
d. Product related matrix : Organization should highlight the number of features in the medical devices, any patent or innovation in the same along with accuracy and precision to generate traction from the consumer. They should be mentioning the services which the consumers will get and extended warranty related options.
e. Personal to customer : The key message the organization can focus on is that their medical devices can be used for all family members.
f. Brand value : Brand name does not have a significant impact on the consumer and organization should be prioritizing other parameters to arrive at the optimal prices.

6.5 Summary

The organization can utilize the study and target the consumer in the right manner as per their capability, cost benefit analysis and areas where they can influence customers. In this way, organization can position their medical devices better in the market, can generate additional revenue and margins and mostly importantly, focusing on the areas which can yield better results for them. The optimal prices can lead to more market share and higher profits for the organization.

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APPENDIX A : SURVEY CONSENT FORM

This study is conducted as part of Doctorate program at Swiss School of Business Management (SSBM), Geneva. I am trying to understand the consumer behavior for the medical device product. Medical devices in the questionnaire represents the devices like Glucometer, oximeter, blood pressure machine etc. which can be used in home.

Personal as well any other data collected will be masked and won't be shared with anyone. All the data analysis will be exclusively used as part of the research purposes and maybe used in the academic journals and publications. Entire questionnaire will take less than 5 minutes of your time.

In case of any clarification and suggestion, please feel free to reach out to the researcher on gupta.mayank0302@gmail.com.

Mayank Gupta

Swiss School of Business Management, Geneva

APPENDIX B : QUESTIONNAIRE

Medical devices in the questionnaire represents the products like glucometer, blood pressure machine, oximeter etc. which are used at home.

Question 1: Who is/are the primary user(s) of the medical device?

a. Grandparents, Parents or in-laws
b. Device is available for regular checkup for all members
c. Self, Spouse, Siblings, and
d. Children

Question 2: What is the primary purpose of having medical devices at home?

a. It helps in checking the vitals at regular intervals, for healthy lifestyle
b. Have medical condition in family, so need to track the fluctuations
c. It is available for any emergency vital checks
d. It helps in saving medical expenses since it is cheaper and convenient at home

Question 3: members. How frequently the medical devices are used in the home?

a. Daily
b. Once in a week
c. Once in a month
d. Once in 3 months
e. Once in a year

Question 4: Please select the influence level for each of the parameters while buying the product – one for each row.

	Very low Influencing (no influence)	Low Influencing	Avg (Average) Influencing	High Influencing	Very high Influencing
Brand Influence					
Doctor's recommendation					
Online reviews					
Ecommerce sponsorship of product					
Medical shopkeeper recommendation					
Television advertisements					

Question 5: Please select the influence level for each of the parameters while buying the product – one for each row.

	Not at all important	Low importance	Medium importance	High importance	Very high importance
Packaging					
Brand ambassador					
Number of features					
Patent and Innovation					
Product aesthetics					
Accuracy and Precision					
Service and warranty					

Question 6: For the same product, which scenario is preferred option of purchasing the product?

a. Product price is 1999
b. Product price is 2000
c. Product price was 3,000 and now, it is available at 1999
d. Product price was 5,000 and now, it is available at 1999
e. Product price was 10,000 and now, it is available at 1999

Question 7: Which of the following is most applicable to you with respect to your age group?

a. Less than 18 years
b. 18 to 25 years
c. 25 to 35 years
d. 35 to 50 years
e. 50 years and above

Question 8: Which of the following is most applicable to you with respect to your gender?

a. Male
b. Female
c. Prefer not to disclose
d. Other

Question 9: Which of the following is most applicable to you with respect to your social status?

a. Below poverty line
b. Lower middle class
c. Middle class
d. Upper middle class
e. Upper class

Question 10: Which of the following is most applicable to you with respect to your educational background?

a. High school or below
b. Graduate
c. Post-Graduate
d. Doctorate
e. Professional (it represents the professionals like C.A. etc.)

Question 11: Which of the following is most applicable to you with respect to your occupation?

a. Unemployed or Not working or Retired or Home maker
b. Private sector job
c. Government sector or public sector job.
d. Self-employed (including entrepreneur, family business and freelancers)

Question 12: What is the most likely price you are willing to pay for the product having all the required features (Please enter a number)