



University of HUDDERSFIELD

University of Huddersfield Repository

Yap, Matthew H. T. and Chen, Nan

Understanding Young Chinese Wine Consumers Through Innovation Diffusion Theory

Original Citation

Yap, Matthew H. T. and Chen, Nan (2017) Understanding Young Chinese Wine Consumers Through Innovation Diffusion Theory. *Tourism and Hospitality Management*, 23 (1). pp. 51-68. ISSN 1330-7533

This version is available at <http://eprints.hud.ac.uk/id/eprint/33206/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

UNDERSTANDING YOUNG CHINESE WINE CONSUMERS THROUGH INNOVATION DIFFUSION THEORY

Matthew H.T. Yap
Nan Chen

Original scientific paper

Received 17 June 2016

Revised 5 January 2017

9 February 2017

Accepted 24 February 2017

<https://doi.org/10.20867/thm.23.1.3>

Abstract

Purpose – This paper aims to examine young Chinese wine consumers' perceptions of the diffused wine information in China, and explore the factors that may influence their perceptions.

Design – A positivism paradigm was employed to design the research.

Methodology – Quantitative data were collected from a total of 507 young Chinese wine consumers via a self-administered structured questionnaire. Both descriptive and advanced statistics were employed to analyse the collected data.

Approach – Respondents were selected using purposive sampling technique. Deductive approach was used to reason data. Research ethics were observed.

Findings – Six dimensions (complexity, compatibility, relative advantage, observability, religion and ethics, and trialability diffused wine information) emerged via Principal Component Analysis. Young Chinese wine consumers' perceptions of the diffused wine information were independent of their personal and professional backgrounds. However, consumers with different education levels and religions considered differently the expensiveness of wine to purchase. Their considerations of the expensiveness of wine to purchase were dependent on their awareness of alcoholic friends and family members, age, education levels and gender.

Originality of the research – This study is possibly the first of its kind to employ the diffusion of innovation theory to examine young Chinese wine consumers' perceptions.

Keywords Young Chinese wine consumer, Diffusion of innovation theory, Consumer perceptions, quantitative research

INTRODUCTION

Grape wine demand and supply in China have surged in recent years due to progressive economic growth. The International Organisation of Vine and Wine (OIV) (2013) reported China, surpassing Australia, as the fifth largest global wine producer of 14,880 thousands of hectolitres of wine on 570 thousands of hectares of vineyards in 2012. The amount of wine produced in China, mainly for domestic consumption, has grown by more than 11 per cent as compared to the data released in 2011. Reciprocally, the Chinese population has become the world's fifth largest wine consumers drinking more than 17 thousand hectolitres of wine in 2012 (OIV, 2013). Moreover, China has surpassed the United Kingdom and became the number one importer of Bordeaux French wine in 2012 (Zhang, 2012). Further, China overtook Japan as the number one Asian country of imported wine (Canfield, 2013). Chinese continuous support for French wine is mainly because of their understanding of the best wine comes from

France (Jenster and Cheng, 2008). The lucrative Chinese wine market has triggered an increased of global wine importers to China by 200 per cent across a five-year period (Crummy, 2012). By the end of 2016, China is to become the world's second biggest wine consuming nation (Mercer, 2013).

However, a study argues that China's wine consumption will slow down in the next couple of years after an explosive growth in the recent five years (Globalpost, 2013). As such, China will gradually reduce importing wine as her domestic wine production increases (Mercer, 2013). In addition, the previous trade war between China and the European Union may jeopardise Chinese import of French and/or European wine in the near future (Chang, 2013). In order to sustain the wine consumption growth rate in China, Chinese wine market practitioners and experts were interviewed by Wine Intelligence (2012b), a global wine market research company, to determine the future outlook of the existing market. This study informed wine merchants of the diverse characteristics of Chinese wine consumers (CWC) and their knowledge level of wine, thereby suggesting wine importers to strategically plan, develop and manage their brands and brand image to continuously attract CWCs' varying tastes and preferences.

Furthermore, Wine Intelligence (2012a) has predicted five trends for the Chinese wine market in the near future. Firstly, CWC will opt for wines with better value for money as middle-class Chinese emerges. Secondly, the combat against counterfeit wine is of great urgency. Thirdly, there will be an increasing number of Chinese to purchase wine in smaller bottles as oppose to the traditional full size bottle of 75 centilitres. Fourthly, more Chinese living in second-tier cities will follow their compatriots living in top-tier cities to take up the habits of drinking wine. Lastly, online wine retailing will mature in China. The increasing wine production and consumption, and the continuous marketing efforts of wine merchants determine that wine information is diffusing widely in Chinese society. However, the rate of diffusion of wine information in Chinese society is unknown and no study to date has employed the diffusion of innovation theory to study CWCs' perceptions of wine information. Hence, this paper aims to examine young CWCs' perceptions of the diffused wine information in China, and explore the factors that may influence their perceptions. The findings of this study might help wine merchants to sustain or expand their businesses through effective diffusion of wine information to target young CWC.

1. LITERATURE REVIEW

1.1. Diffusion of Innovation Theory

The diffusion of innovation theory is well established to study the rate of acceptance of consumers of a product or service based on the spread of five characteristics (relative advantage, compatibility, complexity, observability and trialability) of communication and influences (cf. Rogers, 2003). Previous studies (e.g., Truong *et al.*, 2012; Vindigni *et al.*, 2002) have employed this theory to study organic foods in different geographical locations. Hence, the diffusion of innovation theory is applicable to food and beverage related studies. The diffusion of innovation theory elucidates the evolution and spread of an innovative idea or a product in a social scenario through different channels of

communication and influences, and the acceptance of adopters (Rogers, 2003). For instance, the Texas wine industry employs various promotional materials like media outreach, tradeshow booth and displays, collateral printed materials and promotional items to spread information of Texas wine and to create viable growth of the regional wine industry (Hanagriff *et al.*, 2009). In a mature wine market like the United Kingdom, supermarkets, mostly, employ perceive and actual price promotions to stimulate wine sales (Ritchie *et al.*, 2010); whilst other sellers promote wine through medals won in competitions and tasting (Lockshin, 2004; Orth and Krska, 2001). In addition, wine gurus and critics are invited by newspapers and magazines to propagate wine information through the mass media; whilst big wine companies are sponsoring TV series to inform consumers of wine brands (Ritchie *et al.*, 2010). Furthermore, many wine producing countries like Australia (Taylor *et al.*, 2007), South Africa (Bruwer, 2003) and Italy (Brunori and Rossi, 2000), to name a few, are using tourism to promote regional wine and gastronomy. In summary, wine information is diffused through advertisements, newspapers and magazines, wine tasting, collateral printed materials, wine labels/bottles, tourism activities and tradeshow. As grape wine is still considered a novel beverage in China as compared to Western countries, it is appropriate to employ this multidisciplinary theory to examine CWC and young CWCs' perceptions (Frambach, 1993). Specifically, the diffusion of innovation theory is adopted to examine the extent of the spread of wine related information via different channels of communication, for example advertisements and word of mouth, within China, over a period of time, and to what extent the diffusion of wine information influences Chinese probability of purchasing and consuming wine (Wejnert, 2002).

Five characteristics (relative advantage, complexity, compatibility, trialability and observability) of an innovation are studied as responsible for the speed of acceptance and adoption of the innovation (Greenhalgh *et al.*, 2004; Wonglimpiyarat and Yuber, 2005). First, relative advantage represents the degree to which a particular group of users perceive their intentions to adopt an innovation better than their original ideas. In the context of wine consumption, consumers interpret relative advantage as social prestige, nutritional and health benefits, and sustainable wine production not harming the environment. Second, as the more complex a particular innovation is, the more time consumers will take to adopt it or learn how to use it. Hence, complexity denotes consumers' accessibility of wine, variety of wine, and the availability of wine related information in their societies. Third, compatibility refers to the innovation's coherence with the existing norms, values, past experiences and needs of the adopters in a society. Hence, users' adoption speed of an innovation is directly proportional to the compatibility of the innovation. In relation to wine consumption, compatibility is translated as ethical values, socio-cultural norms and tastes. Fourth, trialability is the degree to which the innovation could be sampled before adoption, thus reducing the uncertainty attached to the forthcoming experience. This dimension is relevant to wine consumers and strategic marketing studies because wine tasting is a risk reduction technique used to reassure customers the quality and characteristics of the wine before purchase (Mitchell and Greatorex, 1989). Finally, observability determines the extent of the visibility or measurability of an innovation. The more visible the innovation, the more attention it will attract and the reduction of uncertainty. As such, consumers may purchase and consume wine recommended by their trusted information sources, such as

from their friends and family members' word of mouths, and selected publications and broadcasts they have read and heard, respectively.

With respect to the diffusion of innovation theory, early adopters of wine are information seekers with a high tolerance level for uncertainty and a high desire level for creative goods and services. In addition, they place more emphases on personal needs as compared to late wine adopters (Vindigni *et al.*, 2002). Understanding young Chinese consumers' perceptions of wine information diffused in their society can facilitate the prediction of their future wine consumption behaviour. As such, the diffusion of innovation theory is employed as the framework to guide this study and the following two research questions are raised:

RQ1: How can young CWC perceptions of the diffused wine information be measured?

RQ2: What are the perceptions of young CWC towards the diffused wine information?

1.2. Chinese Wine Consumers

Although the Chinese wine market, in terms of consumption, is relatively premature as compared to European countries like France and the United Kingdom, considerable number of studies have been conducted to examine CWCs' behaviours, preferences and motivations of consuming and purchasing grape wine (e.g., Balestrini and Gamble, 2006; Jenster and Cheng, 2008; Liu and Murphy, 2007; Somogyi *et al.*, 2011; Yu *et al.*, 2009). CWC are commonly located in top-tier cities like Beijing, Shanghai and Guangzhou due to high affluence (Jenster and Cheng, 2008). As economic developments and more wine merchants are scattering country wide, grape wine drinking has begun to spread to the second-tier cities and slowly to rural areas in China (Li *et al.*, 2011).

In general, the motivators stimulating current Chinese consumption of wine can be broadly classified as intrinsic and extrinsic (Camillo, 2012). Intrinsic motivations include perceived image and characteristics of wine, knowledge level of wine, hedonism, wine consumption patterns, personal and professional backgrounds, health awareness, habits, and peer pressure; while extrinsic motivations encompass socio-cultural/economic and technological causes, environmental issues, marketing strategies, legislation, travel and tourism, and origins, varieties and distribution of wine (Camillo, 2012; Gil and Sánchez, 1997; Goodman, 2009; Martinez-Carrasco *et al.*, 2005; Yu *et al.*, 2009).

With reference to CWCs' behaviour, existing studies have revealed that CWC have little knowledge of the grape varieties that produce wine they have consumed (Jenster and Cheng, 2008). However, they prefer wines with fruity and sweet flavour as opposed to dry and tannic wines (Somogyi *et al.*, 2011). Red wine is still mostly preferred by Chinese as compared to white and rosé wines because red colour is auspiciously symbolic as happiness and celebration in the Chinese culture (Jenster and Cheng, 2008). As trendy lifestyles evolve in contemporary Chinese society, female Chinese in particular, prefer white wines; they also like concocting cocktails with white wines and soft drinks (Buckalew, 2005). Sparkling wine sales have increased in recent years as more and more Chinese drink this beverage to celebrate special occasions like weddings (Jenster and Cheng, 2008). Several studies have revealed that CWC are

mostly young adults, aged 18-35 and normally consume wine during business and private functions held in restaurants (Camillo, 2012; Yu *et al.*, 2009). China's rapidly rising middle class is believed to offer a great opportunity for expanding wine consumption (Jenster and Cheng, 2008). However, consumers' characteristics and perceptions like religion, wine allergy, relationship status and awareness of alcoholism amongst peers, were yet to be explored in relation to their wine consumption behaviour. Hence, the development of the following hypothesis:

H1: Young CWCs' perceptions of the diffused wine information are independent of their age, gender, education level, religion, wine allergy, relationship status, and friends' and family members' alcoholism.

Regardless of wine characteristics, many Chinese perceive wine consumption as socially and culturally sophisticated to help them gain social prestige and raise their social standings (Lee, 2009). Even though increasingly more Chinese consumers are attracted to wine because of its healthful and nutritious properties (Workman, 2006), the purchase decisions of most CWC are still influenced more by extrinsic (e.g., price, brand, country of origin) than intrinsic (e.g., wine characteristics and style) motivators (Balestrini and Gamble, 2006).

In terms of extrinsic motivators, Dehui (2007) identifies that Chinese prefer foreign than domestic wines due to higher quality. However, Zhou and Belk (2004) argue that some Chinese consumers have a strong patriotic desire to purchase domestic wine to support cultural heritage. In general, Chinese consumers' wine purchase decisions are swayed by several risk reduction strategies (e.g. brand, information and assurance seeking, price, safety, credible source and tasting) as identified in wine consumers from other parts of the world (Yu *et al.*, 2009). It is known that CWC like to buy expensive wines as gifts and less expensive wines for self-consumption due to face saving (Camillo, 2012). However, no study has established the relationship between young CWCs' perceptions of wine information they have received in their society and their views of the expensiveness of wine. Furthermore, it is unclear if young CWCs' perceptions of the expensiveness of wine to purchase are related to their backgrounds. Therefore, the next two hypotheses were proposed:

H2: Young CWCs' perceptions of the expensiveness of wine to purchase are dependent on their perceptions of diffused wine information.

H3: Young CWCs' perceptions of the expensiveness of wine to purchase are dependent on their age, gender, education level, religion, allergy to wine, relationship status and friends' and family members' alcoholism.

2. METHODOLOGY

In order to test the hypotheses, this study employed a quantitative research design (Creswell, 2009). The data collection instrument, developed in English, was a self-administered questionnaire with structured statements and questions. It is comprised of two sections. In section one, respondents were requested to rate 26 statements on the relative advantage, complexity, compatibility, trialability and observability of diffused wine information using a five point Likert-style scale of agreements and disagreements

(5 = “strongly agree”, 1 = “strongly disagree”). Five point Likert-style scale was adopted due to its ability to reduce respondents’ bias and its suitability for Asian consumers (Truong *et al.*, 2012). Section two aimed to gather respondents’ information (gender, age, education level, religion, relationship status and wine allergy), alcoholism of their friends and family, and their consideration of the expensiveness to purchase wine.

The items of the questionnaire were developed from a thorough literature review; then, translated into Chinese and pilot tested with 10 participants to enhance clarity, validity and reliability (Zikmund *et al.*, 2010). The final version of the questionnaire was distributed to a purposively selected sample of young Chinese university students, with a minimum legal alcohol drinking age of 18 (Hanson, 2013), who have drunk wine before. Chinese university students were preferred because they would be the most potential wine consumers as they are highly educated with the possibility of being affluent. In addition, they were a subset of young CWC. A total of 507 completed and useable questionnaires were collected. All completed questionnaires were back-translated into English and the data were analysed using the IBM SPSS 19.0.

Cronbach’s Alpha was calculated to obtain 0.865 coefficient, which was above the minimum 0.7 level, confirmed the internal consistency of the scaled primary data (Pallant, 2010). Frequencies, descriptive statistics and Principal Component Analysis (PCA) were performed. PCA was chosen to reduce the young CWC perceptions into the five dimensions of the diffused wine information which allowed the testing of all hypotheses, and simultaneously retaining most of the variation with simplicity (Beavers *et al.*, 2013; Jolliffe, 2010). The number of respondents ($n = 507$) was over five times the number of scaled variables, thus permitting the PCA with varimax rotation and Kaiser Normalisation (Tabachnik and Fidell, 1996). Ethical research practice was adhered in all stages of the research.

3. RESULTS

3.1. Participants’ Information

The majority of the respondents ($n = 439$, 89%) have received undergraduate education. There were two times more female ($n = 343$, 68%) than male participants ($n = 158$, 32%). This gender ratio of 2:1 is representative of the existing student gender imbalance in Chinese universities as current legislation in China forbids the Ministry of Education to manipulate equal number of male and female university admissions (Du and Zhang, 2013). Almost three quarter of the respondents ($n = 360$, 73%) disclosed they were not involved in a relationship. Different to earlier generation of Chinese, this study’s high percentage of respondents without relationship depicted the changing sexual behaviour of China’s post open-door generation (Parish *et al.*, 2007). More than 80 per cent of the participants ($n = 438$) were atheists. This finding concurred with The World Factbook (n.d.) that more than half of China’s population was not affiliated to a religious organisation. Over 80 per cent of the respondents ($n = 421$) reported they were not allergic to wine. This finding is valuable to wine merchants who aim to attract young Chinese to consume wine. Furthermore, approximately 60% ($n = 293$) and 68%

(n = 333) of the participants did not have any friends or family members who were alcoholic, respectively. The respondents' knowledge of their friends' and family members' alcoholism was debatable as Chinese believe proper drinking could promote health, conviviality and creativity (Singer, 1972 & 1974). Table 1 summarised the participants' background information.

Table 1: A Summary of the Respondents' Information (n=507)

	Frequency	%
Age		
18-19	130	26%
20-21	188	37%
22 & above	182	36%
Missing	7	1%
Gender		
Female	343	68%
Male	158	31%
Missing	6	1%
Education		
Undergraduate	439	86%
Postgraduate	54	11%
Missing	14	3%
Relationship Status		
Single	360	71%
Attached	133	26%
Missing	14	3%
Religion		
Religious	69	14%
Non-religious	438	86%
Wine Allergy		
Yes	28	6%
No	421	83%
Unsure	42	8%
Missing	16	3%
Knowledge of Alcoholic Friends		
Yes	187	37%
No	293	58%
Unsure	12	2%
Missing	15	3%
Knowledge of Alcoholic Family Members		
Yes	147	29%
No	333	66%
Unsure	11	2%
Missing	16	3%

Source: Compiled by authors

3.2. H1: Young CWCs' perceptions of the diffused wine information are independent of their age, gender, education level, religion, allergy to wine, relationship status, and friends' and family members' alcoholism.

Firstly, PCA was executed (see Table 2). The Kaiser-Meyer Olkin (KMO) measures of sampling adequacy was 0.86 (“meritorious” according to Kaiser, 1974), indicated interrelations among the variables. The Bartlett Test of Sphericity $\chi^2(325) = 4825.32, p < .001$, indicated the suitability of conducting factor analysis (Field, 2009). Four criteria were used to form factors: (1) only the factors with eigenvalues greater than one were extracted; (2) items with factor loadings less than 0.47 were removed from the scale; (3) the cross-loadings of an item had to be lower than 50% of the highest loading to be retained. Following these criteria, the calculations converged after seven iterations, retaining all 26 variables, each of which loaded onto one of the six factors (1. Complexity; 2. Compatibility; 3. Relative Advantage; 4. Observability; 5. Religion & Ethics; 6. Trialability) (Stevens, 1992). The total percentage variance was 60.6% and the emerging factors were named and mapped onto the diffusion of innovation theory (e.g., Rogers, 2003; Wonglimpiyarat and Yuberk, 2005).

Table 2: PCA of Young CWCs' Perceptions of Diffused Wine Information (n=462)

Diffused wine information	Components					
	1	2	3	4	5	6
1. Complexity (var=13.4%)						
It is difficult to understand wine information in general	.761					
Wine production is too sophisticated to be understood	.748					
It is difficult to find wine in supermarkets	.736					
It is difficult to find wine information	.718					
It is difficult to find different varieties of wine in supermarkets	.609					
2. Compatibility (var=12.9%)						
Wine consumption is common in my society		.723				
Wine consumption is part of my culture		.679				
Wine is nutritional		.662				
Wine is compatible to my taste		.654				
Wine is good for blood circulation		.625				
Wine consumption reflects social prestige		.550				
3. Relative Advantage (var=10.4%)						
Wine production will not deplete natural resources			.787			
Wine is produced in a sustainable way			.754			
Wine has no artificial additives			.681			

Diffused wine information	Components					
	1	2	3	4	5	6
Drinking wine will not create social problems			.496			
Wine drinking stimulated by curiosity			.473			
4. Observability (var=10.2%)						
My family members encourage me to purchase wine				.782		
My friends encourage me to purchase wine				.738		
Wine should be purchased after attending wine seminar				.718		
Wine should be purchased after watching wine advertisement				.561		
Wine should be purchased after reading wine information				.493		
5. Religion & Ethics (var=7.8%)						
Drinking wine is not against my religion					.860	
Purchasing wine is not against my ethical values					.817	
6. Trialability (var=5.9%)						
Wine tasting is uncommon in supermarkets						.771
Wine should be purchased after tasting						.656
Wine tasting is uncommon in shops selling wine						.517
Total variance explained = 60.6%						

Source: Compiled by authors

In order to test the first hypothesis, Pearson's Chi-square test was employed to determine the association of the respondents' perceptions of the diffused wine information with their age, gender, education level, religion, allergy to wine, relationship status, and friends' and family members' alcoholism. Pearson's Chi-square test was chosen due to the non-parametric conditions of the collected data tabulated in frequency (Saunders *et al.*, 2012). As such, no significant associations were found at 95% level of confidence. Hence, H1 was accepted.

3.3. H2: Young CWCs' perceptions of the expensiveness of wine to purchase are dependent on their perceptions of diffused wine information.

The respondents' views of the expensiveness to purchase wine in China were tabulated. Less than one third of the respondents (n = 148, 29%) considered wine to be expensive to purchase; while almost half of them believed the contrary (n = 230, 45%). T-Test of differences was employed to analyse the respondents' views of the expensiveness to purchase wine in their subgroups (age, gender, education level, religion, wine allergy). Male and female respondents perceived wine as expensive to purchase differently at 95% level of confidence; while respondents with different levels of education

considered wine to be expensive to purchase differently at 99% level of confidence (see Table 3). All other subgroups did not achieve statistical significance.

Table 3: Test of Differences of the Perceived Expensiveness to Purchase Wine in Young CWC Subgroups

	n	t	df	Sig.
Gender	489	2.379	487	.018
Education level	490	2.644	488	.008
Relationship	490	1.166	488	.086
Religion	490	-0.391	488	.696
Allergy	488	0.892	486	.373
Age	483	-1.914	481	.056
Alcoholic friends	477	0.355	487	.723
Alcoholic family members	477	0.743	486	.458

Source: Compiled by authors

In order to further understand to what extent the diffused wine information influences young CWCs' perceptions of the expensiveness of wine to purchase, Pearson's correlation was employed (see Table 4).

Table 4: Correlation of Young CWCs' Perceptions against Their Views of the Expensiveness to Purchase Wine (n=445)

		Expensive to Purchase
Religion & Ethics	Pearson correlation coefficient	.096
	Sig. (2-tailed)	.044
Complexity	Pearson correlation coefficient	-.130
	Sig. (2-tailed)	.006
Triability	Pearson correlation coefficient	-.151
	Sig. (2-tailed)	.001
Compatibility	Pearson correlation coefficient	.077
	Sig. (2-tailed)	.103
Relative Advantage	Pearson correlation coefficient	.073
	Sig. (2-tailed)	.123
Observability	Pearson correlation coefficient	.047
	Sig. (2-tailed)	.320

Source: Compiled by authors

With reference to Table 4, statistical significance at 95% level of confidence was detected between the respondents' perceptions of religion and ethics ($p = .044$) diffused wine information with their consideration of the expensiveness to purchase wine. Moreover, high statistical significances at 99% level of confidence were also found from the complexity ($p = .006$) and trialability ($p = .001$) of diffused wine information on the respondents' consideration of the expensiveness to purchase wine. Hence, H2 is partially accepted.

3.4. H3: Young CWCs' perceptions of the expensiveness to purchase wine are dependent on their age, gender, education level, religion, allergy to wine, relationship stati and friends' and family members' alcoholism.

Finally, Pearson's Chi-square test was employed to determine the association of the respondents' perceptions of the expensiveness to purchase wine with their age, gender, education level, religion, allergy to wine, relationship stati, and friends' and family members' alcoholism. Statistical significance findings are summarised in Table 5.

Table 5: Associations Between Yong CWCs' Perceptions of the Expensiveness to Purchase Wine with Their Diverse Backgrounds

Expensiveness of wine to purchase

	n	Pearson Chi-Square Coefficient	<i>p</i>
Alcoholic family members	488	58.074	.0001
Alcoholic friends	489	39.975	.0001
Age	483	33.110	.0001
Education level	490	12.429	.002
Gender	489	6.245	.044
Religion	490	4.867	.088
Relationship	490	2.244	.326
Allergy	488	2.917	.572

Source: Compiled by authors

With reference to Table 5, CWCs' perceptions of the expensiveness to purchase wine were i) very highly associated with their knowledge of family members' and friends' alcoholism ($p = .0001$), ii) their age ($p = .0001$); iii) highly associated with their educational level ($p = .002$); iv) associated with their gender ($p = .044$). Hence, H3 is partially accepted.

4. DISCUSSION

4.1. RQ1: How can young CWCs' perceptions of the diffused wine information be measured?

As explained in the methodology, this present paper managed to construct a structured questionnaire through thorough literature review employing a five point Likert-style scale of agreements. The items on the questionnaire were focusing on the five characteristics (relative advantage, compatibility, complexity, observability and trialability) of communication and influences within the diffusion of innovation framework (cf. Rogers, 2003). This instrument was first, rigorously tested and translated into Chinese, then, employed to measure young CWCs' perceptions of the diffused wine information. In return, the instrument was able to collect useable data in excess of 500. Young CWC were able to complete the translated questionnaire with ease. Then, the data were analysed with the help of SPSS. In order to meaningfully measure young CWCs' perceptions of the diffused wine information, various descriptive and inferential statistical tests like frequency, PCA, Chi-squared tests, t-tests and correlations were calculated. However, the researchers met several challenges. Firstly, as China is a very big and populated country, wine information has not been diffused to many remote places. Secondly, the Chinese population is very diverse with more than 20 ethnic groups speaking more than 15 different languages with different beverage and food consumption behaviour (The World Factbook, n.d.). This present study modestly could not cover all the diverse subgroups.

4.2. RQ2: What are the perceptions of young CWC towards the diffused wine information?

Based on the young CWCs' perceptions, complexity, compatibility, relative advantage, observability, religion and ethics, and trialability of wine information, in their respective order, have diffused to them through various channels. The respondents perceived the diffused wine information to be complex possibly due to insufficient wine explanation in the Chinese society. In addition, young CWC might not have understood the wine information written in a foreign language like English or French; whilst the Chinese translated version lacks accuracy or depth to provide them with clear explanations. Since French wine has dominated the Chinese market (Jenster and Cheng, 2008), it is easily and commonly available in supermarkets and shops in China as compared to wines from other parts of the world. Hence, the young CWC felt that finding wines from other parts of the world is difficult.

Next, the findings of this study concurred with Singer (1972, 1974) that wine consumption is part of the Chinese culture. Drinking wine is common in the Chinese society due to the popularised healthful and nutritious value of wine (Workman, 2006). However, the respondents in this study rated wine consumption as a social prestige lower than their compatriots participated in the study conducted by Lee *et al.* (2009), possibly due to the increased availability and affordability of foreign wines in contemporary Chinese society.

Relative advantage wine information was spread less broadly to the young CWC in comparison to complexity and compatibility wine information. As such, the majority of the respondents (n = 463, 91%) disagreed that wine drinking would create social problems. This finding contradicted experts' recognition of alcohol consumption leading to public health problems in many countries including China (World Health Organisation, 2007). It is also of interest to note that young CWC spread positive word of mouth after their positive experience of drinking wine out of curiosity. This finding is good news to wine merchants targeting at young Chinese consumers.

As observability is the third last diffused wine information, this study confirmed that wine promotion was insufficient to propagate wine and wine brands to the Chinese population as predicted by Wine Intelligence (2012a). Religion and ethics related wine information was not previously studied or included in the innovation diffusion theory. However, this factor emerged in the present study. Although atheism is dominant in China, other religious groups like Muslims (1-2%) and Christians (3-4%) are becoming visible in Chinese societies (The World Factbook, n.d.). The debate of alcohol consumption against religious and ethical beliefs may gradually emerge and increase in Chinese societies and media. Then, improper wine drinking leading to alcoholism and intoxication will be widely discussed (Singer, 1972 & 1974). Trialability is the last diffused wine information which was possibly due to insufficient promotion of wine through tasting in various wine selling venues. The young CWCs' perceptions of the diffused wine information were independent of their personal and professional backgrounds. This finding might have been the wide spread of wine information in Chinese society.

In this study, several causes were attributed to the high percentage of young Chinese consumers (n = 230, 45%) considered wine to be inexpensive to purchase. Firstly, the increase of wine merchants (Li *et al.*, 2011) coupled with a slowdown of wine consumption (Globalpost, 2013) might have driven down the prices of wine, making it more affordable for most Chinese to consume. Secondly, more Chinese might have opted for wine with better value for their money (Wine Intelligence, 2012a). Thirdly, with the maturity of online wine retailing (Wine Intelligence, 2012a), keen competition might have forced wine sellers to lower their prices. Fourthly, young CWC purchased less expensive wine for self-consumption (Camillo, 2012).

Regardless of the above mentioned causes, this study found that young CWC considerations of the expensiveness to purchase wine were dependent on their knowledge of alcoholic friends and family members, age, education level and gender. These findings concurred with Wine Intelligence (2012b) that young CWC are more diverse and they used their knowledge obtained through higher education to understand the complex information of wine to make sound purchases. Furthermore, complexity, trialability, and religion and ethics diffused wine information had an impact on the young CWCs' consideration of the expensiveness to purchase wine. As predicted by Wine Intelligence (2012b), young CWC are educated and information seeking to aid their wine purchase. As such, the young CWC in this study may be more willing to pay more for grape wine they have tasted in shops and supermarkets once they have been convinced by their palates. In addition, the complex wine information on wine bottle labels can influence young CWC decisions to pay more or less for a specific grape

wine (Sherman and Tuten, 2011). These findings are beneficial to wine merchants when implementing wine pricing strategy. With regards to religion and ethics, this characteristic awaits further testing to broaden the discussion because there are more than seven main religions with the addition of many folk religions in China (The World Factbook, n.d.), and the interpretation of ethics amongst young Chinese in societies is not uniformed (Ahmed *et al.*, 2003).

CONCLUSIONS

In conclusion, an instrument to measure young CWCs' perceptions of the diffused wine information has been developed. Specifically, young Chinese consumers ranked the spread of the wine information as complexity, compatibility, relative advantage, observability, religion and ethics, and trialability in their respective order. As such, relative advantage, observability, religion and ethics, and trialability wine information need stronger diffusion channels. This study concludes that young CWC are becoming more diverse and knowledgeable, and they are seeking more wine information to make sound purchase decisions (Wine Intelligence, 2012a). There is a keen competition between online wine retailing and traditional wine shops. However, this study concludes that traditional wine sellers insufficiently employ advertisements and wine tasting promotions to attract young Chinese consumers.

Furthermore, the young CWCs' perceptions were not dependent on their personal and professional backgrounds. They also considered wine to be inexpensive to purchase and their considerations were dependent on their knowledge of alcoholic friends and family members, age, education level and gender. However, the young CWC with different levels of education and gender considered wine to be expensive to purchase differently. It can be concluded that complexity, trialability, and religion and ethics diffused wine information can impact young CWCs' considerations of the expensiveness to purchase wine.

In terms of theoretical implications, this is the first study that employed the diffusion of innovation theory to examine young CWCs' perceptions of the diffused wine information in China. A new dimension of the diffused innovative information (religion and ethics) emerged and added to the existing diffusion of innovation theoretical framework. The diffusion of innovation theory is appropriate to study the Chinese wine market because it does not take into consideration of the equality of members in a social system. In the context of China as a vast country with the highest population in the world, there is an unequal distribution of wealth in urban China which can impact the purchase of wine (Meng *et al.*, 2005). As such, this study recommends wine sellers and merchants to study deeper the diverse characteristics of different segments of young CWC in order to better understand and target their needs and wants. Further, wine sellers should note that religion and ethical concerns in relation to Chinese wine consumption will be a topic for discussion. In the near future, wine sellers will be challenged by the criticism of wine drinking causing social problems.

However, wine sellers can employ compatibility and relative advantage wine information to attract young Chinese consumers. Next, traditional wine sellers and merchants should strengthen their competitive promotion methods using informative advertisements and wine tasting in shops and supermarkets to stimulate purchases. Wine sellers should also provide clear, precise and concise wine information in English or Mandarin to help young CWC to better understand complex wine information. As such, a back-translation method should be employed to translate wine information from a foreign language to Mandarin. In addition, wine merchants can increase their share of the Chinese wine market by introducing more variety of wines from other regions and make them easily available in wine shops and supermarkets. Wine merchants should focus less on marketing wine consumption as a social prestige as wine prices were regarded by many Chinese as inexpensive to purchase; while carefully employing complexity, trialability, and religion and ethics wine information in wine pricing strategy.

LIMITATIONS AND FURTHER RESEARCH

Although the diffusion of innovation theory has been tested in different contexts/scenarios, it is not without criticisms (Rogers, 2003). Firstly, the accuracy of the results of a diffusion of innovation research is highly dependent on the participants' subjective memory. Secondly, the theory makes the assumption that all the members in a social system adopt an innovation and that it cannot be reinvented. Although this study involved more than 500 respondents, the background of the young CWC did not cover China's vast population. Hence, this study suggests future researchers to employ stratified sampling method to pick the participants in China. The PCA has managed to retain all the 26 variables during the extraction. However, one solution (5. Religion and Ethics) has fewer than three variables. This study recognises possible inaccurate representation of the structure (Beavers *et al.*, 2013). Hence, this study recommends researchers to include more variables related to ethics and religions in the future wine consumer studies.

Additionally, although back-translation has been used to translate the data collection instrument, still, this study would like to raise readers' awareness of possible literal translation issues and missing information (McGorry, 2000). As this study lacks the qualitative depth, future researchers should interview young CWC in-depth to explore their wine preferences and perceptions. The current study focuses on wine in general; future research can expand this study by separating foreign and domestic wines, types of wine, and organic and conventional wine consumers' perceptions.

REFERENCES

- Ahmed, M.M., Chung, K.Y. and Eichenseher, J.W. (2003), "Business students' perceptions of ethics and moral judgment: A cross-cultural study", *Journal of Business Ethics*, Vol. 43, No. 1/2, pp. 89-102. <https://doi.org/10.1023/A:1022915316112>
- Balestrini, P. and Gamble, P. (2006), "Country-of-origin effects on Chinese wine consumers", *British Food Journal*, Vol. 108, No. 5, pp. 396-412. <https://doi.org/10.1108/00070700610661367>

- Beavers, A.S., Lounsbury, J.W., Richards, J.K., Huck, S.W., Skolits, G.J. and Esquivel, S.L. (2013), "Practical considerations for using exploratory factor analysis in educational research", *Practical Assessment, Research & Evaluation*, Vol. 18, No. 6, pp. 1-13.
- Brunori, G. and Rossi, A. (2000), "Synergy and coherence through collective action: Some insights from wine routes in Tuscany", *Sociologia Ruralis*, Vol. 40, No. 4, pp. 409-423.
<http://dx.doi.org/10.1111/1467-9523.00157>
- Bruwer, J. (2003), "South African wine routes: Some perspectives on the wine tourism industry's structural dimensions and wine tourism product", *Tourism Management*, Vol. 24, No. 4, pp. 423-435.
[http://dx.doi.org/10.1016/S0261-5177\(02\)00105-X](http://dx.doi.org/10.1016/S0261-5177(02)00105-X)
- Buckalew, L. (2005), "Shanghai wine brief 2005", *Global Agriculture Information Network Report*, available at www.fas.usda.gov/gainfiles/200504/146119409.doc (accessed 5 September 2014).
- Camillo, A.A. (2012), "A strategic investigation of the determinants of wine consumption in China", *International Journal of Wine Business Research*, Vol. 24, No. 1, pp. 68-92.
<https://doi.org/10.1108/17511061211213792>
- Canfield, K. (2013), "Suppliers must educate Chinese wine drinkers to achieve full market potential, says IWSR", *Harpers Wine & Spirit Trades Review*, available at <http://www.harpers.co.uk/news/suppliers-must-educate-chinese-wine-drinkers-to-achieve-full-market-potential-says-iwsr/347013>. article (accessed 5 September 2014).
- Chang, L. (2013), "Imports of French wine go sour", *China Daily*, 20 July, available at http://www.chinadaily.com.cn/ndy/2013-07/20/content_16804224.htm (accessed 5 September 2014).
- Creswell, J.W. (2013), *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed., SAGE, Thousand Oaks, CA.
- Crummy, M. (2012), "Wine importers to China up 200%", *The Drinks Business*, available at <http://www.thedrinksbusiness.com/2012/05/wine-importers-to-china-up-200/> (accessed 5 September 2014).
- Dehui, W. (2007), "How should Chinese agents deal with foreign wines", *China Wines Information Website*, available at www.wines-info.com/en/Temple14.aspx?id%415439 (accessed 5 September 2014).
- Du, M. and Zhang, Q. (Eds.) (2013), "China maintains "balanced" male to female ratio in university admission", *Xinhua News Agency*, 26 September, available at <http://english.people.com.cn/203691/8410350.html> (accessed 5 September 2014)
- Field, A.P. (2009), *Discovering Statistics Using SPSS*, 3rd ed., SAGE, Los Angeles, CA.
- Frambach, R.T. (1993), "An integrated model of organisational adoption and diffusion of innovations", *European Journal of Marketing*, Vol. 27, No. 5, pp. 22-41.
<https://doi.org/10.1108/03090569310039705>
- Gil, J.M. and Sánchez, M. (1997), "Consumer preferences for wine attributes: A conjoint approach", *British Food Journal*, Vol. 99, No. 1, pp. 3-11.
- Globalpost: America's World News Site (2013), "China's soaring wine consumption slows down: study", *Agence France-Presse*, 3 March, available at <http://www.globalpost.com/dispatch/news/afp/130308/chinas-soaring-wine-consumption-slows-down-study> (accessed 5 September 2014).
- Goodman, S. (2009), "An international comparison of retail consumer wine choice", *International Journal of Wine Business Research*, Vol. 21, No. 1, pp. 41-49.
<https://doi.org/10.1108/17511060910948026>
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P. and Kyriakidou, O. (2004), "Diffusion of innovations in service organisations: Systemic review and recommendations", *The Milbank Quarterly*, Vol. 82, No. 4, pp. 581-629. <https://doi.org/10.1111/j.0887-378X.2004.00325.x>
- Hanagriff, R., Lau, M. and Rogers, S.L. (2009), "State funded marketing and promotional activities to support a State's winery business; Are there economic returns?: A case study using Texas Senate Bill 1370's support of the Texas wine industry", *Proceedings of the Southern Association of Agricultural Sciences Conference*, available at <http://ageconsearch.umn.edu/bitstream/46824/1/Final-%20SAEA%20Texas%20Wine%20-%20Hanagriff.pdf> (accessed 16 January 2017).
- Hanson, D.J. (2013), "Minimum legal drinking ages around the world", in Hanson, D.J. (Ed.), *Alcohol Problems and Solutions*, available at <http://www2.potsdam.edu/alcohol/LegalDrinkingAge.html> (accessed 5 September 2014).
- International Organisation of Vine and Wine (OIV) (2013), *Statistical Report on World Vitiviniculture*, OIV, Paris, available at <http://www.oiv.int/oiv/cms/index?rubricId=44538631-7ad2-49cb-9710-ad5b957296c7> (accessed 5 September 2014).
- Jenster, P. and Cheng, Y. (2008), "Dragon wine: Developments in the Chinese wine industry", *International Journal of Wine Business Research*, Vol. 20, No. 3, pp. 244-259.
<https://doi.org/10.1108/17511060810901055>

- Jolliffe, I.T. (2010), *Principal Component Analysis: Springer Series in Statistics*, 2nd ed., Springer-Verlag, New York, NY.
- Lee, K.H. (2009), "Is a glass of Merlot the symbol of globalisation? An examination of the impact of globalisation on wine consumption in Asia", *International Journal of Wine Business Research*, Vol. 21, No. 3, pp. 258-266. <https://doi.org/10.1108/17511060910985971>
- Lee, H., Huang, J., Rozelle, S., & Summer, D. (2009), "Wine markets in China: Assessing the potential with supermarket survey data", *Journal of Wine Economics*, Vol. 4, No. 1, pp. 94-113. <https://doi.org/10.1017/S1931436100000705>
- Li, J-G., Jia, J-R., Taylor, D., Bruwer, J. and Li, E. (2011), "The wine drinking behaviour of young adults: An exploratory study in China", *British Food Journal*, Vol. 113, No. 10, pp. 1305-1317. <https://doi.org/10.1108/00070701111177700>
- Liu, F. and Murphy, J. (2007), "A qualitative study of Chinese wine consumption and purchasing: Implications for Australian wines", *International Journal of Wine Business Research*, Vol. 19, No. 2, pp. 98-113. <https://doi.org/10.1108/17511060710758669>
- Lockshin, L. (2004), "How consumers read labels", *Wine Industry Journal*, Vol. 19, No. 2, pp. 53-7.
- Martinez-Carrasco, L., Brugarolas, M. and Martinez-Poveda, A. (2005), "Quality wines and wines protected by a designation of origin: Identifying their consumption determinants", *Journal of Wine Research*, Vol. 16, No. 3, pp. 213-232. <http://dx.doi.org/10.1080/09571260600556690>
- McGorry, S.Y. (2000), "Measurement in a cross-cultural environment: Survey translation issues", *Qualitative Market Research: An International Journal*, Vol. 3, No. 2, pp. 74-81. <https://doi.org/10.1108/13522750010322070>
- Meng, X., Gregory, R. and Wang, Y. (2005), "Poverty, inequality, and growth in urban China, 1986-2000", *Journal of Comparative Economics*, Vol. 33, No. 4, pp. 710-729. <https://doi.org/10.1016/j.jce.2005.08.006>
- Mercer, C. (2013), "China will import less over the next four years: Vinexpo research", *Decanter*, available at <http://www.decanter.com/news/wine-news/530832/china-will-import-less-over-the-next-four-years-vinexpo-research> (accessed 5 September 2014).
- Mitchell, V-W. and Greatorex, M. (1989), "Risk reducing strategies used in the purchase of wine in the UK", *European Journal of Marketing*, Vol. 23, No. 9, pp. 31-46. <https://doi.org/10.1108/EUM0000000000589>
- Orth, U.R. and Krska, P. (2001), "Quality signals in wine marketing: The role of exhibition awards", *International Food and Agribusiness Management*, Vol. 4, No. 4, pp. 385-97. [http://doi.org/10.1016/S1096-7508\(02\)00066-6](http://doi.org/10.1016/S1096-7508(02)00066-6)
- Pallant, J. (2010), *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS*. McGraw-Hill Education, Berkshire.
- Ritchie, C., Elliott, G. and Flynn, M. (2010), "Buying wine on promotion is trading-up in UK supermarkets: A case study in Wales and Northern Ireland", *International Journal of Wine Business*, Vol. 22, No. 2, pp. 102-121. <https://doi.org/10.1108/17511061011061685>
- Rogers, E.M. (2003), *Diffusion of Innovations*, 5th ed., The Free Press, London.
- Saunders, M., Lewis, P. and Thornhill, A. (2012), *Research Methods for Business Students*, 6th ed., Pearson Education Limited, Essex.
- Sherman, S. and Tuten, T. (2011), "Message on a bottle: The wine label's influence", *International Journal of Wine Business Research*, Vol. 23, No. 3, pp. 221-234. <https://doi.org/10.1108/17511061111163050>
- Singer, K. (1972), "Drinking patterns and alcoholism in the Chinese", *British Journal of Addiction to Alcohol & Other Drugs*, Vol. 67, No. 1, pp. 3-4. <https://doi.org/10.1111/j.1360-0443.1972.tb01162.x>
- Singer, K. (1974), "The choice of intoxicant among the Chinese", *British Journal of Addiction to Alcohol & Other Drugs*, Vol. 69, No. 3, pp. 257-268. <https://doi.org/10.1111/j.1360-0443.1974.tb01312.x>
- Somogyi, S., Li, E., Johnson, T., Bruwer, J. and Bastian, S. (2011), "The underlying motivations of Chinese wine consumer behaviour", *Asia Pacific Journal of Marketing and Logistics*, Vol. 23, No. 4, pp. 473-485. <https://doi.org/10.1108/13555851111165039>
- Tabachnik, B.G. and Fidell, L.S. (1996), *Using Multivariate Analysis*, 3rd ed., Harper Row, New York, NY.
- Taylor, P., McRae-Williams, P. and Lowe, J. (2007), "The determinants of cluster activities in the Australian wine and tourism industries", *Tourism Economics*, Vol. 13, No. 4, pp. 639-656.
- The World Factbook (n.d.). *East and Southeast Asia: China*, available at <https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html> (accessed 5 September 2014).
- Truong, T.T., Yap, M.H.T. and Ineson, E.M. (2012), "Potential Vietnamese consumers' perceptions of organic foods", *British Food Journal*, Vol. 114, No. 4, pp. 529-543. <https://doi.org/10.1108/00070701211219540>

- Vindigni, G., Janssen, M.A. and Jager, W. (2002), "Organic food consumption: A multi-theoretical framework of consumer decision making", *British Food Journal*, Vol. 104, No. 8, pp. 624-642.
<http://doi.org/10.1108/00070700210425949>
- Wejnert, B. (2002), "Integrating models of diffusion of innovations: A conceptual framework", *Annual Review of Sociology*, Vol. 28, pp. 297-326.
<https://doi.org/10.1146/annurev.soc.28.110601.141051>
- Wine Intelligence (2012a), *China: Five trends for the wine market in 2013*, available at <http://www.wineintelligence.com/2012/12/05/china-five-trends-for-the-wine-market-in-2013/> (accessed 5 September 2014).
- Wine Intelligence (2012b), *Emerging Opportunities in the Chinese Wine Market*, Author, London.
- Wonglimpiyarat, J. and Yuber, N. (2005), "In support of innovation management and Roger's innovation diffusion theory", *Government Information Quarterly*, Vol. 22, No. 3, pp. 411-422.
<https://doi.org/10.1016/j.giq.2005.05.005>
- Workman, D. (2006), *China's Wine Treasure*, available at <http://en.wines-info.com/html/2006/7/189-10382.html> (accessed 5 September 2014).
- World Health Organisation (2007), "WHO expert committee on problems related to alcohol consumption: Second report", *World Health Organisation Technical Report Series* 944, Author, Geneva, Switzerland, available at http://www.who.int/substance_abuse/expert_committee_alcohol_trs944.pdf (accessed 5 September 2014).
- Yu, Y., Sun, H., Goodman, S., Chen, S. and Ma, H. (2009), "Chinese choices: A survey of wine consumers in Beijing", *International Journal of Wine Business Research*, Vol. 21, No. 2, pp. 155-168.
<https://doi.org/10.1108/17511060910967999>
- Zhang, J. (Ed.) (2012), "Chinese brings passion for Bordeaux wine", *CCTV News – CNTV English*, available at <http://english.cntv.cn/program/china24/20120531/108659.shtml> (accessed 5 September 2014).
- Zhou, N. and Belk, R.W. (2004), "Chinese consumer readings of global and local advertising appeals", *Journal of Advertising*, Vol. 33, No. 3, pp. 63-76.
<https://doi.org/10.1080/00913367.2004.10639169>
- Zikmund, W.G., Babin, B.J., Carr, J.C. and Griffin, M. (2010), *Business Research Methods*, 9th ed., Thomson Learning, London.

Matthew H.T. Yap, PhD, Assistant Professor
University of Macau,
Faculty of Business Administration (E22)
Room 3022, Avenida da Universidade, Taipa, Macau, China
Phone: +853 8822 4654
E-mail: matthewyap@umac.mo

Nan Chen, PhD, Postdoctoral Fellow
The Hong Kong Polytechnic University
School of Hospitality and Tourism Management
17 Science Museum Road, TST East, Kowloon, Hong Kong, China
Phone: +852 3400 2264
E-mail: nanchen80@yahoo.com.au

Please cite this article as: Yap, M.H.T., Chen, N. (2017), Understanding young chinese wine consumers through innovation diffusion theory, *Tourism and Hospitality Management*, Vol. 23, No. 1, pp. 51-68, <https://doi.org/10.20867/thm.23.1.3>



Creative Commons Attribution – Non Commercial – Share Alike 4.0 International