Factors influencing consumer purchase behaviour when buying an electric car

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Abstract: The aim of this research is to find out what factors motivate respondents to buy an electric car. The empirical part was conducted with the help of a quantitative research method, using the technique of an online survey questionnaire. The target group were users of electric cars, of different age groups, work status and different levels of education. The target population will include both men and women from the Slovenian regions. The obtained research results showed that increasing the awareness of environmental pollution affects the decision of potential customers to buy an electric car. The most important factors influencing the purchase of an electric car are price, range and charging time. Based on the results, innovative strategies and valuable insights are presented to guide efforts in motivating consumers towards the adoption of electric cars.

Keywords: consumer behaviour; electric car; innovation; purchase motive; Slovenia.

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1   Introduction

Historically speaking, the automotive industry has been developing for a long time, and due to technological development, the development of the industry and therefore the automotive industry is also noticeable. Modern cars are gradually bringing modern technologies to the market, as well as improvements in all classes of cars. Due to the introduction of new components in cars, electric cars were born. Electric cars are cars that use electrical energy stored in a battery, which causes the electric motor to run. Electric cars have many advantages over conventional cars. Thus, for some of them, the fact that they pollute the air to a much lesser extent and reduce gases can be highlighted. At the end of the 19th century, the electric car was very popular, but due to the energy crisis, as well as the increasing number of conventional cars, which were significantly cheaper, the popularity of electric cars declined. However, at the beginning of the 20th century, there are changes in the market and electric cars are gaining importance again. Electric cars are becoming more and more popular, as a large number of people are starting to advocate for the protection of the environment and are therefore increasingly focusing on purchasing electric cars. In addition, car refuelling is done at special pumps and represents savings in relation to the consumption paid for fuel.

The last few decades have led to greater interest in researching the area of consumer buying behaviour (MacInnis and Folkes, 2010). The industry used to produce fewer goods, and the demand on the market was exceeded by what was available, i.e., the

request was higher than the supply, and everything could be effortlessly sold. However, manufacturers and retailers study consumer behaviour systematically to gain an advantage. As a result, consumers' purchasing power has increased, but also consumers have become more selective when choosing products. Numerous products can satisfy specific needs; therefore, consumers have more outstanding options when selecting the product of their choice. Consumer behaviour is constantly changing. Consumers are becoming more informed, educated and demand more excellent value for their money. They do not follow the same role that they have in the past. No longer a buyer and a consumer of specific goods, they are rapidly becoming an active collaborator in the design, development, and product distribution As a result, the need to know consumers and their behaviour arose (Wang et al., 2004; Vukasović, 2013, 2020; Grofelnik, 2023).

Many various factors influence the consumers in their purchase decision-making process, which can be divided into subtypes of factors (influences): psychological (motivation, beliefs, learning and memory), social (reference groups, family, individual's role and position, status), personal (age and life cycle stage of their family unit, occupation and financial situation, lifestyle, personality and self-image, values and beliefs), cultural (culture, social class), economic (price-monetary and non-monetary aspects, income, quality), individual differences and environmental influences (Stankevich, 2017; Schnurr, 2017; Kotler and Armstrong, 2018; Zavali and Theodoropoulou, 2018; Vukasović, 2023).

With innovative approaches, the companies are fighting the instability in the market, challenging themselves and their competition while influencing purchasing decisions to gain a competitive advantage. Innovation is any innovation that differs more or less significantly from existing practice and is any innovation in operation in all segments of the company's operation, such as new market approaches, distribution channels, and everything that benefits users, clients and buyers. Innovation is a new or significantly improved product, process or service (innovation of a product, service, procedure or process) that turns out to be useful (Likar et al., 2006).

The innovation in gaining insights into customer shopping behaviour is crucial for the successful marketing and operation of businesses. Understanding this behaviour enables companies to better meet their customers' needs, tailor their products and services, and optimise their marketing strategies. There are several ways in which the acquisition of insights into customer shopping behaviour and customer behaviour itself has evolved over time: the use of data analytics and technology, the application of artificial intelligence and machine learning, social media, e-commerce, mobile applications, experimentation and iteration, and the incorporation of ethical considerations. Overtime, the acquisition of insights into customer shopping behaviour has developed and become more precise and sophisticated. Therefore, today, companies use advanced technologies and analytical approaches to better understand their customers and adapt to their needs. At the same time, customer expectations are also changing, requiring continuous adjustment of insight acquisition strategies.

Due to consumer behaviour changing in this rapidly shifting new world, companies realised that they must keep up with constantly changing consumer preferences by implementing innovations in their industries. Recent trends in shopping are pushing companies to understand better the constantly changing consumer preferences to lead in their industries.

Today, almost every car brand has at least one model that falls into the category of electric cars. Buying a car reflects both emotional and functional value. Based on the above, the automotive industry tends to satisfy the most diverse customer requirements. In addition to the emotional value that manifests in the fact that they create a certain image of the consumer, there is also an important functional value that manifests in the fact that customers think about greater savings, because they do not have to spend money on fuel. The problem that arises when buying electric cars for consumers is the high price. The higher prices of electric cars compared to conventional cars or cars with fossil fuel engines reduce their attractiveness. Also, the problem is the battery capacity of the electric car and the charging time of the battery, both properties are related to the battery capacity of the electric car, since the charging time and range depend on it. The disadvantage of electric cars is the geographical (in)coverage of charging stations compared to fossil fuel cars.

In the reviewed literature, no study has been found on consumer habits that influence purchasing of an electric car, at least not in Slovenia. The paper's research problem focuses on consumer behaviour when buying an electric car and establishes determining factors that influence purchasing an electric car. Innovation in purchasing behaviour has been unexplored, and no research has been found on this topic either. Generalising the findings of the study, especially the identified factors influencing consumer behaviour towards electric cars, involves considering potential similarities and differences across regions.

Focusing on researching consumer behaviour when purchasing an electric car, the research also explores the influencing factors when it comes to buying it. Through empirical research, the importance of various elements in the decision-making process of buying an electric car was studied: model/brand, price, range, quality, charging time.

1.1   Factors influencing consumer purchase behaviour

Analysing numerous domestic and foreign literature, it was possible to see that the psychological factors that influence the purchase decision can be: motivation, attitudes, perception, learning and memory. Motivation can be explained as an internal state that drives the consumer to purchase a product to satisfy their own needs. The motivation for making a purchase decision can arise from various needs, such as: convenience, style, prestige and the like. The three key components of attitudes are:

1   the rational component of attitudes (knowledge, behaviour, and experience)

2   the emotional component of attitudes (feelings towards the product/service)

3   the behavioural component of attitudes (consumer behaviour depending on the product/service being offered observes) (Vukasović, 2021).

A somewhat different view of psychological factors was presented in his work by Brletić (2019, p.39), who highlighted the key psychological characteristics of consumers: intelligence, temperament and shortness. Intelligence can be explained as the ability of an individual to act in a purposeful way, to think rationally and to deal with the environment that surrounds him in an effective way. On the other hand, temperament is a way of reacting, in this case to shopping, which is why special attention is paid to: shopping speed, shopping frequency and the like. And finally, the character that best explains the consumer's behaviour and is woven from motivations, opinions and feelings.

Personal characteristics represent another type of characteristics that significantly influence consumer behaviour in the purchase phase. This actually refers to: age, income and personality. Of course, there are four important things to keep in mind. First, consumer behaviour should be seen as behaviour that has a permanent character. Second, each person is a personality in his own right, so everyone behaves differently in given situations. Third, researchers do not have the ability to predict consumer behaviour, except for general classes of behaviour, such as: healthy lifestyle, bargaining power, and the like. And fourthly, the balance between message effects and customer behaviour should be kept in mind [Nouraie et al., (2017), p.10]. In their study, Sarah and Viswanadham (2022, p.75) found a positive correlation between personal factors and making a purchase decision. A similar point of view was reached by Purwanto (2020, p.36), who came to the conclusion that personal factors have a significant influence on the decision to purchase a product.

Sociological or as they are also called social factors, also have an impact on consumer behaviour. These factors primarily mean the influence of the environment: family, friends, acquaintances. Roy and Datta (2022, p.212) emphasise that of all sociological factors, the family has the most influence, for the reason that each person shapes his personality precisely in his home where he grows up. Al-Azzam (2014, p.82) paid special attention to reference groups as a segment of sociological factors that can be explained as the influence of individuals or groups of people on consumer behaviour. Reference groups actually focus on attitudes, values, beliefs, behaviours and norms that directly or indirectly influence consumer behaviour. After the conducted study, they proved their hypothesis in the paper, which read "there is a significant positive relationship between the reference group and consumer behaviour."

In addition to psychological, personal and sociological factors, the decision to buy is also influenced by economic factors. In this sense, the financial condition of the consumer is analysed, that is, his purchasing power. As Minyahel (2020, p.19) points out, it is necessary to focus on the following: personal income, family income, income expectations, liquid assets, consumer loans and other factors (inflation, government policy and the like). Personal income is the actual income that remains available to the consumer during the month. The higher the income, the higher the probability of purchasing the product and vice versa. On the other hand, family income is the income of all family members and, as such, has a significant impact on making a purchase decision. When we talk about liquidation funds, we mean the situation in which, if the consumer has less liquidation funds, he will not spend on comfort and luxury, and vice versa. And finally, the availability of consumer loans increases the chances of buying more durable and luxurious goods, especially if the goods can be paid in instalments. A study by Rehman et al. (2017, pp.419–420) examined all the factors that influence consumer behaviour, including economic factors, and after analysing the obtained results, they found that the consumer's economic condition significantly affects the change in his behaviour during the purchase phase, and strong association with discounts, free samples, '1 + 1 free' promotion and sales promotion.

Non-price factors represent another type of factors that have an impact on making a purchase decision. These factors include: product/service quality, brand, product service and warranty, product/service advertising method, packaging and the possibility of paying the product in instalments [Jelen, (2013), p.20]. In order to increase consumer satisfaction, companies must provide product warranties, especially for more luxurious/

expensive products. Quality is also an indispensable factor, which should be matched with the price. Bakator et al. (2018) focused in their work on brand loyalty and purchase intention, which is why it is crucial to establish a strong and meaningful brand-consumer relationship. At the same time, it is necessary to take into account the individual attitudes of consumers and unpredictable circumstances. When it comes to packaging, we mean the attractiveness of packaging, which also has an impact on consumer behaviour, which is why employers should pay more attention to the quality, practicality and attractiveness of packaging, and it is desirable that the packaging be such that it can be recycled, in order to the environment is protected.

Situational factors are those factors that include: physical environment (store location, layout of sales space, music, etc.), social environment (friendliness of staff, sufficient number of staff), time (day, season), purpose of purchase (gift or personal use) and the consumer's mood during the purchase phase (good mood, anxiety, tiredness, etc.). Mooradian (2018) examined consumer behaviour by focusing on: the tempo of the music, the volume of sales and the number of customers. On that occasion, he determined that a slower tempo of music leads the consumer to stay longer in the sale and vice versa. Likewise, it was established that the volume of sales also depends on the music, because if it is slower and if the consumer stays longer in the sale, it is more likely that the profit in the store will be higher. On the contrary, the faster tempo of the music additionally 'pressures' the consumers, due to which they have the impression that they have less time at their disposal and they leave more quickly.

1.2   Electric car market

One of the most important markets for the sale of electric cars is the European market. Aware of this fact, the International Energy Agency (IEA) plans to produce as many as 20 million batteries for electric cars by the end of 2030. The reason is more than obvious, which is that there is a need to use this type of car, which is confirmed by the fact that in 2016, 600,000 electric cars (mainly REEVs and plug-in hybrids) were produced, which is three times more than in 2014 a year. The leading countries can be singled out: Norway, Sweden, Denmark, Benelux countries, Great Britain, Germany, France and Italy [Dano and Rehak, (2016), p.75], but certainly the main leader in this industry is China, which by the end of 2023 generate revenue of 292,100 million dollars.

When it comes to Slovenia, according to official statistical reports, it is predicted that by the end of 2023, the revenue from the sale of electric cars will amount to 172.10 million dollars, and by 2028, the revenue will be 360.50 million dollars, which represents a growth of 15, 94%. Numerically, by 2028, it is planned to sell 6.82 thousand electric cars, while the average price on the market will be 53.87 thousand dollars (Statista, 2023). For a better understanding, the number of sales of electric cars in Slovenia for the period from 2016 to 2023 is shown in Figure 1 with predictions until 2028.

Although China, Europe and the USA account for about 95% of sales of electric cars at the global level, Slovenia manages to cope with market changes, and shows a growing tendency year after year. Looking at Figure 1, it can be seen that by the end of 2023, the number of electric cars sold will amount to 3.20 thousand (of which 5.89 battery electric cars and 0.93 plug-in hybrid electric cars), which is as much as 3.01 cars more than in compared to 2016. Sales revenue at the end of 2023 will be $172.11 million, of which $131.0 million from battery electric cars and $41.11 million from plug-in hybrid electric cars, which is $161.73 million more in compared to 2016. Given that the price is one of

the key factors influencing the purchase decision, the following tabular presentation will present the prices of both categories of electric cars in Slovenia, by year.

Taking a closer look at Figure 2, it can be concluded that the prices of electric cars have been more or less identical over the years, with a slight downward trend until the end of 2028. It was also observed that the price of plug-in hybrid electric cars in Slovenia is significantly higher compared to battery electric cars. So, in 2023, the average price of plug-in electric cars was $64.63 thousand, while the average price of battery electric cars in the same year was $51.20 thousand.

Figure 1 Sales of electric cars in Slovenia from 2016 to 2023 with forecasts to 2028 (in thousands)
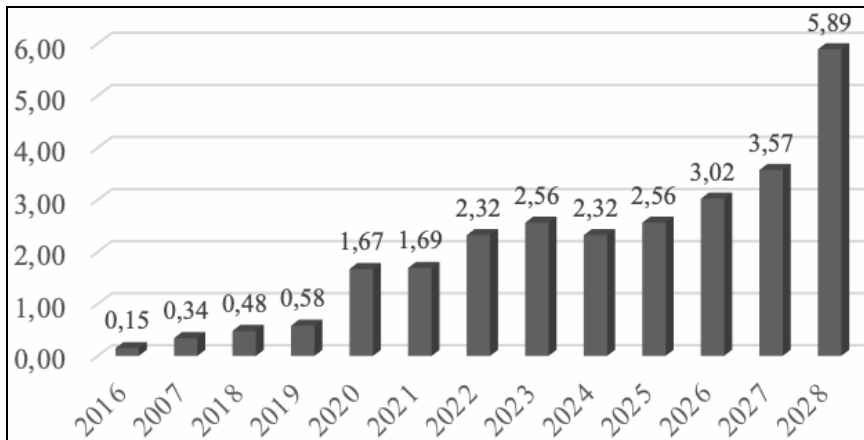
Source: Statista (2023)

Figure 2 Electric car prices in Slovenia for battery and plug-in hybrid electric cars for the period from 2016 to 2023 with projections to 2028
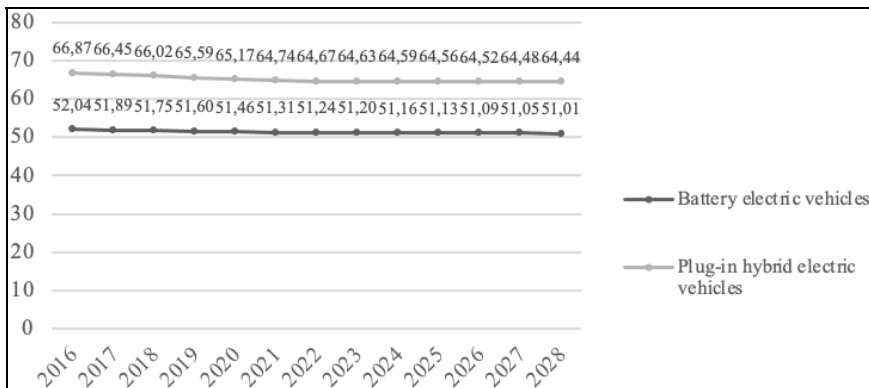
Source: Statista (2023)

Analysing the Slovenian market in terms of the prevalence of electric cars was also done by Prah et al. (2022, pp.287–288) pointing out that this country currently has 637 connectors for charging electric cars. If compared to 2016, the number of connectors has increased by 500. Since Slovenia covers 20,273 square kilometres, there are averages of

0.015 charging connectors per square kilometre. An uneven distribution was also determined due to the fact that the largest numbers of connectors are located on the territory of: Ljubljana, Maribor, Kranj and Koper, as well as in tourist places, such as: Bled, Podčetrtek, Rogaška Slatina and the Adriatic coast. A large number of connectors were also identified on the border with Austria, much more compared to, say, Croatia.

1.3   Innovation and changes in consumer purchasing behaviour: key drivers in the electric vehicle market

Innovation and changes in consumer purchasing behaviour are crucial factors that strongly influence the electric vehicle market. Electric mobility is continually evolving, and innovations play a pivotal role in driving this development. Consumers are increasingly aware of the environmental impacts of fossil fuels and are seeking sustainable alternatives, where electric vehicles represent a significant step forward.

Innovation in this context encompasses a broad spectrum of factors, from technological advancements in batteries to smart features and autonomous driving. These innovations not only enhance the performance of electric vehicles but also transform how consumers perceive and use automobiles. For instance, autonomous driving opens doors to new modes of transportation, while smart technologies enable better connectivity and vehicle management through mobile devices.

However, innovation is not limited to the technical aspects of electric vehicles. It also includes new business models, such as car-sharing and subscription services, allowing consumers to access electric vehicles without long-term commitments. This opens doors for consumers who may not be willing or able to invest in owning an electric vehicle but still want to reap the benefits of electric mobility.

Consumer purchasing behaviour is adapting to these innovations. Consumers are becoming more environmentally conscious and are seeking sustainable options. At the same time, they are sensitive to factors such as price, vehicle range, availability of charging stations, and other practical aspects of using electric vehicles.

Marketing electric vehicles focuses on educating consumers about the advantages of innovative technologies while adjusting to their evolving needs and expectations. Manufacturers must improve consumer perceptions regarding the reliability of electric vehicles, overcome barriers in charging infrastructure, and ensure competitive pricing to promote wider acceptance of electric mobility.

In conclusion, innovation and factors influencing purchasing behaviour are intricately linked to the development of the electric vehicle market. Manufacturers must continually track consumer needs and innovate to meet their expectations, while consumers act as a driving force for industry changes geared toward a more sustainable future of mobility.

1.4   Lifestyle of electric vehicle buyers

Consumer lifestyle is an extremely important segment in the decision-making process for purchasing electric vehicles. Numerous studies have confirmed that consumers are typically influenced by various motivational factors, with a predominant concern for the environment or the presence of environmental awareness. In other words, consumers who are more environmentally conscious and open to using innovative and modern technology opt to purchase electric vehicles [Rotaris et al., (2020), p.3].

Rotaris et al. (2020) conducted a comparison regarding the influence of environmental awareness on the purchase of electric vehicles in Italy and Slovenia. In Italy, 996 respondents participated in the survey, while in Slovenia, there were 938 respondents. In both cases, it was found that price and driving range are the most crucial factors influencing purchasing decisions, with residents of Slovenia being slightly more price-sensitive, mainly due to lower average incomes compared to Italy. However, sensitivity regarding driving range and fuel consumption was also identified in both countries. The same study revealed that although most respondents reported a certain level of knowledge about using electric vehicles, only 20% had the opportunity to drive an electric car. A positive correlation was also found between environmental awareness and the use of electric vehicles, with environmental awareness being more pronounced in the male and older populations, which was somewhat unexpected, as general literature suggests that the younger population is more aware of the importance of environmental protection. High purchase costs and limited driving range were the main reasons why consumers choose not to purchase electric vehicles.

Knez and Obrecht (2018, p.28) found in their research that the purchasing decision of 57.1% of respondents is influenced by perception and consumer personality. Two types of consumer personalities were identified – personal interests and environmental concern. On the other hand, consumer perception can be either positive or negative. Positive perception is mostly influenced by benefits, attitude, and purpose, while negative perception is influenced by risk. The first three non-financial factors that influenced the decision of Slovenian residents to purchase an electric vehicle were the overall condition and mileage of the car (in the case of purchasing a used car), followed by safety features and the appearance of the car. Conversely, it was found that the most important financial factor is the product price, including maintenance costs. At the same time, a strong connection was identified between the gender of respondents and the decision to purchase, especially concerning the safety of the car, performance, and fuel type. Regarding the price of such vehicles, it is essential to consider that the cost of an electric vehicle battery decreased by approximately 85% from 2010 to 2018, from $1,160 to $176 per kWh, leading to an expected surge in demand for such products [Lutsey and Nickolas, (2018), p.2].

A similar viewpoint was presented by Mandys (2021, pp.3–4), stating that consumers most often abandon the purchase of electric vehicles due to limited driving range, low performance, and longer charging times. One of the reasons for abandoning the purchase is also obstacles related to high battery costs and a lack of infrastructure for charging electric batteries. Riverso et al. (2023, p.2) addressed this issue, emphasising that the most important factors influencing the decision to purchase electric vehicles are attitude, subjective norm, and perceived behavioural control. They demonstrated that intolerance of uncertainty negatively affects the behavioural intention to purchase electric vehicles.

2 Research and analysis

2.1 Research methodology and sample

Research data was acquired by utilising research methodology, namely an online survey. We conducted the research using a quantitative method. The survey was conducted from 1st July to 4th July 2023. 106 respondents over the age of 18 answered. Six respondents

were excluded from the analysis, since 100 people duly filled out the survey, so the survey sample represents 100 respondents. The survey questionnaire was created in the online environment of 1KA. The target group were users of electric cars, of different age groups, work status and different levels of education, and the target population will include both men and women from Slovenian regions. Data obtained were statistically processed with the SPSS program and presented with graphs and tables with the corresponding interpretation. Figure 3 shows the ratio of respondents by gender.

Figure 3   Gender of respondents
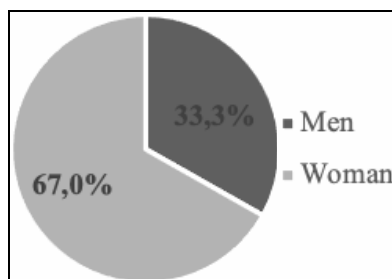
Out of a total of 106 respondents, 100 respondents answered the question, and the other six respondents were not taken into account. Of that, 67% were female and 33% male. Among the respondents, 32% were between 41 and 50 years old, 28% older than 51 years, 27% between 30 and 40 years old, 11% between 19 and 29 years old and only 2% under 18 years old. The results of the survey also showed that the respondents are predominantly highly educated, which is confirmed by the fact that 29% of them have a higher professional education, 27% have a university degree and 9% have a master's degree or doctorate, while on the other hand, 31% have a high school and 4% have a primary school. Participants in the survey research on a monthly basis usually earn between 1,500.00 and 2,000.00 euros, which was confirmed by 44% of them. The rest declared as follows: up to 1,000.00 euros (33%), between 2,001.00 and 3,000.00 euros (11%), between 3,001.00 and 4,000.00 euros (6%), over 4,001.00 euros (3%), and only 3% of them had no income. More than half of the respondents, 66% to be precise, are employed. Other respondents gave the following answers: pensioner (19%), unemployed (10%) and student (5%). After collating and analysing the answers, it was found that 46% were married, 36% were single, 10% were separated, and the remaining 8% were widowers.

2.2   *Research results*

Table 1 shows the average values of electric car characteristics that are important when choosing an electric car. Respondents rated (on a scale of 1 to 5 the characteristics of an electric car that are important when choosing an electric car, with a rating of 1 being the lowest possible rating and a rating of 5 being the highest possible rating).

Table 1 clearly indicates that the range that the car can travel with one charge is the most important to the respondents, for the reason that the highest average value was observed in this segment, which was 4.6, while the model and brand of the electric car is the least important to them, where the average was identified value in the amount of 3.12.

The next question was "motivation for purchasing an electric car is a wide variety of car models and brands" (Table 2). That a large selection of brands and models is one of the key motivational factors, only 24% of respondents completely agreed or agreed to a greater extent, while 40% had a completely opposite opinion. The other 36% did not express a clear position on the given topic.

Table 1   Average characteristics of an electric car important when choosing an electric car

Variable	Question	Mean	Std. deviation
Q1a	The price of an electric car is important to me.	3.83	1.29
Q1b	The quality of the electric car is important to me.	4.38	1.03
Q1c	What is important to me is the range the car can travel on a single charge.	4.60	0.77
Q1d	Charging time is important to me.	4.53	0.77
Q1e	The model and brand of the electric car are important to me.	3.12	1.17

Table 2   Motivation for buying an electric car – a large selection of car models and brands

Q2	The motivation for buying an electric car is a large selection of car models and brands				
	Answers	Frequency	Percent	Valid	Cumulative
	1 (I strongly disagree)	19	19%	19%	19%
	2 (I mostly disagree)	21	21%	21%	40%
	3 (I neither agree nor agree)	36	36%	36%	76%
	4 (I mostly agree)	20	20%	20%	96%
	5 (I completely agree)	4	4%	4%	100%
Valid	In total	100	100%	100%	
		Mean	2.69	Std. deviation	1.12

From Table 3, we can conclude that almost half of the respondents (49%) are aware that electric cars are better for the environment and that they do not endanger it to the same extent as conventional cars. However, the question arises why 29% of respondents had a completely different attitude? Is it because of ignorance or for some other specific reasons? The remaining 22% of respondents neither agreed nor disagreed that electric cars are less damaging to the environment.

Table 3   Electric cars – less environmental and air pollution

Q3	Electric cars pollute the environment and air less than conventional cars				
	Answers	Frequency	Percent	Valid	Cumulative
	1 (I strongly disagree)	13	13%	13%	13%
	2 (I mostly disagree)	16	16%	16%	29%
	3 (I neither agree nor agree)	22	22%	22%	51%
	4 (I mostly agree)	29	29%	29%	80%
	5 (I completely agree)	20	20%	20%	100%
Valid	In total	100	100%	100%	
		Mean	3.27	Std. deviation	1.31

On the question "does the increasingly strict law on environmental protection increase interest in buying electric cars", 38% of the respondents fully and mostly agreed that the environmental legislation is being tightened and that this directly affects the interest of consumers in buying electric cars. While 30% of respondents mostly disagreed or did not agree at all. The others answered with 'I don't know'.

Table 4   Stricter environmental protection laws – increased interest in purchasing an electric car

Q4	Stricter environmental protection laws – increased interest in buying an electric car			
	Answers	Frequency	Percent	Valid	Cumulative
	1 (I strongly disagree)	14	14%	14%	14%
	2 (I mostly disagree)	16	16%	16%	30%
	3 (I neither agree nor agree)	32	32%	32%	62%
	4 (I mostly agree)	29	29%	29%	91%
	5 (I completely agree)	9	9%	9%	100%
Valid	In total	100	100%	100%	
		Mean	3.03	Std. deviation	1.18

According to Table 5, it can be seen that the financial subsidy influenced the purchase of an electric car for 37% of respondents, while for 41% it did not influence the purchase, and 22% did not express a clear opinion.

Table 5   State financial subsidy – influence on the decision to buy an electric car

Q5	The state's financial subsidy influenced my decision to buy an electric car			
	Answers	Frequency	Percent	Valid	Cumulative
	1 (I strongly disagree)	26	26%	26%	26%
	2 (I mostly disagree)	15	15%	15%	41%
	3 (I neither agree nor agree)	22	22%	22%	63%
	4 (I mostly agree)	26	26%	26%	89%
	5 (I completely agree)	11	11%	11%	100%
Valid	In total	100	100%	100%	
		2.81	Std. deviation	1.33	

When it comes to subsidies from the state, as an incentive for the purchase of an electric car, the respondents' opinions are divided (Table 6). 34% of respondents think that it is not a good motive for buying and the same percentage that it is a good motive for buying. The other 32% did not define themselves clearly.

2.3   *The hypotheses testing*

H1 Increasing awareness of environmental pollution affects the decision of potential customers to buy an electric car.

Hypothesis testing was performed by analysing respondents' answers to question 4, that electric cars pollute the environment and air less than conventional cars. Based on the results shown in Table 7, it can be seen that according to the HI-square test, there are no

statistically significant differences in the frequency of respondents' answers ($\eta^2 = 7.500$; $p > 0.05$). Neutral responses greatly influenced the equalisation of response frequencies, so that the overall significance of the frequency difference decreased. According to the results of the binomial test, there are statistically significant differences in the frequency of positive and negative responses (49:29; $p < 0.05$). Bearing in mind that the majority of respondents (63%: 37%) are aware that electric cars pollute the environment and air less than conventional cars and that this influenced the decision of potential buyers to buy an electric car, we accept the results of the binomial test and conclude that the Hypothesis H1 is confirmed.

Table 6   Probability of buying an electric car if the subsidy for the purchase itself amounts to 50% of the value of the car

Q6	*What is the probability that you will decide to buy an electric car if the subsidy for the purchase itself amounts to 50% of the value of the car?*				
	Answers	*Frequency*	*Percent*	*Valid*	*Cumulative*
	1 (very low probability)	17	17%	17%	17%
	2 (low probability)	17	17%	17%	34%
	3 (medium probability)	32	32%	32%	66%
	4 (high probability)	15	15%	15%	81%
	5 (very possible)	19	19%	19%	100%
Valid	In total	100	100%	100%	
		Mean	3.02	Std. deviation	1.33

Table 7   Chi-square and binomial text results

Question		Test	Answers	Observed N	As expected N	η^2	Significance (p)
Q4	Electric cars pollute the environment and air less than conventional cars.	Chi-square	1	13	20	7.500	0.112
			2	16			
			3	22			
			4	29			
			5	20			

Question		Test	Answers	N	Observed proportion	Proportion test	Significance (p)
Q4	Electric cars pollute the environment and air less than conventional cars.	Binomial test	0	29	0.37	0.50	0.031
			1	49	0.63		
			Σ	78	1.00		

H2 The introduction of financial support and subsidies for the purchase of an electric car leads to the decision of customers to purchase an electric car.

Hypothesis testing was performed by analysing respondents' answers to the question, did the financial subsidy of the state influence the decision to buy an electric car and to the

question, what is the probability that you will decide to buy an electric car if the subsidy for the purchase itself amounts to 50% of the value of the car and according to the results tests.

Table 8   Chi-square and binomial test results

Question		Test	Answers	Observed N	As expected N	η^2	Significance p
Q6	The state's financial subsidy influenced my decision to buy and electric car.	Chi-square	1	26	20	9.100	0.059
			2	15			
			3	22			
			4	26			
			5	11			

Question		Test	Answers	N	Observed proportion	Proportion test	Significance p
Q6	The state's financial subsidy influenced my decision to buy and electric car.	Binomial test	1	37	0.47	0.50	0.734
			0	41	0.53		
			Σ	78	1.00		

Question		Test	Answers	Observed N	As expected N	η^2	Significance p
Q7	What is the probability that you will decide to buy an electric car if the purchase subsidy is 50%.	Chi-square	1	17	20	9.400	0.052
			2	17			
			3	32			
			4	15			
			5	19			

Question		Test	Answers	N	Observed proportion	Proportion test	Significance p
Q7	What is the probability that you will decide to buy an electric car if the purchase subsidy is 50%.	Binomial test	1	34	0.50	0.50	1.000
			0	34	0.50		
			Σ	68	1.00		

Based on the results shown in Table 8 of both tests, we can conclude that there are no statistically significant differences in the frequency of respondents' responses to both questions ($\eta^2 = 9.100$ and 9.400; $p > 0.05$), as well as according to the results of the binomial test, there is no difference in the frequency of positive and negative responses

(37: 41 and 34: 34; p > 0.05). What is more, there were fewer positive responses from respondents to the first question (47%: 53%) and an equal number of responses to the second question (50%).

Table 9 Chi-square and binomial test results

Question		Test	Answers	Observed N	As expected N	η^2	Significance p
Q1a	The price of an electric car is important to me.	Chi-square	1	8	20	45.100	0.000
			2	7			
			3	23			
			4	18			
			5	44			

Question		Test	Answers	N	Observed proportion	Proportion test	Significance p
Q1a	The price of an electric car is important to me.	Binomial test	1	62	0.81	0.50	0.000
			0	15	0.19		
			Σ	77	1.00		

Question		Test	Answers	Observed N	As expected N	η^2	Significance p
Q1c	The range the car can travel with one charge is important to me.	Chi-square	1	1	20	184.200	0.000
			2	1			
			3	8			
			4	17			
			5	73			

Question		Test	Answers	N	Observed proportion	Proportion test	Significance p
Q1c	The range the car can travel with one charge is important to me.	Binomial test	1	90	0.97	0.50	0.000
			0	3	0.03		
			Σ	93	1.00		

Question		Test	Answers	Observed N	As expected N	η^2	Significance p
Q1d	Charging time is important to me.	Chi-square	1	1	20	33.900	0.000
			2	1			
			3	8			
			4	24			
			5	66			

Question		Test	Answers	N	Observed proportion	Proportion test	Significance p
Q1d	Charging time is important to me.	Binomial test	1	90	0.97	0.50	0.000
			0	3	0.03		
			Σ	93	1.00		

In order to check the consistency of respondents' answers to these two questions, we examined the significance of the correlation using the non-parametric Spearman rank correlation coefficient. The correlation of answers to these two questions is highly significant and strong ($\rho = 0.729$; $p = 0.000 < 0.001$), which confirms the connection of respondents' views on these questions.

Based on the presented results, it can be concluded that the financial subsidy of the state did not influence the respondents' decision to buy an electric car and that there is little probability that they will decide to buy an electric car if the subsidy for the purchase was 50% of the value of the car, but their decision was influenced other factors, and we conclude that Hypothesis H2 is re-rejected.

H3 The most important factors influencing the purchase of an electric car are price, range and charging time.

Hypothesis testing was performed by analysing respondents' answers to question 1:

a   that the price of an electric car is important

b   that the range the car can travel with one charge is important

c   that the charging time is important, and according to the test results.

Based on the results shown in Table 9 of both tests, it can be concluded that there are statistically highly significant differences in the frequency of respondents' answers to all three questions ($\eta^2 = 184.200$; 33.900 and 45.100; $p = 0.000 < 0.001$), as well as according to the results of the Binomial test, the difference in the frequency of positive and negative responses (81%: 19%; 97%: 3%; 97%: 3%; $p = 0.000 < 0.001$). We examined the connection between respondents' answers to these three questions and the significance of the correlation using Spearman's correlation coefficient. All response correlations are statistically significant ($p = 0.000 < 0.001$). The strongest correlation is between the answers about the range of the car on a single charge and the charging time ($\rho = 0.676$), while their correlation with the price of the car is weaker, but still highly significant ($\rho = 0.334$; 0.335; $p < 0.001$). Based on the above results, it can be confirmed that the price of the car, the range of the car with one charge and the charging time are the most important factors that influence the purchase of an electric car. Hypothesis H3 is confirmed.

2.4   *Key findings of the research*

Every company, regardless of its activity, strives to satisfy the different needs of its customers, which is the basis for achieving greater loyalty. Companies do everything to adapt their offer to the target market, and in order to succeed, the focus is on understanding the factors that influence consumer behaviour in the purchase phase, namely: psychological, personal, sociological, economic, non-price and situational factors.

When purchasing electric cars on the Slovenian market, the results showed that 63.0% of respondents are aware that such cars pollute the environment less than conventional cars. It was also determined that their purchase decision is most influenced by the range of the car on a single charge and the charging time, followed by the price of the car, and the most important factor is the quality itself. We can conclude that consumers do not have enough knowledge about the main advantages of electric cars, so

it is necessary to inform the public that buying such cars compared to conventional cars is much better for the entire social community. This marketing strategy is possible by combining traditional and digital communication channels. At the same time, it is necessary to support consumers in their purchases by the state and local governments with higher subsidies for their purchases. That would be an excellent way to motivate the citizens of Slovenia to take this step, showing that the Slovenian state does not care about the environment and people's health.

3 Conclusions

The buying process is extremely complex and goes through several different stages: recognising needs, finding information, evaluating options, making a purchase decision, and post-purchase results. At the same time, the purchase process can be influenced by various factors, which can be grouped into: psychological (motivation, perception, learning), personal (age, type of education, income and lifestyle), sociological (family, friends, reference groups), economic (personal income, family income, income expectations, liquid assets, consumer loans and other factors: inflation, government policy and the like), non-price (product/service quality, brand, product service and warranty, product/service advertising method, packaging and the possibility of paying off the product in instalments) and situational factors (physical environment, social environment, time, purpose of purchase, mood of the consumer during the purchase phase).

The obtained results showed that increasing the awareness of environmental pollution affects the decision of potential customers to buy an electric car. In contrast, the introduction of financial support and subsidies for the purchase of an electric car does not lead to the decision of customers to purchase an electric car. The most important factors influencing the purchase of an electric car are price, range and charging time.

The findings of the study can be applied from the perspectives of car dealers and regulators to strengthen the implications. Car dealers can use the insights gained from the research to tailor their marketing and sales strategies. Emphasising the importance of factors such as range, pricing, and charging infrastructure in their promotional materials can attract potential customers. Training sales staff to effectively communicate the environmental benefits of electric cars, special financing options and being knowledgeable about charging infrastructure can enhance the overall customer experience.

Policymakers and regulators can leverage the study findings to formulate policies that encourage the adoption of electric cars. This might include developing incentives such as tax credits, subsidies, or infrastructure investments to address the key factors identified in the study. Implementing initiatives to increase awareness of environmental issues and the benefits of electric cars can align with the research findings and support the broader goal of sustainable transportation. Collaborating with car manufacturers to establish standards for pricing transparency, range improvement, and charging infrastructure development could contribute to a more favourable environment for electric car adoption. By considering these viewpoints, car dealers can enhance their sales strategies, while regulators can formulate policies that support the factors influencing consumer decisions in favour of electric cars, thereby fostering a more sustainable automotive landscape.

When it comes to the possibilities of further research in this area, it is possible to conduct the same type of research in other countries and on a larger sample, and then they can be compared. More extensive research would succeed significantly if all of Slovenia's regions could be included. In addition, it is possible to study the reasons why consumers have not yet switched to electric cars, which will give a clearer insight into their attitudes and way of thinking, at the same time it is possible to make additional suggestions for improvements based on the answers received. An in-depth and focused analysis is an opportunity for additional research and thus a more detailed definition of the link with innovation.

The limitation of our research lies in the non-representative sample. The study was limited in both time and number of respondents. Therefore, the survey results do not reflect the overall state, although we feel that our findings can be successfully implemented into practice. This assignment has better understood the decision-making process for such a specific product. The findings of the research can be used when designing and implementing marketing as well as sales strategies. Several insights have been unveiled regarding electric cars consumers' specific habits and behaviour.

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