

Influence of Reference Groups and Positive eWOM on Consumer Responses to Green Products

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Abstract

The purpose of this study is to examine the relationship among reference group influence, positive electronic word of mouth (eWOM) messages, consumers' attitudes and purchase intention for green products. A survey-based empirical study was conducted with 307 consumers through purposive sampling method. Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) were applied for data analysis. The results indicate that normative referents i.e. family members and friends enhance consumers' positive attitudes towards buying green products, leading to purchase intention. Comparative referents such as celebrities are found not to impact consumers' responses to green products significantly. Positive eWOM recommendations i.e. specialized eWOM, social eWOM, and miscellaneous eWOM have positive effects on attitude towards green products, and that positive attitudes, in turn, influence purchase decisions. This study integrates the body of knowledge among consumer behavior, digital marketing and green marketing. This contributes to additional knowledge of social influence factor in green marketing literature, which has been underresearched. The research findings could encourage green companies to improve their marketing campaigns that support relationship formation and information sharing on various internet platforms among consumers.

Keywords: Green Marketing, Green Products, Reference Groups, eWOM Communications, Structural Equation Modeling

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อิทธิพลของกลุ่มอ้างอิงและการสื่อสารแบบปากต่อปากทางอิเล็กทรอนิกส์ต่อการตอบสนองของผู้บริโภคในสินค้าเพื่อสิ่งแวดล้อม

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บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาความสัมพันธ์ของตัวแปรระหว่างอิทธิพลของกลุ่มอ้างอิง การส่งข่าวสารในทางบวกแบบปากต่อปากทางอิเล็กทรอนิกส์ ทศนคติ และการตัดสินใจซื้อสินค้าเพื่อสิ่งแวดล้อมของผู้บริโภค การศึกษาค้นคว้าครั้งนี้เป็นการวิจัยเชิงปริมาณโดยใช้วิธีการสำรวจผู้บริโภคจำนวน 307 คน ด้วยวิธีการสุ่มตัวอย่างแบบเจาะจง การวิเคราะห์ข้อมูลใช้เทคนิคการวิเคราะห์องค์ประกอบเชิงยืนยันและการวิเคราะห์แบบจำลองสมการเชิงโครงสร้าง ผลการศึกษาพบว่า กลุ่มอ้างอิงที่กำหนดบรรทัดฐาน อาทิ สมาชิกในครอบครัวและเพื่อนมีอิทธิพลในทางบวกต่อทัศนคติและการตัดสินใจซื้อสินค้าเพื่อสิ่งแวดล้อมของผู้บริโภค ในขณะที่กลุ่มอ้างอิงเชิงเปรียบเทียบ อาทิ ผู้มีชื่อเสียง ไม่ส่งผลต่อการตอบสนองของผู้บริโภคต่อสินค้าเพื่อสิ่งแวดล้อมอย่างมีนัยสำคัญ นอกจากนี้การสื่อสารแบบปากต่อปากทางอิเล็กทรอนิกส์ประเภทการรีวิวสินค้าเป็นการเฉพาะ ประเภทการแนะนำผ่านสื่อสังคม และประเภทการแลกเปลี่ยนข้อมูลทางออนไลน์อื่น ๆ ส่งผลทางบวกต่อทัศนคติของผู้บริโภคต่อสินค้าเพื่อสิ่งแวดล้อมซึ่งส่งผลต่อการตัดสินใจซื้อในที่สุด การศึกษาในครั้งนี้เป็นการบูรณาการองค์ความรู้ระหว่างพฤติกรรมผู้บริโภค การตลาดดิจิทัล และการตลาดเพื่อสิ่งแวดล้อมซึ่งเป็นการเพิ่มพูนองค์ความรู้อิทธิพลของสังคมในบริบทการตลาดเพื่อสิ่งแวดล้อมที่ยังมีอยู่น้อยมาก นอกจากนี้ผลการวิจัยยังช่วยให้บริษัทที่ดำเนินการตลาดเพื่อสิ่งแวดล้อมสามารถวางแผนกิจกรรมทางการตลาด ด้วยการมุ่งเน้นการแนะนำสินค้าเพื่อสิ่งแวดล้อมโดยอาศัยความสัมพันธ์และการแลกเปลี่ยนข้อมูลทางอินเทอร์เน็ตระหว่างผู้บริโภคด้วยกัน

คำสำคัญ: การตลาดเพื่อสิ่งแวดล้อม สินค้าเพื่อสิ่งแวดล้อม กลุ่มอ้างอิง การสื่อสารแบบปากต่อปากทางอิเล็กทรอนิกส์ แบบจำลองสมการเชิงโครงสร้าง

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Introduction

The increasing awareness about the environmental problems caused by the business practices enhances the adoption of green marketing (Manaktola & Jauhari, 2007). It is more likely to be a key solution to the environmental problems, leading to sustainable development (Dubey & Malik, 2014). Global warming, excessive pollution, depletion of natural resources are examples of issues that are on the politic and economic agenda among nations and driving for the growing concern of environmental protection by consumers, businesses and society (Akehurst, Afonso, & Goncalves, 2012; Yadav, Khandelwal, & Tripathi, 2017).

In recent decades, many companies go green by developing environmental friendly practices to be more socially responsible (Yadav et al., 2017). They see many benefits in green marketing including gaining competitive advantage and favorable image among consumers (Bhattacharya, 2011). Notably, consumer is the focal point of green marketing as the acceptance of green products. They are becoming increasingly aware of the threats of the polluted environment and adopt green purchase behavior (Akehurst et al., 2012; Kirmani & Khan, 2016). Accordingly, more consumers are willing to pay higher prices for green products (Chuadhari, 2018; Prakash & Pathak, 2017).

With the growing significance of green marketing, numerous studies were conducted in many countries (Velnampy & Achchuthan, 2016). However, few studies have explored the role of reference groups and eWOM communication in green buying behavior. At present, consumers not only evaluate alternatives and make purchase decisions based on their own judgments, but also refer to recommendations from reference groups (Hammerl, Dorner, Foscht, & Brandstatter, 2016) and positive comments in the Internet and social network sites (SNSs) (Kudeshia & Kumar, 2017). Reference groups' opinions are very important for consumers as a reference point for making decisions. Kelley (1947) suggested two types of reference group influences including normative reference groups and comparative reference groups. Normative referents such as family members, teachers, peers, and friends influence the individual norms, attitudes, and values through direct interaction. Comparative referents such as celebrities, and heroes are people which individuals make comparisons of themselves and use as a point of reference in providing standard of achievement. According to the consumer socialization theory, sources of influence such as parents, friends, peers, or mass media can convey attitudes, norms, and behaviors to an individual (Bush, Martin, & Bush, 2004; Moschis & Churchill, 1978; Moschis & Smith, 1985). Recommendations from these social groups might play a significant role especially when purchasing green products is concerned.

Additionally, with the rise of social media and the Internet technology, consumers browse and view online comments in SNSs as the point of reference for their evaluation and purchase decisions. Therefore, eWOM messages provide information and recommendations from other consumers. They view online

information as more reliable source than product information provided by firms (Godes & Mayzlin, 2004). Consequently, like other products, the study anticipates that eWOM recommendations could influence consumers' responses to green products.

With regard to consumer responses to green products, the past studies identified significant relationship between attitude and consumers' purchasing intentions for green products (Azizan & Suki, 2013; Maichum, Parichatnon, & Peng, 2016; Tsen, Phang, Hasan, & Buncha, 2006). Baber, Thurasamy, Malik, Sadiq, Islam, and Sajjad, (2016) and Kudeshia and Kumar (2017) asserted that attitude mediated the relationship between online word-of-mouth communication and purchase intentions. Therefore, the study proposes that consumers' attitudes towards purchasing green products influence green purchase intention.

The purpose of this study is to investigate the relationship among normative and comparative reference groups, positive eWOM messages, consumers' attitudes and purchase intention for green products. Consequently, the following research question are addressed. How do normative and comparative reference group influence affect consumers' attitude towards purchasing green products? How do positive eWOM messages affect consumers' attitude towards purchasing green products? How does consumers' attitude towards purchasing green products impact green purchase intention?

Literature Review

Green Marketing and Green Products

Increased research on green marketing has been conducted within and across marketing discipline for several decades. Theoretical and empirical studies regarding green marketing were conducted in many countries (Velnamby & Achchuthan, 2016). Hence, its definition has been proposed by different authors. Jain and Kaur (2004, p.188) stated that "green marketing comprises all those marketing activities which the firms undertake to create a positive impact or lessen the negative impact of their products on the environment." The United Nations Environment Program (UNEP) (2005) defines green marketing as "A marketing which encompasses all communication operations undertaken to promote a product on the basis of its environmental properties or of its social qualities. It is about selling products on an ethical platform". American Marketing Association (AMA) (2013) defines green marketing as "the marketing of products that are presumed to be environmentally safe". Therefore, green marketing includes all marketing activities designed to provide considerable environmental benefits and minimize negative impact on the natural environment.

Accordingly, many firms go green to strengthen its position of green image, reduce regulatory pressure and gain public acceptance. They offer products that are environmentally safe and do not harm the

environment. Kumar (2016, p. 143) stated that the innovations of green products involve “reduced resource consumption, substitution of harmful ingredients recyclability and reusability properties”. This study follows the total concept of green products proposed by Elkington (1994) as the products that do not cause severe damage to the natural environment or unnecessary waste of energy during manufacturing process, consumption or disposal. The materials used are recyclable or reusable. Therefore, the consumption of green products helps generate a positive impact or reduce a negative impact on the environment (Jain & Kaur, 2004; Leonidou, Katsikeas, & Morgan, 2013; Peattie, 2001).

Consumer Socialization

Consumer socialization is defined as “the process by which individuals develop consumption-related cognitions and behaviors” (Moschis & Smith, 1985: p.275). This theory in consumer behavior area explains that an individual develops patterns of thought and behaviors partly due to their interactions with socialization agents, and partly due to internal cognitive development, thus directly or indirectly affect consumer learning (Moschis & Smith, 1985). Developmental approach of consumer socialization focuses upon psychological changes in the individual's consumer behavior decisions. Conversely, within the social learning theory of consumer socialization, socialization is an outcome of external forces applied on an individual rather than internal psychological changes. A socialization agent can be persons or organizations directly involved with an individual such as parents, friends, peers, mass media, and television viewing (Bush et al., 2004). Based on this school of thought, sources of influence or socialization agents can transmit attitudes, norms, actions, and behaviors to the learner or consumer (Moschis & Churchill, 1978). Therefore, following the social learning concept of consumer socialization, the current study postulates that external forces i.e. reference groups and social influence could affect consumers' green purchase behavior.

Reference Groups

In the consumer behavior field, consumers evaluate products not only with reference to product quality or functions but also with reference to their susceptibility to reference group influence (Hammerl et al., 2016). According to Lessig and Park (1978), a reference group is “an actual or imaginary institution individual or group conceived of having significant relevance upon an individual's evaluations, aspirations, or behavior” (Lin & Chen, 2009, p. 31). According to reference group theory, individuals take the standards of others as references for making self-appraisals and choice decisions (Bellani, 2013). Reference groups can be divided based on membership status into direct membership groups and indirect aspiration groups (Escalas & Bettman 2003). The former relates to a reference group to which an individual belongs. The latter refers to a reference groups to which an individual desires or aspires to belong.

Kelley (1947) suggested two types of reference group influences: normative reference groups and comparative reference groups. Normative referents influence the individual norms, attitudes, and values through direct interaction. Examples include family members, teachers, peers, and friends. According to normative reference group theory, the group sets standards or group norms for individuals (Bellani, 2013). Individuals are motivated to gain acceptance by holding their attitudes in complying with what they perceive to be the consensus of the group members' opinion. A comparative reference group is a group which individuals make comparisons of themselves and use as a point of reference in providing standard of achievement (Pentina, Prybutok, & Zhang, 2008). Examples of comparative referents are celebrities, entertainment figures and heroes. These referents are the group individuals compare themselves against and may aspire to be like. Therefore, associative reference groups present as the normative function of reference groups while aspirational ones reflect the comparative function of reference groups. Both normative (associative) and comparative (aspirational) reference groups greatly impact consumption behaviors (Gupta & Ogden, 2009; Pickett-Baker & Ozaki, 2008). To conclude, these reference effects reveal the impact of social influence on consumers' decisions. Therefore, this study proposes that both normative and comparative referents could influence consumers' attitudes and purchase decisions regarding green products.

eWOM Messages

Word of mouth (WOM) communication is described as passing of information between a non-commercial sender and a receiver regarding a brand, a product or a service (Mishra & Satish, 2016). It is widely accepted as an important factor in firms' communication strategies. Reference groups' recommendations could be considered as traditional WOM messages (Zhao, Shengliang, & Zhou, 2017). With the rise of Internet technology, the other platform of exchanging information emerges, electronic word of mouth communication (eWOM). It means an exchange of information and statements whether positive or negative on products and services among individuals via the Internet (Mishra & Satish 2016). eWOM takes place in various platforms such as discussion forums, customer reviews, social network and emails (Dwyer, Hiltz, & Passerini, 2007). Hu and Ha (2015) classified eWOM into four types: specialized eWOM, affiliated eWOM, social eWOM, and miscellaneous eWOM. Specialized eWOM involves product reviews shared in the comparison-shopping or rating sites which do not involve in product selling such as cosmetic review sites. Affiliated eWOM relates to customer reviews affiliated with retail websites such as Alibaba, Amazon, Lazada and eBay. Social eWOM includes product information exchanged in SNSs such as Facebook, Instagram, and Twitter. Miscellaneous eWOM involves product information exchanged on other online platforms such as blogs and discussion boards.

In this regard, eWOM messages or online comments have the role of both informant and recommender (Zhao et al., 2017). As informant, it provides product information whether positive or negative. As recommender,

it delivers previous consumers' recommendations by posting and sharing their experiences in social network sites. Therefore, eWOM messages provide information and recommendations from other consumers. Consumers could browse and view online comments in SNSs as the point of reference for their evaluation and purchase decisions. Consumers tend to believe the recommendations from a great many consumers who have actual purchase and consumption experience. In other words, they view online information as more reliable source than product information provided by firms (Godes & Mayzlin, 2004).

Attitude towards Purchasing Green Products and Green Purchase Intention

According to Bagozzi (1992), attitude as an evaluation (liking or disliking) determines individual's intention to perform behaviors. In a green marketing context, purchase intention for green products has been examined by academics in several studies (Chaudhary, 2018; Hassan, 2014; Maichum et al., 2016; Velnampy & Achchuthan, 2016; Yadav et al., 2017). In this regard, green purchase intention involves the consumers' willingness to buy green products over non-green products in their buying decisions (Yadav et al., 2017). Prior research found that attitude is an important factor in consumers' purchasing intentions for green products (Maichum et al., 2016; Tang, Wang, & Lu, 2014; Tsen et al., 2006).

Based on the literature review, the following research framework is proposed as shown in Figure 1.

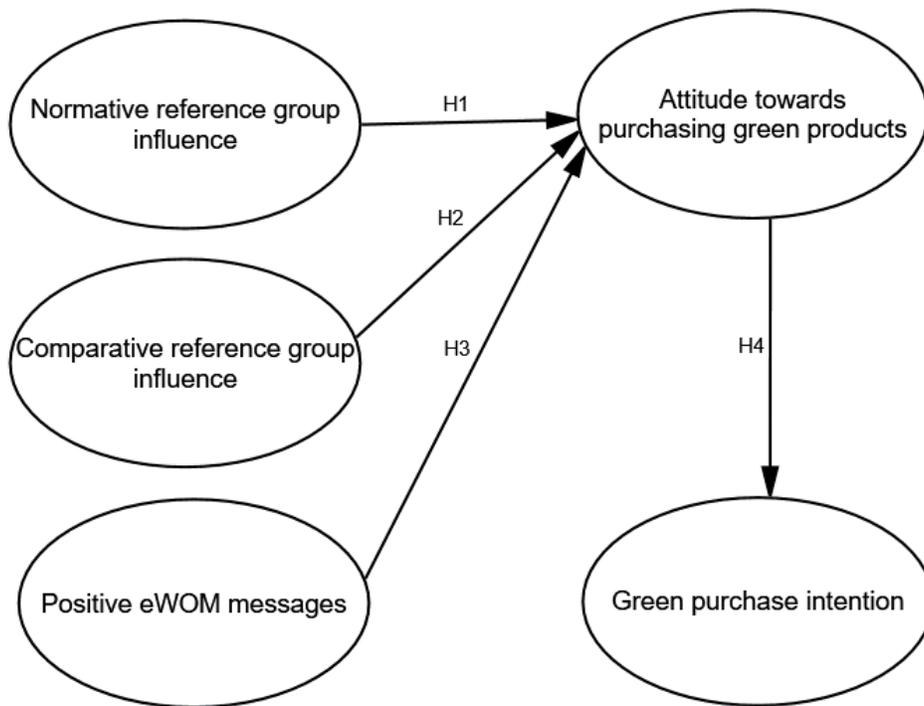


Figure 1 The Proposed Research Model

Research Hypotheses

Reference Groups and Consumer Responses

According to Schiffman and Kanuk (2004), a reference group serves as a reference point for a consumer in forming values, attitudes or behavior. It is one of key sources of product information and evaluation of choices (Childers & Rao, 1992; Escalas & Bettman, 2005). According to the theory of consumer socialization (Moschis & Smith, 1985), socialization agents i.e. reference groups such as family, friends, mass media could affect consumers' decisions and behavior. Numerous studies in consumer behavior area indicated the positive relationships between reference group influence and consumers' decision-making (e.g. Childers & Rao, 1992; Hammerl et al., 2016; Park & Lessig, 1977). Accordingly, normative referents such as parents, siblings, or friends establish group norms and could persuade an individual as a group member to alter his or her attitude and behavior (Gupta & Ogden, 2009). Additionally, the use of celebrities such as television/film artists, singers, sports heroes in promoting and endorsing products supports the belief that people who belong to aspiration groups enact their self-concept relating to value-expressive influence (Park & Lessig, 1977) and more likely to have pro-environmental attitudes (Gupta & Ogden, 2009). This study expects that both normative reference groups (groups to which a person belongs) and comparative reference groups (groups which a person aspires to belong) will influence consumers' attitudes towards purchasing green products. Therefore, the following hypotheses are proposed.

H1: Normative reference group influence significantly impacts consumers' attitudes towards purchasing green products.

H2: Comparative reference group influence significantly impacts consumers' attitudes towards purchasing green products.

eWOM Messages and Consumer Responses

With the advance of the Internet and the rise of social media, consumers make their purchase decisions based on online recommendations rather than their own judgments (Blazevic, Hammedi, Garnefeld, Rust, Keiningham, Andreassen, Donthu, & Carl, 2013). The consumption experience and product information from unknown former buyers or users make them feel confident that it is a good product. In this regard, eWOM recommendations reduce the perceived risk and enhance trust, thus altering consumers' attitude (Al-Debei, Akroush, & Ashouri, 2015). When a large number of consumers recommend the product, an individual is more likely to believe the recommendations and have favorable attitude towards that product (Zhao et al., 2017). According to Jaini, Quoquab, Mohammad and Hussin (2020), positive information can be a reference to

individuals who has pro-environmental belief. Their findings reveal that eWOM communication can influence consumers' green purchase behavior. Consequently, the current study proposes the following hypothesis.

H3: Positive eWom messages significantly influence consumers' attitudes towards purchasing green products.

Consumers' Attitudes and Green Purchase Intention

The past studies basically identified the positive relationship between attitude and purchase intentions (Bredahl, 2001; Chen, 2007). Specifically, empirical studies found significant relationship between attitude and consumers' purchasing intentions for green products (Azizan & Suki, 2013; Goriparthi & Tallapally, 2017; Maichum et al., 2016; Tang et al., 2014; Tsen et al, 2006). Therefore, the study proposes that consumers' attitudes towards purchasing green products influence green purchase intention.

H4: Attitudes towards purchasing green products positively affect green purchase intention. Research Methodology

Research Design

This study applies the questionnaire survey to examine the hypotheses and conceptual framework. Accordingly, online survey was utilized in Thailand. The awareness of environmental issues in Thailand has been growing in recent decades. Major movements to reduce environmental damage are supported by government, and businesses (Posri, 2014). These efforts drive Thai consumers to change their purchase and consumption behavior. Since green products in this study is conceptualized as the products that do not cause severe damage to the natural environment or unnecessary waste of energy during manufacturing process, consumption or disposal (Elkington, 1994), the research objects or the chosen green products include personal care items made from natural/herbal ingredients, and automobiles made with energy saving technology. Although Thai people are increasingly aware of environmental problems of the country, green consumption in Thailand is still in the early stage (Posri, 2014). Accordingly, the green products referred in the current study are familiar products for Thai consumers.

Measures

The measurement of the questionnaire items was adapted based on the past literature as shown in Table 1. All measured variables were by means of five-point Likert scale from 1 to 5 rating from strongly disagree (1) to strongly agree (5).

Table 1 The Measurement of The Constructs

Construct		Measurement Items	References
Normative Reference Group Influence	NRG1	When my family members buy a green product, it makes me feel confident that this is a good product.	Boonme, Han, and Prybutok (2016) Zhao et al. (2017)
	NRG2	My family members who already bought green products have made a good choice.	
	NRG3	I intend to follow my family members' recommendations when I buy green products.	
	NRG4	When my friends buy a green product, it makes me feel confident that this is a good product.	
	NRG5	My friends who already bought green products have made a good choice.	
	NRG6	I intend to follow my friends' recommendations when I buy green products.	
Comparative Reference Group Influence	CRG1	When my favorite celebrities buy a green product, it makes me feel confident that this is a good product.	Boonme et al. (2016) Zhao et al. (2017)
	CRG2	My favorite celebrities who already bought green products have made a good choice.	
	CRG3	I intend to follow my favorite celebrities' recommendations when I buy green products.	
Positive eWOM Messages	EWM1	Positive reviews in SNSs such as Facebook Pages make me more confident in purchasing green products.	Hu and Ha (2015) Kudeshia and Kumar (2017) Zhao et al. (2017)
	EWM2	Positive comments in SNSs such as product reviews in Facebook Pages make me more confident in purchasing green products.	
	EWM3	Positive reviews in discussion board such as Pantip.com make me more confident in purchasing green products.	
	EWM4	Positive comments in discussion board such as Pantip.com make me more confident in purchasing green products.	
	EWM5	Positive reviews in shopping comparison websites such as cosmetics reviews, automobile reviews make me more confident in purchasing green products.	

Table 1 The Measurement of The Constructs (Cont.)

Construct	Measurement Items	References
	EWM6 Positive comments in shopping comparison websites such as cosmetics reviews, automobile reviews make me more confident in purchasing green products.	
Attitude	ATT1 I think that buying green product is favorable.	Kirmani and
Towards	ATT2 I think that buying green product is a good idea.	Khan (2016)
Purchasing	ATT3 I feel good about buying products which are less damaging to the environment.	Maichum et al. (2016)
Green	ATT4 I think that buying green product is meaningful.	Velnampy and Achchuthan (2016)
Products		
Green	GPI1 I choose to buy products that are environment friendly.	Maichum et al. (2016)
Purchase	GPI2 I would like to buy personal care items such as cosmetics, soap made from natural/herbal ingredients.	Velnampy and Achchuthan (2016)
Intention	GPI3 In the future, I would like to buy automobiles made with energy saving techniques such as hybrid cars.	Yadav et al. (2017)
	GPI4 I prefer green products over non-green products when their product qualities are similar.	
	GPI5 I intend to buy green products next time because of its positive environmental contribution.	
	GPI6 I buy green products even if they are more expensive than the non-green ones.	
	GPI7 I plan to buy more green products rather than normal products.	

Research Instruments and Pretest Study

Questionnaire was the instrument used in this survey. It comprises three parts. Part I describes respondents' profiles. Part II explains the meaning and scope of green products referred in the present study. It also deals with the respondents' purchase experience of any green products. Screening questions regarding the respondents' favorite celebrities and usage experience of Facebook, review websites, and Pantip.com are added in this part. Part III asks for respondents' evaluation of each measured items. Accordingly, the study adopts the index of item-objective congruence (Rovinelli & Hambleton, 1977) or IOC measure to evaluate the

content validity of instruments for all 26 items. The IOC results evaluated by five marketing scholars showed that each item was above the acceptable threshold of .50 (Turner & Carlson, 2003). However, some contents were adjusted based on experts' comments. Next, a pretest was conducted with 30 respondents to check clarity of items and other technical issues such as completion time and ease of use. The comments from pretest respondents helped adjust the structure of survey questionnaire and unclear questions were resolved. Finally, the revised items from the pretest were subsequently used in the main study.

Sample and Data Collection

The unit of analysis in the current study is the consumer level. Thus, population in this study include all Thai consumers. The sampling technique is purposive sampling. This technique is utilized when the study needs to concentrate on people who have particular characteristics such as knowledge and experience that can assist with the relevant research (Etikan, Musa, & Alkassim, 2016). Purposive sample method used in this study is homogeneous sampling (Etikan et al., 2016) as the current study focuses on respondents who have similar specific experiences. In this regard, the research sample of the study focuses on Thai consumers who have usage experience of specialized eWOM (shopping comparison websites such as cosmetics reviews, automobile reviews), social eWOM (Facebook Pages) and miscellaneous eWOM (Pantip.com, the popular discussion board in Thailand) (Hu & Ha, 2015) whether they have the purchase experience of green products or not. Accordingly, affiliated eWOM (customer reviews affiliated with retail websites) (Hu & Ha, 2015) was excluded as this type of eWOM could not be applicable for the selected green products in this study. For instance, the hybrid cars have not been offered in Lazada or Shopee, the popular retail websites in Thailand. Accordingly, Thai consumers who have specific usage experience of Facebook, review websites, and Pantip.com are representative samples in the current study.

The sample size is specified based on the ratio of observations per variable. Bentler and Chou (1987) suggested that such ratio should be 10:1 to conduct Structural Equation Modeling (SEM) for arbitrary distributions. Since the research model has 26 observed variables, 260 sample units are needed to achieve a ratio of observations per observed variables of 10:1. Notably, the refusal rates or percentage of those contacted who had refused to participate in a survey was ranging from 15% to 38% (Churchill, 1995). Thus, to accommodate refusals and unusable questionnaires, 420 consumers were contacted. Within two months, 402 completed surveys were received. The return rate was 95.71%. There were 113 unusable questionnaires as there were missing values and some respondents indicated that they had no usage experience of Facebook Page or review websites or Pantip.com or did not have favorite entertainment figures or heroes. As a result, 307 questionnaires were usable. The profiles of respondents are summarized as follows. The average age of the sample is 28.91 years. The majority of them are female (64.8%), employees (41.7%) and at undergraduate level

(69.7%). Most of respondents have income per month between 15,001 - 20,000 Baht (25.4%). Most of them (98%) have purchase experience of any green products.

Data Analysis and Research Findings

Measurement Model Analysis and Results

The measurement model was assessed using Confirmatory Factor Analysis (CFA) via AMOS. CFA is utilized when the number of factors and the items loading on each factor are theoretically specified (Hair, Black, Babin, Anderson, & Tatham, 2006). The analysis of the measurement model includes the overall model fit and construct validity. In this study, the overall measurement model of 5 factors and 26 items was assessed for overall fit with the data as well as the reliability and validity of the measurement items. Although it is possible to run the CFA for each measurement model of latent constructs, the CFA for the pooled measurement model is recommended and more efficient (Awang, 2012).

Based on a CFA item-deletion process, three items were deleted. An item of the factor of attitude towards buying green products (ATT4) was deleted due to its low loadings (< 0.5) and CITC (the corrected item-to-total correlations) values (< 0.5) (Hair et al., 2006). After the item deletion, the coefficient alpha for the attitude factor was improved from .456 to .842. The item of GPI6 was deleted as it had an unsatisfactory factor loading (< 0.5) and low square multiple correlation (< 0.5) (Bagozzi & Yi, 2012; Hair et al., 2006). The item of EWM1 was also removed as it had a low square multiple correlation (< 0.5) and a large error variance (> 0.5) (Bagozzi & Yi, 2012). The deletion of three items was not exceed 20% of total measurable items (26 items) in the measurement model (Awang, 2012).

As a result, the final measurement model was assessed on the remaining 23 items. The chi-square fit index (χ^2) was 372.456 with 215 degrees of freedom (d.f.) ($\chi^2/d.f. = 1.732$). The measurement model was significant ($p < .05$) suggesting the difference between theoretically specified model and the sample data. However, since chi-square values are sensitive to sample size and should not be solely used for assessing a model (Weston & Gore, 2006), other fit indices would be considered. Accordingly, the values of absolute fit measures (GFI = 0.91 and RMSEA = 0.05) and incremental fit measures (CFI = 0.97 and TLI = 0.96) were above the acceptable criteria, indicating the measurement models achieve satisfactory fit and could be used for structural model analysis.

Table 2 Confirmatory Factor Analysis Results

Variables	Measure	Standardized Factor Loadings	AVE	CR	Cronbach's Alpha
Normative Reference Group (NRG)	NRG1	.757***	.663	.922	.918
	NRG2	.849***			
	NRG3	.808***			
	NRG4	.833***			
	NRG5	.845***			
	NRG6	.791***			
Comparative Reference Group (CRG)	CRG1	.879***	.804	.925	.925
	CRG2	.918***			
	CRG3	.893***			
eWOM Messages (EWM)	EWM2	.723***	.574	.869	.879
	EWM3	.842***			
	EWM4	.895***			
	EWM5	.614***			
	EWM6	.680***			
Consumers' Attitudes (ATT)	ATT1	.783***	.655	.850	.842
	ATT2	.905***			
	ATT3	.731***			
Green Purchase Intention (GPI)	GPI1	.786***	.574	.869	.867
	GPI2	.699***			
	GPI3	.621***			
	GPI4	.781***			
	GPI5	.792***			
	GPI6	.657***			
	GPI7	.657***			

Notes: The items of EWM1, ATT4, and GPI6 were deleted due to the combination of low loadings, low CITC, low square multiple correlation and large error variance; Model fit indices: $\chi^2 = 372.456$, $p < .05$ ($\chi^2/df = 1.732$), GFI = 0.91, RMSEA = 0.05, CFI = 0.97, TLI = 0.96; *** p-value < .001

Table 2 shows the assessment of reliability and validity of measures. Cronbach's alpha was used to assess the internal consistency of each construct. Cronbach's alpha values were all above the recommended value of 0.70 (Nunnally, 1978). The values of composite reliability (CR) of the constructs ranged from 0.850 to 0.825, greater than the threshold of 0.70 (Hair et al., 2006), providing more evidence of adequate reliability.

Construct validity was used to assess how well the measurement items are related with their constructs. All factor loadings exceed the cut-off values of 0.50 (Hair et al., 2006), establishing unidimensionality of the measures. To establish convergent validity, the AVEs should be greater than 0.50 (Hair et al., 2006). This threshold was achieved for all factors.

To evaluate discriminant validity, this study employs the chi-square difference tests in pairs of two constructs (Zait & Berteau, 2011). The analysis of the chi-square values was performed between the model where the two constructs was not correlated and the other model where the constructs correlate. Discriminant validity exists when the difference in χ^2 value is significant. The results are shown in Table 3. The difference test findings were significant ($p < .05$), indicating adequate discriminant validity. Overall, the CFA results show that the overall measurement model has good fit and its scales are reliable and valid.

Table 3 Chi-square Difference Tests for Assessing Discriminant Validity

Variables pair	No correlation		Free correlation		Δ in χ^2	Δ in d.f.
	χ^2	d.f.	χ^2	d.f.		
NRG vs CRG	290.814	27	159.884	26	130.93**	1
NRG vs EWM	294.097	44	259.200	43	34.897**	1
NRG vs ATT	225.984	27	143.910	26	82.074**	1
NRG vs GPI	354.597	54	200.432	53	154.165**	1
CRG vs EWM	150.017	20	107.803	19	42.214**	1
CRG vs ATT	56.464	9	11.930	8	44.534**	1
CRG vs GPI	116.707	27	55.659	26	61.048**	1
EWM vs ATT	163.014	20	116.720	19	46.294**	1
EWM vs GPI	159.211	44	145.670	43	13.541**	1
ATT vs GPI	193.852	27	54.166	26	139.686**	1

Notes: ** $p < .05$

Structural Model Results

Structural equation modelling (SEM) with maximum likelihood estimation method via AMOS was used to test research hypotheses. According to Hair et al. (2006), multiple fit indices should be used to assess the overall fit of a structural model and should include the χ^2 value, and at least one absolute index and one incremental index. In this regard, the χ^2 value of 459.722 with 220 d.f. ($\chi^2/d.f. = 2.09$), values of absolute fit indices (GFI = 0.89 and RMSEA = 0.06) and incremental fit indices (CFI = 0.95 and TLI = 0.94) were satisfactory. Although the value of GFI was below a threshold of 0.90, Bagozzi and Yi (2012) indicated that the GFI was

dependent on the sample size and did not perform as well as the RMSEA and CFI. Therefore, given a sample size of 307, the overall fit for this model was adequate (Figure 2). This is supported by acceptable R-squared (R^2) of the endogenous variables of attitude towards purchasing green products (0.35), and green purchase intention (0.50) representing the amount of variance of the constructs explained by the model (Cohen, Cohen, West, & Aiken, 2013). All hypotheses are significantly supported except for the proposed relationship between comparative reference group influence and green purchase intention. Normative reference group influence ($\beta = 0.40$, $p = .000$) and positive eWOM messages ($\beta = 0.24$, $p = .000$) have significant, positive effects on consumers' attitudes toward green products, providing support for H1 and H3. The findings of H2 revealed that comparative reference group influence insignificantly affects consumers' green purchase intention ($\beta = 0.05$, $p = .219$). The path coefficients to green purchase intention from consumers' attitude is statistically significant ($\beta = 0.58$, $p = .000$), thus H4 was supported. From Table 5, all standardized path coefficients are considered significant as they are above 0.2 as suggested by Chin (1998).

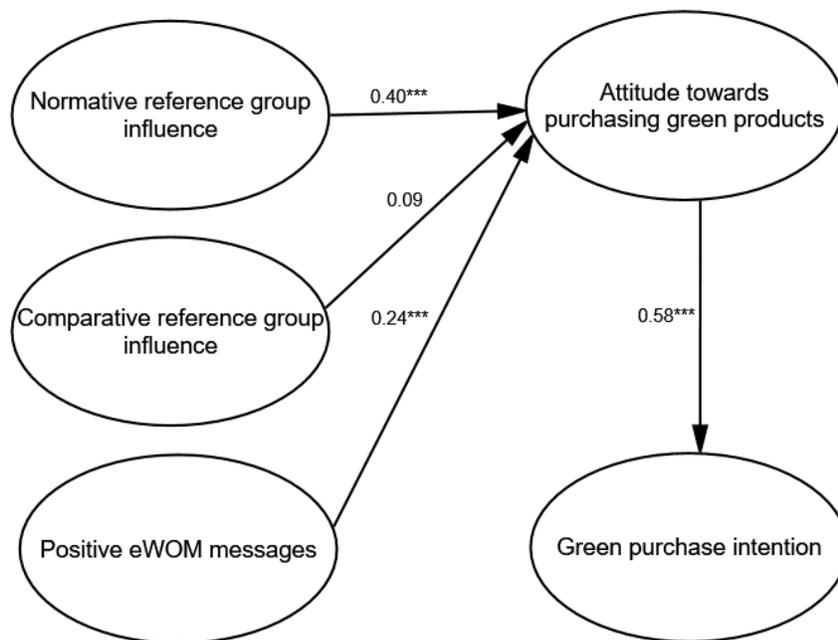


Figure 2 Structural Model Results

Notes: Model fit indices: $\chi^2 = 459.722$, ($\chi^2/d.f. = 2.09$), GFI = 0.89, RMSEA = 0.06, CFI = 0.95, TLI = 0.94; *** p-value < .001

Table 5 Standardized Path Coefficients Results

Relations	Path Coefficient	P-value	S.E.
NRG -> ATT (+)	0.40	***	0.07
CRG -> ATT (+)	0.09	0.22	0.05
EWM -> ATT (+)	0.24	***	0.08
ATT -> GPI (+)	0.58	***	0.06

Notes: NRG = Normative reference group, CRG = Comparative reference group, EWM = eWOM messages, ATT = Attitudes towards purchasing green products, GPI = Green purchase intention; *** p-value < .001

Discussion and Conclusion

While green marketing efforts are growing and consumers are more willing to buy green products and share their experiences through their direct and indirect interaction with other people, research on green purchase intention and behavior of group and social influence has not been fully explored. Based on the theory of social learning of consumer socialization, the purpose of this study is therefore to examine the relationship among normative and comparative reference groups, positive eWOM messages, consumers' attitudes towards purchasing green products and green purchase intention.

The results of this study confirms the existence of a significant effect among normative reference group influence (H1), positive eWOM messages (H3), consumers' attitudes (H4) and their purchase decisions of green products. The findings of H1 are consistent with normative reference group theory (Bellani, 2013). Normative referents such as parents, friends or groups to which a person belongs establish group norms and could influence a group member's attitude and purchase decision (Gupta & Ogden, 2009). Likewise, according to the social learning theory of consumer socialization, a socialization agent directly involved with an individual such as parents, friends or peers can transmit attitudes and norms to the consumer (Moschis & Churchill Jr., 1978). Accordingly, the item of NRG2: "My family members who already bought green products have made a good choice" had the highest factor loading (0.849), followed by the item of NRG5: "My friends who already bought green products have made a good choice" (0.845). Past studies also indicated how parents and/or friends influence the consumption attitudes of consumers (Bush et al., 2004; Keillor, Parker, & Schaefer, 1996). According to the consumer socialization concept, the end result of the socialization process is based on the learning of behaviors and behavioral intention is an outcome of the process (Bush et al., 2004). These associative referents influence the individual norms and attitudes through direct interaction (Kelley, 1947).

Additionally, H2 was not supported indicating that comparative reference group influence does not impact consumers' attitudes towards purchasing green products. This is inconsistent with Gupta and Ogden's

work (2009) proposing that the use of celebrities could influence pro-environmental attitudes. Specifically, if a group to which persons desire to belong displays behaviors congruent with their attitudes, the individual will alter their behavior. On the contrary, if a group does not display congruent behaviors, the endorsement will not contribute to the individuals' formation of attitudes and behavioral intentions. Therefore, the possible explanation for the H2 result may be the congruence between the green products and the respondents' favorite celebrities. Based on congruency theory or the match-up theory, the endorser's image and the product should match with one another for effective communication (Liu & Liu, 2019; Morimoto, 2018). In addition, according to the source-credibility model, the perceived expertise and trustworthiness of the celebrity endorser leads to the success of marketing communication (Mansour & Diab, 2016). Accordingly, celebrities' credibility can be one factor to be considered in the insignificant effect of aspirational group influence. Therefore, this study leaves room for future exploration regarding the role of comparative referents in a green marketing context.

Furthermore, according to H3 result, consumers make their purchase decisions on green products based on online recommendations. These eWOM messages from unknown former buyers and users make them have positive attitudes and feel confident in purchasing green products. The result is consistent with Blazevic et al. (2013), Godes and Mayzlin (2004), Jaini et al. (2020) and Zhao et al. (2017) indicating that eWOM messages have the role of informant and recommender and consumers view online information as reliable source, thus influencing their attitudes and purchase decisions. The empirical finding of H4 also supports the past studies identifying significant positive relationship between attitude and consumers' green purchasing intentions (Azizan & Suki, 2013; Maichum et al., 2016; Tsen et al., 2006).

Theoretical and managerial implications

This research contributes to green marketing literature by providing a better understanding of the group influence and the role of eWOM messages in green buying behavior. It integrates the body of knowledge among consumer behavior, online marketing and green marketing. While numerous studies have commonly explored the influence of reference groups or the role of eWOM on consumers' purchase decisions of normal products, an integrated model of these variables in green marketing area has rarely been examined. Specifically, the study highlights the effect of reference group influence and online recommendations on consumer responses in the green marketing context. Although comparative referents such as celebrities and heroes could not persuade consumers to be confident in purchasing green products, normative referents i.e. family members and friends enhance consumers' positive attitudes towards buying green products, leading to purchase intention. Positive eWOM recommendations such as reviews and positive comments in SNSs also have positive effects on attitude towards green products, and that positive attitudes, in turn, influence purchase decisions.

For managerial implications, green companies should devise communication strategies that support relationship formation and information sharing among targeted consumers. For instance, managers could motivate users to review their usage experiences of green products in blogs and discussion boards (miscellaneous eWOM) or in discussion forums in comparison-shopping or rating sites (specialized eWOM). They should also provide online platforms in SNSs such as Facebook, Instagram, and Twitter (social eWOM) for product information exchanged among consumers. Notably, the green product information and positive reviews and comments from miscellaneous eWOM i.e. Pantip.com (the popular discussion board in Thailand) have the highest mean value (3.81), followed by specialized eWOM i.e. shopping comparison websites such as cosmetics reviews, automobile reviews (3.76), and social eWOM i.e. Facebook Pages (3.69), respectively. These are important sources of influence.

Furthermore, to enhance consumers' attitudes towards buying eco-friendly products, green marketers should provide some promotional tools such as exclusive campaign for product recommendations to family and friends (associative referents). Therefore, marketers could adapt their communication programs by understanding the influence of reference groups and eWOM communication on buying behavior towards green products.

In Thailand, there are 31,324 certified "green industries" businesses (Thailand Environment Institute, 2018) that could benefit from the research findings. Example of these green industries in business-to-consumer (B2C) context include electric appliances, cosmetics, food and automotive industries. Based on the research findings, positive eWOM messages have the highest average score (3.77), followed by normative referents (3.59). Accordingly, green companies can encourage positive product reviews by awarding existing customers (Teng, Khong, Chong, & Lin, 2017) to share their experiences and feeling online with their normative groups. Additionally, they could improve their green products to meet customer expectations based on valuable customer reviews and referrals.

Recommendations for future research

This study focuses only on green tangible products i.e. personal care products made of natural ingredients, and green automobiles with energy saving technology. Future research could focus on green services such as green hotel services or environmentally-friendly restaurant services. Some qualitative techniques such as focus group or in-depth interviews could be useful to gain more understandings of the role of group and social influences in the context of sustainability and marketing. This study reveals that comparative reference group influence does not significantly impact consumers' attitudes towards purchasing green products. Future studies might investigate the direct effect of comparative referents (e.g. celebrities, heroes) on green purchase decisions and probably include other mediating variables such as the match or congruence

between a green product and an endorser (Morimoto, 2018) and celebrities' credibility (Deshbhag & Mohan, 2020) to gain a better understanding of the role of the aspirational group in a green marketing context. In addition, further research can explore the role of different types of green consumers in green purchase behavior. For example, the LOHAS consumers (Lifestyles of Health and Sustainability consumers or the deep greens) and the conventionals who buy green for an economic purpose (Ottman, 2017) might respond differently to social influence factors on green purchasing.

Although the current study integrates the effect of online recommenders and group influences or the external factors on consumers' responses to green products, internal factors (e.g. self-enhancement, self-image), based on the developmental approach of consumer socialization, can be relevant in this context. Specific hypotheses concerning the effects of external and internal drivers for green behavioral intentions could be tested and compared. Future research can also include the outcome variable beyond green behavioral intentions to actual use or actual behavior. In addition, future studies could test the proposed model in different countries to investigate whether the results are generalizable across cultures.

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