

**The Journal of Developing Areas**

Volume ??

No. ?

Spring ????

**IMPACTS OF FOOD ADVERTISING IN SOCIAL MEDIA  
AMONG LOCAL UNIVERSITY STUDENTS IN MALAYSIA**

*Ai Ling, Tan*  
Sunway University, Malaysia

*Poh Theng, Loo*  
I-Shou University, Taiwan

**ABSTRACT**

Malaysia is well-known for its multi-cultural people and foods. With the emerging on the social media, it influences the food choice decision among Malaysian Consumers especially the university students who are technology savvy. There are many studies on food advertising, but so far limited studies have been conducted to understand the impacts of social media in food advertising among local university students in Malaysia. Therefore, the aim of this paper is to examine the overall attitude and behavioral intention of local university students toward food advertising in social media (e.g. Facebook, Twitter, Blogs). 231 samples were recruited with convenient sampling method. With the findings, it can help the academicians and industry practitioners to have better understanding on attributes of food advertising in social media that contribute significantly to students' food purchase decision.

**JEL Classifications:** L66, M37

**Keywords:** Social Media, Impacts, Food Advertising, University Students

**Corresponding Author's Email Address:** [ailingt@sunway.edu.my](mailto:ailingt@sunway.edu.my)

## **INTRODUCTION**

Food advertising studies are conducted since 80's. Based on the authors' best knowledge, over the years, many food advertising studies focus on children particularly food advertising on television (See in Bolton, 1983; Borzekowski and Robinson, 2001; Gamble and Cotugna, 1999; Grossbart and Crosby, 1984; Halford, Gillespie, Brown, Pontin, and Dovey, 2004; Kelley et al., 2007). Since the advent of the Internet, advertising media is no longer limited to traditional media channels like television, radio or newspaper. Social media is a new media channel for marketers to advertise their products and services. Social media refers to a group of Internet-based applications which permit the creation and exchange of user generated content (Kaplan and Haenlein, 2010).

There are various forms of social media. Personal blogs are the earliest form of social media which consists of text and pictures displayed according to date in reverse chronological order (Rai, 2012). Other forms of social media are content communities (e.g. YouTube, Slideshare, Scribd) and social networking sites (e.g. Facebook and LinkedIn) (Rai, 2012). Content communities allow the users to upload and share videos, photos, files which promote knowledge enrichment whereas social networking sites are also enable users to share videos and photos, chat via online as well as provide platform for users to share their feelings and emotions.

Nowadays social media is prominent worldwide and it becomes an essential daily need among internet users including Generation Y who born in the 1980's and 1990's (Kaplan and Haenlein, 2010). According to the Mahadi (2013) reported that 13.3 million or 45.5% of the total Malaysia population are Facebook users. Among the Malaysian Facebook users, the highest users are those of them whose age from 18 to 24. They are the group of teenagers who commonly pursue their tertiary education in Malaysia. Besides that, 51% of Malaysians own an active YouTube profile and 80% of the Malaysian internet users download videos every month (Asia News, 2013). Therefore, a study of social media food advertising on university students who are Generation Y is justified.

In the recent six years, a large number of studies on social media as an advertising medium particularly in the single country context (Okazaki and Taylor, 2013). Social media has overtaken print advertising and it becomes the most critical method to attract and retain customers in food and beverage industry (Scoop Business, 2013). According to the authors' best knowledge, studies of social media food advertising are scarce and still at infancy stage in Malaysia. There are some attentions given in the past on studies of consumer attitudes and beliefs toward advertising in general, but limited studies in social media particularly on food advertising. Measuring the consumer attitudes and beliefs toward advertising is critical as this information will help marketers to understand better about the customers' attitudes and beliefs toward advertising and help them to make better marketing decisions. Previous studies have proven the results of consumer attitudes and belief toward advertising in general (Jin and Lutz, 2013; Millan and Mittal, 2010; Pollay and Mittal, 1993) and web advertising (Korgaonkar, Karson, and Lund, 2000; Korgaonkar, Silverblatt, and O'Leary, 2001) but not much on social media. The main objective of this study is to examine the overall attitude and behavioral intention of local university students toward social media food advertising.

## **LITERATURE REVIEW**

### **Background**

A large number of Malaysian eating out frequently and it is part of the Malaysian culture (Euromonitor International, 2013). In order to promote and update customers about the new dishes or menu, promotions and events, restaurant operators often use social media as one of the important marketing tools. Currently, social media is the most well-known advertising media worldwide includes Malaysia. Most of the chained and independent foodservice operators in Malaysia have their Facebook page as a marketing tool and communication platform with their actual and potential customers. The operators update frequently on the restaurant's menu items, promotions, events (Euromonitor International, 2013). Besides that, blogs and YouTube are also the advertising channels used by restaurant operators to promote and advertise about the new or signature dishes or menu and promotions. As stated earlier, still little studies about the beliefs and attitudes of customers toward social media food advertising. Therefore, we draw from the literature on advertising in general in different media channels like television and web to adapt them in developing hypotheses of this study.

## **Seven Attitude Factors**

The seven factors model is built based on the fundamental difference between attitudes and beliefs by Pollay and Mittal (1993). They developed a more comprehensive model by building on the work of Bauer and Greyser (1986) and others. The model of attitudes toward advertising consists of three personal uses factors (product information, social image information, and hedonic amusement) and four socioeconomic or societal factors (food for economy, fostering materialism, corrupting values and falsity or no-sense). In addition, they also measured the global attitude of consumers toward advertising. Subsequently, several published papers adapted the Pollay and Mittal's (1993) model in different contexts (Jin and Lutz, 2013; Korgaonkar, Karson, and Lund, 2000; Korgaonkar, Silverblatt, and O'Leary, 2001; Millan and Mittal, 2010).

The authors adapted both Jin and Lutz's (2013) and Pollay and Mittal (1993) measurements of attitudes. However, the seven factors tested are according to the factors used by Jin and Lutz (2013). The seven factors are information, social role or images, entertainment, good for economy, materialism and veracity. The difference is Jin and Lutz (2013) combined the two elements of value corruption and falsity or no sense into the new factor which called veracity. All questions proposed by Jin and Lutz (2013) are adapted into social media food marketing context and the overall attitude questions are modified from open ended questions into statements instead. For example, previously "In general, is advertising a good or a bad thing?" modified to "In general, social media is a good medium to help me in choosing types of food".

## **Product Information**

Advocates and researchers of advertising highlight that advertising plays important role as information provider (Pollay and Mittal, 1993). Social media advertising can also enhance marketplace efficiencies, promote competition and help consumer's buying decisions. Millan and Mittal (2010) has reported that their study on Czech consumers, product information is the second most contribution factor in overall advertising attitude. Similarly, product information could have positive effects on the overall attitude of university students toward food advertisement in social media. Regardless the media channel for advertising, product information is one of the important factors which affect customers' attitude toward advertising. So, the first hypothesis constructed is:

*H1: There is significant positive relationship between the product information and overall attitude of university students towards food advertisement in social media.*

## **Social role and image**

Social media advertising is similar to other mass media advertising which even promote greater social and lifestyle information. Social media has great impact on consumer-to-consumer communication and it also becomes a hybrid element of promotion mix as it enables both ways communication between companies and customers (Mangold and Faulds, 2009). Therefore, the impact of social role and image on social media advertising is substantial especially the customers can share and post their comments on food they purchased and consumed. Although in previous study, social role and image factor has no effect on the overall advertising attitude (Millan and Mittal, 2010), there could be a significant effect of this factor on the overall attitude in social media food advertising especially customers- university students who love to share and comment about their purchase or consumption experience. Therefore, the second hypothesis is:

*H2: There is significant positive relationship between the social role and image and overall attitude of university students towards food advertisement in social media.*

## **Entertainment**

Social media advertising provides similar capabilities as web advertising with the features of interactive and multimedia capabilities enable the advertisements can become humorous and entertaining. The entertaining ads in social media are perceived to be fun, cool and exciting (Vries, Gensler, and Leeflang, 2012). Hence, the interactive and creativity of social media adds values to the advertised food. Millan and Mittal (2010) has confirmed on their hypothesis of the hedonic or entertainment factor has independent significant contribution on the overall advertising

attitude. Similarly, the entertainment factor could have effects on the overall attitude of university students toward food advertisement in social media. Thus, the third hypothesis is:

*H3: There is significant positive relationship between the entertainment and overall attitude of university students towards food advertisement in social media.*

### **Good for Economy**

According to Pollay and Mittal (1993), advertising promotes healthy competition between companies or producers to all customers' benefits and generally it aid to raise average standard of living. Social media advertising helps customers to make easy comparison of product features and benefits. For instance, customers do not visit to every shop or restaurant to find out about the food or dishes served or their promotions, they can find out about the menu information and promotions before dining in. This helps customers save time and money. Furthermore, the comments on Twitter, Facebook and blogs help customers to choose which good restaurant or type of food to purchase. Some promotions and discounts are only available in social media advertising as it is more cost effective and sales effective to advertise products via social media compared to other media like television or radio. Based on Millan and Mittal's (2010) study findings, the good for economy factor has the most contribution on the overall advertising attitude which is different from their hypothesis. Their earlier hypothesis stated product information has the greatest contribution followed by good for economy factor. Hence, the fourth hypothesis constructed is:

*H4: There is significant positive relationship between the good for economy and overall attitude of university students towards food advertisement in social media.*

### **Materialism**

Materialism refers to 'a set of belief structures that sees consumption as the route to most, if not all, satisfactions' (Pollay and Mittal, 1993, p. 102). Korgaonkar, Karson, and Lund (2000) pointed out that customer's interest in material objects is not because of the natural state of mind but is the one created by advertising. Although sometimes customers do not tend to buy many products or foods, the attractiveness of promotions or discounts advertised in social media could trigger and lead them to purchases more frequently including products or foods which are unnecessary needed in quantity or price value. In earlier study, the researchers found that materialism has weaker effects on the overall advertising attitude compared to product information factor (Millan and Mittal, 2010). Therefore, the fifth hypothesis to be assessed is:

*H5: There is significant negative relationship between the materialism and overall attitude of university students towards food advertisement in social media.*

### **Veracity**

In earlier study of Pollay and Mittal (1993), the societal factors are good for economy, falsity/ no sense, corrupts values and materialism. However, a recent study by Jin and Lutz (2013), they replace falsity/no sense and corrupts value with veracity. Veracity encompasses the measurement of customers overall advertising attitude in terms of reliability and truthful of advertisements.

*H6: There is significant positive relationship between the veracity and overall attitude of university students towards food advertisement in social media.*

### **Overall Attitude and Behavioral Intention**

All the above mentioned attitude factors are related to more generalized attitudes which appear at different level of cognitive abstraction (Pollay and Mittal, 1993). Jin and Lutz (2013) have highlighted that a few studies recommend attitudes toward advertising in general is a critical and valid predictor of advertising outcomes. Overall attitude of university students toward food advertisement in social media may have influences on their behavioral intention. Behavioral intention is defined as 'the degree to which a person has formulated conscious plans to perform or not

perform some specified future behavior' (Warshaw and Davis, 1985, p.214). Vermeir and Verbeke (2006) pointed out that there is a significant relationship between attitude and behavioral intention.

*H7: There is significant positive relationship between the overall attitude towards food advertisement in social media and behavioural intention of university students.*

## **METHODOLOGY**

In this study, 27 attitude and belief items regarding food advertising in social media were adapted from the study of Jinz and Lutz (2013) which is first developed by Pollay and Mittal (1993) and widely adopted by other researchers (e.g. Korgaonkar, Karson and Lund, 2000; Korgaonkar, Silverblatt and O'Leary, 2001; Millan and Mittal, 2010; Petrovici and Marinov, 2007; Wolin and Korgaonkar, 2003). While for the measurement of behavioral intention, 3-items scale were adopted from Lin (2007) study. A 5 point-Likert Scale questionnaire instead of 7 point-Likert as practiced by the original study was employed in the design of questionnaire as Hui and Triandis (1989) found that Hispanic respondents are more likely to use the extreme 5 point-Likert Scale than non-Hispanic. Hence in this study, the scale of the questionnaire ranging from 1 represents strongly disagree to 5 strongly agree.

The unit of analysis in this study is university students in Selangor states, Malaysia. The university students are mainly from two private universities in Selangor. In this study, 300 questionnaires were distributed and 231 responses were returned which resulted in 77% of high response rate. Convenient Sampling was used in sample recruitment as it is considered as the most suitable approach to obtain information quickly and efficiently (Sekaran and Bougie, 2010). Partial Least Squares Structuring Equation Modeling (PLS-SEM) method and SmartPLS software (Ringle, Wende, and Will, 2005) used in testing the research hypothesis PLS is a soft modeling approach as there is no strong assumptions (on normal distribution, sample sizes and the measurement scale) are required (Gimenez and Sierra, 2013). Thus, PLS-SEM is used due to the small sample size for Indian population in the study (N=41).

## **FINDINGS AND DISCUSSION**

The demographic of the respondents is summarized in Table 1. In this study, majority of the respondents recruited is female (61.0%). Chinese made up the biggest population in this study (49.8%), followed by Malay (32.5%) and Indian (17.7%). This population is predictable due to the selection of private university as the site for sample recruiting. As according to Lek (2010), there is a significant racial division existed among public and private institution in which private institutions consists of 95% non-Bumiputera students while public institutions consists of 70% Bumiputera. Bumiputera refers to 'a Malay term widely used in Malaysia, embracing indigenous people of the Malay Archipelago' (Princeton University, 2014). Among the all, Indian made up the lowest population in private university. Furthermore, 99.1% of the respondents are below the age of 30 and more than half of them are currently doing their degree. From the 231 respondents, 87.4% of the respondents has internet accessibility at home and they are frequent users of the social media channel as the respondents has averagely accessed to 3 types of social media channel in their daily life and the most frequent social media channel used is Facebook (n=221), followed by Youtube (n=195) and Instagram (n=134).

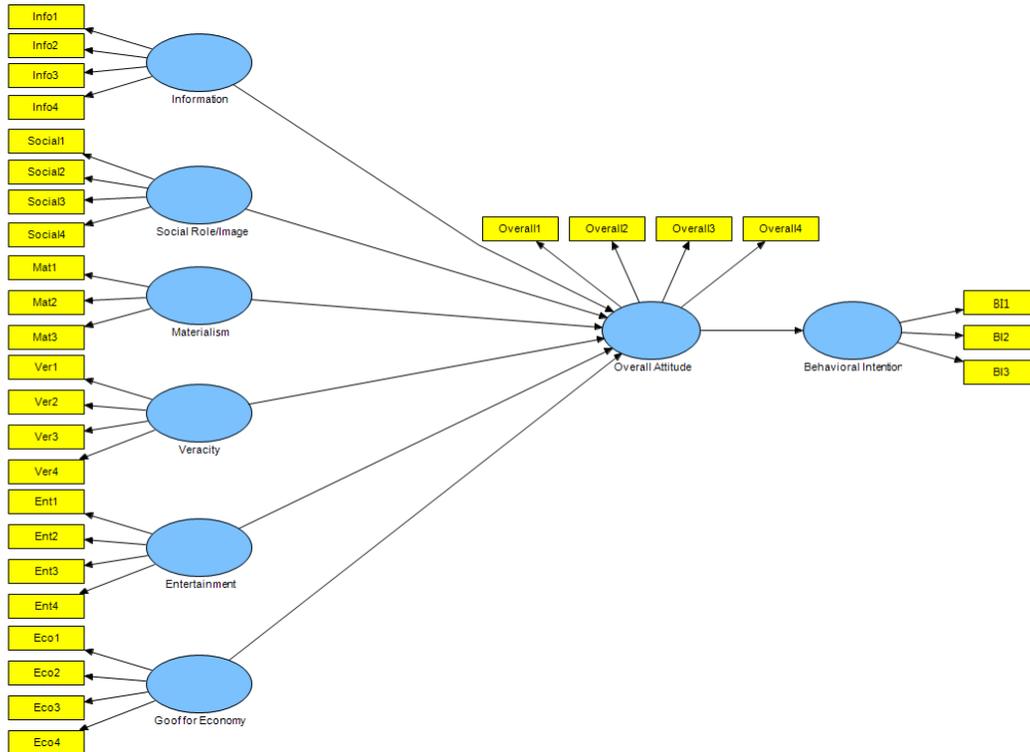
**TABLE 1. RESPONDENTS' PROFILE**

<b>Group</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<i>Gender</i>		
Female	141	61.0
Male	90	39.0
<i>Races</i>		
Chinese	115	49.8
Malay	75	32.5
Indian	41	17.7
<i>Age</i>		
20 and below	146	63.2
21-30	83	35.9
31-40	2	0.9
<i>Education</i>		
Degree	116	50.2
Diploma	95	41.1
Pre-university/Certificate	20	8.7
<i>Internet Access At Home</i>		
Yes	29	12.6
No	202	87.4
<i>Types of Social Media Used</i>		
Facebook	221	
Youtube	195	
Instagram	134	
Twitter	94	
Blogs	58	
Others (e.g. Wechat, Line)	13	

The research model developed as presented in Figure 1 was assessed by using SmartPLS. The data analysis of the study was conducted based on two stages approach as proposed by Khosrow-pour (2006). In the first stage, Confirmatory Factor Analysis was conducted to test on the reliability, convergent validity and discriminant validity of the measurement items. According to Hair et.al. (2014, p. 102), convergent validity is 'the extent to which a measure correlates positively with alternative measure of the same construct'. In order to examine the convergent validity of the constructs, the indicator reliability, Composite Reliability and Average Variance Extracted (AVE) were generated. The result of the convergent validity in this study is shown in Table 1.

Indicator reliability represents the extent of indicator variance that is explained by the latent variable. Higher outer loadings on a construct shows that the indicators used shared high similarity in common (Hair et.al., 2014). According to Hulland (1999), the outer loadings should fall in between 0.25 and 0.5. However, for reflective measurement, the indicators that with loading smaller than 0.5 shall be eliminated from the PLS model. Meanwhile, composite reliability measures the reliability of the indicators. According to Gefen et.al. (2000), the composite reliability the value should reached 0.7 and above to indicate adequate convergence and internal consistency. While for AVE, as explained by Fornell and Larker (1981), it is the amount of variance that is captured by the latent variables relative to the amount of variance due to the measurement error. The value of AVE should be exceeded 0.5 and above to suggest adequate convergent validity (Bagozzi and Yi, 1988; Fornell and Larker, 1981).

**FIGURE 1. THE RESEARCH MODEL**



From the result shown in Table 2, The composite reliability of the all constructs are above 0.8 demonstrates high internal consistency (Hair et.al., 2010). No indicators are deleted as all outer loadings are above 0.5 (Hulland, 1999). The Average Variance Extraction (AVE) of all constructs are above 0.5 convergent validity of overall attitude and behavioral intention is established (Bagozzi and Yi, 1988; Fornell and Larcker, 1981).

**TABLE 2. MEASUREMENT MODEL**

Construct/Measure	Loading	AVE	CR
<i>Behavioral Intention</i>			
I plan to eat/buy food advertised in social media.	0.872	0.749	0.899
I intend to eat/buy food advertised in social media within 30 days.	0.852		
I will strongly recommend food advertised in social media to others.	0.872		
<i>Entertainment</i>			
Quite often the food advertisement posted in social media is amusing and entertaining.	0.727	0.595	0.854
Sometimes I take pleasure in thinking about what I saw, heard or read on food advertisement posted in social media.	0.788		
Sometimes the food advertisement posted in social media is more enjoyable than other media content.	0.779		
Sometimes reading the food advertisement posted in social media is fun.	0.790		

**TABLE 2. MEASUREMENT MODEL(CONTINUED')**

<b>Construct/Measure</b>	<b>Loading</b>	<b>AVE</b>	<b>CR</b>
<i>Good for Economy</i>			
In general, social media advertising helps our nation's economy.	0.733	0.551	0.830
In general, social media advertising does not waste our country's economy resources.	0.799		
In general, social media advertising promotes competition, which benefits the consumer.	0.769		
In general, social media advertising results in lower prices for the food I buy.	0.662		
<i>Information</i>			
Social media is a valuable source of information about food advertising.	0.829	0.676	0.893
Social media tells me which food advertised has the benefits I am looking for.	0.829		
Social media helps me keep up to date about food available and advertised in the marketplace.	0.784		
Social media is an informative source on food advertising.	0.846		
<i>Materialism</i>			
Social media advertising makes us a materialistic society, overly interested in buying expensive food.	0.948	0.609	0.815
Social media advertising makes people buy unaffordable types of food to show off.	0.815		
Because of social media advertising, people buy a lot of expensive Food	0.511		
<i>Overall Attitude</i>			
In general, social media advertising is a good medium to help me in choosing types of food.	0.712	0.557	0.834
Overall, my attitude toward social media advertising is positive.	0.733		
My general opinion of social media advertising is favorable.	0.790		
Overall, I like social media advertising.	0.749		
<i>Social Role/Image</i>			
Social media advertising tells me what types of food to buy/eat to impress others.	0.756	0.534	0.821
Social media advertising tells me what people with lifestyle similar to mine are eating.	0.766		
Social media advertising helps me know which types of food will or will not reflect the sort of person I am.	0.683		
Social media advertising helps me keep up with the current food trend.	0.716		
<i>Veracity</i>			
In general, I feel that I can trust social media advertising to choose my food.	0.812	0.607	0.860
Food that I have consumed usually live up to the promise of quality made in the social media pages.	0.827		
In general, food advertisement posted in social media is not misleading.	0.718		
In general, social media presents and advertises an accurate picture of food.	0.754		

*Note: the cut-off line for loading is  $\geq 0.5$ , AVE is  $\geq 0.5$  and CR is  $\geq 0.7$ . In this study, no indicators is removed as all above the cut-off line.*

After testing on the convergent validity, it follows by the test on the discriminant validity of the constructs. According to Hair et.al. (2011), discriminant validity of the construct can be examined through Cornell and Larcker (1981) criterion. The AVE of a latent construct should be higher than the squared correlation between the latent variable with any other latent construct to show the discriminant validity of the constructs. From the analysis of Table 3, discriminant validity does not exist in this study as all square root value of AVE (as bolded in Table 3) are higher than other latent constructs.

**TABLE 3. DISCRIMINANT VALIDITY**

	BI	Ent	Econ	Info	Mat	Att	Soc	Ver
Behavioral Intention(BI)	<b>0.865</b>							
Entertainment(Ent)	0.347	<b>0.771</b>						
Good for Economy (Econ)0.374	0.465	0.742	<b>0.465</b>					
Information (Info)	0.459	0.442	0.442	<b>0.822</b>				
Materialism (Mat)	0.333	0.274	0.264	0.235	<b>0.780</b>			
Overall Attitude (Att)	0.418	0.452	0.536	0.539	0.238	<b>0.747</b>		
Social Role/Image (Soc)	0.531	0.417	0.375	0.623	0.441	0.490	<b>0.731</b>	
Veracity (Ver)	0.499	0.410	0.335	0.415	0.197	0.349	0.432	<b>0.779</b>

*Note: Values in the diagonal (bolded) represent the square root of the Average Variance Extracted and the off-diagonals represent the correlations.*

The result of structural model analysis by using PLS method and bootstrapping technique with 1000 sample are summarized in Table 3. From Table 4, information ( $t=3.590$ ), social role or image ( $t=2.423$ ) and good for economy ( $t=4.618$ ) contribute significantly to overall attitude of university students towards food advertised by using social media with p-value less than 0.05. Hence, H1, H2 and H6 are supported. Besides that, the overall attitude of university students towards social media food advertisement contribute significantly to their behavioral intention ( $t=7.014$ ,  $p<0.05$ ). Hypothesis H7 is also supported. Moreover, the model demonstrated predictive power (R-square) as the six factors explained 43.7% of the variation in overall attitudes towards food advertised by using social media channel. Result of the structural model of the study is presented in Figure 2.

**TABLE 4. DIRECT EFFECT AND MODERATING EFFECT HYPOTHESIS TESTING**

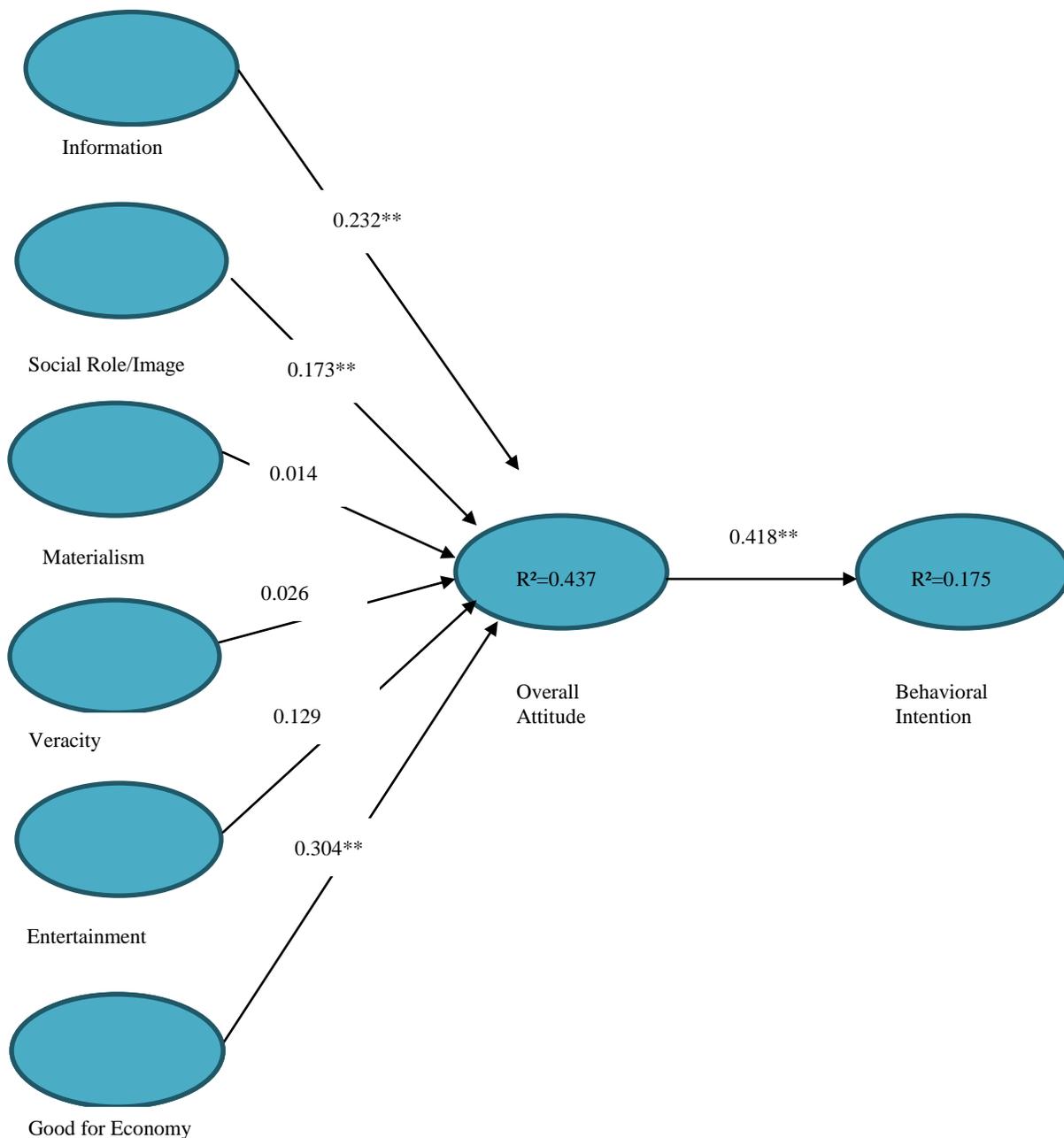
Hypothesis		Standardized Beta	Std. Error	t value	Decision
H1	Information ->Overall Attitude	0.232	0.065	3.590**	Supported
H2	Social Role/Image -> Overall Attitude	0.173	0.072	2.423**	Supported
H3	Materialism ->Overall Attitude	0.014	0.059	0.235	Not Supported
H4	Veracity ->Overall Attitude	0.026	0.057	0.451	Not Supported
H5	Entertainment ->Overall Attitude	0.129	0.068	1.901	Not Supported
H6	Good for Economy ->Overall Attitude	0.304	0.066	4.618**	Supported
H7	Overall Attitude -> Behavioural Intention	0.418	0.060	7.014**	Supported

*Note: \*, \*\* indicate statistical significance at the 0.05 and 0.01 levels at 95% confidence level,  $t(0.05, 1999) = 1.960$  and  $t(0.01, 1999) = 2.576$ .*

This study's findings are found the similar to Millan and Mittal's (2010) study in which the three significant factors are product information and good for economy but not social role or image factor. In other words, Malaysia university students believe that the food advertisements provide them valuable and useful information which affects their overall attitude toward food advertising in social media. Furthermore, they believe that the food advertising in social media provides economic benefits to them and the nation. The finding also confirms that social role or image factor as hypothesized is a significant factor which affects the university students' overall advertising attitude in social media.

On the other hand, veracity, materialism and entertainment factors do not have significant relationship with overall attitudes of university students toward food advertisement in social media. These findings are consistent with earlier study of Millan and Mittal (2013) on general advertising. More importantly, the result indicates that the university students' overall attitude toward food advertisement in social media has significant relationship with behavioral intention. This study provides insightful findings to foodservice companies in their investment decision on using social media for advertising. In short, the results of this study show that the seven attitude factor model proposed by Pollay and Mittal (1993) and Jin and Lutz (2013) are helpful to examine and confirm on the usage of social media in food advertising.

**FIGURE 2. THE RESULTS OF STRUCTURAL MODEL**



## CONCLUSIONS

The findings of this study contribute significantly to the understanding on attribute that has influences on social media advertising on Malaysia University Students' food purchase intention. Results show that information, social image and perceived good for economy have positive significant influences on overall attitude towards food advertisement which lead to positive behavioral intention. This study has contributed significantly by extending the knowledge in the impacts of social media among university students in Malaysia context. The findings of the study provide few useful insights for the marketers. Firstly, since social media has been growing in a rapid pace, the university students who are the heavy users of the social media are suffering from information overloaded. The content of information showed in the food advertisement in social media is essential and must be carefully constructed as many of the university students relying on them as the primary source for information searching to understand the food advertised. Secondly, the element of social roles or images is another critical element to be taken on when advertising on food using social media which targeted on university student. This is in line with the past research that conducted by Roblyer *et.al.*, (2010) that 82.4% of the university students use Facebook to keep in touch with friends.

Besides the useful findings from this study, there are few limitations that worth to be highlighted too. Firstly, the samples of the study are recruited mainly recruited with the use of convenient sampling method which prohibits the generalization of the findings to the whole population. Secondly, the samples are recruited mainly in private university students which resulted in unequal ethnic group in the sample. Hence, it is advisable for the future studies to expand the sample recruitment to include public university too to obtain even ethnic group as there are more Bumiputera students in public than private university. Additionally, comparison of the factors in influencing overall attitude and behavioral intention among three ethnic groups is strongly recommended to provide better understanding on the influences of cultural factor on overall attitude of students towards food advertisement in social media.

## REFERENCES

- Asia News, *Malaysia social media statistics*. 2013, Retrieved from :<http://www.asianews.co/malaysia-social-media-statistics/>.
- Bagozzi, Richard. P., and Yi, Youjiae, "On the evaluation of structural equation models", *Journal of the Academy Of Marketing Science*, 1988, Vol. 16, pp. 74-94.
- Bauer, Raymond Augustine, and Greyser, Stephen, A., *Advertising in America: The consumer view*, Boston: Harvard Business School Press, 1968.
- Bolton, Ruth. N. , "Modeling the impact of television food advertising on children's diets", *Current Issues and Research in Advertising*, 1983, Vol. 6, pp. 173-199.
- Borzekowski, Dina .L.G., and Robinson, Thomas N., "The 30-second effect: An experiment revealing the impact of television commercials on food preferences on preschoolers", *Journal of the American Dietetic Association.*, 2001, Vol. 101, pp. 42-46.
- Euromonitor International, *Consumer foodservice in Malaysia*, 2013, Retrieved from [http://www.portal.euromonitor.com.ezproxy.taylors.edu.my/Portal/Handlers/accessPDF.ashx/Consumer\\_Foodservice\\_in\\_Malaysia.pdf?c=46&PDF&andf=F-245668-24124946.pdf&andsaveAsName=Consumer\\_Foodservice\\_in\\_Malaysia&code=PJCEZKvzDW4lN1XtyHEHcPYsITo%3d](http://www.portal.euromonitor.com.ezproxy.taylors.edu.my/Portal/Handlers/accessPDF.ashx/Consumer_Foodservice_in_Malaysia.pdf?c=46&PDF&andf=F-245668-24124946.pdf&andsaveAsName=Consumer_Foodservice_in_Malaysia&code=PJCEZKvzDW4lN1XtyHEHcPYsITo%3d)
- Fornell, Claes., and Larcker, David F., "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, 1981, Vol. 18, pp. 39–50.
- Gamble, Margaret, and Cotugna, Nancy, "A quarter century of TV food advertising targeted at children", *American Journal of Health Behavior*, 1999, Vol. 23, pp. 261-267.
- Gefen, David, Straub, Detmar, and Boudreau, Marie-Claude. , " Structural equation modeling and regression: guidelines for research practice", *Communications of the AIS*, 2000, Vol. 4, pp. 1–70.
- Grossbart, Stanford L., and Crosby, Lawrence, A., "Understanding the bases of parental concern and reaction to children's food advertising", *The Journal of Marketing*, 1984, Vol. 48, pp. 79-92, 221-225.
- Hair Jr, Joseph F., G. Tomas M. Hult, Christian Ringle, and Marko Sarstedt. "A primer on partial least squares structural equation modeling (PLS-SEM)." SAGE Publications, Incorporated, 2014.
- Halford, Jason .C.G., Gillespie, Jane, Brown, Victoria, Pontin, Eleanor E., and Dovey, Terence, M., "Effect of television advertisements for foods and food consumption in children", *Appetite*, 2004, Vol. 42, pp. 221-225.
- Hui, C.Harry and Triandis, Harry C. , "Effects of culture and response format on extreme response style", *Journal of Cross-cultural Psychology*, 1989, Vol. 20, pp. 296-309.
- Hulland, John, "Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic management Journal*, 1999, Vol. 20, pp. 195-204.
- Jin, Hyun Seung. and Lutz, Richard J., "The typicality and accessibility of consumer attitudes toward television advertising: Implications for the measurement of attitudes toward advertising in general", *Journal of Advertising*, 2013, Vol. 42, pp. 343-357, DOI:10.1080/00913367.2013.803184

Kaplan, Andreas. and Haenlein, Michael, "Users of the world unite! The challenges and opportunities of social media", *Business Horizons*, 2010, Vol. 53, pp. 59-68.

Kelley, Bridget, Smith, Ben, King, Lesley, Flood, Victoria., Bauman, Adrian, "Television food advertising to children: the extent and nature of exposure", *Public Health Nutrition*, 2007, Vol. 10, pp. 1234-1240.

Khosrow-pour, M., *Emerging Trends and Challenges in Information Technology Management*, United States of America: Idea Group Publishing, 2006.

Korgaonkar, P K., Karson, E. J., and Lund, D., "Hispanics and direct marketing advertising", *Journal of Consumer Marketing*, 2000, Vol. 17, pp.137-157.

Korgaonkar, Pradeep, Eric J. Karson, and Daulatram Lund., "Web advertising and Hispanics", *Journal of Consumer Marketing*, 2001, Vol. 18, pp.134-152.

Lek, K.V., "The state of higher education in Malaysia: Expensive race to higher education.", 2010, Retrieved 15 June, 2014 from <http://educationmalaysia.blogspot.com/2010/07/state-of-higher-education-in-malaysia.html>

Lin, H-F., "Predicting consumer intentions to shop online: An empirical test of competing theories", *Electronic Commerce Research and Applications*, 2007, Vol. 6, pp. 433-442.

Mahadi, N., "13.3 million M'sians are Facebook users", *The Borneo Post*, 2013, Available on: <http://www.theborneopost.com/2013/06/16/13-3-million-msians-are-facebook-users/>.

Mangold, W.Glynn., and Faulds, David J., "Social media: The new hybrid element of the promotion mix", *Business Horizons*, 2009, Vol. 52, pp. 357-365.

Millan ,Elena S., and Mittal, Banwari, Advertising's new audiences. *Journal of Advertising*, 2010, Vol. 39, pp. 81-89. Okazaki, Shitaro, and Taylor, Charles R., "Social media and international advertising: theoretical challenges and future directions", *International Marketing Review*, 2013, Vol. 30, pp. 56-71.

Petrovici, Dan, and Marinov, Marin, "Determinants and antecedents of general attitudes towards advertising: A study of two EU accession countries", *European Journal of Marketing*, 2007, Vol. 41, pp. 307-326.

Princeton University, *Bumiputera (Malaysia)*, 2014, Retrieved from: [https://www.princeton.edu/~achaney/tmve/wiki100k/docs/Bumiputera\\_\(Malaysia\).html](https://www.princeton.edu/~achaney/tmve/wiki100k/docs/Bumiputera_(Malaysia).html)

Pollay, Richard W. and Mittal, Banwari, "Here's the beef: Factors, determinants, and segments in consumer criticism of advertising", *Journal of Marketing*, 1993, Vol. 57, pp. 99-114.

Roblyer, M. D., McDaniel, Michelle, Webb, Marsena, Herman, James, and Witty, James Vince, "Findings on Facebook in higher education: A comparison of college faculty and student uses and perceptions of social networking sites", *The Internet and Higher Education*, 2010, Vol. 13, pp.134-140.

Ringle, Christian M., Sven Wende, and Alexander Will. "SmartPLS 2.0 (beta)."2005.

Sekaran, U. andBougie, R. "Research Methods for Business: A Skill Building Approach." (5<sup>th</sup>ed.). 2010, United Kingdom: John Wiley and Sons Ltd.

Scoop Business, *Social media overtakes print advertising in food industry*. 2013, Retrieved from: <http://www.scoop.co.nz/stories/BU1310/S00893/social-media-overtakes-print-advertising-in-food-industry.htm>.

Vries, Lisette D., Gensler, Sonja, and Leeflang, Peter S.H, "Popularity of brand posts on brand fan pages: An investigation of the effects of social media marketing", *Journal of Interactive Marketing*, 2012, Vol. 26, pp. 82-91.

Warshaw, Paul R., and Davis, Fred D., "Disentangling behavioral intention and behavioral expectation", *Journal of Experimental Social Psychology*, 1985, Vol. 21, pp. 213-228.

Wolin, Lori. D., and Korgaonkar, Pradeep. , "Web advertising: gender differences in beliefs, attitudes and behavior", *Internet Research*, 2003, Vol. 13, pp. 375-385.