

Article

Effect of Perceived Quality of Green Brands on Road Race Participants' Green Word of Mouth and Mediating Roles of Satisfaction with and Trust in Green Brands

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Abstract: The current study established a theoretical framework for exploring the influence of the perceived quality of green brands on green word of mouth (WOM) by investigating the mediating effects of satisfaction with and trust in green brands. Although prior research has explored the factors influencing green word of mouth, it has focused on information technology and electronic products. The target of the current research was road race runners in Taiwan. Structural equation modeling was performed to validate the research framework. The findings suggest that satisfaction with and trust in green brands mediate the positive effect of the perceived quality of green brands on green word of mouth. Thus, to enhance runners' satisfaction with and trust in green brands and promote green WOM, road race organizations should allocate resources to improving the perceived quality of the green branding for their events.

Keywords: green perceived quality; green word of mouth; green brands; road race; participatory sport



Citation: Chen, J.-L. Effect of Perceived Quality of Green Brands on Road Race Participants' Green Word of Mouth and Mediating Roles of Satisfaction with and Trust in Green Brands. *Sustainability* **2023**, *15*, 13121. <https://doi.org/10.3390/su151713121>

Academic Editor: Wen-Hsien Tsai

Received: 9 August 2023

Revised: 28 August 2023

Accepted: 29 August 2023

Published: 31 August 2023



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1. Introduction

Excessive levels of environmental pollution from industrial manufacturing have led environmental protection to become a crucial concern in societies around the world [1]. This greater awareness of environmental issues has led to enterprises becoming increasingly willing to accept responsibility for environmental protection [2]. The concepts of greenness and environmental protection have gained popularity among consumers. Consumers have become aware of their responsibility to protect the environment and consider greenness when making purchase decisions [3]. Thus, consumers have become increasingly willing to spend more money to purchase green products [3]. Therefore, companies should integrate environmental concepts into their products or services to strengthen consumer perceptions of their green quality and thereby meet consumers' needs [4]. Both researchers and practitioners have reported perceived quality to be a positive factor affecting marketing performance [5].

Green perceived quality is "the consumer's judgment about a brand's overall environmental excellence or superiority" [4] (p. 66). For organizations, perceived quality is a crucial means of differentiating their brand or product from those of their competitors, and such quality plays a critical role in establishing long-term customer relationships [6,7]. Because of the prevalence of environmental trends and global environmentalism, companies should focus on developing the perceived quality of their green brands through green marketing. Doing so and developing into a green brand can enable companies to obtain a competitive advantage [3,8]. Sports organizations must also consider the global increase in environmental concern. Although the sports industry was reported to influence the natural environment [9], sports organizations typically focus less on establishing a green brand than those in other industries do [10]. Nevertheless, because consumers have become more concerned about the environment, sports-related businesses have also become more concerned about related issues [11–13].

Because the world has entered an era of environmental awareness, sports organizations can utilize the concept of environmental protection to maximize their market advantages. The number of individuals who take part in participatory sports, such as running in road races, has considerably increased since the mid-1990s [14], particularly in Western countries. The high rates of participation in international road races reflect the commercial success of these events. However, according to RunRepeat [15], a study conducted by the International Amateur Athletic Federation, global participation in race-running declined by 13% between 2016 and 2018, with the number of runners decreasing from 9.1 million to 7.9 million. The road race industry in Asia has also transitioned from a period of rapid growth to a state of recession. The number of road races and runners in Taiwan began to decline gradually after 2016 [16]. The shrinking number of participants has led to greater competition among road race organizations. To survive in such a competitive market, these organizations have been compelled to integrate green concepts into their event development to showcase the greenness of their brands and differentiate themselves from their competitors.

Organizations hosting road races in Asian countries, including Taiwan, have begun to incorporate environmental concepts into their event planning. Some events, for example, have emphasized the 3Rs (i.e., reduce, reuse, and recycle) principle as a core value of the events [17]. The organizers of the Tianzhong Marathon, one of the four major road races in Taiwan, list greenness as a core requirement of the event [17]. To meet this requirement, the organizers replace disposable water cups with reusable cups, set up drinking fountains, offer runners souvenir T-shirts made from eco-friendly fabric created from recycled coffee grounds, and provide award medals made from recycled materials. People now expect sports organizations, and thus road race organizations, to demonstrate responsibility for and commitment to environmental sustainability [18]. Scholars have proposed that environmental responsibility is a primary factor influencing whether runners wish to participate in a road race and the long-term success of such events [19,20]. Therefore, organizers should increase the appeal of such events for consumers whose environmental beliefs give them high intention to purchase green products, even if the prices of such products are higher than those of less green products [21,22]. Road race organizations also require environmental marketing to develop their event brand, which may help them gain a competitive advantage.

Green perceived quality positively affects marketing performance [4,23–25]. Perceived quality can influence market segmentation by differentiating one organization's product or brand from those of its competitors and can influence consumers' understanding of the value of the product or brand [6]. Companies can make their product or service quality stand out from that of their competitors as a means of attracting consumer attention and increasing their share of the market [26]. A higher perceived quality leads to higher levels of consumer satisfaction [27,28] and consumer trust [29–33]. Studies have revealed that consumer satisfaction and trust are positively associated with word of mouth (WOM) [2,34–36]. When consumers are satisfied with a product or service and trust it, they continue to consume the product and recommend it to others. Although many researchers have focused on topics related to green perceived quality [4,23–25], none have explored such topics within the context of participatory sports. Therefore, the current study filled this gap in the literature by employing a research framework based on the exploration of the possible relationships among four key constructs: green brand perceived quality, green brand satisfaction, green brand trust, and green WOM. Herein, the present article also sheds light on the managerial implications for organizations hosting road races. Because the integration of green concepts into road races in Taiwan is still a nascent field, the present study analyzed the attitudes of runners in Taiwan toward participating in road races that were branded as green.

On the basis of the aforementioned research background and motivation, the present study was conducted to investigate how the green brand perceived quality, green satisfaction, and green trust influence green WOM in the context of road race events. The objectives of this study were as follows:

- (1) To analyze the effect of green brand perceived quality on green brand satisfaction, green brand trust, and green WOM;
- (2) To evaluate the effects of green brand satisfaction and green brand trust on green WOM;
- (3) To investigate whether green brand satisfaction and green brand trust mediate the effect of green brand perceived quality on green WOM.

2. Literature Review and Hypothesis Development

2.1. Green Brand Perceived Quality

To distinguish their organization's brand from those of their competitors and convey their organization's unique value to customers, managers can enhance the quality of their brands [6,37]. A company can also enhance the quality of its products to gain a competitive advantage [38]. Product and service quality can be classified as objective or perceived [37]. Objective quality involves the actual technological excellence or superiority of products or services and is based on measurable or predictable criteria. Perceived quality is a consumer's assessment of the excellence of products or services, which is a form of high-level abstraction and not based on the specific characteristics of such products or services. However, Sweeney et al. [5] suggested that all quality measures are based on subjective perception and that objective measures of quality therefore do not exist. Aaker [39] defined perceived quality as the quality of or level of preference for a product within the mind of a consumer relative to that of the products of competitors. Perceived brand quality influences consumers' brand decision-making [40].

Because of this change in consumer valuation, Chen and Chang [41] proposed the idea of green perceived quality, which they defined as "the customer's judgment about a product's or a brand's overall environmental excellence or superiority". The present study referenced the definition used by Chen and Chang [41], defining green brand perceived quality as the judgment made by an environmentally conscious runner with respect to whether a road race organizer has positively contributed to the environment. Sports organizations can maximize their financial opportunities and improve their brand image by associating their brands with a sense of social or environmental responsibility [42]. For example, the strength of the SK Wyverns, one of the Korean professional baseball teams, is their ability to attract new sponsorship partners since implementing SK's green program [42]. Therefore, road race organizers can implement strategies involving improving the perceived quality of their green brand to differentiate their events from those of their competitors and attract their target consumers.

Greater consumer concern for environmental issues has led to a greater commitment to consuming green products [43]. Consequently, companies have improved their environmental friendliness to ensure consumers perceive their brands as greener [23]. Runners are likely to consider the organization hosting a road race to be environmentally friendly if its organizers employ green practices in their events. When event organizers integrate green concepts into their branding of road race events, runners participating in these events experience personal satisfaction because they feel as though they have contributed to environmental sustainability [44] and therefore perceive the events to have a higher green quality.

2.2. Positive Influence of Green Brand Perceived Quality on Green Brand Satisfaction

According to Oliver's expectancy–disconfirmation theory, the difference between consumers' expectations for and perceptions of the quality of a product or service can lead to disconfirmation or confirmation (1996). Confirmation occurs when consumers' perceptions and expectations are congruent, whereas disconfirmation occurs when these perceptions and expectations are incongruent [45]. Consumer satisfaction is a consumer's overall pleasure related to or contentment with products or services and results from their desires, needs, and expectations being satisfied by the quality of the products or services [45,46]. Thus, consumer satisfaction with a product or service occurs when the consumer experiences confirmation or positive disconfirmation, whereas consumer dissatisfaction occurs

when consumers experience negative disconfirmation [47]. The present study referenced the aforementioned definition of consumer satisfaction and Chen and Chang [41] to define green brand satisfaction in the context of a road race as follows: the degree to which a runner experiences pleasure or personal satisfaction because of their participation in a road race that fulfills their expectations related to environmental sustainability.

By establishing themselves as the providers of high-quality products or services, organizations can differentiate their brands from those of their market competitors [38]. Perceived quality also plays a critical role in the maintenance of long-term customer relationships and is a key driver of purchase intentions [7]. Higher perceived quality is associated with higher levels of consumer satisfaction, and the perceived quality of a product and the perceived competence of the product's seller are correlated; thus, higher perceived quality may lead to higher levels of postpurchase confidence [27,28]. Customer satisfaction and perceived quality are positively associated [5,28,41]. Thus, the present study speculated that the more environmentally conscious a runner is, the more likely they are to participate races that have high green brand perceived quality because such races are likely to fulfill their psychological need to contribute to environmental sustainability. Accordingly, the following hypothesis was proposed considering that green brand perceived quality would be positively associated with green brand satisfaction.

Hypothesis 1 (H1). *Green brand perceived quality positively affects green brand satisfaction.*

2.3. Positive Effect of Green Brand Perceived Quality on Green Brand Trust

Trust is the degree to which an individual is willing to believe another and is based on their expectations regarding the other individual's reliability, benevolence, and ability [48,49]. Brand trust, specifically, is consumers' willingness to believe that a product can serve the function of its brand indicates it can [50]. Based on these definitions and with reference to Chen [2], the current study employed the following definition of green brand trust in the context of road races: a runner's willingness to believe an organizations' branding of an event on the basis of confidence in or expectations of the credibility, ability, and knowledge of the organization's environmental performance.

Perceived quality positively affects consumer trust [29–33]. Distrust of a product or brand can result in consumers being unwilling to purchase products [50], and low perceived quality can lead consumers to distrust a brand [51]. The present study speculated that, in the context of road race management, a runner's perception of the quality of the green branding of an event positively affects their trust in that green branding. Thus, the present study developed the following hypothesis.

Hypothesis 2 (H2). *Green brand perceived quality positively affects green brand trust.*

2.4. Positive Influence of Green Brand Perceived Quality on Green WOM

WOM is verbal communication between consumers and other people, such as friends and relatives [52]. The current study employed the construct of green WOM, which was proposed by Chen et al. [4]. Chen et al. suggested that green WOM would occur when "a customer would infer friends, relatives, and colleagues about positive environmental messages of a product or a brand" [4] (p. 2414). Considering this definition, the current study defined green WOM in the context of road races as follows: a runner believing that participating in a road race could enable them to have a positive environmental impact and thus being willing to inform their friends, relatives, acquaintances, and fellow runners of such an event.

Quality improvement has been reported to be an efficient method a company can employ to distinguish their products or brand from those of their market competitors [6,37]. Perceived quality can reduce information asymmetry and consumer's perceived risk [53]. Therefore, perceived quality is an essential factor for organizations wishing to develop long-term relationships with consumers and has a positive effect on purchase intention [7].

Brands with high perceived quality generally have strong messages and are able to convey their values to customers, in addition to generally having high-quality products or services [54]. On the basis of the aforementioned findings, this study hypothesized that perceived quality would enhance WOM [52] such that a runner's perception of the quality of a green brand would positively affect their WOM regarding road races with a green branding. This hypothesis can be expressed as follows.

Hypothesis 3 (H3). *Green WOM is positively affected by green brand perceived quality.*

2.5. Positive Influence of Green Brand Satisfaction on Green WOM

Research has revealed that consumer satisfaction can positively influence repurchase intentions and consumer loyalty [55,56]. Therefore, scholars generally consider consumer satisfaction to be a critical determinant of whether an organization can develop a positive relationship with consumers [57]. In addition, consumers who feel satisfaction with a product are more likely to speak highly of the product because recommending a reliable product to others can be considered a form of altruism. Furthermore, such a recommendation reduces cognitive dissonance and enables people to fulfill a need to present themselves positively to others [58,59]. Several researchers have indicated that consumer satisfaction can positively affect WOM [34,35]. The present study proposed that within the context of green brand management, a runner's green brand satisfaction positively affects their green WOM regarding a road race. This study developed the following hypothesis.

Hypothesis 4 (H4). *Green brand satisfaction positively affects green WOM.*

2.6. Positive Effect of Green Brand Trust on Green WOM

WOM is one of the most crucial dimensions in studies of consumer loyalty. WOM involves the expression of direct, personal, and independent messages that are often considered to be more credible than advertising messages [60]. Positive WOM was proposed to be an effective means of shaping consumers' attitudes and behaviors because it has high credibility and a wide reach [35]. In the context of relationship marketing, positive WOM is the result of strong consumer–corporation relationships and a demonstration of consumer loyalty [61]. According to social exchange theory, consumer trust can enhance a consumer's commitment to a brand because it intensifies the social aspect of the consumer–corporation relationship [62]. Studies have proposed that consumer trust increases consumer loyalty [2,36]. Therefore, trust can be considered to be positively associated with WOM. The current study proposed that a runner's green brand trust positively affects their WOM regarding green road races and developed the following hypothesis:

Hypothesis 5 (H5). *Green brand trust positively affects green WOM.*

In summary, this study states that green perceived quality positively affects green WOM, while green brand satisfaction and green brand trust mediate the positive relationship between green perceived quality and green WOM. The research framework is shown in Figure 1.

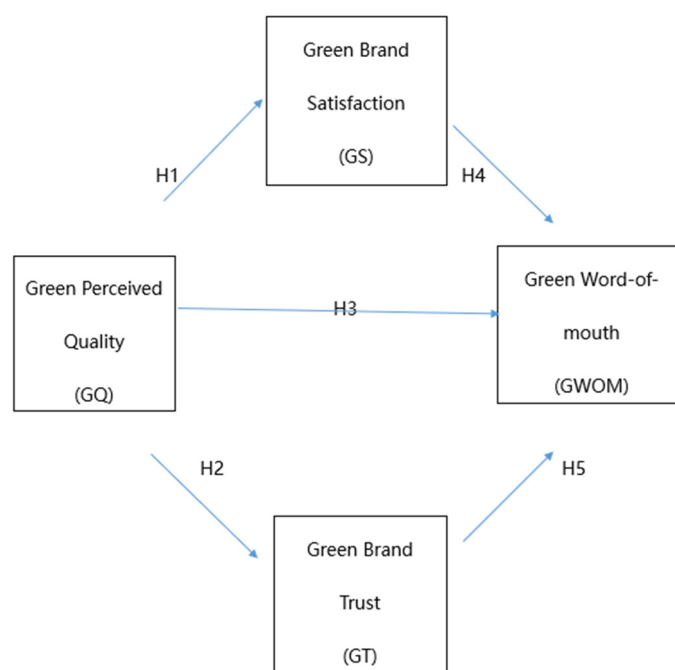


Figure 1. Research framework.

3. Methodology and Measures

3.1. Sampling and Collection of Data

To empirically test the research hypotheses, a questionnaire survey was conducted among individuals who had participated in a road race in Taiwan. After a review of the literature [1,2,4,39,41], the questionnaires used by relevant studies were identified and modified to ensure their suitability for the present study. Before data collection, a panel of experts (three scholars and two professionals in the fields of green marketing and sports management) were asked to analyze the items. Subsequently, the questionnaires were sent to 10 runners who had more than 5 years of experience in participating in road races. These runners were asked to respond to the questionnaire and identify any ambiguity in terminology or the meanings or topics of the questionnaire items. The questionnaire's content was validated. The research object of this study is Taiwanese runners who have experience participating in race events. In order to first attempt to develop a research framework of green WOM within the context of participatory sports, data were collected through convenient sampling for subsequent analyses. Data were collected from the participants of a road race held in New Taipei City in 2019. More than 2500 runners completed the race. Paper-based questionnaires containing close-ended questions were distributed to runners while they were resting after completing the race. Every participant responded in consideration of the road race they had participated in, which had branding emphasizing green values and sustainability. Each participant spent approximately 15 min to respond to all questionnaire items, after which they returned their completed questionnaires to the members of the survey team. Questionnaires were distributed to the 500 race participants, and 406 were returned. Of the 406 returned questionnaires, 352 were valid (86%). A factor analysis was conducted in accordance with the guidelines for determining the minimum required sample size: the sample-to-item ratio should not be less than 5:1 [63–65]. Accordingly, in the present study, the sample-to-item ratio was 10:1 [66]. Given that 18 questionnaire items were used to assess four dimensions, a minimum sample size of 180 was required to attain the ratio of 10 responses to one item. Thus, a sample size of 352 participants was required for the present study.

3.2. Construct Definitions and Measurements

In the present study, the literature was referenced to formulate the definitions and measures for four constructs, namely, green brand perceived quality, green brand satisfaction, green brand trust, and green WOM.

3.2.1. Green Brand Perceived Quality

The present study referenced Aaker [39] and Chen et al. [4] to define green brand perceived quality in the study context as the judgment an environmentally conscious runner makes with respect to whether the organizer of a road race makes a positive contribution to the environment. This research referenced the measure of green brand perceived quality used by Chen et al. [4] and revised their items to fit the research needs. The measure was based on four items: (1) “This road race has the highest quality possible in terms of environmental awareness”, (2) “the quality of this road race with respect to environmental awareness can be trusted”, (3) “the quality of this road race is excellent with respect to its environmental messaging” and (4) “the quality of this road race is high in terms of the organizers’ environmental reputation”.

3.2.2. Green Brand Satisfaction

The present study referenced Oliver [45], Olsen [46], and Chen et al. [41] to define green brand satisfaction in the study context as the degree to which a runner feels pleasure because the green branding of a road race fulfills their greenness, sustainability, and environmental expectations. To meet the requirements of the present study, the items used by Chen et al. [4] were revised to measure green brand satisfaction. The developed measure was based on six items: (1) “I am happy to participate in this road race rather than others because of its environmental messaging”, (2) “I believe my selection of this road race over others was the right decision because of its environmental function”, (3) “I am glad I participated in this road race because it was designed to be environmentally friendly”, (4) “I feel satisfied with the environmental claims of the organizer of this road race”, (5) “I feel satisfied with the efforts toward environmental protection of this road race”, and (6) “I feel satisfied with the general environmental performance of the organizers of this road race.”

3.2.3. Green Brand Trust

Referring to Chaudhuri and Holbrook [52], Ganesan [51], and Chen [2], the present study defined green brand trust in the study context as follows: a runner’s willingness to believe in the branding of a road race due to their confidence in or expectations regarding the credibility, ability, and knowledge of the event organizer’s environmental performance. The items developed by Chen [2] were modified to measure green brand trust. The measure comprised the following items: (1) “I believe that generally, the organizer’s environmental reputation of this road race is credible”, (2) “I believe that generally, the environmental performance of the organizer of this road race is reliable”, (3) “I believe that the environmental claims of this road race’s marketing can generally be trusted”, and (4) “the environmental friendliness of this road race matches my expectations”.

3.2.4. Green WOM

The present study referred to Chen et al. [4] and defined green WOM as a runner recommending a road race to friends, relatives, and colleagues because of its positive environmental messaging. The measure used by Molinari et al. [67] for assessing green WOM was modified to develop the following items: (1) “Many people recommend this road race because of its environmental messaging”, (2) “I would tell other people positive things about this road race because of its eco-functionality”, (3) “I would encourage other people to participate in this road race because of its eco-friendliness”, and (4) “I would recommend this road race to other people because of its organizers’ ecofriendly performance”.

4. Results

This study tested its hypotheses and research framework through structural equation modeling (SEM) and used LISREL 8.52 to analyze the empirical results. This study further used SEM to conduct a two-step analysis of the measurement and structural models.

4.1. Measurement Model Results

The mean and corresponding standard deviation values as well as the correlation matrix of the study constructs are presented in Table 1; positive correlations were identified between the four constructs. Table 2 presents the results of the factor analysis. Every construct could be classified under the same factor. The reliability of the constructs was tested in three dimensions. First, the reliability was evaluated by determining the loadings of the individual items of each construct. The findings presented in Table 3 indicate that the loading of each item of the four constructs was significant. Second, corresponding Cronbach's α was calculated to analyze each construct's internal consistency reliability. The findings presented in Table 3 reveal that Cronbach's α was >0.70 for each dimension. Third, composite reliability was used to determine the reliability of all of the items of a construct. Composite reliability values greater than 0.70 are considered to indicate an acceptable level of reliability [68]. In the present study, the composite reliability value of each construct in Table 3 was larger than 0.70.

Table 1. Means, standard deviations, and correlations between constructs.

Construct	M	SD	A	B	C
A. Green brand perceived quality	5.49	1.17			
B. Green brand satisfaction	5.75	1.05	0.80		
C. Green brand trust	5.67	1.20	0.85	0.85	
D. Green word-of-mouth	5.70	1.16	0.75	0.85	0.81

Table 2. Factor analysis results.

Construct	Number of Item	Factor	Cumulative Explained Variance
Green brand perceived quality	4	1	92.44
Green brand satisfaction	6	1	88.74
Green brand trust	4	1	94.77
Green word-of-mouth	4	1	93.94

The present study followed the recommendation by Fornell and Larcker [68] to compare the average variance extracted (AVE) with the squared construct correlation (r^2) to test discriminant validity. Discriminant validity is achieved when the AVE for each construct exceeds the square of the correlation of the construct with any of the other constructs [68]. In the current study, the square of each correlation of each pair of constructs was lower than the AVE of the respective constructs. The literature indicates that correlation coefficients lower than the recommended value of 0.85 also represent discriminant validity [69]. As presented in Table 1, the correlations were all lower than 0.85. The results of these two tests indicate that the measurement model had acceptable discriminant validity. All of the AVE values were higher than the recommended 0.50 [68]; they ranged from 0.87 to 0.93, supporting the measurement model's convergent validity.

Table 3. Item loadings, Cronbach's α coefficients for constructs, composite reliability (CR), and average variance extracted (AVE).

	Loading	AVE	CR	α
Green brand perceived quality (GQ)		0.90	0.97	0.97
GQ1	0.92			
GQ2	0.97			
GQ3	0.95			
GQ4	0.96			
Green brand satisfaction(GS)		0.87	0.97	0.97
GS1	0.90			
GS2	0.93			
GS3	0.94			
GS4	0.94			
GS5	0.93			
GS6	0.94			
Green brand trust (GT)		0.93	0.98	0.98
GT1	0.96			
GT2	0.98			
GT3	0.96			
GT4	0.95			
Green word-of-mouth (GWOM)		0.92	0.98	0.98
GWOM1	0.97			
GWOM2	0.98			
GWOM3	0.96			
GWOM4	0.92			

Model fit was good, $\chi^2 = 218.86$, $df = 130$, $\chi^2/df = 1.68$, RMSEA = 0.044, TLI = 0.99, CFI = 0.99, NFI = 0.98, GFI = 0.90, SRMR = 0.056.

4.2. Structural Model Results

Table 4 presents the structural model results. The model had a very good fit to the data ($\chi^2/df = 1.68$, RMSEA = 0.044, CFI = 0.99, NFI = 0.98, GFI = 0.90). With the exception of H3($\beta = 0.02$), all of the hypotheses were supported.

Table 4. Structural model results.

Hypothesis	β	t	Results
H1 GQ \rightarrow GS	0.84	12.35 ***	H1 is supported
H2 GQ \rightarrow GT	0.88	16.87 ***	H2 is supported
H3 GQ \rightarrow GWOM	0.02	0.13	H3 is not supported
H4 GS \rightarrow GWOM	0.60	6.23 ***	H4 is supported
H5 GT \rightarrow GWOM	0.31	3.32 ***	H5 is supported

*** $p < 0.001$, Model fit was good, $\chi^2 = 218.86$, $df = 130$, $\chi^2/df = 1.68$, RMSEA = 0.044, TLI = 0.99, CFI = 0.99, NFI = 0.98, GFI = 0.90, SRMR = 0.056.

Figure 2 depicts the results for the full model. All of the paths were significant, with the exception of path 3 (Green perceived quality directly impacts WOM). The findings revealed that green brand perceived quality, green brand satisfaction, and green brand trust positively affect green WOM. In addition, green brand satisfaction and green brand trust play a mediating role in the influence of green brand perceived quality on green WOM. However, the results indicated that green brand perceived quality has no direct effect on green WOM (H3). These findings provide support for H1, H2, H4, and H5.

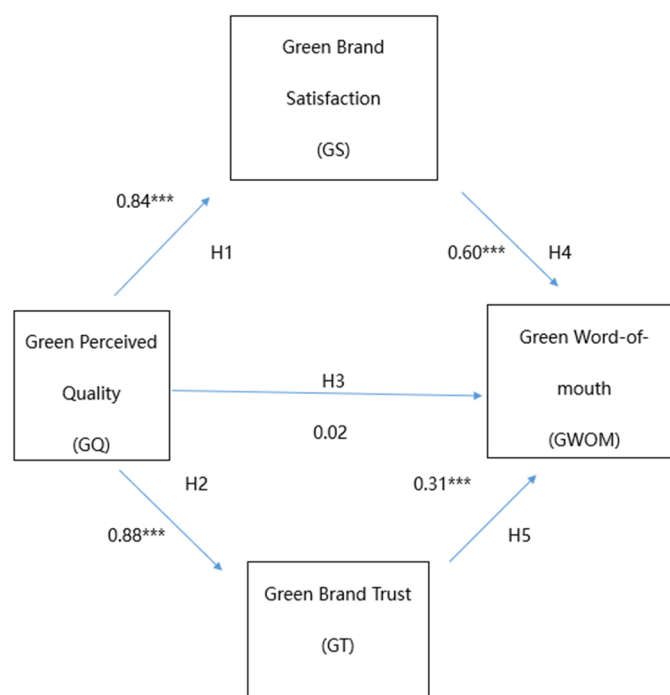


Figure 2. Full model results. $\chi^2/df = 1.68$, RMSEA = 0.44, CFI = 0.99, NFI = 0.98, GFI = 0.90. *** $p < 0.001$.

5. Conclusions and Contributions

The prevalence of environmentalism has led to an increase in eco-consumerism, which has increased the willingness among consumers to pay for products that are environmentally friendly. Therefore, green marketing is an effective strategy that an organization can adopt to differentiate its products and services from those of its competitors. Green marketing can be implemented by an organization to establish brand appeal in emerging markets, increase its benefits, and gain a competitive advantage. Organizations in the sports industry should also consider this shift toward greater environmental concern. However, few studies have focused on how sustainability and environmental efforts can be utilized for the effective branding of road races. The current study performed an empirical analysis to fill this research gap.

The present study investigated the influence of green brand perceived quality on green WOM. No study has reported on how green WOM can be promoted within the contexts of current environmental trends or participatory sports events. This study proposed four novel constructs, namely green brand perceived quality, green brand satisfaction, green brand trust, and green WOM. A conceptual framework was developed for assessing their relationships. The empirical results imply that green brand perceived quality, green brand satisfaction, and green brand trust are positively correlated with WOM. In addition, the findings indicate the effect of green brand perceived quality on green WOM and reveal the mediating roles of green brand trust and green brand satisfaction. The empirical results support all of the hypotheses except H3. The lack of support for H3 indicates that green brand perceived quality does not directly influence green WOM. Furthermore, the results suggest that green brand satisfaction and green brand trust mediate the positive effect of green brand perceived quality on green WOM. These findings indicate that to obtain a market advantage, organizers of road race events should invest resources to improve the perceived quality of their green branding, satisfaction with their green branding, and runners' trust in their green branding to promote green WOM.

The current research provides four academic contributions. First, no study has investigated the association of green brand perceived quality with green WOM in the sports industry. The present study contributes to the understanding of green WOM in the context

of participant sports; this was achieved by developing a research framework and analyzing the associations of green WOM with green brand perceived quality, green brand satisfaction, and green brand trust. Second, the findings reveal that green brand perceived quality positively affects green WOM. Third, green brand satisfaction and green brand trust were found to partially mediate the positive correlation of green brand perceived quality with green WOM. Fourth, improving green brand perceived quality, green brand satisfaction, and green brand trust can enable the organizers of road race events to promote green WOM by runners.

The findings of the current study have four practical implications. First, because improving green brand perceived quality not only enhances green brand satisfaction and green brand trust but also promotes green WOM, road race organizers should increase the perceived quality of their green branding and increase runners' satisfaction with and trust in the green branding. Second, in the context of the running race market, runners are an effective means of transmitting information, and therefore, their green WOM helps in obtaining a market advantage. To enhance green WOM, road race organizations should improve runners' satisfaction with and trust in the green branding of their organization's events. Third, both green brand satisfaction and green brand trust have significant mediating effects. Therefore, by improving satisfaction with and trust in their events' green branding, road race organizations can enhance the positive association of green brand perceived quality with green WOM. Fourth, runners in Taiwan have positive attitudes toward green sustainability. Therefore, road race organizations should utilize the popular concerns about green sustainability to position their road race brands to earn advantages in the running race market.

The current study investigated the likely positive effect of green brand perceived quality on green WOM through the mediating roles of green brand trust and green brand satisfaction. Chen et al. [4] explored the effect of greenwash on green WOM and highlighted the mediating roles of green brand perceived quality and green satisfaction. In contrast to the study of Chen et al. [4], who revealed that greenwash is negatively correlated with green WOM, the present study suggests that green brand perceived quality is positively correlated with green WOM. Furthermore, green brand perceived quality and green satisfaction were found to be positively associated with green WOM [4]. In the present study, green brand perceived quality was found to indirectly and positively influence green WOM through two mediators, namely green brand trust and green brand satisfaction. The findings of the present study are corroborated by the study of Chen et al. [4]. Chen et al. [2] further proposed that green perceived value, green satisfaction, and green trust are positively associated with green loyalty. The present study also revealed that green brand satisfaction and green brand trust positively affect green WOM; these results correspond to those of Chen et al. [2].

This study was conducted to identify a means through which organizations hosting road race events can utilize consumer concerns regarding environmental protection to differentiate their events from those of their competitors and thereby gain a competitive advantage. The results of the present study indicate that runners are concerned about environmental sustainability and that events with green messaging attract participants. The findings of this research corroborate those of previous studies [20,70] regarding the growing concern among consumers in the sports industry for environmental sustainability. To strengthen the perceived value of an event's branding and attract more runners, road race organizers should align their environmental sustainability efforts and marketing and integrate environmentally friendly thinking and activities into their overall strategic planning. This study suggests that road race organizers invest resources to develop the perceived quality of the green branding of their events to improve runners' satisfaction with and trust in the green branding and thereby promote green WOM.

Limitations and Future Studies

The findings of the present study are specific to the participants of road races conducted in Taiwan. The present study appears to be the first to involve empirical testing to ultimately develop a framework for evaluating green brand perceived quality within the context of participatory sports. However, the generalizability of the results is limited because this study only assessed the participants of a road race event in New Taipei City instead of covering all cities in Taiwan. Future studies should analyze data from all cities of Taiwan or at least multiple major cities. Therefore, studies conducted in the future should focus on runners in road races in other areas and compare their results with those of the current study. In addition, future studies can extend the scope of research on green brand perceived quality, green brand trust, green brand satisfaction, and green WOM to other participatory sports (e.g., triathlons, cycling, and golf) to determine whether the current findings hold for such events. Furthermore, environmental and social influences can affect how consumers make decisions. Therefore, future studies can analyze other variables that may affect runners' evaluations of the environmental friendliness of road race branding.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Acknowledgments: The author is thankful to Li-Wen Hsieh for help conducting data analysis and Wallace Academic Editing for editing service.

Conflicts of Interest: The author declares no conflict of interest.

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