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Purchase Intention of College Students in China to H Mobile Phone during the Sino-US Trade War

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ARTICLE INFO	ABSTRACT
	The purpose of this study is to investigate will college students in China still purchase H mobile phones during Sino-US trade war, most importantly is to understand what factors affect purchase intention of H mobile phone to college students in China during this special period and is there any significant difference in purchase intention among different demographic characteristics. The researcher used convenience sampling and snowball sampling to collect 386 valid data by distributing the questionnaire online in five provinces in China from 425 respondents. Cronbach's alpha was measured to test the reliability of the data. Besides, Pearson correlation, multiple linear regression and ANOVA are used to test hypotheses. The findings revealed that more than half of college students in China will still purchase H phones and there is a significant difference in purchase intention among different genders, age groups, provinces, money respondents are willing to pay for a phone and different number of phones respondents are using at present. Most importantly, four of six independent variables have significant influence on purchase intention of H phones which are product features, social influence, and ethnocentrism and brand image. The findings of this study are limited by number of respondents and non-probability sampling method. Anyway, this study can predict to a great extent whether H mobile phone will survive this difficult time and give an answer to the world.

1. Introduction

US president Donald Trump initiated the trade dispute by signing a memorandum on March 22, 2018, announcing that the US trade representative was instructed to impose tariffs on Chinese imports under article 301 of an American trade law from 1974. The grounds for the tariffs were "China's theft of US intellectual property and trade secrets", involving good valued at an estimated $60 billion (VOA, 2018). China's Ministry of Commerce subsequently took counter-measures to levy taxes on 128 U.S. imports, including soybeans, the largest U.S. export to China (Ministry of Commerce of the People's Republic of China, 2018). On July 6, 2018, the Trump government formally imposed a 25% tariff on 34 billion US dollars' worth of goods from China, marking the formal implementation of Trump's new tariff policy toward China (Swanson, 2018). In a subsequent statement, the Ministry of Commerce of China pointed out that "in violation of WTO rules, the United States launched the largest trade war in economic history to date"(XinHua News Agency, 2018). According to the General Administration of Customs of China, the retaliatory measures of the Chinese side have been implemented immediately after the tariff measures imposed by the US came into effect. Argentina, November 30, 2018, when the heads of state of China and the United States met, they agreed

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in principle to reduce the trade gap by $200 billion. But this time, the United States changed the figure to $300 billion. In addition, some officials of the United States made it clear that China could not implement "Made in China 2025" campaign and wanted to send their people to China to supervise whether Chinese governments at all levels subsidize state-owned enterprises. At the same time, the EU also warned China that if China used the administrative plan to buy American products, the EU would sue China at the WTO.

Furthermore, U.S. launched First Round of Products with Major Tariffs of 32 billion dollars on China including machinery, electronics, automobile parts and agriculture and aviation products. According to Hong Kong's South China Morning Post on May 30, 2019, the U.S. government is considering further expanding export control after blacklisting H two weeks prior to limit the sale of hardware, software and services to high-tech suppliers in the United States. H Mobile Phone-the scientific and technological representative of China is the main victim of Sino-US trade war. According to the H official website, after 20 years of research and development, H's wholly-funded Heise Semiconductor Company has developed more than 200 chips with independent intellectual property rights and applied for 5000 patents. Therefore, it is the most invested enterprise in scientific research in China every year with its own chip and system design. At the same time, it has developed 5G technologies to build its own signal base station around the world. Additionally, till now, according to DXO Mark camera evaluation, H Smartphone still has the strongest photo function in the world, and no other competitors can match it. But in the context of the Sino-US trade war, H has lost the support of Google technologies. In addition, the SD card and WIFI alliance will also shut H out. Although H owns its own semiconductor company and has a relatively high proportion of autonomy, it still needs a large number of imported chips. According to Gartner Research (2019), H's Semiconductor Purchase Expenditure exceeded $21 billion in 2018, becoming the third largest chip buyer in the world, accounting for 4.4% of the global market share, after Samsung and Apple. Therefore, H has suffered unprecedented heavy losses and its breakthrough has risen to the level of China's national strategy.

China is a huge mobile market with 1.2 billion independent users at the end of 2018, almost four times the size of North America. Of particular concern is the growth rate of mobile Internet penetration. By the end of 2018, it had reached 58%, tripling in less than 10 years (GSM Association, 2019). Although Chinese operators lag behind some developed markets in starting up 4G, with the recognition of the direct relationship between user experience and data usage, operators have increased their investment in networks. Compared with Australian and American users, Chinese users migrated to 4G services at a faster rate, form a mass market and economic scale in a short time. Now, operators are working to push 5G into the market and take the lead in this field in the world.

Besides, college students are groups who have strong acceptance of new things especially in the age when social media is particularly developed. Colleges are the frontier of the development of science and technology in China; students who study there can receive the most advanced information at the first time. According to NetEase News, 2018, only about 3% Chinese are college students. Therefore, the opinions of college students in China towards H mobile phone represent people's views that are standing at the top of the educational pyramid towards H mobile phone. Of course, most of them have potential to become elites in China, which will stand on higher social status in the future, having more followers with a far-reaching influence on society. To some extent, they are the leaders in new consumption trends.

Therefore, during the period of Sino-US war, it is meaningful to study about the factors that have effect on the purchase intention of college students towards H mobile phone in China.

1.2. Objectives of the Study
To investigate will college students in China still purchase H mobile phones during Sino-US

trade war；To explore the factors affecting purchase intention of college students in China to H mobile phones during Sino-US trade war；To find out if there is any significant difference in purchase intention of H phones among different demographic characteristics.

2. Literature Review
2.1. Purchase Intention
According to Lin and Lu (2010), purchase intention is defined as the possibility for consumers to buy a product, the possibility for consumers to consider buying a product, the possibility for consumers to recommend this the firm offering these products and its products to others, and the possibility for consumers to buy such product. It is crucial to recognize consumer's purchase intention because consumer's action usually predicted through their intention (Hsu et al., 2017).

2.2. Product Features
A function of an item, which is capable of gratifying a particular consumer need and is hence seen as a benefit of owning the item. In business, a product feature is one of the distinguishing characteristics of a product or service that helps boost its appeal to potential buyers, and might be used to formulate a product making strategy that highlights the usefulness of the product to targeted potential consumers (BusinessDictionary.com, 2019). Overall, product features can be defined as the new product provided unique features and capabilities that are not offered by other products (Al-Kwifi & McNaughton, 2013). Product features and their performance are considered the most important aspects in building a user's competitive advantage (Al-kwifi & McNaughton, 2011). Generally, product features provide unique capabilities that make users bear the switching costs and their consequences, granting higher pay-offs (Al-Kwifi, Ahmed, & Yammout, 2014). Certain product features become attractive only when they contribute to high performance in a way that differentiates them from other products on the market (Thompson et al., 2005).

2.3. Social Influence
Social influence means one person causes in another to make a change on his/her feelings, attitudes, thoughts and behavior, intentionally or unintentionally (Rashotte, 2007). Social influence includes the influence of media, parents and peers (Nelson and McLeod, 2005). Individuals are susceptible to social influence because humans learn to rely on others' perceptions and judgments as sources of evidence (Teo, Leng, & Phua, 2019). This susceptibility to social influence arises from the tendency to learn about products through seeking information from others, conforming to others' expectations to receive rewards or avoid punishments, and identifying one's image with others through the acquisition of certain products or brands (Bearden et al., 1989; Deutsch and Gerard, 1955). Many researchers have found that the social influences play a vital role when the consumers are making decision on purchasing (Mourali, Laroche, & Pons, 2007).

2.4. Brand Awareness
Keller (2003) defines brand awareness as the ability of customers to recall a brand among the clutter of rival brands. Brand awareness is the degree to which customers are aware of the brand as a member of the category, and typified by the link between the brand and the category cue (Assael & Day, 1968). Brand awareness is indispensable for the communications process to emerge a top-of-the-mind awareness (Macdonald & Sharp, 2003; Netemeyer et al., 2004) Brand awareness is how readily consumers can think of certain attributes of a familiar product. These attributes simplify product information and purchase decisions. Band awareness plays a crucial role in consumer decisions. Consumers tend to choose familiar brands with high brand awareness when making purchase decisions. (Ho, Chiu, Chen, & Papazafeiropoulou, 2015).

2.5.Ethnocentrism

Gumplowicz (1881) saw ethnocentrism as a delusion that predisposes people to believe that their ethnic group is at the center of everything and that it is more important than and superior to other ethnic groups. Sumner (1906, 1911) explicitly defined ethnocentrism as an attitudinal construct: "The sentiment of cohesion, internal comradeship and devotion to the ingroup, which carries with it a sense of superiority to any outgroups and readiness to defend the interests of the ingroup against theoutgroup, is technically known as ethnocentrism". Ethnocentrism makes people believe that their ethnic group is the pinnacle of humanity, and that all other ethnic groups (present and past) are not as good as their own ethnic group (Sumner, 1906, 1911). Recently, Bizumic et al. (2009) (see also Bizumic, 2019) reconceptualized ethnocentrism, operationalizing it as an attitudinal construct emanating from the belief that one's own ethnic group is of immense importance.

2.6.Price

The definition of price is a value that will purchase a finite quantity, weight, or other measure of a good or service (Business Dictionary, 2019). Nagle and Holden (2002) stated that price can play a role as a monetary value whereby the consumers to trade it with the services or products that were being sold by the sellers. Competitive pricing is a critical factor that encourages switching (Clemes et al., 2010; Antón et al., 2007) because it represents a key element of the total switching costs (Jones et al., 2002). Price is often used as a quality cue to a greater degree when brands or products are unfamiliar to consumers (Wei Wang, 2019).

2.7.Brand Image

Brand image can be defined as the perception/feelings of customers regarding the company's products and activities (Webb &Mohr, 1998). Brand image is the reasoned or emotional perceptions consumers attach to a specific brand. It consists of functional and symbolic brand beliefs (Dobni & Zinkhan, 1990). Brand image comprises the attributes and benefits associated with a brand that make the brand distinctive, thereby distinguishing the firm's offer from competition (Webster &Keller, 2004). It requires a lot of time and enormous resources to build a positive brand image but, on the other hand, it can help the companies not only in introducing new brands but also to pick up the sales of existing brands (Markwick & Fill, 1997).

2.8.Conceptual Framework of the Study

The researcher has modified a new conceptual framework based on previous theory already discussed in the literature review (figure 1). This conceptual framework shows the six factors that influence purchase intention, which are product features, social influence, and brand awareness, ethnocentrism, price, brand image.
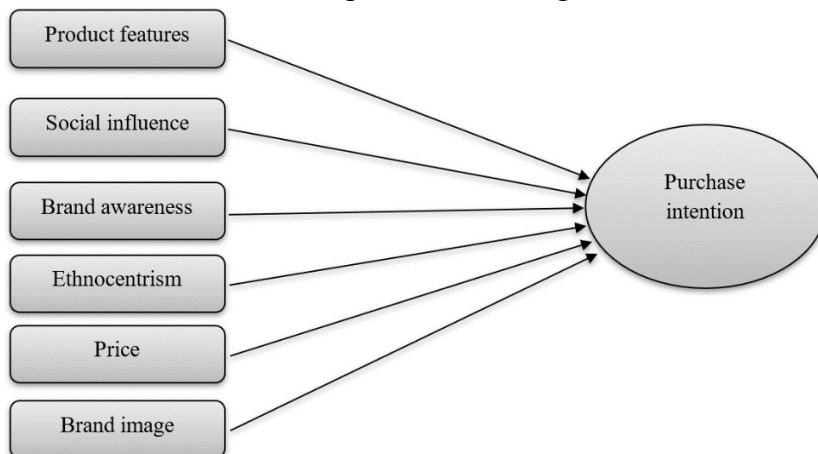

Figure 1. Conceptual Framework of the Study

2.9.Hypotheses Development

H1: Product features statistically influence purchase intention；H2: Social influence statistically influence purchase intention；H3: Brand awareness statistically influence purchase intention；H4: Ethnocentrism statistically influence purchase intention；H5: Price statistically influence purchase intention；H6: Brand image statistically influence purchase intention；H7: There is significant difference in purchase intention among different age groups；H8: There is significant difference in purchase intention towards H phone among different occupations；H9: There is significant difference in purchase intention towards H phone among different provinces；H10: There is significant difference in purchase intention towards H phones among different price ranges respondents are willing to pay；H11: There is significant difference between the number of mobile phones respondents are using at present and their purchasing intention.

3. Research Methodology

Data was collected from 386 respondents living in five provinces with non-probability sampling and explanatory sequential mixed method was used in this research which including quantitative analysis and qualitative analysis. Firstly, in order to obtain high-quality outcomes, pilot study of 50 interviewers was implemented to check the validity of conceptual framework and then pretest with 30 participants was then used to ensure the reliability of questionnaire. Lastly, Pearson correlation analysis, multiple linear regression analysis, t-test and ANOVA analysis were used in this study. The data was analyzed using SPSS Statistics version 25.

4. Data Analysis and Interpretation

4.1.Multiple Linear Regression Analysis

Table 2.
Multiple Linear Regression Analysis for influence of potential predictors

	Un-standardized coefficient		Standardized coefficient	t	Sig	Colinearity statistics	
	B	Std. Error	Beta			Tolerance	VIF
product features	.122	.052	.150	2.359	.019	.287	3.488
social influence	.386	.035	.553	11.174	.000	.473	2.115
brand awareness	-.039	.052	-.047	-.741	.459	.286	3.500
ethnocentrism	.202	.054	.250	3.746	.000	.261	3.831
price	-.085	.056	-.114	-1.523	.229	.208	4.797
brand image	.081	.062	.129	.507	.048	.207	3.836

According to table 2, product features have a level of significance at 0.019 (<0.05), which can prove that product features statistically influence purchase intention. The level of significance of social influence is 0.000 (<0.05), which can prove that Social influence statistically influence purchase intention. The level of significance of brand awareness is 0.459, which is more than 0.05, the result indicates that brand awareness does not have any statistical influence on purchase intention. The level of significance of ethnocentrism is 0.000 (<0.05), which can prove that ethnocentrism statistically influence purchase intention. The level of significance of price is 0.229, which is more than 0.05, thus, price does not have any statistical influence on purchase intention. The level of significance of brand image is 0.048 (<0.05), which can prove that brand image statistically influences purchase intention.

4.2.Independent Sample-t test

Table 3.
Purchase intention and gender

Independent samples test										
		F	sig	t	df	sig	Mean difference	Standard error margin	995% confidence interval	
									lower limit	Upper limit
Purchase Intention	Assumed Equivariance	.723	.396	6.491	384	.000	.47188	.07270	.32894	.61483
	No Assumption of Equivariance			6.537	383.654	.000	.47188	.07219	.32994	.61382

Table 3 shows that Sig < 0.05, which demonstrates that there is a significant difference between men's intention to buy H mobile phones and women's intention to buy H mobile phones.

4.3.One-way ANOVA analysis

Table 4.
Purchase intention and age

ANOVA					
	Sum of squares	df	mean square	F	Sig
Between groups	2.690	3	.897	1.603	.038

From Table 4, we can see that Sig equals to 0.038 (<0.05), which means there is significant difference in purchase intention among these age groups.

Table 5.
Purchase intention and occupation

ANOVA					
	Sum of squares	df	mean square	F	Sig
Between groups	2.166	4	.542	.963	.062

The table shows that the level of significance is 0.062, which is higher than 0.05. The result indicates that there is no significant difference in purchase intention towards H phone among different occupations.

Table 6.
Purchase intention and province

ANOVA					
	Sum of squares	df	mean square	F	Sig
Between groups	2.752	5	.550	.979	.032

According to the able 6, the level of significance is 0.032 (<0.05), which can demonstrate that there is significant difference in purchase intention among these provinces, which are Guang Dong, Jiang Su, Si Chuan, Ji Lin, He Nan and others.

Table 7.
Purchase intention and money respondents are willing to pay for a phone

ANOVA					
	Sum of squares	df	mean square	F	Sig
Between groups	20.537	4	5.134	9.989	.000

According to the able 7, the level of significance is 0.000 (<0.05), which can demonstrate that there is significant difference in purchase intention among these price ranges for respondents.

Table 8.
Purchase intention and number of mobile phones respondents are using at present

	ANOVA				
	Sum of squares	df	mean square	F	Sig
Between groups	5.019	2	2.510	4.548	.011

According to the able 8 the level of significance is 0.000 (<0.05), which can demonstrate that there is significant difference between the number of mobile phones respondents are using at present and their purchasing intention.

5. Recommendation

Firstly, product features have a statistically significant influence on purchase intention. The evaluation score was low on the attributes involving with the operation management system and game quality. Hence, H should fundamentally solve the problem of cell phone crash and compability of game applications to improve consumers' experience of playing games on H phone. Since the United States banned H from using Android, perhaps H could try to run its own Hongmeng operating system, because the new system may become an opportunity for H to make up for these shortcomings. Secondly, social influence is another important factor that influences purchase intention towards H phones. The recommendation effect of relatives and friends is far greater than that of advertisements, which means that the power of word of mouth around cycle of friends is astonishing. Thus, H phone can investigate people who are the leader of different kinds of social cycles in different occupation, different gender, and different religion and invite them to experience H technology or give them H phone free of charge. Furthermore, there is high employee turnover and employees who depart from H do not have a good opinion of H (Gomułka, S. 2018), the way in which will also give a bad impression of H to their friends or relatives. The main reason is that demands on employees in H are too high and working hours are too long, which results in too much pressure on them. In the long run, employees working in H will arouse dissatisfaction. Thus, H should give more humane care and holidays to employees in order to improve their satisfaction and reduce turnover rate, which can also improve their brand image indirectly. Next, ethnocentrism is the third area H should pay attention in order to increase purchase intention. Different ages and provinces may have different degree of ethnocentrism towards H phone. H should investigate and study the ethnocentrism of its mobile phones in different areas, different age, different income or work and other demographic characteristics. For instance: if H find ethnocentrism in ancient cities is higher than that of modern cities according to the survey, then advertising form of H in these areas should be linked with the sense of national superiority, which can stimulate people's patriotism. If younger generation has less ethnocentrism compared with elders according to the survey, but with greater consuming power. H can praise the young people's work and learning spirit, and then link this work spirit with H's work spirit to gain the recognition of young people, this form of publicity can be expressed in social media. Brand image is the last factor H should focus on in order to increase purchase intention. The quality of H mobile phones is not very good in the minds of the respondents according to the survey. This is because previous series of H mobile screens are fragile, and owners complain about the screen quality of H mobile phone through social media, which has aroused widespread concern of netizen. After that, the image of H's quality is not very good in everyone's mind. Thus, H should not only emphasize its camera function and 5G network speed, but also show that the quality of its mobile screen has been greatly improved and when consumers buy mobile phones, explosion-proof film will be attached to them which can guarantee the security of mobile screen.

5.1.Limitations and Further Studies
First of all, this research is limited by a certain period of time; the research can collect only 386 valid respondents from June to July 2019. Secondly, methods like convenience sampling and snowball sampling were used to select respondents, so bias may exist in the process of questionnaire survey. Additionally, the result of this study and research design might not cover all aspects of the factors or independent variables, which could affect purchase intention of Chinese college students towards H mobile phone. Lastly, the findings cannot be applied to other points in time because they were conducted in the context of the Sino-US trade war. Regarding further studies, there are six discussions and implications about different demographic characteristics with different purchasing intentions for H mobile phones. Qualitative analysis and statistical analysis should be done in order to understand what is the main reason for the significant difference in purchase intention of H phone among this group of people? Additionally, leaders and competitors are all curious about whether H will be compatible with other ecosystems and whether consumers will accept the new system after putting its own Hongmeng operating system into the market, these questions can be investigated in the future. Finally, H can't use Google in the future. People who concern about H also want to know that can H continue to develop only depend on the Chinese market? This can also be investigated in the further study.

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