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Factors Influencing Consumers' Intentions to Purchase Electric Cigarette Among Young Adults

Dissertation of Masters in Marketing, presented to the Faculty of Economics of University of Coimbra to obtain a Masters' degree.

Coimbra, 2022

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Advisor: Professor Arnaldo Coelho, PhD

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Acknowledgements

Abstract

Purpose: This study's primary objective is to investigate the factors that impact young individuals' intentions to purchase electronic cigarettes. The study's findings give data and suggestions about the elements that impact customers' intent to purchase electronic cigarettes. Specifically, the effect of health consciousness, habit, and the ban on flavored tobacco on consumer purchase intention and behavior within the framework of the expanded Theory of Planned Behavior.

Design/ Methodology Approach: This dissertation adopts a survey as its methodology. To explain the purchase intentions for E-cigarette, an expanded form of the Theory of Planned Behavior (TPB) was used. Furthermore, the research model is also developed by literature review. In this study, 305 respondents from China were tested by both online questionnaires and paper questionnaires. The data were tested by IBM SPSS and IBM SPSS AMOS.

Findings: Through this study, the authors demonstrated through data analysis that health consciousness through ETPB does not have a significant impact on young adults' intention to purchase e-cigarettes. This may be related to the nicotine addictive nature of e-cigarettes. In the study on habit, habit not only influenced young adults' attitude, but also had a significant impact on e-cigarette purchase intention and behavior. With the introduction of flavor bans in various countries, the government policy has had a negative impact on perceived behavioral control of young adults, and also on consumer purchase intentions and behavior. Thus, the negative effects of flavor bans continued to affect young adults' purchase intentions and behaviors during the study period. However, there was no significant relationship between purchase intention and purchase behavior for young adults. This is inconsistent with previous research.

Originality/value: Considering the lack of research on young adults' purchase intentions for e-cigarettes, this thesis hopes to take a step forward in filling these gaps in the literature. Considering that none of the studies identified during the production of this study considered the role of TBP in this behavior and the influence of health consciousness, habit, and flavoured tobacco ban in purchase behavior , this study proves to have an innovative view on the role of these factors in young adults' e-cigarette purchase intentions.

Practical Implications: This study contributes to the field of the e-cigarette industry and research focused on the social impact of the industry by providing an innovative take on TPB. It not only clarifies their possible role in consumer behavior, but also provides support in e-cigarette marketing and production normalization, but also provides a basis for further discussion and research on this issue.

JEL-codes:

Keywords: Smoking; electronic cigarette; purchase intention; theory of planned behavior; flavor bans; young adults

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1. Introduction

1.1 Research Problem and Objectives

E-cigarette (use of vaping) vaporizes e-liquid (with or without nicotine) to mimic conventional smoking (Grana R, Benowitz N, Glantz SA 2014). E-cigarette, or vaping, products have been rising steadily in popularity for the past decade (Fadus, Smith, & Squeglia, 2019). E-cigarettes were invented in China, and most of the world's e-cigarettes have been produced in China. However, awareness and use of e-cigarettes in China are lower than in Europe and America (Wang, W., He, Z., Z., Feng, N., & Cai,Y., 2019). How to understand smokers' intention to purchase e-cigarettes has become a topic of concern for e-cigarette company managers. However, to the authors' knowledge, there are no empirical studies that elaborate on the relative strength of the potential impact of regional statements on consumer behavior in China.

Moreover, usage of electronic nicotine delivery devices ("e-cigarettes") is increasing among young individuals, with estimates ranging from 7.3% to 15.5% of adults under 25 reporting current use (Schulenberg et al., 2019; Villarroel et al., 2020). E-cigarettes were the most popular tobacco product among young adults, mirroring national trends (Arrazola RA, Singh T, Corey CG, et al.,2015). Since 2015, the prevalence of e-cigarettes among Chinese adults has grown, particularly among young individuals aged 15–24. (Xiao L, Yin X, Di X, et al,2022).In May 2019, a survey by the Chinese Center for Disease Control and Prevention showed that the main group consuming e-cigarettes in China is young people, with the highest usage rate in the 15-24 age group (Jiang Mengmeng,2021). Therefore, for stakeholders in the e-cigarette industry, research into young adults' purchae intention for e-cigarettes is essential in a rapidly growing market environment.

At the same time, there are concerns about the social impact and health issues associated with e-cigarettes.

This paper uses an expanded form of the Theory of Planned Behavior (TPB) when exploring the factors that influence young adults' purchases of e-cigarettes. A model which has been extensively applied in the context of research on purchasing and sustainable consumer behavior is the Theory of Planned Behavior (TPB) (e.g., Arvola et al., 2008).

A new systematic evaluation suggests that juvenile e-cigarette prevention and cessation initiatives must be distinct from tobacco efforts and anchored in behavior change theory (Kavousi M, Pisinger C, Barthelemy JC, Smedt DD, Koskinas K, Marques-Vidal P, et al. ,2020).

According to the theory, behavior is determined by behavioural intentions, which are in turn influenced by three independent constructs: attitudes (advantages and disadvantages of engaging in a behavior), subjective norms (SN - social influences on the behavior), and perceived behavioural control (PBC - facilitators and barriers to a behavior), often separated into measures of perceived control and self-efficacy) (Francis J, Eccles MP,2004). A small number of recent studies have applied the TPB to e-cigarette use, but there are limitations to the conclusions that can be drawn from these studies because they are not complete TPB applications and have not followed the sequential framework recommended by Ajzen and Francis for the design and conduct of TPB studies (Case K, Crook B, Lazard A,2016). Those few who have utilized the TPB have done so with populations of young adults (Scheinfeld E, Crook B,2019).

Considering that there are numerous factors that can influence the purchase of e-cigarettes by young adults, three important variables were envisaged as possible influences on the outcome: health consciousness, habits and government policy. The State Tobacco Monopoly Administration of China issued the Measures for the Administration of Electronic Cigarettes, which prohibits the sale of flavoured e-cigarettes other than tobacco flavours and e-cigarettes that can add their own atomised substances.It is particularly noteworthy that the government policy in this study refers specifically to the impact of the flavour ban on other factors, as the impact of the flavour ban on the e-cigarette industry has been significant in recent years.

The factors influencing young adults' intentions to buy electronic cigarettes will be examined in this study using Chinese consumers as an example. The Theory of Planned Behavior (TPB; Ajzen and Fishbein, 1988) posits that a person's attitudes, subjective norms, and perceived behavioral control toward an action are connected to the intention to do the activity and, ultimately, the behavior's actual performance. This paper applies the TPB to e-cigarette use. In this study, we investigated the relationships between attitudes regarding e-cigarette use and

impulsive personality traits, one of the global processes assumed to be engaged in e-cigarette use behavior (Cohn et al. 2015), behaviors, and flavor ban.

1.1.1 Main Research Objective

The main purpose of this study is to explore the factors that influence purchase intentions for electronic cigarettes among young adults within the TPB model.

1.1.2 Secondary Research Objectives

Verify that conspicuous consumption has a significant impact on attitudes towards electronic cigarettes.

Verify that habit have a positive impact on attitudes, subjective norms and perceived behavioral control towards electric cigarettes.

Verify that government policy has a negative impact on perceived behavioral control towards electric cigarettes.

Verifying that attitudes, subjective norms and perceived behavioral control will have a significant impact on purchase intention.

Verifying that purchase intention will have a significant impact on purchase intention.

Verifying that purchase intention has a positive impact on behaviour towards electric cigarettes.

The following investigation aims to understand the factors that influence young adults' intention to purchase e-cigarettes through TPB theory. Three key influences are discussed in this introductory chapter: health consciousness, habit, and government policy (flavour ban). This thesis will be divided into 7 chapters.

2. Literature Review

By examining prior research on the factors that impact young people' purchase intentions for electronic cigarettes within the TPB model, the next chapter intends to establish a theoretical foundation for the study.

The writers agree on the significance of the subject and the soundness of its evolution as a result of these connections.

2.1 The theory of planned behaviour

A supplement to the theory of reasoned action is the theory of planned behavior (TPB) (TRA). Intentions are primarily impacted by norms and attitudes, which are the main drivers of behavior, according to TRA, which was first proposed by Ajzen and Fishbein in 1975. The combined effects of these two interconnected aspects have an impact on how customers feel about a particular behavior. This includes the customer's perception of the behavior's results and their assessment of possible outcomes. TPB is a theory that is employed to comprehend and forecast behavior. According to the TPB paradigm, behavior may be foreseen and is planned. According to TPB, a person's likelihood of engaging in a behavior is correlated with how strongly they intend to do so. The three pillars that support TPB are: First, a person's attitude toward the behavior, or whether they believe a particular behavior will add positively or negatively to their lives. Second, a subjective standard that emphasizes all events in the person's environment, including remarks made by references groups and the social network that shapes a person's behavior. The third is regarded as the most significant because it was found that behavior cannot be controlled. As a result, perceived behavioral control—defined as one's belief or perception of how simple or difficult it is to carry out that particular behavior or act—was added to the theory. Given how crucial it was to the idea, the TRA was changed to TPB (Ajzen, 1991).

Simply put, TPB asserts that a favorable attitude toward a behavior is governed by best perceived behaviors and subjective standards (Ajzen, 1991), which are advantageous to your attitude and will determine the individual's best intention to engage in that behavior. For instance, TPB contends that the likelihood that a person will buy an e-cigarette is high if they

believe that doing so is beneficial to their health, their peers or other people with whom they interact believe the same thing, and they feel capable of accepting it. However, the likelihood that the person will make a buying decision is decreased if any one of these pillars is not favored. Therefore, the likelihood of a purchase is decreased if two or all three constructions are unfavorable.

2.2.1 Attitude

Some adolescents have sound common sense about the ingredients and risks of e-cigarettes, but many do not. Some study show that particularly concerning given that positive perceptions of e-cigarettes may be increasingly common among adolescents (Berg et al., 2015; Kong et al., 2015). In a 2013 study of North Carolina adolescents, 50-60% believed that e-cigarettes were safer and less harmful than traditional cigarettes. In this sample, only 7.5% thought e-cigarettes were healthier than cigarettes, 3.5% thought e-cigarettes were more fashionable and only 2% thought e-cigarettes were more accessible (Anand et al.., 2015). While these samples are not directly comparable, the increase in positive views of e-cigarettes in our sample may reflect changes in social norms surrounding e-cigarette use over the past two years, which corresponds to an increase in actual use. It is therefore important to educate adolescents about e-cigarettes, including the dangers of nicotine and flavouring (Barrington-Trimis et al. 2014; Behar et al. 2014; Dwyer et al. 2009), and the lack of clear evidence on e-cigarettes as a smoking cessation tool. In addition, there is concern that adolescents appear to be starting to use e-cigarettes, which may lead to cigarette use (Leventhal et al. 2015; Primack et al. 2015; Wills et al. in press). Young adults were less in favor of laws that applied to e-cigarettes than to cigarettes in terms of regulation, but they had more positive sentiments toward them and thought they were less harmful than cigarettes. Approximately 10% more than the sample's self-reported percentage, participants believed that 30% of their closest friends used e-cigarettes. Their perceived prevalence was greater than the 17.4% rate from Monitoring the Future, but close to the 27.4% national e-cigarette ever use rate from the National Youth Tobacco Survey (Gilreath et al., 2016) and the 30% rate from the California survey (California Department of Public Health, 2015). (NIDA, 2016).

There was a higher prevalence of e-cigarette usage among parents, siblings, and peers for young people who had ever smoked tobacco. There are numerous studies that focus on the relationship

between adolescents' perceived prevalence, initiation, and acceptability of traditional cigarette use instead, showing that those who perceive cigarette use to be more prevalent and acceptable are more likely to initiate (D'Amico and McCarthy, 2006; Maxwell, 2002; Page et al, 2002; Pedersen et al, 2013; Tucker et al, 2011). (Olds et al, 2005; Page et al, 2002). These results are in line with behavioral decision theories that contend that risk perceptions and social expectations have an impact on behavioral engagement (Fishbein and Ajzen, 1975).These findings suggest the importance of developing educational and health messages that can correct misconceptions about e-cigarette use, as beliefs about how many peers use e-cigarettes can translate into increased e-cigarette use among adolescents. These results highlight the significance of creating educational and health messaging that can dispel myths regarding e-cigarette use, as teenage e-cigarette usage may rise due to preconceptions about how many peers use e-cigarettes.

The impacts of spontaneous or automatic cognitive processes—presumed to operate outside of awareness or consciousness—on consumer decision-making are well-recognized in the fields of consumer psychology and social cognition research (Maison et al., 2001; Brunel et al., 2003). However, studies on the marketing of tobacco products have not given these procedures enough consideration. In the past, tobacco research has largely relied on self-report measures to analyze marketing effects because they capture variables that are "explicit" or within the range of awareness. Such explicit procedures may only be one of the two primary ways that the effects of tobacco product promotion are mediated, despite being valid and beneficial. Implicit instruments are used to examine automatic processes, which indirectly evaluate the implicit attitude or cognitive construct by having participants complete certain activities or tests (e.g., word association, sentence completion; De Houwer, 2006).

It may be possible to show how tobacco product marketing affects automatic attitudes about tobacco products among potential customers, including existing non-users of tobacco goods, by strategically using implicit measurements in research. Such data may be crucial for controlling emerging tobacco products, such the currently unregulated e-cigarettes. To draw in young people or advertise e-cigarettes as a safer alternative to smokes, it appears that e-cigarette marketing employs implicit, if not overt, strategies (Grana and Ling, 2014). Such

covert strategies may promote the natural link of e-cigarettes with lower risk characteristics or an improved social life or self-image.

It is for this reason that understanding the role of Attitude in e-cigarette marketing is important to fully understand the phenomenon of young adults' buying potential for e-cigarettes.

2.2.2 Subjective norm

Subjective norm is how the person accepts others' opinions toward individual performance, and the acceptance can be affected by the reference group with which one is involved (Ajzen, 1991).

A study suggests that e-cigarette use is associated with higher exposure to secondhand smoke, smoking by any family member, friends who smoke, and witnessing smoking at school (Joung et al., 2016). In addition, smokers have been reported to be attracted to e-cigarettes for several reasons, including the freedom to use e-cigarettes in places where smoking is prohibited and to enjoy the 'smoking experience' (Hales, 2019). Individual, peer, and family tobacco use were strongly associated with e-cigarette ever use (Daniel P. Giovenco, 2016)

A few studies have recently applied TPB to e-cigarette use, but as these are not full TPB applications, they do not follow the sequential framework for the design and conduct of TPB studies suggested by Ajzen and Francis, so some limitations can be drawn from this work (Case K, Crook B, Lazard A, 2016). Minority use subjective norm study of e-cigarette purchase intentions targeting young adult population (Scheinfeld E, Crook B,2019). Because of this, understanding the role of the subjective norm in e-cigarette marketing is important to fully understand the phenomenon of young adults' purchasing potential for e-cigarettes.

2.2.3 Perceived behavioral control

In addition to the individual's attitudes and subjective norms, perceived behavioural control also needs to be considered in the TPB model. Perceived behavioural control refers to an individual's perception of the difficulties that may be encountered when performing a particular behaviour

(Ajzen, 1991). An important variable in TPB is behavioral control, which refers to the perceived ease or difficulty of doing specific health-related behaviors (Ajzen, 1991). Very little research has been conducted on the perceived behavioral control of potential e-cigarette users. Previous research has demonstrated that behavioral control exerts a considerable impact on smoking attitudes and intentions (Namkoong et al., 2016). Self-efficacy, on the other hand, is a postulate of social cognitive theory (SCT) and refers to the degree to which individuals think they have the capacity to complete specific activities (Bandura, 2001). Identity threat was manipulated using negative descriptions of e-cigarette users, and identity emphasis was manipulated through the main character's self-description(Rong, 2021). It is for this reason that understanding the role of perceived behavioral control in e-cigarette marketing is important to fully understand the phenomenon of young adults' purchasing potential for e-cigarettes.

2.2.4 Purchase intention

Among cigarette smokers, the intention to use e-cigs is not associated with intention to quit smoking e-cigs. (Vadhariya, A., 2016)

As the e-cigarette industry in China faces rising demand and growth potential in consumption, stakeholders in the e-cigarette sector need to understand in more detail the effective mechanisms of consumer behaviour in terms of e-cigarette purchase intentions in the current and post-pandemic period. The Theory of Planned Behaviour (TPB), proposed by Ajzen [17], is one of the most widely used theories for predicting consumers' intention to purchase ring-fast products. According to Ajzen, TPB can be modified by adding a new structure or changing the pathway. Furthermore, there are some non-negligible limitations to the application of TPB, and therefore various refinements and extensions to TPB theory have been suggested to improve its validity and applicability. A multidisciplinary approach is necessary to better understand what factors consumers are affected by. Therefore, certain important factors related to consumer behaviour during the pandemic should be investigated and validated in an attempt to explore the factors that influence the purchase of e-cigarettes by young adults.

2.2 Electronic cigarettes

2.2.1 E-cigarettes market and consumers

As e-cigarettes become more accepted by more and more smokers, and as countries and organisations around the world take an interest in the e-cigarette industry, the definition of e-cigarettes is becoming clearer. Although the WHO has a clear definition of e-cigarettes, the definition and classification of e-cigarettes continues to vary from country to country.

E-cigarettes, also known as electronic nicotine delivery systems, are. the currently accepted definition of e-cigarettes, as they were defined in a report submitted by the WHO FCTC Secretariat to COP5 in November 2012. The definition of e-cigarettes is supplemented in the article by Meng et al. (2015), which also classifies e-cigarette products. They consider e-cigarettes to be battery-operated atomising devices that have the sensation of traditional cigarette smoking, but without the burning process of tobacco. The e-cigarette consists of three main parts: the reservoir area where the vapour is stored, the atomisation area where the vapour is vaporised and the control area where the battery circuitry is used. They also classified e-cigarettes into: disposable simulated e-cigarettes, interchangeable e-cigarettes, pre-filled e-cigarettes and refillable e-cigarettes, based on the construction of the reservoir area. In their article, Dou Yuqing et al. (2016) divided new tobacco into three broad categories: smokeless tobacco products (oral, vaporised and chewing), heated non-combustible tobacco products (the Japanese IQOS is this type) and e-cigarettes (the type studied here), which they defined as electronic devices that deliver nicotine to the respiratory system by means of electronic heating. In their article, Fan et al. (2016)126 state that the EU definition of an e-cigarette is a product that contains a cartridge, a reservoir and other components that allow the vaping of nicotine aerosols through a mouthpiece or other component. The EU classifies e-cigarettes as: disposable e-cigarettes and refillable e-cigarettes. Tobacco products (e-cigarettes) are battery-powered devices meant to simulate the process of smoking by transforming a liquid solution into an aerosol ("vapor") (Caponnetto, P., 2015). The liquid solution's foundation is either propylene glycol or vegetable glycerin. In addition to water and flavorings, the liquid may or may not include nicotine. Puffing activates the atomizer's heating element, and the ensuing vapor is

inhaled (Meng, 2015). The French definition of an e-cigarette is a device that converts e-liquid into an aerosol and is used for vaping. The French classification of e-cigarettes: refillable e-cigarettes and pre-filled e-cigarettes. Pre-filled e-cigarettes can be divided into disposable e-cigarettes and replaceable e-cigarettes. Barakat et al (2021) An e-cigarette is a product that contains nicotine and the user inhales the heated, atomised smoke through the mouthpiece.

The initial models were created to closely resemble a standard cigarette, right down to the orange LED that lights up at the tip and turns on when the user inhales to turn the device on. However, there are now a wide variety of models accessible. Some have the appearance of standard cigarettes, cigars, or pipes. (Li Huilin, 2019) Some even have the appearance of miniature torches while others are more like pens. While some lack LED lights, others do. Others feature refillable cartridges while others are single-use disposables or use prefilled cartridges. In order to gain a competitive edge in the market by appealing to consumers who want to distance themselves from anything that resembles a traditional cigarette or who want a longer battery life, better performance, or the satisfaction of owning cutting-edge technology, they come in a variety of shapes and sizes and have various features.

Currently, there are three main types of e-cigarettes available on the market in China: disposable e-cigarettes, open-ended e-cigarettes and replacement e-cigarettes. A disposable e-cigarette is a closed e-cigarette that is pre-filled with liquid, as the name suggests, the product is disposable and the life of the product ends when the atomising liquid in the e-cigarette is used up. The open e-cigarette is a product that requires the user to manually fill the liquid and adjust the temperature. The replacement e-cigarette is currently over 90% of the domestic market.

It is a closed type of e-cigarette that can be used repeatedly by recharging and replacing atomised cartridges.

The market share of electronic nicotine delivery systems (ENDS), often known as electronic cigarettes or e-cigarettes, continues to expand. (Darby Lowe BSc, 2019).

According to statistics, more than 8 million people worldwide lose their lives each year due to tobacco-related diseases, of which about 7 million die from direct use of tobacco products and another 1.2 million from exposure to second-hand smoke (Zheng, 2020). Second, for the sake of the huge market and profits of smokers. There are more than one billion smokers in the world,

of which China accounts for 30%, making it the country with the largest number of smokers in the world with 350 million (Ma et al., 2015). cigarette market will be a $100 billion consumer market in the future.

The main consumer markets for e-cigarettes are in Europe and the United States. The data from the "2019-2025 China E-cigarette Industry Market Competition Pattern and Future Development Trend Report" shows that in 2018, the total global sales of e-cigarettes reached US$16 billion (Jinjiqiong, 2019), of which the total annual sales of e-cigarettes in the United States was about US$6.83 billion and the total annual sales of e-cigarettes in the United Kingdom was about US$2.421 billion. In other words, 57.81% of the total annual sales of e-cigarettes in the world are contributed by the UK and the US; data published in the Global E-Cigarette Industry Report 2020 shows that in 2019, the total sales of e-cigarettes in the world exceeded US$33 billion, with the total sales of e-cigarettes in the US amounting to about US$16 billion and the total sales of e-cigarettes in Germany, France and the UK amounting to about US$6.27 billion. In 2020, global e-cigarette sales are expected to total approximately US$36.3 billion, with the United States, the United Kingdom and Germany still ranking as the top three countries in terms of total e-cigarette sales.

China is the world's largest producer of e-cigarettes and has the largest number of smokers in the world, making it the largest potential market for e-cigarettes. According to data published by the Electronic Cigarette Industry Committee of the China Electronic Chamber of Commerce, the total retail sales of electronic atomised cigarettes in China are estimated to be RMB 14.5 billion in 2020, up 30% from RMB 11.2 billion in 2019. The e-cigarette industry will continue to grow at a high rate in the next 3-5 years against the backdrop of low penetration of e-cigarettes in China. China's e-cigarette consumers are mainly converted from traditional cigarette consumers, and the "China Adult E-Cigarette Use: 2015-2016 and 2018-2019 Multiple Cross-Sectional Survey Results" published by the China CDC shows that there are about 16.9 million adult e-cigarette users in China in 2018-2019, of which 16.2 million are smokers, with about 96.2% of e-cigarette consumers converted from traditional smokers. e-cigarette consumers are converted from traditional smokers.

2.1.2 Attitude towards e-cigarettes

NHS England says it will offer e-cigarettes as a prescription drug to help smokers quit. This means that the UK will be the first country in the world to grant a medical product licence for e-cigarettes. A survey of UK e-cigarette retailer Electric Tobacconist found that only a small percentage of the British public had accurate knowledge of e-cigarettes. In fact, countries around the world already see the huge potential of e-cigarettes in reducing smoking rates. Two countries, the UK and New Zealand, have also adopted e-cigarettes as an official smoking cessation tool.

Adolescents also felt that e-cigarettes were easier to obtain than cigarettes, and a majority felt that if e-cigarettes cost more, teen- agers would be less likely to use them. Berg's study shows particularly concerning considering that positive perceptions of e-cigarettes may be increasingly common among teens (Berg et al., 2015; Kong et al., 2015). In summary, it can be seen that the public's attitude towards e-cigarettes is still controversial.

2.3 Health consciousness

70.9 percent of those who have ever used e-cigarettes indicated believing that these devices are less dangerous than traditional cigarettes, compared to 27.5 percent of those who have never used e-cigarettes. (Cardenas, V. M., reen, P. J., 2015)

The majority of research on adult e-cigarette use has focused on the potential value of these devices as harm reduction measures (Kalkhoran & Glantz, 2016). While there is evidence that e-cigarettes are a safer alternative to conventional cigarettes for adults (e.g., Dawkins, Turner, Roberts, & Soar, 2013; Etter & Bullen, 2011; Farsalinos et al., 2013), little is known regarding the dangers to nonsmoking kids. Given that combustible cigarette use among teenagers is at an all-time low, it is probable that young people begin using e-cigarettes for reasons other than harm reduction (Johnston et al., 2018). Additionally, start of e-cigarettes may increase the chance of combustible cigarette smoking or nicotine dependency compared to noninitiation (Soneji et al., 2017). Therefore, a deeper knowledge of the attitudes associated with the use of e-cigarettes throughout this stage of development is essential for informing preventive measures.

Existing research on consumer perceptions of e-cigarettes is limited and primarily focuses on self-reported reasons for e-cigarette use (Adkison et al. 2013; Dawkins et al. 2013; Farsalinos et al. 2014; Goniewicz et al. 2013; Pepper et al. 2014; Richardson et al. 2014; Vickerman et al. 2013; Zhu et al According to survey data, frequently cited reasons for using e-cigarettes include: helping to quit smoking traditional cigarettes (Dawkins et al., 2013; Farsalinos et al., 2014; Pepper et al., 2014; Zhu et al., 2014); the ability to use e-cigarettes anywhere (Dawkins et al., 2013; Pepper et al., 2014); the limited amount of second-hand'smok (Etter and Bullen, 2011; Pepper et al., 2014; Zhu et al., 2014). A small number of studies examining the perceived hazards of e-cigarettes have indicated that, in general, e-cigarettes are regarded to be less addictive and less dangerous than regular cigarettes (Adkison et al. 2013; Choi and Forster 2013; Pearson et al. 2012; Richardson et al. 2014). However, there is a lack of insight into how consumers talk about these products and their knowledge or perceptions of the ingredients and health effects of e-cigarettes. As well as, for health concerns, few studies have mentioned its research on consumer purchaseintention and behaviour.

2.4 Habit

Habit has been used to predict behavioral intention in the traditional retail context (P.Honakanena, S.O. Olsenb, 2005). Howerver, the relation between TBP and habit towards e-cigarettes has not been explored by researchers to date.

Numerous empirical research have examined the moderating influence of habit on the relationship between attitude and purchase intention (Chiu, Hsu, Lai, & Chang, 2012) and the association between satisfaction and buy intention (e.g., Anderson & Srinivasan, 2003; Khalifa & Liu, 2007). Consequently, ase purpose and its deterrents (i.e., perceived value, trust, satisfaction). In order to examine the influence of habit on the relationship between attitudes, buy intentions, and purchase behavior, habit was incorporated in the TBP for this study.

Few studies have examined purchase intention in the context of whether young adults are habitual smokers and have tested the role of habit on the relationship between purchase intention. There is also little research that examines how transactional experience influences these determinants and, in turn, affects customers purchase intentions with habit. This study argues

that the findings of this study may help academics and practitioners gain insight into how to promote customers' purchase intention.

2.5 Government Policy (Flavoured tobacco ban)

The daily new consumer November 09, since October this year, the United States Food and Drug Administration (FDA) first authorized the legal sale of electronic cigarettes in the United States, more and more countries began to recognize electronic cigarettes, adjust regulatory policies to promote the legalization and standardization of the development of electronic cigarettes in their countries.

The most obvious action is the Southeast Asian country of Malaysia. Because of the nicotine content, e-cigarettes in Malaysia has been treated as a drug regulation. But in October this year, Malaysian Finance Minister Tengku Zafrul Aziz said in his 2022 budget submission that the government planned to impose an excise tax on e-cigarettes. This was seen as an important signal for Malaysia to lift the ban on e-cigarettes.The effect of a menthol or flavoured tobacco ban in the USA is largely unknown (Lauren Dutra, 2020).

In addition to the taste ban, the regulations regulate the upstream and downstream of the e-cigarette industry. At the production end, supervision will be further strengthened, and a large number of small workshops that fail to meet production conditions will be banned. At the sales end, the current brand store model will be cancelled, and the traditional cigarette retail store model will be changed.

The current market policy implementation of the general view is, short - term favorable empty, long-term is good.The current market policy implementation of the general view is, short - term favorable empty, long-term is good. So how much of an impact will the taste ban have on the market? Currently, only about 5% of e-cigarettes sold are flavored with tobacco, while 95% of other flavors are available. So in the short term, a taste ban would be a major negative for the e-cigarette industry. It can be seen that for e-cigarette consumers around the world, the governing policy has had a significant impact and pressure on their purchaseintention. However, there is not enough quantitative research on this, and studies based on TPB are scarce.

3. Conceptual Model and Hypotheses

The conceptual model that has been provided as the foundation for this empirical investigation will be presented in the next chapter. Then, all of the study's hypotheses will be given with their respective theoretical underpinnings.

3.1 Conceptual Model

The initial stage in developing a conceptual model was identifying the primary research question. Since the influence of TBP on teenage e-cigarette customers is a relatively new field of marketing, there are several avenues for its investigation.

Therefore, the primary study question was stated as: **what is the fact influencing consumers' intention to purchase electric cigarettes among young adults?**

The **secondary research objectives** were then defined as:

Verify that conspicuous consumption has a significant impact on attitudes towards electronic cigarettes.

Verify that habit have a positive impact on attitudes, subjective norms and perceived behavioral control towards electric cigarettes.

Verify that government policy has a negative impact on perceived behavioral control towards electric cigarettes.

Verifying that attitudes, subjective norms and perceived behavioral control will have a significant impact on purchase intention.

Verifying that purchase intention will have a significant impact on purchase intention.

Verifying that purchase intention has a positive impact on behaviour towards electric cigarettes.

Taking into account the primary study purpose and all subsidiary objectives, the following model was designed as a graphical representation of all the variables and their interrelationships in the empirical investigation.
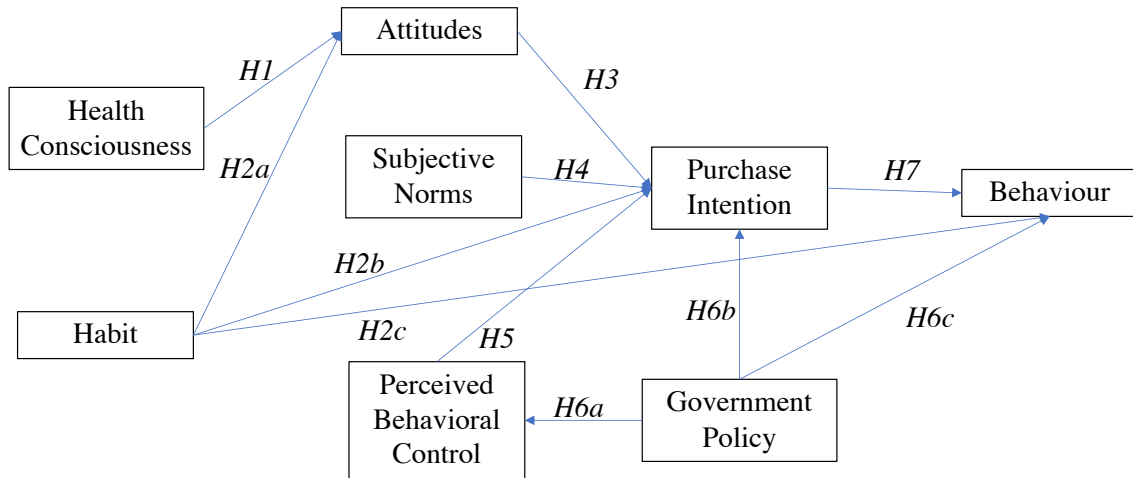
Figure - Conceptual Model

3.2 Hypotheses

H1: *Health consciousness has a significant influence on attitude towards electric cigarettes.*

Social scientists have argued that health behaviours are symbolic practices that can only be understood within a broader cultural framework (Poland et al. 2006; Crossley 2001; Goldade et al. 2012; Prentice 2010). They have found that health concerns are more associated with attitude. Peter Miller argues that harm reduction is a paradigm by which one confronts health problems and promotes the obligation to be healthy, (Miller, 2001; Keane, 2003) and that there is a direct link between attitudes towards harm reduction and health problems in the face of a product such as e-cigarettes, which is sold as a harm reduction product.

Studies examining intolerance of physical discomfort and negative emotions to reduce outcome expectations failed to find a link (Leyro et al., 2008). In contrast, concern for health was associated with positive attitudes towards e-cigarettes (Hershberger et al., 2018). In conclusion, given that previous studies have shown that concern for health is associated with e-cigarette use (Harrell et al. 2015; Hendricks et al. 2015; Pokhrel et al. 2014) and led to an association between

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attitudes and e-cigarette purchase behaviour (Miller et al. 2017), we expected that it may be that concern for health consciousness would have an impact on attitudes towards e-cigarettes.

H2a: Habit has a positive impact on attitudes towards electric cigarettes.

Firstly, youth patients are more likely to be in the early phases of tobacco use, with greater rates of experimentation and lower rates of regular addicted use (US Department of Health and Human Services, 2012; Pierce et al. 2009; Hammond, 2005; Friedman et al. 2012). So perhaps the habit will have a positive impact on young adults' attitudes towards e-cigarettes.Secondly, after the implementation of the prohibition, younger groups may have fewer financial and other means to promote access to flavored tobacco products than older groups.

H2b: Habit has a positive impact on purchase intention towards electric cigarettes.

The medicalisation of addictive smoking habits (Bayer and Colgrove, 2004) has led to tobacco undergoing a category change from an unremarkable staple of working class budgets to a morally dubious substance for which expenditure should be minimised, which translates into purchase intentions and behaviours, or as an occasional pleasure (or, as some study participants put it, their 'only pleasure' - see also Bancroft et al. 2003 p. 1264, Stead et al. 2001 p. 340, Lang et al. 2007 p. 519).

H2c: Habit has a positive impact on behaviour towards electric cigarettes.

Attitudes were cited as a dominant behavioural factor in the purchase of nicotine products(Manstead, 2000). Researchers have proposed that the impact of purchase intention factors may vary on shopping behavior (Khalifa & Liu, 2007). Several empirical research have studied the moderating influence of habit on the link between trust and purchase intention (Chiu, Hsu, Lai, & Chang, 2012) as well as the relationship between satisfaction and repeat purchase intention (Anderson & Srinivasan, 2003; Khalifa & Liu, 2007). Therefore, in this study, habit was added to the TBP to examine its role on purchase intention and behaviour.

H3: There's a positive relationship between attitude and purchase intention towards electric cigarettes.

Furthermore, Van der Heijden et al. argue that once a certain level of attitude evaluation is reached, attitudes no longer contribute to people's attitudes towards purchase intentions.

However, few studies have examined the circumstances under which the relationship between attitudes and e-cigarette purchase intentions diminishes.

H4: There's a positive relationship between subjective norms and purchase intention towards electric cigarettes.

Smoking is primarily constrained by others as a failure in the pursuit of health, and for people who are less likely to believe they have control over their health (Balshem, 1993, Chamberlain and O'neill, 1998), the more smoking is constrained by subjective norms, the stronger the purchasing potential.

H5a: There's a positive relationship between perceived behavioral control and purchase intention towards electric cigarettes.

PBC is the subjective difficulty perceived in performing an action （Ong,T, 2011） that has external and internal control factors （East,R 1993）. For example, if a person can control other aspects of their behaviour, then measuring PBC is not necessary （Ajezn, 1991）. If a person finds it difficult to perform a particular action, PBC can be a strong predictor of his behavioural intentions. Therefore, the smaller the effect of PBC, the greater the positive effect of behavioural intention. PBC can influence a person's behaviour directly or indirectly through behavioural intention （Ong,T, 2011）. In other words, the greater the perceived self-confidence, resources or opportunities, the more positive the behavioural intention or behaviour. However, PBC did not influence behavioural intention when choosing e-cigarettes. This example suggests that PBC is associated with behavioural intention to a different degree .

H6a: *Government policy has a significant influence on* perceived behavioral control *towards electric cigarettes.*

In addition to the individual's attitudes and subjective norms, perceived behavioural control also needs to be considered in the TPB model. Perceived behavioural control refers to an individual's perception of the difficulties that may be encountered when performing a particular behaviour (Ajzen, 1991). Some studies have shown that government policies that intervene in e-cigarettes can be effective in reducing the perceived behavioral control perceptions of people. The very

direct evidence is that people will be less likely to purchase flavoured e-cigarette products after the intervention is in place. However, some studies have also found that banning e-cigarettes or flavoured e-cigarette products may have unintended consequences, such as e-cigarette users seeking alternative ways to obtain their preferred products (DA product standards). However, there are not enough quantitative studies in this area and few TPB-based studies. Therefore, the inclusion of a flavour ban in the scope of the TBP study would help to explore what impact perceived behavioural conral occurs in young adults under the new policy.

H6b: Government policy has a significant influence on* purchase intention *towards electric cigarettes.

Banning e-cigarettes or flavoured e-cigarette products may have unintended consequences, such as e-cigarette users seeking alternative ways to obtain the products they prefer(DA Product Standard). For example, one re-study reported (Stephens WE, 2005) that smokers were more likely to be interested in buying cigarettes illegally after learning that standards for low nicotine content products might be removed. Illegally produced tobacco products are not subject to accepted commercial production practices and do not ensure a degree of quality control, thus potentially exposing consumers to unknown health risks. That said, bans may have an impact on consumers' willingness to purchase e-cigarettes. It can be seen that for e-cigarette consumers around the world, the governing policy has had a significant impact and pressure on their purchaseintention. However, there is not enough quantitative research on this, and studies based on TPB are scarce.

H6c: Government policy(has a significant influence on* behaviour *towards electric cigarettes.

In some studies, government policies to ban smoking have been found to influence not only smokers' willingness to buy but also their behaviour. (Environ. Res. Public Health 2021, 18, 13002 7 of 10. Available evidence suggests that the higher the density of tobacco retail outlets, the higher the prevalence of smoking behaviour among adolescents(Marsh, L; Van)eckova,P;Johnson, T.O.; 2021) . A tax increase in OntarioNicotine & Tobacco Research may have influenced e-cig use during the period of the study. In addition, a temporary reduction may be the result of shops and consumers hoarding menthol cigarettes before to the

prohibition.In contrast, restricting e-cigarette flavours can help control the incidence of smoking behaviour among adolescents. It can be seen that for e-cigarette consumers around the world, the governing policy has had a significant impact and pressure on their purchase intention. However, there is not enough quantitative research on this, and studies based on TPB are scarce.

H7: Purchase intention has a positive impact on behaviour towards electric cigarettes.

The results found by Abdul et al. (2009) confirm that there is a link between purchase intention and behaviour being a cigarette product. In the case of e-cigarette products, there is no further evidence for the time being that there is a direct link between intention and behaviour to purchase e-cigarette products. However, in opportunity TBP outreach theory, purchae intention forms the basis of the psychological student for the production of behaviour. Therefore its inclusion in this study.

There shows the summary of the hypotheses:

H1: ***Health consciousness has a significant influence on attitude towards electric cigarettes.***

H2a: Habit has a positive impact on attitudes towards electric cigarettes.

H2b: Habit has a positive impact on purchase intention towards electric cigarettes.

H2c: Habit has a positive impact on behaviour towards electric cigarettes.

H3: There's a positive relationship between attitude and purchase intention towards electric cigarettes.

H4: There's a positive relationship between subjective norms and purchase intention towards electric cigarettes.

H5a: There's a positive relationship between perceived behavioral control and purchase intention towards electric cigarettes.

H6a: *Government policy has a significant influence on* **perceived behavioral control** *towards electric cigarettes.*

H6b: Government policy has a significant influence on purchase intention *towards electric cigarettes.*

H6c: Government policy(has a significant influence on behaviour *towards electric cigarettes.*

H7: Purchase intention has a positive impact on behaviour towards electric cigarettes.

4. Methodology

This chapter will focus on the software and tools utilized to accomplish the objectives of the study and the specific research techniques. First, we discuss the survey methodologies selected for the study and the population and sample selection criteria. Next, the exact data gathering methods and what to look for throughout the data collection process, including the scales used for each variable, will be explained, and the questionnaire will be created. The procedure of error validation and pre-testing will next be described. After that, the precise stages of the research methodology employed in this study, as well as the model created and the process of data analysis and processing, will be presented in depth.

The purpose of this study was to investigate three independent variables (Health consciousness (HC), Habit (HB), and government policy (GP)) and five dependent variables (attitude toward e-cigarettes (ATE), subjective norms (SN), perceived behavioral control (PBC), purchase intention (PI) and behaviour (BH)). The relationship between The study proposed 11 research hypotheses based on the literature review and the research model developed. A structured questionnaire was used to collect key data for this study. The primary sources of secondary data were journals, books, articles, and website resources. Secondary data were validated as supporting documents for the primary data. All data were checked.

This study used mainly descriptive research methods, and quantitative methods were used to analyze and validate the relationships between variables.

Quantitative research refers to the use of data to analyse, interpret and validate data and express research implications and results (DeFusco, McLeavey, Pinto, Anson, & Runkle, 2015). This study will collect personal data from respondents to explore the factors that influence young people's intention to purchase e-cigarettes.

4.1 Population and Sample Selection

This study was conducted on young consumers of e-cigarettes. Chinese consumers were used as an example for further research. However, due to resource constraints, it was not possible to collect and analyse data results from the entire group of Chinese consumers. Therefore, non-probability sampling methods, including convenience sampling and snowball sampling, will be used in this study.

Although this sampling method is not considered ideal, it is commonly used in studies that lack resources, including selecting samples based on researcher accessibility (Neuman 2013). In this case, the questionnaire was shared through the author's WeChat, as well as in a large WeChat group.

4.2 Data Collection Method

For this study, a quantitative technique of data collecting was used, and a survey was employed to collect data. As the current literature offers adequate indicators to assess the components inherent in the conceptual model, and as the purpose of this study is to evaluate a specific set of hypotheses, this research design is acceptable. According to Marconi and Lakatos (2003), surveys are a suitable method for gathering information regarding conscious or explicit acts and attitudes.

Although questionnaires are an efficient and often used approach for acquiring information, they have the disadvantages of a low response rate and the inability to explain the questions to respondents. It takes less resources, replies are free, and there is little possibility of distortion or researcher bias (Marconi and Lakatos 2003).

In this paper, data were collected throughout March, April, May and June of 2022. The questionnaires were sent to friends and family through the authors' WeChat public website as an online link, and these respondents were invited to send the questionnaires to more colleagues, classmates and family members. The questionnaires were created using the online questionnaire distribution survey platform Wenxuanxing (https://www.wjx.cn/). This is a public questionnaire platform created by a Chinese firm in China, similarly to Google Forms, to make sure that respondents in mainland China can open and effectively take the survey. Using this online

questionnaire to publish all the questions assures that participants finish the whole questionnaire. This is due to the fact that the online questionnaire cannot be submitted properly until all questions have been answered. In addition to facilitating the distribution and completion of the questionnaire, the platform aggregated all data for further statistical research activities. For this study, a total of 305 questionnaires were gathered and analyzed. Every responder completed the online survey.

4.2.1 Questionnaire Elaboration

A questionnaire was created for the survey. Marconi and Lakatos (2003) describe a questionnaire as a method for collecting data. It helps validate hypotheses and requires the researcher to follow specified rules, such as question type, order, and grouping. This approach is prone to misunderstanding, hence clarity is vital when constructing questions and arranging the questionnaire, according to Neuman (2013). The researcher must know the theme, which must align with the study objectives.

4.2.2 Question Terminology

Multiple-choice questions were utilized to characterize the sample with respect to personal information. Respondents could only select a single final response. According to Neuman (2013), the benefits of closed-ended questions include that they are simpler and faster to respond to, easier to compare and duplicate, and contain less irrelevant questions. Therefore, this style gives responses that are more exact and simpler to code and comprehend.

All questions referring to variables used a 7-point Likert scale to measure respondents' opinions, with the exception of the brand attachment question, which required the use of a 1-10 scale. The Likert scales were coded as. 1 - completely disagree; 2 - disagree; 3 - partially disagree; 4 - neither agree nor disagree; 5 - partially agree; 6 - agree; 7 - completely agree. The Likert scale is considered one of the most commonly used formats when researchers wish to combine multiple ranking items, and its simplicity makes it friendly to both the respondent and the researcher (Neuman 2013). The original questionnaire was completed in English, then translated into Chinese and distributed to respondents. During the translation process, errors caused by

misunderstandings in translation were avoided to the greatest extent possible. All questions were closed-ended to facilitate subsequent research analysis.

4.2.3 Metrics

The metrics offered in this chapter were altered from their original authors based on the demands of the study and the advisor's perspective. However, their translation into Chinese is required for the use of the questionnaire.

Below are the modified versions of these metrics, along with their respective references.

Table – Health consciousness

Health Consciousness	1. I reflect about my health a lot	(Michaelidou, N., & Hassan, L. M. , 2008.)
	2. I'm very self-conscious about my health	
	3. I'm usually aware of my health	

Table - Habit

Habit	1. Regular purchase of e-cigarettes is something I do automatically.	(Verplanken and Orbell , 2003)
	2. Regular purchase of e-cigarettes is something I do without thinking.	
	3. Regular purchase of e-cigarettes is something that belongs to my (daily, weekly, monthly) routine.	
	4. Regular purchase of e-cigarettes is something that's typically "me"	
	5. Regular purchase of e-cigarettes is something I have been doing for a long time	

Government Policy	1. Flavor bans is negative for the expansion of e-cigarettes.	(Wang,S.Y; Wang, J., 2018)
	2. Flavor bans is bad news for potential consumers	
	3. Flavor bans is unnecessary for potential consumers.	
	4. Flavor bans is negatively impacting my choice to purchase e-cigarettes	

Table - Attitude towards e-cigarettes

Attitude towards e-cigarettes	1. Purchase of e-cigarettes is very important for me	(Ajzen, 2019, Berg, C. J.,2014)
	2. E-cigarettes have fewer health risks in comparison to regular cigarettes	
	3. You should be able to use e-cigarettes in places that do not allow smoking	
	4. E-cigarettes evokes positive emotions.	

Table - Subjective norms

Subjective norms	1. My family approves of my purchase of e-cigarettes.	(Ajzen,2013)
	2. My friends approve of my purchase of e-cigarettes.	
	3. My colleagues approve of my purchase of e-cigarettes.	
	4. My friends buy e-cigarettes regularly.	
	5. My colleagues buy e-cigarettes regularly.	

Table - Perceived Behavioral Control

Perceived Behavioral Control	1. Whether or not I buy e-cigarettes regularly is completely up to me.	(Ajzen, 2013)
	2. I expect I will be able to buy e-cigarettes regularly.	
	3. For me, the regular purchase of e-cigarettes is easy.	
	4. If I want them, I believe I can regularly purchase e-cigarettes.	

Table - Purchase Intention

Purchase Intention	1. I intend to buy e-cigarettes regularly.	(Ajzen, 2013)
	2. I am planning to buy e-cigarettes regularly.	
	3. I will probably buy e-cigarettes regularly.	

Table - Behaviour

Behaviour	1. I buy e-cigarettes regularly.	(Ajzen, 2013&2019)
	2. E-cigarettes are regularly in my shopping basket.	
	3. When I buy cigarettes, I regularly choose e-cigarettes.	

4.3 Data Insertion in Statistic Software

Once all the data had been collected, the next step was to insert it into the statistical software. The Faculty of Economics of the University of Coimbra offers a licence to IBM SPSS (Statistical Package for Social Sciences) for the creation of the database and the analysis of all the information collected.

To assist the identification of distinct variables, acronyms were generated for each of the components.

4.4 Pre-Testing

Before this questionnaire was finalized, it was possible to conduct a preliminary test of the questionnaire through a pre-test to determine whether the content was valid and the results of the analysis were reliable. The pretest was completed in April 2022 and a total of 100 young adults aged 18 to 25, with a range of educational levels, were invited to complete the questionnaire online and were asked to evaluate it.

Dividing the sample into low and high groups according to the top 27% and bottom 27%, an independent samples t-test yielded that the individual measure questions were significant, indicating that the individual measure questions were discriminatory and all questions were retained. The findings of this pre-test indicated the need to clarify some questions and revealed an average response time of 5 minutes. However, the majority of responses to the questionnaire were favorable and consistent with the study's aims.

Item	Group	N	M	SD	t	p
HC1	high	29	5.86	1.274	5.876	0.000
	low	30	3.87	1.332		
HC2	high	29	5.52	1.405	4.786	0.000
	low	30	3.63	1.608		
HC3	high	29	5.52	1.353	5.222	0.000
	low	30	3.30	1.860		
HB1	high	29	6.31	0.806	5.250	0.000
	low	30	3.57	1.736		

HB2	high	29	5.86	0.743	7.828	0.000
	low	30	3.77	1.382		
HB3	high	29	6.21	0.774	7.288	0.000
	low	30	3.77	1.382		
HB4	high	29	6.00	1.165	8.406	0.000
	low	30	3.47	1.358		
HB5	high	29	5.86	0.743	7.679	0.000
	low	30	3.50	1.548		
GP1	high	29	5.97	1.149	7.511	0.000
	low	30	4.60	1.905		
GP2	high	29	5.59	1.296	4.499	0.000
	low	30	4.10	1.242		
GP3	high	29	5.66	1.233	2.790	0.007
	low	30	4.57	1.716		
GP4	high	29	5.69	1.105	3.533	0.001
	low	30	4.43	1.591		
ATE1	high	29	6.24	0.830	6.548	0.000
	low	30	4.13	1.548		
ATE2	high	29	6.14	0.875	7.001	0.000
	low	30	4.13	1.279		
ATE3	high	29	6.14	0.789	6.857	0.000
	low	30	4.20	1.324		

ATE4	high	29	6.07	0.923	4.323	0.000
	low	30	4.60	1.589		
SN1	high	29	6.07	1.387	5.184	0.000
	low	30	4.00	1.661		
SN2	high	29	5.76	1.405	4.940	0.000
	low	30	3.77	1.675		
SN3	high	29	5.76	1.272	4.439	0.000
	low	30	4.00	1.742		
SN4	high	29	5.55	1.429	3.708	0.000
	low	30	4.00	1.762		
SN5	high	29	5.69	1.514	5.088	0.000
	low	30	3.67	1.539		
PBC1	high	29	6.21	0.978	3.863	0.000
	low	30	4.93	1.507		
PBC2	high	29	6.14	0.915	6.035	0.000
	low	30	4.33	1.348		
PBC3	high	29	6.10	0.817	4.643	0.000
	low	30	4.60	1.567		
PBC4	high	29	5.93	0.998	5.118	0.000
	low	30	4.13	1.634		
PI1	high	29	6.03	0.981	5.300	0.000
	low	30	3.93	1.929		

PI2	high	29	6.10	0.860	4.865	0.000
	low	30	4.27	1.874		
PI3	high	29	6.24	0.872	6.039	0.000
	low	30	4.23	1.591		
BH1	high	29	5.59	1.427	3.508	0.001
	low	30	4.27	1.461		
BH2	high	29	5.79	1.048	2.656	0.010
	low	30	4.87	1.570		
BH3	high	29	5.66	1.446	2.543	0.014
	low	30	4.73	1.337		

In this paper, the Cronbach alpha coefficient and the Corrected Item-Total Correlation were used to test the reliability of the scale. Firstly, Cronbach's alpha coefficient is a commonly used reliability coefficient between 0 and 1, which is very suitable for analysing Likert scales. a higher alpha coefficient is associated with a higher mean value of the correlation coefficient between each item of the variable and a higher internal reliability. In empirical studies, a Cronbach alpha value greater than 0.8 indicates high internal reliability and fairly good internal consistency; an alpha value between 0.7 and 0.8 indicates good internal consistency and acceptable internal reliability; while an alpha value less than 0.7 indicates poor internal consistency and a redesign of the scale should be considered. Also, the item-total correlation coefficient reflects the simple correlation coefficient between the measured items and the total scores of the remaining items; when it is greater than 0.5, the questionnaire items have good reliability.

Variable	Item	Corrected Item-Total	Cronbach's Alpha if	Cronbach's

		Correlation	Item Deleted	Alpha
Health Consciousness	HC1	0.826	0.825	
	HC2	0.785	0.85	0.892
	HC3	0.776	0.869	
Habit	HB1	0.815	0.924	
	HB2	0.812	0.922	
	HB3	0.823	0.92	0.934
	HB4	0.818	0.92	
	HB5	0.879	0.909	
Government Policy	GP1	0.766	0.841	
	GP2	0.718	0.86	
	GP3	0.685	0.874	0.883
	GP4	0.82	0.822	
Attitude towards e-cigarettes	ATE1	0.769	0.809	
	ATE2	0.702	0.837	
	ATE3	0.755	0.816	0.867
	ATE4	0.65	0.857	
Subjective norms	SN1	0.862	0.934	
	SN2	0.897	0.928	
	SN3	0.804	0.944	0.947
	SN4	0.859	0.934	
	SN5	0.858	0.935	
Perceived Behavioral Control	PBC1	0.766	0.859	0.892

	PBC2	0.8	0.846	
	PBC3	0.755	0.863	
	PBC4	0.73	0.875	
	PI1	0.812	0.794	
Purchase Intention	PI2	0.769	0.831	0.88
	PI3	0.736	0.86	
	BH1	0.76	0.789	
Behaviou	BH2	0.692	0.852	0.862
	BH3	0.779	0.767	

As can be seen from the table above, the Cronbach's Alpha coefficients for each dimension are all greater than 0.7, which indicates a high degree of internal consistency. For each question "Cronbach's Alpha after question deletion" is smaller than the Cronbach's Alpha coefficient of the original impact factor, and none of the CITC is less than 0.5, so this indicates that The reliability of each dimension is high, so these questions can be left.

4.5 Sample Characterization

This topic will present an overall characterization of the sample. A total of 305 valid samples were collected for the descriptive analysis in terms of Gender, Age, Edu and Income, as shown in the table below.

	category	Frequency	Percent
Gender	Male	198	64.9
	Female	107	35.1
Age	18-25	305	100

Edu	High school or less	73	23.9
	Bachelor's degree	145	47.5
	Master's degree	54	17.7
	Ph.D. degree	19	6.2
	Others	14	4.6
Income	Up to ¥10,000	139	45.6
	¥10,000 to ¥20,000	99	32.5
	¥20,000 to ¥30,000.	53	17.4
	¥30,000 to ¥40,000	10	3.3
	Over ¥40,000	4	1.3

Counting demographic data using the frequency distribution approach. This technique enables the researcher to visualize the distribution and proportions at various latitudes. More than half (64,9 percent) of the 305 respondents were male, while 35,1 percent were female. The findings of the study indicate that more males than women participated.

The questionnaire included only the age group of young adults. As can be seen from the chart above, i.e. those between the ages of 18 and 25 accounted for 100% of the answers.

Nearly half (47.5%) of the 305 respondents had a bachelor's degree, 23.9% had a high school degree or less, and 17.7% had a master's degree. Those accounted for 6.2% and other qualifications for 4.6%.

Of the 305 respondents, the largest proportion of respondents (45.6%) had a monthly income of less than RMB 10,000 and 32.5% had a monthly income of between RMB 10,000 and RMB 20,000. Respondents earning between RMB 20,000 and RMB 30,000 made up 17.4% of the

respondents, those earning between RMB 30,000 and RMB 40,000 made up 3.3% and those earning over RMB 40,000 made up 1.3%.

4.6 Statistical Analysis

In this section, the author will describe all the methods used to construct the various analyses, show the statistics and the processes to review these data, as well as the outcomes of these studies. The methodology selected to analyze the statistical data is Structural Equation Modelling (SEM), which needs the usage of IBM SPSS AMOS software.

4.6.1 Exploratory Factor Analysis

Exploratory factor analysis (EFA) and confirmatory factor analysis are the two main types of analyses that make up the factor analysis (CFA). Marôco (2010) describes a factor analysis as a general linear modeling technique that identifies a set of latent variables that explain the structure seen among a set of manifest variables in order to find underlying relationships between variables.

The study can identify structural patterns thanks to factor rotation (Marco 2010). The Keyser-Meyer-Olkin (KMO) index and Bartlett's test of sphericity are used to determine if the database may be subjected to a factor analysis (Damásio 2012). (Dziuban and Shirkey 1974).

In order to determine whether there is no correlation between the data, Bartlett's test of sphericity compares the variance and covariance matrices to the identity matrix. The Bartlett's test also determines whether the data matrix is similar to the identity matrix by evaluating the general importance of each correlation in the data matrix under consideration. The KMO index, meanwhile, indicates the percentage of the item variance that may be accounted for by a latent variable (Damásio 2012).

The approach used for these investigations was the Varimax rotation. By approximating each main component to -1 or +1 in the case of correlation or zero in the absence of a linear link, the orthogonal rotation approach reduces the number of raised loadings. Additionally, it changes associated components into independent ones (Pestana and Gageiro 2003).The KMO values can be interpreted according to table 18, found below.

KMO	Factor Analysis
1 - 0.9	Very good
0.8 - 0.9	Good
0.7 - 0.8	Average
0.6 - 0.7	Reasonable
0.5- 0.6	Bad
< 0.5	Unacceptable

(Pestana and Gageiro 2003)

In addition to these tests, a Cronbach's Alpha study of internal factor consistency was conducted. The internal consistency is a correlation between the employed scale and other hypothetical scales of the same universe, with a range of 0 to 1. (Pestana and Gageiro 2003). The results produced by this test are interpreted.

Table - Cronbach's Alpha

Value	Internal Consistency
> 0.9	Very good
0.8 - 0.9	Good
0.7 - 0.8	Average
0.6 - 0.7	Bad
< 0.6	Inadmissable

(Pestana and Gageiro 2003)

4.6.2 Exploratory Factor Analysis Result

The results of the exploratory factor analysis using SPSS 23.0 to conduct KMO and Bartlett's spherical tests on the scales are shown in the table bellows

KMO	Factor Analysis
1 - 0.9	Very good
0.8 - 0.9	Good
0.7 - 0.8	Average

KMO and Bartlett's

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**0.855**
Bartlett's Test of	Approx. Chi-Square	2437.595
	df	465
	Sig.	.000

From the above table, it can be obtained that the KMO = 0.855, which is greater than 0.7 and the Bartlett's spherical test value is significant (Sig. < 0.001), indicating that the questionnaire data meets the prerequisite requirements for factor analysis. Therefore, further analysis was conducted. Factor extraction was carried out using principal component analysis to extract common factors with a characteristic root greater than 1. Factor rotation analysis was carried out using the maximum variance orthogonal rotation method. The results of the analysis are shown in the table below.

	Item							
	SN	HB	PBC	GP	ATE	HC	BH	PI
SN5	**0.886**	0.154	0.058	0.107	0.075	0.037	0.111	0.108
SN4	**0.875**	0.14	0.208	0.148	0.069	0.017	0.014	-0.02
SN2	**0.868**	0.153	0.168	0.197	0.024	0.123	0.023	0.139
SN1	**0.86**	0.145	0.091	0.168	0.069	0.1	0.024	0.183
SN3	**0.775**	0.236	0.286	0.123	0.051	0.091	0.104	0.083
HB5	0.114	**0.869**	0.026	0.175	0.242	0.077	-0.015	0.123
HB4	0.155	**0.826**	0.05	0.156	0.163	0.179	-0.079	0.138
HB1	0.209	**0.796**	0.144	0.119	0.228	0.072	0.042	0.1
HB2	0.235	**0.788**	0.203	0.129	0.147	0.152	0.118	0.062

HB3	0.173	**0.783**	0.114	0.097	0.264	0.178	0.081	0.146
PBC1	0.168	-0.023	**0.825**	0.171	0.093	0.094	0.172	0.083
PBC2	0.149	0.231	**0.79**	0.114	0.146	0.041	0.188	0.185
PBC4	0.214	0.194	**0.762**	0.007	0.212	0.032	0.059	0.177
PBC3	0.258	0.107	**0.738**	0.202	0.082	0.198	0.161	0.203
GP4	0.174	0.216	0.175	**0.845**	0.021	0.103	0.033	0.133
GP3	0.103	0.047	0.232	**0.804**	0.083	0.093	0	-0.039
GP2	0.178	0.148	-0.035	**0.78**	0.178	0.067	0.072	0.187
GP1	0.246	0.197	0.069	**0.771**	0.198	0.122	0.065	0.09
ATE4	0.028	0.237	0.079	0.033	**0.794**	0.125	-0.072	-0.018
ATE3	0.065	0.208	0.16	0.141	**0.775**	0.133	0.045	0.202
ATE2	0.095	0.234	0.155	0.164	**0.718**	0.203	-0.049	0.13
ATE1	0.095	0.351	0.146	0.224	**0.705**	0.088	0.006	0.282
HC1	0.119	0.252	0.106	0.033	0.131	**0.858**	0.083	0.148
HC3	0.077	0.089	0.168	0.136	0.184	**0.851**	-0.009	0.108
HC2	0.092	0.174	0.007	0.176	0.151	**0.835**	0.044	0.177
BH3	0.089	0.047	0.078	0	-0.012	0.009	**0.905**	0.058
BH1	0.035	0.03	0.146	0.074	0.092	0.057	**0.88**	0.089
BH2	0.068	-0.002	0.207	0.054	-0.165	0.035	**0.799**	0.156
PI2	0.207	0.212	0.173	0.102	0.183	0.123	0.239	**0.761**
PI3	0.069	0.156	0.271	0.118	0.161	0.284	0.095	**0.76**
PI1	0.252	0.196	0.257	0.179	0.196	0.175	0.122	**0.737**
Eigenvalue	4.283	4.15	3.119	3.071	2.857	2.594	2.491	2.256

% of Variance	13.816	13.388	10.062	9.906	9.216	8.367	8.036	7.277
Cumulative %	13.816	27.204	37.267	47.173	56.389	64.756	72.792	80.069

As can be seen from the table above, the results of the factor analysis yielded a total of eight factors with a total explanatory power of 80.069%, which is greater than 50%, indicating that the eight factors screened are well represented. The factor loading coefficients are shown in the table above. The factor loadings for each measure were all greater than 0.5 and the cross-loadings were all less than 0.4, with each question falling into the appropriate factor, indicating that the scale has good construct validity.

4.6.3 Confirmatory Factor Analysis

Unlike EFA, CFA is conducted after the researcher has information about the structure of the factor. It is used to confirm whether certain latent variables are responsible for the behaviour of particular performance variables. CFA is also used as a technique to assess the quality of measurement models (Marôco 2010). SEM consists of two key aspects. It measures latent variables and analyses the causal relationships between these variables.
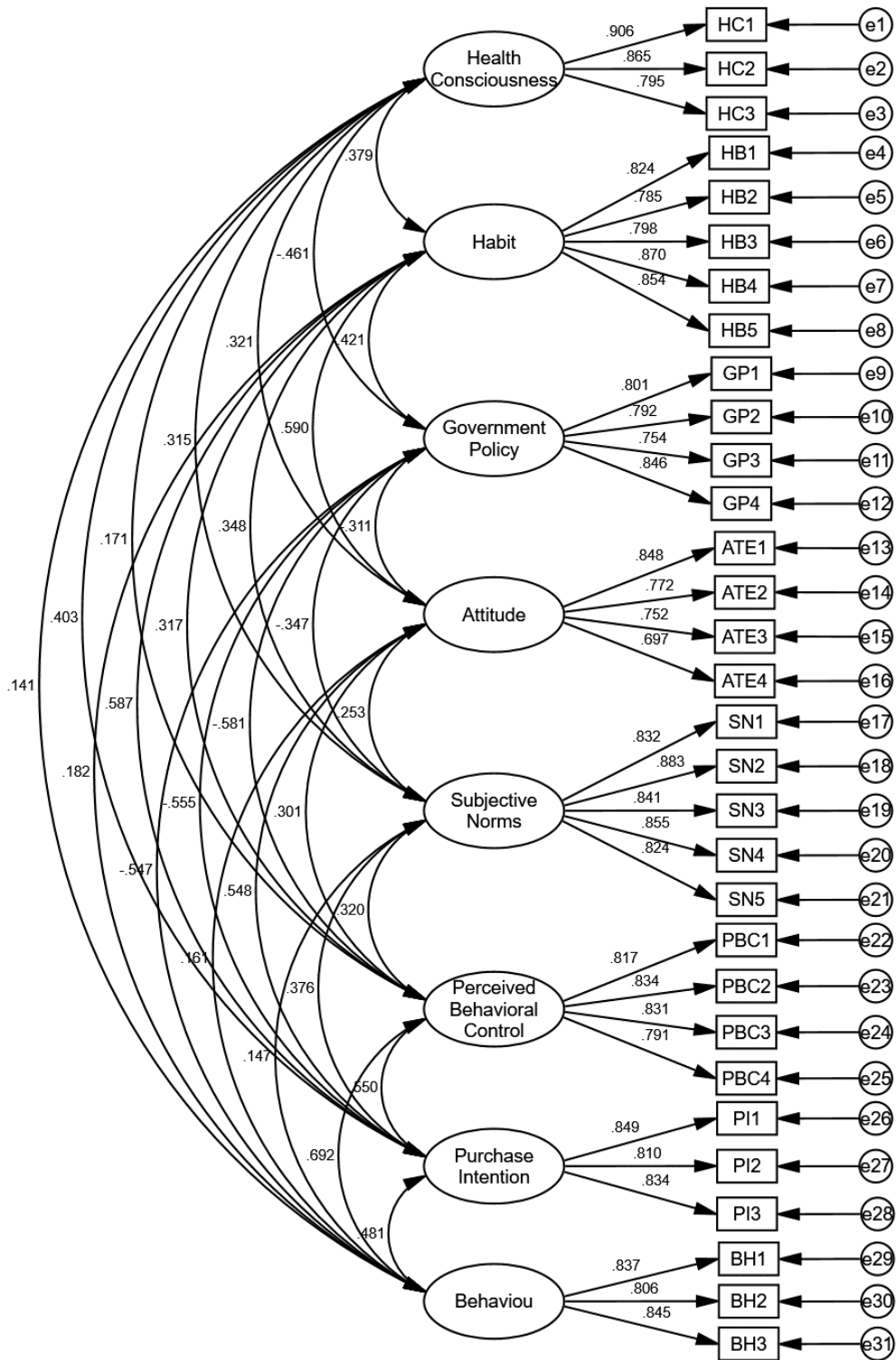
4.6.4 Quality of Model Fit

From the above table, we can see that CMIN/DF is 1.152, which is less than the standard below 3. GFI and AGFI are both greater than 0.8, which is within the acceptable range, NFI, TLI, IFI and CFI all reach the standard above 0.9, RMR is 0.045, which is less than 0.08, and RMSEA is 0.022 which is less than 0.08. All the fit indicators meet the general research standard. Therefore, the model can be considered to have a good fit.

Model fit	Recommended values	Measurement model
CMIN	——	480.295
DF	——	417
CMIN/DF	<3	1.152
SRMR	<0.08	0.045
GFI	>0.8	0.911
AGFI	>0.8	0.894
NFI	>0.9	0.927
IFI	>0.9	0.990
TLI	>0.9	0.988
CFI	>0.9	0.990
RMSEA	<0.08	0.022

4.6.5 Quality of the Measurement Model

In addition to having a strong global adjustment, the entire model should also have a strong individual adjustment. A review of the measuring model must be done in order to evaluate that. The techniques used to confirm individual adjustment included an examination of the

measurement accuracy and discriminant validity of latent variables. The reproducibility and consistency of the indicators are referred to as the indicators' reliability.

This section presents the reliability of the individual items, the reliability of the latent variables, and the extracted average variance. Theoretically, the composite reliability (CR) should exceed 0.7 in order to be deemed satisfactory. This indicator assesses how the indicator measures each hidden variable. This evaluation also considers cronbach's alpha. variables with alpha values greater than 0.70 are allowed. All variables had CR and alpha values that were acceptable.

The more exacting AVE approach was applied in this study to evaluate discriminant validity. According to Fornell and Larcker (1981), to demonstrate the discriminant validity between factors, the AVE root of each component must be higher than the correlation coefficient of each associated variable. This study nevertheless had differential validity since the AVE open root for each component was higher than the standardised correlation coefficient off the diagonal, with the diagonal lower triangle serving as the correlation coefficient.

As can be seen from the table above, the standardised factor loadings for each measure for each variable were greater than 0.6 or more, the compositional reliability (CR) was greater than 0.7, and the average variance extracted (AVE) was greater than 0.5, indicating that each variable had good convergent validity.

	HC	HB	GP	ATE	SN	PBC	PI	BH
HC	**0.857**							
HB	.333**	**0.827**						
GP	-.403**	-.383**	**0.799**					
ATE	.295**	.520**	-.266**	**0.769**				
SN	.278**	.327**	-.311**	.219**	**0.847**			
PBC	.147*	.291**	-.510**	.258**	.285**	**0.819**		
PI	.358**	.527**	-.483**	.475**	.335**	.487**	**0.831**	
BH	.115*	.163**	-.472**	.131*	.132*	.611**	.419**	**0.829**

Variable	Item	Factor loading	CR	AVE
	HC1	0.906		
Health Consciousness	HC2	0.865	0.892	0.734
	HC3	0.795		
	HB1	0.824		
	HB2	0.785		
Habit	HB3	0.798	0.915	0.684
	HB4	0.87		
	HB5	0.854		
	GP1	0.801		
	GP2	0.792		
Government Policy			0.876	0.638
	GP3	0.754		
	GP4	0.846		
	ATE1	0.848		
	ATE2	0.772		
Attitude			0.852	0.592
	ATE3	0.752		
	ATE4	0.697		
	SN1	0.832		
	SN2	0.883		
Subjective Norms	SN3	0.841	0.927	0.718
	SN4	0.855		
	SN5	0.824		

	PBC1	0.817		
	PBC2	0.834		
Perceived Behavioral Control			0.89	0.67
	PBC3	0.831		
	PBC4	0.791		
	PI1	0.849		
Purchase Intention	PI2	0.81	0.87	0.691
	PI3	0.834		
	BH1	0.837		
Behaviou	BH2	0.806	0.869	0.688
	BH3	0.845		

5. Results

From the statistical analysis, this chapter will give all of the pertinent facts on the findings of this inquiry. The calculations were performed using AMOS 23.0, using the maximum likelihood method for estimation, and the results are shown in the graph below.
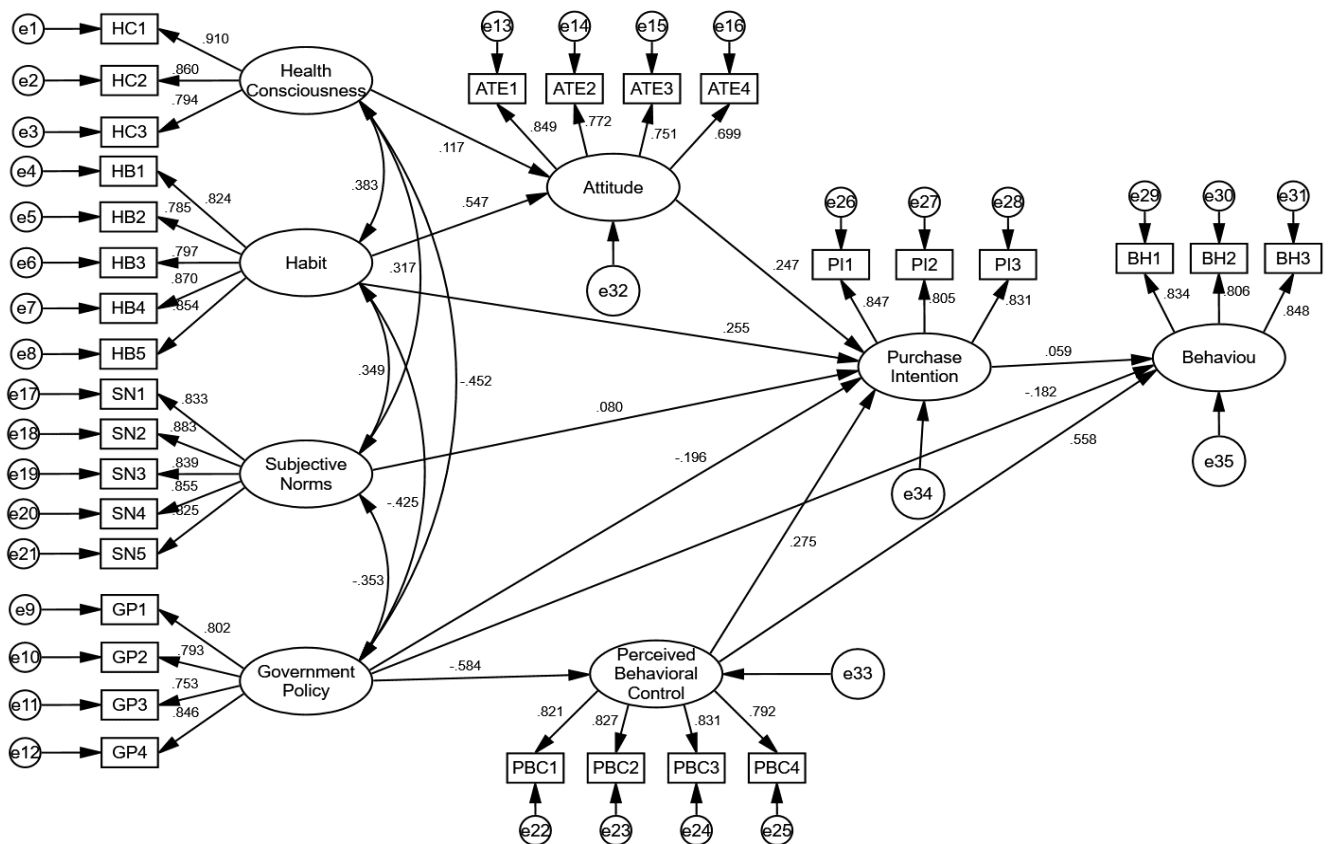
The table below shows that the CMIN/DF is 1.152, which is less than the standard of 3. The GFI and AGFI are greater than 0.8, which is within the acceptable range, the NFI, TLI, IFI and CFI are all above the standard of 0.9, the RMR is 0.045, which is less than 0.08, and the RMSEA is 0.022, which is less than 0.08. All the fit indicators meet the general research standard. Therefore, the model can be considered to have a good fit.

Model fit	Recommended values	Measurement model
CMIN	——	480.295
DF	——	417
CMIN/DF	<3	1.152
SRMR	<0.08	0.045
GFI	>0.8	0.911
AGFI	>0.8	0.894
NFI	>0.9	0.927
IFI	>0.9	0.990
TLI	>0.9	0.988
CFI	>0.9	0.990
RMSEA	<0.08	0.022

According to the table below, Health Consciousness does not have a significant positive influence on Attitude (=0.117, p>0.05), hence the hypothesis is not supported. Habit has a significant positive effect on Attitude (=0.547, p0.05); Government Policy has a significant negative effect on Perceived Behavioral Control (=-0.584, p0.05); Attitude has a significant positive effect on Purchase Intention (=0.247, p0.05); and Habit has a significant positive effect on Perceived Behavioral Control (=-0.584, p0.05). Subjective Norms does not have a significant positive impact on Purchase Intention (=0.08, p>0.05) and the hypothesis is not supported; Perceived Behavioral Control has a significant positive effect on Purchase Intention (=0.275, p0.05) and the hypothesis is supported. Government Policy has a substantial negative influence on Purchase Intention (=-0.196, p0.05); Habit has a significant positive effect on Purchase Intention (=0.255, p0.05). Government Policy has a significant negative effect on Behaviou (=-0.182, p0.05) and the hypothesis is supported; Perceived Behavioral Control has a significant positive effect on Behaviou (=0.558, p0.05) and the hypothesis is supported; Purchase Intention does not have a significant positive effect on Behaviou (=0.059, p>0.05) and the hypothesis is not supported.

	path		Standardized estimates	Unstandardized estimates	S.E.	C.R.	P	Result
Attitude	<---	Health Consciousness	0.117	0.109	0.056	1.945	0.052	Not Supported
Attitude	<---	Habit	0.547	0.457	0.055	8.318	***	Support
Perceived Behavioral Control	<---	Government Policy	-0.584	-0.573	0.063	-9.049	***	Support
Purchase Intention	<---	Attitude	0.247	0.272	0.072	3.788	***	Support
Purchase Intention	<---	Subjective Norms	0.08	0.086	0.057	1.513	0.13	Not Supported
Purchase Intention	<---	Perceived Behavioral Control	0.275	0.341	0.079	4.293	***	Support
Purchase Intention	<---	Government Policy	-0.196	-0.239	0.086	-2.775	0.006	Support
Purchase Intention	<---	Habit	0.255	0.235	0.064	3.701	***	Support
Behaviou	<---	Government Policy	-0.182	-0.221	0.088	-2.497	0.013	Support
Behaviou	<---	Perceived Behavioral Control	0.558	0.69	0.092	7.542	***	Support
Behaviou	<---	Purchase Intention	0.059	0.059	0.067	0.874	0.382	Not Supported

The independent samples t-test yielded no significant differences by gender for HC, HB, SN and PI, and significant differences for GP, PBC and BH, as shown in the table below.

	Gender	N	M	SD	t	p
HC	Male	198	4.997	1.330	1.415	0.158
	Female	107	4.770	1.352		
HB	Male	198	4.962	1.303	0.708	0.480
	Female	107	4.851	1.319		
GP	Male	198	5.091	1.041	-2.967	0.003
	Female	107	5.463	1.049		
ATE	Male	198	5.357	1.135	2.036	0.043
	Female	107	5.086	1.058		
SN	Male	198	5.312	1.217	0.594	0.553
	Female	107	5.221	1.401		
PBC	Male	198	5.448	0.946	2.679	0.008
	Female	107	5.070	1.284		
PI	Male	198	5.367	1.145	1.107	0.269
	Female	107	5.203	1.397		
BH	Male	198	5.596	1.067	4.668	0.000
	Female	107	4.891	1.351		

A oneway analysis of variance (ANOVA) yielded no significant differences between academic qualifications for ATE, SN, PBC and BH, and significant differences for HB, HC, GP and PI, as shown in the table below.

Variable	Edu	N	M	SD	F	p
HB	High school or less	73	4.521	1.480		
	Bachelor's degree	145	5.014	1.202		
	Master's degree	54	5.037	1.294	5.829	0.000
	Ph.D. degree	19	5.905	0.844		
	Others	14	4.300	1.081		
HC	High school or less	73	4.717	1.381		
	Bachelor's degree	145	4.858	1.400		
	Master's degree	54	5.117	1.084	2.617	0.035
	Ph.D. degree	19	5.719	1.096		
	Others	14	4.714	1.364		
GP	High school or less	73	5.394	0.896		
	Bachelor's degree	145	5.200	1.024		
	Master's degree	54	5.324	1.077	5.079	0.001
	Ph.D. degree	19	4.250	1.484		
	Others	14	5.464	0.814		
ATE	High school or less	73	5.041	1.287		
	Bachelor's degree	145	5.300	1.081		
	Master's degree	54	5.380	0.907	1.129	0.343
	Ph.D. degree	19	5.500	1.112		
	Others	14	5.250	1.197		

Variable		N	M	SD	F	p
SN	High school or less	73	5.030	1.346		
	Bachelor's degree	145	5.411	1.201		
	Master's degree	54	5.363	1.199	1.801	0.128
	Ph.D. degree	19	5.400	1.468		
	Others	14	4.743	1.650		
PBC	High school or less	73	5.236	1.120		
	Bachelor's degree	145	5.266	1.068		
	Master's degree	54	5.375	1.129	1.220	0.302
	Ph.D. degree	19	5.816	1.118		
	Others	14	5.339	0.902		
PI	High school or less	73	4.932	1.395		
	Bachelor's degree	145	5.278	1.179		
	Master's degree	54	5.549	1.120	6.088	0.000
	Ph.D. degree	19	6.368	0.693		
	Others	14	5.238	1.120		
BH	High school or less	73	5.292	1.230	0.939	0.442

A oneway ANOVA yielded the following table, which shows no significant differences by income on ATE and significant differences on HB, HC, GP, SN, PBC, PI and BH, as shown in the table below.

Variable	Income	N	M	SD	F	p
HB	Up to ¥10,000	139	4.816	1.338		
	¥10,000 to ¥20,000	99	4.798	1.282	2.800	0.026
	¥20,000 to ¥30,000.	53	5.226	1.208		

	¥30,000 to ¥40,000	10	5.480	1.321		
	Over ¥40,000	4	6.300	0.702		
	Up to ¥10,000	139	4.715	1.458		
	¥10,000 to ¥20,000	99	4.879	1.262		
HC	¥20,000 to ¥30,000.	53	5.315	0.999	3.910	0.004
	¥30,000 to ¥40,000	10	5.333	1.370		
	Over ¥40,000	4	6.583	0.419		
	Up to ¥10,000	139	5.315	1.072		
	¥10,000 to ¥20,000	99	5.333	0.952		
GP	¥20,000 to ¥30,000.	53	5.043	0.948	5.303	0.000
	¥30,000 to ¥40,000	10	4.475	1.277		
	Over ¥40,000	4	3.438	1.712		
	Up to ¥10,000	139	5.189	1.158		
	¥10,000 to ¥20,000	99	5.217	1.018		
ATE	¥20,000 to ¥30,000.	53	5.368	1.177	2.101	0.081
	¥30,000 to ¥40,000	10	5.625	0.959		
	Over ¥40,000	4	6.625	0.323		
	Up to ¥10,000	139	5.050	1.401		
	¥10,000 to ¥20,000	99	5.331	1.221		
SN	¥20,000 to ¥30,000.	53	5.619	0.888	3.075	0.017
	¥30,000 to ¥40,000	10	6.020	0.931		
	Over ¥40,000	4	5.650	2.199		
PBC	Up to ¥10,000	139	5.140	1.166	4.878	0.001

	¥10,000 to ¥20,000	99	5.255	1.003		
	¥20,000 to ¥30,000.	53	5.675	0.921		
	¥30,000 to ¥40,000	10	5.925	0.951		
	Over ¥40,000	4	6.625	0.433		
	Up to ¥10,000	139	5.230	1.312		
	¥10,000 to ¥20,000	99	5.239	1.242		
PI	¥20,000 to ¥30,000.	53	5.403	1.024	2.414	0.049
	¥30,000 to ¥40,000	10	6.100	0.943		
	Over ¥40,000	4	6.583	0.631		
	Up to ¥10,000	139	5.221	1.274		
	¥10,000 to ¥20,000	99	5.226	1.277		
BH	¥20,000 to ¥30,000.	53	5.742	0.893	3.544	0.008
	¥30,000 to ¥40,000	10	5.733	0.858		
	Over ¥40,000	4	6.667	0.272		

6. Discussion

The analysis of attitudes towards e-cigarette consumers showed no significant relationship between health consciousness and attitudes, while there was a statistically significant relationship between habit and attitudes. In addition, Attitude has a significant positive effect on Purchase Intention. this is consistent with the results of several studies, Adkison et al. 2013; Dawkins et al. 2013; Farsalinos et al. 2014. (Goniewicz et al. 2013; Pepper et al. 2014; Richardson et al. 2014; Vickerman et al. 2013; Zhu et al. 2014). Studies looking at the relationship between perceived prevalence, initiation, and acceptability of traditional cigarette use among young adults have shown that those who perceive e-cigarette use as more prevalent and acceptable are more likely to initiate (D'Amico and McCarthy, 2006; Maxwell, 2002; Page et al. 2002; Pedersen et al. 2013. Tucker et al. 2011). And starting to use e-cigarettes may increase the likelihood of using combustible cigarettes or developing nicotine dependence compared to people who have never started using e-cigarettes (Soneji et al., 2017). In the study, it was also found that awareness of e-cigarettes among young adult consumers was relatively high and that some consumers had extensive purchasing experience. Thus, a deeper understanding of attitudes associated with e-cigarette use during this developmental period is critical for consumers to have a habit. health consciousness is inconsistent in its impact in marketing science. It's important to note that this was only seen in the study of young adults. This is probably because health awareness, an important factor in this group, is not taken seriously by this group.

However, subjective norms was found not to have a statistically significant relationship with purchase intention towards e-cigarette young costomer. This is inconsistent with previous studies in which e-cigarette use was associated with greater exposure to secondhand smoke, smoking by any family member, friends who smoke, and witnessing smoking at school (Joung et al., 2016). In the present study, there was no positive and significant relationship between subjective norms and purchase intention among young adults because of the addictive effects of e-cigarettes. In other words, the vast majority of young adults did not change their views on

their intention to purchase e-cigarettes because of the constraints or consent of family members or friends.

In contrast, for perceived behavioral control on e-cigarette purchase intention had a statistically significant effect. This does not contradict previous research that behavioral control has a significant effect on attitudes and intentions to smoke (Namkoong et al., 2016). Because consumers of e-cigarettes perceived behavioral control with can have a positive effect for purchase intention.The present study also confirmed that habit had a positive relationship for attitude, purchase intention and behavior. This also signifies that this habit can have a positive effect on young adult e-cigarette consumers. That is to say, if we strengthen the development of new products, and actively expand the traditional tobacco smokers in this huge blue ocean market, cultivating the consumption habits of electronic cigarettes has become an important part of electronic cigarette companies can promote. In the development of new products, it is necessary to consider the smoking habits of old smokers, the cultivation of new smokers ' habits, and the inheritance of taste, and timely launch tobacco oil similar to tobacco taste for smokers as transitional smoking and training. For the opponents of e-smoking, to eliminate this habit should be an important measure to help relatives and friends quit smoking.

E-cigarettes offer a certain level of convenience and a wide range of flavours to bring a fresh taste to consumers. E-cigarette licences continue to be issued as we enter an era of steady growth This study also found that the negative effects of active flavor bans and perceived behavioral control, purchae intention and behavior in various countries are supported by statistical data. This implies that flavor bans have a significant negative effect on consumer purchasing behavior at this stage. This result corroborates previous studies on flavor bans. Therefore, in the short term, the taste ban will have a significant negative impact on the e-cigarette industry. E-cigarette licences continue to be issued as we enter an era of steady growth. Not only does this mean that the government's original intention of enacting a taste ban has been confirmed, this policy could effectively guide young adults to reduce their intentions and behaviours in purchasing e-cigarettes. E-cigarettes have been banned from public places in major cities in China. The ban on e-cigarettes in public places has also started, with cities such as Shenzhen, Hangzhou and Shanghai in China having started to ban e-cigarettes, and is a restriction on consumer intent to buy them. The ban on smoking in earlier years did not lead to a decrease in cigarette sales. It

has only regulated people to smoke while ensuring the physical and mental health of others.However, from the experience of countries so far, a flavour ban could have two results: the first is a return to cigarette smoking, and the second is smuggling and black markets.

Thus, we can conclude that although some of the relationships explored in this work were confirmed, it collected promising data. With this in mind, the next sections will further discuss the contribution of this study and suggestions for future research related to this topic.

7. Final Considerations

The main purpose of this study is to explore the factors that influence purchase intentions for electronic cigarette among young adults. The results of the study provide evidence and recommendations on the factors that influence consumers' intention to purchase e-cigarettes. That is, the role of health consciousness, habit and flavored tobacco ban on consumer purchase intention and behaviour within the expanded framework of Theory of Planned Behavior.

The questionnaire contained a brief introduction to the topic of the study, as well as the information that the questionnaire was completely anonymous. The first question aimed to describe the socio-demographic profile of the sample. Subsequent questions were structured by available measures of each variable (see Section 4.2.3 of this study for details).

The empirical study was conducted by creating a questionnaire and then sharing it through social media, namely WeChat. Considering the profile of the respondents, the researcher decided to focus on the responses of young adults. In total, 305 young Chinese adults responded, constituting the sample for the survey.

Once the data were collected, the researchers used IBM SPSS software to create a statistical database. These data were then analyzed using IBM SPSS AMOS software using structural equation modeling (SEM). Further tests such as EFA and CFA were then conducted using both software, all of which had values that were considered good or very good.

Through this study, the authors demonstrated through data analysis that health consciousness through ETPB does not have a significant impact on young adults' intention to purchase e-cigarettes. This may be related to the nicotine addictive nature of e-cigarettes. In the study on habit, habit not only influenced young adults' attitude, but also had a significant impact on e-cigarette purchase intention and behavior. With the introduction of flavor bans in various countries, the government policy has had a negative impact on perceived behavioral control of young adults, and also on consumer purchase intentions and behavior. Thus, the negative effects of flavor bans continued to affect young adults' purchase intentions and behaviors during the study period. However, there was no significant relationship between purchase intention and purchase behavior for young adults. This is inconsistent with previous research.

In summary, these findings suggest that we can develop a basic understanding of young adults' e-cigarette consumption intentions. Along with increased marketing efforts for e-cigarettes is an increase in sales. For the youngest cohort of adults, factors that influence their purchase intentions include not only external government bans, but also the social environment and the influence of their own habits. In order to lay a theoretical foundation for the good development of the e-cigarette industry, studying the purchase intention of e-cigarettes affecting young adults at this stage shows that the potential consumers of e-cigarettes are still mainly concentrated among those who have a smoking habit, positive attitude toward e-cigarettes and perceived behavioral control.

7.1 Contributes of the Study

Considering the lack of research on young adults' purchase intentions for e-cigarettes, this thesis hopes to take a step forward in filling these gaps in the literature. Considering that none of the studies identified during the production of this study considered the role of TBP in this behavior and the influence of health consciousness, habit, and flavoured tobacco ban in purchase behavior , this study proves to have an innovative view on the role of these factors in young adults' e-cigarette purchase intentions.

The future of the e-cigarette market will be a long term, constantly strengthening the regulatory policy, electronic cigarette products also put forward higher requirements, companies need to continue to strengthen the production of compliant and reliable product development, consumers also need to have a correct understanding of the product and health awareness, both sides together to create a healthy social environment of the electronic cigarette industry.

This study contributes to the field of the e-cigarette industry and research focused on the social impact of the industry by providing an innovative take on TPBs. It not only clarifies their possible role in consumer behavior, but also provides support in e-cigarette marketing and production normalization, but also provides a basis for further discussion and research on this issue.

7.2 Limitations and Recommendations for Future Research

Because previous research information is very limited, e-cigarettes have only entered the public eye with the development of public health issues and technology, and research on e-cigarette consumers is still at a basic stage. Future research could therefore look beyond the influences already explored to understand what leads consumers to form the habit of purchasing e-cigarettes, potentially resulting in further rich health, marketing literature.

Although the social impact of e-cigarettes is controversial, the harm-reducing effects of e-cigarettes on humans are recognized in current social science research. Therefore, the question of how best to improve the satisfaction of e-cigarette users and their previous smoking frequency and habits deserves further study.

Finally, more scholars are needed to provide more valuable suggestions for the smooth and healthy development of the e-cigarette industry. This is also based on the exchange of scholars who study the medical health aspects of e-cigarettes. Although statistical results are provided here on the factors influencing the purchase of e-cigarettes by young adults, scholars should consider the attitudes of minors toward e-cigarettes and other influences that affect their intention to purchase e-cigarettes to protect the next generation and the smooth development of society. At the same time, the study does not address the impact of purchase intentions and behaviour across time frames.

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English Version

E-cigarette Purchase Intention

This questionnaire is designed to collect your purchase intentions for E-cigarette.

Thank you for taking the time to answer this questionnaire!

1. Your Gender

   ○Male   ○Female

2. Your Age

   ○Under 18 ○18~25 ○26~30 ○31~40 ○41~50   ○51~60 ○Over 60

3. Highest Education

   ○1) High school or less

   ○2) Bachelor degree

   ○3) Master degree

   ○4) Ph.D. degree

   ○5) Other

4. Income per Month

   ○1) <10k

   ○2) 10k to < 20k

   ○3) 20k to < 30k

   ○4) 30k to < 40 k

   ○5) >40k

5. Marital Status

   ○1）Single

○2）Married

○3）Divorced

○4）Widowed

6. Occupation

○1）Student

○2）Self-employed worker

○3）Employee

○4）Work and study at the same time

○5）Unemployed

○6）Retired

○7）Housewife/Househusband

○8）Others _____

Please indicate your consent to each item below. 1 is strongly disagree, 7 is strongly agree.

7. Health Consciousness

	1	2	3	4	5	6	7
1) I reflect about my health a lot	○	○	○	○	○	○	○
2) I'm very self-conscious about my health	○	○	○	○	○	○	○
3) I'm usually aware of my health	○	○	○	○	○	○	○

8. Habit

	1	2	3	4	5	6	7
1) Regular purchase of e-cigarettes is something I do automatically.	○	○	○	○	○	○	○ ○
2) Regular purchase of e-cigarettes without thinking.	○	○	○	○	○	○	○ ○
3) Regular purchase of e-cigarettes belongs to my (daily, weekly, monthly) routine.	○	○	○	○	○	○	○ ○
4) Regular purchase of e-cigarettes is something that's typically "me"	○	○	○	○	○	○	○ ○
5) Regular purchase of e-cigarettes is something I have been doing for a long time	○	○	○	○	○	○	○ ○

9. Government Policy

	1	2	3	4	5	6	7
1) Flavor bans is negative for the expansion of e-cigarettes.	○	○	○	○	○	○	○
2) Flavor bans is bad news for potential consumers	○	○	○	○	○	○	○
3) Flavor bans is unnecessary for potential consumers.	○	○	○	○	○	○	○
4) Flavor bans is negatively impacting my choice to purchase e-cigarettes	○	○	○	○	○	○	○

10. Attitude towards e-cigarettes

	1	2	3	4	5	6	7
1) Purchase of e-cigarettes is very important for me	○	○	○	○	○	○	○

	1	2	3	4	5	6	7
2) E-cigarettes have fewer health risks in comparison to regular cigarettes	○	○	○	○	○	○	○
3) You should be able to use e-cigarettes in places that do not allow smoking	○	○	○	○	○	○	○
4) E-cigarettes evokes positive emotions.	○	○	○	○	○	○	○

11. Subjective norms

	1	2	3	4	5	6	7
1) My family approves of my purchase of e-cigarettes.	○	○	○	○	○	○	○
2) My friends approve of my purchase of e-cigarettes.	○	○	○	○	○	○	○
3) My colleagues approve of my purchase of e-cigarettes.	○	○	○	○	○	○	○
4) My friends buy e-cigarettes regularly.	○	○	○	○	○	○	○
5) My colleagues buy e-cigarettes regularly.	○	○	○	○	○	○	○

12. Perceived behavioral control

	1	2	3	4	5	6	7
1) Whether or not I buy e-cigarettes regularly is completely up to me.	○	○	○	○	○	○	○
2) I expect I will be able to buy e-cigarettes regularly.	○	○	○	○	○	○	○
3) For me, the regular purchase of e-cigarettes is easy.	○	○	○	○	○	○	○
4) If I want them, I believe I can regularly purchase e-cigarettes.	○	○	○	○	○	○	○

13. Purchase Intention

	1	2	3	4	5	6	7
1) I intend to buy e-cigarettes regularly.	○	○	○	○	○	○	○
2) I am planning to buy e-cigarettes regularly.	○	○	○	○	○	○	○
3) I will probably buy e-cigarettes regularly.	○	○	○	○	○	○	○

14. Behaviour

	1	2	3	4	5	6	7
1) I buy e-cigarettes regularly.	○	○	○	○	○	○	○
2) E-cigarettes are regularly in my shopping basket.	○	○	○	○	○	○	○
3) When I buy cigarettes, I regularly choose e-cigarettes.	○	○	○	○	○	○	○

This is the end of the questionnaire, thanks for your participation!