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IMPACT OF COVID-19 ON BUYING INTENTION OF AUTOMOBILE CUSTOMERS IN FINLAND

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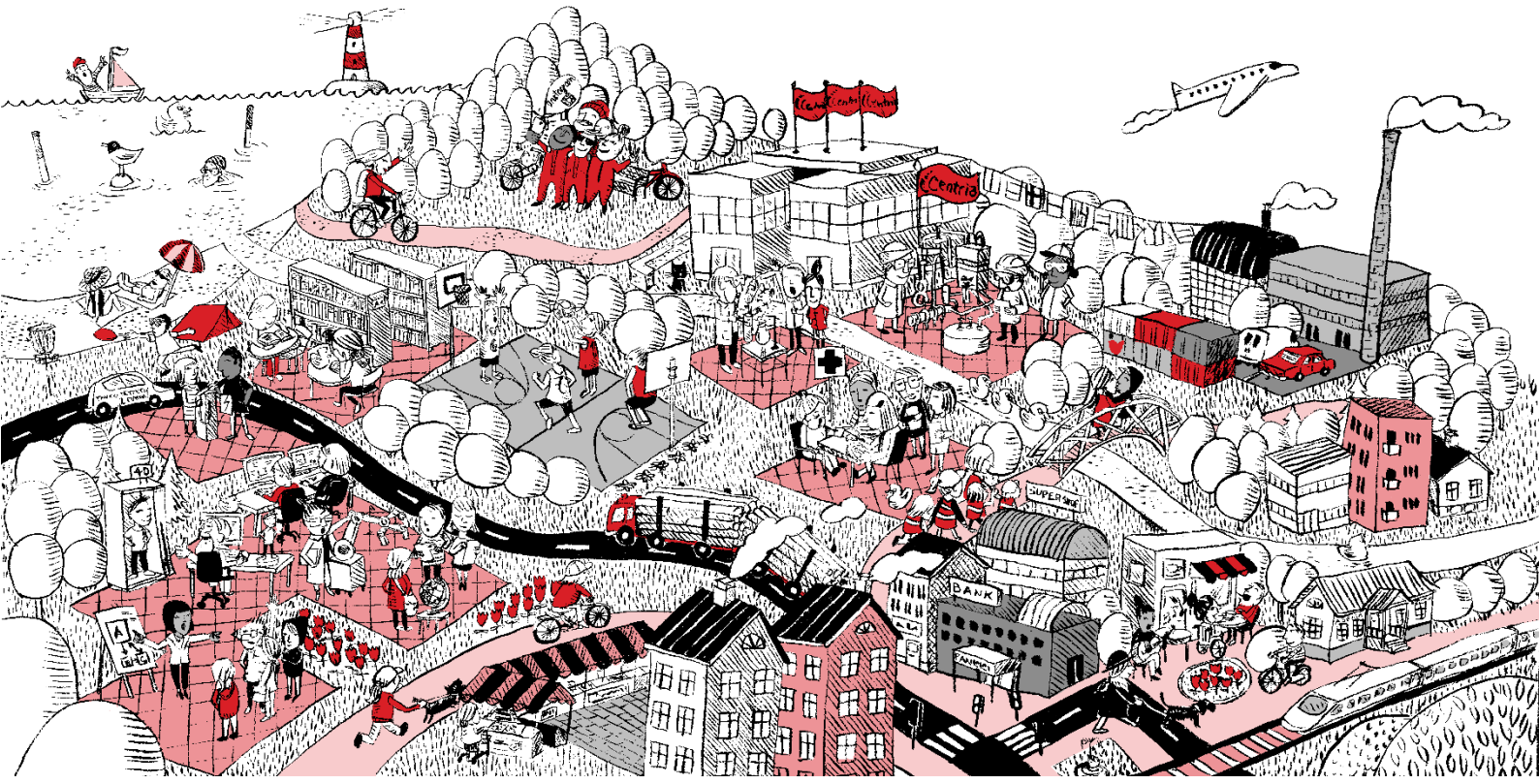

ABSTRACT

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This thesis work aimed at exploring the impact of the COVID-19 pandemic on the automobile purchase intention of customers in Finland. To fulfil the aim, the research analyzed the current situation of the automotive industry in Finland. It investigated the factors affecting automobile purchase intention of customers in Finland and it also analyzed the impact of COVID-19 on the automobile purchase intention of customers in Finland. For analysis of the factors affecting purchase intention, a theoretical framework was developed which contained seven independent variables including price of automobile, features, aesthetics, peer group influence, brand, economic factors, and COVID-19 pandemic. Data was collected through a primary survey on prospective automobile buyers of Finland. A multiple regression model was used for analysing the impact. The research concluded that price, features, peer group influence, and brand have significant positive impact on purchase intention. On the other hand, COVID-19 has an insignificant negative impact on purchase intention.

Key words
Purchase intention, COVID-19, automobile industry, branding, social media marketing.

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1 INTRODUCTION

Disasters and natural calamities affect human life and businesses in the area of such disasters. COVID-19 pandemic is an unprecedented disaster that affected the whole world simultaneously. The COVID-19 pandemic has disrupted all businesses around the world and led to economic crises. People lost their life. According to Worldometers (2021), till May 2021 about 165 million people have been affected by COVID-19 globally and about 3.4 million died. COVID-19 virus was originated in Wuhan, China at the end of 2019 (Andersen, Rambaut, Lipkin, Holmes & Garry, 2020). The very first death from this disease was reported on 11th January 2020 in Wuhan, China. On January 23, China imposed a lockdown in Wuhan. Soon, the virus has spread to other countries. Many countries in Europe reported the first COVID-19 affected people in January 2020. To avoid loss of life, governments around the world, imposed country wide lockdown. The first COVID-19 case was detected in Finland on January 29, 2020 (Tiirinki, Tynkkynen, Sovala, Atkins, Koivusalo, Rautiainen, Jormanainen, & Keskimäki, 2020). In March 2020 the first state of emergency has been declared by the Finnish government. People were restricted to gather publicly, schools, public places, and tourist spots were shut down and a travel ban was imposed. This lockdown and travel ban has confined people in one place. Almost all businesses and jobs were affected by the pandemic. Due to economic hardship, many businesses were shut down. Many people lost their job. According to Statista (2021), till November 2020 about 24.4 thousand people lost their jobs and about 39.2 thousand were temporarily laid off. Due to this effect, the purchasing power of people has deteriorated considerably.

Like other industries, the car market in Finland has also been affected by the pandemic. Car sales fell by 15.60% in 2020 due to the impact of pandemic and lockdown (Carsalesbase, 2021). The market has not become normal compared to the pre-pandemic situation. Recently, the Finnish government reintroduced an emergency state since COVID-19 cases surged. Therefore, companies need to understand the impact of COVID-19 on buying intentions of customers to make their recovery plan in the post-pandemic period.

There are some strong rationales for pursuing this thesis topic. The automobiles industry in Finland is basically an import-based industry. There is no significant indigenous passenger car brand in Finland. There are some heavy vehicle manufacturers in Finland. The largest automobile manufacturer in Finland is Valmet Automotive, which is a contract manufacturer (Autoalan Tiedotuskeskus, 2021). Annual imports of cars in Finland are more than $3 billion which was $3.34 billion in 2019 (Observatory of

Economic Complexity, 2020). Being a globally integrated business, the automobile industry has been hit hard due to the COVID-19 pandemic. Demands of automobile have fallen, the supply chain has been disrupted and lockdowns led to factory closures in different countries (Deloitte, 2021). The automobile market in Finland has also been affected by the COVID-19 pandemic. In 2020, annual car sales have been plunged to 96,415 units from 114,199 units in 2019 (Carsalesbase, 2021). The pandemic has changed mobility in the whole world as well as in Finland. The production and supply of cars hit hard by the pandemic. The impact of the pandemic on different industries shall be last longer, if a proper remedy is not invented on time. Besides the supply side, the worsened job market and personal economic hardship have led people to cut extra costs. This may also affect the automobile purchasing intention. Therefore, automobile suppliers in Finland need to study the intention of customers for buying their cars in the upcoming days for planning their business. Although the supply chain has become stable worldwide, the demand side may destabilize the industry. Hence, this research has been undertaken to critically investigate the impact of COVID-19 on the automobiles purchase intention of customers in Finland.

To fulfill the aim of the research some specific objectives have been set for the research. The first objective of the research is to analyze the current situation of the automotive industry in Finland. The second objective of the research is to critically investigate the factors affecting automobile purchase intention of customers in Finland. The third objective of this research is to analyze and discuss the impact of COVID-19 on the automobile purchase intention of customers in Finland. The last objective of the research is to suggest policies for reinvigorating the automotive sector in Finland.

For fulfilling research objectives, a research question has been developed. The primary research question is “what is the impact of COVID-19 on the automobile purchase intention of customers in Finland?”

From the outcomes of this research, different parties related to automobiles industry in Finland shall be benefitted. Automobile’s importers and manufacturers in Finland will be benefitted from the research and will be able to design their recovery plan using the findings of the study.

This thesis has been organized in the following way. The first chapter of the research contains an introduction of the thesis where background of the research, rationale of choosing the topic, research aim, objectives and research questions were described. The second chapter contains the literature review, which details of the automobile industry in Finland. The third chapter literature review relevant to the topic has been done. The fourth chapter contains research methodology which includes a selection of

research approach, research method. The fourth chapter contains analysis and discussion of data. The last chapter is about the conclusion of the research and recommendations.

2 LITERATURE REVIEW

This chapter focuses on theoretical analysis based on existing literature. Different theoretical concepts have been discussed here. Literature review contains the background of COVID-19 pandemic, the socio-economic impact of the pandemic, the impact of the pandemic on automobile industry globally, the impact of COVID-19 pandemic on the economy of Finland, automobile industry in Finland and different theoretical models regarding purchase intention.

2.1 COVID-19 Pandemic

COVID-19 pandemic, caused by the SARS-COV-2 virus, is a global pandemic that originated from Wuhan, China in December 2019. Within a very short span of time, the disease has affected every country of the world. (Singh, Kumar, Panchal and Tiwari 2020.) This is the third outbreak of the corona virus in the last two decades by considering the MERS-COV outbreak in the Middle East in 2002 and the SARS-Cov outbreak in Guangdong, China in 2003. None of these viruses were as deadly as the novel coronavirus outbreak in 2019. Till February 2020, globally about 119 million people have been affected by the virus among whom about 2.6 million people died. World Health Organization (WHO) declared it as global a public health concern in January 2020. (Bodrud-Doza, Shammi, Bahlman, Islam & Rahman 2020.) The virus is spread through close contact with the affected people. The virus is mainly transmitted through the respiratory route as a result of sneezes, coughs, or even breaths of affected people. Wearing a mask, washing hands frequently for at least 20 seconds, maintaining distance between two persons and not touching the mouth, eyes, and nose in the bare hand are some preventive measures against the virus (Bashir & Shahzad 2020). After one year of research, different organizations invented the vaccine against the virus. Many countries introduced vaccination programs to take their country to normal situations. Till date about 21.1% of world population has received at least one dose of COVID-19 vaccines (Our World in Data 2021). It will take time to bring every person under the vaccination program. The pandemic has a disastrous social and economic impacts all over the world (Panchal, Kamal, Cox & Garfield 2021). These impacts have been discussed in the following section.

2.2 Socio-Economic Impact of COVID-19

COVID-19 has induced great social and economic impact all over the world. Governments had to impose social distancing, travel restrictions, and self-isolations for retarding spread of the virus. Educational institutions, restaurants, entertainment spots all have been shut down. The economic activity has reduced much as a result of these measures. The mental and physical health of citizens has deteriorated since the lockdown (Mittal & Singh 2020).

2.2.1 Deterioration of Psycho-Social Condition

The closure has a significant impact on the mental health of people around the world. Fear and anxiety have increased among people. According to Panchal, Kamal, Cox & Garfield (2021), about 41% of US adults have shown symptoms of depression and anxiety which was about 11% in the previous year. A significant portion of people faced problems in sleeping and eating. The stress also increased the alcohol consumption of them. Besides the fear of the virus, job loss, pressure for rent, and mortgage all added to the mental stress further.

Increased domestic and social violence is another side effect of a pandemic. According to Rose (2018), disaster increases domestic violence against women and children as seen in Bologna, Italy during the plague and natural disasters. Okur (2016) also emphasized that domestic violence increased during the crisis period. Previously increase in violence between partners have been observed after Hurricane Catrina in 2005, earthquake in Haiti in 2007 because of an increase in unemployment, food crisis, increase in disease and other issues. COVID-19 has also increased domestic violence like other disasters. In the USA domestic violence is reported to increase by about 35% in different states. In the UK, domestic violence increased significantly during the pandemic period. Moreover, social harassment of COVID affected people by surrounding people is prevalent in all countries. Domestic violence increased by three times in China during the pandemic. (Mittal & Singh 2020.)

2.2.2 Increase in Healthcare Expense

Healthcare expenses both at the personal and state level have increased manifold during the pandemic. The virus affected people has faced financial disaster due to incurring out-of-pocket healthcare expenses in many countries where people are not covered by health insurance. According to Bhattacharya (2020),

many people have become poor in India who required costly treatment like the use of Remdesivir, life support and long-term treatment as an impact of COVID-19. Health care expenses also increased in developed countries like Europe and America. The increased healthcare expense became burdensome to people who lost their job/earnings during the pandemic.

2.2.3 Impact on Economic Growth and Employment

Sometimes governments make injunction to some specific activities. For example, most of the corporations (including private sectors) of China and Italy are being closed by the government's order. It helps to avoid infection. Whether it is a government ban or a business decision, stopping business activities causes regular workers to lose their wages. The situation is even tougher for those who work daily but are not paid for their leave. Visits to the shopping centers, traveling, going out for social activities, or other reasons are also being reduced. (Martin, Markhvida, Hallegatte & Walsh 2020.)

Because of the business shut down worldwide, a drastic rise in unemployment and poverty may occur in underdeveloped nations. According to World Bank, across the Pacific and East Asia, around 11 million people are at the risk of falling into extreme poverty (World Bank 2020). After studying the COVID-19 hit economic condition of four continents, Buheji et al. estimated that 49 million people are the risk of extreme poverty (Buheji et al. 2020). As per international standard, living on lower than $1.90/day.
The short-term impacts on the economy can decrease long-term economic growth. As the health sector's resources boosted due to the pandemic situation and the individuals restrict their social events, countries began to emphasize the infrastructural development less. Students miss the chances of learning because of the closure of educational institutes. The majority of students could not get back to their institutions; this impacted especially lower-income families, and their long-term prospects of earning also decreased significantly (Fernandes 2020). These dropout processes have an impact on the economy and diminish its human capital.

In the first fourth months, the GDP of the U.S economy is decreased by 4.8%. Experts also predicted that the economy would fall into a recession with a reduction in the GDP by 5.0% in 2020 (McKibbin & Fernando 2020). The EC (European Commission) fears that the euro area's economy would face a recession, and the overall economy of the region would decrease by 7.25% (European Commission 2020). Because of the decrease in trade, tourism, and foreign investment, South-East Asian emerging

countries are also at risk of being hugely impacted by this global economic downturn due to the pandemic.

2.3 Increased Poverty and Loss of Human Capital

Except for human loss, the epidemic has a direct economic effect on the lives lost. Each family and beloved one lost their contribution and the amount they may subsidize to the family income. The rate of fatalities resulting from COVID-19 is very high among the old group of the societies. Though in many underdeveloped or developing countries people work till their later age, in most developed countries people of this age group are not likely to be the main wage earners. Though the risk of death among middle-aged people is low, many fell ill, and their families had to go through financial distress. (Evans & Over 2020.)

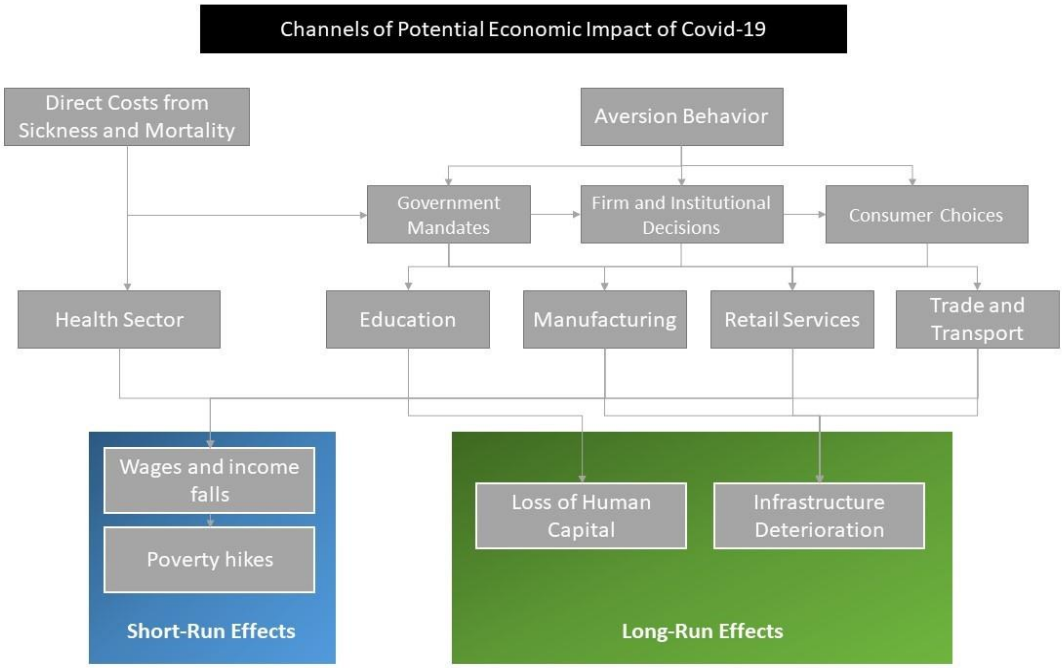


FIGURE 1. Channels of potential economic impact of COVID-19 (adapted from Evans & Over 2020)

2.4 Impact of Pandemic on automobile industry in the globe

The automobile industry contributes greatly to the world economy. The industry's average turnover is comparable to the sixth biggest economy on the planet. In 2017, the industry's global direct workforce was reported to be about 14 million individuals (Kufelová & Raková 2020).

Restrictions on people's mobility and a temporary halt in economic growth are likely to result in a significant reduction in sectorial production and GDP. Factory closures in North America and Europe are projected to have resulted in the removal of 2.5 million motor vehicles from production plans, costing automobile and parts manufacturers US$77.7 billion in missed sales (Kufelová & Raková 2020).
Backward and forward linkages have negative multiplying effects on the economy, especially in countries where the automobile industry is a major driver of economic growth, such as Canada, Germany, China, India, Korea, Japan, Morocco, Mexico, and the United States. Small and medium-sized enterprises (SMEs), which hire most of the sector's workers and offer intermediate goods and services to international automakers, are projected to be hit hard (backward linkages). Transportation (e.g., freight, ground passenger transport, tourist buses) and services are expected to be impacted by the automobile industry's closure by forwarding linkages (e.g., passenger car rent and repair services). (Mohd Fazi, B Nik Mohamed & Bin Basri 2019.)

Plant closures since March 2020 impacted 1.1 million of the 2.6 million direct automotive manufacturing jobs in the EU. German jobs account for more than half of this amount. Ford Motor Company, General Motors, and Fiat Chrysler Automobile (FCA) have briefly closed all of their factories in the Americas, with no end date in sight (Collie, Wachtmeister, Waas, Kirn, Krebs, & Quresh 2020). The automobile industry may be affected by COVID-19 in the long run. During the coronavirus pandemic, a sustained truncation of market demand, as countries work through multiple lockdown scenarios, could cause a global downturn, contributing to a worldwide loss of consumer interest, which would have a major effect on automakers' sales and profitability (Vitale 2020).

Automakers may be compelled to redirect money to keep activities afloat, leaving R&D funds for emerging technology programs and other budgetary ventures dwindling. As production capacity is rationalized and consolidated, strategic decisions on leaving unprofitable international markets and product segments can be increased, resulting in a substantial decline in performance (Vitale 2020). Liquidity-strapped suppliers could succumb too quickly, weakening market conditions, leading to widespread instability and potentially disastrous repercussions across the automotive industry manufacturing ecosystem. Dealers' failure to adapt to the rapidly changing market conditions could result in a major consolidation in the auto retailing industry (Vitale 2020).

2.5 COVID-19 pandemic in Finland

Finland reported the first instance of Coronavirus (COVID-19) infection on the 29th of January, 2020. The COVID-19 pandemic was thought to have begun in Finland in the mid of March, shortly after the WHO declared the outbreak a pandemic. The government declared a state of emergency across the country in response to the coronavirus epidemic on March 16th, 2020, and as a result, introduced multiple physical isolating measures aimed at halting the spread and defending vulnerable groups (Tiirinki et al 2020).

Finland is now facing a second outbreak of the COVID outbreak, after the first wave in the spring of 2020. Since September 2020, the amount of new COVID-19 infections has been rising, exceeding previous records in April 2020. In terms of the number of recorded cases, Finland is less seriously impacted by COVID-19 than any of its Nordic counterparts. While Finland has still not implemented a national shutdown, other steps have been implemented to slow the virus' spreading. Currently, some regional and national regulations are in effect to prevent COVID-19 from spreading further across the world. The BioNTech–Pfizer antidote was used to begin the COVID-19 vaccination introduction in Finland on 27th December 2020. That being said, due to distribution problems and unresolved marketing permissions of the issued coronavirus (COVID-19) vaccine, the vaccination plan has been postponed, as it has been in several other countries across Europe. (Ministry of Social Affairs and Health 2021.)

2.6 Impact of COVID-19 on the Economy of Finland

Many experts believe the COVID-19 outbreak would be more politically devastating than the 2008–2009 financial crisis. The economic catastrophe of COVID-19 can be compared to the Finnish sense to the deep crisis in the early 1990s, which involved major export losses and a banking crisis (Honkapohja, Koskela, Gerlach & Reichlin 1999).

The pandemic has many impacts on a small decentralized market like Finland. It can affect economic confidence, resulting in lower demand and expenditure. Second, government controls have largely stifled certain economic policies. The third influence represents economic dynamics and is mediated by international commerce and capital markets. Furthermore, the pandemic has a significant and long-term effect on public budgets, as the government debt rises rapidly. The major consequences are reduced

economic production and, as a result, reduced tax collections and measures aimed at compensating for financial damage and stimulating economic growth back to life. (Škrinjarić, 2020.).

The country's economy was struck badly by the COVID-19 pandemic, with an expected GDP decrease of 4% in 2020 (IMF – while the state Ministry of Finance predicts the rate will be 3.3%), owing mainly to a dramatic decline in private expenditure. Nonetheless, Finland outperformed many other European nations and is forecast to resume growth at a rate of 3.6 percent in 2021 and 2% in the next year, as households expand disposable spending and businesses begin to invest again, subject to the worldwide financial rebound following the outbreak. (Statista, 2021.)

According to the IMF, the adverse economic effect of the COVID-19 outbreak will have a substantial effect on the employment rate, which is currently predicted to have risen to 8.4 percent in 2020 (from 6.8 percent a year ago) and is projected to climb to 8.6 percent in 2021. However, the rate is expected to fall from 2022 (7.7%– IMF). Finland is the EU nation most affected by an elderly society and a declining workforce, which directly affects the country's national economy. (IMF, 2021.) Other problems that the nation will face include reduced competitiveness of conventional sectors and a need to decrease high labor costs despite salaries are forecasted to increase in 2021 due to the wage bargaining agreements (Nordic Labour Journal 2020).

2.7 Finnish Automobile Market

The Finnish automobile demand has oscillated within 95.000 and 165.000 yearly revenues since the 1990s. The demand dropped from a high of over 163.000 sales in 2005 to just below 100.000 sales by 2009. Following that, the industry rose to over 135.000 sales within just two years but then dropped for the next two years. Car revenues have dropped to the level of the previous 20 years, snapping the winning streak of five years between 2014 and 2018 (Carsalesbase 2021).

The global COVID-19 pandemic struck the Finnish automobile industry in 2020, triggering major sales declines.

TABLE 1. Automobile sales in Finland Since 2007. Adapted from carsalesbase.com (2021)

Year	Passenger Cars	Light Commercial	Sales	Growth
2007	125,285	17,507	142,792	-11.94
2008	139,611	16,395	156,006	9.25
2009	88,344	8,693	97,037	-37.80
2010	107,346	10,821	118,167	21.78
2011	121,171	14,346	135,517	14.68
2012	111,147	11,609	122,756	-9.42
2013	103,314	10,621	113,935	-7.19
2014	106,259	10,750	117,009	2.70
2015	108,844	11,522	120,366	2.87
2016	118,986	13,519	132,505	10.09
2017	118,581	15,524	134,105	1.21
2018	120,499	15,515	136,014	1.42
2019	114,199	14,702	128,901	-5.23
2020	96,415	12,842	109,257	-15.24

Table 1 summarizes year wise car sales in Finland since 2007. In 2019, demand fell around 114,199 units (-4.9 percent). Since beginning the year on a somewhat negative note (-8%), the industry ended the year with only one positive month (+2.3%), February. In April, the industry plummeted when the pandemic hit; in particular, may saw the sharpest drop in sales this year, with sales dropping by 53.1 percent. The sector stabilized in the months that followed, hitting -1.2 percent in July, but stayed downward for the rest of the year, dipping into double digits in August (15.1 percent), October (19.9 percent), and November (-15 percent). (Focus2Move 2021.)

2.8 The theoretical model for measuring purchase intention

Purchase goal refers to a customer's desire to purchase products or services. A purchase plan is the deliberate intention to purchase products or services in the future depending on one's willingness to accept (Warshaw & Davis 1985). The probability of consumers purchasing a product or service can be estimated by evaluating the strength of their purchasing intention; the greater the purchase intention, the better the odds of purchasing the item (Schiffman & Wisenblit 2019). Many factors influence the intention of the consumers when choosing a product, and also, the final decision is based mostly on the intention of consumers in combination with broad external factors (Kotler, Keller, Dubois & Manceau 2009). Customers' purchasing intention is measured using a variety of scientific models, the most common of which are Theory of Reasoned Action (TRA) and Rational Choice Theory (RCT) (Pi Nga, Khoi & Thu 2019).

2.8.1 Rational Choice Theory (RCT)

A personal decision is the basis of virtually all microeconomic research (Levin and Milgrom 2004); but, with so many accessible and good choices, it is hard for some people to make a buying decision. RCT was investigated by early neoclassical economic gurus such as William Stanley Jevons (1832-1885), who proposed that agents made buying choices to increase utility. In a nutshell, the RCT attempts to justify social trends by assuming fair customer preference (Hechter and Kanazawa,1997). The central principle of the Rational Choice Theory is deciding which alternatives are preferable and then selecting the desired one based on a clear outcome (Levin and Milgrom 2004). Rational choice theory (RCT) typically starts with looking at the decision-making activity of one or more human decision-making groups. According to Anable, Skippon, Schuitema, & Kinnear (2011), RCT is indeed the key analytical model used to explain human actions in economics. An agent systematically considers the characteristics of vehicles and performs a rational cost-benefit analysis wherein the result is improved by optimizing personal benefit. To obtain the greatest value, buyers consider and rationally evaluate car brands, their models, and other attributes. (Dagsvik, Wennemo, Wetterwald, & Aaberge 2002.)

2.8.2 Theory of Reasoned Action-TRA

Fishbein and Ajzen formulated the TRA hypothesis in 1975. This theory assumes that individuals make choices based on their intentions. The human motives are affected by two variables: attitude of that

action (for example, if a person is uncertain about an item, their attitude of liking or disliking that item will contribute to action), and different viewing angles related to that conduct (buyers are almost always impacted by outside effects, such as friends, individuals who had experience, family or other close relatives). According to the logical action principle, each different commodity or brand affects the desire to conduct rather than the real purchasing actions. (Pi Nga et al 2019.) In conclusion, the principle of rational conduct TRA is a statistical method of behavioral intention that is based on a person's attitude toward actions and the environment (see figure 2). The paradigm is predicated on the assertion that humans make reasonable decisions to commit or not commit an act based on sufficient facts (Thi Ngoc, D.D. 2012).

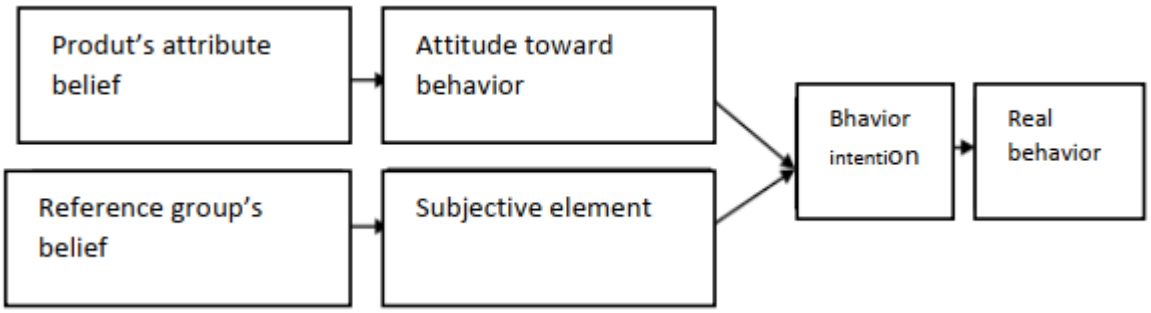


FIGURE 2. Theory of Real Action (adapted from Pi Nga et al 2019).

2.9 Factors Affecting Customer Intention for Automobile Purchase

Prior researchers have suggested interpersonal influence, features, aesthetics, and pricing as the key factors shaping automobile buying intention (Fung, Jung, Ying, & Wai 2012; Leow & Husin 2015, Shaharudin, Mansor, Hassan, Omar & Harun 2011; Lee & Govindan, 2014; Belgiawan, Schm€ocker, Abou-Zeid, Walker & Lee 2014). The influencing factors found by different researchers are summarized in table 2.

TABLE 2. Factors affecting customer purchase intention suggested by different authors.

	Price	Aesthetic	Features	Interpersonal Influence	Brand	Reliability
Fung et. al. (2012)	√	√	√	√		
Shaharudin et al. (2011)		√	√			
Belgiawan et al. (2014)			√	√		
Lee and Govindan (2014)	√		√			√
Leow, C. S., & Husin, Z. (2015)	√	√	√	√	√	
TOTAL	**3**	**3**	**5**	**3**	**1**	**1**

Adapted from: Kowang, Samsudin, Yew, Hee, Fei, & Long 2018

2.9.1 Pricing

Price is an indicator to stimulate user preferences subsequent to purchasing such products; thus, pricing could influence consumers' emotional responses toward the purchasing decision (Fung et al. 2012). Furthermore, Wendy & Fader (2009) showed that the degree of relationship between price and purchasing intention is dependent on the customer's evaluation of the commodity. The research of Lee and Govindan 2014 and Fung et al. 2012) appeared to support and proposed that price plays an important role in car buying intention.

2.9.2 Artistic Design

According to David & Glore (2010) aesthetics refers to how a person uses their five sensory inputs to perceive or consider a product. The beauty of a new product is determined by the physical appearance arrangement and the external feature itself, i.e., the product's aesthetics (Bunnak 2009). Bunnak (2009) also argued that under the background of a vehicle's artistic, the aesthetic elements should have a meaning that will increase the relevancy of usage engagement. It is made up of aesthetic as well as abstract valuing for users to determine technical qualities, usefulness, and usability (Leow & Husin 2015).

2.9.3 Features

Belgiawan et al., 2014 argued that the versatility of an item relates to its ability to act in accordance with the consumer's wishes and expectations, thus adding to the customer's decision to buy. Prior research

indicated that one of the most significant car features buyers expect is made up of three dimensions, visibility, adjustability, and functionality of the product designed (Zhan & Vrkljan, 2010). As a result, automotive manufacturers that are capable of developing and providing such technologies will be likely to obtain and retain a strategic edge in the auto industry segment.

2.9.4 Interpersonal Influence

The word "interpersonal influence" translates to the beneficial effect on purchasing intention that is affected by personal experience (Fung et al. 2012). Previous research of Zhan & Vrkljan (2010) has discussed three major types of interpersonal influence on purchasing intention: influence from the car's innovator, influence from the business maven, and influence from the product pioneer.

2.9.5 Brand

The brand is thought to be the individuality of the commodity, which brings meaning to the minds of consumers (Kotler et al 2009). As opposed to rivals and potential entrants, market awareness lets the manufacturer increase its operational efficiency. Once there is recognition of the brand, users will be capable of participating in advertising events via word of mouth. Individuals choose a product or service due to brand recognition, whereas there are numerous other firms that also sell comparable goods (Jing, Huang, Ran, Zhan & Shi 2019.)

2.9.6 Economic Factors

Customers' buying and consumption choices are often influenced by economic considerations. The pricing strategy, in particular, is critical to consumers' interest in paying for products. In relation to price considerations, consumers' income capacity determines their purchase intentions and choices. According to Thi Ngoc (2012), in the case of products such as automobile, income considerations may influence the prices that must be charged after buying the goods and also the cost of running the vehicle on a day-to-day basis.

The professional status and earning capacity impose difficulties when selecting car types. It is also very popular that the greater an individual's affordability, the higher the standard of vehicles that can be

purchased. It will assist people in making better decisions. Individuals' lifestyles also play a role in making the best choice when it comes to automotive purchases (Moons & De Pelsmacker 2012). In the case of the buyer's trendy lifestyle, its color, individuality, and specification that extends meaning in the minds of the public are his or her main preferences (Kowang et al 2018).

2.10 Impact of COVID-19 on Automobile Buying Intention

Market behavior changes caused by coronavirus are having and, therefore, will continue to have an effect on the automobile industry. For instance, the increase of work-from-home options has lowered the need for both business and personal cars. How many businesses continue to promote home-working until things have gone back to normal will determine whether this remains to be the situation. People who no longer need to drive to their jobs, on the other hand, are even less likely to purchase new cars in the future; however, we might see a spike in consumers who formerly focused on public transportation now planning to purchase in a car due to safety issues. (MRLCG 2020.)

According to Capgemini Worldwide (2020), COVID-19 already caused more than half of the participants to cancel their decision to buy a vehicle. In fact, this is not a positive indicator for the quick revival of the German automotive industry in the near future. The most common explanation is, of course, economic hardship in the coming days, as 40 percent of respondents cited it as the primary reason behind their decision. Another explanation why so many participants are delaying their purchase is a constraint on freedom of movement and mobility.

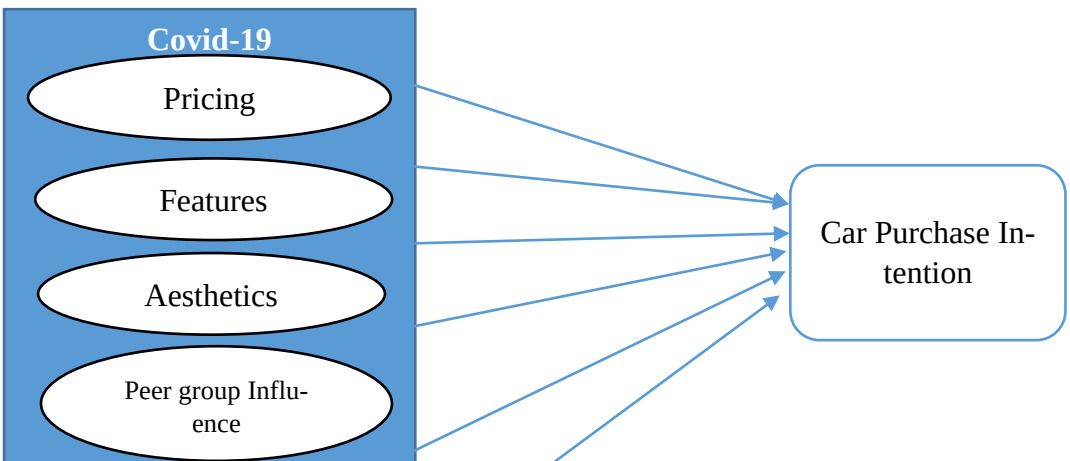
It will never be business as normal when economies rebound economically and socially from COVID-19. According to Coibion, Gorodnichenko & Weber (2020), consumer trust would be seriously affected as a result of impending work reductions and wage cuts, causing millions to delay discretionary transactions such as purchasing a car. Consumer trust is shaken worldwide – few people will even contemplate purchasing a car after the worldwide pandemic has ended.

Though significant financial incentives from all main players through the automotive industry (straight from the government, OEMs, dealers, and financiers) seem to work in China, it seems that most of them are for lease substitutes, purchasing inexpensive versions of expensive versions, or purchasing vehicles to escape mass transit (Gupta, Abdelmaksoud, Jafferany, Lotti, Sadoughifar, & Goldust 2020).

The COVID-19 outbreak would undoubtedly have an effect on consumers, but the scale of it will be apparent only after the crisis has stabilized (Ludvigson, Ma & Ng 2020). The only assurance in the coming days is that production will not linger in a recession in the long run. When it does continue to revive, customers and their decisions will have a greater influence on goods and services than ever before. Automobiles manufacturers must then be armed with timely lobbying, hyper-personalized product variations, and excellent omnichannel customer offerings to transform the improving market environment into higher sales and margins (Seetharaman, 2020).

2.11 Theoretical Framework & Hypotheses

Based on the above literature review and theoretical analysis, a theoretical framework and some hypotheses have been developed below. It is assumed that total seven factors influence car purchase intention including COVID 19. It is assumed that pricing of products, car features, aesthetics, peer group influence, branding and economic factors influence car purchase intention. Besides these six factors COVID 19 is assumed to have significant impact on car purchase intention. Figure 3 demonstrates the theoretical framework.



Based on the theoretical framework and literature review following hypotheses can be developed.

Hypothesis 1: Pricing has a significant positive impact on purchase intention.

Hypothesis 2: Features have a significant positive impact on purchase intention.

Hypothesis 3: Aesthetics has a significant positive impact on purchase intention.

Hypothesis 4: Peer group influence has a significant positive impact on purchase intention.

Hypothesis 5: Brand has a significant positive impact on purchase intention.

Hypothesis 6: Economic factors have a significant positive impact on purchase intention.

Hypothesis 7: COVID-19 has a significant negative impact on purchase intention.

3 RESEARCH METHODOLOGY

Research methodology refers to the way of designing research. It explains the kind of data to be collected, the way and strategy of collecting data, and the way of analyzing data (Saunders, Lewis & Thornhill 2012). In this chapter, research approach, research method, data collection method, and data analysis method have been discussed in detail. Moreover, ethical issues and limitations of the research have been discussed below.

3.1 Research Approach

The research approach is more about the use of hypotheses in the research. The choice of research approach depends on whether the researcher is using existing theories for developing research hypotheses and using data for proving the hypotheses. This approach of using existing theories is called the deductive approach (Saunders, Lewis & Thornhill 2012). On the other hand, the researcher may also develop new theories from the analysis and findings of the research. This approach is called the inductive approach (Bryman & Bell 2015). The inductive approach uses a smaller sample size than the deductive approach (Lichtman 2013). Collected data are analyzed for finding different themes and patterns for building theories. This approach can be used in cases where existing theories are not available or relevant.

For this research, a deductive approach has been chosen. There are some theories regarding factors affecting customers' buying intention. A theoretical framework has been developed by the researcher for exploring the impact of COVID-19 on car purchase intention in Finland. A hypothesis was built assuming that COVID-19 has a significant impact on the car purchase intention of customers in Finland. This research will test the hypotheses based on existing theories. Therefore, deducting approach is more suitable for this research.

3.2 Research Method

Research methods are techniques used for data collection for research. There are different types of research methods which can be grouped into three classes including- Qualitative Method, Quantitative Method, and Mixed method (Mukherjee, 2019).

According to Saunders et al (2012), the qualitative method deals with data about behaviors, emotions and other qualitative aspects. In this method, data are collected through interviews, focus group discussions, observations, analysis of documents, reports, life stories, etc. Non-numerical data are used in this research method. This method is more relevant to the inductive research approach. In this method data analyzes are done theoretically by doing analysis of characteristics, market prospects, etc. In the situations where data cannot be collected quantitatively or where suitable theoretical models are not available, this method is useful in those cases.

The quantitative method deals with numerical data which can be used for different statistical analyzes (Saunders et al 2012). In this method data are collected through surveys, observations, screening of secondary data repositories, experiments, etc. Data are analyzed using different statistical models including regression, mean, median, frequency distribution, and other statistical tools. This method is more relevant to the deductive research approach. This method is widely used in cases where there are available theoretical models and hypotheses can be developed and tested (Kothari, 2014).

The mixed method is another research method that uses both qualitative and quantitative methods. The mixed method creates the opportunity for analyzing critical research situations by conducting objective analysis as well as subjective analysis and providing insight of the researcher on a particular issue (Kothari, 2014).

This research has used the quantitative method. The data on the impact of COVID-19 on automobile industry in Finland have been collected through a survey. These data have been analyzed using statistical tools. For analysis of impact, the quantitative method works well. Therefore, this method is suitable for this research.

3.3 Data Collection Method

In research generally, data are collected from primary and secondary sources. Primary data are collected directly from original sources. These sources are involved in the field in the real world. On the other hand, secondary data are collected from different published sources like journals, government reports and data repositories. (Saunders et al 2012.)

For this research, primary data have been collected from Finnish citizens. A survey method has been employed to collect data. A closed-ended questionnaire has been used which contained different questions related to the demographic characteristics of participants. The questionnaire has also contained different questions related to the car purchase intention of customers. The questionnaire also has questions related to seven dimensions that affect the purchase intention of customers. The opinion of respondents regarding different dimensions of purchase intention has been measured using a 5-point Likert scale. The researcher used both Google Form and manual email for sending survey questionnaires to prospective respondents. From the survey effort, only 36 respondents filled up the questionnaire properly. The analysis has been done based on the responses of these 36 participants.

Some secondary data have also been used in this research. Secondary data have been collected for literature review and the formation of research hypotheses. Secondary data have been collected from different journals, websites, and data repositories like Statista.

3.4 Sampling Method

All adults of Finland having a driving license are the population of this research. But it is impracticable to collect data from the whole population. As a result, the researcher needed to collect data from a sample of respondents. At first, the researcher contacted different car dealerships in Finland for collecting the contact emails of their customers for conducting the survey. But due to COVID-19, car dealerships did not allow the researcher to contact their customers and refused to provide contact details. Later, as alternative, the researcher sent the questionnaire to different persons within the personal circle. Moreover, the researcher conducted a survey on Bachelor students of Centria University of Applied Sciences. From the survey, the researcher found only 36 complete questionnaires. Based on these responses the study was completed. Although a sample of 36 is quite small, the researcher did not have any other options rather than continue the research with this sample due to the impact of the pandemic.

3.5 Data presentation and Analytical model

Different statistical tools have been used for the analysis and presentation of data. The researcher used frequency analysis for analyzing the significance of different factors. The results of frequency analysis have been presented using different charts. For testing the hypotheses developed in the literature review part, a multiple regression model has been developed. The model is presented below.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \epsilon$$

Here Y= Purchase intention

X_1= Price, X_2 =Features, X_3=Aesthetics, X_4=Peer Group Influence, X_5=Brand, X_6=Economic Factors, X_7=Effect of COVID19,

$\epsilon = Error\ Terms$

β=Coefficients

Here, Y is the dependent variable and X_1 to X_7 are independent variables. B_0 is the constant item of the equation. This multiple regression equation has been used for measuring the impact of seven independent variables on the purchase intention of automobile buyers.

For analysis of data MS Excel and SPSS software have been used.

3.6 Ethical Issues

According to Bryman and Bell (2011), researchers should consider ethical issues e.g. taking informed consent, maintaining data privacy, not harming the respondents physically, using no inducement or bribe for participation in the research, etc. There are some ethical issues involved in this research. Firstly, there is an issue of taking informed consent. Before conducting the survey, the researcher has informed the respondents about the purpose of the research. After their consent to participate in the survey, the questionnaire was sent to them. Moreover, the researcher has not used any name and address of the survey participants. Therefore, the participants will not be harmed due to the publication of the research results. No inducements have been used for collecting data.

3.7 Limitations

No research is above limitations. There are some limitations of this research. The biggest limitation of this research is the sample size. The researcher tried to collect data from a wider group of respondents. The researcher contacted car dealerships initially for taking the contact details and information of their customers. But due to the pandemic, the researcher is not allowed to communicate with their customers. As a result, the researcher conducted the survey among graduate students and within the personal circle.

At last, the sample size becomes 36 which is relatively low for making any strong conclusion. Moreover, there is a lack of diversification in the sample. Most of the respondents are university bachelor students. If data could be collected from wider classes of people, the research could be more generalized.

4 ANALYSIS & DISCUSSION

In this chapter, the findings of the research have been discussed. Collected data have been codified and given input to SPSS. Analysis has been done using SPSS software. Results from Google Form have also been used in this chapter.

This section contains the analysis of results derived from the collected data. After collecting and refining the survey data, analysis has been done. The results of the statistical analysis are presented below. At first, reliability test has been to discuss the internal consistency of the questionnaire. Secondly, demographic analysis has been presented briefly. Thirdly, the impact of different factors of purchase intention has been discussed to fulfill research objectives.

4.1 Reliability Test

This research used a survey method for data collection using a set of questionnaires using the 5-Point Likert Scale for the measurement of responses. For assessment of internal consistency of the questionnaire itself, a reliability test has been conducted using Cronbach's Alpha. Lee Cronbach developed this statistical tool in 1951 for the measurement of reliability of the surveys which use the Likert Scale (Lavrakas 2008). According to this scale Alpha greater than 0.7 is ranked as acceptable. This means the dimension having an Alpha value greater than 0.7 can be accepted as the measurement of one variable. Alpha has been measured for seven dimensions of the questionnaire which affect purchase intentions of car buyers. At first, Alphas were calculated using all questions in every dimension. Among them, all dimensions except Economic Factors had a value greater than 0.7 whereas "Economic Factors" had an Alpha value of 0.008. As a result, answers to one question have been left and the revised Alpha value is found 0.728 which is acceptable for this research. The reliability test has shown that the questionnaire used in this research is acceptable in terms of reliability.

TABLE 3. Cronbach's Alpha

Dimensions	**Alpha without Data Filtering**	**Alpha after Data Filtering**
A. Pricing	0.778	0.778

B. Features	0.783	0.783
C. Aesthetics	0.86	0.86
D. Peer Group Influence	0.764	0.764
E. Brand	0.877	0.877
F. Economic factors	0.008	0.728
G. Impact of COVID-19	0.809	0.809

4.2 Demographic Data

In this part, the demographic characteristics of survey participants have been discussed to understand the target population. At first, gender of participants has been analyzed. From the analysis, it is found that about 53% of participants are male and 47% of participants are female which makes the research more relevant to the real world.

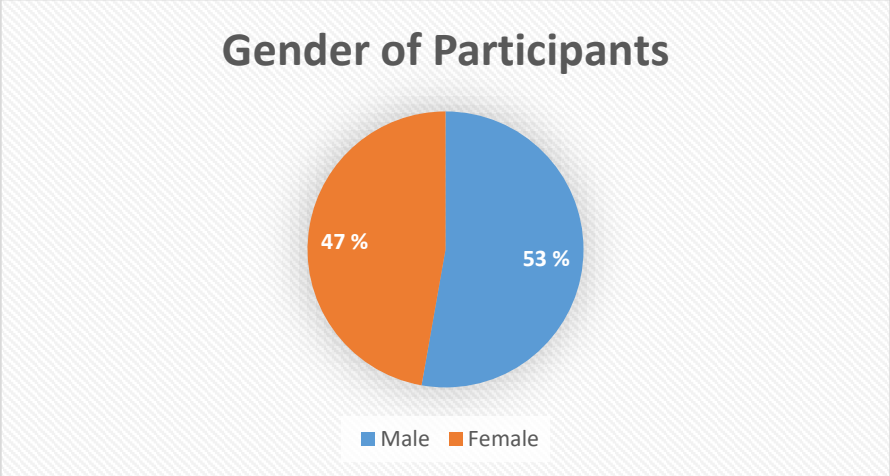


FIGURE 4. Gender of Participants

The ages of participants have also been analyzed. From the analysis of the age of participants, it is found that about 47% of participants are aged between 18-24 years, about 42% are within 25-34 years about 8% are within 35-44 years and only 3% are aged above 45 years (figure 5). It is noticeable that the participants are at a younger age because the researcher conducted a survey mostly on university students and within the personal circle. Although this is a limitation of the research, it will help the researcher understand the buying intention of younger customers.

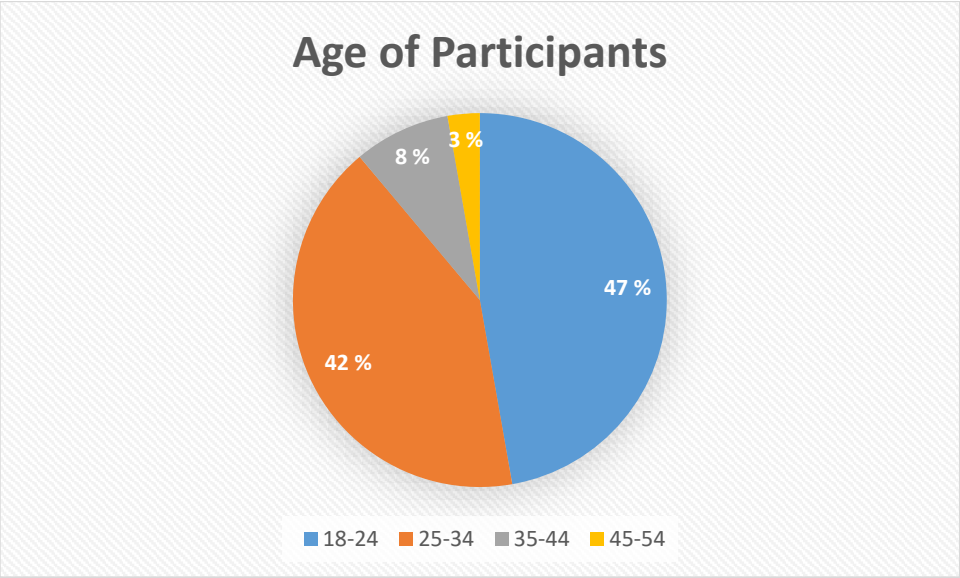


FIGURE 5. Age of Participants

Thirdly, the education of participants has been analyzed. From the analysis it is found that about 61% of the participants have/studying bachelor degree, about 31% have a high school or equivalent education and about 8% have a Master's degree and above. Although most of the survey participants were Bachelor students, some current students may mark their education level as High School or Equivalent since they have not completed a Bachelor degree yet (Figure 6).

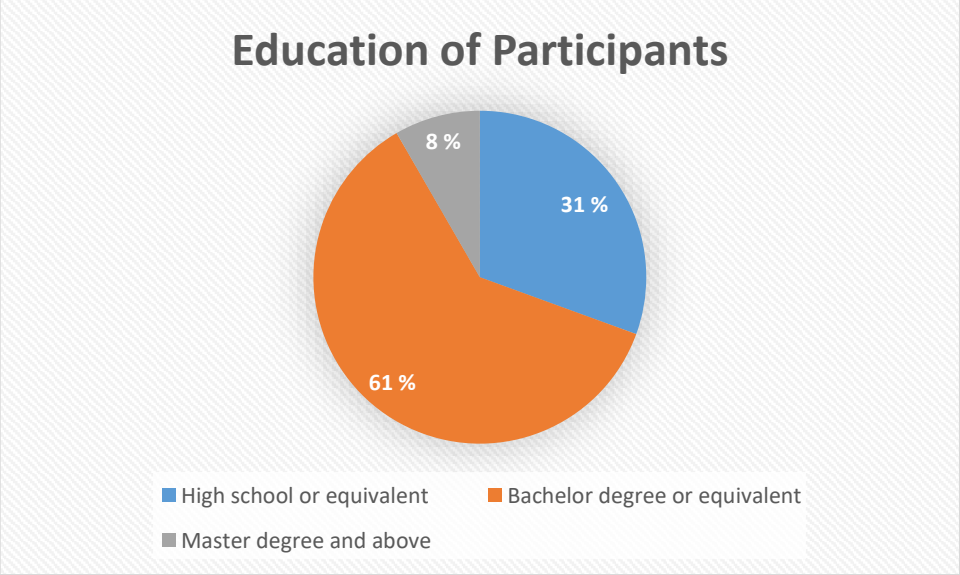


FIGURE 6. Education of Participants

Fourthly, participants were asked about their car ownership. Participants were asked about the number of cars owned by themselves or their families at this moment. Almost all except 2 participants are currently own at least a car. Two participants own 3 cars, 16 participants own two cars and 16 participants own one car (figure 7).

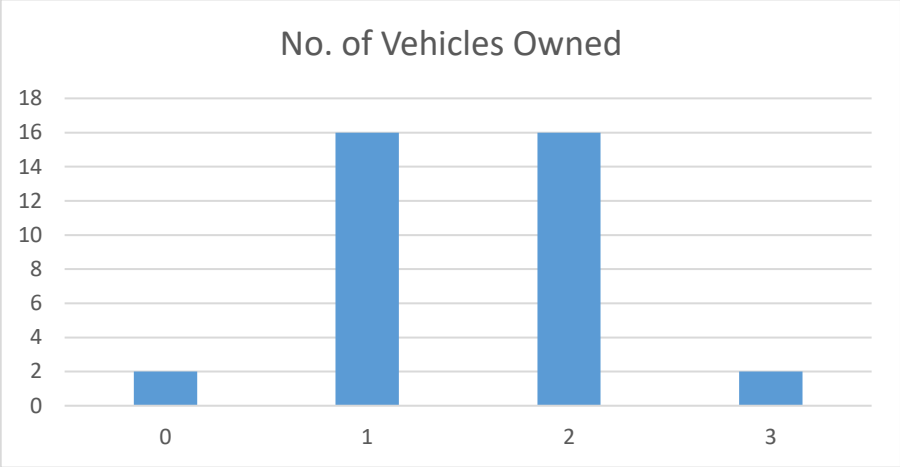


FIGURE 7. Number of vehicles owned by participants

The participants were asked about their income level. It is found that the majority of the participants have an income level below €30,000 per year. About 28% of participants have income between €30,000 to €59,999 And about 19% of participants have income of about €60,000. Since most of the participants are students, it is natural that their income level will be lower (figure 8).

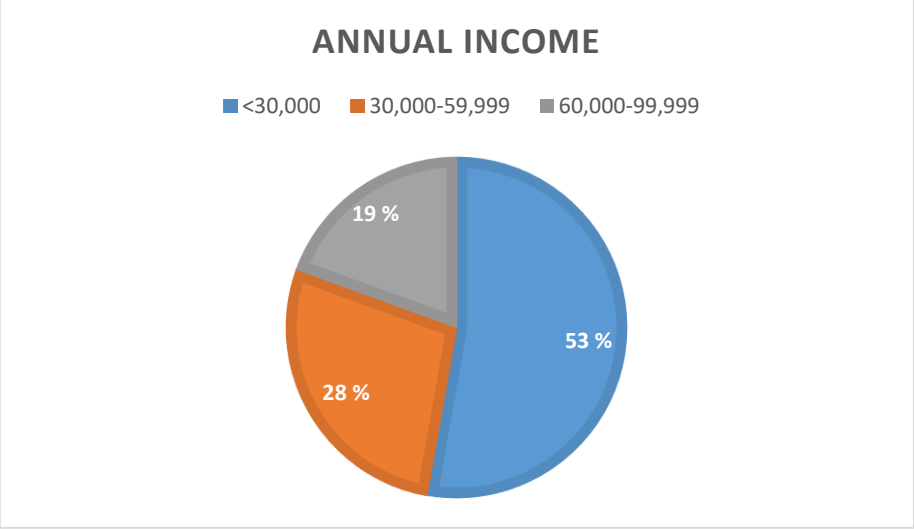


FIGURE 8. Annual income of respondents

Participants were asked about their driving experience. About 28% of participants have driving experience of fewer than 3 years. Half of the participants have driving experience between 3 to 5 years. About 16% of participants have driving experience between 6 to 8 years and about 6% have driving experience above 12 years (figure 9).

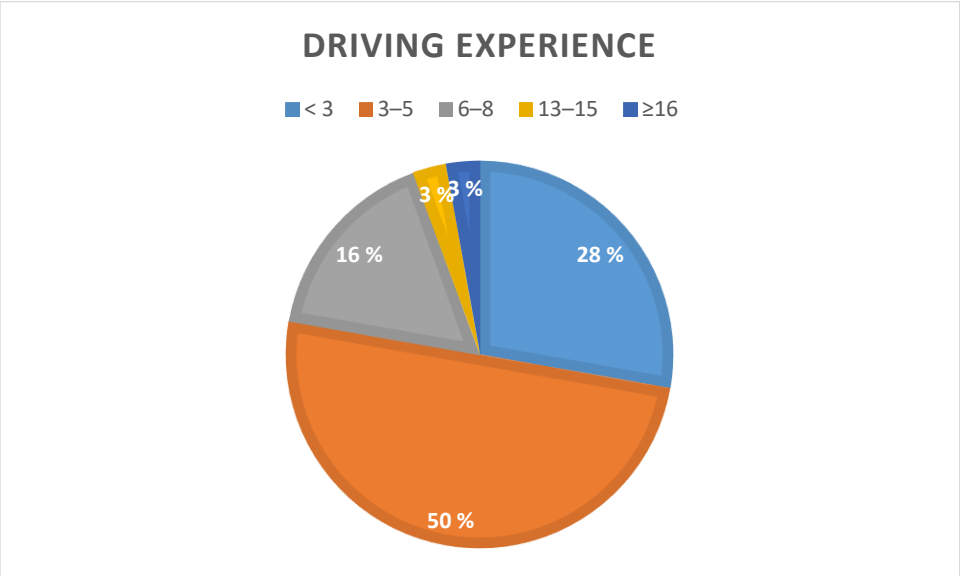


FIGURE 9. Driving Experience of Respondents

4.3 Factors Affecting Purchase Intention

This part analyzes the factors affecting the car purchase intention of customers. Participants were asked different questions on seven dimensions which were developed in the literature review. The responses of participants were measured using a 5-point Likert Scale.

4.3.1 Customer's Intention for Car Purchase

For measurement of the impact of COVID-19 and other factors on car purchase intention at first car purchase intentions of participants have been measured. Two questions were asked to participants. Firstly, participants were asked whether they need a car. About 14% strongly agreed and 50% agreed that they need a car. About 25% remained neutral and only 11% didn't agree that they need a car at this moment (figure 10).

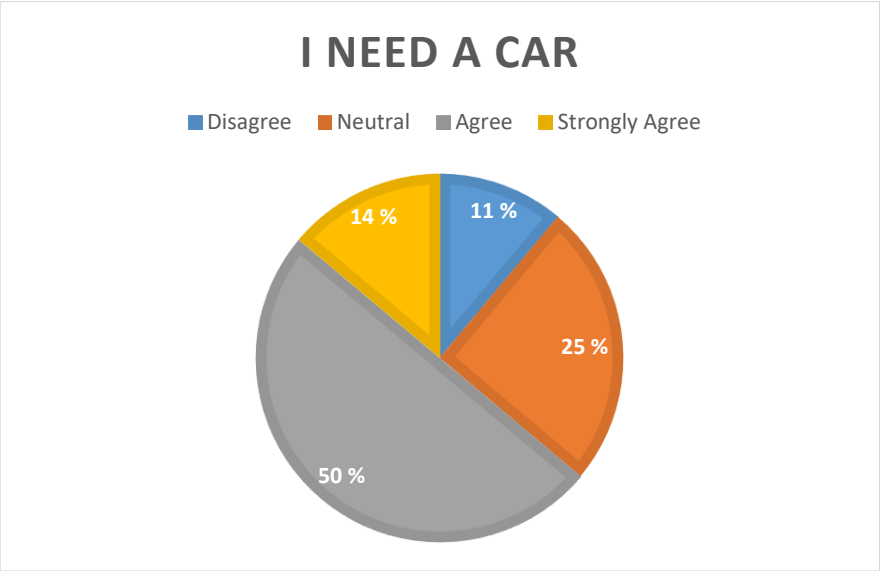


FIGURE 10. Results on whether participants need a car.

Secondly, respondents were asked whether they are planning to buy a car. About 11% of respondents strongly agreed and about 53% agreed to the statement. About 33% remained neutral and 3% disagreed that they are planning to buy a car (figure 11).

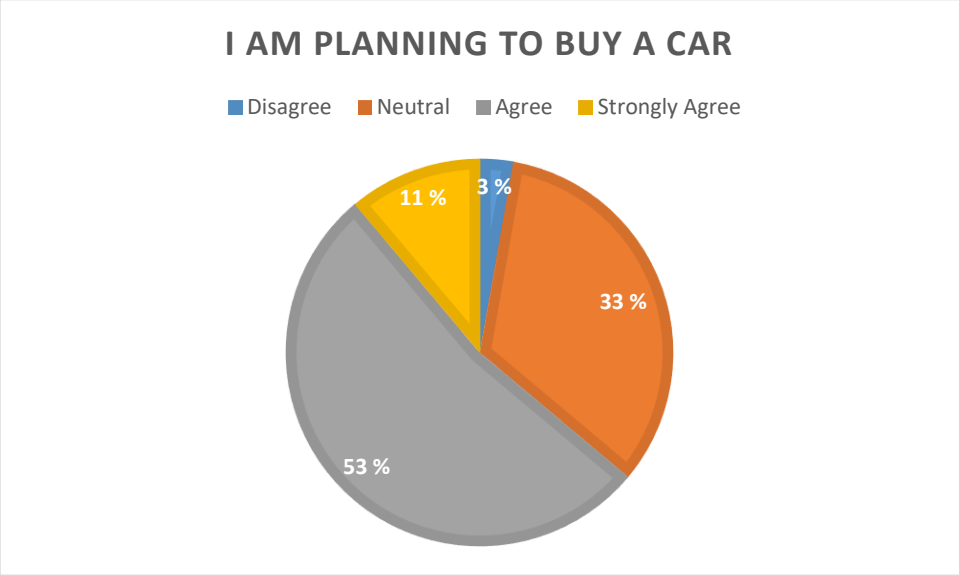


FIGURE 11. Responses regarding the plan of customers to buy a car

Thirdly, participants were asked whether they will buy a car in near future. About 11% of participants strongly agreed and about 42% agreed that they will buy a car in near future. About 39% remained neutral and about 8% disagreed i.e. they will not buy a car in near future. It is noticeable that although

64% of participants agreed that they need a car only 53% agreed that they will buy their needed car in near future. Rest 8% will not buy their car in near future (figure 12).

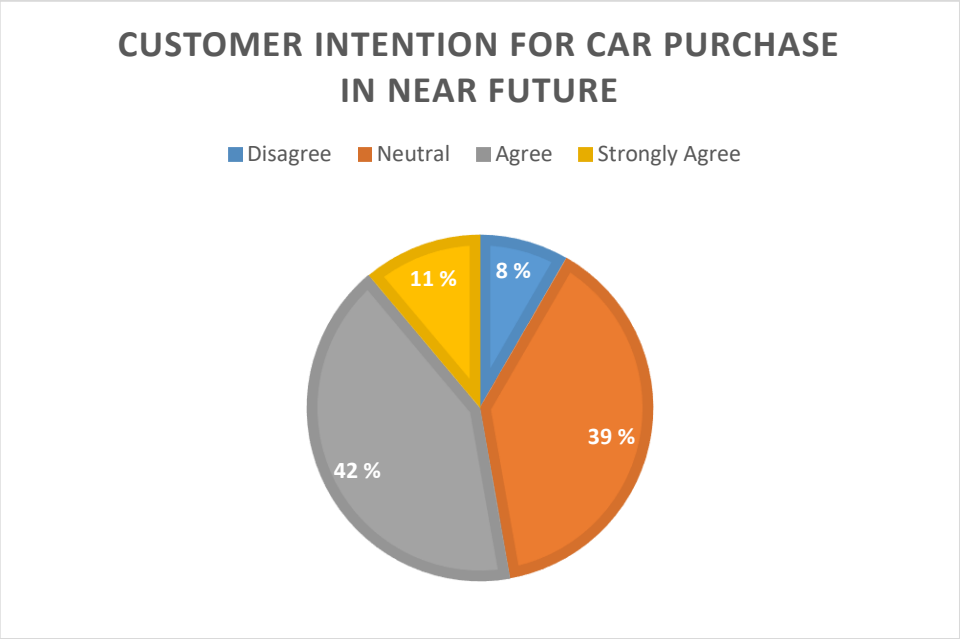


FIGURE 12. Results on whether participants buy a car in near future

4.3.2 Pricing

Pricing is traditionally a significant influencing factor for any kind of product purchase. Since a car is a high-value product, pricing has become more important for measuring the purchase intention of customers. For measuring the impact of car price on purchase intention three questions were asked.

Customers were asked whether the price of a car affects their purchase intention. The results in the following figure show about 19% of respondents strongly agreed and about 67% of respondents agreed. Only 14% of respondents remained neutral. This implies that the price of cars affects the purchase intention of almost all customers (figure 13).

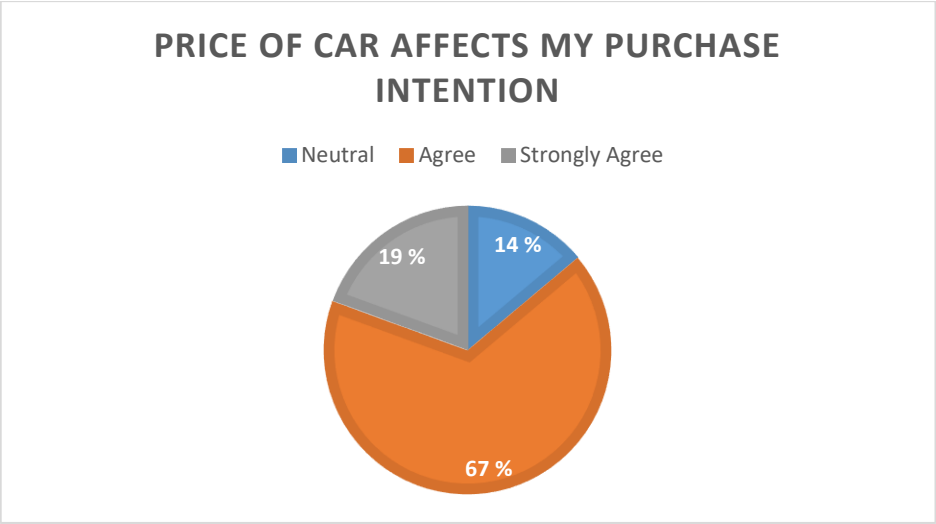


FIGURE 13. Results on the effect of price on car purchase intention of participants.

Participants were also asked whether they think the higher the price the better the quality. The aim of this question was to explore whether customers value high price cars as better ones. Majority (47%) of the customers disagreed with the statement. About 36% of respondents remained neutral and 11% agreed that the higher the price the better the quality (figure 14).

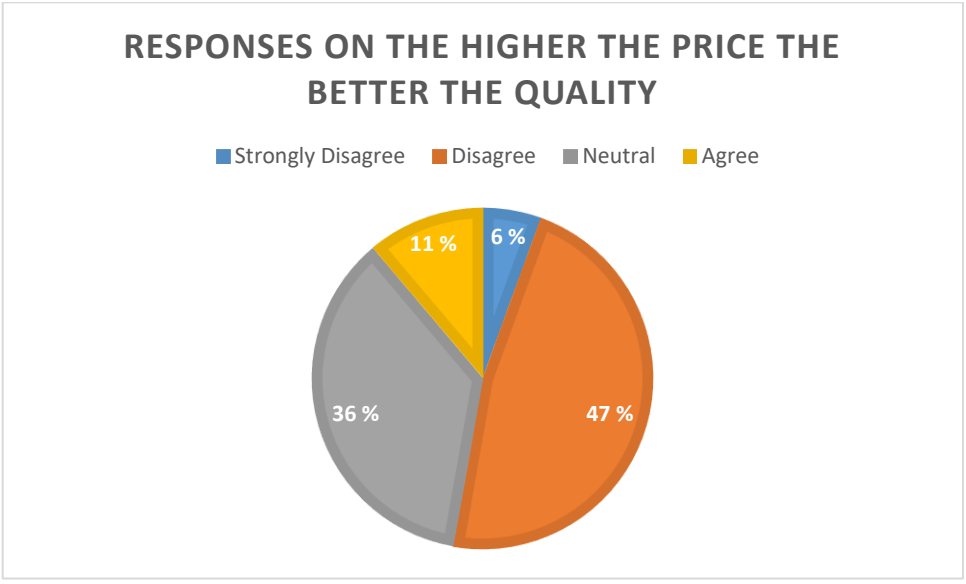


FIGURE 14. Responses on whether participants think the higher the price the better the quality.

Participants were also asked whether they emphasize on price and budget while choosing a car. About 50% of the participants agreed and 22% strongly agreed that they emphasize on price and budget while purchasing a car (figure 15).

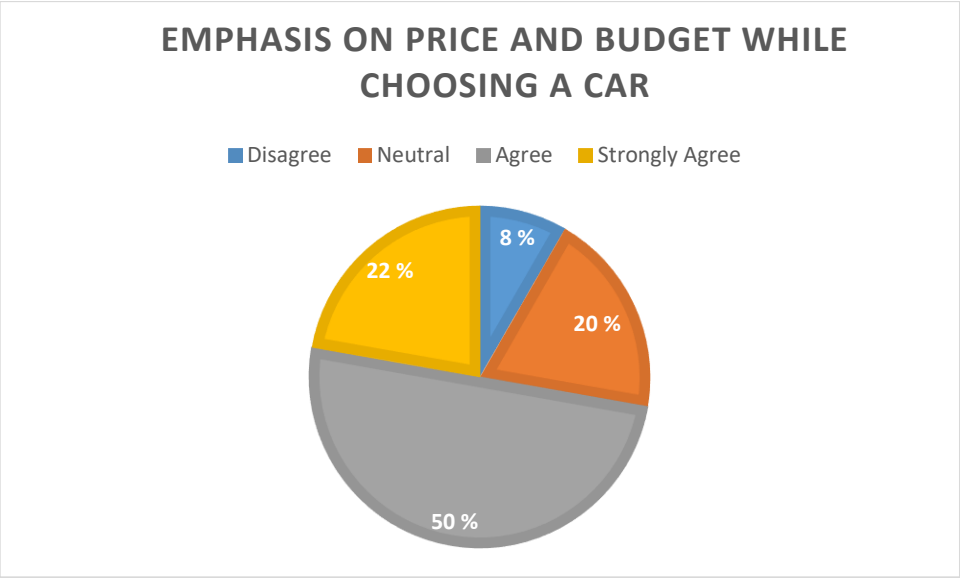


FIGURE 15. Responses of customers regarding emphasis on price and budget while choosing a car.

4.3.3 Features

Features of products is considered as a determining factor for purchase intention for technology-based products. Since a vehicle is a technology-based product features can be a significant influencing factor for purchase intention. For exploring the impact of features on customers' purchase intention, participants were asked whether they prefer the latest features in their cars. About 56% agreed and 14% strongly agreed that they prefer the latest features in their cars. About 25% remained neutral in this case and 5% disagreed (figure 16).

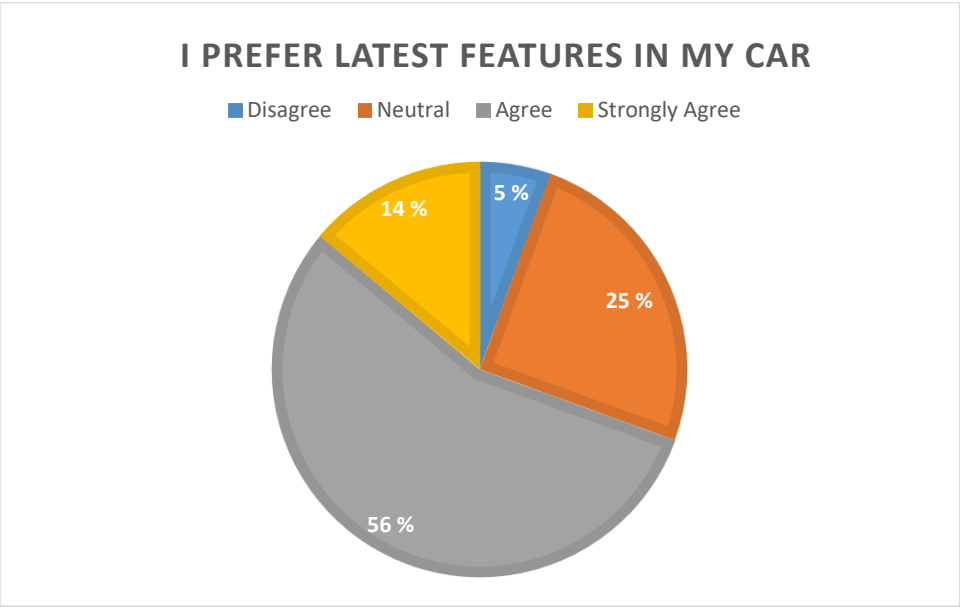


FIGURE 16. Participants' responses regarding the latest features in the car.

Participants were also asked whether they prefer fuel-saving and computer technology in their cars. About 58% of the respondents were agreed and 14% strongly agreed that they want fuel economy and the latest computer technology in their cars. About 22% remained neutral and 6% disagreed with the statement (figure 17).

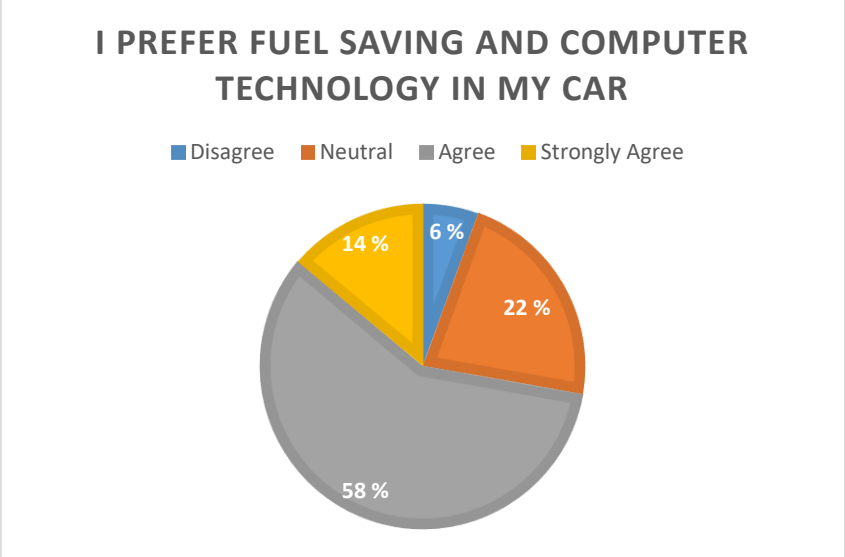


FIGURE 17. Participants' responses regarding fuel-saving and computer technology in the car

The respondents were also asked whether they emphasize most on the features of a car over other dimensions while choosing a car. About 72% agreed and 8% strongly agreed with the statement. About 14% remained neutral which implies they consider other factors along with features while choosing a car. Only 6% disagreed with the statement (figure 18).

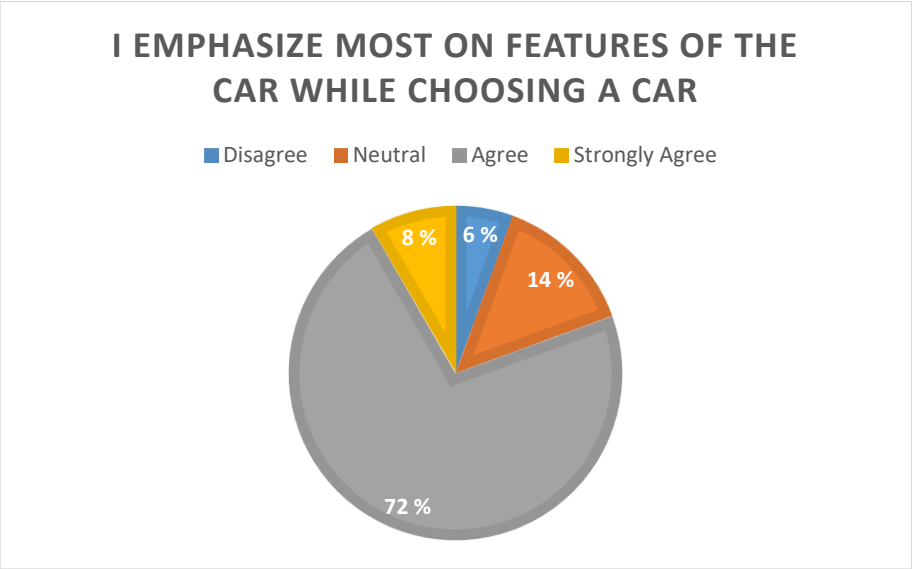


FIGURE 18. Participants' responses regarding emphasis on features of the car

4.3.4 Aesthetics

Vehicles have been upgraded from mere transport to a good for showing choice. A variety of models are available in the market which differs in design and looks from each other. In the theoretical framework, it is assumed that aesthetics has an impact on the car purchase decision of customers. For assessing the impact of aesthetics participants were asked whether they like cars having good design and looking. The results are presented in the following figure (figure 19). It is found that about 44% agreed and 28% strongly agreed with the statement. About 28% remained neutral. This implies that majority of the customers like cars with good design and look.

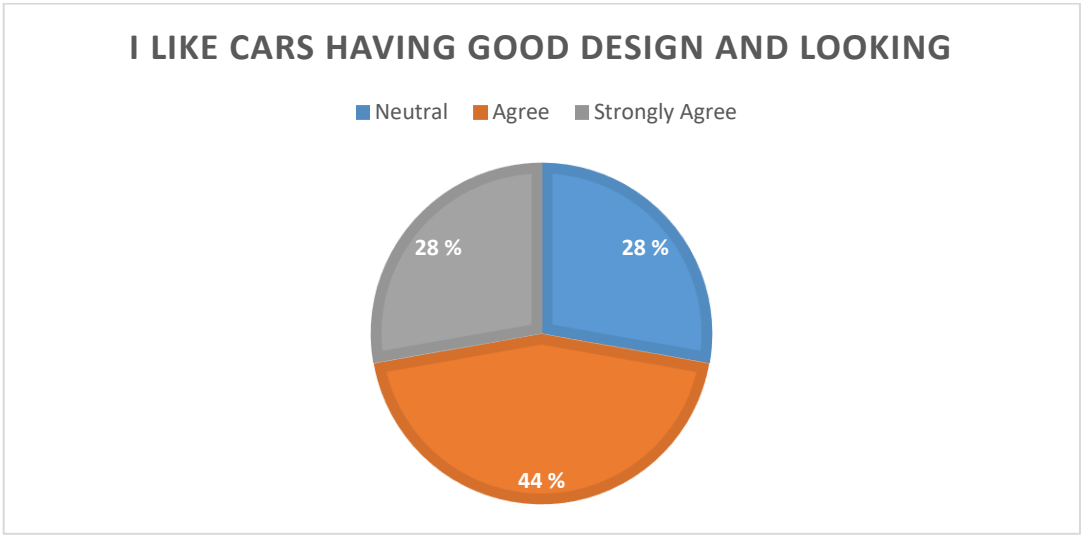


FIGURE 19. Participants' responses regarding their liking of cars having good design and look.

Participants were also asked whether the look and feel of cars affect their purchase intention. About 11% of participants strongly agreed and 61% agreed with the statement and 28% remained neutral (figure 20).

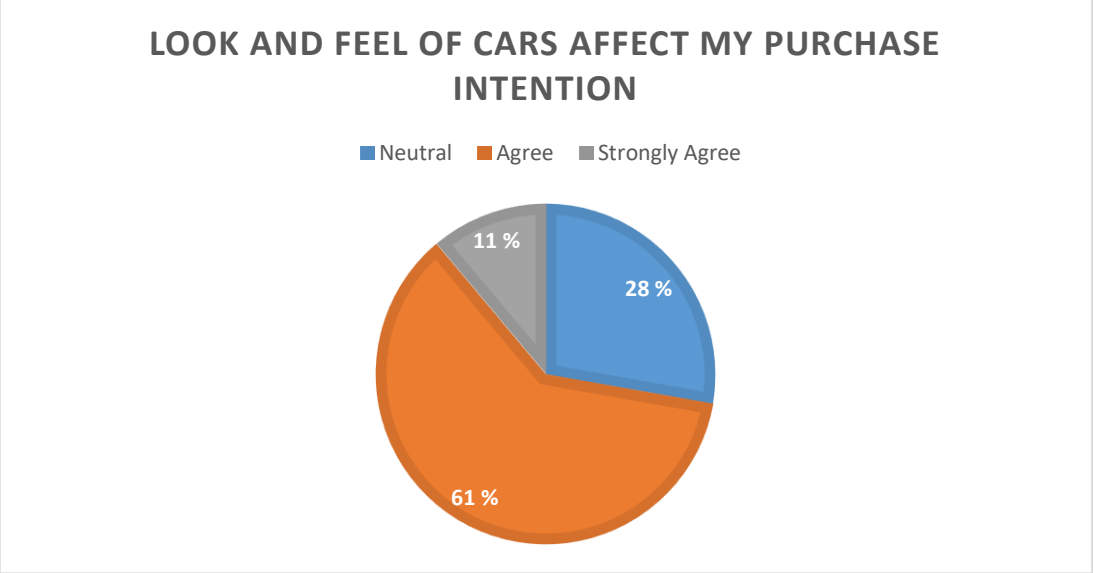


Figure 20. Participants' responses about the impact of the look and feel on their purchase intention.

4.3.5 Peer Group Influence

Marketing researchers have been considering "peer group influence" as a significant influencing factor that affect the purchase intention of customers. For analyzing the effect of peer group influence respondents was asked several questions. First of all, they were asked whether they take advice from friends and family before choosing a car. It is usual that before buying a technological product, a new buyer would seek for user opinion about the product. From the analysis of results in the following figure (figure 21), it is found that 8% of respondents strongly agreed and 56% agreed that they take advice from friends and families before choosing a car. About 19% of respondents remained neutral and about 17% disagreed and strongly disagreed.

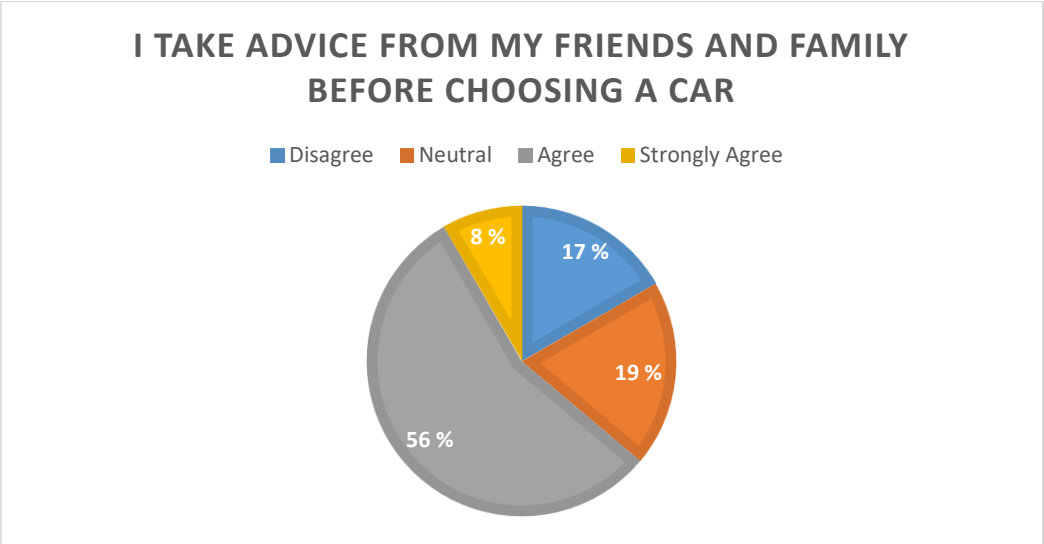


FIGURE 21. Responses regarding taking advice from friends and family before choosing a car

Secondly, respondents were asked whether the opinion of their friends and family affect their choice of cars. From the following figure (figure 22), it is found that 25% agreed and 5% strongly agreed that opinions from their friends and family affect their choice of cars. About 42% remained neutral which they don't recognize that are influenced by the opinion of others while choosing a car. About 28% disagreed with the statement.

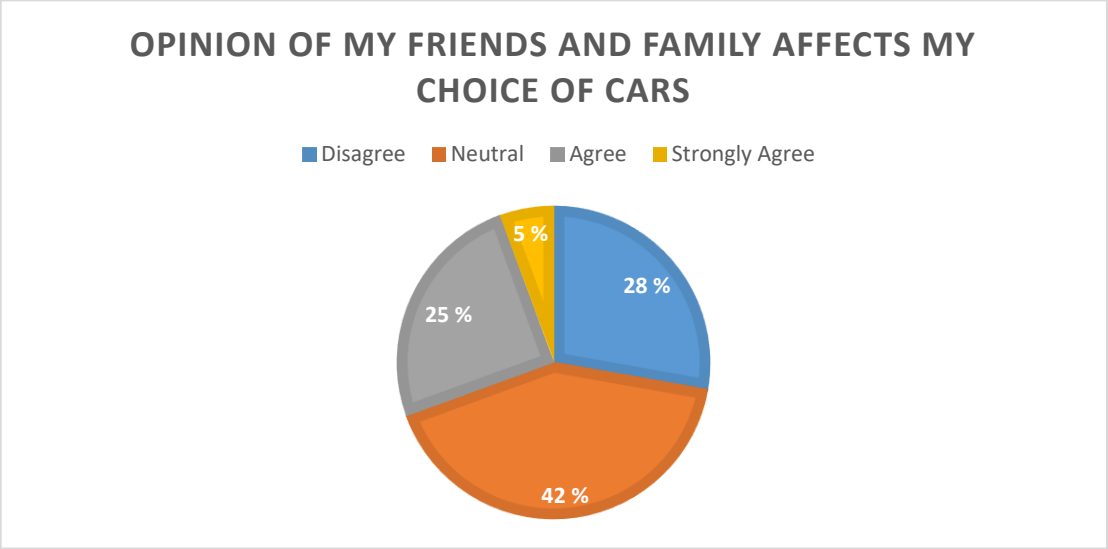


FIGURE 22. Responses on whether the opinion of friends and family affects customers' choice of cars

Thirdly, respondents were asked whether they search websites and social media reviews before buying a car. The results presented in the following figure (figure 23) show about 11% of respondents strongly agreed and about 56% agreed with the statement. About 28% remained neutral and the rest 5% disagreed. This indicates almost all respondents search for online reviews and opinions before choosing a car.

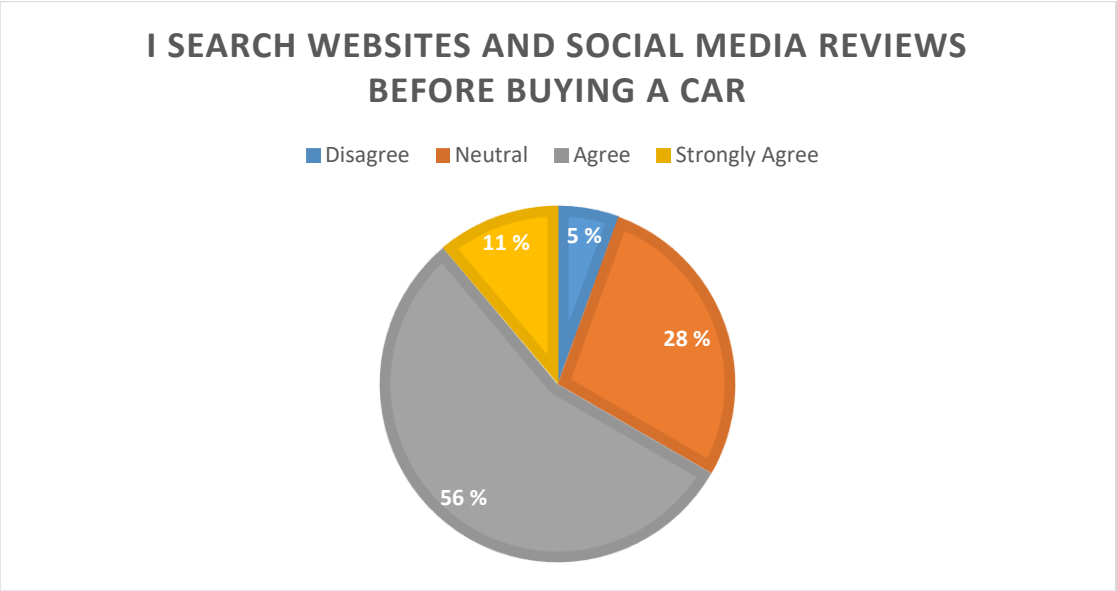


FIGURE 23. Responses on customers' search for websites and social media reviews before buying a car.

Fourthly, it is asked to customers whether opinion from social media affect their purchase intention and choice of car. The result is very overwhelming. About 47% agreed that social media and online reviews and information affect their purchase intention of a car. About 33% of respondents remained neutral, about 17% disagreed and about 3% strongly disagreed with the statement (figure 24).

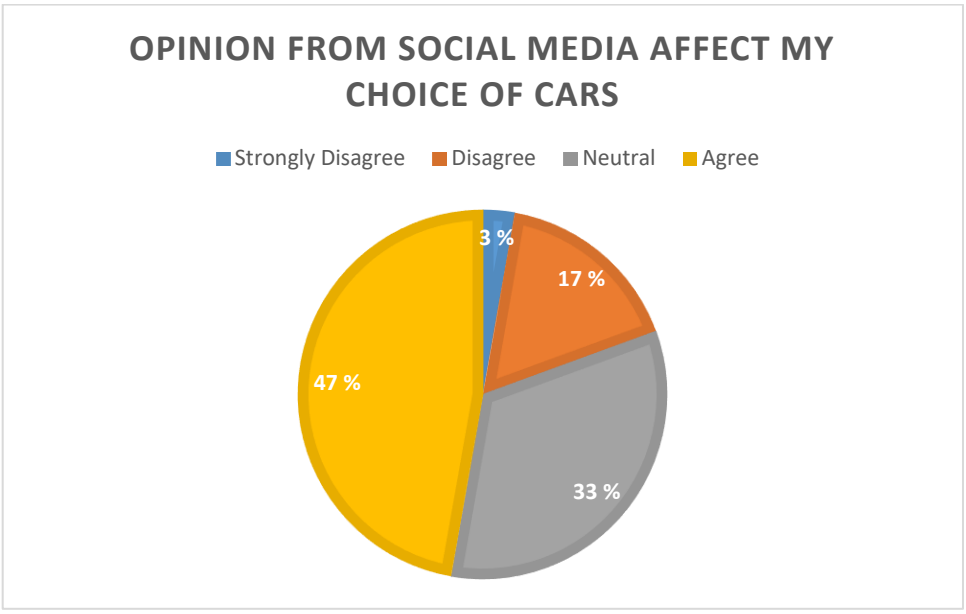


FIGURE 24. Influence of social media & website opinions on the choice of cars.

4.3.6 Brand

A brand is an intangible identity of a product that helps people identify a product in terms of design, color, quality, and the perception about a product (Marion, 2015). Branding is a marketing tool that helps companies distinguish their products from others. To identify the effect of branding on the purchase intention of customers respondents were asked whether the brand is the most preferred factor to them for choosing a car. The results demonstrated in the following figure (figure 25) show about 3% of respondents strongly agreed and 36% agreed with the statement. About half of the respondents remained neutral and 11% disagreed with the statement.

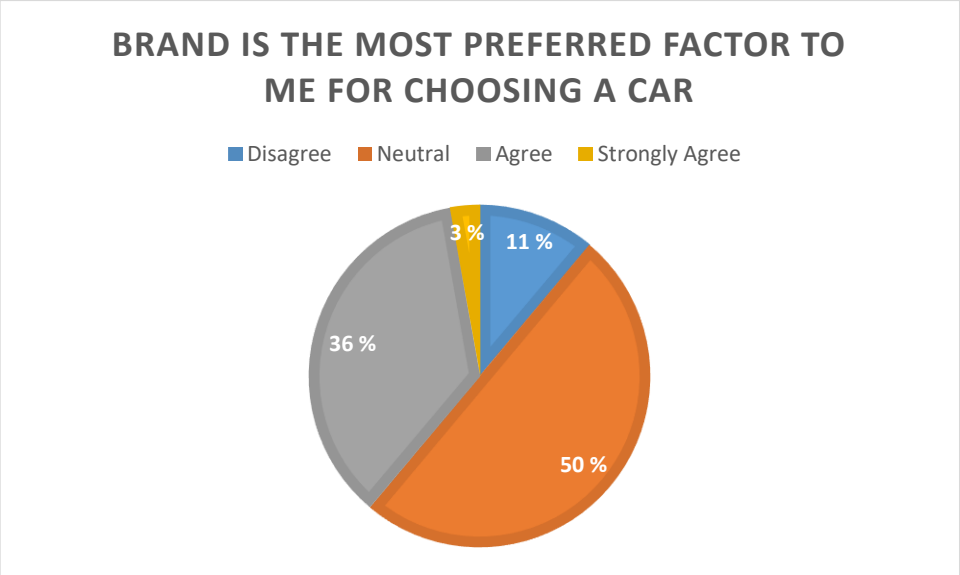


FIGURE 25. Responses on consideration of brand as the most preferred factor for choosing a car.

Another question related to branding has been asked. Respondents were asked whether they like car brands having good fame and elegance. The results in the following figure (figure 26) demonstrate that about 14% of respondents strongly agreed and 33% agreed. About 42% remained unbiased and about 11% of respondents disagreed with the statement.

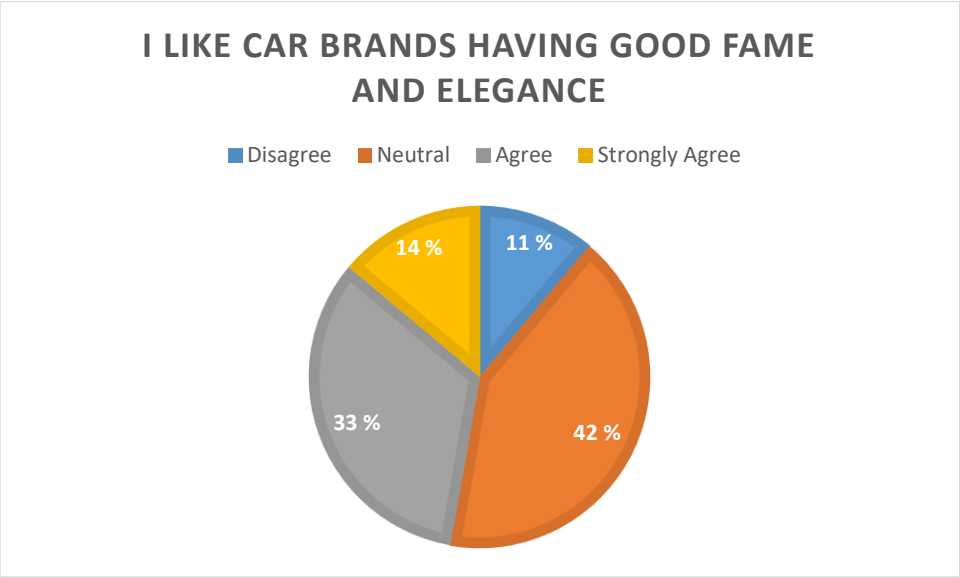


FIGURE 26. Whether respondents like car brands having good fame and elegance

The last question regarding the branding of cars asked was whether branding of cars by companies affects the purchase intention of customers. About 14% of respondents strongly agreed and about 33% agreed that branding influences their purchase intention. About 33% of respondents remained neutral and about 20% denied that branding affects their purchase intention of cars (figure 27).

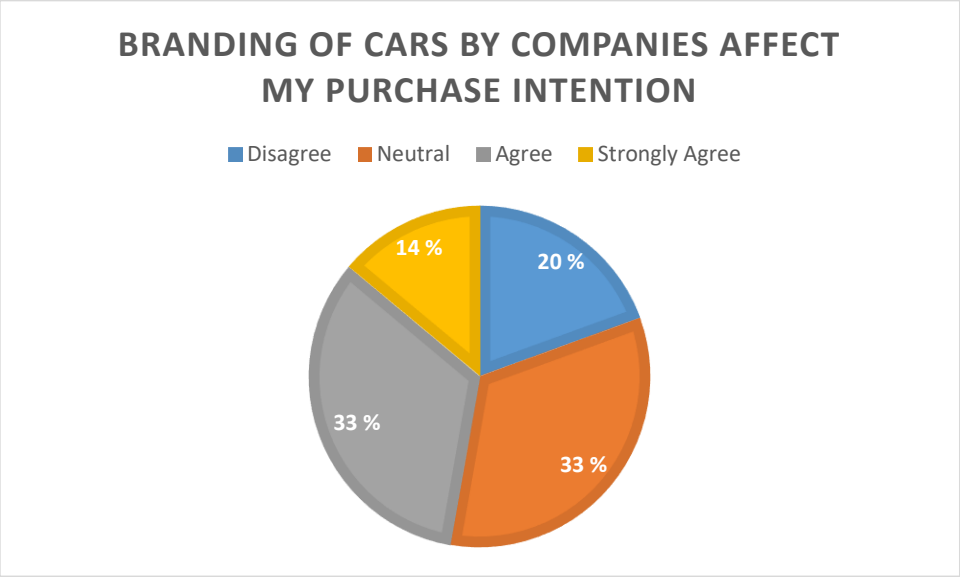


FIGURE 27. Participants' responses regarding the effect of branding of cars on purchase intention

4.3.7 Economic factors

Economic factors like income, employment, inflation, general economic conditions, etc. affect every economic decision of a person. Since car purchase requires a significant economic and financial involvement economic factors may affect the car purchase intention of customers. To measure the effect of economic factors on car purchase intention of customers, respondents were asked whether they consider income and repayment capacity before choosing a car. The results presented below (figure 28) imply that about 44% of respondents strongly agreed and 45% agreed with the statement while only 11% remained neutral. This implies almost all respondents consider their income and repayment capacity before choosing a car.

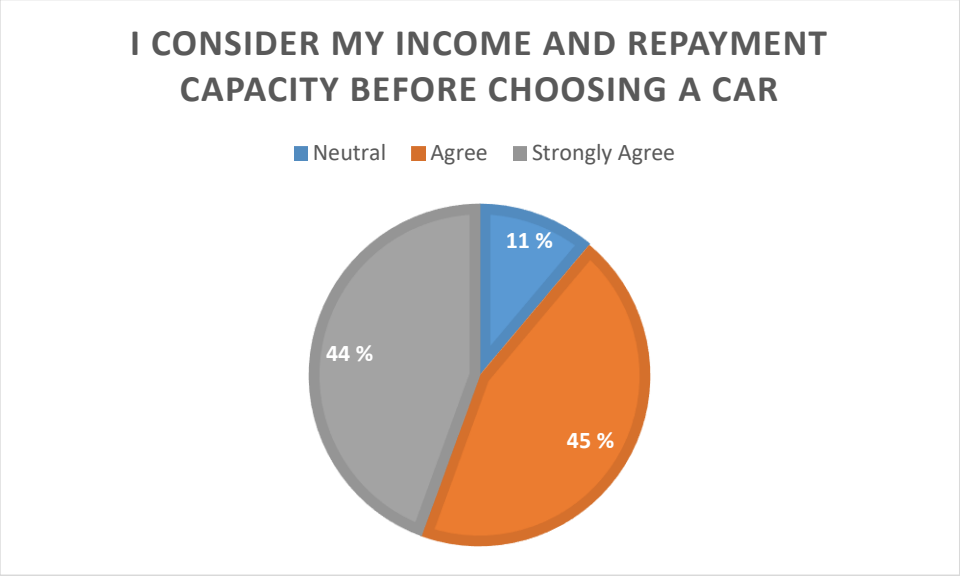


FIGURE 28. Responses on consideration of income and repayment capacity before choosing a car.

Customers were also asked whether they prefer to drive their old car if the economic situation is tight. About 11% of respondents strongly agreed and about 67% agreed with the statement. About 19% of respondents remained neutral and 3% opposed the statement (figure 29).

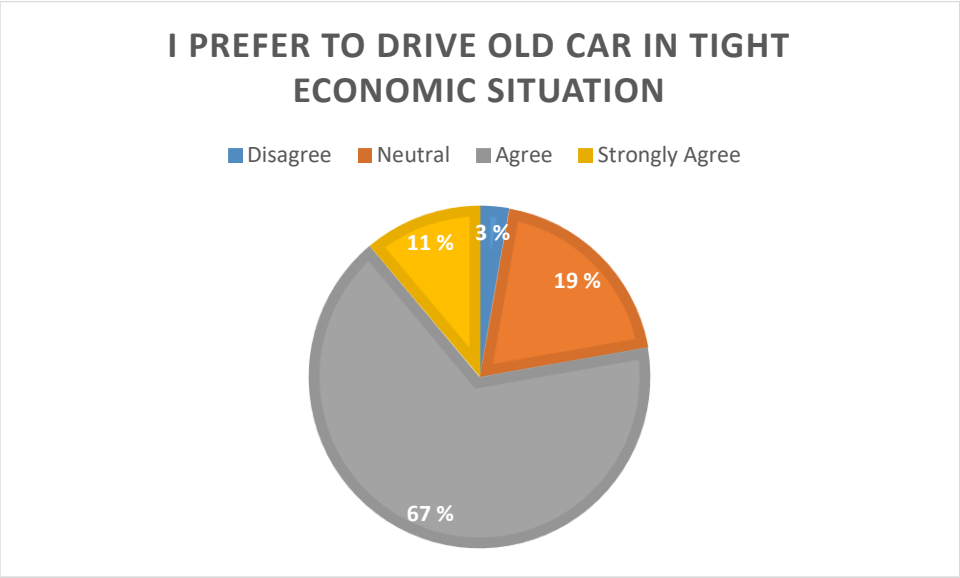


FIGURE 29. Responses on whether customers prefer to drive the old car in tight economic situation.

Another question regarding economic factors asked whether respondents would change/buy a car if their income level changes. The following figure (figure 30) shows about 14% strongly agreed and 42% agreed with the statement. About 25% remained neutral and about 19% disagreed with the statement. This means the majority of the customers will change or buy a car if their income level changes.

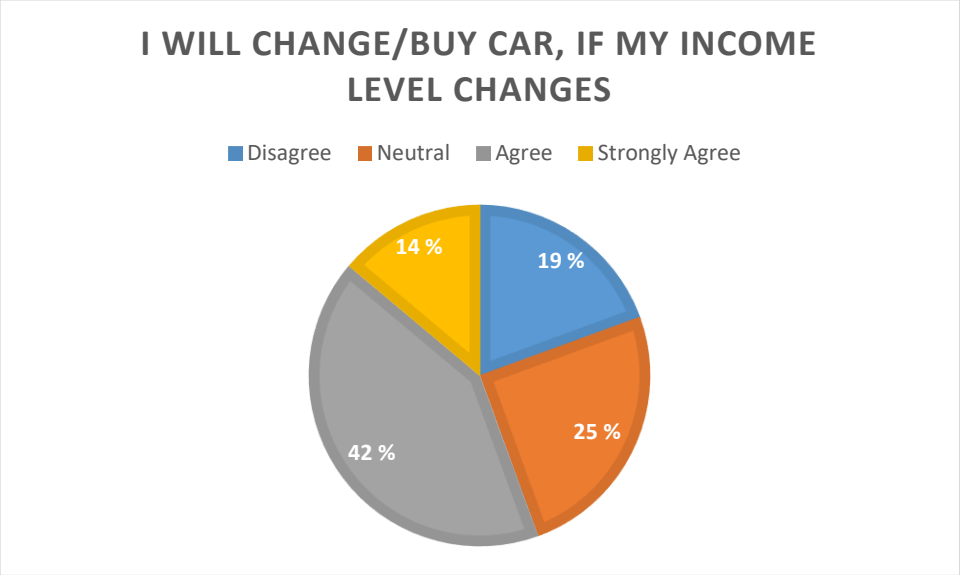


FIGURE 30. Whether respondents will change or buy a car, if their income level changes.

4.3.8 Impact of COVID-19

Covid-19 has devastated the whole world with the death of over 3 million globally. Like other countries government of Finland also imposed a countrywide lockdown several times for restraining the spread of the virus. It is assumed that COVID-19 has some impact on the car purchase intention of customers. For assessing the impact of COVID-19 some questions were asked to respondents. Firstly, respondents were asked whether their income level has been affected by the pandemic. The responses in the following figure (figure 31) demonstrate that about 47% of respondents agreed that their income level has been affected by COVID-19. About 3% of respondents remained neutral while 31% disagreed and 19% strongly disagreed that their income level has been affected by the COVID-19 pandemic.

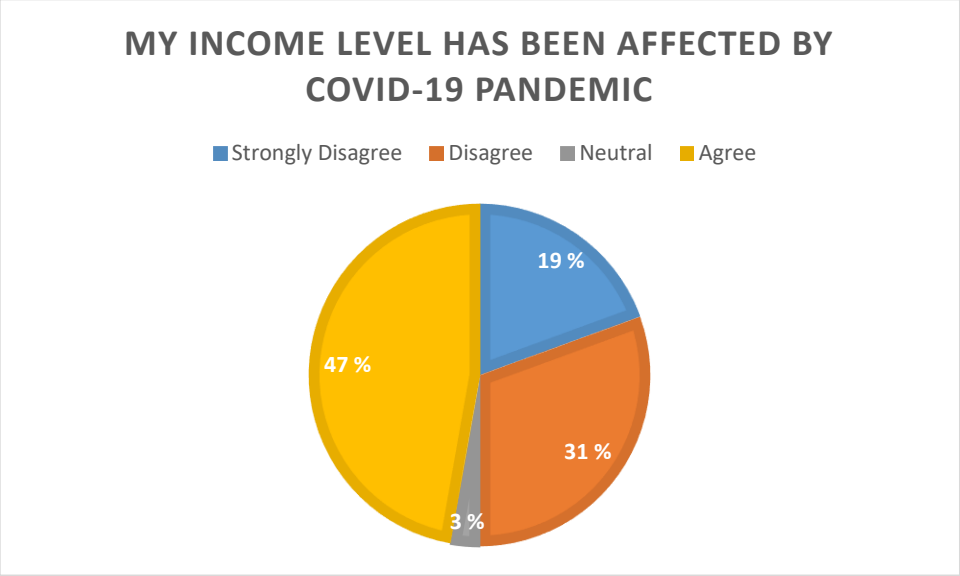


FIGURE 31. Responses on effect of the COVID-19 pandemic on income level.

The respondents have also been asked whether their preference of cars has been affected by the pandemic. The results in the following figure (figure 32) show only 8% of respondents agreed that their preference for a car has been affected by the pandemic. About 50% of respondents remained neutral, about 42% (22%+20%) disagreed that their choice of cars has been affected by the pandemic.

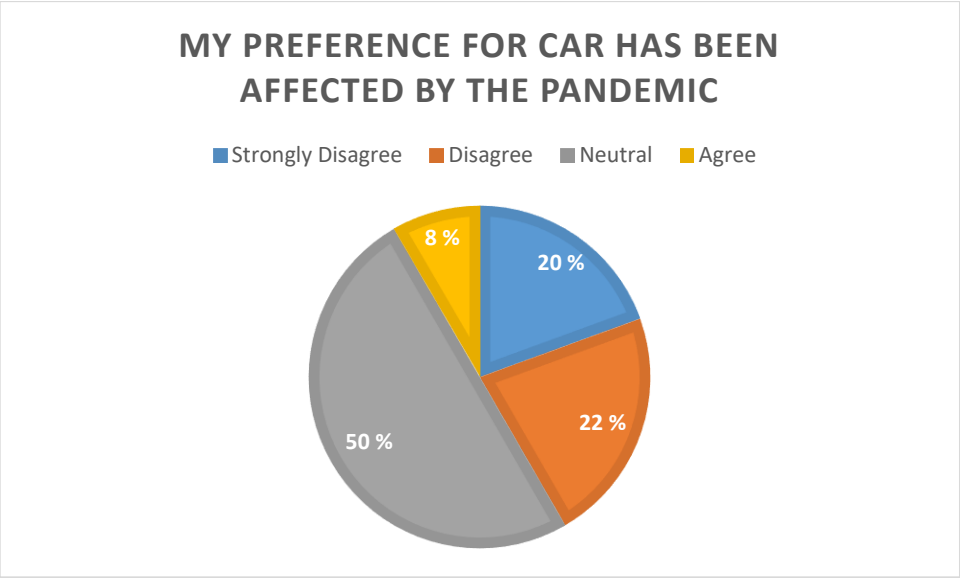


FIGURE 32. Responses on whether the preference for the car has been affected by the pandemic.

The survey participants were also asked whether they want to delay their purchase decision because of travel restrictions and the economic crisis led by COVID-19. The results show that majority of the respondents are agreed and strongly agreed (61%+8%) with this statement. About 11% remained neutral and the rest 20% either disagreed or strongly disagreed that they want to delay the purchase decision (Figure 33).

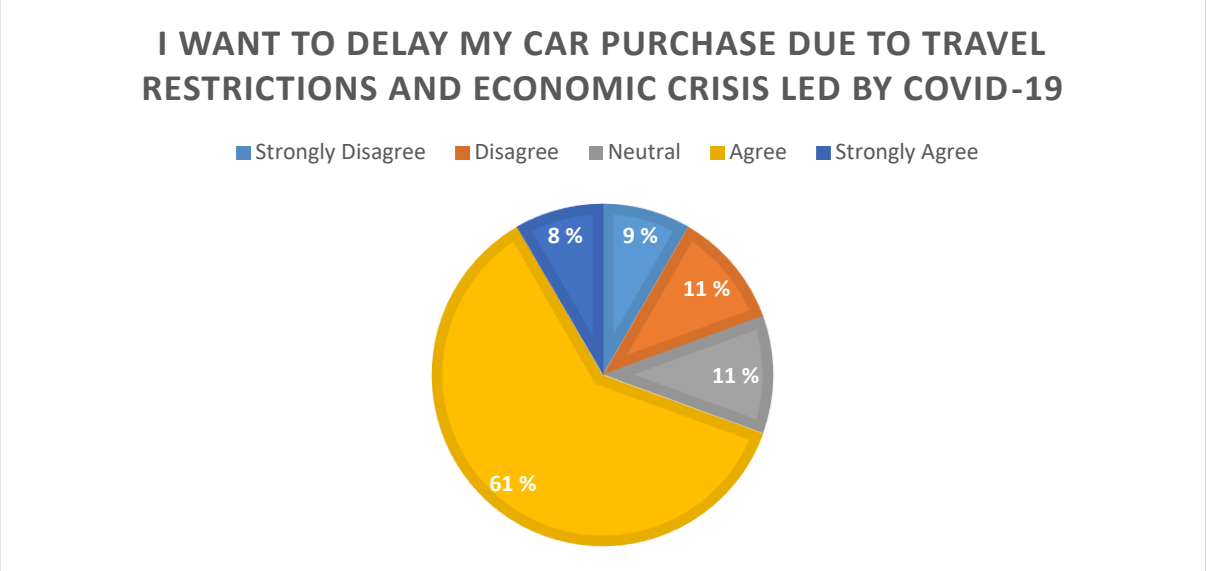


FIGURE 33. Customers' delay of car purchase due to the COVID-19 pandemic.

Lastly, the participants were asked whether they prefer budget cars during the pandemic to cut their costs. In response about 3% strongly agreed and about 28% of respondents agreed with the statement

that they want to purchase budget cars during the pandemic. About 50% of respondents remained neutral about 19% disagreed or strongly disagreed with the statement (see figure 34).

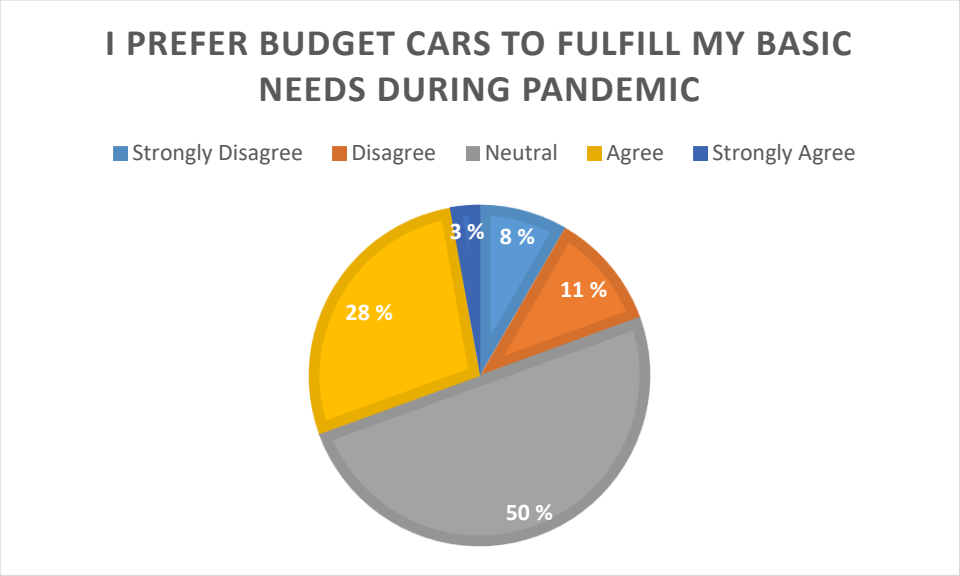


FIGURE 34. Responses on the preference of budget cars during pandemic.

4.3.9 Impact Analysis using Regression Method

To analyze the level of impact of different variables on the purchase intention of customers regression analysis has been done. In the regression analysis Purchase intention has been used as the dependent variable and 7 dimensions used in the theoretical framework have been used as the independent variable. The model summary in the following table shows an R-Square of 0.580 which means 58% variation in the dependent variable "Purchase Intention" can be explained by the independent variables used in the model. The significance of the model is 0.00 which means the model is acceptable for analysing the dependent variable.

TABLE 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.761[a]	.580	.475	.47611

a. Predictors: (Constant), AVG_Covid19, AVG_PEER, AVG_Aesthetics, AVG_FEATURE, AVG_Brand, AVG_EF, AVG_PRICE

TABLE 5. ANOVA Table

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.752	7	1.250	5.515	.000[a]
	Residual	6.347	28	.227		
	Total	15.099	35			

a. Predictors: (Constant), AVG_Covid19, AVG_PEER, AVG_Aesthetics, AVG_FEATURE, AVG_Brand, AVG_EF, AVG_PRICE

b. Dependent Variable: AVG_Intention

The coefficients table below shows price, feature, peer group influence, branding, and economic factors have a positive impact on the purchase intention of customers. Among these variables price is significant at 1% level, the feature of vehicles is significant at 10% level, peer group influence is significant at 5% level and branding is significant at 10% level. On the other hand, aesthetics and COVID-19 have a negative impact on purchase intention but both variables are insignificant.

The coefficients below imply that if the price of the car changes in favour of customers by 1%, the purchase intention will increase by 0.466%. If features of the car increase by 1% purchase intention will increase 0.275%. If peer group influence increases by 1%, purchase intention will improve by 0.352%. If branding increases by 1%, purchase intention will improve by 0.199%. On the other hand, COVID-19 has decreased purchase intention by 0.039% although the result is insignificant statistically.

TABLE 6. Coefficients Table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.579	1.603		-.361	.720
	PRICE	.466	.147	.444	3.170	.004
	FEATURE	.275	.138	.253	1.988	.057
	Aesthetics	-.060	.139	-.061	-.430	.671
	Peer Group Influence	.352	.134	.342	2.627	.014
	Brand	.199	.115	.233	1.738	.093
	Economic Factors	.004	.199	.003	.022	.983
	Covid19	-.039	.100	-.050	-.392	.698

a. Dependent Variable: Buying Intention

4.4 Discussion

This segment has critically discussed the findings analyzed in the previous segment. From the analysis it is found that the variables and dimensions used in the research are consistent. Cronbach's Alpha test proved that the 07 independent variables which may affect the purchase decision of Finnish automobile buyers are internally consistent.

From the analysis of demographic data, it is found that most of the participants are young aged below 35 years. This research's findings can be used by companies to understand the car buying intention of younger people in Finland. Most of the participants are graduate students. Among the participants, all participants except 2 have at least one car. The income level of the majority of participants is below €30,000. According to OECD (2021), per capita income in Finland is about €33,449. Because most of the participants are students, it is natural that their income level will be lower than full-time jobholders.

Despite not having car ownership by some participants, most of the participants have driving experience and driving license.

From the analysis of customer purchase intention data, it was found that the majority of participants have the intention to purchase a car. They argued that they need a car. The majority of the participants also have opined that they will purchase the car in near future. This implies the purchase intention of customers for a car.

Among the seven variables, it is found that the price affects the purchase intention of customers. Most of the respondents have opined that the price of a car influences their purchase decision. If the price of a car is lower relative to its features, customers may intend to purchase a car. The study found that most of the participants do not think that a car will be of higher quality merely because of its high price. There are other factors for determining the quality of a car. The research found that a significant majority of respondents consider a car's price and their personal budget before buying a car.

The research examined whether the features of cars influence purchase intention. From the research, it was found that the majority of the participants want the latest technological features in their car. It was also found that the majority of the participants emphasize the latest features as the sole factor for choosing a car.

The research has revealed that the aesthetics or design of a car has a good influence on purchase intention. Most of the respondents agree that they like cars with attractive designs. They also agreed that the look and feel of a car affect their purchase intention.

From the analysis of results related to peer group influence, it is found that the majority of the customers take advice from friends and family before buying a car. This is due to having inexperience regarding a specific car brand or model. If others have prior experience of using a car, it is easier for the forthcoming buyers to take the decision on that car model or brand. The analysis also revealed that although customers take advice from friends and family their opinion influences the purchase intention of about one-third of participants. Others did not recognize that they are influenced by the opinions of others. It is also found that most of the probable customers search websites and social media to find out detailed information and review about their prospective car model. About half of the participants agreed that online and social media reviews influence their purchase intention. Customers are discouraged to buy a car which has a negative review online.

The analysis related to branding implies about one-third of respondents consider the brands as the most preferred factor for their purchase intention. About half of the respondents prefer brands having good fame and elegance. They also recognized that the branding of cars affects their purchase intention. It is an indication for companies, which shows the necessity of branding for attracting more customers.

From the analysis of economic factors, it is found that almost all customers consider their income and repayment capacity before making a purchase decision. The majority of respondents recognized that they will continue to drive their existing car (if any) in case of any personal tight economic situation but they will change their car when their income level changes.

The analysis in the above section reveals that the income level of less than 50% of respondents has been affected by COVID-19. The majority said their income level has not changed. This is maybe due to government aid during the pandemic. A very small portion of customers agreed that their preference for car has been affected by the pandemic. This implies despite the pandemic customers did not change their choice. But the majority of participants agreed that they want to delay the car purchase due to travel restrictions and the lockdown situations led by COVID-19.

From the regression analysis, it is found that price of the car, car features, peer group influence, branding and economic factors have a positive impact on the purchase intention of customers. Among them, price of a car, car features, peer group influence, and branding have a significant impact. If the price of cars decreases, purchase intention will increase. It is also found that if new features of cars are incorporated, the purchase intention of customers increases for that model. The results also reveal that peer group influence has a significant impact on purchase intention. Positive social media and peer group reviews increase the purchase intention of customers for a particular model. It is also found that branding improves the purchase intention of customers. The study also revealed that economic factors like income influence purchase intention significantly. If the income level rises, customers become interested to buy new cars. The findings revealed that the COVID-19 pandemic has an insignificant negative impact on the purchase intention of car buyers. Therefore, the hypothesis that COVID-19 has a significant negative impact on purchase intention is rejected.

Thus, some hypotheses of the research have been proved and some hypotheses have not been proved from the research.

Hypothesis 1: Pricing has a significant positive impact on purchase intention. [Accept]

Hypothesis 2: Features have a significant positive impact on purchase intention. [Accept]
Hypothesis 3: Aesthetics has a significant positive impact on purchase intention. [Reject]
Hypothesis 4: Peer group influence has a significant positive impact on purchase intention. [Accept]
Hypothesis 5: Brand has a significant positive impact on purchase intention. [Accept]
Hypothesis 6: Economic factors have a significant positive impact on purchase intention. [Reject]
Hypothesis 7: COVID-19 has a significant negative impact on purchase intention. [Reject]

The findings of this research are supported by the findings of Kowang, Samsudin, Yew, Hee, Fei, & Long (2018). In that research, the authors found that price, aesthetic, features, and interpersonal influence have a significant impact on the purchase intention of Malaysian car buyers. They emphasized aesthetics most. But this research has found that price has the most significant impact on purchase intention. After that peer group influence and car features are the second and third important factors that affect purchase intention. The research of Asghar, Iftikhar, Ejaz, Baig, Hafeez & Khan (2019), revealed that branding affects the purchase intention of cars in Pakistan.

5 CONCLUSION AND RECOMMENDATIONS

This chapter contains the conclusion of the research. The conclusion has been drawn based on findings from the above chapter. Some recommendations have also been made based on the findings of this research.

5.1 Conclusion

This research aimed to critically investigate the impact of the COVID-19 pandemic on the automobiles purchase intention of customers in Finland. For fulfilling its aim, primary research has been done. Data were collected from a sample of respondents from Finland. In the previous chapters, collected data have been analyzed. Moreover, before doing the analysis, a literature review has been done using existing published data. Based on the literature review and analysis and discussion, the conclusion can be made according to research objectives.

The first research objective was to analyze the current situation of the automotive industry in Finland. From the literature review, it is found that at present Finland does not have its own automobile brand in the passenger car segment. It has some contract manufacturers like Velmet Automative which produces cars for different brands. Due to the smaller market size and lack of suitable entrepreneurship Finland couldn't build its car brand although its neighboring country Sweden is home to some renowned automobile brands like Volvo, Scania and SAAB. Finland depends on imports for its internal demand of automobiles.

The second research objective was to critically investigate the factors affecting the automobiles purchase intention of customers in Finland. From the analysis, it can be concluded that the price of cars has a significant positive impact on the automobiles purchase intention of customers. If the price becomes down, buyers become interested to buy a new car. It can also be concluded that features of cars have a significant positive impact on vehicle purchase intention. Customers expect the latest features in cars including fuel-saving and computer technologies. This implies there is a prospect of new technology cars including electric vehicles in Finland. The research also concludes that peer group influence has a significant positive impact on purchase intention. Besides recommendations from friends and family, prospective customers search internet sites and social media for reviews of a particular car model. Social media and online review sites influence customers' purchase intention significantly. Lastly, it can also

be concluded that branding has a significant positive impact on purchase intention. Customers see brands as an icon of reliability and elegance. Therefore, it is crucial for car brands to brand them suitable for their target segment.

The third research objective was to analyze and discuss the impact of COVID-19 on the automobile purchase intention of customers in Finland. From the findings of the research, it can be concluded that COVID-19 has an insignificant negative impact on the purchase intention of automobile customers. Although customers want to delay their car purchase plan due to pandemics, most of the customers do not want to change their choice of cars because of the pandemic.

5.2 Recommendations

Based on the finding of the research some measures are suggested generally for automobile companies. As Finland does not have any significant automobile brand of its own in the traditional automotive segment, the government can motivate companies to establish new brands in the electric vehicle segment. Although some initiatives have been taken by some private sector companies, those initiatives are not enough to meet global competitors like Tesla. More aggressive initiatives are required from both the private and public sectors to establish new brands in this industry.

Since most of the customers are sensitive to pricing, car companies may provide periodical price offers to boost their sales in the pandemic era. Customers focus on the latest features in the cars. Therefore, automotive companies should bring new models in Finland market having the latest technologies.

Customers are heavily influenced by peer group recommendations and online reviews on social media and other sites. Companies should make a planned investment on social media advertisements and handle online reviews cautiously to create a positive image of their car brands.

Companies should continue to invest in branding. In the age of social media and the internet, the significance of branding has not been reduced at all. Companies should plan and develop their brand wisely according to their target segment.

Since COVID-19 has a negative impact on automobile buying intention and customers want to delay their purchase, companies need to plan their manufacturing according to the movement of pandemic. A

recovery plan should be made by both the companies and the government to return to the pre-pandemic state of the industry.

5.3 Further Research

Based on this research extensive research can be undertaken in the future. There is scope for further analysis of buying intention of customers for new technology cars like electric vehicles. Further research can also be taken for analysis of the impact of social media on customers' buying behavior of automobile in Finland. Based on the findings of the research further research can be undertaken for exploring the impact of COVID-19 on other business sectors by taking a larger sample.

REFERENCES

Anable, J., Skippon, S., Schuitema, G. and Kinnear, N. 2011. Who will adopt electric vehicles? A segmentation approach of UK consumers. *European Council for an Energy Efficient Economy*.

Andersen, K., Rambaut, A., Lipkin, W., Holmes, E. and Garry, R. 2020. The proximal origin of SARS-CoV-2. *Nature Medicine*, 26(4), pp.450-452.

Autoalan Tiedotuskeskus, 2021. *Car production in Finland - Autoalan Tiedotuskeskus*. Online. Available at: https://www.aut.fi/en/frontpage_vanha/statistics/automobile_sector_in_finland/car_production_in_finland. Accessed 11 February 2021.

Bashir, M., MA, B. & Shahzad, L. 2020. A brief review of socio-economic and environmental impact of Covid-19. *Air Quality, Atmosphere & Health*, 13(12), pp.1403-1409.

Belgiawan, P. F., Schm€ocker, J. D., Abou-Zeid, M., Walker, J. & Lee, T. C. 2014. Car Ownership Motivations among Undergraduate students in China, Indonesia, Japan, Lebanon, Netherlands, Taiwan and U.S.A. *Transportation*, 41(6), 1227–1244.

Bhattacharya, S. 2016. *The Social Impact of the COVID-19 Pandemic.* ORF Issue Brief No. 406, October 2020, Observer Research Foundation.

Bodrud-Doza, M., Shammi, M., Bahlman, L., Islam, A. & Rahman, M. 2020. Psychosocial and Socio-Economic Crisis in Bangladesh Due to COVID-19 Pandemic: A Perception-Based Assessment. *Frontiers in Public Health*, 8.

Bryman A. & Bell, E. 2015. *Business Research Methods*. 4th edition. London: Oxford University Press,

Buheji M., da Costa Cunha K., Beka G., Mavric B., Leandro do Carmo de Souza Y., Souza da Costa Silva S., Hanafi M. & Chetia Yein T. 2020. The extent of COVID-19 pandemic socio economic impact on global poverty. a global integrative multidisciplinary review. *American Journal of Economics.* 2020(4):213–224.

Capgemini Worldwide. 2021. *How COVID-19 is affecting car sales and consumer attitudes*. Online. Available at: https://www.capgemini.com/2020/05/how-covid-19-is-affecting-car-sales-and-consumer-attitudes/. Accessed 31 March 2021.

Carsalesbase. 2021. *Finland Car Sales Data - carsalesbase.com*. Online. Available at: https://carsalesbase.com/finland-car-sales-data/. Accessed 8 February 2021.

Coibion O., Gorodnichenko Y. &Weber M. 2020. The cost of the Covid-19 Crisis: lockdowns, macroeconomic expectations, and consumer spending. *NBER Working Paper Series*, (27141). Available at: https://www.nber. org/papers/w27141.pdf. Accessed: 20 March 2021.

Collie, B., Wachtmeister, A., Waas, A., Kirn, R., Krebs, K. and Quresh, H., 2020. *COVID-19's Impact on the Automotive Industry*. [online] BCG Global. Available at: <https://www.bcg.com/publications/2020/covid-automotive-industry-forecasting-scenarios> [Accessed 14 March 2021].

Dagsvik, J., Wennemo, T., Wetterwald, D. & Aaberge, R. 2002. Potential demand for alternative fuel vehicles. *Transportation Research Part B: Methodological*, 36(4), pp.361-384.

David, A. & Glore, P. 2010. The Impact of Design and Aesthetics on Usability, Credibility and Learning in an Online. *Journal of Distance Learning Administration*. 13(4).

Deloitte. 2021. *Understanding COVID-19's Impact on The Automotive Sector*. Online. Available at: https://www2.deloitte.com/us/en/pages/about-deloitte/articles/covid-19/covid-19-impact-on-automotive-sector.html. Accessed 8 February 2021.

European Commission, 2020. *European Economic Forecast: Spring 2020*. Technical report, European Commission, Brussels, Belgium. Available at: https://ec.europa.eu/info/publications/economic-and-financial-affairspublications_en. Accessed: 25 March 2021.

Evans, D. & Over, M., 2020. *The Economic Impact of COVID-19 in Low- and Middle-Income Countries*. Center For Global Development. Available at: https://www.cgdev.org/blog/economic-impact-covid-19-low-and-middle-income-countries. Accessed 20 February 2021.

Fernandes N. 2020. Economic effects of coronavirus outbreak (COVID-19) on the world economy. *SSRN Electronic Journal*, ISSN 1556-5068, pages 0–29. Available at: https://ssrn.com/abstract=3557504. Accessed: 18 March 2021.

Focus2Move. 2021. *Finland 2021. Car market grows again in March (+12.9%), with sales almost in line with pre-pandemic levels*. Online. Available at: https://www.focus2move.com/finnish-cars-market/. Accessed 30 March 2021.

Fung, A. N. W., Jung, G. L. W., Ying, K. K. & Wai, M. C. K. 2012. *Factors that Affect the Purchasing Decision of Cars among Generation Y Females*. Sungai Long: Universiti Tunku Abdul Rahman (UTAR). Bachelor Thesis.

Gupta, M., Abdelmaksoud, A., Jafferany, M., Lotti, T., Sadoughifar, R., & Goldust, M. 2020. COVID-19 and economy. *Dermatologic therapy*, *33*(4), e13329.

Hechter, M. & Kanazawa, S. 1997. Sociological Rational Choice Theory. *Annual Review of Sociology*, 23(1), pp.191-214.

Honkapohja, S., Koskela, E., Gerlach, S., & Reichlin, L. 1999. The Economic Crisis of the 1990s in Finland. *Economic Policy*, *14*(29), 401-436.

IMF. 2021. *Policy Responses to COVID19*. Online. Available at: https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#F. Accessed 29 March 2021.

Jing, P., Huang, H., Ran, B., Zhan, F. & Shi, Y. 2019. Exploring the factors affecting mode choice Intention of autonomous vehicle based on an extended theory of planned behavior—A case study in China. *Sustainability*, *11*(4), 1155.

John N, Casey SE, Carino G, & McGovern T. 2020. Lessons Never Learned: Crisis and gender-based violence. *Dev World Bioeth*. (2020) 20:65–68.

Kothari, 2014. *Research methodology*. New Delhi: New Age International.

Kotler, P., Keller, K., Dubois, B. and Manceau, D., 2009. *Marketing management*. Paris: Pearson Education France.

Kowang, T., Samsudin, S., Yew, L., Hee, O., Fei, G. & Long, C. 2018. Factors Affecting Car Purchase Intention among Undergraduates in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(8), 80–88.

Kufelová, I. & Raková, M. 2020. Impact of the Covid-19 pandemic on the automotive industry in Slovakia and selected countries. *SHS Web of Conferences*, 83, p.01040.

Lee, T. W., & Govindan, S. 2014. Emerging Issues in Car Purchasing Decision. *Academic Research International*, 5(5), 169-179.

Leow, C. S., & Husin, Z. 2015. Product and Price Influence on Cars Purchase Intention in Malaysia. *International Research Journal of Interdisciplinary & Multidisciplinary Studies*, 1(7), 108–119.

Levin, J. & Milgrom, P. 2004. *Introduction to Choice Theory*. Stanford, CA: Stanford University.

Lichtman, M. 2013. *Qualitative research in education*. Los Angeles: SAGE Publications.

Ludvigson S. C., Ma S. & Ng S. 2020. Covid19 and the macroeconomic effects of costly disasters. *NBER Working Paper Series*, 4. ISSN 1098-6596.

Martin, A., Markhvida, M., Hallegatte, S. & Walsh, B., 2020. Socio-Economic Impacts of COVID-19 on Household Consumption and Poverty. *Economics of Disasters and Climate Change*, 4(3), pp.453-479.

McKibbin W. J. & Fernando R. 2020. The Global Macroeconomic Impacts of COVID-19: Seven Scenarios. *SSRN Electronic Journal*. Available at: https://doi.org/10.2139/ssrn.3547729. Accessed: 30 March 2021.

Ministry of Social Affairs and Health. 2021. *Coronavirus vaccines - Sosiaali- ja terveysministeriö*. Online. Available at: https://stm.fi/en/coronavirus-vaccines. Accessed 9 March 2021.

Mittal, S. & Singh, T., 2020. Gender-Based Violence During COVID-19 Pandemic: A Mini-Review. *Frontiers in Global Women's Health*, 1.

Mohd Fazi, H., B Nik Mohamed, N. & Bin Basri, A., 2019. Risks assessment at automotive manufacturing company and ergonomic working condition. *IOP Conference Series: Materials Science and Engineering*, 469, p.012106.

Moons, I. & De Pelsmacker, P. 2012. Emotions as determinants of electric car usage intention. *Journal of Marketing Management*, 28(3-4), pp.195-237.

Mukherjee, S., 2019. *A Guide to Research Methodology*. 1st ed. CRC Press.

Nordic Labour Journal 2020. *Finnish employers signal backtracking on wage agreements.* Online. Available at: http://www.nordiclabourjournal.org/i-fokus/in-focus-2020/theme-collective-bargaining-with-face-coverings/article.2020-09-04.9617556191. Accessed: 30 April 2021.

Observatory of Economic Complexity. 2020. Finland (FIN) Exports, Imports, and Trade Partners. Online. Available at: https://oec.world/en/profile/country/fin. Accessed 10 February 2021.

Okur P. 2016. Sexual and reproductive health and rights of people on the move. *MT Bull Netherl Soc Trop Med Int Health.* (2016) 54:8–9.

Our World in Data 2021. Coronavirus (COVID 19) Vaccinations. Online. Available at: https://ourworldindata.org/covid-vaccinations. Accessed 31 May 2021.

Panchal, N., Kamal, R., Cox, C. & Garfield, R. 2021. *The Implications of COVID-19 for Mental Health and Substance Use*. Online. Available at: https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/ . Accessed 15 February 2021.

Pi Nga, N.T., Khoi, T.T. & Thu, H.M. 2019. Factors influencing on consumers' decision to buy Hyundai cars in Hanoi. *International Journal of Scientific & Engineering Research.* Volume 10, Issue 5, May-2019.

Rose, C., 2018. Plague and Violence in Early Modern Italy. *Renaissance Quarterly*, 71(3), pp.1000-1035.

Saunders, M., Lewis, P. & Thornhill, A. 2012. *Research Methods for Business Students*. 6th edition, Pearson Education Limited

Schiffman, L. & Wisenblit, J., 2019. *Consumer behavior*. Harlow: Pearson Education Limited.

Schiffman, L. G., & Kanuk, L. L. 2000. *Consumer Behavior* (7th ed.). Wisconsin: Prentice Hall.

Seetharaman, P., 2020. Business models shifts: Impact of Covid-19. *International Journal of Information Management*, 54, p.102173.

Shaharudin, M. R., Mansor S.W., Hassan A.A., Omar M.W. & Harun E.H. 2011. The relationship between Product Quality and Purchase Intention: The case of Malaysia's national motorcycle/scooter manufacturer. *African Jouranl of Business Management*, 5(10), 8163-8176.

Singh, S., Kumar, R., Panchal, R. & Tiwari, M. 2020. Impact of COVID-19 on logistics systems and disruptions in food supply chain. *International Journal of Production Research*, 59(7), pp.1993-2008.

Škrinjarić, T., 2020. Empirical assessment of the circular economy of selected European countries. *Journal of Cleaner Production*, 255, p.120246.

Statista. 2021. *Finland: COVID-19 impact on unemployment 2020 | Statista*. Online. Available at: https://www.statista.com/statistics/1111547/coronavirus-impact-on-job-losses-and-temporary-layoffs-in-finland/. Accessed 10 February 2021.

Thi Ngoc, D.D. 2012. *Factors affecting the decision to buy motorbike scooters of Ho Chi Minh city people*, Master's thesis, Economics University.

Tiirinki, H., Tynkkynen, L., Sovala, M., Atkins, S., Koivusalo, M., Rautiainen, P., Jormanainen, V. & Keskimäki, I., 2020. COVID-19 pandemic in Finland – Preliminary analysis on health system response and economic consequences. *Health Policy and Technology*, 9(4), pp.649-662.

Tiirinki, H., Tynkkynen, L., Sovala, M., Atkins, S., Koivusalo, M., Rautiainen, P., Jormanainen, V. & Keskimäki, I., 2020. COVID-19 pandemic in Finland – Preliminary analysis on health system response and economic consequences. *Health Policy and Technology*, 9(4), pp.649-662.

Vitale, J., 2020. *Understanding COVID-19's impact on the automotive sector | Deloitte Global*. Online. Available at: https://www2.deloitte.com/global/en/pages/about-deloitte/articles/covid-19/understanding-covid-19-s-impact-on-the-automotive-sector.html Accessed 20 March 2021.

Warshaw, P. R., & Davis, F. D. 1985. Disentangling Behavioral Intentions and Behavioral Expectations. *Journal of Experimental Social Psychology*, 21, 213-228.

World Bank 2020. East Asia and Pacific in the Time of Covid-19. *World Bank East Asia and Pacific Economic Update*, (April):234.

Worldometers. 2021. *COVID Live Update: 165,373,639 Cases and 3,427,064 Deaths from the Coronavirus - Worldometer*. Online: Available at: https://www.worldometers.info/coronavirus/ . Accessed 19 May 2021.

Zhan, J., & Vrkljan, B. 2010. Exploring Factors that Influences Vehicle Purchase Decisions of Older Drivers: Where does Safety Fit? *Lowa Research Online*. Available at: https://ir.uiowa.edu/cgi/viewcontent.cgi?article=1384&context=drivingassessment.

APPENDIX 1/1

Survey Questionnaire

Dear Respondent

I have been conducting this survey as part of my research project under Bachelor Program at Centria University of Applied Sciences, Finland. The aim of this research is **"To explore the impact of COVID-19 on Buying Intention of Automobiles Customers in Finland".**

I request you to answer all questions to the best of your knowledge. The responses will be used for academic purpose remain confidential. Completion of the whole questionnaire will take less than 10 minutes.

Questions

Please tick (√) your answer & write on blank space (where applicable)

Section I: Background Information

Description	**Choice**	**Tick (√)**
I.1. Gender	Male	□
	Female	□
	Other	□
I.2. Age	18-24	□
	25-34	□
	35-44	□
	45-54	□
	55-64	□
	≥ 65	□
I.3. Education	*Under middle school*	□
	High school or equivalent	□
	Bachelor degree or equivalent	□
	Master degree and above	□
I.4. Marital Status	*Single*	□
	Married without child	□
	Married with child (children)	□
	Engages	□
I.5. Number of Members in Family	1	
	2	
	3	
	4	
	≥ *5*	
I.6. Number of vehicles you/ your family (if married) own	*0*	□
	1	□
	2	□

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	3	□
	≥ 4	□
I.7. Annual Income (EUR)	*<30,000*	□
	30,000-59,999	□
	60,000-99,999	□
	100,000-199,999	□
	≥ 200,000	□
I.8. Driving Experience	*< 3*	□
	3–5	□
	6–8	□
	9–12	□
	13–15	□
	≥16	□

Section II: Factors Affecting Purchase Intention

Strongly Disa-gree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

SL no.	Questions	Responses				
Purchase Intention						
	I need a Car	1	2	3	4	5
	I am planning to buy a car	1	2	3	4	5
	I want to buy a car in near future	1	2	3	4	5
A. Pricing		1	2	3	4	5
1	Price of car affects my purchase intention	1	2	3	4	5
2	I think the higher the price the better the quality	1	2	3	4	5
3	I emphasize most on price and my budget while choosing a car	1	2	3	4	5
B. Features						
4	I prefer latest features in my car	1	2	3	4	5
5	I prefer fuel saving and computer technology in my car	1	2	3	4	5
6	I emphasize most on features of the car while choosing a car	1	2	3	4	5
C. Aesthetics						
7	I like cars having good design and looking	1	2	3	4	5
8	Look and feel of cars affect my purchase deci-sion	1	2	3	4	5
9	I prefer look of car to other features if I am asked to choose one option	1	2	3	4	5
D. Peer Group Influence						

10	I take advice from my friends and family before choosing a car	1	2	3	4	5
11	Opinion of my friends and family affects my choice of cars	1	2	3	4	5
12	I search websites and social media reviews before buying a car	1	2	3	4	5
13	Opinion from social media affect my choice of cars	1	2	3	4	5
E. Brand						
14	Brand is the most preferred factor to me for choosing a car	1	2	3	4	5
15	I like car brands having good fame and elegance	1	2	3	4	5
16	Branding of cars by companies affect my purchase intention	1	2	3	4	5
F. Economic factors						
17	I consider my income and repayment capacity before choosing a car	1	2	3	4	5
18	I prefer to drive old car in tight economic situation	1	2	3	4	5
19	I will change or buy car, if my income level changes	1	2	3	4	5
G. Impact of COVID-19						
20	My income level has been affected by COVID-19 pandemic	1	2	3	4	5
21	My preference for car has been affected by the pandemic	1	2	3	4	5
22	I want to delay my car purchase due to travel restrictions and economic crisis led by COVID-19	1	2	3	4	5
23	I prefer budget cars to fulfill my basic needs during pandemic	1	2	3	4	5