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The Influence of e-WOM on Young Female Consumers' Purchase Behaviour in the Cosmetic Industry in China

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Abstract

The aim of this thesis was to explore the impact of electronic word of mouth (e-WOM) on purchase intention and purchase progress for cosmetics in the context of young female Chinese consumers. This was achieved through the examination of how three factors of e-WOM, namely quality, quantity, and credibility, impact on purchase intention and purchase progress. Although many previous studies have discussed the impact of e-WOM on purchase intention, few have focused on the Chinese cosmetic market and young female consumers.

This thesis attempted to fill the research gap regarding the relationship between e-WOM and purchase intention, as well as the relationship between e-WOM and purchase progress, in the context of cosmetics in the Chinese market. To achieve this objective, a survey was conducted and 243 questionnaires were analysed. Descriptive analysis; reliability and validity analysis; correlation analysis; and regression analysis were conducted using SPSS Version 26.0, to analyse the relationships between all constructs of the developed model on the purchase intention and purchase progress of young female consumers regarding cosmetics in the Chinese market. In this study, the three factors of e-WOM (i.e., quality, quantity, and credibility) serve as independent variables, whilst purchase intention and purchase progress are used as dependent variables. The research targets young female consumers aged between 18 and 35 in the Chinese market to explore the impact of e-WOM on purchase intention and purchase progress. The result of the study demonstrates that the quality, quantity, and credibility of e-WOM have a significant impact on purchase intention for cosmetics in the

Chinese market; furthermore, e-WOM could accelerate the purchase progress of cosmetics by young female consumers.

This study illustrates the considerable impact of e-WOM on purchase intention and purchase progress. This can provide marketers or sellers with a better understanding of e-WOM – particularly in the context of the Chinese market – and its different factors, which could help them construct more robust, effective strategies to improve consumers' purchase intention and accelerate their purchase progress.

1. Introduction

Research background

From 2015 to 2020, the consumption scale of cosmetics in China increased from 204.9 billion yuan to 340 billion yuan, with a compound growth rate of approximately 8.81%. According to statistics from the National Bureau of Statistics, the total retail sales of cosmetics were 340 billion yuan in 2020, thus representing an increase of 9.5% since 2019. The growth of the COVID-19 pandemic in 2020 had a negative impact on the overall economy of China. However, the cosmetic industry was able to maintain its growth even within this environment, with its growth accelerating due to the large promotion events known in China as “Double 11” and “Double 12” (Prospective Research Institute, 2020). Improvements in quality of life and living conditions in the country has increased the Chinese population's willingness to spend more on cosmetics and other consumer goods that enhance their appearance. This is especially observable within the female section of the population, making it a particularly

valuable social group for the purpose of this research. In addition, women have consistently been the main force in shopping, whether online or offline. According to Lu Jing (2015), male shopping habits are mostly demand-driven and highly targeted, whereas female shopping habits are more casual and more susceptible to e-WOM during the purchase process. Lu Jing (2015) also states that the 90s generation has a higher frequency of online shopping and level of belief in e-WOM than the 80s generation. Since this generation is currently aged between 22-32, the 18-35 group is the customer group most affected by e-WOM.

Word of mouth has been regarded as an important source of information by consumers, and an important conveyor of information by merchants. The spread of word-of-mouth communication can help potential consumers to develop a better understanding of target products and service (Lu Jing, 2015). As demonstrated in Turki and Amara's (2017) study, most consumers (76%) are predominantly reliant on the knowledge and advice offered by acquaintances, friends, and family via WOM to enhance their purchase intentions towards consumer products and services. However, the seismic growth of the Internet and social media platforms has enabled users to expand WOM by describing their experiences and purchasing behaviours online, thereby facilitating the spread of electronic word of mouth (e-WOM) (Dechawatanapaisal, 2019; DeMeyer & Petzer, 2014; Zhang et al., 2017).

Thus, an increasing number of consumers release and spread reviews and information about products and services via the Internet. In this digital era, the power has shifted to the consumers, especially young people who would like

to purchase high-quality products at reasonable prices. These younger consumers search through a substantial amount of information to make sure that the product they are intending to purchase is suitable and optimal. According to Khammash and Griffiths (2011), e-WOM offers a larger body of product information and more choice for consumers. This makes it easier for consumers to compare the price and quality of similar products, and provides more channels and opportunities to communicate with companies as well as fellow consumers. Compared to WOM, e-WOM contains richer content forms; more diverse communication channels; faster communication speed; and a stronger influence on consumers' purchase intentions and consumer behaviours such as information searching and purchase decision making (Lu Jing, 2015).

Many studies have discussed the influence of e-WOM on consumer purchase intention (Chan and Ngai, 2011; Park Do-Hyung, Lee Ju-Min, and Han In-Goo, 2007). According to Subramani & Rajagopalan (2003), online word-of-mouth communication could affect consumers' purchases and the choice of products and services. Meanwhile, Reza and Samiei (2012) argue that e-WOM can positively influence consumers' purchase intention. However, few studies have examined how different factors of e-WOM generate an impact on young females' cosmetics purchase intention in China. Therefore, this paper specifically discusses young women's purchase intentions towards cosmetics. Furthermore, as few studies have examined the impact of e-WOM on purchase progress, this paper discusses three different factors of e-WOM and divides the purchase

process to determine what influence will be generated, and whether or not e-WOM could accelerate the purchase progress.

Research aims and questions

As mentioned previously, many studies have proven the impact of e-WOM on consumer purchase intention and purchase decision making. Subramani & Rajagopalan (2003) state that e-WOM could affect consumers' purchase and the choice of products and service. Similarly, Reza and Samiei (2012) argue that e-WOM can positively influence consumer's purchase intention. This research aims to discuss the three factors of e-WOM and evaluate how they influence the purchase intention of young female consumers in the context of the cosmetic industry in China.

In addition, no previous studies have examined how e-WOM affects the individual components of the purchase progress differently. Given that female customers typically have a more complicated assessment system than males when buying products, this is a valuable area for research. Previous studies only pay specific attention to purchase intention, whereas female consumers spend more time on decision making; therefore, it is important to study the purchase progress and investigate the extent to which the factors of e-WOM could each effectively accelerate the entire process.

Given the lack of research on e-WOM in the context of the cosmetic industry, this paper aims to study the impact of e-WOM on consumer purchase intention and purchase process in China. To achieve this goal, the following research questions will be addressed.

1. Which factors of e-WOM impact on purchase intention in the cosmetics industry in China, and how do the individual factors of e-WOM affect this area differently?

2. Does e-WOM accelerate the purchase progress, and which steps of the purchase progress does it affect to cause this?

Research significance and limitation

The results of this study can help managers of cosmetic companies to understand the importance of e-WOM on the purchase behaviour of the young female market in China. These companies could subsequently use the insight gained in this study to strategically improve female consumers' purchase intention and purchase progress to increase sales of their products. Additionally, in the fiercely competitive cosmetic industry, it is crucial to increase consumers' purchase intention and accelerate their purchase decision making; in other words, the more time people take when considering purchasing a certain cosmetic product, the more possibilities will arise for them to change their mind about the purchase and buy an alternative from a rival company. Therefore, to learn to increase their sales, companies must adopt strategies that prompt consumers to generate purchase intentions and complete their purchase process with increased speed. In this paper, we study the effect of the quality, quantity, and credibility of e-WOM to verify whether these factors can effectively accelerate the purchase progress of female consumers. If this hypothesis is supported, this would suggest that managing the quality, quantity, and credibility of the e-WOM of cosmetic products could effectively increase consumers' purchase speed of

these products. This would reduce the possibility of consumers buying cosmetics from other companies and thus enable the enterprise to gain a competitive position in the market. However, this paper focuses solely on young female consumers in China, in the sole context of the cosmetic industry; therefore, the result and business suggestion cannot be widely applied to other markets and industries.

Research structure

This paper is comprised of a total of six chapters: introduction, literature review, methodology, result analysis, discussion, and conclusion.

In the introduction, different aspects of the impact of e-WOM on purchase intention and purchase progress are introduced. The introduction also discusses the study's research background and research innovation; research aim and questions; research significance and limitations; and research structure.

The literature review provides definitions for WOM and e-WOM and explores the differences between them. This section also introduces the various channels through which the continual spread of e-WOM occurs due to the development and subsequent ubiquity of the Internet. In addition, several relevant elements are discussed in detail, including e-WOM quality, quantity, and credibility; purchase progress; the cosmetic industry; and female consumers' purchase behaviours regarding cosmetic products.

The methodology provides a comprehensive and thorough explanation of how this study was conducted. It details how the research objects and research

methods were initially selected, and then how a theoretical model was constructed to study the impact of e-WOM on purchase intention and purchase progress based on the literature review. Finally, the research variables are defined and the hypotheses are proposed.

The result and analysis chapters provide information on and insight into the results of the survey and perform descriptive statistical analysis; reliability and validity analysis; correlation analysis; and regression analysis to verify the hypotheses that are proposed in the third chapter.

The discussion chapter provides a summary what this paper has achieved, and interprets the key findings by clarifying the similarities and differences between these findings and those of relevant previous studies.

The conclusion chapter provides a summary of how this paper was conducted; presents the academic implications and practical implications to ascertain what contributions the results of this study can make to the research; and clarifies the limitations of the study.

2. Literature review

2.1. Word of Mouth (WOM) and Electronic Word Of Mouth(e-WOM)

Chan and Ngai (2011) state that “communications between people involves a receiver who receives the information and a communicator who share its serving experience with products and it was considered as non-commercial activities by receivers”. However, as the development of marketing methods, it is not of much significance whether the e-WOM conversation is commercial or non-

commercial; consumers think the e-WOM are effective and credible, which could help them to absorb useful information for their purchase decision making. As Yang et al. (2012) argue that WOM is an effective and credible tool for providing useful information that can influence the levels of consumers' attitude, perception, and purchasing behaviour. According to Yang et al. (2012), this view of WOM as a reliable and effective source of valuable information can impact on consumers' perception of and attitude towards companies and their products, which in turn affects their purchasing behaviour. Due to the impact of WOM on consumers' purchase decision making, many studies within this field have discussed a variety of perspectives related to the concept of word of mouth. For instance, Tan & Lee (2019) define WOM as an informal form of communication that occurs between interested parties. In addition, WOM has previously been regarded as one of the most powerful and helpful sources of information, since it relies on the interaction between people within a society (Litvin, Goldsmith, and Pan, 2008). Prior to the invention of the Internet, WOM was the most popular for people to share and discuss their ideas, opinions, and experience of products.

However, after the development and explosive popularity of the Internet, WOM has mainly developed into its new electronic form, the occurrence of which relies on the consumer's ability to access online platforms to exchange information related to products and services. Khammash and Griffiths (2011) state that electronic word of mouth (e-WOM) offers a wider range of product information and choice for consumers, makes it easier for consumers to compare the price and quality of different products, and provides a significantly greater

number of channels of and opportunities for communication with companies and fellow consumers. Based on previous studies, Gelb and Johnsol (1995) were the first people to define e-WOM, and state that e-WOM facilitates communication and the exchange of relevant information. Gelb and Sundaram (2002) describe e-WOM as a method of communication that involves consumers sharing their suggestions, experience, and thoughts about products and services with each other. Stauss (1997) exemplifies the phenomenon with the example of consumers posting their own comments on companies' websites to express their praise for and complaints about those companies' products and services. However, Henning-Thurau et al. (2004) offer the most widely used definition of e-WOM: potential, existing, and past customers giving positive and negative reviews about products, services, brands, and companies, which are then viewed by other people or organisations who access the website. Numerous previous studies have cited Henning-Thurau et al.'s (2004) proposed definition as a more professional and comprehensive definition of e-WOM. However, to further extend the applicability of this definition to the subject of the present study, this paper defines e-WOM as when potential, existing, and past customers give positive and negative reviews about products and services, which are then inextricably present in conversations between consumers not only on purchase platforms or some social medias but also on advertising videos and cosmetic advertorial in the form of comments or bullet screen. However, it should be emphasised that e-WOM is not discussed as a form of advertising in this paper, although the messages and paid advertisements produced by companies in the market could

promote e-WOM (Dichter, 1966); as these channels are commercial in nature and are not generated by consumers, they are inherently conceptually different to e-WOM (Tellis et al., 2019).

2.2 Different types of e-WOM

In this era when social interactions are dominated by social media, e-WOM is becoming an increasingly important marketing tool. Consumers have become used to disseminating information with their peers via social networking sites (SNSs) such as Facebook or Twitter (Min-sook Park, 2019). However, due to the limitations imposed on the use of foreign platforms in China, Chinese people typically use social media based in their own country, such as Taobao, Weibo, and Xiao hong shu. In addition to reviews, another well-known type of e-WOM is those in the form of live broadcast. For instance, the online influencers known as beauty gurus frequently share their experience of cosmetics to consumers. The authenticity, interactivity, and vivid nature of web live broadcast has led to its increasing popularity among a large user base. Live broadcast provides a bridge between the needs of sellers and the purchasing demands of consumers, and thus supports the relationship between supply and demand. The highly visual and accessible nature of these online broadcasts allows customers to witness and absorb the fitting process and feelings expressed by the creator. Users can also communicate with the host and fellow users through bullet screen, which provides a solution to the dilemma of credibility in the sphere of e-commerce and boosts the decision-making confidence of consumers (Tong, 2017). The hosts of these live broadcasts typically gained their status of relative

fame and recognition via the Internet, and are consequently known as internet celebrities (Rich, 2009).

An additional form of e-WOM is the real-time communication that occurs in online settings. People may build a personal group or chatroom on an online platform or social media site, for the purpose of discussing specific cosmetics and services with family, friends, or strangers.

E-WOM can also be categorised as a form of information storage (Kiecker and Cowles, 2002). Customers can communicate with other users on online platforms, and may write a review after purchasing the product if there are real-time restrictions. Everyone accessing the website can read the reviews and comments posted by other users, or post questions about the available products. For example, on social media platforms such as Taobao, Weibo, Xiaohongshu, and Instagram, consumers often post comments after purchasing cosmetics. Alternatively, they may share and post their experience of using a cosmetic product on their own social media page, after which other people wishing to know more about the product can find the post and the information it contains by searching for relevant keywords on the platform. Barbara et al. (2002) state that online review is the most common way for consumers to perform e-WOM. It delivers credibility and relevant product information to potential customers, and can also have a significant influence on the typical consumer's choice of products. Online reviews play an extremely significant role as a form of marketing communication, as searching for online reviews is the first step in the process of

online shopping for most consumers (Dellarocas, 2006). It matters little whether the information is shared in real time, provided the information is useful and credible for consumers. Some celebrities or brand ambassadors use social media to post advertisements on which consumers may comment their own review of the product. Users can also reply to reviews posted by other consumers or post questions about the products, and users who can view this advertisement can also access all comments posted by other users.

2.3 E-WOM QUALITY, QUANTITY AND CREDIBILITY

The online environment is highly complex. Everyone who has access to an online platform has the additional right to comment on a product and share their own using experience; therefore, in this environment dominated by user opinion, it is crucial to evaluate the effectiveness of e-WOM. e-WOM can be examined from three dimensions: e-WOM credibility, e-WOM quality, and e-WOM quantity (Mendbayar & Kyung, 2018).

2.3.1E-WOM QUALITY

Information quality represents the persuasive strength of the message (Bhattacharjee and Sanford, 2006). If consumers feel that the quality of information online is high and satisfactory, they are quicker to purchase the products and services that they are considering (Cheung, Lee, and Rabjohn, 2008). As supported by Cheung, Lee, and Rabjohn (2008), customers decide to buy goods based on the extent to which they can predict it will satisfy their need or meet their requirements. In other words, if the e-WOM is adequate and useful, and thus helps to eliminate the consumer's hesitancy to buy a product, it will

cause positive buying decision in consumers. A previous study conducted by Mendbayar and Kyung-Doo (2018) demonstrates that e-WOM quality for Korean cosmetic products has a significant effect on purchase intention for these products. Also, in their study of the effect of e-WOM on purchase intention for Korean-brand cars in Russia, Evgeniy et al. (2019) observe that e-WOM quality has a positive influence on purchase intention. Therefore, it is necessary to study e-WOM quality as an important factor of e-WOM, and accordingly evaluate its influence on purchase intention and purchase progress in the Chinese market.

2.3.2E-WOM QUANTITY

E-WOM quantity plays a vital role in purchase behaviour. Lee, Park, and Han (2008) argue that quantity of information may influence consumers' decision of whether to purchase a certain product. Evgeniy et al.'s (2019) previously mentioned study of the effect of e-WOM on purchase intention regarding Korean-brand cars in Russia revealed that e-WOM quantity has a positive influence on purchase intention. In addition, e-WOM quantity increases the visibility of products, thus making it easier for consumers to find information about it online (Cheung, Lee, and Rabjohn, 2008). Consequently, many cosmetic companies and other sellers endeavour to promote discussion about their own products on social media, which often results in them hiring beauty gurus to write articles or create other online content in which they recommend the company's product. As it mentioned before, more reviews and discussion would be generated by consumers through watching or reading overwhelming advertising of cosmetics. An increasing number of companies use e-WOM quantity to promote their

product, which in turn makes it easier for consumers to search for and find information and remember the product. Therefore, we assume that e-WOM quantity could reduce customers' time spent searching for suitable cosmetic products. However, a study conducted by Mendbayar and Kyung-Doo (2018) illustrates that e-WOM quantity had no significant effect on consumers' purchase intention for Korean cosmetics products. Therefore, the question of whether e-WOM could impact on female consumers' purchase intention in the context of the Chinese cosmetic market needs to be verified in this paper.

2.3.3E-WOM CREDIBILITY

It is vital for customers to ensure the reliability of the information that they find and read online; the process which consumers evaluate the degree of credibility has also become highly important (Hennig-Thurau and Walsh, 2004). As many users who write and submit information about products do so anonymously, it is difficult to determine the validity of the information provided, especially online reviews. Furthermore, some positive comments may have been manipulated by sellers. Hu et al. (2012) state that in 2012, about 10.3% of online product reviews were manipulated in some way.

This would increase consumers' suspicion about the credibility of online reviews (Pollach, 2006). However, in the questionnaire that was performed for this paper, about 90% of respondents expressed that they have some awareness of e-WOM credibility and are somewhat able to differentiate between authentic and fake comments and other information online. Managers need to pay particular attention to e-WOM credibility, due to its close association with

consumers' adoption of information. Wathen and Burkell (2002) argue that one of the early stages in the process of information adoption is the customer's assessment of the credibility of the information provided. This stage has a decisive impact on the extent to which the customer will adopt the information and learn from it. Previous research has already demonstrated the relationship between information credibility and the degree of acceptance and adoption. The receiver's perceived information credibility has a positive effect on their willingness to adopt the online information. If a consumer perceives the information as less credible, they will ignore it (Sussman and Siegal, 2003). In contrast, if they think that the information is credible, they are willing to adopt it, trust it, and use it to inform their decision making (Tseng & Fogg, 1999). In e-WOM, if the receiver decides that other users' comments about the product are credible, they will use or adopt more information from the review; conversely, if they decide the information provided is not credible, the effect and influence of the review will be diminished (Cheol, Yao, and Ying, 2011). Therefore, we assume that consumers would spend less time on searches for information, alternative evaluation, and decision making if they feel that the online reviews and information about a product are largely reliable, as this allows them to collect and apply useful information more quickly. Additionally, a previous study conducted by Mendbayar and Kyung-Doo (2018) demonstrates that e-WOM credibility has a significant effect on consumers' purchase intention regarding Korean cosmetic products. Therefore, e-WOM credibility might impact on the

purchase intention and purchase progress of consumers of cosmetic products in China.

2.4 Consumer behaviors and Purchase progress

Kanuk (1991) states that consumer behaviour is not only a purchase behaviour, but also involves consumers posting comments and engaging in other forms of communication about products and services. Consumer behaviour encompasses the choice, purchase and deal with a series of process such as products, service, experience and plan in order to satisfy personal desire and need. Engel, Kollat, and Blackwell (1978) proposed the “EBK” model for buying behaviour, which was then modified by Engel, Blackwell, and Miniard (1986) into the “EBM” model. The newer model emphasises that purchase behaviour may be seen as a process of purchase which comprises five steps: problem and need recognition; information searching; alternative evaluation; purchase decision; and post-purchase behaviour (Blackwell, Miniard, & Engel, 2001). This paper draws on this to introduce the concept of purchase progress, also including five steps, assuming that every step represents a different part of the process. For example, the need for, recognition of, and search for information comprise the early stages of the process, after which the purchase decision represents the stage at which the process is essentially complete. This paper also assumes that these five steps are a basic process that most female consumers would experience when purchasing a cosmetic product. Therefore, we assume that if the time spent on any of these steps is reduced, the entire purchase progress is accelerated.

Regarding problem or need recognition, consumers' awareness of their cosmetic needs may originate from many aspects. Perhaps they wish to experiment with make up; hide and/or improve a skin condition; or hope that using more cosmetic products will help them look and feel more attractive. Additionally, people may feel the need to use cosmetics after being influenced by advertisements that prompt them to aspire towards, and indeed prioritise, attractiveness.

Regarding information search, Bickart and Schindler (2002) identified three motives contained within e-WOM communication. As mentioned previously, the first is seeking information for the purpose of making better-informed decisions, the second is seeking information to support a decision that the consumer has already made, and the third is solely for entertainment purposes. Essentially, customers search for WOM primarily to decrease the time spent on decision making, reduce the level of risk associated with their decisions, and ultimately make the optimal choice. Consumers collect varying amounts of useful information to help them make satisfactory purchase decisions. If they feel that the online reviews for a product are of high quality and credibility, they might make faster purchase decisions.

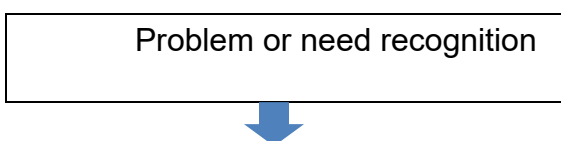
Next, the evaluation and selection of alternatives is affected by both internal factors such as attitudes and beliefs, and external factors such as previous shopping and consumption experiences (Tan, 2010). As a result, consumers may seek more information to evaluate more alternatives if they are

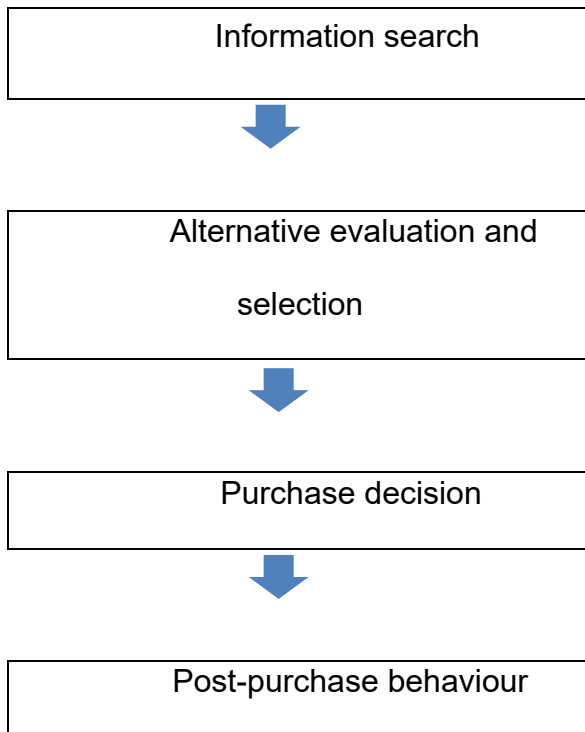
unsure about what cosmetic products would be suitable for them. In addition, they may wish to find preferable alternatives to replace cosmetics that they have purchased previously. In their research on consumers' buying behaviour, Choi and Kim (2007) state that the main reason that consumers buy new cosmetics is due to their unsatisfying experience of products that they currently own.

Regarding purchase, consumers make the decision to complete a purchase based on their assessment of the product; however, these behaviours could be affected by external factors such as products being out of stock.

Next, post-purchase behaviour can be seen as the multiple stages through which consumers align their expectations with what they perceive to be reality, subsequently experience either satisfaction or dissatisfaction, and finally take action based on the satisfaction or dissatisfaction experienced (Andreasen, 1976; Gilly, 1979). If the consumer experiences dissatisfaction as a result of comparing their expectations with the perceived reality, they might make the decision to file a complaint (Kraft 1977). Conversely, if they feel satisfied with the product that they purchased, they are more likely to repeat the purchase, feel more loyalty towards the brand, and engage in positive WOM among their peers and online (Joana, Michael, & Lynn, 2020).

Finger 1





Marketing involves companies and sellers identifying and following consumer behaviour. This is reflected in the AIDMA model which was proposed by Lewis (1898) and subsequently completed by Hall. The AIDMA model details the process that begins with information searching and ends with purchase, dividing it into five distinct steps: attention, interest, desire, memory, and action. However, due to the development of Internet, AIDMA is no longer able to fully and accurately describe the process of consumers' purchase behaviour. According to investigative data produced by Dentsu, the need recognition phase involves consumers collecting information through various channels such as television, newspapers, magazines, social media platforms, and the Internet in general. In the phases of information searching, alternatives evaluation, and purchase, e-WOM has become increasingly important. Based on this, Dentsu

proposed the AISAS model, which includes attention, interest, search, action, and share. In short, AISAS emphasises consumers' information searching and sharing ability, and highlights the importance of e-WOM in the phases of information searching, purchase decision making, and experience sharing.

As a result, due to the evident importance of these three steps, this paper aims to explore whether e-WOM could speed up the purchase process, especially in the three phases of information searching, alternative evaluation, and purchase action.

2.5 Young Female purchase behaviour of cosmetic in China

The rise of the beauty economy has caused the cosmetics industry to move towards "necessities". During this year's 618 period (a large promotion event in China), Beauty Personal Care ranked fourth in each category with a total turnover of 51.2 billion yuan across the entire network, demonstrating an increase of 17.8% since the previous year. Among them, the online sales of beauty and skincare, and colour cosmetics and perfumes were 37.9 billion yuan and 13.2 billion yuan, respectively (iiMedia Research, 2021).

With strong consumption power and capital entry, the 100 billion cosmetics market has become an important support for China's economy. According to data from iiMedia Research (2021), the market size of China's cosmetics market declined to 395.8 billion yuan between 2019 and 2020, due to the significant economic impact of the COVID-19 pandemic. After the epidemic subsides, the size of China's cosmetics market is expected to reach 478.1 billion

yuan in 2021. In addition, the output of cosmetics in China has also been increasing over the past six years, and is expected to reach 1.99 million tons in 2021. This trend indicates that China will be a major production location and market for the global cosmetics industry in the future, with much progress to be made within the beauty industry (iiMedia Research, 2021).

According to the report on the group statistics of cosmetic consumption in 2019, the age group that bought the most cosmetics was 18-40. Within this age group, those aged 18-25 comprised the largest proportion (39.2%) followed by those aged 26-32 (33.6%) and those aged 33-40 (17.1%); the remainder comprised 10%. In addition, 95% of cosmetic customers were female whereas only 5% were male.

In this study, our research targets young female consumers who are aged 18-35, as this group makes the majority of cosmetic purchases in China. Female consumers play a vital role in e-WOM, as female consumers often seek information and advice before making purchase decisions. Female consumers are also more willing than male consumers to share their experience of purchasing and using products with other customers to help them gain additional knowledge and make more well-informed decisions. Barletta (2004) introduces the spiral path theory to explain female consumer buying behaviour, which states that female consumers collect larger amounts of information to support their final decision making. Barletta (2004) also illustrates that the decision-making process experienced by female consumers usually includes stimulus, nomination,

research, and decision when they plan to purchase a product. This means that female consumers experience a more complicated purchase process than males. Li (2007) supports this statement, arguing that as females typically aim to collect more information and seek for alternatives to ensure that they make the best purchase decision, they typically experience a more complex purchase process than males.

3. Research Methodology

Aleksandras (2018) states that research methodology is a strategic way to show how this specific research would be undertaken, and will also help to conduct the research questions. It is also a system of beliefs and assumptions that facilitate understanding of research questions and the choice of research method. Different methodologies should be adopted according to different research objectives and research aims; however, all methodologies share the goal of providing an explanation of how the research will be conducted. Methodology is a necessary part of the thesis which helps to maintain consistency between the chosen tools, techniques, and underlying philosophy (Aleksandras, 2018). This section will discuss the research aims and objectives; chosen methodology; and ethical considerations.

3.1 Research aims and objectives

This study aims to investigate the impact of e-WOM on purchase behaviours. As purchase behaviours are divided into the two categories of purchase intention and purchase progress, this paper will address two distinct

aims: analysing the impact of e-WOM on purchase intention, and analysing the impact of e-WOM on purchase progress.

To achieve the research aims, we have divided the steps of research into exploring the factors of e-WOM and the steps of purchase progress, and assessing the effects of e-WOM on purchase intention and purchase progress, respectively. Thus, the research objectives are as follows:

- 1、 To explore the factors of e-WOM
- 2、 To explore the steps of purchase progress
- 3、 To assess the effects of e-WOM on purchase intention
- 4、 To assess the effects of e-WOM on purchase progress

3.2. Research onion

The research onion is a popular approach to constructing a research methodology construction. Proposed by Saunders et al. (2016), research onion can be defined as a way to organise the different elements of one's research and construct a research design accordingly, which is achieved by adhering to each of the six layers of the research onion in turn.

The research onion provides a more complete theoretical concept in which its layers are used to achieve an effective methodology (Raithatha, 2017). The layers include the main philosophy; approach to theory development; methodological choice; research strategy; definition of time horizon; and techniques and procedures. It is necessary to introduce all six layers for the topmost layer, and then move to its internal layers.

To deal with the matter of forming a basis for future studies, it is important to first emphasise the basic research techniques used. Research philosophy acts as a basis for the research methodology by informing the strategies and techniques adopted (Nweke & Oriji, 2009; Saunders et al., 2016). In this study, we take positivism as the methodological approach to develop the research. Positivism refers to the scientific and systematic study of society. Early positivists uphold that it is possible to study individuals using similar techniques to those applied in natural science, due to the possibility for behaviours to be observed and recorded scientifically. Researchers can study the cause-and-effect relationships between social institutions and individuals by measuring and quantifying observed behaviours and social factors. Furthermore, positivism is used in macro-environmental studies, which concern the impact of social forces and how they influence individual behaviours. As a result, we have used the positivist approach to study the relationship between e-WOM and young female purchase behaviours in the context of cosmetics in China.

There are two different approaches to inference which may involve the acquisition of new knowledge: deductive reasoning and inductive reasoning. Inductive reasoning is a process for developing a theory. The process starts with the research question and the collection of data, which are then implemented to develop one or more hypotheses and construct the central theory (Kenneth, 2000). Meanwhile, deductive research is a process used to test theory. This process usually begins with a theory which then drives hypotheses, which then guides data collection and analysis in turn. In this case, as mentioned previously,

many prior studies have formed the theory that e-WOM influences purchase behaviour. However, we have created seven hypotheses in response to the research gap that became apparent when exploring the related literature. Next, it is necessary to gather as much relevant data as possible via questionnaires, for the purpose of confirming our hypotheses. As a result, we are using deductive quantitative research to investigate the influence of e-WOM (independent variable) on young females' purchase behaviour regarding cosmetics (dependent variable) in the context of China.

Given that positivism takes a structured view of society, it is necessary to consider the wider context rather than focus on interactions between individuals. This study requires a substantial amount of structured data. Burns & Grove (2005) state that quantitative research is used to generate and refine knowledge to solve problems, a process that requires formal, objective, rigorous, deductive, and systematic strategies. Rather than engaging in experimental or non-experimental research, it seeks to gain accurate and reliable measurements via straightforward methods (Rahman, 2017). Also, quantitative research involves systematic observation and description of characteristics to reveal the relationship between the independent variables and the dependent variable within the relevant populations (Best, 1981). In addition, quantitative research is based on positivist research to explore the regularity of natural science; as a deductive process, it focuses on the objective measurement and calculation of the research data. It is crucial to calculate and analyse various indicators and values to achieve accurate decision making based on data statistics and the

creation of a suitable research model. Saunders et al. (2016) discuss various research strategies, such as experiment, survey, archival research, case study, survey, and action research. However, survey is the most feasible research method; related to the deductive approach, this method facilitates the collection of large amounts of data from measurable populations in a highly economically viable way.

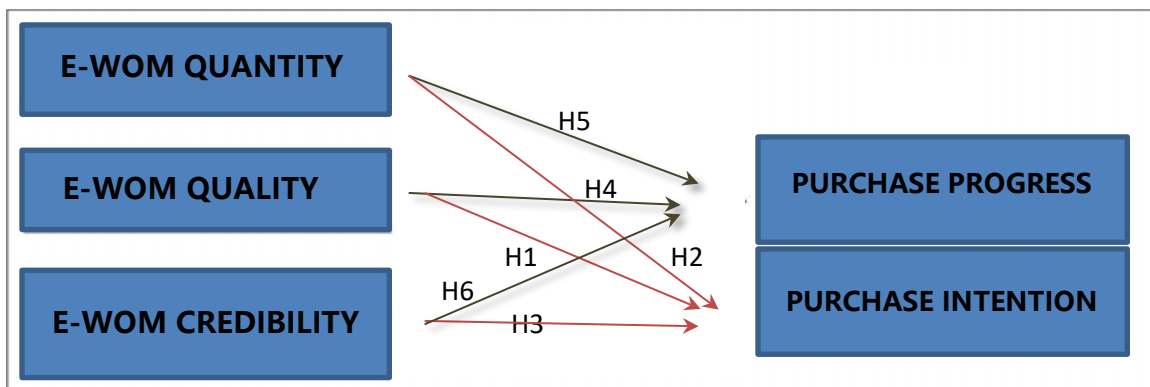
Time horizon defines the time frame for research. Longitudinal time horizon requires multiple data collection of different variables from the same respondents, after which the collected data can be compared and analysed. However, cross-sectional or short-term studies face time constraints for data collection or research. In this study, we collected all required data in the short term. The target age group was 18-35, living in different geographic locations throughout China. We approached this by observing how those different respondents indicated their individual opinion about the questionnaires, after which we would analyse the relationships between the three independent variables and the two dependent variables.

Questionnaire is a standardised tool used to collect large amounts of data. It primarily involves creating questionnaires and sending them to a platform, such as Credamo as used in this study. Credamo was chosen for this study due to its status as a widely used professional platform for data collection in China. Chinese people can also access this platform to answer the questionnaire provided that they create an account and log in; furthermore, the site offers the useful function of automatically building charts and diagrams of the data collected,

which is extremely helpful when analysing the data. Finally, questionnaires on Credamo are intended to be answered by at least 250 respondents.

The questionnaire used in this study contained two parts. The first section comprised questions related to all variables, to investigate the quality, quantity, and credibility of e-WOMs and explore whether these factors generate influence on purchase intention and purchase progress. Every hypothesis was allocated three questions on the questionnaire. The second part focused on the collection of respondents' demographic information, including their gender, age, education background, and occupation.

3.3 Research Model and Hypothesis



In this study, the quantity, quality, and credibility of e-WOM were used as independent variables, whilst purchase behaviours were used as dependent variables. The study addressed two dimensions of purchase behaviour: purchase intention and purchase progress. It examined how e-WOM affects purchase behaviour, from the aspects of quantity, quality, and credibility. In addition, the purchase progress includes the recognition of a problem or need; information search; evaluation of alternatives; selection; purchase; and post-purchase

evaluation. Thus, this study reveals how different dimensions of e-WOM affect purchase behaviours regarding cosmetics in the context of the Chinese market.

- H1: e-WOM quality of cosmetics has a significant influence on purchase intention for female consumers in China
- H2: e-WOM quantity of cosmetics has a significant influence on purchase intention for female consumers in China
- H3: e-WOM credibility of cosmetics has a significant influence on purchase intention for female consumers in China
- H4: e-WOM quality accelerates the purchase progress of cosmetics by female consumers in China
- H5: e-WOM quantity accelerates the purchase progress of cosmetics by female consumers in China
- H6: e-WOM credibility accelerates the purchase progress of cosmetics by female consumers in China.

3.4 Variable Measurements

E-WOM quality

The scale of quality was adopted from Citrin (2001), Wixom & Todd (2001), and Park et al. (2008). We adopted three dimensions related to quality, namely its comprehensibility, comprehensiveness, and correlation with products. We also measured this variable using a 5-point Likert scale.

Variable	Dimensions	Measurement
E-WOM QUALITY	Comprehensibility	I think comments about cosmetics online are clear and understandable

	Comprehensiveness	I think the e-WOM about cosmetics are rich and comprehensive
	Correlation	I think the correlation and similarity are high between e-WOM and the product in reality

E-WOM quantity

The scales of quantity used in the research were drawn from studies conducted by Park et al. (2007) and Wang (2009). We also measured this variable using a 5-point Likert scale.

Variable	Measurement
E-WOM QUANTITY	I think there are many comments about cosmetics on social media.
	Consumers like to discuss cosmetics' brands and their function with others online.
	The topic of cosmetics gains high levels of attention from consumers

E-WOM Credibility

The scale of credibility we adopted was taken from research conducted by Ohanian (1990). We also measured this variable using a 5-point Likert scale.

Variable	Measurement
E-WOM	The online comments about cosmetics are reliable.

CREDIBILITY	The online comments about cosmetics are honest.
	I think the people who make comments and release information have a high level of professionalism.

Purchase intention

To measure the purchase intention regarding cosmetics, items were adopted from research conducted by Evgeniy et al. (2019).

Variable	Measurement
PURCHASE INTENTION	Reading online reviews about cosmetics increased my desire to buy this cosmetic.
	I intend to try the cosmetics discussed in the online reviews/comments.
	I will consider buying the cosmetics after reading online reviews and comments.

Purchase progress

A study conducted by Lu Jing (2015) demonstrates that 65.15% of respondents generated an interest in cosmetics after reading e-WOM and became more willing to research the product in greater depth; 77.25% of respondents searched for more information about a cosmetic product's brand

and function through e-WOM; 66.41% of respondents evaluated and assessed alternatives to cosmetics through e-WOM; and 81.39% of respondents felt that their purchase decision regarding cosmetics would be affected by e-WOM. Additionally, half of respondents still sought for further information after purchasing a cosmetic product. This demonstrates that e-WOM significantly affects all steps of purchase progress. As a result, Lu Jing (2015) created a scale for purchase progress, containing five measurements. However, the present study focused on whether e-WOM could accelerate the purchase progress; therefore, we created our scale based on the three phases of information searching; alternative evaluation and selection; and purchase decision.

Variable	Measurement
PURCHASE PROGRESS	e-WOM could help me reduce the time spent searching for information about cosmetics and purchasing them.
	e-WOM could reduce the possibility of searching for alternatives, thus making me buy this cosmetic more quickly.
	e-WOM makes me make faster purchase decisions.

3.5 Ethical issues

The purpose of ethical considerations is to protect all subjects who contributed to the study and prevent the occurrence of harm to individuals and society overall. Our research was conducted in close adherence to the code of ethics. Every participant was treated fairly and indiscriminately. Furthermore, we ensured the privacy of all participants. All questionnaires were collected online,

with 270 respondents providing basic information. We did not require any private information such as their name or contact number, to reduce the risk of information leakage. Before completing the survey, each respondent was provided with an explanation of the aims of the research and reminded to provide honest responses to the best of their ability. All data and information will be used for the sole purpose of this study, and we will delete all data once the research has been completed, to ensure that respondents' information will not be leaked. In addition, this study conducted its research based on the principles of faith, rigour, and honesty.

4. Result of analysis

4.1 Data analysis method

This survey was conducted between June and August 2021, and investigated the relationship between e-WOM and the purchase intention and purchase progress of young female consumers in China. To verify the six hypotheses addressed in this study, we analysed the data using SPSS 26.0. First, statistical characteristics such as gender, age, education level, and occupation were analysed with frequency analysis. Secondly, reliability analysis was conducted to test the internal consistency between questions using Cronbach's Alpha, after which validity analysis was performed to determine the adequacy of samples using Kaiser Mayer Olkin (KMO) and the Bartlett test. Thirdly, correlation analysis was conducted to test the correlation between variables, which is the premise of regression analysis. Finally, regression analysis was

performed to explore the impact of e-WOM on purchase intention and purchase progress, respectively.

4.2 Descriptive Analysis

268 questionnaires were collected through the online data platform called Credamo. 25 of these responses were completed by male respondents; since the survey was targeted solely at female consumers, these responses were invalid. Therefore, 243 responses were accepted for analysis. As illustrated in Table 1, 126 participants (51.9%) belonged to the 26-30 age group, 57 respondents (23.5%) were aged 18-25, 54 respondents (22.2%) were aged 31-35, and six participants belonged to other age groups. Regarding the respondents' education background, 192 (79%) had attained an undergraduate degree, 23 (9.5%) had attained a postgraduate degree, 19 (7.8%) had attained a vocational degree, 3 (1.2%) had not attained a senior high school level, 5 (2.1%) had attained a senior high school level, and the remaining 1 had attained a doctorate. Regarding occupational status, 136 respondents (56%) were office workers, 37 (15.2%) were students, 21 (8.6%) were government officers, 20 (8.2%) were self-employed, 17 (7%) were professional workers, and 12 (4.9%) stated "other".

Table 1

Category	Classification	Frequency(n=243))□	Ratio(%)□
Age	18-25	57	23.5
	26-30	126	51.9

	31-35	54	22.2
	others	6	2.5
	Under senior	3	1.2
	high		
	senior high	5	2.1
Education	vocational	19	7.8
Level	degree		
	undergraduate	192	79.0
	postgraduate	23	9.5
	doctor	1	.4
	student	37	15.2
	office worker	136	56.0
	professional	17	7.0
	worker		
Job	self-employed	20	8.2
	government	21	8.6
	officer		
	others	12	4.9

4.3 Reliability Analysis

Reliability analysis is a method for measuring internal consistency between questions and the reality of data from research samples. According to Anderson et al. (2010), Cronbach's alpha is the most popular method for the

evaluation of internal reliability. If an adequate level of internal reliability is to be attained, it is necessary that certain measures should meet the appropriate requirements. Brownlow et al. (2014) state that figures that are higher than or equal to 0.90 represent an excellent level of reliability; meanwhile, other researchers state that figures that are higher than 0.70 correspond to an ideal Cronbach's alpha (Anderson et al., 2010). Figures that are within the range of 0.70-0.90 are regarded as having a high or acceptable level of reliability, those that are within the range of 0.50-0.70 are considered as merely moderately reliable, and values that are less than 0.50 are unacceptable (Brownlow et al., 2014).

Table 2 illustrates all five variables for this research.

Table 2

Variables	item	Cronbach's α	Type of Reliability
Ewom quality	3	.868	High Reliability
Ewom quantity	3	.894	High Reliability
Ewom credibility	3	.880	High Reliability
Purchase intention	3	.856	High Reliability
Purchase progress	3	.863	High Reliability

As shown in Table 2, every variable has been allocated three questions in the questionnaire, so the items show "3" for each variable. e-WOM quality, quantity, and credibility, as well as purchase intention and purchase progress, all have a high level of reliability, with Cronbach's alpha figures of 0.868, 0.894,

0.880, 0.856 and 0.865, respectively; overall, they fall within the range of 0.70-0.90. Thus, the reliability and consistency of the sample is acceptable.

4.4 Validity Analysis

4.4.1 Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity

Validity analysis was used to test the validity of the questionnaire. This method is used to determine whether the designed items of questionnaire are reasonable and whether they can effectively reflect the research goals.

The Kaiser-Meyer-Olkin (KMO) and Bartlett's test are important phases preceding the exploratory factor analysis (EFA). Its purpose is to ascertain whether the data is suitable for the study to proceed to the EFA. Anderson et al. (2010) state that the KMO test is used to analyse the adequacy of the sample. Meanwhile, the Bartlett's test is used to determine the extent to which the research can use factor analysis appropriately. According to Brownlow et al. (2014), the test ranges from 0 to 1, with figures that are closer to the upper range of 1 regarded as particularly excellent. Next, as stated by Kaiser (1974), values that range from 0.5 to 1 are considered acceptable for factor analysis. However, values that fall below 0.5 are not considered relevant for factor analysis. Regarding Bartlett's test of sphericity, the P value or significance should fall below 0.05 to facilitate the assessment of the appropriateness of the study's factor analysis (Anderson et al., 2010).

Table 3 illustrated the results of the KMO and Bartlett's sphericity test.

Table3

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.890
Bartlett's Test of Sphericity	Approx. Chi-Square	2304.215
	df	105
	Sig.	.000

As Table 3 demonstrates the value of KMO as 0.89, the sample adequacy for this study is acceptable. Furthermore, the significant value of Bartlett's test is less than 0.05, which confirms that the data are suitable for the application of factor analysis. Thus, it is possible to progress to the next stage: exploratory factor analysis.

4.4.2 Exploratory factor analysis

Exploratory factor analysis is a method used in multivariate statistics to reveal the underlying structures between a substantial set of variables. Norris et al. (2009) state that the primary purpose of exploratory factor analysis is to identify the relationships between measured variables and stipulate that the cumulative variance should be over 50%.

Table 4

Variables	Items	Factor Analysis	Number of Items	Rotation Sums of Squared		
				Total	Loadings % of Variance	Cumulative %
Ewom quality	A1	.816	3	2.486	16.575	16.575

	A2	.788				
	A3	.798				
Ewom quantity	A4	.793				
	A5	.845	3	2.419	16.125	32.700
	A6	.849				
Ewom credibility	A7	.845				
	A8	.829	3	2.407	16.048	48.749
	A9	.794				
Purchase intention	B1	.789				
	B2	.881	3	2.389	15.928	64.676
	B3	.840				
Purchase progress	B4	.777				
	B5	.816	3	2.368	15.786	80.462
	B6	.803				

We extracted variables from 15 questions and extracted the eigenvalues of 5 variables that were greater than 1.0. Their cumulative variance was 80.462%; as this is greater than 50%, the measurement of variables through this questionnaire is evidently valid, and the validity of the scale structure is high.

4.5 Correlation analysis

The primary purpose of correlation analysis to consider the correlation between variables. This step is the premise of regression analysis. Generally, the correlation coefficient (r) is used to indicate the degree of correlation between variables. Its value range is $-1 < r < 1$; 0 means completely uncorrelated, whilst 1 means completely correlated.

Table 5

Variables	Qualit y	Quanti ty	Credibi lity	Purchase Intention	Purchase Progress
Quality	1				

Quantity	.530***	1			
Credibility	.489***	.503***	1		
Purchase Intention	.403***	.377***	.427***	1	
Purchase Progress	.571***	.516***	.500***	.404***	1

***. Correlation is significant at the 0.001 level (2-tailed).

Table 5 demonstrates that at 0.5, the correlation between variables is relatively good. For example, the correlation between quality and quantity is 0.530, and *** symbol indicates that their correlation is great. The correlation between quantity and credibility is 0.503. The variables of e-WOM quality, quantity, and credibility, as well as purchase intention and purchase progress, all have a positive correlation at a significant level; as a result, it is possible to proceed to the next hypothesis test.

4.6 Regression Analysis

4.6.1 The impact of e-WOM on purchase intension

Regression analysis is a form of statistical data analysis. The purpose of regression analysis is to ascertain whether there is any relationship between two or more variables; provide insight into the strength and direction of any identified correlation; and construct a mathematical model for the purpose of observing specific variables and thus predict the variables of interest. In other words, regression analysis can facilitate understanding of the extent of the change in the dependent variable when only one independent variable has exhibited change. Regression analysis facilitates the estimation of the conditional expectation of the dependent variable in relation to the independent variable.

Standardised coefficients (also known as beta weights, beta coefficients, or regression coefficients) are the estimates produced after performing a regression analysis wherein the underlying data have been standardised, thus resulting in variances of independent and dependent variables that are equal to 1 (Menard, 2004). Thus, standardised coefficients do not have units and indicate the number of standard deviations that will be changed by a dependent variable, based on the increase of standard deviations in the predictor variable.

Table 6

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	F
	B	Std. Error	Beta			R ² (Adj. R ²)	
(Constant)	1.349	.278		4.852	.000		
1 Quality	.220	.076	.202	2.909	.004	.494 ^a	25.767
Quantity	.142	.072	.140	1.992	.048	.244	(.000)
Credibility	.273	.072	.258	3.778	.000	.235	

Dependent Variable: Purchase intention

Predictors: (Constant), EWOM quality, EWOM quantity, EWOM credibility

The regression analysis results outlined in Table 6 demonstrate that R² is 0.244 and that its adjusted R² is 0.235; this means that purchase intention would change 23.5% due to the independent variable. F=25.767, P=0.000<0.05 means that e-WOM has an effect on purchase intention. e-WOM quality (t=2.909,

p<0.01), e-WOM quantity (t=1.992, p<0.05) and e-WOM credibility(t=3.778, p<0.001) all have a significant positive effect on purchase intention.

The beta coefficients of e-WOM quality, quantity, and credibility are 0.202, 0.140, and 0.258, respectively. For every increase of 1 unit in the e-WOM quality of cosmetics, the willingness of women’s purchase intention will increase by 0.220 units; for every increase of 1 unit in the e-WOM quantity of cosmetics, the willingness of women’s purchase intention will increase by 0.140 units; and for every increase of 1 unit in the e-WOM credibility of cosmetics, the willingness of cosmetic purchase intention for young female consumers will increase by 0.258 units. Thus, these figures confirm that e-WOM quality, quantity, and credibility all have a significant positive impact on purchase intention; **therefore, H1, H2, H3 are supported**. Additionally, e-WOM quantity has the least impact on purchase intention compared to quality and credibility.

4.6.2 The impact of e-WOM on purchase progress

Table 7

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	R	F (sig)
	B	Std. Error	Beta			R ² (Adj. R ²)	
1	(Constant)	.679	.244		2.782	.006	58.164
	Quality	.378	.066	.346	5.686	.000	.650 ^a (.000)
	Quantit	.228	.063	.223	3.6	.000	.422

y				25		
Credibility	.233	.064	.219	3.669	.000	.415

Dependent Variable: Purchase progress

Predictors: (Constant), EWOM quality, EWOM quantity, EWOM credibility

Table 7 shows the result of the regression analysis regarding the impact of e-WOM on purchase progress of cosmetics in China, which thus support H4, H5, and H6.

The results of the regression analysis demonstrate that R² is 0.422 and the adjusted R² is 0.415, meaning that purchase progress would change by 41.5% due to the independent variable. F=58.164, P=0.000<0.05 means that e-WOM has an effect on purchase progress. e-WOM quality (t=5.686, p<0.001), e-WOM quantity (t=3.625, p<0.001), and e-WOM credibility (t=3.669, p<0.001) all have a significant impact on purchase progress.

The beta coefficients of e-WOM quality, quantity, and credibility are 0.346, 0.223, and 0.219, respectively. For every increase of 1 unit in the e-WOM quality of cosmetics, the speed of purchase progress will increase by 0.346 units; for every increase of 1 unit in the e-WOM quantity of cosmetics, the speed of purchase progress will increase by 0.223 units; and for every increase of 1 unit in the e-WOM credibility of cosmetics, the speed of purchase progress will increase by 0.219 units. As a result, e-WOM quality, quantity, and credibility could accelerate the purchase progress of cosmetics by female consumers in China; **therefore, H4, H5, and H6 are supported.** Additionally, e-WOM quality has

most significant impact on purchase progress compared to quantity and credibility.

Following table shows the results.

Table8

Hypothesis	Result
1、 e-WOM quality of cosmetics has a significant influence on purchase intention for female consumers in China	Supported
2、 e-WOM quantity of cosmetics has a significant influence on purchase intention for female consumers in China	Supported
3、 e-WOM credibility of cosmetics has a significant influence on purchase intention for female consumers in China	Supported
4、 e-WOM quality accelerates the purchase progress of cosmetics by female consumers in China	Supported
5、 e-WOM quantity accelerates the purchase progress of cosmetics by female consumers in China	Supported
6、 e-WOM credibility accelerates the purchase progress of cosmetics by female consumers in China	Supported

5. Discussion

The rapid development of the information age has effected significant changes in consumers' cosmetics purchase behaviour, one of which is the rise of e-WOM as the main reference basis for female consumers to buy cosmetics. What kind of effect does the overwhelming e-WOM have on consumers' purchasing behaviour? Given China's position as a major country of cosmetic consumption, managers of Chinese cosmetic companies need to improve their understanding of the impact of e-WOM on the cosmetics purchase behaviour of Chinese consumers. In the process of consumption, marketers are mostly

concerned about how to increase consumers' purchase intention and reduce their consideration time to accelerate the overall purchase progress; therefore, these two aspects were taken as variables for this research. According to previous studies, quality, quantity, and credibility can be used as three factors for evaluating e-WOM. Therefore, quality, quantity, and credibility were taken as independent variables for this research. At present, many online cosmetics reviews and information are operated by the backstage of the merchants. Many of them pursue the e-WOM quantity and ignore the factors of quality and reliability. In addition, as consumers upgrade their experience of online shopping and information inquiry, they develop their own set of methods and standards for evaluating e-WOM. Therefore, this paper targets female cosmetics consumers to study the influence of e-WOM quantity, quality, and credibility on purchase intention and purchase progress. According to the findings, e-WOM quality, quantity, and credibility have a significant impact on purchase intention. Furthermore, the findings demonstrate that e-WOM quality, quantity, and credibility could accelerate the purchase progress of cosmetics by female consumers in China.

Firstly, as mentioned earlier, many previous studies have confirmed that e-WOM has a positive influence on purchase intention. For example, a study conducted by Mendbayar and Kyung-Doo (2018) illustrates that e-WOM quality and credibility have a significant effect on purchase intention for cosmetics products, which is consistent with the result of this paper. Thus, regardless of whether the market and consumers are Mongolian or Chinese, and regardless of

the age and gender of the consumers, e-WOM quality and credibility demonstrably have a significant impact on purchase intention. Based on the data collected through questionnaire, 81 respondents (41.9%) felt that e-WOM quality is the most decisive factor in the final purchase decision regarding cosmetic products, whereas 95 respondents (49.2%) felt that e-WOM credibility is the most decisive factor. As a result, e-WOM quality and credibility are not only important for purchase intention, but also for the final purchase decision.

Furthermore, the hypothesis that stated that e-WOM quantity has a significant effect on purchase intention in the Mongolian market is not supported in this study. However, the result confirmed that this hypothesis is supported in the context of the Chinese market. According to regression analysis, e-WOM quantity's standardised coefficient is $b=0.140$, which means that for every increase of 1 unit in the e-WOM quantity of cosmetics, the willingness of purchase intention regarding cosmetics will increase by 0.140 units. Additionally, in the open questions included in the questionnaire, 17 out of 243 participants indicated that e-WOM quantity is regarded as the decisive factor in the final purchase of cosmetic products. Therefore, unlike the Mongolian market, the e-WOM quantity in the Chinese market has a significant influence on purchase intention. Mendbayar and Kyung-Doo's (2018) research focuses solely on the entire Mongolian market, whereas this study focused on young female consumers in the Chinese market. Different research samples would produce different results for hypotheses. In the process of consumption, women generally have a more complicated purchase process and considerations; however, young

females are more likely than other consumer groups to follow consumption trends. The rapid development of media in the information era has led to the emergence of social media such as Wechat, Weibo, Xiaohongshu, and TikTok. TaoBao's popular models, Internet celebrity models, and models on TikTok have all affected the consumption choices made by individual youths (Li Tong, 2019). Therefore, we assume that some female consumers would generate the mentality of adherence to trends when encountering a significant amount of comments and online information about a cosmetic, which subsequently increases their purchase intention. This might explain why the result of e-WOM quantity is different from the previous study. As mentioned previously, China's cosmetic industry has colossal potential, and thus contains substantial research potential. As this paper demonstrates the importance of e-WOM for women's purchase intention of cosmetics, it could help companies to better understand the importance of e-WOM and develop strategies that enhance the purchase intention of female consumers.

Secondly, the finding confirms that e-WOM quality, quantity, and credibility could accelerate the purchase progress of cosmetics by female consumers in China. Unfortunately, no previous research study on this field could be found, making it impossible to compare this study to others. However, this research topic is important in the current era characterised by advanced information and convenient shopping. This study asserts that managing the e-WOM of cosmetic products from the perspectives of quality, quantity, and credibility can enhance consumers' purchase confidence and accelerate their purchase progress. The

results of this study revealed that e-WOM has a significant effect on the three stages of purchase behaviour, namely information searching, evaluation of alternatives, and purchase decision, as these three stages are processes that consumers spend more time on when considering a purchase. Therefore, it is insufficient for companies to focus solely on e-WOM quantity; rather, they must develop strategies to guide consumers to providing relatively comprehensible and reliable reviews.

This research topic also contains one major limitation. As mentioned earlier, this paper defines e-WOM as the process in which potential, existing, and past consumers of products and services give positive and negative reviews which exist in conversations or in advertising videos and cosmetic advertorial in the form of comments or bullet screen. However, this study failed to recognise that e-WOM is not the only criterion that affects consumers' purchase behaviour. In other words, consumers may be affected by other factors such as cosmetic advertising, cosmetic advertorial, or videos, which also often feature e-WOM in the form of comments. The simultaneous existence of varying information makes it difficult for consumers to determine that they are more influenced by comments than the advertisements themselves. As a result, although the difference between advertisements and e-WOM is emphasised in the questionnaire, it is difficult for consumers to distinguish what exactly affects their purchase progress. Unfortunately, we failed to ascertain how to exclude the impact of cosmetic advertisement on purchase progress when conducting the survey.

6. Conclusion

In this paper, we mainly investigated how e-WOM impacts on young women's purchase intention and purchase progress regarding cosmetic products in the context of the Chinese market. Exploration of previous studies revealed that no many study has focused specifically on the young female cosmetic market. Therefore, based on three main factors of e-WOM, namely quality, quantity, and credibility, we posed a question: how do these three factors of e-WOM influence purchase intention? In addition, purchase intention forms merely a single component of the entire purchase progress; meanwhile, contemporary women are more cautious and rational about purchasing cosmetics, and women have a more complicated purchase process than men when purchasing products. Thus, according to the EBM model in which purchase progress is divided into five steps (problem or need recognition; information search; alternative evaluation and selection; purchase; and post purchase behavior), we posed another question: if e-WOM could reduce the amount of time spent on information searching, evaluation of alternatives, and decision making, would it accelerate the purchase progress?

We collected 268 questionnaires from the Credamo data platform, and 243 of which were deemed valid and accepted for analysis. Using SPSS; descriptive analysis; reliability and validity analysis; correlation analysis; and regression analysis, we analysed the relations between all constructs of the developed model on the purchase intention and purchase progress of young female consumers regarding cosmetic products in the context of the Chinese market. The results demonstrate that e-WOM quality, quantity, and credibility

have a significant impact on Chinese women's purchase intention regarding cosmetics. In addition, e-WOM quality, quantity, and credibility could accelerate Chinese women's purchase progress regarding cosmetic products.

6.1 Academic implications

This study contributes five important findings in its academic implications. First, e-WOM quality represents the completeness and comprehensibility of the review contents. Chinese female customers have a higher level of purchase intention for cosmetic products when e-WOM quality is high. Second, e-WOM quantity represents the quantity of comments and the frequency of discussion on a given topic. The higher quantity of e-WOM, the higher purchase intention consumers will experience. Third, e-WOM credibility has the greatest impact on purchase intention. Consumers have their own perception of credibility, and the widespread use of e-WOM marketing at present has caused consumers to pay more attention to e-WOM credibility. Fourth, this research proposes the concept of purchase progress, citing the five steps of consumer purchase behaviour (i.e., the EBM model). Based on previous research, it has been found that the three stages of information searching, alternative evaluation, and purchase decision making will be affected. Fifth, e-WOM quality quantity credibility could accelerate the purchase progress.

6.2 Practical Implications

The following can be proposed from a practical viewpoint. This research focuses on the cosmetics market in China and studies the impact of e-WOM on consumer purchase intention and purchase progress. Therefore, merchants

could better understand the importance of e-WOM to consumers' purchase intention and purchase progress by reading this paper. For companies, investing more in marketing can provide more topic discussions regarding their own cosmetic products. More comments will be generated when discussion increases, and potential consumers will be able to locate product and price information more quickly. However, e-WOM quantity can only be used as one aspect of accelerating purchase progress. We found that e-WOM quality and credibility have a more significant impact on purchase progress. However, it is difficult for merchants to control the quality and credibility of e-WOM, since the consumer has the right and freedom to comment on a cosmetic product regardless of whether their opinion and language used are positive or negative, based on the perceived advantages and/or disadvantages of the product itself. According to market research, this research suggests that merchants should not perform excessive back-end operations on reviews, as contemporary young consumers believe that they have the ability to distinguish the authenticity of reviews and identify which review information is e-WOM marketing. Consumers are also more willing to see relatively objective and rational comments; when the information provided is useful, it will have a more positive impact on purchase progress. In addition, regarding e-WOM quality, merchants can occasionally appropriately guide consumers to provide detailed and reliable reviews, which are more meaningful for other potential consumers.

6.3 Limitations to research

Although this paper contributes both academic and practical implications, it still contains four limitations. First, it solely studied young female consumers in China. Since male makeup is increasingly popular, future research can target male consumers and thus make the research on e-WOM in the context of the cosmetics industry more comprehensive. Furthermore, future research can also explore the impact of e-WOM on different age groups and genders. Second, this article has repeatedly mentioned that many social platforms such as Xiaohongshu, Weibo, and TikTok frequently feature cosmetic advertisements, comments, and topic discussions. e-WOM in this study refers to all platforms, and does not focus on specific social media platforms. Future research can therefore specifically study the impact on purchase intention or purchase progress of the e-WOM of one social media platform, to provide more helpful research for the merchants of the platform discussed. Third, the coexistence of cosmetics advertisements and e-WOM comments and information make it difficult for consumers to distinguish whether their purchase intention and purchase progress are influenced by cosmetics advertisements or e-WOM reviews. Although the difference between the two has been emphasised in the survey, this issue might cause different results. Fourth, due to the time constraints and the impact of the COVID-19 pandemic, all data were collected online from Credamo, which is a professional platform used for data collection. Active users on this platform usually have attained higher levels of education, and most are office workers; therefore, the characteristics of our samples are relatively consistent, which might reduce the quality of the survey data.

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