

E-Word of Mouth and its Influence on Adolescent Purchase Behavior Toward Dietary Supplements

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Abstract

Aim: The aim of the study was to examine the perceived trustworthiness of the electronic word of mouth (eWOM) on attitude and their purchase intention toward dietary supplements, particularly with Saudi female adolescents. **Materials and Methods:** The sample of 1027 adolescent Saudi females was contacted online. Excel and Social Science Statistics were used to analyze the data as per the requirement of the study. The hypothesis that has been built in this study was tested with Chi-square test at significance level of $P \leq 0.05$, and result was analyzed and interpreted accordingly. **Results and Discussion:** More than 50% believed that dietary supplements have a nice and favorable effect on health. The study's findings suggest that the perceived trustworthiness of eWOM has a significant impact on attitude toward dietary supplements and impacts the purchase intention of adolescents. **Conclusion:** There is a positive relationship between the trustworthiness of eWOM on purchase intention of dietary supplements among the respondents. Overall, it is recommended that the marketer of this product (dietary supplements) should maintain the user's perception and build brand image using the proper positioning of the marketing mix that suits the target consumers.

Key words: Adolescents, consumer behavior, dietary supplements, electronic word of mouth, purchase intention, Saudi Arabia

INTRODUCTION

Digital media is a predominant topic worldwide and social media is an essential part of the digital campaign. Hence, electronic word of mouth (eWOM) has traditionally been used to raise awareness and marketing campaigns. Moreover, recently, it has had a great impact to shape consumer attitudes.^[1,2] In addition, eWOM has become an integral part of the promotional budgets of many firms, and the role of eWOM cannot be underestimated for companies and brands.^[3] Further, this gives people more time to find interesting products to talk about and share. eWOM can also induce members to join groups or sign up for websites and these campaigns have longer carryover effects than traditional marketing.^[4] The adolescents' use of social media is increasing. They are regarded as one of the largest market segments among social media users as adolescents spend a considerable amount of time behind digital screens.^[5,6] Social networking sites (SNS) such

as Facebook, Twitter, and MySpace are good virtual places for youth to interact and exchange information with healthy eating and active living messages. Sedentary activity screen time spent on SNS is correlated with unhealthy eating and obesity among adolescents.^[5-7]

Based on the study conducted by,^[8] it is noted that most users on SNS are females. Global research was undertaken to explore the ratio of male and female users on the Internet, representing more than 22% active women on Twitter compared to 15% of men. Besides this, on Facebook, the ratio of women and men is 71–29%. Hence, this shows that female is more likely to use SNS and share their reviews about products and services. It

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is also illustrated in the past studies shared, which shows that females are influenced by SNSs more than males.^[9-11] Hence, according to^[12,13] the SNS develop the attitude of the consumer toward, and this attitude further shapes the behavior of the consumer. It is defined as the global predisposition which can be for or against undertaking certain behavior.

Like any other developing country, the Kingdom of Saudi Arabia (KSA) went through rapid socioeconomic changes during the past decades. Such changes have greatly affected the lifestyle of the entire population. For instance, the traditional Saudi diet was replaced by the energy-dense Western diets that caused an increased prevalence of some diseases such as obesity, Type 2 diabetes, and hypertension.^[7,14-16] Moreover, fast food consumption has seen and reported increased caloric intake combined with a sedentary lifestyle, associated with rising rates of obesity in Saudi society.^[17,18] Saudi adolescents became especially vulnerable to intense marketing efforts by manufacturing companies to promote unhealthy snacks since they represent the future adult consumers.^[7,19-21]

An annual report of the Saudi General Authority for Statistics shows that 68% of the total populace are below 35, 27% of them are adolescents.^[22] Among the Saudi adolescents' girls are the main groups exposed to and affected by high fast food consumption behaviors in the region.^[23] Alfawaz *et al.* found that the prevalence of dietary supplement use was high among Saudi female adolescence, and it was significantly associated with sociodemographic and lifestyle factors.^[24] There is slight literature about social media influence on female adolescents in general, especially concerning Saudi adolescents; there is a lack of study toward the eWOM about the purchase intention of dietary products. Therefore, this study mainly focusing the following objectives related to eWOM:

Aims and objectives

The study aims to investigate the perceived trustworthiness of eWOM in influencing attitude, purchase intention, and behavior among Saudi female adolescents toward dietary supplements.

- To analyze the adolescent attitude toward the perceived trustworthiness of eWOM for dietary supplement
- To explore the attitude toward dietary supplements
- To analyze the adolescent attitude towards the purchase intentions of dietary supplements
- To reveal the adolescent purchase behavior toward dietary supplements
- To evaluate the e-word of mouth (WOM) and its influence on adolescent purchase behavior of dietary supplements.

LITERATURE REVIEW

WOM

WOM refers to the act of exchanging marketing information between consumers.^[25] WOM is typically defined as

person-to-person oral communication between a sender and a recipient, in which the sender delivers non-commercial information.^[26] Since consumers frequently use WOM when seeking information about products, services, organizations, and brands,^[27] WOM is generally considered an essential information source to influence consumer behavior when selecting products.

WOM to eWOM

The development of information technology has completely transformed the way consumers interact with each other and has enabled consumers to share their opinions.^[28,29] The development and maintenance of relationships between adolescents through SNS influence identity formation and generates social capital.^[6] Several classifications have been proposed for eWOM. In other words, using social media during adolescence can be seen as something crucial – a critical tool – in meeting current social trends and developing this generation's identity.

Trustworthiness of eWOM

In social media, opinion leaders play an instrumental role in shaping attitudes and recommending products to online community members.^[30] For effective marketing, people with influence over others first need to be identified; as one study stated that before, messages are seeded toward them, hoping that eWOM will be generated.^[10] Marketers are, therefore, increasingly using SNS as an essential element of their promotional mix and to relay the persuasive message to shape attitudes.^[31] The power of user-generated content on social networks (SNS) has great significance for marketers.^[2] With the proliferation of products, consumers encounter a multitude of eWOM; as a result of this volume, they rely more on negative eWOM rather than positive eWOM in guiding their purchase intentions.^[32] Furthermore, negative eWOM is perceived to be more informative and provide insights about the product and service and, therefore, has a greater negative impact on the purchase decisions. On the other hand, Mauri and Minazzi,^[33] while analyzing web reviews in the hospitality industry, determined that even positive reviews had a considerable impact on purchase decisions.

eWOM and consumer behavior

According to Shaikh *et al.*,^[34] social media marketing is an ongoing interaction between consumers. It serves as the channel for marketing activities, including customer relationship management, sales promotions, and branding. A study done by Alam and Elaasi has reported that social media positively impacts consumer behavior.^[35] A further study conducted by Ashley and Tuten^[36] argues that the main goal of social media campaigns is to influence users. It provides useful information to the customer and further benefits in terms of user-generated content. Finally, Chang

et al.^[37] justify empirically that social media marketing is a type of influential marketing that affects user behavior; this study is also supported by.^[38] While these previous studies have extensively evaluated the impact of social media marketing, no study has yet been conducted which has looked into the purchase behavior of and attitude toward dietary supplements on SNS.^[38] SNS, particularly Facebook, has become the fastest-growing medium of communication. Approximately 20 million users like fan pages every day on Facebook, and more than 1.5 million businesses have created a fan page. E-commerce has been seen as a very potential platform in the current days, and it has a very significant impact on society.^[39] Among all the mediums of promotions, social media has a more powerful place as a promotional tool than traditional marketing, whereby media managers seed blogs with people who exert influence over others and are looked up to for their opinions. The exchange of information between consumers and within a community leads to increased marketing content. Meanwhile, social media participation involves interaction and content generation that benefits network members.^[40]

The eWOM and purchase behavior

Despite the high spending by advertisers to connect with markets, consumers still place their highest levels of trust in the opinions of others.^[41] Moreover, this trust is not limited to friends and family, with over 87% of Internet shoppers reporting that in some situations, they trust eWOM as much as recommendations by others.^[42] New media has largely supplemented traditional press in online communities, SNS, blogs, and video-sharing websites.^[43,44] This diffusion of social media is not limited to the younger population. Still, it encompasses all ages,^[45] resulting in marketers increasingly paying more attention to social media and user-generated content. Social media (which can also be termed “earned media” where the publicity is organic rather than delivered) comes in the form of discussions about the company’s products on professional blogs, eWOM, and posts among online communities in the form of status updates and online ratings and reviews.^[46] Companies or agents generate paid search, but social media or earned media involves content generated by users.^[47] Stephen and Galak^[48] analyzed the data of microlending firms over 14 months. They demonstrated that social media is more powerful than paid media and can significantly shape attitudes in online communities.

The power of WOM or eWOM cannot be underestimated. The sheer speed, convenience, wider scope, and interactivity offered by eWOM give it an edge over traditional WOM.^[49] While WOM is normally based on interaction with known sources such as family and friends, eWOM represents interaction with unknown people. The growing role of eWOM in product adoptions, reviews, ratings, and recommendations has led to an increased focus on studying the relationship between eWOM and purchasing behavior. eWOM has traditionally

been used to raise awareness, but it is increasingly used to shape consumer attitudes.^[2] It has grown into an essential part of the promotional budgets of many firms as customers acquired through eWOM are found to have greater long-term value than those obtained through paid advertising.^[50,51] The analysis by Berger and Iyengar,^[52] based on extensive research, found that eWOM is more effective than WOM as people get more time to think, frame, and then write their review due to the asynchronous nature of written communications.

Furthermore, this gives people more time to find interesting products to share through eWOM. eWOM can also induce members to join groups or sign up for websites, with such campaigns having longer effects than traditional marketing.^[53] Several studies have focused on studying consumer behavior concerning social media.^[7] Trusov *et al.*^[53] researched the effect of social dynamics on the online ratings of beauty products, which is more relevant to dietary supplements since they affect how females look. The study found that the product ratings, with or without social dynamics, had a significant impact on sales but that products with multiple audiences and various opinions positively influenced behavior and substantially higher sales.

Adolescent consumers and their purchase behavior

This section deals with specific aspects of this relationship about SNSs and eWOM. For example, Pempek *et al.*^[54] found that, on average, adolescent users engage with Facebook for 27.93 min per weekday. Facebook or other SNS has not just grasped adolescent attention but has become an active component of their daily lives, interactions, and social commitments.^[55] Moreover, since SNS is essential for everyday communication and interaction between adolescents, they are a potential tool for developing adolescents’ identities through self-exploration and relationships as social capital.^[56] Thus, it can be expected that the impact of eWOM on any decision-making could be greater than any other age group, especially for purchase decision-making. Since this study is specifically about Saudi adolescent females, the data show that the Internet is used by 93% of the whole population, meaning that almost every person in the country can access SNS. It is further emphasized that there is a need to understand SNS’s role in young Saudis’ lives. For older generations, such as Generation Y, social influence came mostly from personal interaction with the reference groups and opinion leaders. Generation Z, however, is digital natives and often highly educated, technologically savvy, innovative, and creative.^[57] Researchers also explored Generation Z consumers’ expectations of interactions in smart retailing; Southgate discussed that the impact of Generation Z in advertising has impact on it.^[58]

Female adolescents in Saudi Arabia

Before explaining the rationale behind focusing on Saudi female adolescents in this study, it is necessary to define

adolescence. Adolescence is a period of rapid physiological development and psychosocial maturation associated with changes in body perception.^[59] Youth is considered a crucial stage of life that brings many biological, neurocognitive, social, and behavioral changes.^[60] More precisely, the World Health Organization (WHO) defines adolescents as those people between 10 and 19 years of age.^[61] Adolescence-related issues have interested researchers in recent years, who have focused on topics related to the use of dietary supplements. This rapidly expanding field of research has gained importance because of the unique nature of this critical period of formative growth, in which development profoundly affects health and well-being.

As per the Canadian Pediatric Society recommendations, adolescence is approximately between 11 and 19.^[62] A study on adolescent females conducted by Samara *et al.* used a sample of age groups between 18 and 22.^[63] Another survey by Al-Hazzaa *et al.* defined the adolescent age group as 15 and 19.^[20] The latest annual report of the Saudi General Authority for Statistics shows that 68% of the total people are below the age of 35, of which 27% of the total population are adolescents.^[22] Therefore, Saudi adolescents' girls are one of the main groups exposed to and affected by high fast food consumption behaviors in the region.^[23] According to the one study, 71% of Saudi female adolescents are either overweight or obese. Of course, it explains the high prevalence of dietary supplement use among females in Saudi Arabia.^[64]

It has been observed that cultural barriers and social behaviors, and lifestyles in the KSA have changed dramatically.^[65] For example, the eating patterns of children and adolescents in the KSA have changed toward consuming high fat, high calorie, and unhealthy food. This food consumption behavior has resulted in an increased prevalence of obesity.^[65,66] It should also be noted that adult women spend their time looking after the house, taking care of the family, cooking food, and other domestic chores. In contrast, adolescent women spend time using the Internet and social media.

Moreover, currently, Saudi Arabia represents a unique and convergent blend of religious conservatism and technological modernization. Crown Prince Mohammed Bin Salman has introduced new regulations, with decisive decisions regarding Saudi women's rights, enhancing female job opportunities and allowing women to drive from next month in Saudi Arabia. The Internet was introduced into KSA in 1999, initially in the universities and public agencies, later made available to the public through Internet service providers. The previous studies have investigated obesity in Saudi adolescents regarding fast food, energy drinks, skipping breakfast, and not eating fruit and vegetables. Furthermore, the study done by Alam has revealed that the percentage of unhealthy food consumption is very high in KSA, and it needs to take the corrective measure by the stakeholders of children.^[7]

Dietary supplements and female consumers

Studies such as Geller *et al.* and Raghupathi and Fogel investigated dietary supplements (weight loss supplements) and their positive outcomes, focusing on the demand by women to use nutritional supplements to decrease their body weight and to achieve their perceived body image.^[67,68] These harmful measures replace a normal diet and exercise, with potential side effects described in another study. On the other hand, other researchers have investigated the marketing of dietary supplements on social media and the illegal marketing of some dietary supplements (weight loss supplements). According to Raghupathi and Fogel, Facebook is intensively working for health-care marketing purposes, with online social media providing platforms where users can create and share content in the form of videos, audio, and text.^[68] About 50% of adults in the USA use social media platforms, and the study shows that social media usage is associated with changes in a person's health behavior. Another study by Geller *et al.* (2015) highlighted that dietary supplements for muscle building and weight loss harm health since they are prone to abuse vulnerable customers.^[67] Their study found adverse effects of a dietary supplement on overall health. Meanwhile, it proved the negative effects of dietary and nutritional supplements on consumer health, signifying that these products could create life-threatening consequences. All three studies examined dietary products and their outcome in terms of increasing weight loss.

It is postulated that eWOM would help reduce certain aspects of intangibility and belief associated with these products. Saudi Arabia, like other developing countries, has been through many rapid socioeconomic changes in recent decades. Such changes have greatly affected the lifestyle of the entire population. For instance, the traditional Saudi diet was replaced by energy-dense Western diets, which have caused an increased prevalence of some diseases such as obesity, Type 2 diabetes, and hypertension.^[20] One study revealed that by taking energy beverages, there is a craze and widespread use of energy beverages among young people, mainly students in Saudi Arabia.^[66] Moreover, fast food consumption and increased caloric intake, combined with a sedentary lifestyle, have seen rising rates of obesity in Saudi society.^[16]

According to the annual statistics of food consumed in the Gulf Cooperation Council (GCC), in 2017, Saudi Arabia was on the upper side of the list of GCC countries in terms of the amount of annual consumed food.^[69] In 2012, the amount of consumed food in the country totaled 25.8 million metric tons, compared to 29.6 million metric tons in 2014 (961.6 kg per capita).^[70] This is of particular relevance to the present study since adolescents have become especially vulnerable to extreme marketing efforts by business companies to advertise unhealthy snacks since they represent future adult consumers.^[21] The latest annual report of the Saudi General Authority for Statistics shows that 68% of the total residents

are below the age of 35, of which 67% of the population are adolescents.^[71] Therefore, Saudi adolescents' girls are the main groups exposed to and affected by the region's high fast food consumption behaviors. ALFaris *et al.* and Alfawaz *et al.* found that the prevalence of dietary supplement use was high among Saudi female adolescence and was significantly associated with sociodemographic and lifestyle factors.^[23,24] The bulk of nutritional supplements has taken place alongside the expansion of the pharmaceutical market in Saudi Arabia. According to the Saudi Pharmaceutical Sales Forecast for the current year from Al Arabia news, 2018,^[72] industry products are expected to surpass US\$7 billion by 2018,^[72] in comparison to US\$4 billion in 2012, of which the supplement market accounts for 4% of the total pharmaceutical market sales.^[73]

From the initial review of the above discussion, it has been observed that there is a plethora of literature on different facets, dimensions, and aspects of e-WOM and its influence on adolescent purchase behavior globally and locally. Yet, there is a shortage of literature in eWOM of dietary supplements in Saudi Arabia. Hence, the researcher has made an effort in this study to analyze the trustworthiness of eWOM for dietary supplements concerning adolescents in Saudi Arabia.

The following null hypothesis has been taken to see the relationship between the selected variables.

- Hypothesis Ho1 – There is no influence between the trustworthiness of eWOM on Purchase Attitude toward dietary supplements
- Hypothesis Ho2: There is no influence between the trustworthiness of eWOM on Purchase Intention toward dietary supplements.
- Hypothesis Ho3: There is no influence between the trustworthiness of eWOM on Purchase behavior toward dietary supplements.

METHODOLOGY OF RESEARCH

The study employs quantitative research methodology and has descriptive to measure the trustworthiness of eWOM, purchasing attitudes and purchasing behavior about the dietary supplements. The information was collected through a questionnaire the main language of the survey was English; further, the questionnaire was translated into Arabic. After this, the translated instrument was translated back into English to ensure that the main themes were not lost in translation.^[74] The researcher judged the questionnaire by many university colleagues, and for the accuracy and validity, a pilot study was taken. Moreover, finally, after feedback was received, the questionnaire was adjusted for the study. An online survey from 1027 Saudi females' adolescent age ranging between 11- and 19-years in Saudi females were contacted, and convenience sampling methods were used for the purpose. A link to the questionnaire was sent to the respondents using online tools such as Email and social media. After receiving the data, it was tabulated and

analyzed through Excel and Social Science Statistics (SSS, 2020) as statistical measurement required.^[75] The hypothesis that has been built in this study was tested with Chi-square test at significance level $P < 0.05$ that was adopted, and the result was interpreted, therefore.

RESULTS AND DISCUSSION

Demographic information

The respondents were between the age ranges 11 and 19, with the majority between 14 and 17. The data were collected from different classes majority of respondents belonged to Grade 11 of Saudi Schools.

Trustworthiness of eWOM

E-WOM's second-order construct's perceived trustworthiness comprises three dimensions (perceived expertise, Valence, and Volume of eWOM). A frequency and percentage analysis of each item shows that 269 respondents have a sense of dietary supplements, and 335 respondents have knowledge. About 33% of individuals have experience regarding nutritional supplements. Five hundred and sixteen individuals responded that dietary supplements helped them decrease their weight, with more than 400 saying they were happy with the results. Approximately 500 individuals answered that they would make such purchases again in the future, with 313 responding that dietary supplements do not work. Only 81 individuals replied that weight could be lost through exercise and a controlled diet plan, with 311 responding that nutritional supplements are well-known in online reviews. Only 6.6% of respondents believed that dietary supplements have online reviews. Details of individuals' responses are provided in Table 1. There was only positive agreement on the statement that the pills suggested, and it worked for them; they are ready to buy more in the future. Table 1 has been investigated that there are overall a neutral agreement and perception for the trustworthiness of eWOM. Hence, eWOM reliability does not have a very positive impact among the adolescent of Saudi Arabia toward the dietary supplement.

Attitude toward dietary supplements

Regarding the construct of attitude, more than 50% responded that they believed using dietary supplements had a good and pleasant effect. Five hundred and thirty individuals responded that using nutritional supplements is beneficial for health. More than 50% believed that dietary supplements have a nice and favorable effect on health. In addition, from the given Table 2, it can be seen that attitude toward the dietary supplement has a positive impact among the respondents. Hence, the marketer of this product should maintain the user's perception and try to build brand image using the proper positing of the marketing mix that suits the target consumers.

Table 1: Respondents' opinion for the perceived trustworthiness of eWOM

Opinion for the perceived trustworthiness of eWOM	S.D.	D	N	A	SA	Total	Mean	D (X - M)	Squared Dev.	S.D.	Influence range
"The online reviewers have a good sense about dietary supplements"	38	365	311	269	44	1027	2.92	0.08	0.01	0.06	Neutral
"The online reviewers are knowledgeable about dietary supplements"	47	275	370	283	52	1027	3.02	0.18	0.03	0.13	Neutral
"The online reviewers have experience about dietary supplements"	48	288	256	275	160	1027	3.21	0.37	0.14	0.26	Neutral
"It worked. I lost 20 pounds! Still on my journey to lose more, 40 more pounds to go!"	73	164	274	222	294	1027	3.49	0.65	0.42	0.46	Neutral
"I am very pleased with the results. This is my three-time purchasing this"	100	194	257	219	257	1027	3.33	0.49	0.24	0.35	Neutral
"I swear by these pills, and it worked for me; I am ready to buy more in future"	73	190	268	221	275	1027	3.42	0.58	0.34	0.41	Agree
"Many people post online reviews about dietary supplements"	242	581	137	51	16	1027	2.04	-0.8	0.64	0.56	Disagree
"Dietary supplements have a large number of online reviews"	341	492	133	47	14	1027	1.93	-0.91	0.83	0.64	Disagree
"Dietary supplements are popular is online reviews forums"	295	447	102	155	28	1027	2.20	-0.64	0.41	0.46	Disagree
Mean							2.84		SS: 3.05		Neutral

Standard Deviation Calculation, N: 9, M: 2.84, SS: 3.05, $s^2=SS/(N-1)=3.05/(9-1)=0.38$, Sample Standard Deviation (s)= $\sqrt{s^2}=\sqrt{0.38}=0.62$, SD: Strongly disagree, D: Disagree, N: Neutral, A: Agree, SA: Strongly agree

Table 2: Attitude toward dietary supplements

Attitude towards dietary supplements	S.D.	D	N	A	SA	Total	Mean	Devi (X - M)	S.Q. Dev.	S.D.	Influence Range
Overall, I think that taking dietary supplements would be good	38	201	249	282	257	1027	3.51	0.05	0	0.03	Agree
I think that taking dietary supplements would be enjoyable	36	170	243	339	239	1027	3.56	0.1	0.01	0.07	Agree
I think that taking dietary supplements would be positive	52	234	271	243	227	1027	3.35	-0.11	0.01	0.08	Neutral
I think that my taking dietary supplements would be beneficial	59	209	294	241	224	1027	3.35	-0.11	0.01	0.08	Neutral
I think that taking dietary supplements would be pleasant	36	187	285	275	244	1027	3.49	0.03	0	0.02	Agree
I think that taking dietary supplements would be favorable	54	128	321	280	244	1027	3.52	0.06	0	0.04	Agree
Mean: 3.46									SS: 0.04		Agree

Standard Deviation Calculation: N: 6, M: 3.46, SS: 0.04, $s^2=SS/(N-1)=0.04/(6-1)=0.01$, $s=\sqrt{s^2}=\sqrt{0.01}=0.09$, Variance=0.00823. Standard Deviation=0.0907, SD: Strongly disagree, D: Disagree, N: Neutral, A: Agree, SA: Strongly agree

Purchase intention towards dietary supplements

According to individuals' responses regarding purchase intention of dietary supplements, more than 50% responded that they are interested in purchasing dietary supplements. Most individuals

replied that they would like to get accessories, with 31% responding that they want to buy these supplements. Overall, it can be concluded that purchase intention toward the dietary supplements has a very positive impact on consumer minds, and they are intended to buy this product as required [Table 3].

Purchase behavior toward dietary supplements

According to an analysis of individuals' replies regarding purchase behavior, most respondents answered that they purchased dietary supplements regularly. More than 50% responded that purchasing supplements are important, with 381 people replying that they would buy supplements in the future. All of the respondents are agreed on all the elements that lead to the purchase behavior of dietary supplements. It is a good indicator for the company to produce nutritional supplements [Table 4]. In the end, it can be revealed that all purchase behavior toward dietary supplements has a positive impact on the respondent opinion, and they are intended to buy it.

Effectiveness of eWOM on purchase attitude

Customer attitude may be defined as a feeling of favorableness or unfavorableness that an individual has toward an object. Consumer attitude comprises beliefs, feelings, and behavioral intentions toward some things.^[76] In analyses of the purchase of sustainable products, attitude positively and significantly influences the purchase intention.^[77,78] For example, when consumers perceive organic personal care products as good or pleasant, they will likely purchase them.^[77] Similarly, in

the buying of green products, a constructive and noteworthy relationship is found among attitude and purchase intention, in that the favorable consumer perception regarding the purchase of green products increases the consideration and purchase expectancy for these products.^[78] From Table 5, it can be explored that there is a significant influence between the trustworthiness of eWOM on purchase attitude toward dietary supplements; hence, the null hypothesis (H01) has been rejected at $P < 0.05$, and it can be revealed that there is a significant relationship between the trustworthiness of eWOM on purchase attitude toward dietary supplements among the respondents.

Effectiveness of eWOM on purchase intention

E-satisfaction influences e-WOM. This shows that the e-satisfaction felt by online shop e-commerce consumers will affect the consumer's e-WOM.^[79] The above-average customer satisfaction, the greater the chances of the customer to recommend.^[80] Concerning the effectiveness of eWOM on purchase Intention, the respondents tend to recommend to others after respondents feel satisfied and have a positive and significant relationship [Table 6]. Hence, the null hypothesis (H02): There is no influence between the trustworthiness of eWOM on Purchase Intention toward dietary supplements that

Table 3: Purchase Intention toward dietary supplements

Purchase intention towards dietary supplements	S.D.	D	N	A	SA	Total	Mean	Deviation (X - M)	Squared Dev.	S.D.	Influence range
I do plan to take dietary supplements	47	164	227	276	313	1027	3.63	0.03	0	0.02	Agree
I do plan to take dietary supplements	49	171	235	253	319	1027	3.61	0.01	0	0.00	Agree
I do want to take dietary supplements	43	160	227	270	327	1027	3.66	0.06	0	0.04	Agree
How likely is it that you will take dietary supplements?	42	134	397	180	274	1027	3.50	-0.1	0.01	0.07	Agree
Mean: 3.60											Agree

Standard Deviation Calculation, N: 4, M: 3.6, SS: 0.01, $s^2=SS/(N-1)=0.01/(4-1)=0$, $s=\sqrt{s^2}=\sqrt{0}=0.07$, Variance=0.00487., Standard Deviation=0.06976, SD: Strongly Disagree, D: Disagree, N: Neutral, A: Agree, SA: Strongly agree

Table 4: Purchase Behavior toward dietary supplements

Purchase behavior toward dietary supplements	S.D.	D	N	A	SA	Total	Mean	Deviation (X-M)	Squared Dev.	S.D.	Influence Range
I buy dietary supplements regularly	64	120	190	288	365	1027	3.75	-0.03	0	0.02	Agree
Buying dietary supplements is important to me	28	92	139	387	381	1027	3.97	0.19	0.04	0.14	Agree
I will be using dietary supplements in the future too	52	114	342	185	334	1027	3.62	-0.16	0.03	0.11	Agree
Mean 3.78									SS: 0.06		Agree

Standard Deviation Calculation: 0.017692, N: 3, M: 3.78, SS: 0.06, $s^2=SS/(N-1)=0.06/(3-1)=0.03$, $s=\sqrt{s^2}=\sqrt{0.03}=0.18$, Variance=0.0313. Standard Deviation=0.17692. SD: Strongly disagree, D: Disagree, N: Neutral, A: Agree, SA: Strongly agree

Table 5: Effectiveness of eWOM on purchase attitude dietary supplements

Effectiveness of eWOM on Purchase Attitude Dietary Supplements	Mean	Deviation (X-M)	Squared Dev.	S.D.	Influence range
Perceived trustworthiness of eWOM	2.84	-0.58	0.34	0.41	Neutral
Attitude toward dietary supplements	3.46	0.04	0	0.03	Agree

Influence range: Agree. Mean: 3.15. Chi-Square: 0.061. degrees of freedom: 1, $P=0.80$

Table 6: Effectiveness of eWOM on purchase intention dietary supplements

eWOM on Purchase Intention Dietary Supplements	Mean	Deviation (X- M)	Squared Dev.	S.D.	Influence range
Perceived trustworthiness of eWOM	2.84	-0.58	0.34	0.41	Neutral
Purchase Intention toward dietary supplements	3.6	0.18	0.03	0.13	Agree

Influence Range: Agree. Mean. 3.22. Chi-square=0.047. Degrees of freedom: 1. $P=0.83$

Table 7: Effectiveness trustworthiness of eWOM on Purchase behavior toward dietary supplements

Perceived trustworthiness of eWOM on Purchase behavior towards dietary supplements	Mean	Deviation (X-M)	Squared Dev.	S.D.	Influence range
Perceived trustworthiness of eWOM	2.84	-0.58	0.34	0.41	Neutral
Purchase Behavior toward dietary supplements	3.78	0.36	0.13	0.25	Agree

Influence Range: Neutral. Mean: 3.31. Calculated Chi-square=4.764. Degrees of freedom: 1. $P=0.05$

have been rejected, and an alternative view will be accepted. Furthermore, it can be concluded that there is a positive relationship between the trustworthiness of eWOM on purchase intention of dietary supplements among the respondents.

Effectiveness of eWOM on purchase behavior

Consumer buyer behavior is considered an inseparable part of marketing and.^[81] As stated in one study, despite the high spending by advertisers to connect with markets, consumers still place their greatest levels of trust in the opinions of others.^[41] Moreover, this trust is not limited to friends and family, with over 87% of Internet shoppers reporting that in some situations, they trust eWOM as much as recommendations by others (Statista, 2021).^[42] New media has largely supplemented traditional press in online communities, SNS, blogs, and video-sharing websites.^[43,44,82] The given Table 7 indicates no relationship between the trustworthiness of eWOM on Purchase behavior toward dietary supplements. The P -value is equal to the critical value at 0.05; hence, the hypothesis is accepted. It is concluded that there is no significant association with the trustworthiness of eWOM on Purchase behavior toward dietary supplements among adolescents.

CONCLUSION

Online engagement of the people has a great impact on society these days. As a result, electronic and social media has

become an absolute reality in the digital world, which has had a substantial effect on the attitudes and purchase decisions of the consumer in general and particularly for adolescents. The primary aim of this learning was to investigate the attitudes of trustworthiness of eWOM and purchase intention and purchase behavior among Saudi female adolescents toward dietary supplements. The research particularly aim was to investigate the perceived trustworthiness of eWOM in influencing the attitude, purchase intention, and behavior among Saudi female adolescents toward dietary supplements. The study's findings indicate that the perceived trustworthiness of eWOM has a significant impact on attitude toward nutritional supplements. Most respondents are interested and having the intention in purchasing dietary supplements. In addition, it can be stated that the preponderance of female adolescents buys nutritional supplements regularly.

The research achievements suggest that the perceived trustworthiness of eWOM is recognized as an essential dimension for Saudi female adolescents to trust eWOM. Hence, this study supports the previous research that has been stated in the literature review section. An eWOM trustworthiness does not have a very positive impact among the adolescent of Saudi Arabia toward the dietary supplement. In addition, attitudes toward the dietary supplement have a positive effect among the respondents. Hence, the marketer of this product should maintain the user's perception and try to build brand image using the proper positing of the marketing mix that suits the target consumers. It has been revealed that purchase intention

toward the dietary supplements has a very positive impact on consumer minds, and they are intended to buy this product whenever required. All of the respondents are agreed on all the elements that lead to the purchase behavior of dietary supplements. It has a very good indicator for the company that is involved in producing the nutritional supplements. In addition, purchasing dietary supplements positively impacts the respondent's opinion and intends to buy them. There is a significant influence between the trustworthiness of eWOM on purchase attitude toward dietary supplements that also support the previous study.

Furthermore, it can be concluded that there is a positive relationship between the trustworthiness of eWOM on purchase intention of dietary supplements among the respondents. Here, it is interesting to note that there is no significant relationship with the reliability of eWOM on purchase behavior toward nutritional supplements among youngsters. Overall, it is suggested that the marketer of this product (dietary supplements) should maintain the user's perception and build brand image using the proper positioning of the marketing mix that suits the target consumers. In addition, there is still greater scope of the integrated marketing mix, particularly the promotion mix used to build and increase the market share of these industries and a WOM should not be ignored in the digital era.

FUTURE SCOPE

The rapid expansion of middle-class populations worldwide is a good omen for dietary supplement brands. There is a change in dietary patterns and eating habits; modern consumers look for time and quality. Food and drink are among the various sectors that have been severely affected by the accelerated lifestyle of modern consumers, especially the millennials. Global dietary supplement consumption has grown by leaps and bounds over the years, creating many opportunities for the players of these brands. The increase in estimated spending and a growing preference for this sector has been reflected in the global market. Therefore, this research will be useful for the manufacturer, government, consumers, and people who care about health to stay healthy and to be healthy. For marketing practices, adolescents or Generation Z are a more appropriate segment to address healthy lifestyle practices such as healthy food, exercise, and dietary food supplements to influence the perceived body image of female adolescents. The present study also contributes to social marketing by offering a wider assortment to attract demographically distributed consumers to enhance and increase their awareness, which will protect them from harmful measures. It is recommended that additional studies need to conduct in the longitudinal research designs in several cultural contexts, which could be studied using a qualitative method or mixed methods approach. Moreover, introducing various contextual and dispositional moderators may make this study more valuable.

LIMITATIONS OF THE STUDY

Although real effort has been made to put up for the study, the following factors have been absent because of their critical limiting factors. The study is limited to Saudi Arabia within the limited districts of the country. The results of the study cannot be universalized due to the geodemographic differences.

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