Hong Kong Baptist University

MSc. in Business Management

Capstone Project Report

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EXECUTIVE SUMMARY

This report is on the development of a marketing strategy for a Chinese company; ComBetter, which deals in Heat-Not-Burn (HNB) cigarettes, by a group of students in the MSc. in Business Management Program at the Hong Kong Baptist University (Class of 2020).

HNB cigarettes are deemed to be healthier than traditional cigarettes, because of the reduction in the content of harmful substances such as nicotine. Although this is the case, the Chinese government currently has restrictions on the sale of all tobacco products including HNB, making it difficult to market the products. However, ComBetter, has reliable indication that there will be future relaxation of the restrictions on the sale and use of tobacco related products in China and for which reason, tasked this group of students to develop the marketing strategy in anticipation of the opening of the Chinese tobacco market.

A study of an Asian market like Japan revealed during the literature review that as a result of less government restrictions on sales and marketing, there is a significant awareness of HNB products in Japan. A study of the Japan market also showed that one out of every five young person had tried HNB products before. Both these observations are a sharp contrast to the Chinese market, but are also an indication of the potential within the Chinese market.

An online questionnaire survey was conducted to find out Chinese consumers' views about HNB products to gain insights about the potential market in China. There were a total of 201 respondents at the end of the survey. An analysis of the results, using tools like Chi- square test, Pearson Correlation and Regression model showed that male patrons of traditional and E- cigarettes between 18-25 years were most likely to try HNB products. The research also revealed potential marketing channels and specific product features that respondents expected.

Based on the outcome of the research, the recommended strategy for ComBetter is to begin by targeting the highlighted age and gender demographic; making use of the channels they frequent when making purchases and developing their products with the key expected features. Because of the desire to travel and explore, exhibited by this consumer group, ComBetter can capitalize on that to promote and position their products in Duty free shops in airports of tourist destinations around China, like Thailand, Japan and Korea, whiles the company waits for the restrictions in China to be lifted.

CHAPTER 1: INTRODUCTION

1.1 Overview of the Chinese HNB market, including government restrictions

Currently, China does not produce Heat-Not-Burn (HNB) tobacco. The production and circulation of tobacco products in China is controlled by the China National Tobacco Corporation, which means companies looking to produce HNB cigarettes have to purchase the tobacco from foreign markets.

Because the HNB product is a brand new product for the whole Chinese tobacco market, it is difficult to understand Chinese tobacco users' preferences. At present, the information available is from the performance of oversea markets and relevant market data provided by China tobacco administration.

Since the Chinese HNB market is yet to be launched, it is difficult to have a complete overview of potential competitors in the HNB market. The overseas HNB market however, is a relatively mature market, with the main players being IQOS, British American tobacco, Japan Tobacco, Imperial Tobacco, CNTC, etc. But, in China, because the industry has not yet started, there is no official platform for the information on the market to be obtained, presenting the challenge of determining exactly how many companies in China are ready to enter the emerging HNB market.

Meanwhile, Chinese governmental policies and actions seem to send mixed signals. In the fourth quarter of 2019, the Chinese government announced a limitation on online sales of e-cigarettes. At the same time, because the concept of electronic cigarette and HNB is not clearly distinguished in the domestic market, HNB products are forced to be removed from the online market. Although HNB companies like ComBetter and Chinese tobacco companies have reached an in-depth cooperation agreement, because the Chinese government has not yet issued clear regulations to open the HNB market, it is uncertain when HNB products will be successfully launched in the Chinese market

1.2 General description of the current situation of ComBetter

A Technology start-up located in Shenzhen; ComBetter was founded in 2005 and got its series A funding in 2015. The company is committed to building a technology-oriented and user-needs-oriented enterprise that provides comprehensive support for tobacco companies. It is the basic tenet of the enterprise to provide smoking products for smokers and to create value for society; making use of the Heat-Not-Burn (HNB) technology.

The registered capital of ComBetter is 10 million and the actual arrival capital is 6.549 million. The Chief Technology Officer (CTO), HUANG Guangjian is the largest shareholder with the stake of 67%. He manages the Hardware and Software departments, Structure department and department of Production Management. The second largest shareholder is FU Qiang, the CEO of corporate, with 46.305% shares, who manages Marketing department and Supply Chain as well as Strategic Planning. Another shareholder YU Quan has 5.5% share in the company but does not have a management position. The CFO, Mr. LIU is in charge of the Administrative department, Finance planning department and Human Resource department and possesses a wealth of experience from running other companies.

1.3 Problem Statement

Although there are government restrictions on the cigarette industry (including HNB); based on current trends worldwide and information gathered by ComBetter, the Chinese government will soon open up the HNB market in China. Through a market research of the Chinese cigarette industry and market comparison with the Japanese HNB market; this project will develop a marketing strategy to help ComBetter capture the Chinese HNB market when the government of China opens up the market, to help position the company as the leader in the HNB market."

1.4 Project Objectives

The objectives of this Project will be:

1. To identify key insights of the Japanese HNB market to help analyzing the HNB product's market prospect in China.

2. To determine Chinese consumers' perception and response to HNB product.

3. To identify the target customers of HNB product and achievable market strategies.

1.5 Conclusion

This chapter (Chapter 1) sums up the introduction to the project and provides introductory insights into the cigarette market, particularly, the HNB market in China, offering an overview of the current position of the Chinese government on the cigarette industry.

Chapter 2 reviews some literature related to the cigarette and HNB markets both in China and Japan, making use of PESTEL and SWOT frameworks to provide context for the literature.

Chapter 3 provides information on market research conducted during the project, detailing the data collection method.

Chapter 4 examines the data collected from the market research, by performing various analyses on the data and presenting the research findings.

Chapter 5 draws a conclusion on the research whiles making available the limitations encountered during the research. Recommendations to ComBetter will also be made in chapter 5.

CHAPTER 2 – LITERATURE REVIEW

2.1 Frameworks of Literature Review

This chapter examines some of the relevant literature that relates to this project. In order to provide a context within which to examine the related literature, two frameworks will be employed: PESTEL and SWOT analysis.

PESTEL; an acronym for Political, Economic, Social, Technological, Environmental and Legal, is a framework used to analyze the macro-environmental factors that affect an organization. Literature will therefore be reviewed on the various factors of PESTLE that relate to the cigarette industry in general and the Heat-Not-Burn (HNB) industry in particular.

Because of the maturity of the Japanese HNB market and the resemblance of its demographics to that of the Chinese consumer market, some literature will also be reviewed from the Japanese market in the context of PESTEL.

The second framework; SWOT – acronym for Strengths, Weaknesses, Opportunities and Threats: takes a look at both internal and external factors in relation to a company to evaluate its strategic and competitive position. The first two factors: Strengths and Weaknesses, examines the internal structure and preparedness of an organization, while the other two: Opportunities and Threats examines the external factors.

PESTEL ANALYSIS

2.2 Political

In 2003, The World Health Organization published *the Framework Convention on Tobacco Control (WHO, 2018)* ,which provides detailed tobacco control principles for all countries, especially the member states of WHO. Since then, serious regulations of tobacco products have been launched in different regions. Furthermore, to help countries fulfill the promise of the WHO framework Convention, WHO has established *MPOWER (WHO, 2014)*, a package of the six most important and effective tobacco control policies: M—monitoring the epidemic and prevention policies carefully; P— protecting people from second-hand smoke; O— offering help to people who want to quit; W— warning everyone about the dangers of tobacco; E—enforcing the ban on advertising, promotion and sponsorship; and R— raising taxes and prices.

Because of the regulations of WHO and people's increase in health awareness, introducing relevant laws became the common target of many countries. As one of the biggest tobacco consumption countries, China has promulgated a series of tobacco control policies based on national conditions, such as banning smoking in public places and prohibiting the sale of cigarettes to teenagers among others.

To some extent, these serious regulations influenced the whole tobacco industry. However, this situation also presents a good opportunity for the development of new tobacco products, such as chewing tobacco, e-cigarette and heat-not-burnt (HNB) cigarette.

The Pioneer of HNB products— Philip Morris International's IQOS product, was accepted by the US Food and Drug Administration (FDA) for its lower risk than normal cigarette; because it contained less nicotine and other harmful components. Since then, more and more tobacco companies focus on these kinds of new cigarettes.

With regards to the Chinese government, the development of HNB cigarette doesn't only satisfy Article 5 of *the Tobacco Monopoly Law of the People's Republic of China* (tobacco control laws, n.d) by strengthening scientific research and technological development of tobacco products as well as reducing the content of tar and other harmful ingredients, but also provides an avenue for the increase in tobacco tax revenue. Additionally, China has protective policy and strict control over imported cigarettes to guarantee the domestic cigarette industry. As a result, the development of domestic HNB cigarettes companies is optimistic in terms of the political environment.
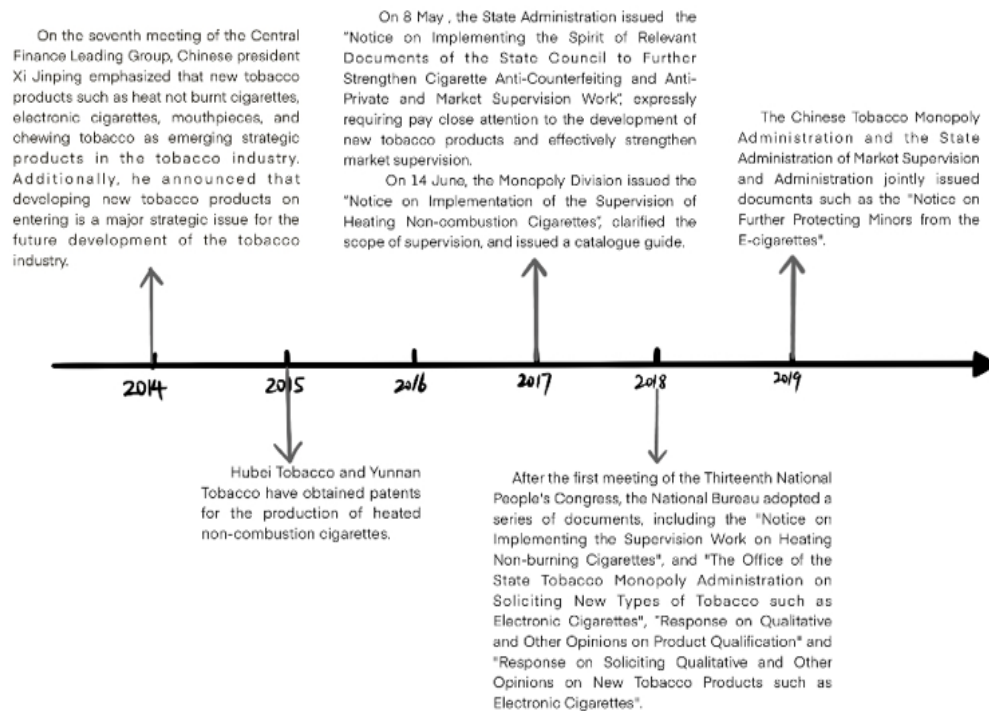
Figure 1. Timeline of Chinese Government Decisions on Tobacco Industry (Zheng & Guan, 2020)

Examining a comparable Asian market like the Japanese market, for instance, it can be found that HNB industry is quite mature in Japan where

HNB tobacco has been already sold since 2014. Additionally, Japanese government permits domestic TV, print media, Internet platform and many channels to publish tobacco advertisements and promotion campaigns, while it is 100% banned in China. So, it can be seen that the relative search volume of IQOS (one of popular HNB products) soars significantly in 2016. By contrast, the product awareness of HNB is still low in Chinese market.
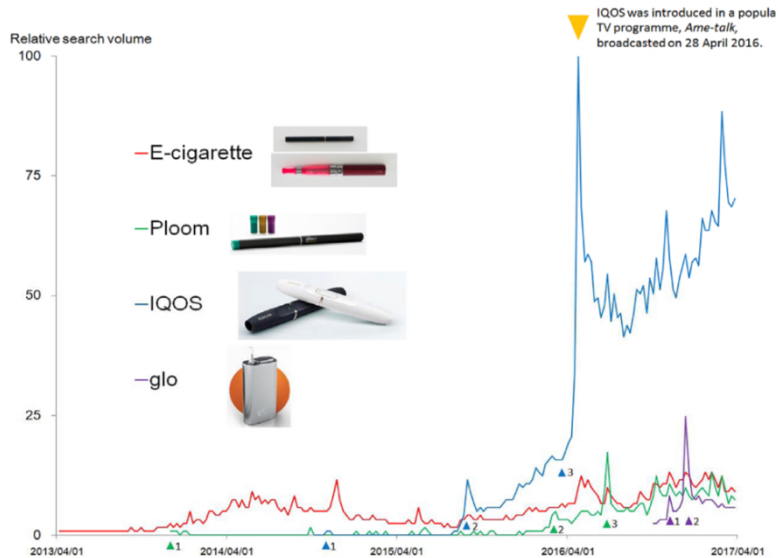
Figure 2. Weekly Google search volume for HNB tobacco from 2013 to 2017 in Japan (Tabuchi, T. et al., 2018)

2.3 Economic

At present, China's economy has entered a new normal development stage, emphasizing industrial structure adjustment and the quality of development. According to Figure 1 and Figure 2, it is clear that China's GDP grew steadily in the past and it is projected to continue on an upward trend in next four years.

In 2019, the GDP reached over 14 trillion USD, a year-on-year increase of 6.3%, showing an expected increase. In the long run, China's economy will maintain a moderate and stable growth for a long time. Additionally, people's disposable income and the consumption rate will increase significantly year by year, which means that living standards will also improve.

China: gross domestic product (GDP) at current prices from 2012 to 2024 (in billion U.S. dollars)
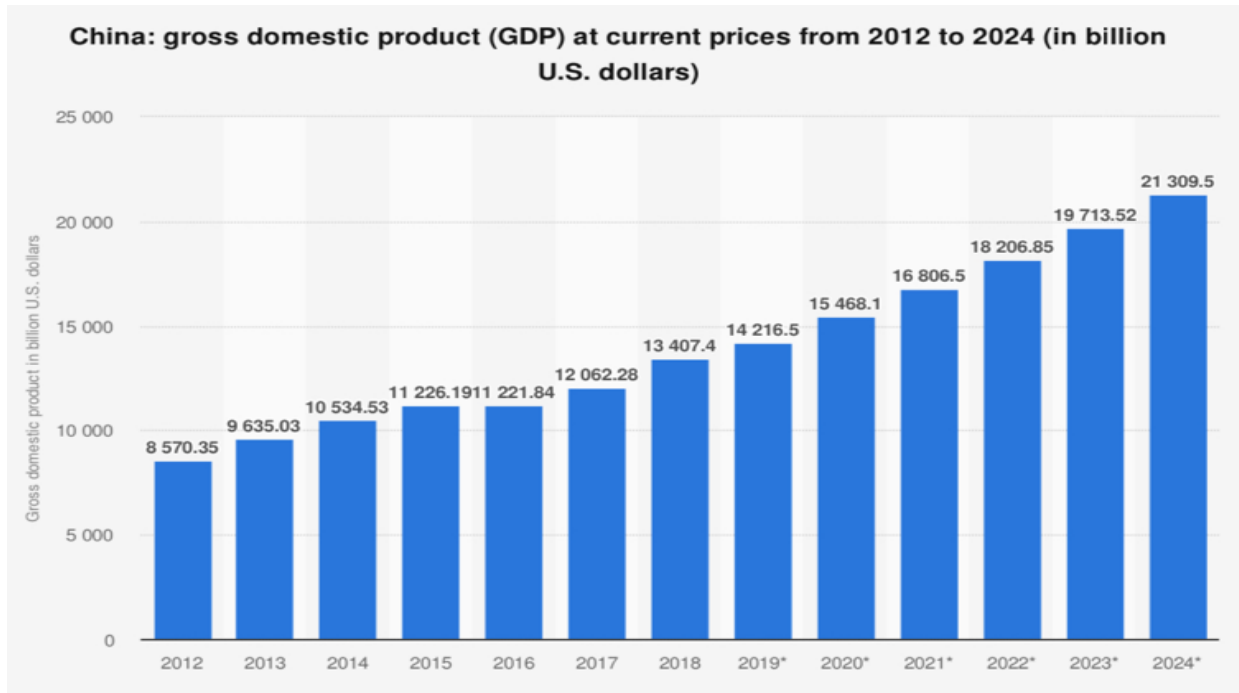
Figure 3. China: GDP at current prices 2012-2024 (Statista, 2019)

China: growth rate of real gross domestic product (GDP) from 2011 to 2024
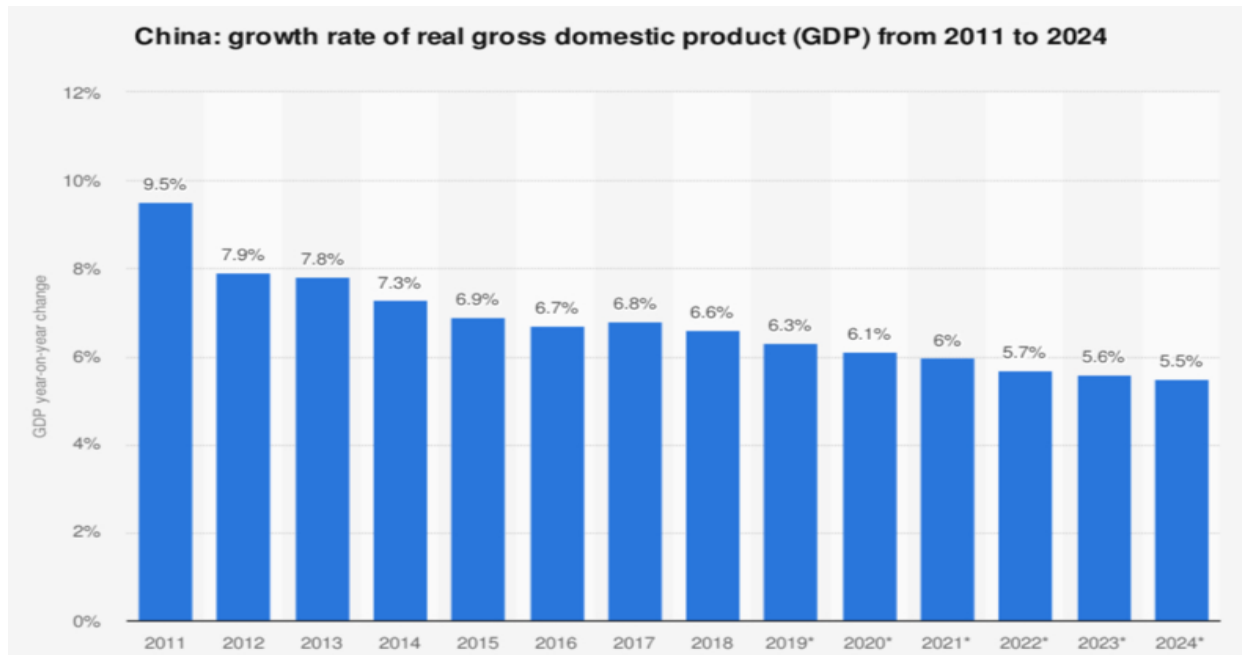
Figure 4. China GDP growth rate 2011-2024 (Statista, 2020)

However, a look at the Chinese tobacco industry, particularly from 2012 to 2017, reveals that the total number of Chinese tobacco companies dropped while the unprofitable tobacco firms increased. The reasons behind this may be people's growing awareness of health and the rise of China's tobacco tax. As a result, it might have negative influence for HNB companies to find their cooperative enterprises as suppliers.

Figure 5. China: number of enterprises in the tobacco industry 2017 (Statista, 2019)
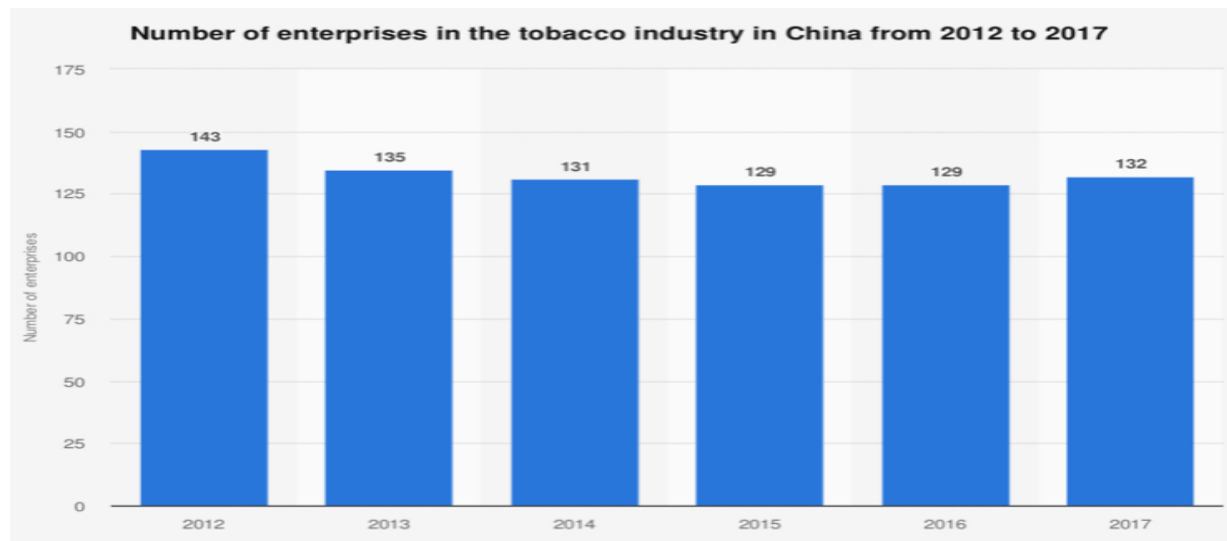
Figure 6. China: unprofitable enterprises in the tobacco industry 2017 (Statista, 2019)

On the other hand, Japan has managed to maintain positive growth in the GDP itself and control of its inflation rate, keeping it below three percent since 2004, even in the worldwide recession in 2008 and 2009. The figure presents the gross domesti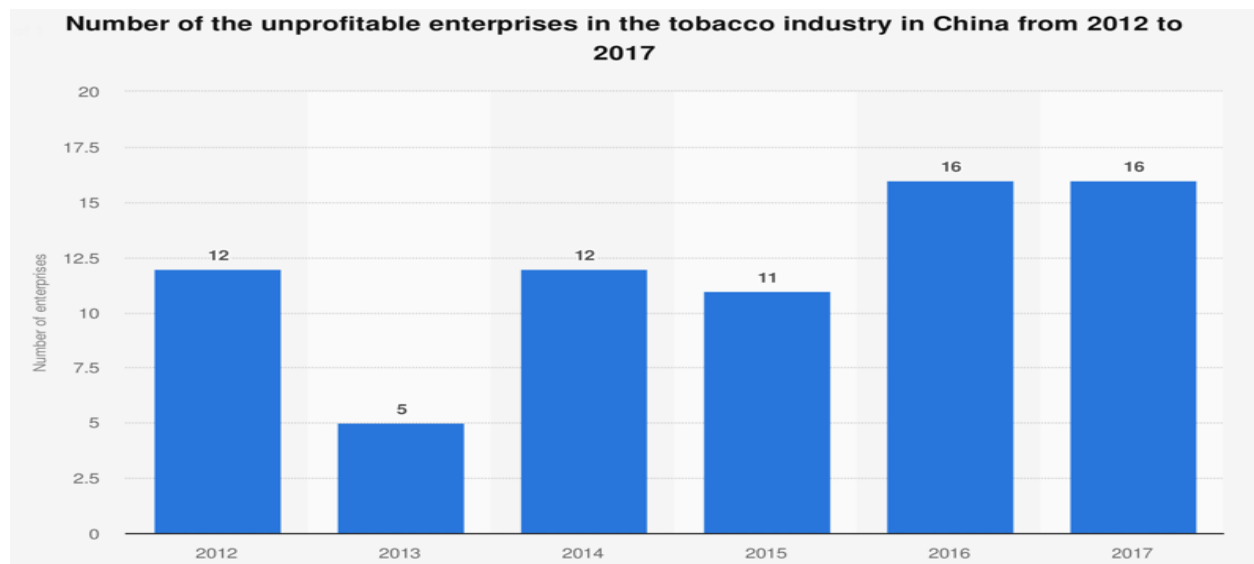c product (GDP) in Japan from 1984 to 2018, with projections up until 2024. The GDP of Japan was around 4.97 trillion U.S. dollars in 2018, ranking third in the world. For comparison, the GDP of China had amounted to 13.4 trillion U.S. dollars in the same year, marking the second-largest economy in the world.

The population of Japan is aging, providing a rocky economic forecast for years ahead. As the baby boomer generation starts to retire, they will leave more job openings than there will be workers to fill them. The government will have to work to provide retirement pensions for a growing amount of people, although if current trends persevere, there will be fewer people left paying taxes to fund the pensions.

Figure 7. Japan: inflection rate from 1984 to 2024 compared to previous year (Statista, 2019)
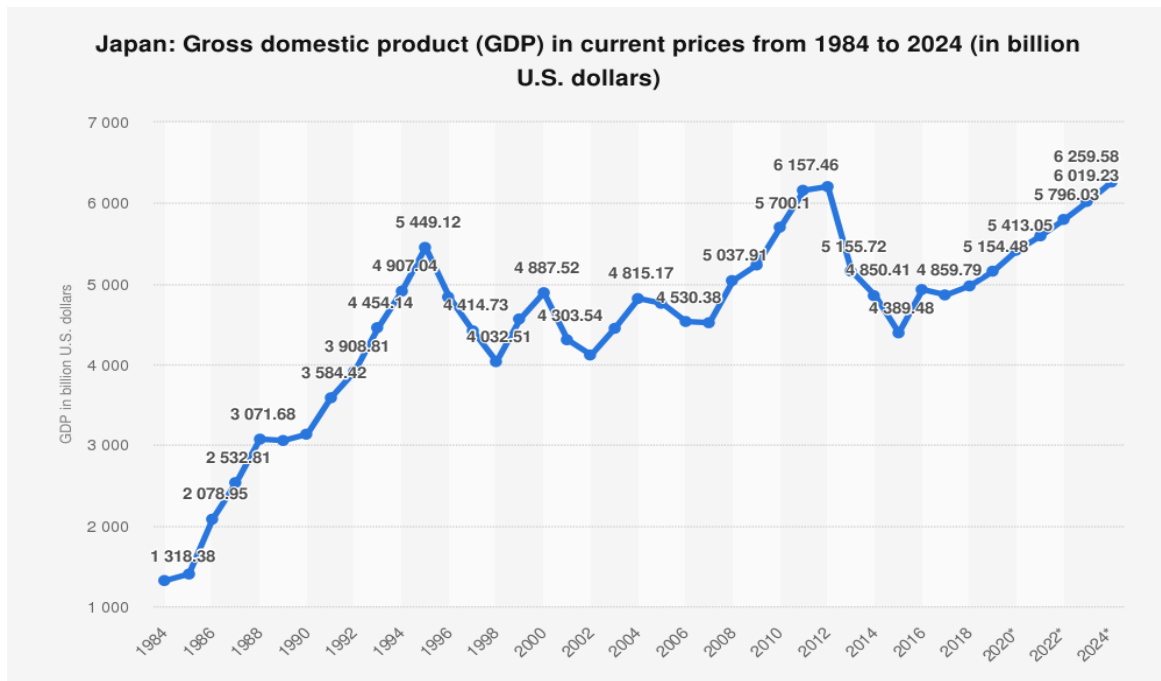
Figure 8. Japan: GDP in current price from 1984 to 2024 in billion US dollars (Statista, 2019)

2.4 Social

Smoking has over the years proven to be quite addictive, making it difficult to rule out human dependence on it. Based on the statistics in figure 1, there were 296 million smokers in China in 2018 and the figure is estimated to be about 276 by the year 2030. This figure would be less than half of the number of global smokers (which is forecasted to fall below 1 billion people by 2025). Another worthy note is that the population is growing older worldwide, which leads to higher attention for health topics (Statista, 2020). As a result, Heat-not-Burn products provide a compromise to smokers who have health concerns.
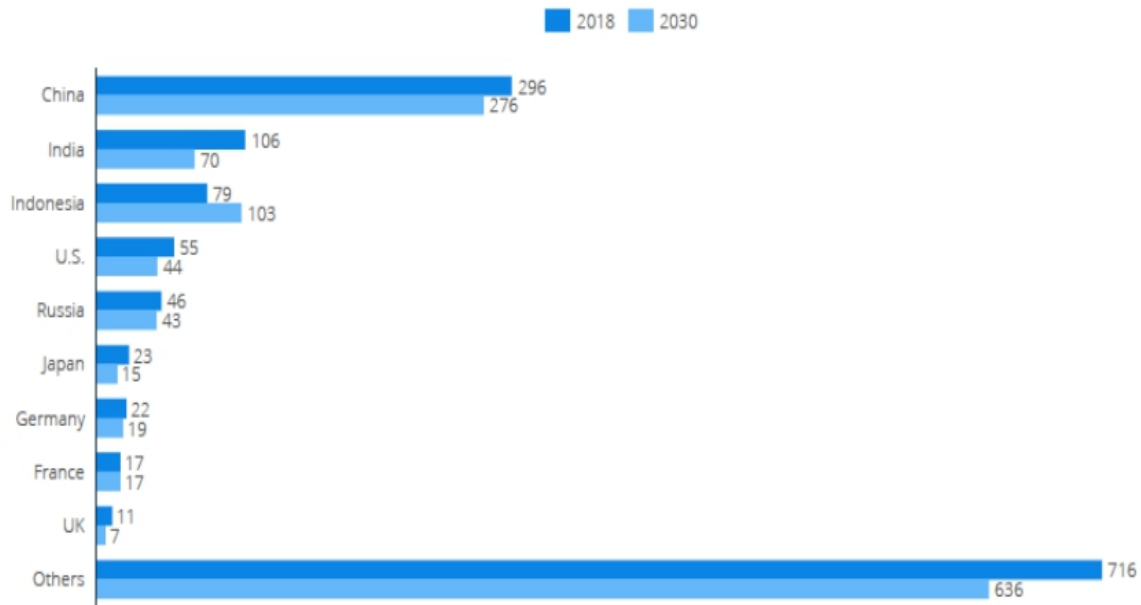
Figure 9. Smokers in selected countries in millions. (Statista, 2020).
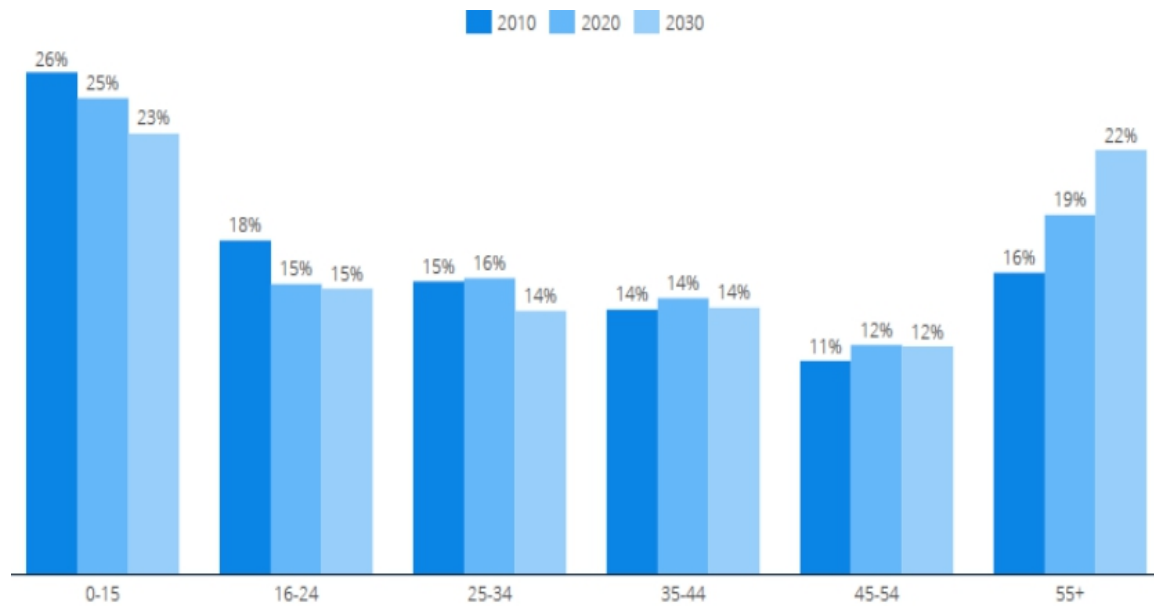
Figure 10. Worldwide population forecast. (Statista, 2020).

Tobacco companies claim that HNB cigarettes are safer than smoking tobacco, since they release fewer toxins and are less harmful than traditional cigarettes and normal e-cigarettes. But, according to the World Health Organization (WHO), all forms of tobacco are harmful, and

COSH believes such a claim is a promotion tactic, which aims to downplay the health risks associated with smoking since tobacco products would influence long-term health effects anyway (Smoking: Risk & Cessation, 2016).

In addition, HNB aerosols deliver many of the same dangerous compounds as traditional cigarettes, including carbon monoxide, tar, and aromatic hydrocarbons, which is not independently substantiated as being healthier nor absolutely safe (Diksha Mohanty & Steven Lippmann, 2019), as well as the issues of secondhand smoke from HNB. Thus, selling to minors should still be prohibited and it is important to complete related legislation on sale and use in terms of HNB.

Japan was one of the first countries that introduced IQOS (a kind of famous HNB) in 2014. Till now, a study of Japanese adolescents found that almost half were aware of HNB products and one fifth of these young people had already tried them. Among Japanese adults, the current estimated rate of using HNB tobacco products is also increasing significantly. However, another experiment examined the use of HNB products in 4,432 patients with chronic diseases between the ages of 40 and 69, in both men and women, the percentages (current or past use of HNB) are very low (<0.1%). Thus, the result proved that HNB products have not attracted enough interest in the middle-aged population. As for youngsters, it is believed that their rapid growth in interest and usage of HNB products might be caused by the appearances in popular national entertainment TV shows. It is found that among viewers, the usage percent of HNB is almost four times that of non-viewers (10.3% vs. 2.7%) (Ratajczak et al, 2020).

2.5 Technological

Since tobacco entered the market, it has embarked on a path of continuous innovation. With the advancement of science and technology as well as the increase of human health awareness, the emergence of Heat-not-Burning products that meet the smoking experience and reduce the harm to humans has become a historical necessity.

Tobacco products in the market at present can be mainly divided into five segments: Cigarettes, Smoking Tobacco, Cigars, Normal E-Cigarettes and Heat-not-Burn Products. Cigarettes contain filtered cigarettes and tobacco with additional flavorings or substitutes and Smoking Tobacco

includes Roll-your-own (RYO) cigarettes which are made by loose tobacco and pipe tobacco, including water pipe tobacco. Bundles of dried and cured tobacco leaves could be rolled to Cigars with various sizes. In the past ten years, E-cigarettes and Electronic Nicotine Delivery Systems (ENDS) are popular around the world, which are devices that heat liquids containing nicotine to create an aerosol and be inhaled by the users.

HNB is a kind of tobacco electronic product, currently represented by IQOS (Philip Morris International), Ploom TECH (Japan Tobacco International), and Glo (British American Tobacco).

The devices heat processed tobacco with a high temperature of about 350°C, instead of combusting it, and they deliver an aerosol which contains nicotine and other chemicals with fewer toxicants than in cigarette smoke. Inserted into the holder, tobacco sticks are heated with an electronically controlled heating element. Other products, like iFuse from BAT or Ploom Tech from Japan Tobacco, produce vapour from a non-tobacco source and pass it through a tobacco plug to absorb flavour and nicotine. HNB products aim for a niche between combustible tobacco smoking and electronic cigarettes that vaporize nicotine suspended in humectants (Erikas, Ann, Lion & Leonie, 2018).
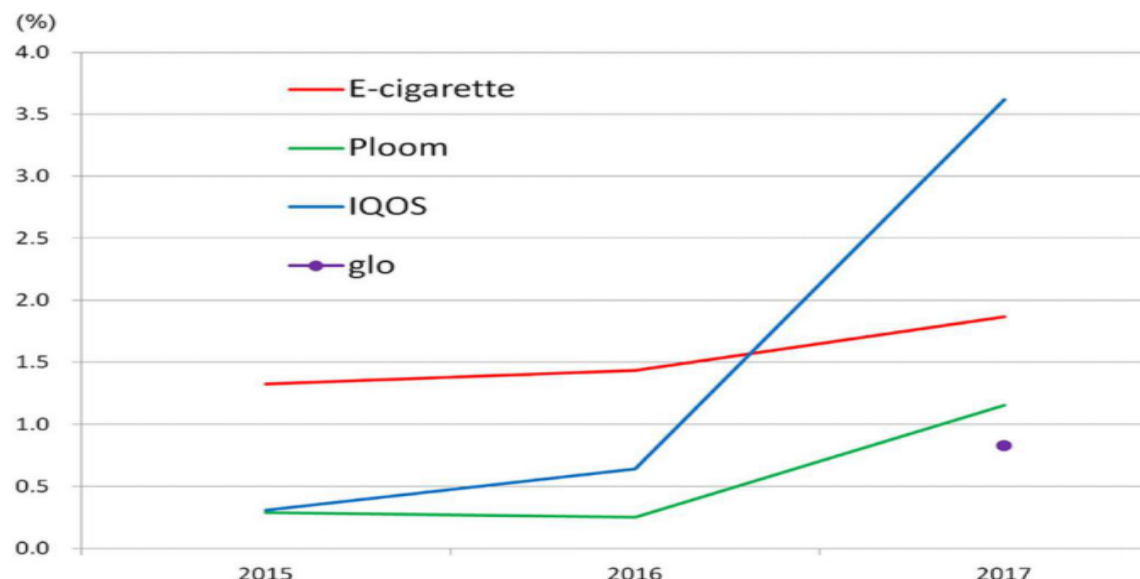
Figure 11. Heat-not-burn tobacco product use in Japan. (Takahiro et al., 2017).
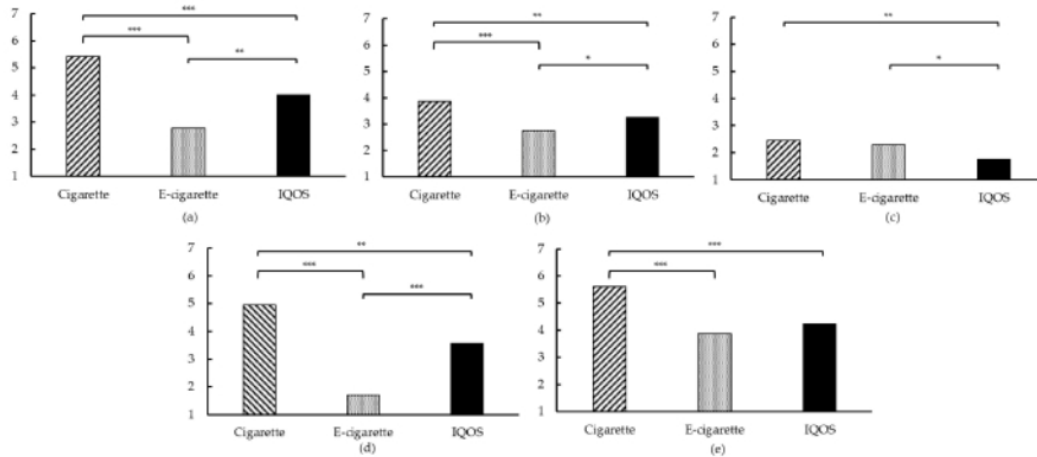
Figure 12. Modified Cigarette Evaluation Questionnaire (mCEQ) subscales. (a) "Satisfaction";
(b)

"Psychological reward"; (c) "Aversion"; (d) "Enjoyment of respiratory tract sensations"; (e) "Craving reduction"; for (a–e): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

(Karolien, Dinska, and Frank, 2018).

Because the products deliver nicotine and limit emissions of tar or carbon monoxide (CO), they are believed to be trendy and less harmful. And according to the report of Statista, the most important trend is said to be the introduction of more and more risk reduced products (RRP), which encompass e-cigarettes and heated tobacco products (HTP)(Statista, 2020).

Stepped by IQOS entered in Japan in 2014, Glo went in to Japanese tobacco market in 2016, which heated specially cut tobacco to about 240 ° C and produced a vapor containing nicotine, as well as tobacco flavor. In the same year, Ploom Tech (belonged to Japan Tobacco) started its project, which designed a low-temperature tobacco heating method with no smoke, on smell smoke, nor generate ash. The innovation brought energy to HNB industry and could be available in Japanese market after two years (Tobacco Asia, 2018).

2.6 Environmental

Pollution from cigarette production**:**

Tobacco processing generally goes through the processes of initial curing, re-curing, fermentation, and packaging. During the production process, environmental pollution with varying degrees of waste gas, sewage, noise, etc. In tobacco processing, most of the flue-cured tobacco uses coal as fuel. Re-baking and cigarette factories generally use coal-fired boilers to generate steam.

During the combustion of coal, pollutants such as soot, sulfur dioxide, and nitrogen oxides are emitted into the atmosphere. "The smoke and dust emission concentration of a conventional coal-fired horizontal baking room is 968.67 mg / m ^ 3, the SO2 emission concentration is 2414 mg / m ^ 3, and the NO emission concentration is 340 mg / m ^ 3"(Yunnan Tobacco Company, 2010) .

In terms of sewage problems, "the waste water produced by cigarette factories contains latex waste water, stem washing waste water, and some oily waste water" (Ning Shouqing, 2011), and these sewage contains toxic and harmful substances such as tar, phenol, benzopyrene and nicotine. "These substances have stable chemical structures and can inhibit the biochemical effects of microorganisms in water. (Hao Xinghua et al, 2002)"

Pollution from cigarette consumption:

Cigarette smoke is produced by tobacco, complex organics, various additives and paper under high temperature. This smoke is composed of many kinds of gases and particles, "including many toxic components that can cause inflammation, carcinogenesis and other health hazards" (Yang Ye, 2006). The Academy of Military Medical Sciences has found that there are as many as 5068 chemical constituents in cigarette smoke, of which 69 are carcinogens, mainly carbon monoxide, heavy metal elements, and high molecular compounds, which are toxic substances in gaseous and aerosol forms (Xinhuawang, 2003).

Cigarette filters also are bad for the environment. The core of most cigarette filters, which looks like white cotton, is actually a form of plastic called cellulose acetate. By itself, cellulose acetate is very slow to degrade in our environment. Depending on the conditions of the area the cigarette

butt is discarded in, "it can take 18 months to 10 years for a cigarette filter to decompose" (Joly et al, 2018). What's more, used cigarette filters are full of toxins, which can leach into the ground and waterways, damaging living organisms that come into contact with them. (Araújo et al, 2019).

2.7 Legal

HNB tobacco products are regulated as tobacco products in China, and all tobacco products in China are controlled and franchised by China National Tobacco Corporation and Chinese government.

Companies of the HNB tobacco industry interested in selling HNB products in China are required to adhere to the 'Law of the People's Republic of China on Tobacco Monopoly'.

Currently, HNB tobacco companies still do not have a tobacco license from the Chinese government, meaning HNB products are illegal to sell in China for now.

The U.S. Food and Drug Administration (FDA) authorized sale of IQOS, the earliest and most popular HNB tobacco product manufactured by Philip Morris International Inc., in April, 2019 (FDA, 2019). This is a sign that the HNB tobacco product is going to be a trend and will have access to markets in many more countries.

From reliable sources, China National Tobacco Corporation has already developed six types of HNB tobacco sticks, in collaboration with many companies, including ComBetter, to design compatible heating devices. The CNTC has also established related laws for HNB tobacco product. However, those laws will not be implemented until the premier of China, Li Keqiang, and Ministry of Industry and Information Technology of the Chinese government signs the document.

 According to the professionals in the Chinese HNB tobacco industry, the legalization of selling and promoting HNB tobacco products in China will initially be realized in April, 2020, but the emergence of China's novel coronavirus may slow down the legalization process and postpone the date of China's HNB tobacco law promulgation.

Japan banned e-cigarettes containing nicotine liquid in 2010, and Philip Morris International launched IQOS, the first generation of HNB tobacco product, in Japan in 2014. Comparatively, HNB tobacco in Japan has very light regulation, and its tax rate is lower than regular tobacco's. Now, Japan is the main market for HNB tobacco product and has the most HNB users among other countries.

Japan's Health Promotion Law has been revised in April 2020, and smoking will be banned indoors. Smoking rooms will have specific signs for HNB cigarette and traditional cigarette, and the difference between a traditional cigarette and a HNB cigarette smoking room is that people are not allowed to eat or drink in the traditional cigarette smoking room but allowed to eat or drink in the HNB cigarette smoking room. Here are some examples for the signs:

標識の例

Figure13. Examples of Smoking Room Signs (Japan Tobacco, 2020)

2.8 SWOT

Strength:

- ComBetter has established close strategic relationship with China National Tobacco, and ComBetter's development direction of new product and technology is highly consistent with tobacco companies.

- ComBetter's product has first-mover advantage and stays ahead of more than 6 months than other companies' product.

- ComBetter can provide complete products, solutions, and intellectual property.

- ComBetter cooperates with some scientific research institutions such as Kunming University of Science and Technology.

- ComBetter has strategic cooperation with supply chain and foundry companies.

Weakness:

- ComBetter does not have strong capital support, and it still raises funds and looks for investors.

- ComBetter does not acquire its own production system.

- ComBetter lacks of brand operation experience and has low brand awareness as a fresh start-up.

Opportunity:

- Due to global smoking bans increase and sales of traditional cigarettes fall, the healthy new tobacco such as HNB tobacco becomes much more popular.

- US market is open to HNB tobacco, and IQOS has done the preliminary market introduction and education.

- China National Tobacco promotes healthy new tobacco types, and this national strategy benefits the HNB market.

Threats:

- China still has unclear domestic market policy regarding to the HNB tobacco market.

- ComBetter has to compete with imitation products and face price competition.

- Big capital may boost malicious competition.

- Domestic and foreign manufacturers in the HNB industry have already begun to sell HNB tobacco illegally in the Chinese market in a small range, such as IUOC, IQOS, etc.

2.9 Conclusion and Framework

According to the analysis of politic factors, we can conclude that although HNB cigarette is not allowed for sale in China at present, there is big opportunity for domestic HNB companies to launch their products in the recent future. However, it is undeniable that the restrictions of tobacco products' advertisement in China may limit HNB's market penetration.

As for economic influence, domestic economy shows a positive trend, which can support many companies ruining their business in a stable environment. But it should be noticed that there are more and more unprofitable tobacco companies, and the total number of tobacco companies shows a downward trend. This implies Chinese traditional tobacco industry may tip towards recession, and it is exactly the time to develop new tobacco like HNB cigarette.

To some extent, it is not realistic to quit smoking directly, so the emergence and entry of HNB products into market is considered to be an effective solution currently. Although this solution is not clear in the long-term, there is no doubt that HNB releases less toxins and is healthier. Although HNB have entered the markets of Japan, Italy, and Switzerland in 2014, relevant laws have not yet been perfected, and due to the promotion of television programs, young people who are considered to be one of the main victims of cigarettes precisely are the main users of HNB products.

As a must-have for smokers and has been innovating for many years, cigarette has derived a rich product line. In the development of HNB products, IQOS, Glo, Ploom TECH etc. continue to innovate and gradually enter more countries' markets. For example, in the Japanese market, after

the emergence of IQOS and GLO; Japan Tobacco revolutionized NHB and developed a new HNB product of low-temperature tobacco heating method with no smoke, on smell smoke, nor generates ash, proofing that HNB has a considerable future.

The situation in Japan's traditional tobacco industry is similar to that in China. However, Japan Tobacco's restrictions on HNB products in Japan are relatively small. HNB products of many international tobacco companies in Japan have already occupied a large part of the domestic tobacco market. Such as IQOS of Philip Morris International; LIL of KT & G; and GLO of British American Tobacco.

From the perspective of related industry trend, the tobacco consumption in the two countries is decreasing year by year. However, HNB products have gradually matured in the Japanese market, and the conversion rate of Japanese consumers from traditional tobacco to HNB products is expected to reach 30% by the end of 2020. Therefore, China's domestic HNB products will also be a new growth point for the tobacco industry.

For the legal part, China still has not opened the HNB market but China National Tobacco has been preparing for launching HNB tobacco soon. Comparatively, Japan has formal and comprehensive regulation regarding to HNB tobacco specifically. China should learn from Japan's Health Promotion Law to regulate HNB tobacco in the future.

From the SWOT analysis, ComBetter should focus on its strength and opportunities. Its close cooperation with China National Tobacco and advanced technology aligned with science and technology institute and university will help them get the newest information from the government and first-mover advantage in the HNB market.

Following this literature review, the next stage of the project will be to conduct a market research through an online survey distributed through the non-probability method of convenience sampling due to the limitations faced by the project as a result of the Novel Corona Virus (COVID- 19) as at the time of conducting the research.

The research will serve as a preliminary market study to gain insights from potential consumers.

The objectives of the research are to:

1. Identify Chinese consumers' perception about HNB cigarettes.
2. Identify the demographics (i.e. age, gender, employment status etc.) of potential patrons of HNB cigarettes.
3. Identify some key product feature expectations of potential consumers of HNB cigarettes.
4. Establish, if any, the relationship between how long one has smoked traditional cigarettes and their willingness to switch/ try the HNB cigarettes.

CHAPTER 3 – METHODOLOGY

3.1 Structure

In order to investigate consumers' willingness to use HNB products, and find out the key factors that affect their purchasing behavior, the questionnaire is divided into five parts, including a brief introduction about HNB products, warm-up questions (whether the respondent is a smoker or not), transition questions (Have you heard of HNB), complex and difficult to answer questions, and personal information questions.

The introduction explains the information related to the HNB product, and provides the respondent with photos of the HNB product. In addition, guarantee is given that all data provided by interviewees is anonymous and confidential. Then there are four general questions about traditional cigarettes as warm-up questions. The third part is the transition questions, including four simple questions about HNB. The next part is complicated questions, including a matrix scale of HNB product characteristics and the ordinal question of product's appearance. The matrix scale is about the impact of HNB products on purchase intentions in six different product's characteristics. The questionnaire ends with demographic questions, by asking some brief information about the interviewees, such as gender, age, and monthly income, etc.

3.1.1 Descriptive Research

Based on the objectives of the questionnaire, the respondents selected were limited to adult in mainland China (18 years and above). In order to collect data more effectively and to find out who are potential customers and what factors will affect their willingness to buy. The design of each question is as concise and clear as possible, using simple grammar and focusing on a single topic, and avoiding the use absolute words to confuse respondents.

3.1.2 Classification of Questions

The questionnaire includes 11 nominal questions (Q1,2,5,7,8,9,11,15,16,17,21), 4 ordinal questions (Q3,4,13,19), and 6 interval questions (Q6,10,12,14,18,20), but there are no set of ratio questions involved.

The questions with significant variables labels, such as the HNB brand that has been heard of, and what types of cigarettes have been used are designed in nominal scales.

The questions involving age, education level, monthly income, appearance of HNB products, etc. are designed in ordinal scale. These variables can be assigned values and also can measure the difference.

The survey includes 6 interval questions. For instance, the matrix lists 6 different factors that might affect consumer's willingness to buy and the respondent can choose the degree of importance for each factor.

3.2 Sampling Plan

3.2.1 Sample Selection

In this questionnaire, the target group of interviewees is "the adult in mainland China", and the sample unit of this survey is one person. Since HNB products are not yet available in the Chinese mainland market, it is difficult to define the potential user group accurately in this questionnaire survey. For the above reason, the questionnaire was conducted by randomly inviting interviewees. The selected interviewees will be used as a sample to represent this target group.

Questionnaires were sent out via WeChat platform, and there is therefore a certain sample frame error in the sample. The sample cannot cover all target groups, which leads to the lack of completeness of this survey. In addition, the sample size is also one of the shortcomings of this questionnaire.

The specific number of potential users of HNB products in mainland China is still unclear. Therefore, "convenient sampling method" was used in this study. This kind of method is time-saving and cost-saving, especially for the current COVID-19 pandemic situation. However, this method will lead to deviations in the interviewee group and make this survey less representative of the population, but it may still be able to indicate some of the views of our targets.

The questionnaire used chain referral sampling as its sampling method. The questionnaire was distributed to multiple WeChat groups, WeChat moments, and shared among friends. To some extent, the distribution of this questionnaire relies on acquaintance social networks.

3.2.2 Sample Size

Based on the original plan, the sample size of the questionnaire was 250. However, due to time, cost, and consideration of the current pandemic situation, the total number of samples received in this questionnaire is 201.

3.3 Data Collection Plan

3.3.1 Collection Method

The questionnaire will collect information through the "Online Computer-administered" method. This questionnaire was formed based on the WenJuanXing (问卷星) platform and distributed on the WeChat platform.

This approach is highly efficient as it helps interviewers to quickly establish contact with potential interviewees and capture real-time data.

In addition, interviewees answer the questions online in their free time; making them more relaxed, which can improve the reliability of the sample. An Error-free interview is another advantage of this tool, because this method largely avoids errors when recording answers. However, this tool also has a disadvantage. When the interviewees are confused about the question, it is difficult for the organizer to give corresponding counseling and correction.

3.3.2 Data collection errors

Besides the errors caused by sampling, there is also the possibility of non-sampling errors, but these errors have no relation with the sampling plan and sample size. People may deliberately cover up facts or tell lies. When interviewees feel embarrassed; want to protect their privacy, or worry their information may be used in other purposes, interviewees may be tempted to provide false information, especially in sensitive topics. There are also other possibilities: such as the respondents' misunderstand of the question; the respondents' loss of concentration during the answering of questions; the respondent getting bored with the questionnaire or the respondent rushing to complete the questionnaire, which may lead to falsehood.

CHAPTER 4 - DATA ANALYSIS AND RESEARCH FINDINGS

Following the successful collection of data by means of an online survey and the referral method in the selection of respondents, the data collected was analyzed using the Statistical Package for the Social Sciences (SPSS) software to investigate whether there were relationships of significant interest. Combined with the objectives, the following results were obtained from the analysis.

4.1 Sample demographic profile

In all there were 201 respondents to the survey. Below is the demographic statistic:
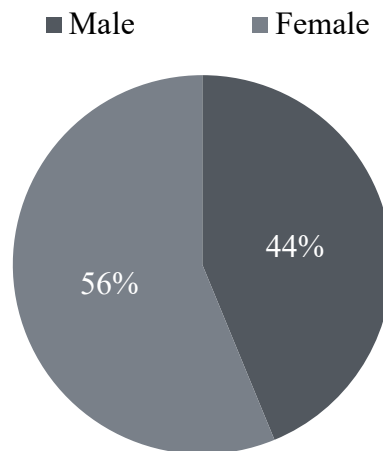
Chart 1. Gender distribution of sample.

44% of respondents, representing 88 out 201 of the respondents, were male; with the remaining respondents 113 being female (56%).
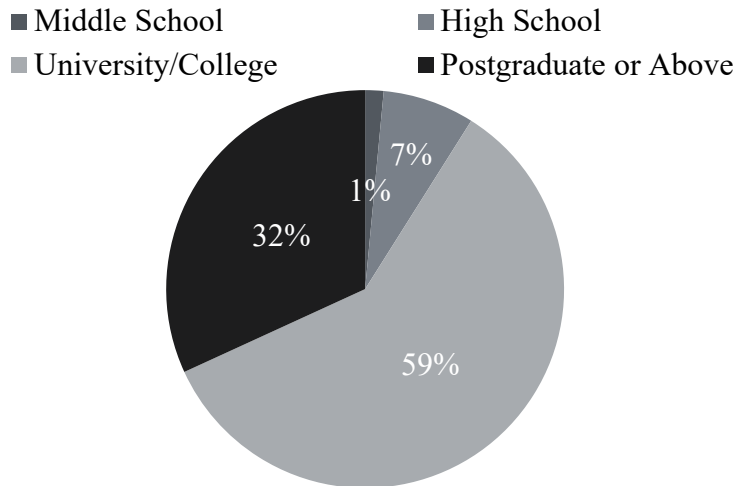
Chart 2. Education level of the sample.

59% of respondents are in college or university; representing 119 people out of 201. 64 of people are post graduate students and above (32%). 15 of people are from high school (7%) and 3 are from middle school (1%).
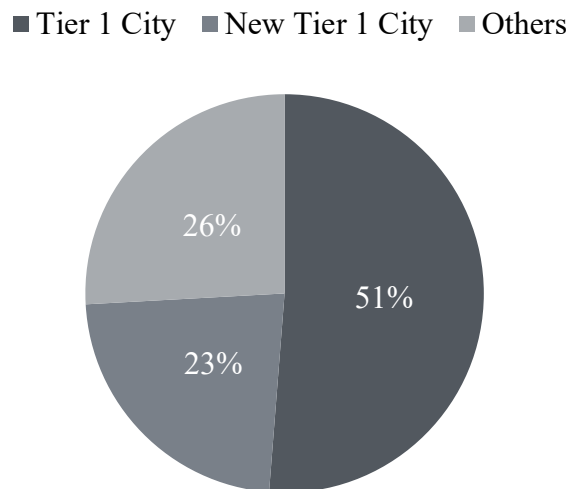
Chart 3. Residence place of the sample.

103 respondents representing 51% of total respondents are from tier 1 cities, 46 people (23%). are from new tier 1 and 52 respondents (26%) are from other cities.
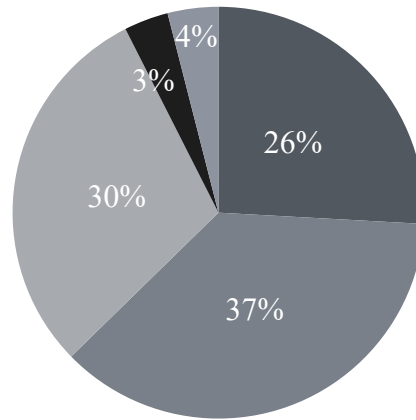
Chart 4. Monthly salary of the sample.

37% of respondents (74 people) earn between 3,000-7,000 rmb. 30% of respondents (60 people) earn between 7000 and 15000 rmb. 26% of respondents (52 people) earn less than 3,000rmb, whiles 4% of respondents (8 people) earn more than 30,000 rmb, with the remaining 3% (7 people) having a monthly salary of 15,000 – 30,000.

4.2 Perception of HNB

4.2.1 Knowledge of HNB

For the exposure rate of HNB, among a total of 201 respondents, 99 respondents had heard of HNB, accounting for 49.3%. 102 people have never heard of HNB products, accounting for 50.7%. Based on the above data, nearly half of the respondents have heard of HNB products. It can therefore be assumed that almost half of the respondents in the survey have knowledge of HNB products.

Have you ever heard of HNB cigarettes?

	Numbers of People	Percentage
Yes	99	49.3
No	102	50.7
Total	201	100.0

Chart 5. Knowledge of HNB tobacco.

4.2.2 Information Sources

In terms of the channels for obtaining HNB product information, the Internet, friend's recommendation, WeChat and Weibo are the main channels for the interviewee group to obtain HNB-related information. From the characteristics of the above channels (friend recommendation, WeChat and Weibo), the current HNB product information is usually obtained from internal channels and passed between acquaintances. Information channels for obtaining HNB from external sources are relatively limited.
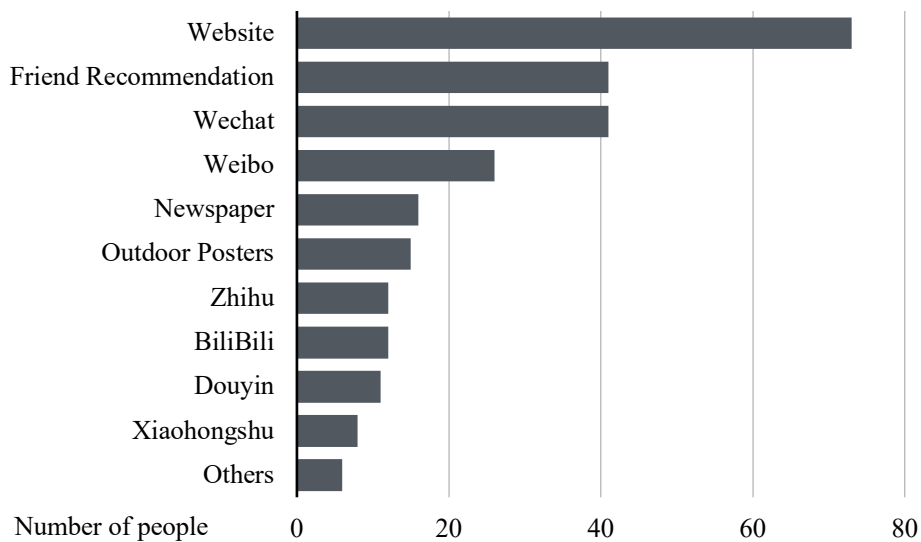
Chart 6. Comparison of Information Sources
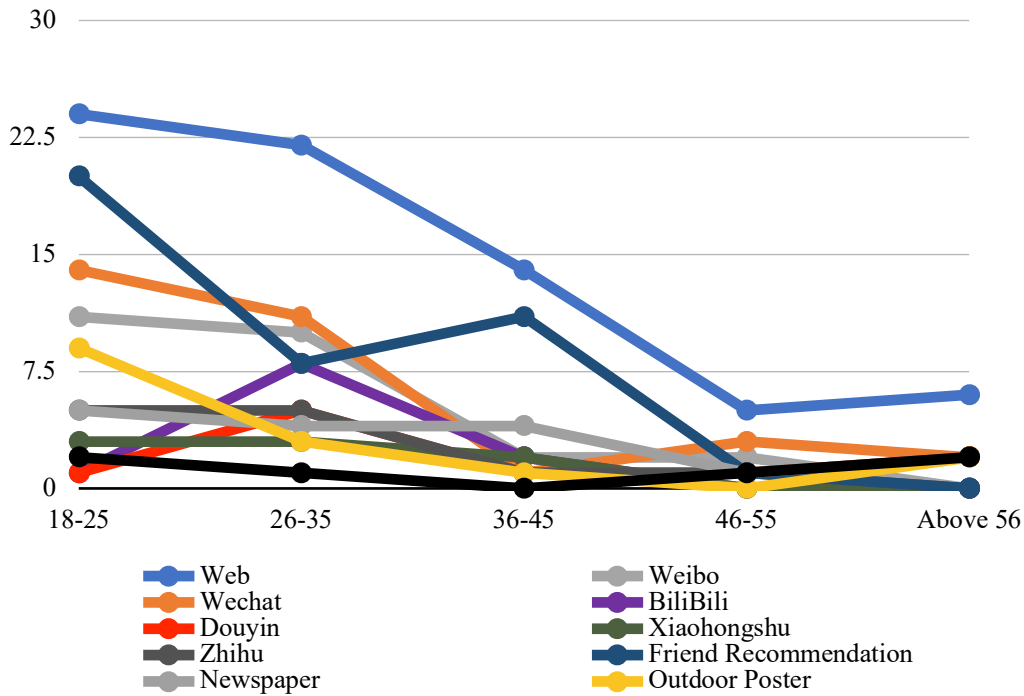
Chart 7. Age and Information Sources Cross Analysis.

It can be seen from the above data that the proportion of young people (18~35 years old age group) who have heard of HNB products is relatively high. The main channels are website and friend recommendation.

4.2.3 Prior Usage of HNB

Among the interviewees who have heard about HNB products (ie. 99 people), 54 people have heard information about HNB products and tried, accounting for 54.5%. 45 people have heard but have not tried, accounting for 45.5%. Based on the above data, it can be simply inferred that having information about the HNB product, influences the interviewee's likelihood to try the HNB product (54.5%).

Have you ever tried HNB Tobacco?

Have you ever heard of HNB Tobacco?	Frequency	Percentage
Yes and tried	54	54.5
Yes but haven't tried	45	45.5
No	102	100.0

Chart 8. Prior usage statistics.

Among the reasons for reluctance to try HNB products, personal habits account for the vast majority. The main reason is that the respondents themselves are non-smokers and are subjectively resistant to cigarette products.
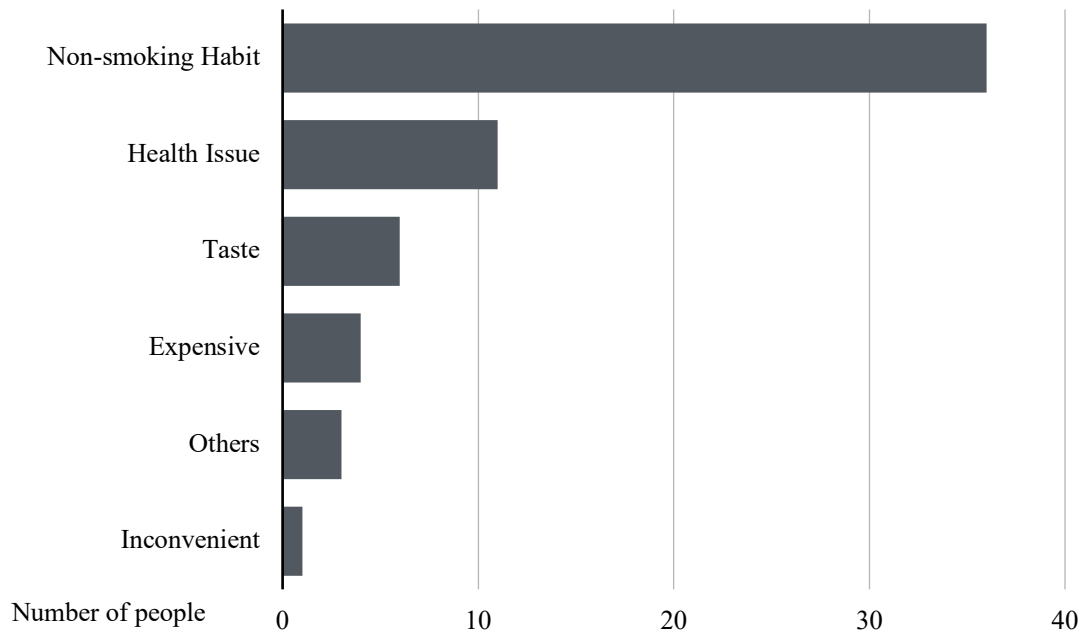
Chart 9. The reason for not trying.

4.3 Conversion rate

This part is to investigate the relevant factors of conversion rate, including smoker ratio and conversion willingness. Although the original objective is to study the willingness to switch/try the HNB cigarettes based on the smoking ages of traditional smokers, after investigation, it was found that the smoking age did not have a great impact. Thus, it analyzed Smoker/ Non-smoker's willingness to try HNB cigarettes and which group has the higher conversion rate.

4.3.1 Smoker Ratio in this Survey

There were a total of 201 respondents in this survey. Among them, 42.8% of the respondents (86 people) have used tobacco products, and 57.2% of the respondents (115 people) have never used tobacco products.

Have you ever smoked or used tobacco related products?

	Numbers of People	**Percentage**
Yes	86	42.8
No	115	57.2
Total	201	100.0

Chart 10. Smoker Ratio.

4.3.2 HNB Conversion Rate

Chi-square test was used to analyze Smoker/ Non-smoker's willingness to try HNB cigarettes and which group has the higher conversion rate. A total of 147 respondents were used for this analysis, since 54 people had tried HNB cigarettes before.

After reading the introduction, to what extent you will try HNB cigarettes?

	Very Unlikely	Unlikely	Neutral	Likely	Very Likely	Total
Smokers	3	3	17	7	7	37
Non-smokers	49	17	23	15	6	110
Total	52	20	40	22	13	147

Chart 11. Conversion statistics after reading the introduction.

	Value	Degree of Freedom	P Value
Chi-Square Test	24.060^a	4	0.000
Likelihood Ratio	26.011	4	0.000
Linear Correlation	19.451	1	0.000
Number of Valid Cases	147		

Chart 12. Chi-Square Test.

Since P value < .05, the relationship between interviewee's willingness to try HNB and reading the HNB introduction is significant. A Pearson product-moment correlation coefficient was computed to assess the relationship between the interviewees and their willingness to try HNB product after they read the description of HNB products. There was a positive correlation between these two variables, n=147, p>.05.

Overall, there was a strong positive correlation between the interviewees and their willingness to try HNB product. And the attitude towards HNB products among cigarette user groups is more positive. More than half of the non-smokers are more resistant to HNB products.

Different Tobacco Users' Willingness to Try HNB
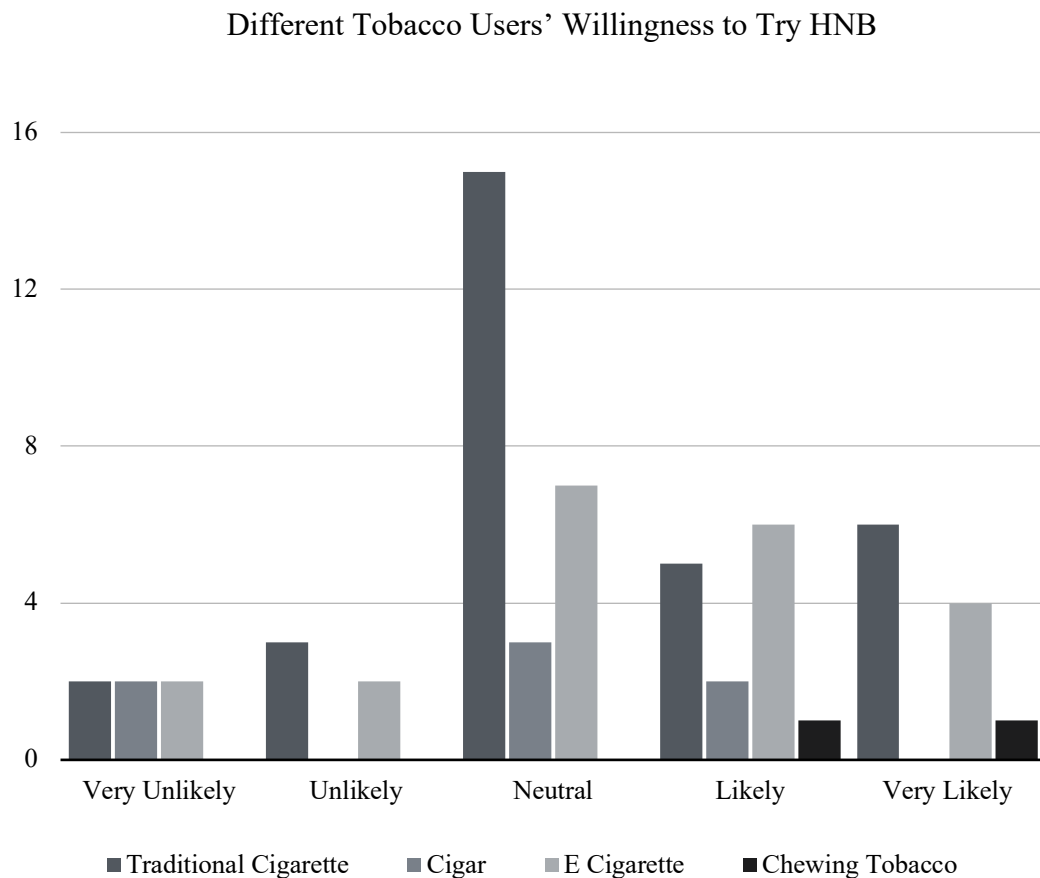
Chart 13. Different Smokers' Attitude.

Among the 4 tobacco products user-groups, users of traditional cigarettes account for the majority of the group. The respondents who used traditional cigarettes were generally neutral towards HNB. The attitude of e-cigarette users towards HNB products, on the other hand, is relatively positive. (There may be cross-users).

A correlation analysis was performed to analyze the link between the willingness to try HNB and other factors. Due to the relatively small sample size, a confidence interval of 90% and 0.1 significance test level was chosen.

		Smoking Ages	Usage Amount	Gender	Age	Education Level	Monthly Salary	Place of Residence
After reading the introduction of HNB, to what extent you will try HNB tobacco?	**Pearson Correlation**	0.364	0.351	-0.147	-0.103	-0.084	0.012	0.118
	Significance Level	0.000	0.000	0.076	0.215	0.313	0.889	0.156

Chart 14. Correlation Analysis.

It was found that for "Education Level" and "Monthly Salary" factors, P value < .1, which means the relationship between these two factors and the willingness to try HNB is significant. "Gender", "Age", and "Place of Residence" factors had P value > .1, but P values are relatively small.

However, "Smoking Ages" and "Usage Amount" factors' P values are much larger than .1, which means the relationship between these two factors and the willingness to try HNB is insignificant, and hence should not be considered.

The regression model was adopted to further analyze the relationship between the five factors mentioned above and the conversion willingness to HNB. Gender, Age, Education Level, Monthly Salary, and Place of Residence as independent variables, and conversion willingness to HNB as dependent variable.

	Unstandardized Coefficient		Standardized Coefficient	t	Significance Level
	B	Standard Error	Beta		
(Constant)	3.318	0.823		4.031	0.000
Gender	-0.240	0.252	-0.087	-0.954	0.342
Age	-0.133	0.093	-0.134	-1.427	0.156
Education Level	-0.198	0.196	-0.092	-1.010	0.314
Monthly Salary	0.053	0.116	0.040	0.456	0.649
Place of Residence	0.197	0.131	0.128	1.504	0.135

Chart 15. Regression Model.

Through comparing standardized coefficient, it can be seen that "Age" and "Place of Residence" factors have the most impact on the conversion willingness to HNB, and "Age" has negative correlation to the conversion willingness to HNB, meaning with the increase in age, respondents are less likely to try HNB tobacco. On the other hand, "Place of Residence" has a positive correlation to the willingness to convert to HNB, meaning Tier 1 cities' residents are more likely to try HNB tobacco.

4.4 Target Customer

From **Chart 5** and **7**, the 18~25 age group is the largest group of people who have heard about HNB tobacco and has the highest willingness to try HNB tobacco. From **Chart 11** and **12**, the smoker group shows more potential to convert to use HNB tobacco. From **Chart 13**, e-cigarette and traditional cigarette smokers have more positive attitude toward using HNB tobacco. From **Chart 14** and **15**, Tier 1 cities' residents have the most potential to use HNB tobacco. Based on all of the data findings, the main ideal target customer should be traditional cigarette and e-cigarette smokers in 18~25 age group living in Tier 1 cities.

4.5 Preference of HNB equipment

In this section, all interviewees are required to choose and rate the provided options, including the considered factors when buying HNB tobacco, the preferred price interval, the desired functions of HNB equipment, and the preferred shopping platforms.

4.5.1 Considered Factors When Buying HNB Tobacco

	Appearance	Price	Heating Time	Brand	Taste	Durability
Total	668	690	645	637	708	705
Medium	3.32	3.43	3.21	3.17	3.52	3.51
Standard Deviation	1.304	1.295	1.243	1.233	1.393	1.342

Chart 16. Considered Factors.

People consider the "Taste" and "Durability" factors the most, followed by the "Price" factor. In ranking the considered factors from the most to the least important, taste would be first, then durability, price, appearance, heating time, and brand; in that order.

		Appearance	Price	Heating Time	Brand	Taste	Durability
Male	**Total**	88	88	88	88	88	88
	Average	3.43	3.42	3.28	3.32	3.76	3.72
	Medium	4.00	3.00	3.00	3.00	4.00	4.00
Female	**Total**	113	113	113	113	113	113
	Average	3.24	3.44	3.15	3.05	3.34	3.35
	Medium	4.00	4.00	3.00	3.00	4.00	4.00

Chart 17. The Relationship between Considered Factors and Gender

From the analysis of the data, Males focus more on "Taste", then "Durability", whiles Females consider "Price", then "Durability".

		Appearance	Price	Heating Time	Brand	Taste	Durability
Less than 3,000	**Total**	52	52	52	52	52	52
	Average	3.44	3.88	3.37	3.25	3.71	3.75
	Medium	4.00	4.00	3.00	3.00	4.00	4.00
3,000 to 7,000	**Total**	74	74	74	74	74	74
	Average	3.28	3.26	3.18	3.14	3.35	3.42
	Medium	4.00	3.00	3.00	3.00	4.00	4.00
7,000 to 15,000	**Total**	60	60	60	60	60	60
	Average	3.38	3.45	3.20	3.25	3.70	3.52
	Medium	4.00	4.00	3.00	3.50	4.00	4.00
15,000 to 30,000	**Total**	7	7	7	7	7	7
	Average	2.71	2.43	3.14	2.71	3.00	3.29
	Medium	3.00	3.00	3.00	3.00	3.00	4.00
Above 30,000	**Total**	8	8	8	8	8	8
	Average	3.00	2.88	2.63	2.75	3.00	2.88
	Medium	3.00	2.50	3.00	3.00	3.00	3.00

Chart 18. The Relationship Between Considered Factors and Monthly Salary.

Respondents with monthly salaries Less than 3,000 RMB were more concerned about Price. 3,000 to 7,000 RMB salary earners placed emphasis on Durability. 7,000 to 15,000 RMB salary earners placed more emphasis on Taste. From the 15,000 to 30,000 RMB salary group, Durability was the key factor they considered. Above the 30,000 RMB salary range, Appearance and Taste were the important factors considered.

4.5.2 Price Interval

Which price interval do you think is suitable for a HNB equipment?

Price (RMB)	Frequency	Percentage
100~200	57	28.4
200~300	74	36.8
300~400	45	22.4
400~1000	19	9.5
Above 1000	6	3.0
Total	201	100.0

Chart 19. Price Interval.

Based on the feedback from the interviewees, 74 people believed that 200-300 yuan was a reasonable price, accounting for 36.8%. In general, the range between RMB 100 and RMB 400 is the acceptable price to the vast majority of respondents.
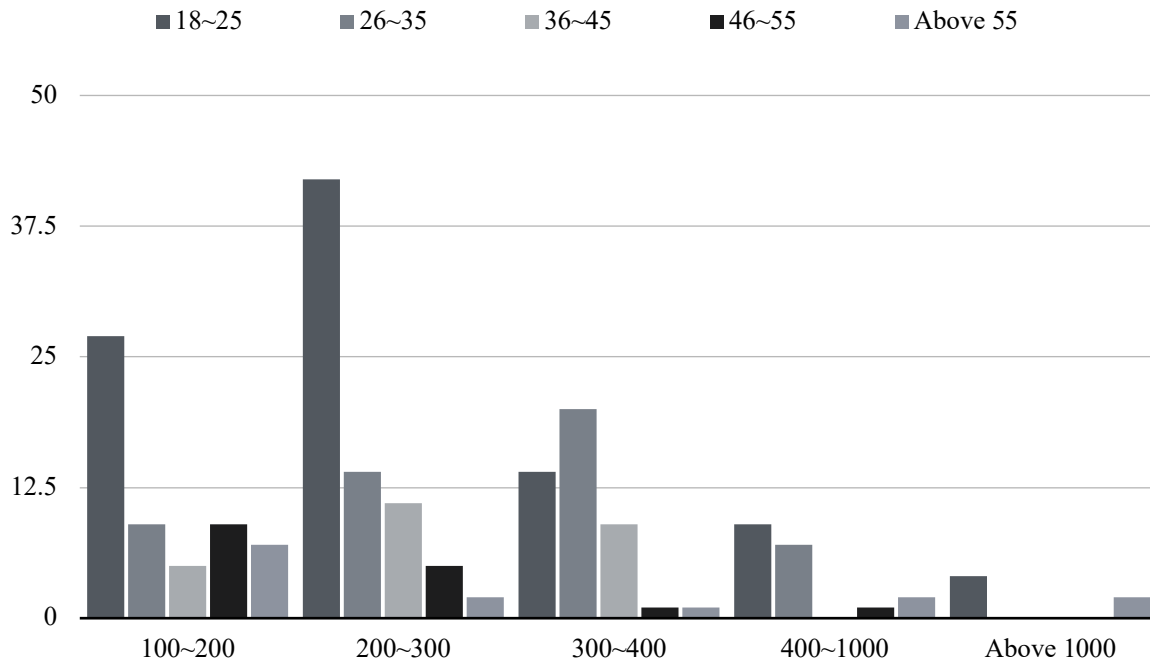
Chart 20. Different Age Group's Preferred Price Interval for HNB Equipment.

People between the ages of 18-25 believe that the price of 200-300 yuan is more reasonable and account for the majority. With the increase in income and spending power, consumers between the ages of 26-35 may place higher demands on product quality. Respondents in this age group can accept prices of 300-400 yuan.
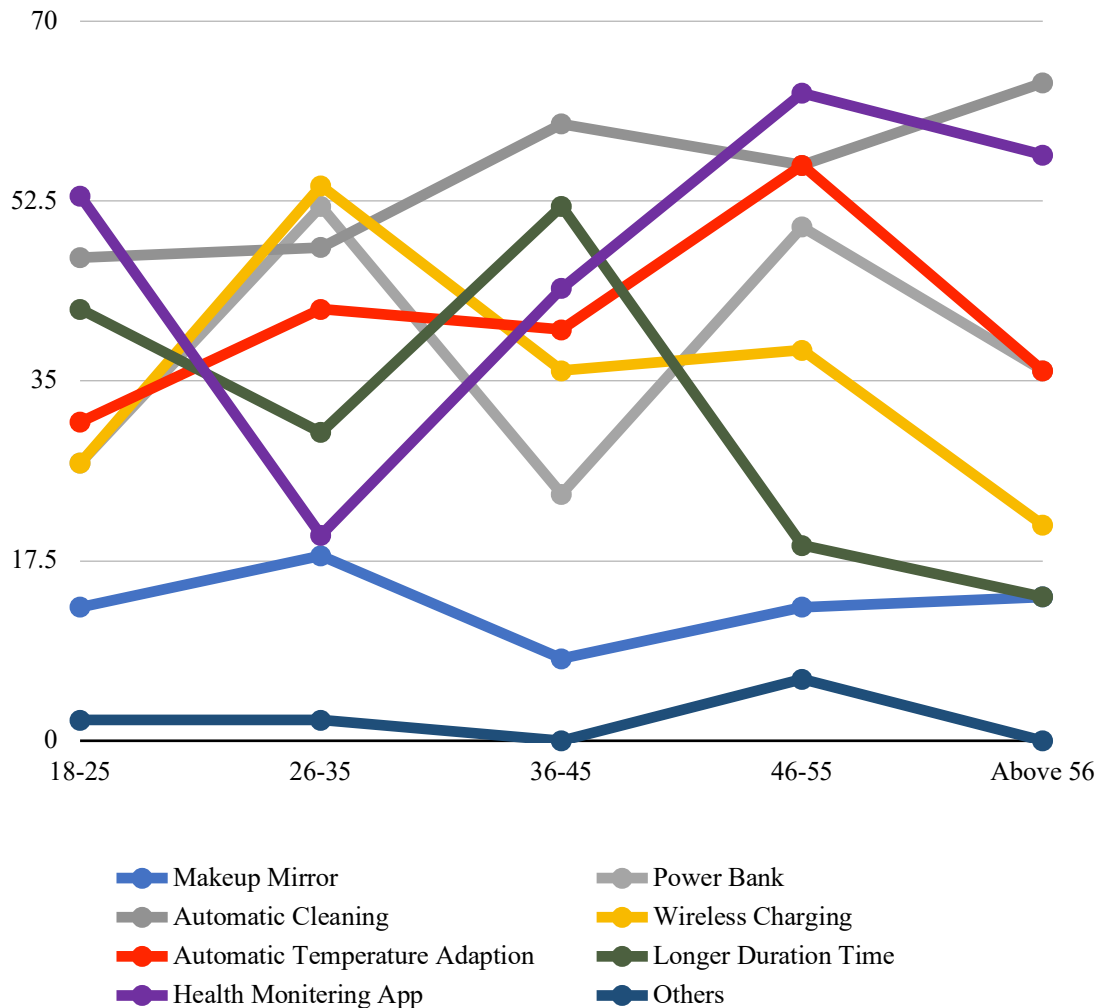
4.5.3 Desired Functions

Chart 21. The Relationship between Age and Desired Functions.

The graph above shows the various surveyed age groups and the predominant extra feature they expect to have in the HNB device.

The most desired function is "Automatic Cleaning", which had a high demand among all the age groups, but was relatively higher among 36-45 years and above 56 years age ranges. The "Health Monitoring App" was also an important feature, especially among 46-55years and above 56 years age groups. The make-up mirror is one of the features that almost all the age groups do not fancy as an additional feature.
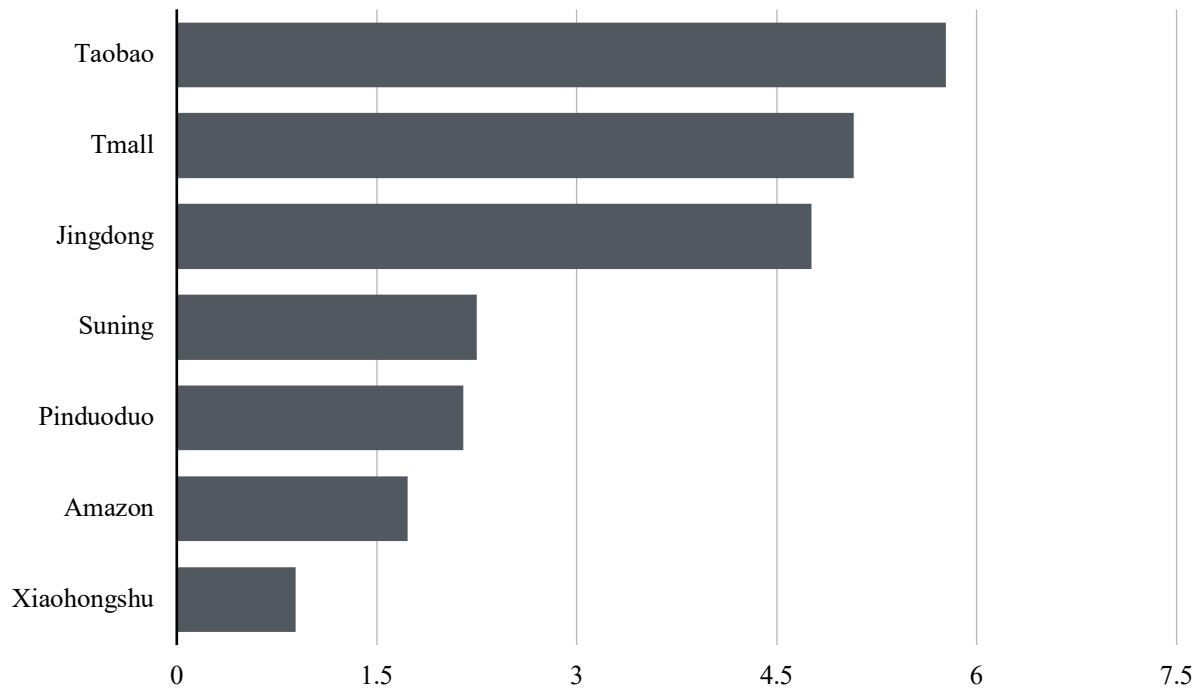
4.5.4 Shopping Platforms Preference

Chart 22. The Popularity of Shopping Platforms.

A point scale was used to rate respondents' ranking for the various shopping platforms indicated in the graph. This graph provides users preference for the various platforms, suggesting the popularity of shopping platform, the higher the more popular.

4.6 Conclusion

Based on the analysis and findings above, ComBetter's target customer should be traditional cigarette and e-cigarette smokers in 18~25 age group living in Tier 1 cities. HNB tobacco's taste and HNB equipment's durability are the most considered factors by customers, and the most accepted price range for HNB equipment is between 200 to 300 RMB. A majority of customers desire HNB equipment to have auto cleaning function and health monitoring App with the equipment, and the top 3 popular shopping platform is Taobao, Tmall, and Jingdong.

CHAPTER 5- CONCLUSION AND RECOMMENDATIONS

5. 1 Academic and Managerial Implication

After conducting this capstone project, including the quantitative research, it has become imperative to stress the need to further conduct additional academic research which would serve both as an academic exercise and also provide further understanding into the HNB market in China specifically and the tobacco industry in general.

It is evident from this preliminary study and the literature review that due to the restrictions on the use and promotion of tobacco related products in China, there isn't very much information available by way of extensive research into the habits, usage patterns and demographics of HNB cigarettes in China.

While this initial study has provided some initial understanding into the specific target group within the Chinese market that are more likely to patronize the HNB products, it is still necessary for future academic research to be conducted along similar lines to foster an extensive database on the Chinese HNB market; the foremost application of which would be an authoritative source that both the academic and business community can employ in the execution of their functions.

This research, on a managerial level, has revealed the necessity for Combetter and in fact HNB product manufacturers in general, to narrow their initial marketing approach to specific groups that are more likely to patronize HNB products within the Chinese market.

The research is indicative of the fact that males between the ages of 18-25 years, who already use traditional cigarettes or E-cigarettes, are more likely to adopt HNB products and consider the taste and durability of the product as their two primary factors that influence their buying decision. This means that Combetter would have to invest into these factors both during the production of the HNB cigarettes and the marketing of these products.

The shopping platforms, frequently used by respondents such as Taobao, T-mall and Jingdong and key channels through which the respondents find information about HNB; like product websites, friends and WeChat, give Combetter information about the specific marketing channels they need to focus on in promoting their products.

The research also informs the management of Combetter on the preferred pricing of their target group.

Overall, this research gives a clear indication on the most suitable marketing strategy that Combetter needs to adopt; highlighting the ideal marketing mix, that is, details about the Place Price, Promotion and Product that the company has to adopt to ensure its success.

5.2 Limitations

In the course of the execution of this project some limitations were encountered. These are worthy of note because they either have a direct or indirect bearing on the execution of the project; the most significant part among them being the research and data collection process and it is thus important to acknowledge such limitations as they might have influenced the outcome of the results and analysis of the data.

These limitations could also be encountered in similar research studies along the same theme or uniquely different ones, but the measures taken in the face of these limitations may also serve as recommended approaches for future projects.

The most notable challenge encountered by the team during this project was the Corona Virus global pandemic (nicknamed COVID-19), which affected over a hundred countries worldwide including China, where the company the team consulted for was located.

This invariably affected the interaction between the team and the management of the company, due to face to face meetings and interactions being halted as a measure to curb the spread of the virus. The team could no longer have visits to the company location to learn more about the company operation and progress as scheduled in the project proposal and thus had to result to online meetings with the management of the company.

The greatest impact that the COVID-19 had on the project was in the area of the data collection method used. Due to restrictions on face to face interactions and group gatherings as a measure to curb the spread of the virus, the team had to resort to the use of an online survey in order to collect relevant data for the analysis.

Because the product for which the research was conducted (HNB cigarette) is a fairly new product to the target market (China), other methods of research and data collection such as focus groups, depth interview and observation could have been used in tandem or as standalone methods to collect data but COVID-19 restrictions made this impossible.

Also, in view of the fact that the company, Combetter aims to market its product across the whole of China, for which reason one of the objectives of the research was to "Identify Chinese consumers' perception about HNB cigarettes", it would have been prudent to develop a research that takes a larger sample size and wider cross section of the population into account. However, time constraints as well as financial constraints made this particular ideal approach a great challenge.

A sample size of 200 respondents was therefore chosen, with the view that this research will serve as a preliminary research which provides initial insights into the Chinese market.

Although this research has revealed some interesting findings about the age, gender and location demographic as well as recommended retail pricing and income levels of target consumers, further studies can be conducted to gain deeper and more specific insights about the Chinese market in terms HNB products in the future. Indeed it is the hope and recommendation of the team that more research should be conducted on the HNB market in China.

5.3 Recommendations
Before policy opening

First of all, the team suggests that Combetter should continue to do research and development to constantly improve the products, which can help increasing the products' differentiations. In terms of product promotion, although Chinese advertising law does not yet allow cigarette advertising on television, outdoor advertising, mass media, and so on, the company can also use the WeChat Official Accounts for pre-publicity. By establishing the brand's own official account as well as cooperate with other official accounts with a large number of fans, ComBetter can promote the corporate culture to customers (focus on customers' health) and product characteristics (90% less nicotine than traditional cigarettes). In addition, the company can take

advantage of China's younger generation's enthusiasm of travel to sell products in airports' Duty-Free stores in popular tourist destinations around China, such as Thailand, Japan, Korea, etc., which will also attract some foreign customers.

After policy opening

With the open policy, Combetter can choose more promotion channels. But in order to use their funds more effectively, cooperating with popular domestic KOLs to promote the product through Weibo, TikTok and other platforms is a great choice. The reason for that is obvious, it is very common for KOLs to have millions of followers, whom they influence and this type of promotion can reach more people than traditional advertising. In addition, in terms of sales venues, the company can start with online sales, which is not only cheaper, but also a quick way to recoup funds. After accumulating a certain amount of customers and capitals, the company can open some offline stores, including flash stores during special festivals, which are located near shopping malls and restaurants that young people frequently visit.

In conclusion, HNB cigarette has a bright future in the Chinese market, and it is the belief of this team that if Combetter can combine the recommendations in this report and their existing market strategy, it can not only help them attract more target customers but also increase their competitiveness.

Appendix 1

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