

Exploring the moderating effect of gender on the relationship between online shoppers preference and click-through intention: a case study of online banner for grocery shopping in Thailand

อิทธิพลจากตัวแปรของเพศต่อความสัมพันธ์ระหว่างความพึงพอใจและความตั้งใจในการคลิกโฆษณา: การศึกษาแบบเนอร์โ咻ชนາออนไลน์สำหรับการซื้อขายสินค้าเพื่อการบริโภคในประเทศไทย

Paul Kalin

Lecturer in B.B.A. specialized in Food Business Management,
Faculty of Food Business Management,
Panyapiwat Institute of Management

พอล คาลิน

อาจารย์ประจำ สาขาวิชาการจัดการธุรกิจอาหาร
คณะกรรมการจัดการธุรกิจอาหาร สถาบันการจัดการปัญญาภิวัฒน์
Email: paulkal@pim.ac.th; Ph 097-492-5155

วันที่ได้รับต้นฉบับบทความ	: 13 มิถุนายน 2565
วันที่แก้ไขปรับปรุงบทความ	
ครั้งที่ 1	: 8 กันยายน 2565
ครั้งที่ 2	: 10 ตุลาคม 2565
วันที่ตอบรับตีพิมพ์บทความ	: 24 พฤศจิกายน 2565

Abstract

The purpose of this paper was to study the relationships between the online shoppers visual design preference and the click-through intention on advertisement. In order to achieve the research objectives, this paper examined the effect of visual design factors in terms of background, content and call-to-action towards click-through intention on advertisement as well as the moderating effect of gender on these relationships. A conceptual model was developed including factors from previous studies and analyzed with descriptive statistics as well as the structural equation modeling to prove the hypotheses. The data collection was 400 online shoppers living in Bangkok and its vicinity areas via online survey platform. The results revealed that five out of six hypotheses are supported in terms of background, content and call-to-action. They were found a significant effects on consumers' click-through intention on advertisement at a high-level. The finding also showed the gender has a significant moderating effects at a high-level. on the relationships between content and click-through intention on advertisement as well as call-to-action and click-through intention on advertisement for male and female consumers. On the other hand, the result revealed that gender plays as a moderator only in the relationships between call-to-action and click-through intention for male consumers. This research contributes to both academic research and business practice by advancing the overall understanding of online user behavior as well as by providing important insights regarding online banner design.

Keywords: Visual Design, Online Banner, Online shoppers, Click-through intention, Consumer Behavior

บทคัดย่อ

การศึกษาครั้งนี้มีจุดมุ่งหมายเพื่อศึกษาความสัมพันธ์ระหว่างความชอบของผู้ชี้อินค้าออนไลน์ต่อรูปแบบของแบบเนื้อใจใช้ณาและความตั้งใจในการคลิกโฆษณา ทั้งนี้เพื่อให้ได้มาซึ่งผลลัพธ์ที่พึงประสงค์งานวิจัยนี้ได้ทดสอบอิทธิพลของปัจจัยต่างๆ ที่ใช้ในการออกแบบ ประกอบด้วย พื้นหลัง เนื้อหาและข้อความที่กระตุ้นให้ผู้รับสารตอบสนอง (Call-to-action) ต่อความตั้งใจในการคลิกโฆษณาและอิทธิพลของเพศที่เป็นตัวแปรต่อความสัมพันธ์ การศึกษานี้ได้นำเสนอโมเดลของปัจจัยที่ถูกรวบรวมมาจากการศึกษาในอดีต และการวิเคราะห์ข้อมูลสถิติเชิงพรรณนาและโมเดลสมการโครงสร้างเพื่อทดสอบสมมติฐาน โดยเก็บข้อมูลจากกลุ่มผู้ชี้อินค้าออนไลน์ 400 คน ในเขตกรุงเทพมหานครและปริมณฑล ผ่านระบบออนไลน์ ผลการวิจัยพบว่าผลลัพธ์ ห้าในหกสมมติฐานมีความเกี่ยวข้องเชื่อมโยง โดยพบว่า พื้นหลัง เนื้อหาและ Call-to-action มีอิทธิพลต่อความตั้งใจในการคลิกโฆษณาอยู่ในระดับมาก รวมถึงเพศซึ่งเป็นตัวแปรกำกับมีอิทธิพลในระดับมากต่อความสัมพันธ์ระหว่างความพึงพอใจในเนื้อหา Call-to-action และความตั้งใจในการคลิกโฆษณา รวมไปถึงความตั้งใจในการกดและ Call-to-action ทั้งเพศชาย และเพศหญิง ในขณะที่ผลของการวิจัยแสดงให้เห็นว่าความสัมพันธ์ระหว่างความพึงพอใจในเนื้อหา Call-to-action และความตั้งใจในการคลิกโฆษณาของเพศชายอยู่ในระดับปานกลาง งานวิจัยนี้มีส่วนช่วยสนับสนุนทั้งการวิจัยเชิงวิชาการและการดำเนินธุรกิจ โดยให้ข้อมูลเชิงลึกเกี่ยวกับพฤติกรรมของผู้ชี้อินค้าผ่านระบบออนไลน์และการออกแบบแบบเนื้อใจออนไลน์

คำสำคัญ: การออกแบบ, แบบเนื้อใจโฆษณาออนไลน์, ผู้ชี้อินค้าผ่านระบบออนไลน์, ความตั้งใจในการคลิกโฆษณา, พฤติกรรมผู้บริโภค

Introduction

Consumers have shifted their preference to buy their groceries online for the experience, convenience, time-saving or economical reasons, and so on (Harris et al, 2017). The market has witnessed a significant growth of online food retail due to factors such as bans of plastic bags, heavy traffic, air pollution, busy lifestyle. Additionally, the COVID-19 pandemic has accelerated the growth of online grocery shopping which has become one of the fastest-growing product categories for e-commerce in Thailand. According to Asia perspective (2020), consumers' online spending grew by 25% last year and the online food retail was estimated 393 million USD in 2020 in Thailand. Due to the rising number of online consumers, more and more manufacturers are expanding their distribution to online world and investing in online advertising to reach their target consumers (Yang et al., 2021). Banner advertisements constitute the mainstream of online interactive advertising (Chandon et al., 2003) because banner ads can be monitored through metrics and allow real-time tracking (Sigel et al., 2008). For these reasons, this study aims to understand the behavior of Thai consumers towards banner ads during online shopping.

Literature review

Online advertising and click-through intention

The click-through intention refers to the degree to which individuals are willing to let banner ads be part of their purchasing decisions making (Idemudia & Jones, 2015). According to Oğbanufe and Kim (2018), it is important and meaningful to explore the cognitive evaluations that individuals go through in the click-through process. Direct response advertising that calls for immediate behavioral action can use click-through rate as the goal of the advertising (Rossiter & Percy, 1997). Click-through rate is the most common measurement of success for online advertising (Sigel et al., 2008; Lothia et al., 2003).

Visual design and consumer preference

Visual design is an essential factor that shapes the success of an online advertising (Cho, 1999). Visual design involves various elements such as size, colors, animations, shapes, images, font type, font size and so on. Visual design can enhance first impression of the audience and also effect significantly the customer attitude, beliefs and values (Braun-Latour & Zaltman, 2006). According to the theory of Visual Rethoric (Scott, 1994), visual design can convey the marketing message effectively to the audience. Therefore, many researchers studied the relationship between visual cues and online behavior (Ramezani Nia & Shokouhyar, 2020; Liu, Li, & Hu, 2013; Lothia et al., 2003). According to Shaouf et al. (2016), visual attractiveness can influence online behavior. Ramezani Nia and Shokouhyar (2020) found that visual cues can effect many aspects of consumer behavior such as perceived quality of online services, trust, satisfaction and arousal. In both following papers, Grobelny and Michalski (2015) as well as Grobelny and Michalski (2011), the authors explained that visual cues significantly influence consumer preference and consumer preference, in turn, has significant and positive influence on consumer intention (Overby & Lee, 2006; Bagozzi, 1992). Aligning with other studies, this paper attempted to examine the preference of online banner attributes (Moss et al., 2006; Dreze & Zufryden, 1997).

Background

Grobelny and Michalski (2011) found that the background format significantly influenced the subjects' preferences. According to Elder and Krishna (2012), businesses often present their products using scenario cues because this approach can stimulate the cognitive process and generate a greater impact on the communication with the consumers. According to Yoo and Kim (2014), images that display consumption scenarios can create higher engagement than images with plain backgrounds, and therefore online apparel retailers are displaying their products in scenarios (Huang & Chou, 2016). The study of Pelet and Papadopoulou (2012) examined the effects of colors in e-commerce context and found that colors have significant effect on mood and purchase intention. There is little research related specifically to background design, though this effect seems to be an important factor (Grobelny & Michalski 2015). This study will investigate the effect of background preference on consumer click-through intention.

H1: Background preference has significant effect towards click-through intention.

Content

Content elements consist of message, appeal type, and offers made that can engage the viewer cognitively or affectively (Lothia et al., 2003). Content includes information such as product information, product photo, price, discount or promotion (Peker et al., 2021; De Vries et al., 2012). These contents have been examined in many studies. Farook and Abeysekara (2016), Rhom et al. (2013) and De Vries et al., (2012) explicated that product information and product photos can drive consumers to interact. Some researches argued that price and promotion information in the banner effects negatively the click-through rate (CTR) (Atkinson et al., 2014; Chtourou et al., 2002) whereas others indicated that online consumers are more likely to click on the advertisement if they see incentives such as free offer (Krishnamurthy, 2000; Mullaney, 1999) and discount information (Huang, 2017). Bleier and Eisenbeiss (2015) explained that content reflecting the consumer's interests and preferences, can increase the CTR especially for consumers who have high sensitivity to prices (Huang, 2017; Gauzente & Roy, 2012). Considering the past literature, this research formulated the hypothesis below.

H2: Content preference has significant effect towards click-through intention.

Call-to-action

Raso (2020) defined a call-to-action (CTA) as an image, a button, a text or a reserved section of the advertising that encourages the audience to take immediate action. There are different types of CTA and the choice of words is predominant (Jung et al., 2020). There are CTAs that use strong action words such as View, Add to cart, Buy etc.; CTAs that provoke emotion such as enjoy our service, start your day well, etc. and CTAs that provide instant benefits get 50% off!, free delivery, learn more, etc. (Quadros, 2022, Chen et al., 2018; Parsons & Lepkowska-White, 2010; Graham et al., 2008). According to Wojdynski and Evans (2016), the use of words (e.g. "now") can convey the strong need to take a prompt action. The study of Chandon et al. (2003) and Sigel et al. (2008) confirmed the positive effect of call-to-action' mentions such as "click here" on click-through rate. It is important to design good CTA because it can generate sales, as well as increasing leads and conversion rates (McLachlan, 2020). This research will test the hypothesis below.

H3: Call-to-action preference has significant effect towards click-through intention.

Gender differences

For many years, gender has been studied in different fields such as psychology, marketing, behavior etc. (Shaouf et al., 2016) Gender is considered as an important demographic segmentation factor (Darley & Smith, 1995). Researchers proved that gender has significant effect on color preference, especially in the marketing context (Kauppinen-Räisänen & Luomala, 2010; Funk & Oly Ndubisi, 2006). The idea of Lau (2004), explaining that women show higher response towards non-verbal stimuli, was further investigated by Wasike (2018) and LaFrance and Vial (2016), who stated that women are better at deciphering nonverbal. Therefore, marketers need to investigate how males and females respond differently to stimuli. According to Shaouf et al. (2016), marketers need to examine gender differences in order to design advertising effectively. It is important to understand how males and females respond differently to advertising stimuli. According to Shaouf et al. (2016) and Akhlaq and Ahmed (2016), men and women show different attitudes and online purchase intentions towards site stimuli. Davis et al. (2014) pointed out that male shoppers have higher online purchase intention than females. Many studies found that men and women have different preferences on website design features such as font, shapes, colors and images (Moss et al., 2006; Cyr & Bonanni, 2005). Given past findings, this research proposes that gender is likely to moderate the influence of background, content and call-to-action preference on click-through intention.

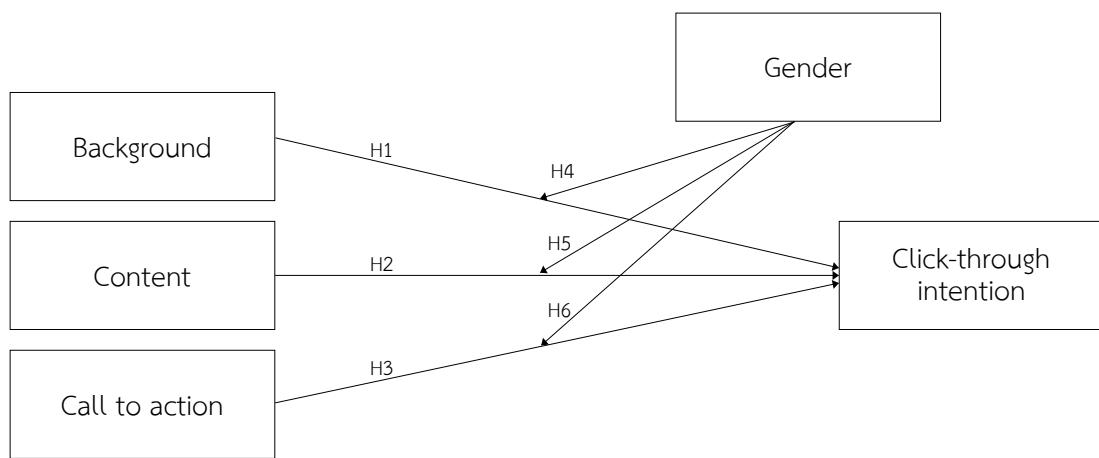
H4: Gender has significant moderation effect on the relationship between background preference and click-through intention.

H5: Gender has significant moderation effect on the relationship between content preference and click-through intention.

H6: Gender has significant moderation effect on the relationship between call to action preference and click-through intention.

Base on the literature review, this study constructs the research framework as shown in Figure 1.

Figure 1. Conceptual framework



Research Objectives

The research aims to reach the following objectives:

- 1) To study the effect of online shoppers' preference towards click-through intention
- 2) To study the moderating effect of gender on the relationship between online shoppers' preference and click-through intention.

Research Methodology

This research was conducted from January 2021 to September 2021. Using the quantitative research approach, a questionnaire is used as the data collection tool. This research targets young adult consumers who buy groceries online aging from 18 - 45 years old who are living in Greater Bangkok. Using the statistics from the National Statistical Office of Thailand and Yamane formula, the sample size is calculated as follows.

$$\text{Formula } n = \frac{N}{1+N(e)^2}$$

n = sample size N = number of young adults in Greater Bangkok

e = deviation of sampling design

$$n = \frac{10,899,786}{1+10,899,786(e)^2}$$

$$n = \frac{10,899,786}{1+10,899,786(0.05)^2}$$

$$n = 399.98$$

Based on the results, this study collected data from 400 respondents using the convenience sample approach. In other words, this research approached people who are reachable and available to answer the questionnaire. The questionnaire is launched in Thai language and has five distinguished parts: Socio-Demographic factors, Consumer Behavior, Background Preference, Content Preference, Call to action Preference and Purchase Intention. The questionnaire blends in a variety of questions including 5 points preference scale – low preference (1) to high preference (5), 5 points Likert-scale type - strongly disagree (1) to strongly agree (5), multiple choice type questions and open ended questions. The questionnaire was piloted among 50 respondents to check the understanding of the questions.

In order to reach the objectives, several statistical approaches are employed in this study. Firstly, a descriptive analysis is conducted to look into the demographic characteristics and the behaviors of the respondents. Secondly, this study applied structural equation modeling (SEM) to examine the relationship between independent variables (Background, Content and Call-to-action) and dependent variable (Click-through Intention) as well as the moderating effect gender on the relationships between these variables. In order to assess the measurement model, the measurement properties of the constructs must be analyzed. According to Chopdar and Balakrishnan (2020), constructs should be examined through reliability analysis, convergent and discriminant validity analysis. This study will use CFA to analyze the relationship between the observed variables and their underlying constructs (latent variable). According to Gupta and Falk (2017), the measurement model needs to be of good fit which is assessed by using model-fit measures. This study will use model-fit measures such as χ^2/df , goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root mean square residual (RMR), normed-fit index (NFI), comparative fit index (CFI), root mean square error of approximation (RMSEA), etc.

Results

Descriptive

Table 1 Descriptive Statistics of Demographic Characteristics (n=400)

	Demographics	Frequency	Percent	Cumulative Percent
Gender	Male	82	20.5	20.5
	Female	318	79.5	100.0
Age	18 - 24	335	83.8	83.8
	25 - 35	38	9.5	93.3
	35 - 45	27	6.8	100.0
Occupation	Students	285	71.3	71.3
	Employees of public sector	20	5.0	76.3
	Employees of public sector	62	15.5	91.8
	Freelance	13	3.3	95.0
	Other	20	5.0	100.0
Income	Less than 10,000 Baht	211	52.8	52.8
	10,000 – 19,999 Baht	97	24.3	77.0
	20,000 – 29,999 Baht	31	7.8	84.8
	30,000 – 39,999 Baht	25	6.3	91.0
	Above 40,000 Baht	36	9.0	100.0

Table 2 Descriptive Statistics of Consumer behavior (n=400)

	Consumer behavior	Frequency	Percent	Cumulative Percent
Frequency of online shopping	Everyday	25	25	6.3
	Twice a week	41	41	16.5
	Once a week	44	44	27.5
	Twice a month	102	102	53.0
Basket size of each order	Once a month	188	47	100.0
	1 – 500 Baht	234	58.5	58.5
	501 – 1000 Baht	125	31.3	89.8
	1001 – 5000 Baht	34	8.5	98.3
	Above 5000 Baht	7	1.8	100.0

Table 3 Descriptive Statistics of independent and dependent factors (n=400)

Factors	Items	Min	Max	Mean	SD
Background (BGD)	A banner with one color background	1	5	3.77	0.785
	A banner with patterned background	1	5	4.02	0.930
	A banner with scenario background	1	5	4.29	0.888
Content (CTN)	A banner with price or promotion information	1	5	4.37	0.815
	A banner with product photo	1	5	4.01	0.871
	A banner with product information	1	5	3.74	0.919
Call-to- action (CTA)	A banner with Call-to-action button that uses strong action word (buy now)	1	5	3.73	0.844
	A banner with Call-to-action button that provokes emotion (enjoy our service)	1	5	4.14	0.921
	A banner with Call to Action button that provides instant benefit (free delivery)	2	5	4.35	0.854
Click-through rate (CTR)	I intend to click- on the banner	1	5	4.32	0.895
	I will make effort to click-through to the banner ad	1	5	4.32	0.886
	I'm willing to click on the banner ad	1	5	4.30	0.861

From Table 1, most of the respondents were female (79.5%). The respondents range from 18 – 24 years old (83.8%), 25 - 35 (9.5%) and above 35 – 40 years old (6.8%). Up to 71.3% of the respondents are currently students with income lesser than 10,000 Baht. Table 2 shows that the respondents mostly shop online once per month (47%) with a basket size of 1 – 500 Baht (58.5%). Considering the questionnaire items that the respondents show high preference (mean $\bar{X} > 4.0$), Table 3 shows that the respondents prefer patterned background (mean $\bar{X} = 4.02$) and scenario background (mean $\bar{X} = 4.29$). The respondents prefer to see the price or promotion (mean $\bar{X} = 4.37$) as well as the product photo (mean $\bar{X} = 4.01$) on the banner. The respondents mostly prefer a call-to-action button that provokes emotion or provides instant benefit.

Table 4 Measurement model results

	Item	Loadings	AVE	CR	Cronbach alpha
Background	BGD1	0.737*	0.535	0.775	0.77
	BGD2	0.742*			
	BGD3	0.714*			
Content	CON1	0.792*	0.617	0.828	0.826
	CON2	0.779*			
	CON3	0.785*			
Call-To-Action	CTA1	0.764*	0.595	0.815	0.815
	CTA2	0.781*			
	CTA3	0.77*			
Click-Through Rate	CTR1	0.905*	0.818	0.931	0.931
	CTR2	0.9*			
	CTR3	0.907*			

Notes: *p < 0.01

Table 5 The Discriminant Validity of factors in the measurement model

	CR	AVE	MSV	MaxR(H)	BGD_AVG	CON_AVG	CTA_AVG	CTR_AVG
BGD_AVG	0.775	0.535	1.231	0.776	0.731			
CON_AVG	0.828	0.617	1.214	0.828	1.102*	0.785		
CTA_AVG	0.815	0.595	1.231	0.816	1.110*	1.077*	0.772	
CTR_AVG	0.931	0.818	1.162	0.931	1.078*	1.036*	1.052*	0.904

Notes: *p < 0.01

Table 6 Confirmatory Factor Analysis of the model

Observed Variable	Latent variable	β	B	S.E.	C.R.	P
BGD1	BGD	0.737	0.913	0.058	15.782	*
BGD2		0.742	1.089	0.069	15.886	*
BGD3		0.714	1			
CON1	CON	0.792	0.894	0.049	18.382	*
CON2		0.779	0.941	0.052	17.992	*
CON3		0.785	1			
CTA1	CTA	0.764	0.982	0.056	17.377	*
CTA2		0.781	1.094	0.061	17.844	*
CTA3		0.77	1			
CTR1	CTR	0.905	1.037	0.035	29.931	*
CTR2		0.9	1.022	0.035	29.462	*
CTR3		0.907	1			

Notes: * $p < 0.01$

Table 4 shows that all the factor loadings are above 0.50 and the average variance extracted (AVE) values are above 0.50. According to Hair et al. (2019) these values indicate that the convergent validity is good for all the items. Results also show that the composite reliability (CR) of all latent variables is above 0.75 and the Cronbach's alpha values range of 0.77 to 0.931 which exceed the requirement of 0.70 as recommended by Hair et al. (2019). According to Table 5, the discriminant validity can be confirmed because the square roots of all AVE scores are more than their corresponding inter-correlations. Considering all the findings above, the measurement model of this study exhibited well a reasonable level of reliability and validity.

Table 6 shows that the factor loading of the observed variables was not less than 0.5 and had a statistical significance level of 0.01. According to Maskey et al., (2018) factor loadings above 0.7 are considered practically significant and factor loadings above 0.5 are considered as adequate. Therefore, all the observed variables are considered practically significant.

Goodness of fit Analysis

The goodness of fit of the model is evaluated in accordance to the study of Ramlall (2016). In the table we see that all the indices reach the acceptable threshold level. Therefore, this model has a good fit.

Table 7 Fit indices of the measurement model

Fit indices	Acceptable Threshold Level	Model results
χ^2/df	<3.0	2.752
P-value	p<.01	0.000
Goodness-of-Fit Index (GFI)	>0.9	0.947
Adjusted Goodness-of-Fit Index (AGFI)	>0.8	0.915
Comparative Fit Index(CFI)	>0.9	0.981
Normed-Fit Index (NFI)	>0.9	0.971
Incremental Fit Index (IFI)	>0.9	0.981
Root Mean Square Residual (RMR)	<0.05	0.018
Root Mean Square Error of Approximation (RMSEA)	<0.08	0.066
SRMR	<0.08	0.0243

Notes: Acceptable Threshold Level based on Hair et al. (2019); Byrne (2016); Hu and Bentler (1999)

Hypothesis Testing

Table 8 Summary of hypothesis testing

Paths	β	Results
Background → click-through intention	0.184*	Supported
Content → click-through intention	0.498*	Supported
Call-to-action → click-through intention	0.311*	Supported

Notes: *p < 0.01

Table 9 Summary of hypothesis testing across gender

Paths	β		Results
	Male	Female	
Background → click-through intention	-0.002	0.056	Not supported
Content → click-through intention	0.060	0.648*	Supported
Call to action → click-through intention	0.965*	0.281*	Supported

Notes: *p < 0.01

The results of the hypothesis testing are gathered in Table 8 and show that Background, Content and Call-to-action have significant effect on click-through intention ($p<0.01$). Thus, all 3 hypotheses are supported. This research also examined the moderating effect of gender through multi-group analysis; one for males ($N = 82$), and one for females ($N = 318$). Table 9 shows positive and significant relationships between Call-to-action and Click through intention ($\beta = 0.965$, $p < 0.01$) for the male group. Regarding the female group, the table shows positive and significant relationships between content and click through intention ($\beta = 0.648$, $p < 0.01$) as well as Call-to-action and Click through intention ($\beta = 0.281$, $p < 0.01$).

Conclusion

The changes of digital technology have brought significant alterations in consumer behavior (Uppapong, Mangkang & Photchanachan, 2022). As a result, the online grocery market has been growing for the past few years (Asia perspective, 2020). Therefore, this study aims to understand Thai consumers preference towards banner ads during online shopping, which will help businesses to design their communication strategies more effectively.

This study investigated the effect of online shoppers' preference on background, content and call to action towards click-through intention as well as the moderating effect of gender on the relationship between online shoppers' preference and click-through intention.

Firstly, based on the results, all three design elements, background, content and call to action have significant influence on consumer click through intention. These results aligned with the findings of past studies. Wang et al. (2020) found that background has a significant effect on consumer response. Bleier and Eisenbeiss (2015) indicated that content has significant effect on the click-through rate of banners. Wojdynski and Evans (2016), Sigel et al. (2008) and Chandon et al. (2003) explained that call to action can lead individuals to click-through.

Secondly, the analysis across gender showed that the moderating effect of gender is significant on content and call to action which aligned with the study of Shaouf et al. (2016). The theoretical and practical implications as well as the limitations are outlined below.

Academic and Practical Implications

In regard to academic implication, this study opens the door and serves as a reference for future researchers who want to examine online shoppers' behavior as well as the relationship between consumer preference on online banners and intention to click. This study also provides important insights on the demographic profile of consumers that are buying groceries online. The results of this study show that a considerable number of young shoppers are buying groceries online as explicated in the article of Melton (2019). Future research should focus on young online shoppers since many of them have shifted online (Skeldon, 2020).

As the online world is growing importantly, businesses are advertising online in order to reach a wider audience (Alexander, 2021). However, such investments might not be impactful if the audience do not show any response towards the ads (Goldsmith & Lafferty, 2002). In regard to practical implication, this research can help businesses to have a better understanding of online shoppers and also provide some information about the characteristics of the banners they should use. Therefore, manufacturers, online retail store, advertisers can design better ads that can communicate to their target consumers more effectively by using the information of this research. According to this study, background, content and call to action, all have significant influence on consumers' click through intention. Based on the results, online shoppers prefer to see a scenario background on the banner, followed by product photo and product information.

This supports the practice of businesses to continue associating product features with the scenarios as mentioned in the study of Huang (2017). Businesses can consider using a scenario background on their banner to shape perception (Maier & Dost, 2018) and evokes emotional (González et al., 2021). Price and promotion ranks number one among the information that they would like to see on the banner. Based on the research of Huang (2017), manufacturers can consider using price and promotion on their banner to obtain higher number of consumer response. In order to trigger consumer's click-through intention, advertisers can use instant benefits such as free delivery, discounts, and so on, as shown in the results above and in the study of Sigel et al. (2008).

Limitation & Recommendations

Firstly, this research focuses on population in Greater Bangkok. However the behavior of people can differ across regions (Adelina & Nurwanti, 2019). Therefore the study can be extended to other regions. Secondly, buying frequency and basket size are proven to be significant determinant of consumer behavior and provide important insights to retailers and manufacturers. (Martin et al., 2020; Seiler, 2012). For this reason, this research can also be extended to examine the differences in consumer behavior based on these factors. Future research can also scope down to one type of online store because consumer shopping preference can effect their shopping behavior (Chen et al., 2018).

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