

## THE ANALYTICAL HIERARCHY PROCESS (AHP) OF CONSUMER PURCHASE DECISION IN SELECTING BUBBLE TEA SHOP

### ANALISIS HIRARKI PROSES KEPUTUSAN PEMBELIAN KONSUMEN DALAM MEMILIH TOKO BUBBLE TEA

by:

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**Abstract:** Bubble tea also known as pearl milk tea is a popular Taiwanese tea-based drink invented in Taichung in the 1980s. Nowadays bubble tea shops are really popping up all over the world. Bubble tea shops have mushroomed all around Indonesia over the last few years. In Manado, there are at least three bubble tea brands that are very popular in town, those are Share Tea, Cha Time and Tea Presso. In today's era, the effect of the development of business has brought the business into a very tight competition to gain the attention of customers. In order to create a successful business, it is necessary to understand the factors that motivates consumers to make purchases. The purpose of this research are to identify which bubble tea shop that people in Manado prefer the most and to identify which criteria has major influence in selecting bubble tea shop. The method used in this research is Analytical Hierarchy Process (AHP). The main findings of this research are: 1) Based on the overall result that developed using Analytical Hierarchy Process (AHP), Share Tea become the most preferred bubble tea shop by the consumers with score 0.52, followed by Cha Time (0.29) and Tea Presso (0.19). 2) Among all the criteria, flavour became the major influence or the key consideration for consumers in selecting bubble tea shop.

**Keywords:** consumer purchase decision, analytical hierarchy process

**Abstrak:** Bubble tea juga dikenal sebagai pearl milk tea adalah minuman teh populer Taiwan, diciptakan di Taichung pada 1980-an. Saat ini toko bubble tea benar-benar bermunculan di seluruh dunia. Toko bubble tea telah menjamur di seluruh Indonesia selama beberapa tahun terakhir. Di Manado, setidaknya ada tiga merek bubble tea yang sangat populer, yaitu Share Tea, Cha Time dan Tea Presso. Di era sekarang ini, efek dari perkembangan bisnis telah membawa bisnis kedalam persaingan yang sangat ketat untuk mendapatkan perhatian pelanggan. Dalam rangka menciptakan bisnis yang sukses, kita perlu memahami faktor-faktor yang memotivasi konsumen untuk melakukan pembelian. Tujuan dari penelitian ini adalah untuk mengidentifikasi toko bubble tea mana yang sangat disukai oleh orang-orang di Manado dan untuk mengidentifikasi kriteria mana yang memiliki pengaruh besar dalam memilih toko bubble tea. Metode yang digunakan dalam penelitian ini adalah Analytical Hierarchy Process (AHP). Temuan utama dari penelitian ini adalah: 1) Berdasarkan hasil keseluruhan yang dikembangkan menggunakan Analytical Hierarchy Process (AHP), Share Tea menjadi toko bubble tea yang paling disukai oleh konsumen dengan skor 0,52, diikuti oleh Cha Waktu (0,29) dan Teh Presso (0,19). 2) Di antara semua kriteria, rasa menjadi pengaruh besar atau pertimbangan utama bagi konsumen dalam memilih toko bubble tea.

**Kata kunci:** keputusan pembelian konsumen, analisis hirarki proses

## INTRODUCTION

### Research Background

In today's era, the effect of the development of business has brought the business into a very tight competition to gain the attention of customers. Various methods and approaches can be done to get the sympathy of customers, which through improving quality of the products generated by developing an innovative facility, and infrastructure that support even as far as using high-tech facility. Competition to provide the best product or services by business to consumers has put the consumer behavior as one of the issues that must be dealt straightforwardly which can affect their consideration in order to perceive the value of the product or service. In order to create a successful business, it is necessary to understand the factors that motivates consumers to make purchases. Decision is made for choosing one out of several alternative choices, where the decision made by processes before got the final decision. Consumer purchase decision is when consumer made decision to buy something from available alternatives choices.

Due to the economic growth of Indonesia recently that can be seen from the increasing number of the middle and high income people, many businesses start to see Indonesia as a promising market and try to enter it. Among all the businesses, there are food and beverage industry. Food and beverage market is lucrative for foreign investor. Based on the latest data from the Ministry of Industry RI, the growth of national food and beverage industry reached IDR 400 trillion (approximate USD \$30.3 billion) in the first quarter of 2016, up 7.55 percent from the same period one year earlier. Indonesia's food and beverage industry remains attractive for domestic and foreign investment because Indonesia has a large population (more than 255 million people) – who all need to eat and drink – that is characterized by rapidly rising per capita GDP. Bubble Tea industry is one of the businesses that starts to flourish in Indonesia's market.

Bubble tea also known as pearl milk tea is a Taiwanese tea-based drink invented in Taichung in the 1980s. Bubble tea is a drink that consisting either of milk or tea, or both. Flavour and syrups are often added along with candiments such as the ever popular tapioca pearls (black chewy jelly-like balls also known as boba) and bite-sized pieces of jelly. Most stores have "sweetness level" options where customers can choose how sweet they want their bubble tea drink to taste.

Nowadays bubble tea shops are really popping up all over the world. Bubble tea shops have mushroomed all around Indonesia over the last few years and its available in many brands and variants. There are at least 10 brands of Taiwanese Bubble Tea that are entered Indonesia Market such as Share Tea, Cha Time, Tea Presso, Gong Cha, Coco, Shiny Tea, Sancha, Kungfu Tea, I Love Taimei and 50 Lan.

In Manado, there are several taiwanese bubble tea brands that have entered Manado market. Among all the brands, there are three Taiwanese Bubble Tea brands that are very popular in the city, those are Share Tea, Cha Time and Tea Presso. While, many factors or criteria can influence customer perception in choosing bubble tea shop as their place for having drink, the people in Manado has different perception regarding the selection of which bubble tea shop are they going to having drink and enjoying time. Perception is how customer see something around the product or services and how customer recognize that customers need some help in making a purchasing decision.

Some of the criteria that can influence customer perception in choosing bubble tea shop are price, flavour, store atmosphere, sales promotion and experience. In the food and baverage industry flavour and taste being the key consideration for customers when selecting their foods and baverages. Also some people will concerned about the price of the product. Nowadays, the ambiance also becomes one of the main focus in the food and beverage industry to attract customers. When consumers think about choosing a shop for having a drink, they are not only care about a delicison meal and the price, but they also highly consider the atmosphere of the shop.

### Research Objective

The objective of this research are, to identify which bubble tea shop that people in Manado prefer the most and to identify which criteria has the major influence in selecting bubble tea shop.

## THEORITICAL FRAMEWORK

### Consumer Behaviour

Consumer behavior can be defined as the study of individuals, groups or organizations and the processes they use to select, secure, use and dispose of products, services, experiences or ideas to satisfy needs and the impacts that these processes have on the consumer and society (Hawkins, Best, Coney. 2001:7). Kotler and Keller (2008:172) considered that consumer behavior is the study of how individuals, groups and organizations select, buy, use and dispose of goods, services, ideas, or experiences to satisfy their needs and want. Based on this, researcher can defined that Consumer Behavior is the study of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires

### Consumer Purchase Decision

Kotler and Keller (2008:185) The Engle, Kollat and Blackwell model shows consumers buying decision process, based on the basic of consumer pass through five stages: problem recognition, information search, evaluation of alternatives, purchase decision and post purchase decision. Schiffman and Kanuk (2007:3) defined consumer decision making is the process of making purchase decisions based on cognitive and emotional influences such as impulse, family, friends advertisers, role models, moods, and situation that influence a purchase. Based on this, it can defined that Consumer Purchase Decision is the process of buying goods or services based on emotional influences.

### Multi-Criteria Decision Making

Most decision making involves complicated procedures in which decision makers rank the alternatives of a choice according to multiple criteria (Saaty, 2008). There have been many studies that have provided solutions for complicated decision making including multiple criteria. MCDM consists of three components: goal, criteria and alternatives. In making a decision, ranked alternatives are generated by evaluating criteria or subcriteria if there are any. Alternatives will be ranked regarding to the weights of criteria and subcriteria. The rank order can be applied for selecting the best alternative.

### Previous Research

Sumi and Kabir (2011), Buyer decision processes are the decision-making processes undertaken by consumers about a potential market transaction before, during, and after the purchase of a product or service. More generally, decision-making is the cognitive processes of selecting a course of action from among multiple alternatives. How many evaluation criteria a consumer will use, what different types of criteria will be considered and how much importance will be placed on each of them depends on the consumer himself and the product consideration. The Analytical Hierarchy Process (AHP) is a multi-criteria decision-making process that is especially suitable for complex decisions, which involve the comparison of decision elements, which are difficult to quantify. The crux of AHP is the determination of the relative weights to rank the decision alternatives. In this study, it has been identified that through using AHP model consumers can evaluate the product attributes differently from simple evaluation criteria. AHP process described an effective buying decision by finding out the effectual attributes of different alternatives.

Su (2007), This paper aims to understand the decision making process of people in the Kaohsiung area with regard to their preference of tea or coffee. The contributing factors behind consumers' decision-making are further investigated. This paper also looks into the frequency of tea and coffee consumer teatime habits and consumer demographic structure. The relationship between tea and coffee consumers in relation to their reasons of consuming decision-making is studied. The issues as to whether demographic variables influence the decisionmaking and consuming reasons are also examined. A questionnaire survey was adopted in our research, which utilizes statistical analyses. The sample was comprised of 316 people living in Kaohsiung. The main findings are: 1) Tea was preferred by most individuals. 2) Approximately 72% of the sampled subjects in Kaohsiung area have a teatime habit every week (21.5% more than 3 times a week, along with another 50.9%

fewer than 3 times per week). 3) Males were older and had higher incomes than females; also, males were involved in teatime activity more frequently than their female counterparts. 4) The main factor when selecting tea or coffee was “flavor and taste” followed by “atmosphere and environment”. 5) Respondents who preferred tea held a significantly higher level of agreement in the areas of “fair price”, “health benefits”, “friends’ influences”, “beauty benefits”, and “religion” as influencing factors of the beverage selection compared to those who opted for coffee. Meanwhile, coffee consumers put more emphasis on “effect of alertness and refreshment” and “atmosphere and environment.” 6) Significant discrepancies existed among different demographic subgroups, based on gender, age, income and occupation variables in relation to certain consumption patterns. The findings of the study lend themselves to reference for teatime and café industry professionals.

Neha and Manoj (2013), In the emerging business scenario various promotional techniques are used by the marketer for influencing the purchase decision of their consumers. Sales promotion a key element of promotional mix has been widely used to sustain competitive advantage, increase sales and stimulate consumer purchase decision, is becoming valuable tool for marketers to influence purchase decision. Through this study, an effort has been made to find out the various sales promotion tools and its impact on purchase decision towards white good (refrigerator). For conducting the research, data was collected to convenience sampling of 109 respondents through descriptive research design technique. Later the data was analysed and the hypothesis was tested by using multiple regression technique. The result shows that among the various sales promotion tools: offer, premium and contest are the most influencing variables for consumer purchase decision.

## RESEARCH METHOD

### Type of Research

This research used quantitative method. Quantitative research seeks to quantify the data. It seeks conclusive evidence based on large, representative sample and typically involving some form of statistical analysis (Maholtra, 2006:180). The method use in this research is Analytical Hierarchy Process (AHP).

### Place and Time of Research

This research was conducted in the City of Manado particularly at Share Tea, Cha Time and Tea Presso shops around Manado. This research was conducted from February – May 2016.

### Conceptual Framework

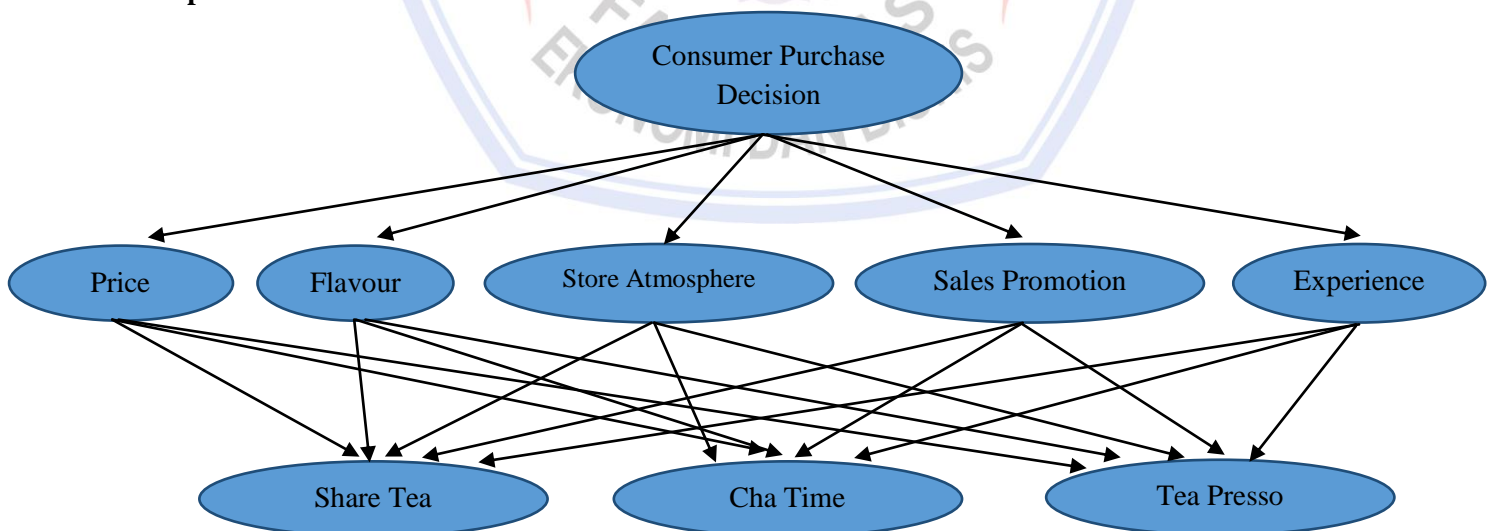


Figure 1. **Conceptual Framework**

Source: Data Process, 2016

## Population and Sample

Population in this research is people in Manado who had experience in drinking Share Tea, Cha Time and Tea Presso products. Sample technique that used in this research is convenience sampling. The sample of this research is all customers of Share Tea, Cha Time and Tea Presso in the City of Manado as many as 60 respondents that had experience of those three Bubble tea shop products. Researcher chooses 60 respondents because even every day several locations of Bubble Tea shops in Manado always crowded with many people but to find the respondent that have experience in consuming the products of Share Tea, Cha Time and Tea Presso is quite difficult.

## Data Collection Method

The data used in this research are taken from primary data. Primary data refer to information obtained first-hand by the researcher on the variable of interest for the specific purpose of the study (Sakaran and Bougie, 2009:180). Individuals provide information when interviewed, administered questionnaires, or observed. Group depth interviews, or focus groups, are another rich source of primary data. The data needed in this research will be collected using questionnaire because questionnaire is relatively easy to analyze, they are simple to administer, the format is familiar to most respondent, and respondent have time to think about their answer and they are not usually to reply immediately.

## Operational Definition of Research Variable

Consumer purchase decision (Y) defined as a process of gathering and processing information, evaluating it and selecting the best possible option to make a purchasing choice or to make a decision regarding the products offering by Share Tea, Cha Time and Tea Presso. Bubble tea shop criteria (X) is the characteristic of the bubble tea shop that will perceived by customer that influencing people (customer) or reason why people want to go to bubble tea shop and buy drink. Alternative: (1) Share Tea, (2) Cha Time, (3) Tea Presso.

## Data Analysis Method

The Analytical Hierarchy Process (AHP), develop by Thomas Saaty, is a method for ranking decision alternative and selecting the best one given multiple criteria. It allows user to assess the relative weight of multiple criteria or multiple options against given criteria in an intuitive manner. In case quantitative ratings are not available, policy makers or assessors can still recognize wheter one criteria is more important than another. Therefore, pairwise comparison are appealing to users. Saaty established a consistent way of converting such pairwise comparison (X is more important than Y) into a set of numbers representing the relative priority of each of the criteria.

**Table 1. Rating Scale**

Intensity of important	Definition	Explanation
1	Equal importance	Two factors contribute equally to the objective
3	Somewhat more important	Experience and judgement slightly favour one over the other.
5	Much more important	Experience and judgement strongly favour one over the other.
7	Very much more important	Experience and judgement very strongly favour one over the other.
9	Absolutely more important	The evidence favouring one over the other is of the highest possible validity.
2,4,6,8	Intermediate values	When compromise is needed.

*Source: Data Processed, 2016*

Taylor (2013:445) mentioned a summary of the mathematical steps used to arrive at the AHP-recommended decision:

1. Develop a pairwise comparison matrix for each decision alternatives (site) for each criterion.
2. Synthesization:
  - a. Sum the value in each column of the pairwise comparison matrices.
  - b. Divided each value in each column of the pairwise comparison matrices by the correspondent column sum-these are the normalized matrices.
  - c. Average the values in each row of the normalized matrices-these are the preference vectors.
  - d. Combine he vectors of preferences for each criterion (from step 2c) into one preference matrix that shows the preference for each site for each criterion.
3. Develop a pairwise comparison matrix for the criteria.
4. Compute the normalized matrix by dividing each value in each column of the matrix by the corresponding column sum.
5. Develop the preference vector by computing the row averages for the normalized matrix.
6. Compute an overall score for each decision alternative by multiplying the criteria preference vector (from step 5) by the criteria matrix (from step 2d).
7. Rank the decision alternatives, based on the magnitude on their scores computed in step 6.

## RESULT AND DISCUSION

### Result

**Table 2. Result of overall Criteria**

Price	Flavour	Store Atmosphere	Sales Promotion	Experience
0.25	0.44	0.14	0.11	0.06

Sources: Data processed, 2016

The result shows that the highest score is flavour (0.44). It means that flavour is the factor that influence the most people to buy a drink at bubble tea shop. The second highest influence shown by price (0.25), followed by store atmosphere in third position (0.14), and experience as the lowest important criteria (0.06). The overall inconsistency 0.09. In general, the degree of consistency is satisfactory (acceptable) if overall inconsistency  $\leq 0.10$ . It means the data comparison in this result is valid and consistent.

**Table 3. Result of AHP (Best Bubble Tea Shop)**

Share Tea	Cha Time	Tea Presso
0.52	0.29	0.19

Sources: Data processed, 2016

The observation to this research shows that respondents choose Share Tea as the most preferred bubble tea shop for them among the other alternatives. Share Tea have the highest score with 0.52, followed by Cha Time with score 0.29, and Tea Presso in the last position with score 0.19. The overall inconsistency indicated is 0.08. In general, the degree of consistency is satisfactory (acceptable) if overall inconsistency  $\leq 0.10$ . It means that the data comparison in this result is valid and consistent.

### Discussion

#### Pairwise Comparison for the Main Criteria Analysis

In Analytical Hierarchy Process (AHP), the criteria developed as the measurement of best bubble tea shop has been compared. AHP determines the relative importance or weight of the criteria, to rank the criteria from most important to least important. A criterion with the highest average weight indicates the priority criterion among others.

Firstly, for the overall of the five main criteria (price, flavour, store atmosphere, sales promotion and experience), based on the most important criterion that influences customer is flavour. Flavour becomes the highest influence criteria when people want to choose bubble tea shop. Flavour becomes the most important thing to consider which bubble tea shop they want to choose. When customers want to choose bubble tea shop, they would choose a shop that has the most delicious taste and also a shop that has their favorite flavours. The variant of the flavours are also a concern for the customers. There are some people who want to buy a bubble tea not only because they intend to buy it but also because they see that there is a new product or flavour and they are keen to try it. So, the bubble tea shop should have to be more creative in making new flavour variants. The more flavours that they have, it will attract more customers. Flavour has highest score criteria compare to the other four criteria, being the most preferred criteria by respondents and the most crucial criteria that influence customer in selecting bubble tea shop. The respondents are those who have experienced on each alternative provided which are the three bubble tea shops based on the requirement of using AHP method. So in this research, according to the respondents, flavour becomes the most preferred factor for the customer in selecting bubble tea shop in Manado.

Second position that influence criteria is price. When customers want to choose bubble tea shop they will also consider the price, they will choose bubble tea shop with the most affordable price. Most customers of bubble tea shop are student who are still getting money from their parents. So, the bubble tea shop should not give the unaffordable price for the customers.

Third highest position that influence criteria is store atmosphere. When consumer think about choosing a shop for having bubble tea, they not only care about a delicious drink and the price, but they also highly consider the atmosphere of the shop. Nowadays, customers not only buy bubble tea to take away, but they also would like to having a drink on the spot and chilling with their friends. So, the bubble tea shop should also emphasize the decorations, so as to provide a comfortable chilling environment for the customers. For example, the uniqueness of the interior decoration, the atmosphere of warm color lights and soft music.

The fourth position followed by sales promotion. Sales promotion is also one of the important criteria for people when they want to choose bubble tea shop. Sales promotion techniques like member card (loyalty program), coupon, or daily promotion such as buy 2 get 1 free is also become consideration for the customers when they want to buy a bubble tea. A growing number of sales promotions given by the company, it will get better in order to attracting the attention of customers. And the last place is experience. Experience is less important to customers compared to the other four criteria. Eventhough experience got the lowest score among the other criteria, it does not mean that this criterion is not important, this criterion is still important to the customers, but it is in the least important criteria resulted from the correspondent.

There is a different with the other research, (Tea or Coffee: A study of the Beverage Choice Pattern and its Affecting Factors at Tea Time in Kaohsiung, Taiwan, 2007) show that in Kaohsiung Taiwan, "flavour and taste" is the main factor that influence people when selecting tea or coffee, followed by "atmosphere and environment", while in this research, people in Manado do not really considered about the store atmosphere. Even so, the flavour remains as a key consideration or the main factor that influence customer in selecting bubble tea shop particularly in Manado, followed by price.

### **Pairwise Comparison Criteria Within Three Bubble Tea Shops Alternatives Analysis**

Pairwise comparison criteria within three cinemas alternatives show each firm performance on each criteria developed on Analytical hierarchy Process (AHP). From the result of price, Tea Presso has strength in the criteria because most of the product prices there are cheaper than the other two bubble tea shops. For example, the classic milk tea in Tea Presso is IDR 16.000 while in Share Tea and Cha Time the price is IDR 25.000 (those are for the medium cup). In the criteria of flavour, Share Tea became the most preferred by the respondents. For the customers, Share Tea has the better taste and also has many variant of flavours among the other two bubble tea shops. The customers have many choices of flavours, so they can choose according to their wishes. In store atmosphere criteria, Share Tea became the most favorite bubble tea shop by the respondents. Share Tea became the most favorite shop for the customers to having their drinks and enjoy their teatime with friends and family. Next criterion is sales promotion. In this result the most preferred bubble tea shop is goes to

Cha Time. Cha Time became the most preferred in this criteria because they have many types of promotions such as member cards (loyalt program), coupons, and rebates. While at Tea Presso, they only have one types of promotion which is buy 2 get 1 free. That is why Tea Presso have the lowest score in sales promotion criteria. And the last criterion is experience. In experience, Share Tea got the highest score. This is because Share Tea has a good quality of services. It can be seen from the hospitality of the employees and also of how quickly they prepared the drink orders from the customers.

### **Result of Analytical Hierarchy Process of Consumer Preferred Bubble Tea Shop**

So, based on the overall data, consumer will choose Share Tea as the most preferred bubble tea shop in Manado compared to the other alternatives. The result shows that when people want to have a bubble tea drink, they would prefer to choose Share Tea as the most preferred bubble tea shop among the other two alternatives. Share Tea has the highest score, in the second position is Cha Time, and followed by Tea Presso in the last position.

## **CONCLUSION AND RECOMMENDATION**

### **Conclusions**

The main findings of this research are:

1. Based on the overall result that developed using Analytical Hierarchy Process (AHP), shows that Share Tea become the most preferred Bubble Tea Shop by the consumers with score 0.52, in the second position is Cha Time with score 0.29, and Tea Presso in the last position with score 0.19.
2. Based on the five criteria (price, flavour, store atmosphere, sales promotion, and experience), there are top three criteria that have the most influence for customer in selecting bubble tea shop particularly in Manado. In the first place and got the highest total score of 0.44 goes to flavour. According to the data comparison that developed in pairwise comparison of Analytical Hierarchy Process (AHP), flavour became the major influence criteria for customer when selecting which bubble tea shop that they want to go for have drink. Second position of the highest score goes to price with total score 0.25, and then store atmosphere criteria come in third place with total score 0.14.

### **Recommendations**

There are two recommendations based on the conclusions above:

1. Flavour has important role in selecting a bubble tea shop. By the respondents of this research, flavour became the most important thing or the key consideration for the customers when they want to choose which bubble tea shop that they want to go for have a drink. In this case, Share Tea has the better taste and also has many variant of flavours compared to Cha Time and Tea Presso. Based on the observation, the customers wants to go the the shop that have many variant of flavours, so they can choose according to their wishes. And also there are some people who want to buy a bubble tea not only because they intend to buy it but also because they see that there is a new product or flavour and they are keen to try it.
2. Store Atmosphere is also one of the most important consideration for the customers. Nowadays, customers not only buy bubble tea to take away, but they also would like to having a drink on the spot and chilling with their friends. Based on the data, Share Tea got the highest score in this criteria compared to Cha Time and Tea Presso, that is because Share Tea has a good interior decoration, they provide a nice and comfortable couch and a good music for its customers to having their drinks while chilling with their friends and family. Cha Time and Tea Presso should do the same thing, they should emphasize the decoration of their shop, so as to provide a comfortable environment for the customers. Combining distinctive characteristics with the physical, visual and sensual elements of the shops can lead to image build-up and further to the success of the business.



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