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The use and continued willingness of Chinese teenagers to use Wechat, a mobile instant messaging software: based on the theory of use and satisfaction and the theory of planned behavior

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Abstract

With over one billion monthly active users, Chinese social networking and multipurpose software Wechat has become one of the world's most popular social media platforms. Wechat has gradually risen to the top of the social media heap among Chinese teenagers. Because of this, little is known about how people's usage of Wechat is influenced by psychological factors. In order to build an integrated model that can predict and explain a person's ongoing use of Wechat, researchers utilised the theory of use and satisfaction (TUS) and the theory of planned behaviour (TPB). Researchers used an upgraded version of the TPB model that incorporated the extra variables of self-identity and belongingness to predict long-term Wechat usage intentions and behaviour in a sample of Chinese adolescents. Further studies looked at the impact of Chinese adolescents' sense of self-identity and belongingness on their usage of Wechat. regression studies partly confirmed the TPB: attitude and subjective norm substantially predicted intents to continue using Wechat, and intention significantly predicted behaviour.... Intention and, perhaps surprisingly, behaviour were strongly predicted by self-identity, but not by belongingness. Prior behaviour also had a strong influence on both intention and behaviour. Wechat addiction was shown to be strongly correlated with feelings of self-identity and belongingness. Fuzzy based theories of usage and satisfaction and hidden markov theories of planned behaviour are also used in this research to investigate why adolescents use WeChat on their mobile phones. Consumer involvement is examined for its effect on motivating demands and as a mediating factor in problematic usage. All hypotheses are tested using techniques such as factor analysis, correlation analysis, and structural equation modelling, which are based on Wechat user surveys. These results may guide efforts aimed at modifying Chinese teens' ongoing usage of Wechat or addictive tendencies for Wechat.

Keywords: Wechat, Chinese teenagers, Fuzzy based theory of use and satisfaction, Hidden markov based theory of planned behavior (TPB)

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1. Introduction

People's day-to-day communication is being transformed by mobile instant messaging (MIM) applications like LINE, WhatsApp, Qzone, and WeChat. Users choose MIM above other types of social networking on the internet. Every time the ranking of mobile applications is done, the MIM apps are featured among the top 10. Since 2012, the number of messages transmitted via MIM has grown from 14.7 trillion to 28.2 trillion. MIM users will make up approximately 80% of all smartphone users, or over 2 billion people, and the proportion of MIM users will rise from 14.9% in 2014 to 29.1% in 2019. Practitioners believe that as time passes, the ecosystems that support MIM applications will become more important. Additionally, MIM applications are expected to increase user engagement even further in the future years. One of the reasons why MIM apps are becoming increasingly popular is that more people are using smartphones, the Internet is more affordable and accessible, and people want to stay connected in real time. These factors, as well as the fact that MIM apps can adapt to changing user needs, all play a role in the increasing popularity of MIM apps. Known as Weixin (literally 'micro-message' in Chinese), Tencent's smartphone software WeChat allows users to send and receive short messages with one another. There are more WeChat users in China than anywhere else in the world, making it the most widely used smartphone app in the country. With 1.08 billion monthly active users, Tencent's statistics shows that WeChat is now one of the world's most popular messaging applications, just behind WhatsApp and Facebook Messenger. As a result of its success, WeChat continues to get scholarly attention. WeChat contributed to Chinese society as a whole by creating a new infrastructure. In Super-Sticky WeChat and Chinese Society, the app has a significant social impact in China. WeChat users as well as personal satisfaction and possible social boundary reinforcement have been studied by other researchers. Several studies have compared WeChat's performance with that of Sina Weibo, the well-known microblog platform, and found that Sina Weibo's user numbers started to decrease as WeChat debuted and expanded. Wechat, one of the most widely used social media platforms, is the subject of the study that was just completed. Among fast-emerging Asian nations, this famous messaging software has grown tremendously in popularity since its launch in 2013. In 40 countries, including Japan, Singapore, Taiwan, and Thailand, this software has also been rated as the top free mobile app. There are now over 169 million monthly active users on the platform. Wechat, a popular MIM app, has a high adolescent population despite its popularity among users and excellent penetration rate across Asia. Each and every one of my fellow high school classmates was drawn to this new we chat software. Since the offered capabilities and switching costs are so comparable, this is a no-brainer. However, it should be noted that MIM operators now offer the majority of their services gratis and mostly depend on digital advertising income and the sale of virtual goods to fund their operations (e.g., games and stickers). Even while traffic (the number of messages exchanged) and new subscriptions are constantly growing, the income produced by the we chat app as a percentage of the overall user base remains inadequate as a result of this. However, research on particular MIM platforms (such as Wechat) and user categories is lacking (for example) (e.g., middle and late adolescents). Adolescents are an important user group because they have an impact on their friends' and families' adoption and use choices. They're known for being trend setters who don't stay with just one brand of clothing or accessory. Furthermore, psychologists concur that teenagers in the middle and late stages of maturation are undergoing changes in their cognitive and social maturity. As a result, these user groups often utilise social networking sites (SNSs), such as MIM applications, to test their sense of self. As a result, it's critical to examine how middle and late teens utilise MIM. Chinese adolescents' continuing intentions regarding MIM applications were examined in the current study in order to fill these research gaps (e.g.,We chat). We also investigated how continuing intentions affect daily time spent on We Chat as well as how

often and excessively people engage with the service. It is the primary goal of this research project to discover "why individuals continue to use We chat applications." Three well-known theories were combined to create a complete study model, including the theory of consumption values, the theory of planned behaviour (TPB), and the theory of flow. The study paradigm was put to the test using Japanese We chat users' cross-sectional data. Accordingly, recent We talk research have looked at the variables affecting users' willingness to continue using MIM. However, a thorough theoretical framework for examining continuation intentions has been overlooked in this research process. As a result, the variables mentioned in the context of We chat have never been studied in any previous research. As a result, factors affecting users' continuing intentions may be different depending on the MIM platform they are using. China was selected as the study location because it has the most Wechat users out of all the nations where it is available. This article is split into five parts. Section 1 includes the description of We chat app and the involvement of the usage among the teenagers. Section 2 includes the related work concerning the Wechat usage. Section 3 illustrates the problem statement, Section 4 includes the overview of the procedure suggested. Section 5 contains the interpretation of the suggested procedure. Section 6 concludes the work.

2. Related works

[6] Investigate the online behaviour of Chinese adolescents and the variables that influence their decision to use a certain social networking site (SNS). Chinese Internet economy and SNS growth is also discussed as well as the characteristics of Chinese adolescents influenced by local regulations, culture and educational systems, as well as the results of the study. [5] examine the effects of personal, domestic, and academic variables on the capacity to control one's online impressions. We create a survey questionnaire and then conduct interviews with adolescents, their parents, and their instructors. Following an analysis of the gathered information, the following key conclusions emerged: (1) Gender, year group, Internet use proficiency, self-efficacy, and the number of Internet access devices are among the personal factors that have an impact on the ability to manage online impression, while other factors such as grades and household registration have no explicit impact on the management of online impression. When it comes to influencing students' ability to manage Internet impressions and their components, family atmosphere, the frequency with which parents and children discuss Internet information content, parental involvement in Internet activities, and the degree of closeness between students and their parents all play a role. Parents' educational background and family wealth, on the other hand, are not relevant. For middle school kids, academic variables such as the frequency with which Internet information and material is discussed among classmates and how students perceive their Internet technology literacy class have varying impacts on their capacity to regulate online impressions. This study may benefit adolescents by teaching them how to better control their online impressions, a skill critical to their future success in school and in life in the modern Internet age . [10] the desire to use WeChat while driving may significantly predict the usage of WeChat while driving. Furthermore, drivers' attitudes may accurately predict whether or not they would send texts, listen to voicemails, or send and view photos on WeChat while they are driving, according to the study. Drivers' attitudes, on the other hand, do not accurately predict whether or not they would use WeChat to send texts or voice messages while driving. Many drivers use WeChat, which has grown in popularity as a messaging app in recent years. Raising driver knowledge of the hazards of using WeChat while driving is thus critical and essential . [7] investigates the obstacles that Chinese visitors face while trying to share their vacation pictures on WeChat in China. Perceived risk, guanxi maintenance, personality, and disclosure are all identified as obstacles in this research based on 20 semi-structured interviews. Chinese tourists' desire to post vacation pictures

via WeChat is strongly linked to guanxi maintenance, given the significance of harmony in Chinese society . [11] investigation of personal information (PI) monetary value and psychological reasons driving it among Chinese online users, and therefore promotion of the development of the Chinese personal information market. [13] new theoretical model created and variables influencing middle-aged and elderly people's desire to use HM-WOA continuously investigated The model's impacts on explaining continuous use intention were mediated by performance expectation, which brought health literacy into the equation . [14] used a new flash glucose monitoring device in conjunction with the WeChat platform to see whether it improved treatment of juvenile type 1 diabetes. [1]provides a study of 42 young people' use of social media while attending university in Beijing, with a particular emphasis on their mediated social relationships. This study identifies three types of mobile sociality practised by our participants on WeChat's online infrastructure: relationships with family reflecting traditional filial obligations, relationships with close friends reflecting their communitarian upbringing, and connections to acquaintances in Beijing's fast-moving contemporary culture that they seek to integrate into their daily lives . [15] tries to elucidate the link between one's self-esteem and one's dependence on Wechat. A total of 931 college students were used as samples, with 300 men and 376 women, on average, being 19.59 years old. They used the Rosenberg Self-Esteem Index (RSI), the Wechat Addiction Index (WAIS), the State-Trait Anxiety Inventory (STAI), and the Online Interpersonal Trust Index (OITI) (OIT). Researchers utilised SPSS 23 and Mplus7.4 to analyse the data, and the bias-corrected percentile bootstrap technique was employed to look at the relationship between college students' self-esteem and Wechat addiction and their online interpersonal trust and anxiety. [9] aims to shed new light on how multilingual speakers harness their linguistic repertoire to cope with the "context collapse" . [12] identify the factors that determine user adoption and usage of government WeChat mini-programs (GWMPs). In [3] Chinese travellers' use of WeChat may be influenced by their desire to improve themselves, according to this theory. eWOM intention was shown to have a weak positive correlation with consumer engagement: only commitment to WeChat was found to be directly linked to travellers' desire to participate in eWOM on WeChat. In [8] Using a sample of Chinese ninth-graders from the Jiangdong District in Ningbo City, Zhejiang Province, the author contributes to the discussion on digital natives by giving a 'piece of evidence' on the digital competence level of the pupils. The study used an iDCA tool created by a team of researchers from the University of Florence as a measuring instrument. The study used quantitative research and a descriptive research approach . In [4] an examination of contemporary Chinese visual art that engages with the aesthetics of zipai, the article ends with a consideration of the potential for cooperation between art practise and media anthropology . In [2] consider how these functions work from a technological standpoint, as well as traditional Chinese culture and some of the most popular social activities of the present day. It clearly demonstrates WeChat's rapid expansion and its very sticky interface.

3. Problem statement

China's modernisation is centred on the advancement of technology. Over the past two decades, China's access to and use of the Internet has grown dramatically. Since 1994, there has been complete internet connection. As the China Internet Network Information Center (CNNIC 2019) estimates, there are 854.49 million online users in China, creating a vibrant internet culture. Smartphones and Chinese social media have rapidly become commonplace in Chinese people's daily lives as a result of being promoted in such a cyber-active society. China's modernization is partly to blame for the internet's success and the popularity of social media, but the growth of China's cities and the resulting urban economy are also factors. People from rural regions who had lost their jobs or who

were unemployed went to big cities where the labour force was in great demand, in order to further their education or professions. This new movement, on the other hand, separated younger generations from their elders, shattering the traditional family ties that had existed in China's conventional agricultural family model for thousands of years. Older Chinese people who have no children or grandchildren feel more alone and alienated than ever before in this new Chinese society. Older Chinese are increasingly using WeChat to deal with the economic and social changes caused by WeChat becoming the most popular social app among young people in China. Older parents may keep in touch with their grandchildren and possibly improve their quality of life by learning and utilising the WeChat app. However, it was a surprise that the app's layout and user experience appeal mostly to young Chinese consumers. As a result, the WeChat user experience for young people should be enhanced. As a result, research was required to determine the level of excitement among younger teenagers for the We Chat app.

4. Proposed methodology

We talk, a widely used MIM app, was studied to see whether the findings could be applied to other popular MIM applications, such as WhatsApp. The findings of this research have a wide range of practical applications. In the first place, the present research expands the TPB by using two well accepted theories of consumer behaviour: flow theory and CVT. It was possible to develop a complete research model by combining several ideas. As a result of this research, 81% of the variation in continuing intentions regarding MIM usage could be explained. The same study methodology may be used to other well-known mobile services to better understand why consumers keep coming back. Third, the present research has provided a better understanding of prominent theories of consumer behaviour, such as TPB, consumption value theory, and the flow theory. According to the results of the research, variables such as PEOU, social influence, and functional and social values are important indicators of teenagers' desire to continue using We chat and MIM. These measurements were unable to explain any of the variation in our dependent variables, even using flow theory. According to this, flow experience isn't necessary for MIM's continuation goals. In addition, the present research has also identified the important elements that drive people's continued involvement in various mobile services like MIM, including social media and messaging. Fourth, the information gleaned from this study adds to what is already known about post adoption behaviour in a MIM setting. In the beginning, most MIM research focused on user adoption. Some MIM researchers are now concentrating on post adoption behaviour such as loyalty and switching intents in MIM after the initial adoption period has passed. Nevertheless, the vast bulk of research is devoted to MIM as a whole. Research on particular MIM apps is scarce (e.g., WeChat, KakoaTalk, LINE). According to our knowledge, no research has been done on the particular continuing goals of We chat app. This popular messaging software has a huge user base, with a monthly active user population of 169 million people. Thus, the current research is a new approach to figuring out whether or not people plan to keep using We Chat in the future Effects on Daily Life There are a variety of practical consequences for academics and practitioners from this research. As a result of low revenue, service offering similarity, and a competitive market, the MIM industry faces three major problems According to the findings of this research, MIM service providers should consider the following methods for competing in today's dynamic and competitive market. Researchers have identified a unique set of variables that affect users' long-term commitment to MIM in general and to specific applications like We chat in particular. Furthermore, in the highly competitive MIM market, it is critical for service providers to be flexible and adaptable in order to meet their clients' constantly changing requirements and expectations. To what extent will the competitive market space be maintained by which MIM players depending on

this? Different MIM service providers should concentrate on offering a user-friendly and distinctive user interface, to be exact. Another important factor in predicting whether or not MIMs will continue to be used is how easy it is to use. In other words, service providers should prioritise satisfying the utilitarian requirements of their MIM customers. As a result, consumers will continue to utilise MIM applications as long as they provide a purpose. Future MIM features may be developed using the functional value as a guiding concept. In order to better serve their customers, MIM service providers should devote resources to learning about the functional value of their users. It is possible for MIM service providers to stand out from the competition by developing future offers based on first-hand knowledge about customers' expectations for functional value. In the current competitive market, this may assist them acquire an advantage. Providers of MIM services should prioritise meeting the social requirements of their customers as a top priority. The third most significant element in predicting users' continuing intentions was social value. In order to meet customers' social requirements, service providers should utilise a variety of methods. For example, providing MIM users with stickers or emoticons that foster a feeling of community and acceptance. In addition, the study's findings advised MIM service providers to avoid increasing social influence and show-off-related aspects via their work. The increasing emphasis on social influence may have a detrimental impact on consumers' plans to utilise the service in the future. In order to promote positive continuing intentions among teenagers toward MIM generally, the research recommends that all of the previously stated variables (such as PEOU, functional value, and social value) should be emphasised [1].

a. System model

A total of 286 individuals (173 men and 113 women) were voluntarily selected by Micro Research Institution to complete the questionnaire. Between August and October 2021, all participants got a URL link to the questionnaire, and they all completed it. Ninety-two (32.2 percent) of the participants were between the ages of 19 and 25 years, 107 (37.3 percent) were between the ages of 25 and 30, and 86 (30.1 percent) were 30 or older. All participants received 10 RMB (renminbi) through Alipay after completing the quiz. There was full disclosure to all participants, who were assured that their data was completely private and would be used only for scientific research projects. The Chinese Academy of Sciences' Institute of Psychology's Institutional Review Board authorised the research.

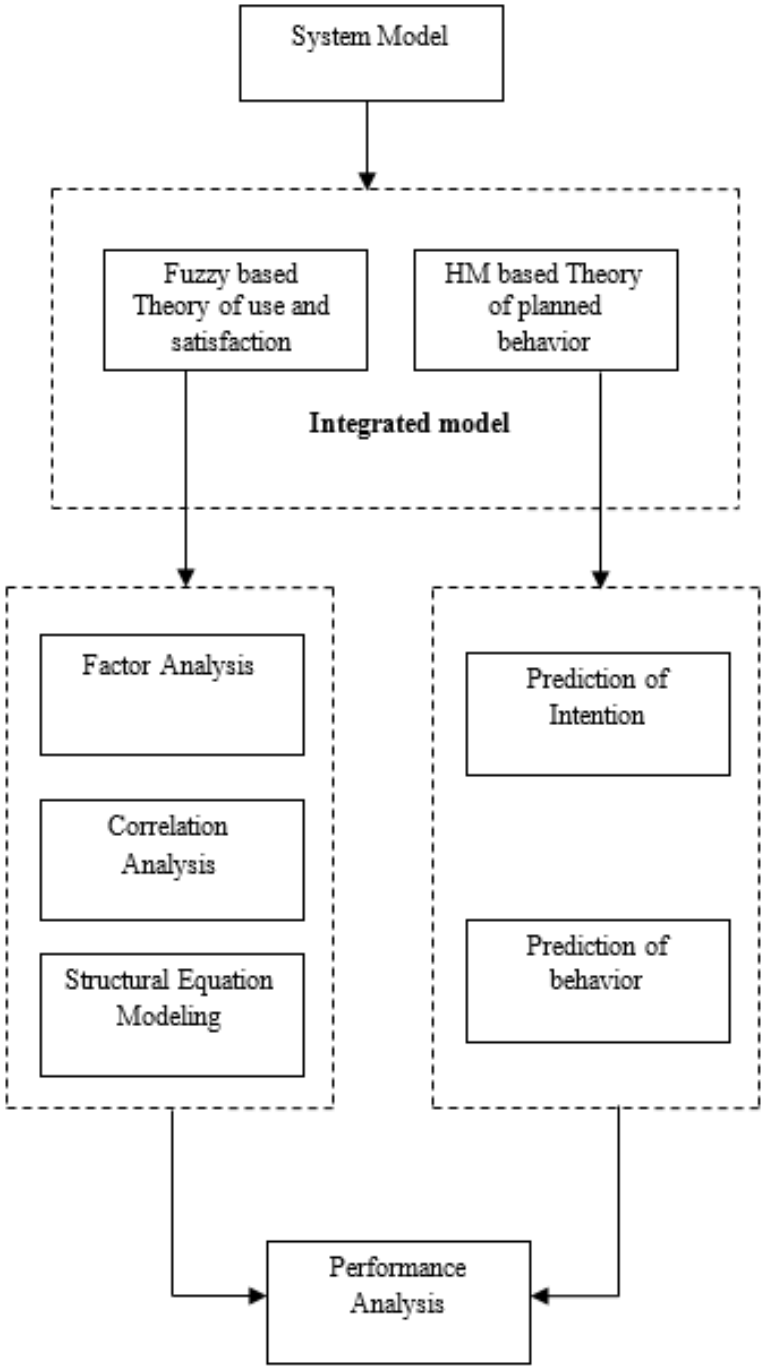

Figure 1: Schematic representation of the suggested methodology

b. HM based Theory of planned behavior

One of the primary goals of this research was to discover how adolescents behave and think when they utilise different WeChat features in various contexts. Considering that the TPB, based on expectation value theory, describes how individuals make broad behavioural decisions, it may be the ideal theory to solve this problem. Assumption: The TPB is a full-fledged social behaviour model. A number of studies have demonstrated that the TPB is very effective when applied to the area of driving safety. As a result, teens are more likely to use WeChat while driving if they believe that

those who are important to them support or approve of their conduct. People with PBC describe it as their impression of how difficult it is to do an action as a replacement for real behavioural control. This may have an impact on their conduct. People with a greater degree of TPB are more inclined to participate in a particular activity because they believe they have the chance to obtain the resources required to do so effectively. We anticipate that HMBTPB will have a substantial impact on the intention of adolescents to utilise WeChat in our research. In order to create a new dataset Z with linear uncorrelated properties, we need to reduce the size of the original data set X by the factor of l:

Step 1: Initiate HM, H(M)=R(P)+T(P)+U(P);
Where, R(P)- list of intents ; T(P)-Observed behaviour (Available patterns);
U(P)- Unobserved

Step 2: Execute planned behaviour theory to classify behaviour and intention

Step 3: Further classify OTX(P), UTX(P), OVI(P) & UVI(P); Observed and Unobserved behaviour data respectively.

Step 4: Form classes C1- OTX(P), C2-UTX(P), C3-OVI(P) & UVI(P) for linear and nonlinear contents

Step 5: Execute HM weight assignment function, HW(S) on each class sample

Step 6: Initiate binomial probability distribution function, assign probability values for unobserved items.

Step 7: Calculate output values w.r.t legitimate content production rate of contents .

Step 8: Detect behaviour and intention

1. Compute mean: Using the equation (1), get the mean of each characteristic from the processed data.

$$\mu = \frac{1}{n}\sum_{i=1}^{n} x_i \tag{1}$$

2. Calculate variance: To analyze and deviation of each feature in the dataset, we use equation (2) to calculate variance:

$$Var(X) = \sigma_x^2 = \frac{1}{n-1}\sum_{i=1}^{n}(x_i - \mu)^2 \tag{2}$$

3. Determine covariance: Equation (3) is used to calculate the covariance and correlation of two variables, labeled X and Y.

$$Cov(X,Y) = \sigma_x^2 = \frac{1}{n-1}\sum_{i=1}^{n}(x_i - \mu_x)(y_i - \mu_y) \tag{3}$$

When $Cov(X,Y) = 0$, the two characteristics X and Y are considered independent

c. Fuzzy based Theory of use and satisfaction

UST is a popular media studies theoretical framework that explains why and how a rational person chooses various media to meet his or her unique socio-psychological requirements in the study area of mass communication. The use of UST in studies of conventional media use, such as reading newspapers, has increased dramatically since the 1980s Scholars have expanded the use

of UST to include studies of instant messaging, e-mail, and the Internet due to advancements in media technology. There has been an increase in study using UGT in the last decade to uncover the behaviour of social media users on particular platforms, such as Facebook, Twitter and Instagram. The nomological research framework of UGT has been changed and updated along with continuous empirical investigations without a predetermined set of constructs. Existing research has revealed a wide range of rewards for social media sharing. According to Lee and Ma, individuals are more likely to share news on social media if they are motivated by information seeking reasons such as socialising and wanting a certain position in the community To further understand why Chinese users choose WeChat, this research will utilise the theoretical basis of FBUST. The structural equation modeling can be as in the form of,

$$P(v) = \begin{cases} 0 & v \geq v_0 \ or \ v \leq v_i \\ P_r\left(\dfrac{v - v_i}{v_r - v_0}\right) & v_i \leq v \leq v_r \\ P_r & v_i \leq v \leq v_0 \end{cases} \tag{4}$$

By using behavior identities, equation (4) becomes,

$$S_{is} = -Vi^2 b_{se} hsinc - jVi^2 b_{se} hcosc \tag{5}$$

Eq. (5) can be decomposed into its real and satisfactory components,
$S_{is} = P_{is} + jQ_{is}$, where

$$P_{is} = -Vi^2 b_{se} hsinc \tag{6}$$
$$P_{is} = -Vi^2 b_{se} hcosc \tag{7}$$

Similarly, for equation (7) taking modified steps, then

$$S_{js} = V_i V_j b_{se} hsin(\theta_i - \theta_j + c) + jV_i V_j b_{se} hcos(\theta_i - \theta_j + c) \tag{8}$$

Equation (9) can also be decomposed into its real and satisfactory parts,
$S_{js} = P_{js} + jQ_{js}$, where

$$P_{js} = V_i V_j b_{se} hsin(\theta_i - \theta_j + c) \tag{9}$$
$$Q_{js} = V_i V_j b_{se} hcos(\theta_i - \theta_j + c) \tag{10}$$

Based on the Equations (7), (8), (9) and (10), the satisfaction model of the chineese teenagers can be shown as below;

$$\xi_{1,k} = \frac{\lambda_{1,3}}{2} + (-1)^{3-k} \times \sqrt{\lambda_{1,4} - \frac{3}{4}\lambda_{1,3}^2}, \quad k = 1, 2 \tag{11}$$

The sharing and correlation factor analysis can be formulated as,

$$I_{ac} = \sqrt{\frac{P_c + P_r - P_s}{R_{ac}(\theta_{con_{max}})}} \tag{12}$$

Where $\theta_{con_{max}}$ is the maximum correlated sharing intention

$$s = s_0 + s_0[\alpha(\theta_{con} - \theta_{con0}) + \frac{T - T_0}{E.A}] \tag{13}$$

Where, s_0 satisfaction level condition.

5. Result and discussion

When putting the study model to the test, it was important to look at the synthetic impact it had on people's intentions for continuing to use online We chat services. Part one of the questionnaire utilised nominal scales to gather basic demographic information about the respondents, while part two used theoretical constructs from HMBTPB and FBUST to gauge how the respondents felt about using online services going forward. All components were derived from previous research and only minor modifications were made to ensure that the measurement was suitable for the study's objectives [Table 1 & 2].

Table 1: Factor analysis

Item	**Frequency**	**Percentage**
1. Occasionally (About one hour per day)	39	19.5
2. Most of the time (About 2 hours per day)	34	17
3. The frequency with which something occurs (About 3 hours per day)	12	6
4. The greatest number of times (More than 4 hours per day) 60 30 Total	200	100
How many times a day do you use WeChat to connect with school-related friends?		
1. Infrequently (Less than 1 hour per day)	80	40
2. From time to time (About one hour per day)	37	18.5
3. A lot of the time (About 3 hours per day)	29	14.5
4. Recurrence (About 3 hours per a day)	13	6.5
5. The most of the time (More than 4 hours per day)	41	20.5
Total	200	100

Tables 1 and 2 demonstrate how often people in the middle age bracket use WeChat. We asked people how long they used WeChat on average every day, how many times they used WeChat on average per day, and how long they used WeChat for each time. Those answers are included in the table under the category "degree of usage." Categories 2, 3, and 6 had means of 2, 6, 3, and 3, respectively. In this study, people used WeChat on average for 60–90 minutes each day, checking their account 5–6 times per day for 20–30 minutes each. WeChat was utilised more than six times a day by 114 people (or 38% of the total). This result indicates that WeChat use was quite high among the study's teen participants.

Table 2: Correlation analysis

Item	**Item**	**Item correlation with total score**
Item1	When I was bored, I utilised WeChat.	0.555*
Item2	When I was feeling lonely and stressed, I would turn to Wechat for comfort.	0.704**
Item3	When I'm in a foul mood, like when I'm experiencing anxiety or sadness, I use WeChat to unwind.	0.696**
Item4	When I'm on WeChat, I completely forget about my issues from the day to day.	0.662**
Item5	When I'm on WeChat, I feel pleased and content.	0.664**
Item6	WeChat is where I spend most of my time these days.	0.655**
Item7	When I'm on WeChat, I often think to myself, "just a few more minutes."	0.710**
Item8	When I'm bored, I'd rather stay home and play WeChat games than go out with my buddies	0.605**
Item9	[recall past WeChat activities or anticipate using WeChat in the near future] I'm obsessed with utilising WeChat.	0.668**
Item10	I'm finding that I need to utilise WeChat for longer and longer periods of time to get what I want.	0.690**
Item11	Not being able to use WeChat causes me to feel down and angry or sad, but it goes gone as soon as I am back on WeChat.	0.695**
Item12	When trying to reduce or stop using WeChat, I become restless, unhappy, sad, or irritated because I check my WeChat first.	0.725**
Item13	Even though I've made an effort, I can't seem to cut down on my time on WeChat.	0.738**
Item14	Because of my obsession with WeChat, I've lost out on discussions with friends and family.	0.671**
Item15	Because I was on WeChat during class or a meeting, I was distracted.	0.718**
Item16	WeChat has harmed my academic performance and productivity.	0.710**
Item17	When friends leave comments or show an interest in my blog articles and photos, I get giddy.	0.702**
Item18	I've met new people via WeChat that I never would have met otherwise.	0.668**
Item20	Due of my obsession with WeChat, I've gotten little sleep.	0.639**
Item21	WeChat is the social media platform of choice for all of my pals.	0.557**
Item22	All my friends use WeChat	0.454**
Item23	WeChat and the WeChat QR code* are widely used by the people and businesses I know	0.304**
Item24	I use WeChat to stay in touch with and learn about my friends.	0.595**

Table 3: Results of the difference tests

Items	Mole M(SD)	Female M(SD)	T
Sending texts	5	4.95	-2.5
	3.50	3.50	-2.1
Reading texts	4.95	5	-1.98
	3.85	3.55	-1.50
Sending voice messages	5.20	5.50	-2.54
	3.80	4	-2
Listening to voice messages	5.15	4.85	-1
	3.98	4.5	-1
Sending pictures	5.25	5.25	-2.45
	3.25	3.75	-1.58
Browsing pictures	5.50	5.75	-2.25
	3	3.68	-2.15

According to the data in Table 3, the average values for women were all greater than those for males when it came to sending and reading texts, listening and sending voice messages, and browsing images. Men and women sent SMS, phone messages, photos, and browsed pictures at significantly different rates, indicating that gender disparities exist in these activities. However, when it came to reading texts and listening to voice communications, there were no significant differences between men and women. Women had higher average group norm values than males for sending and reading texts, for sending and listening to voicemails, and for sending and browsing photos. The only areas where men and women differed significantly were in texting, calling, and looking at photos. In addition, there were no significant differences between men and women when it came to reading texts, listening to voice communications, or sending photos.

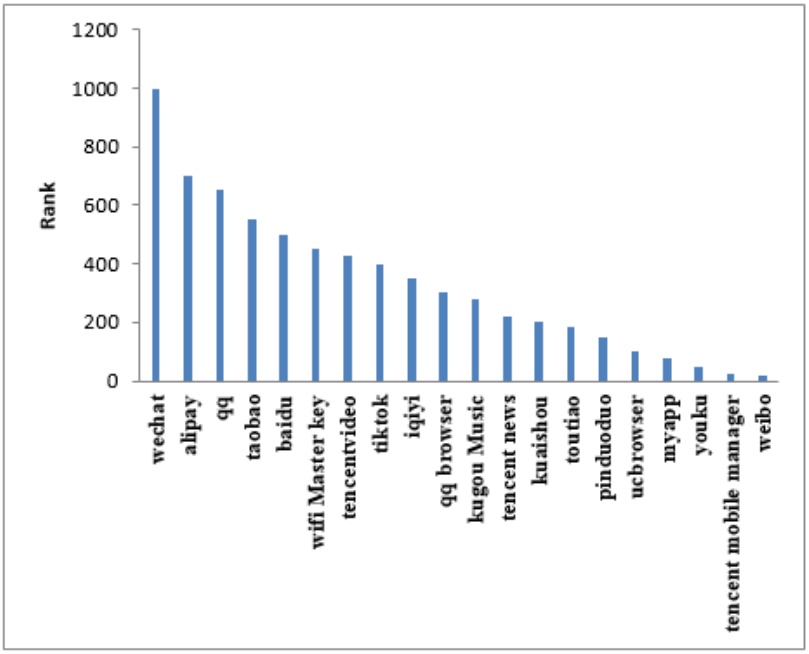

Figure 2: Chinesian top usable apps

From the results obtained the top chinesian usable apps was ranked and it can be pointed out

from figure 2. From the listedapps we chat was the to among all the other apps.

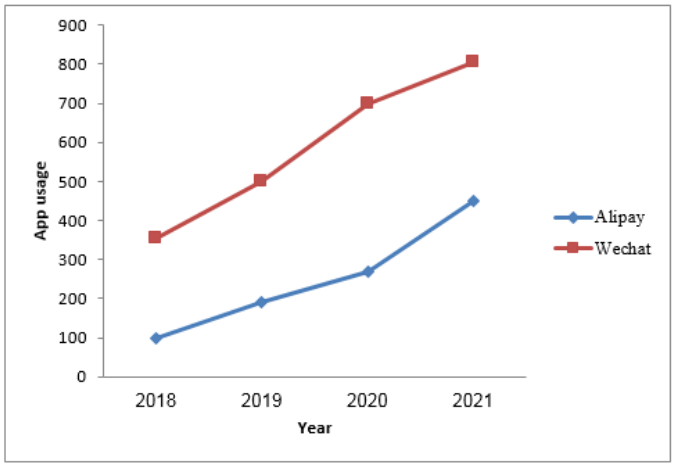

Figure 3: Year Vs. app usage

China's QR code-based mobile payment industry is dominated by Tencent WeChat Pay, Alibaba Alipay, and China UnionPay, which is less prominent but still an important participant (CUP). In essence, WeChat Pay is an offshoot of the popular WeChat social messaging programme. Since putting their bank account information on their phones, users have been able to do anything from pay bills to transfer money to buy groceries using just their phones. WeChat Pay's signature feature was the "red envelope," which allowed users to give money presents to friends inside their social WeChat groups. Alipay, on the other hand, was created to make it easier for customers to make payments on Alibaba's e-commerce site. According to the results of a study, many users in this area preferred We chat over alternatives.

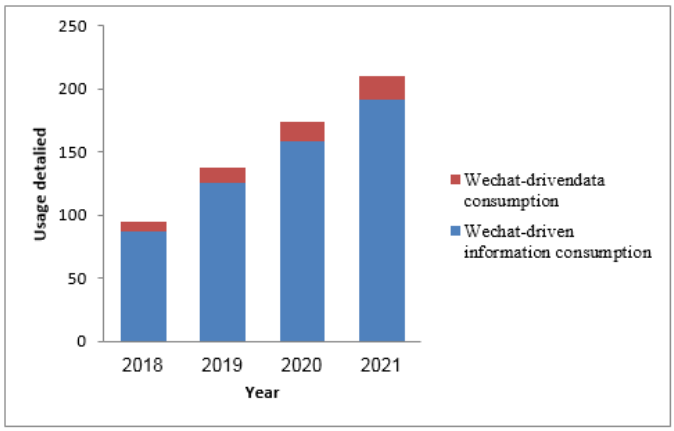

Figure 4: Year Vs. usage details

As of from figure 3 we chat was the overusage app among the teenagers in china.Depend upon the usage the amount of information produced and amount of data consumed over we chat usage was high as depicted in figure 4 and figure 5.

Students' questionnaire options were examined to better understand how teenagers' interest in we chat has changed. As shown in Figure 6, the number of people who chose "very much in line" increased from 19.86% to 24.85%, with an increase of 5.01%, while the number of teenagers who chose "conform" increased from 30.16% to 38.07% of those who chose "very much in line." This

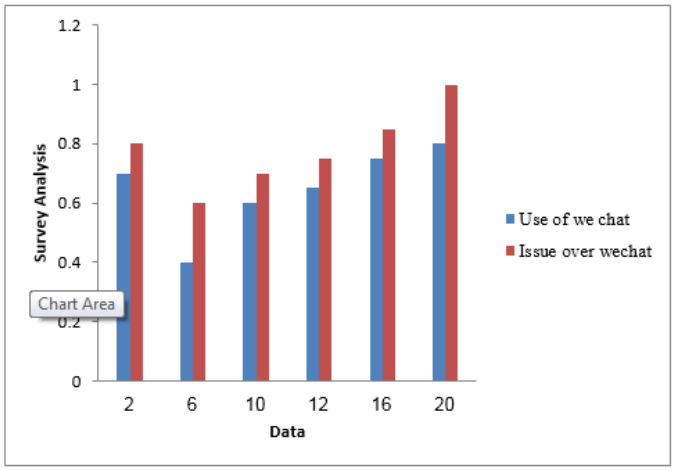

Figure 5: Data Vs. survey analysis

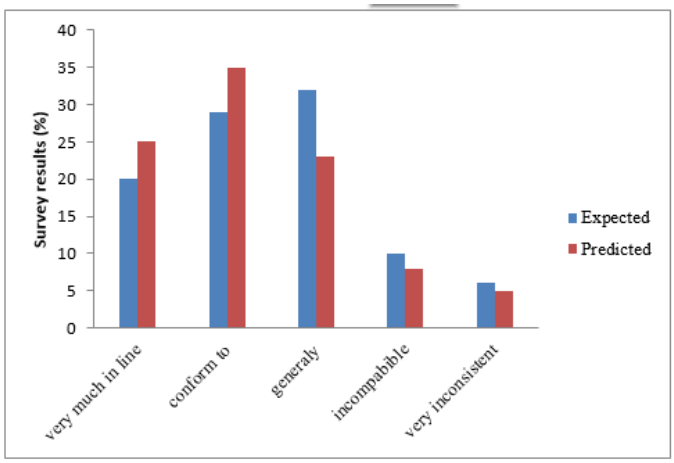

Figure 6: Predicted output

shows how adolescents' interest in we chat increases over time and how their behaviours change over time throughout the trial procedure.

6. Conclusion

This research has spent a lot of time and effort creating an integrated model based on the HMBTPB and FBUST ideas to predict and explain a person's ongoing usage of We Chat. A study of CUS users yielded empirical data that helped validate the model's plausibility. Modeling using measurements reveals sufficient reliability and validity of theoretical constructs, whereas modelling with structural equations shows a good model fit for empirical data. Researchers discovered that a teen's behavioural intention to talk on is mostly influenced by satisfaction, with perceived utility and a subjective norm also playing a role. According to generalisations, the integrated model may capture the spirit of the expectation disconfirmation model while also making use of the planned behaviour theory. This model's explanatory power was superior to other EDM-based models previously presented after taking systemic factors, human traits, and social influence into account. The following are some conclusions drawn from the research. To begin, in some application settings, perceived usefulness affects behavioural intention without including adolescent pleasure. As a result, the first concern in boosting a customer's persistence intention is to provide valuable services

that may enhance work performance and organisational incentives. While some research suggests that perceived simplicity of use has a diminishing influence as IS adoption progresses, it still has a large impact on customer satisfaction. Behavioural intention and perceived ease of use are linked, thus thinking about ways to make using we chat services easier for teenagers may be beneficial for retaining them in the future. Third, behavioural intention is shown to be significantly influenced by subjective norm. In order to keep people using we chat services once they sign up, strategies including advertising, promotion, and regular reviews should be used. A more broad application setting will need further research to investigate the applicability of the hypothetical model and, in particular, how gender differences affect the variability of users' behavioural intentions.

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