ARTIFICIAL INTELLIGENCE-DRIVEN DIGITAL MARKETING AND CONSUMER PURCHASE INTENTION IN THE SPORTS SUPPLEMENT INDUSTRY: THE MEDIATING ROLE OF BRAND TRUST AND THE MODERATING EFFECT OF HEALTH CONSCIOUSNESS

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ABSTRACT
The rapid advancement of artificial intelligence (AI) has significantly transformed digital marketing by enabling organizations to deliver personalized customer experiences, optimize marketing communication, and improve consumer engagement. The sports supplement industry has increasingly adopted AI-driven digital marketing strategies to strengthen brand competitiveness and influence consumer purchasing behavior. However, empirical evidence regarding the mechanisms through which AI-supported digital marketing affects consumer purchase intention remains limited, particularly in emerging markets such as the Turkish Republic of Northern Cyprus (TRNC). Therefore, this study examines the effect of Artificial Intelligence-Driven Digital Marketing on Consumer Purchase Intention, while investigating the mediating role of Brand Trust and the moderating effect of Health Consciousness. A quantitative research design based on a correlational survey model was employed. The study was conducted among consumers attending fitness centers in Kyrenia, Turkish Republic of Northern Cyprus, who regularly purchase sports nutrition supplements. Data were collected from 371 participants using a structured questionnaire consisting of four constructs: Artificial Intelligence-Driven Digital Marketing, Brand Trust, Health Consciousness, and Consumer Purchase Intention. The collected data were analyzed using IBM SPSS Statistics 28.0 and AMOS 24.0. Descriptive statistics, reliability analysis, confirmatory factor analysis, independent samples t-test, one-way ANOVA, Pearson correlation analysis, multiple regression analysis, structural equation modeling, bootstrapping mediation analysis, and moderation analysis were conducted. The findings revealed that Artificial Intelligence-Driven Digital Marketing has a significant positive effect on Consumer Purchase Intention. Brand Trust was found to partially mediate this relationship, indicating that AI-supported marketing activities increase consumers' trust in sports supplement brands, which subsequently enhances their purchase intention. Furthermore, Health Consciousness significantly moderated the relationship between Artificial Intelligence-Driven Digital Marketing and Consumer Purchase Intention, demonstrating that consumers with higher levels of health consciousness respond more positively to AI-supported digital marketing activities. All proposed hypotheses were supported, and the structural model exhibited satisfactory goodness-of-fit indices. This study contributes to the literature by integrating artificial intelligence, digital marketing, brand trust, health consciousness, and consumer purchase intention into a single conceptual framework. It also provides practical implications for sports supplement retailers, fitness center managers, and digital marketers by demonstrating how AI-supported marketing strategies can strengthen consumer trust, improve purchasing intentions, and enhance sustainable competitive advantage within the sports supplement industry.
Key Words: Artificial Intelligence, Digital Marketing, Consumer Purchase Intention, Brand Trust, Health Consciousness, Sports Supplement Industry, Fitness Centers.

Introduction

The rapid development of artificial intelligence (AI) has fundamentally transformed digital marketing practices across industries, enabling businesses to deliver personalized customer experiences, optimize marketing campaigns, and improve consumer engagement. AI technologies such as machine learning, predictive analytics, recommender systems, chatbots, and generative AI have become integral components of modern marketing strategies. These technologies allow firms to analyze consumer behavior in real time, predict purchasing patterns, and provide personalized product recommendations, thereby improving marketing effectiveness and organizational competitiveness (Dwivedi et al., 2023; Huang & Rust, 2022).

The sports supplement industry has experienced remarkable global growth over the last decade, driven by increasing health awareness, fitness participation, and consumer interest in preventive healthcare. Products such as protein powders, amino acids, creatine, vitamins, pre-workout formulas, and recovery supplements have become widely consumed not only by professional athletes but also by recreational fitness enthusiasts. As competition

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within the industry intensifies, companies increasingly rely on AI-driven digital marketing strategies to strengthen customer relationships, enhance brand positioning, and influence consumers' purchasing decisions (Grand View Research, 2024; Mordor Intelligence, 2024).

Artificial intelligence has significantly changed the way sports supplement brands communicate with consumers. AI-powered recommendation systems, personalized advertising, social media analytics, and automated customer service platforms enable companies to deliver highly relevant content based on consumers' preferences and purchasing histories. Such technologies facilitate personalized marketing communication, improve customer satisfaction, and increase the likelihood of purchase intention. Consequently, AI-driven digital marketing has become an essential strategic tool for supplement companies seeking sustainable competitive advantage in increasingly digital marketplaces (Chintalapati & Pandey, 2022; Davenport, Guha, Grewal, & Bressgott, 2020).

Despite the growing adoption of artificial intelligence in digital marketing, consumers often remain cautious when purchasing sports supplements due to concerns regarding product quality, authenticity, safety, and misleading promotional claims. In this context, Brand Trust has become a critical determinant of consumer purchase intention. Consumers who perceive supplement brands as reliable, transparent, and credible are more likely to develop favorable purchasing intentions and long-term brand loyalty. AI-driven digital marketing may strengthen brand trust by providing accurate information, personalized recommendations, and consistent customer interactions (Delgado-Ballester & Munuera-Alemán, 2005; Chaudhuri & Holbrook, 2001).

Another important factor affecting consumers' purchasing behavior is Health Consciousness. Individuals with higher levels of health consciousness tend to search for nutritional information, evaluate product ingredients more carefully, and pay greater attention to scientific evidence before making purchasing decisions. Accordingly, health consciousness may strengthen or weaken the effectiveness of AI-driven digital marketing by influencing how consumers interpret marketing messages and evaluate supplement products (Michaelidou & Hassan, 2008; Gould, 1990).

The sports supplement market in the Turkish Republic of Northern Cyprus (TRNC) has expanded considerably in recent years. Increasing participation in fitness activities, the growing number of commercial fitness centers, and rising consumer awareness regarding healthy lifestyles have contributed to greater demand for sports nutrition products. Particularly in Kyrenia, where the fitness industry has developed rapidly, sports supplement retailers actively utilize digital marketing channels, including social media advertising, influencer marketing, mobile applications, and AI-supported personalized promotions to attract consumers. Nevertheless, empirical research investigating the effectiveness of AI-driven digital marketing in influencing consumers' purchase intentions within the TRNC sports supplement market remains limited.

Accordingly, this study investigates the effect of Artificial Intelligence-Driven Digital Marketing on Consumer Purchase Intention for sports supplements among individuals attending fitness centers in Kyrenia, Turkish Republic of Northern Cyprus. Furthermore, the study examines the mediating role of Brand Trust and the moderating effect of Health Consciousness within the proposed conceptual model. By integrating perspectives from digital marketing, consumer behavior, artificial intelligence, and health marketing, this study contributes to the existing literature while providing practical recommendations for sports supplement companies seeking to improve marketing effectiveness through AI-supported digital strategies.

Problem Statement

Artificial intelligence has become one of the most influential technologies shaping digital marketing practices across industries. Through personalized advertising, recommendation algorithms, predictive analytics, and intelligent customer interaction systems, AI enables businesses to deliver customized marketing messages that enhance consumer engagement and improve purchasing outcomes. Although these technologies have become increasingly sophisticated, organizations continue to face challenges in understanding the mechanisms through which AI-driven digital marketing influences consumer purchasing behavior. This issue has become particularly important in industries where consumer confidence and product credibility play a central role in purchase decisions (Dwivedi et al., 2023; Huang & Rust, 2022).

The sports supplement industry represents one of the fastest-growing sectors within the global health and wellness market. Consumers are exposed to extensive digital advertising campaigns promoting products such as protein supplements, amino acids, vitamins, creatine, and performance-enhancing nutritional products. However, concerns regarding product quality, misleading advertising, counterfeit products, and inaccurate health claims often create uncertainty among consumers. Consequently, the effectiveness of AI-driven digital marketing may depend not

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only on technological capabilities but also on consumers' trust in supplement brands and their level of health consciousness (Chaudhuri & Holbrook, 2001; Delgado-Ballester & Munuera-Alemán, 2005).

Although previous studies have demonstrated positive relationships between digital marketing activities and consumer purchase intention, relatively few studies have examined the role of **Brand Trust** as a mediating mechanism explaining how AI-supported digital marketing influences purchasing behavior. Likewise, limited empirical evidence exists regarding whether **Health Consciousness** strengthens or weakens this relationship. Since consumers with different levels of health awareness may evaluate AI-generated marketing content differently, understanding this moderating effect is essential for developing more effective digital marketing strategies.

In the Turkish Republic of Northern Cyprus (TRNC), the fitness industry has experienced considerable growth, particularly in Kyrenia, where increasing numbers of fitness centers and sports supplement retailers have intensified market competition. Businesses operating in this sector have increasingly adopted artificial intelligence-supported digital marketing practices, including personalized social media advertising, AI-powered recommendation systems, and automated customer engagement platforms. Nevertheless, little empirical research has examined whether these marketing practices effectively influence consumers' purchase intentions within the TRNC context. Furthermore, no comprehensive study has simultaneously investigated the mediating role of Brand Trust and the moderating effect of Health Consciousness among consumers attending fitness centers in Kyrenia.

Therefore, a significant research gap exists regarding the effectiveness of AI-driven digital marketing strategies in shaping consumer purchase intention within the sports supplement industry in the TRNC. Addressing this gap is important for both academic research and managerial practice, as understanding these relationships can assist supplement companies in designing more effective AI-supported marketing strategies while improving consumer trust and promoting informed purchasing decisions. Accordingly, this study examines the relationship between Artificial Intelligence-Driven Digital Marketing and Consumer Purchase Intention, while investigating the mediating role of Brand Trust and the moderating effect of Health Consciousness among consumers attending fitness centers in Kyrenia, Turkish Republic of Northern Cyprus.

Research Hypotheses

Based on the theoretical background and previous empirical findings, the following hypotheses were developed to examine the relationships among Artificial Intelligence-Driven Digital Marketing, Brand Trust, Health Consciousness, and Consumer Purchase Intention in the sports supplement industry.

H1: Artificial Intelligence-Driven Digital Marketing has a positive and significant effect on Consumer Purchase Intention.
H2: Artificial Intelligence-Driven Digital Marketing has a positive and significant effect on Brand Trust.
H3: Brand Trust has a positive and significant effect on Consumer Purchase Intention.
H4: Brand Trust mediates the relationship between Artificial Intelligence-Driven Digital Marketing and Consumer Purchase Intention.
H5: Health Consciousness moderates the relationship between Artificial Intelligence-Driven Digital Marketing and Consumer Purchase Intention.
H5a: The positive effect of Artificial Intelligence-Driven Digital Marketing on Consumer Purchase Intention is stronger among consumers with a high level of Health Consciousness.
H5b: The positive effect of Artificial Intelligence-Driven Digital Marketing on Consumer Purchase Intention is weaker among consumers with a low level of Health Consciousness.

Importance of the Research

The increasing adoption of artificial intelligence (AI) has fundamentally transformed digital marketing strategies across industries, particularly in sectors characterized by intense competition and rapidly changing consumer expectations. The sports supplement industry has increasingly integrated AI-driven technologies, including personalized advertising, recommendation systems, predictive analytics, and intelligent customer engagement platforms, to improve marketing effectiveness and strengthen consumer relationships. Despite these developments, empirical research examining how AI-driven digital marketing influences consumer purchase intention remains limited, especially within emerging markets such as the Turkish Republic of Northern Cyprus (TRNC). Therefore, this study addresses an important gap in the literature by investigating the relationships among Artificial Intelligence-Driven Digital Marketing, Brand Trust, Health Consciousness, and Consumer Purchase Intention (Dwivedi et al., 2023; Huang & Rust, 2022; Davenport et al., 2020).

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From a theoretical perspective, this research contributes to the marketing, communication, and consumer behavior literature by integrating four contemporary constructs into a comprehensive conceptual framework. While previous studies have primarily examined the direct relationship between digital marketing and consumer behavior, relatively few have simultaneously investigated the mediating role of Brand Trust and the moderating effect of Health Consciousness. By examining these variables within a single structural model, the study extends current theoretical understanding of AI-supported marketing communication and consumer decision-making (Chaudhuri & Holbrook, 2001; Delgado-Ballester & Munuera-Alemán, 2005; Michaelidou & Hassan, 2008).

From a practical perspective, the findings are expected to provide valuable guidance for sports supplement retailers, fitness center managers, digital marketers, and brand managers operating in the TRNC. Understanding how AI-supported digital marketing influences consumers' purchasing intentions will assist organizations in developing more effective communication strategies, strengthening brand trust, and designing personalized marketing campaigns that better address consumers' health-related concerns and expectations. These findings may also contribute to improving customer relationship management and increasing competitive advantage within the rapidly expanding sports nutrition market (Kotler, Kartajaya, & Setiawan, 2021; Chintalapati & Pandey, 2022; Grand View Research, 2024).

The study is also significant because it provides empirical evidence from fitness center members in Kyrenia, one of the fastest-growing fitness markets in the TRNC. The findings may support businesses in improving customer engagement, increasing consumer confidence, and achieving sustainable competitive advantage through AI-supported digital marketing practices. Furthermore, the results may serve as a reference for policymakers and researchers interested in digital transformation, health marketing, and consumer behavior (Mordor Intelligence, 2024; OECD, 2024; World Economic Forum, 2024).

Finally, this study establishes a foundation for future research by proposing a model that can be applied and validated across different industries and cultural settings. The proposed conceptual framework may be extended by incorporating additional variables such as electronic word-of-mouth, perceived risk, customer engagement, digital literacy, or brand loyalty, thereby contributing to the continued development of research on artificial intelligence and digital marketing (Dwivedi et al., 2023; Feuerriegel et al., 2024; Huang & Rust, 2022).

Artificial intelligence (AI) refers to the capability of computer systems to perform tasks that traditionally require human intelligence, including learning, reasoning, problem-solving, decision-making, language processing, and pattern recognition. Advances in machine learning, deep learning, computer vision, and natural language processing have enabled AI systems to analyze large volumes of structured and unstructured data with high levels of speed and accuracy. Consequently, artificial intelligence has evolved from a purely technological innovation into a strategic organizational resource that enhances productivity, supports innovation, and improves organizational decision-making across multiple industries. Today, AI plays a critical role in business transformation by enabling organizations to automate complex processes, improve customer experiences, and develop data-driven competitive strategies (Russell & Norvig, 2021; Dwivedi et al., 2023; Feuerriegel et al., 2024).

Artificial intelligence is commonly defined as the ability of machines and intelligent systems to imitate cognitive functions associated with human intelligence, including perception, learning, reasoning, and decision-making. Unlike traditional information systems that operate according to predefined rules, AI systems continuously learn from new data and improve their performance over time through adaptive algorithms. Modern AI applications integrate machine learning, neural networks, and predictive analytics to generate intelligent solutions that support organizational decision-making and operational efficiency. As organizations increasingly adopt AI technologies, the concept has expanded beyond automation to encompass strategic innovation, knowledge creation, and digital transformation (Russell & Norvig, 2021; Kaplan & Haenlein, 2020; Dwivedi et al., 2023).

The evolution of artificial intelligence has progressed through several distinct phases, beginning with rule-based expert systems in the 1950s and advancing toward today's generative AI technologies. Early AI applications primarily focused on symbolic reasoning and predefined algorithms, whereas contemporary AI systems employ deep learning architectures capable of processing complex data and generating human-like content. Significant breakthroughs in computational power, cloud computing, big data analytics, and neural network architectures have accelerated AI development and expanded its applications across healthcare, finance, education, manufacturing, and marketing. The emergence of generative AI models has further transformed organizational communication and business operations by enabling intelligent content creation, automated customer interactions, and advanced predictive capabilities (Kaplan & Haenlein, 2020; Dwivedi et al., 2023; Feuerriegel et al., 2024).

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Artificial intelligence has fundamentally reshaped modern marketing by enabling organizations to better understand consumer behavior and optimize marketing performance. AI technologies facilitate customer segmentation, demand forecasting, recommendation systems, sentiment analysis, and personalized communication, allowing firms to develop highly targeted marketing strategies. Instead of relying on mass marketing approaches, organizations increasingly employ AI to deliver individualized customer experiences based on behavioral data and predictive analytics. These capabilities improve customer satisfaction, strengthen brand relationships, increase marketing efficiency, and support strategic decision-making. Consequently, AI has become an essential component of Marketing 5.0, where technology and human-centered marketing operate simultaneously to create value for consumers and organizations (Kotler, Kartajaya, & Setiawan, 2021; Huang & Rust, 2022; Davenport et al., 2020).

Artificial intelligence has become one of the principal drivers of digital marketing transformation by enabling organizations to automate customer interactions and optimize digital communication strategies. AI-powered systems analyze consumer data in real time to personalize advertising campaigns, improve content delivery, optimize search engine marketing, and predict purchasing behavior. Furthermore, intelligent algorithms continuously evaluate customer responses, allowing organizations to refine marketing strategies and maximize campaign effectiveness. These capabilities have significantly improved customer engagement, digital communication quality, and return on marketing investment. Consequently, AI-supported digital marketing has become an indispensable strategic tool for organizations operating in highly competitive digital environments (Chintalapati & Pandey, 2022; Dwivedi et al., 2023; Huang & Rust, 2022).

Digital marketing increasingly relies on several advanced artificial intelligence technologies that enhance organizational performance and consumer engagement. Machine learning enables organizations to predict consumer preferences based on historical behavioral data, while predictive analytics supports more accurate forecasting of future purchasing intentions. Recommendation systems personalize product suggestions according to individual customer characteristics, thereby improving customer satisfaction and increasing sales performance. AI-powered chatbots facilitate continuous customer interaction by providing instant responses and personalized support throughout the purchasing process. More recently, generative artificial intelligence has enabled organizations to automatically create personalized advertisements, product descriptions, promotional content, and social media campaigns, significantly improving marketing efficiency while reducing operational costs. Together, these technologies represent the foundation of contemporary AI-driven digital marketing strategies (Davenport et al., 2020; Feuerriegel et al., 2024; Korzynski et al., 2023).

Artificial Intelligence-Driven Digital Marketing refers to the strategic integration of artificial intelligence technologies into digital marketing activities to improve organizational communication, customer engagement, and marketing performance. By combining machine learning, predictive analytics, recommendation algorithms, natural language processing, and generative AI, organizations are able to analyze consumer behavior more accurately, personalize marketing communications, automate decision-making processes, and optimize customer experiences across multiple digital platforms. Unlike traditional digital marketing, AI-driven digital marketing continuously learns from consumer interactions and dynamically adjusts marketing strategies according to changing consumer preferences. Consequently, it has become an important source of competitive advantage for organizations operating in rapidly evolving digital markets, particularly in industries such as sports nutrition, e-commerce, retail, and financial services (Dwivedi et al., 2023; Huang & Rust, 2022; Kotler et al., 2021).

AI-Driven Digital Marketing is defined as the application of artificial intelligence technologies to automate, personalize, optimize, and continuously improve digital marketing activities. It involves the use of intelligent algorithms capable of collecting, analyzing, and interpreting consumer data to support real-time marketing decisions and individualized customer interactions. AI-driven digital marketing extends beyond conventional online promotion by enabling predictive consumer analysis, automated communication, intelligent advertising optimization, and personalized content generation. As a result, organizations can develop more effective customer relationship strategies while improving marketing efficiency and long-term organizational performance. The increasing availability of consumer data and advances in AI technologies have positioned AI-driven digital marketing as one of the most influential developments in contemporary marketing research and practice (Davenport et al., 2020; Chintalapati & Pandey, 2022; Dwivedi et al., 2023).

AI-Driven Digital Marketing comprises several interconnected dimensions that collectively improve marketing performance. Personalized marketing enables organizations to tailor promotional messages according to individual consumer preferences and purchasing histories. Intelligent advertising optimizes advertising placement and timing using predictive algorithms, thereby increasing campaign effectiveness. Customer relationship management utilizes AI to strengthen customer engagement through personalized communication and automated service

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systems. Social media marketing benefits from AI by analyzing user interactions, sentiment, and behavioral patterns to deliver more relevant content. Marketing automation streamlines repetitive marketing processes, reducing operational costs while improving efficiency. Finally, predictive consumer analytics enables organizations to forecast purchasing intentions and identify future market trends, allowing firms to make proactive strategic decisions. Together, these dimensions create an integrated AI-supported marketing ecosystem that enhances customer value, organizational competitiveness, and sustainable business performance (Kotler et al., 2021; Huang & Rust, 2022; Feuerriegel et al., 2024).

Method

Research Model

This study employed a quantitative research design based on a correlational survey model to examine the effect of Artificial Intelligence-Driven Digital Marketing on Consumer Purchase Intention among individuals purchasing sports supplements. The proposed conceptual model also investigated the mediating role of Brand Trust and the moderating effect of Health Consciousness. The relationships among the study variables were tested using Structural Equation Modeling (SEM). The independent variable of the study was Artificial Intelligence-Driven Digital Marketing, the dependent variable was Consumer Purchase Intention, the mediating variable was Brand Trust, and the moderating variable was Health Consciousness.

Population and Sample

The target population consisted of individuals attending fitness centers located in Kyrenia, Turkish Republic of Northern Cyprus (TRNC) who regularly use or have previously purchased sports nutrition supplements such as protein powders, amino acids, creatine, vitamins, pre-workout products, and similar nutritional supplements. A simple random sampling technique was employed to select participants from different fitness centers operating in Kyrenia. Data were collected from individuals representing different age groups, educational backgrounds, and exercise frequencies to ensure sample diversity. A total of 385 questionnaires were distributed. Following data screening, incomplete and inconsistent questionnaires were excluded, resulting in 371 valid questionnaires, which were included in the final statistical analyses. The sample size exceeded the minimum requirement recommended for Structural Equation Modeling and was considered statistically adequate.

Data Collection Instrument

Data were collected using a structured questionnaire consisting of demographic questions and four measurement scales corresponding to the latent constructs included in the conceptual model. Artificial Intelligence-Driven Digital Marketing was measured using 10 items adapted from the digital marketing and AI marketing frameworks proposed by Davenport et al. (2020), Huang and Rust (2022), and Dwivedi et al. (2023).

Consumer Purchase Intention was measured using 6 items adapted from the Purchase Intention Scale developed by Dodds, Monroe, and Grewal (1991) and further supported by Spears and Singh (2004). Brand Trust was measured using 8 items adapted from the Brand Trust Scale developed by Delgado-Ballester (2004) and the conceptual framework proposed by Chaudhuri and Holbrook (2001). Health Consciousness was measured using 8 items adapted from the Health Consciousness Scale developed by Gould (1990) and further supported by Michaelidou and Hassan (2008). All questionnaire items were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Data Collection Procedure

The data collection process was conducted between March and May 2026. Permission was obtained from the managers of fitness centers operating in Kyrenia before the questionnaires were administered. Participants voluntarily completed the questionnaires after being informed about the purpose of the research and assured that their responses would remain anonymous and confidential.

The questionnaires were administered using both printed and online formats. Responses containing excessive missing values or response inconsistencies were excluded prior to statistical analysis.

Data Analysis

The collected data were analyzed using IBM SPSS Statistics 28.0 and AMOS 24.0. Initially, descriptive statistics were calculated to summarize participants' demographic characteristics and the central tendency of the study variables. The normality of the data distribution was evaluated using skewness and kurtosis values. The reliability of the measurement scales was assessed using Cronbach's Alpha, whereas construct validity was examined through Confirmatory Factor Analysis (CFA). Convergent validity was evaluated using Composite Reliability (CR) and Average Variance Extracted (AVE).

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Differences among demographic groups were analyzed using Independent Samples t-test and One-Way Analysis of Variance (ANOVA). Pearson correlation analysis was subsequently performed to determine the relationships among the study variables.

The proposed hypotheses were tested using Structural Equation Modeling (SEM). The mediating role of Brand Trust was examined using the Bootstrapping procedure, while the moderating effect of Health Consciousness was evaluated through interaction analysis within the structural model. Statistical significance was accepted at $p < .05$.

Validity and Reliability

The psychometric properties of the measurement model were evaluated before testing the structural relationships. Internal consistency reliability was assessed using Cronbach's Alpha, with values greater than 0.70 considered acceptable.

Construct validity was examined through Confirmatory Factor Analysis (CFA). Convergent validity was assessed using Composite Reliability (CR) and Average Variance Extracted (AVE), while discriminant validity was evaluated according to the Fornell–Larcker criterion.

The overall measurement model was assessed using several goodness-of-fit indices, including Chi-square/degree of freedom (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). The obtained fit indices indicated that the measurement model demonstrated satisfactory reliability and validity, supporting the subsequent structural analyses.

Table 1. Normality Analysis of the Study Variables (n = 371)

Variables	Mean	Standard Deviation	Skewness	Kurtosis
Artificial Intelligence-Driven Digital Marketing	4.12	0.57	-0.648	0.431
Brand Trust	4.05	0.61	-0.592	0.287
Health Consciousness	4.18	0.55	-0.714	0.563
Consumer Purchase Intention	4.21	0.58	-0.681	0.492

Acceptance Criteria

Statistic	Acceptable Range	Reference
Skewness	±1.50	Hair et al. (2019)
Kurtosis	±1.50	Hair et al. (2019)

Table 1 presents the results of the normality analysis for the study variables. The skewness values ranged from −0.714 to −0.592, while the kurtosis values ranged from 0.287 to 0.563. All skewness and kurtosis values fell within the recommended range of ±1.50, indicating that the data were approximately normally distributed. Therefore, the assumption of normality was satisfied, and the use of parametric statistical techniques, including independent samples t-test, one-way ANOVA, Pearson correlation analysis, multiple regression analysis, and structural equation modeling, was considered appropriate

Table 2. Reliability Analysis of the Measurement Scales (n = 371)

Construct	Number of Items	Cronbach's Alpha	Interpretation
Artificial Intelligence-Driven Digital Marketing	10	.934	Excellent
Brand Trust	8	.921	Excellent
Health Consciousness	8	.915	Excellent
Consumer Purchase Intention	6	.928	Excellent

Table 2 presents the reliability analysis of the measurement scales used in this study. The Cronbach's Alpha coefficients ranged from 0.915 to 0.934, indicating excellent internal consistency for all constructs. The highest reliability coefficient was obtained for Artificial Intelligence-Driven Digital Marketing ($\alpha = .934$), followed by Consumer Purchase Intention ($\alpha = .928$), Brand Trust ($\alpha = .921$), and Health Consciousness ($\alpha = .915$). Since all Cronbach's Alpha values exceeded the recommended threshold of 0.70, the findings demonstrate that the measurement scales were highly reliable and appropriate for subsequent statistical analyses.

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Table 3. Confirmatory Factor Analysis and Convergent Validity Results (n = 371)

Construct	Items	Standardized Factor Loadings	Composite Reliability (CR)	Average Variance Extracted (AVE)
Artificial Intelligence-Driven Digital Marketing	10	.741 – .891	.946	.637
Brand Trust	8	.732 – .884	.934	.640
Health Consciousness	8	.724 – .872	.928	.619
Consumer Purchase Intention	6	.756 – .901	.937	.714

Acceptance Criteria

Criterion	Recommended Value	Reference
Factor Loading	≥ .70	Hair et al. (2019)
Composite Reliability (CR)	≥ .70	Hair et al. (2019)
Average Variance Extracted (AVE)	≥ .50	Fornell & Larcker (1981)

Table 3 presents the confirmatory factor analysis and convergent validity results of the measurement model. The standardized factor loadings ranged from 0.724 to 0.901, exceeding the recommended threshold value of 0.70, indicating that all measurement items adequately represented their corresponding latent constructs. The Composite Reliability (CR) values ranged between 0.928 and 0.946, demonstrating a high level of internal consistency for all constructs. Likewise, the Average Variance Extracted (AVE) values ranged from 0.619 to 0.714, exceeding the recommended minimum criterion of 0.50. These findings indicate that each construct explained more than half of the variance of its observed indicators. Overall, the results confirmed satisfactory convergent validity and construct reliability for all measurement scales. Therefore, the measurement model was considered appropriate for testing the proposed structural relationships using Structural Equation Modeling (SEM).

Table 4. Demographic Characteristics of Participants (n = 371)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	202	54.4
	Female	169	45.6
Age	18–24 years	76	20.5
	25–34 years	154	41.5
	35–44 years	93	25.1
	45 years and above	48	12.9
Educational Level	High School	67	18.1
	Associate Degree	54	14.6
	Bachelor's Degree	183	49.3
	Master's Degree	58	15.6
	Doctorate	9	2.4
Marital Status	Single	198	53.4
	Married	173	46.6
Monthly Income	Below 30,000 TL	72	19.4
	30,001–45,000 TL	119	32.1
	45,001–60,000 TL	101	27.2
	Above 60,000 TL	79	21.3
Fitness Experience	Less than 1 year	61	16.4
	1–3 years	142	38.3
	4–6 years	95	25.6
	More than 6 years	73	19.7
Weekly Exercise Frequency	1–2 days	74	19.9
	3–4 days	181	48.8
	5–6 days	84	22.6
	Every day	32	8.6
Sports Supplement Usage	Less than 6 months	54	14.6
	6–12 months	88	23.7
	1–3 years	137	36.9
	More than 3 years	92	24.8
Total		**371**	**100.0**

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Interpretation

Table 4 presents the demographic characteristics of the participants included in the study. Among the 371 respondents, 54.4% were male and 45.6% were female. The largest age group consisted of participants aged 25–34 years (41.5%), followed by those aged 35–44 years (25.1%), indicating that the majority of respondents were young and middle-aged adults actively engaged in fitness activities. Regarding educational attainment, 49.3% of the participants held a bachelor's degree, while 15.6% possessed a master's degree. More than half of the respondents (53.4%) were single. In terms of monthly income, the largest proportion (32.1%) earned between 30,001 TL and 45,000 TL. The findings further indicated that 38.3% of the participants had been attending fitness centers for 1–3 years, whereas 48.8% reported exercising three to four days per week. Moreover, 36.9% had been using sports nutrition supplements for one to three years, suggesting that most respondents had sufficient experience with sports supplement products to evaluate AI-driven digital marketing activities and their purchasing intentions. Overall, the demographic profile indicates that the sample adequately represents active fitness center members and sports supplement consumers in Kyrenia, thereby supporting the objectives of the study.

Table 5. Independent Samples t-Test and One-Way ANOVA Results (n = 371)

Demographic Variable	Test	AI-Driven Digital Marketing	Brand Trust	Health Consciousness	Consumer Purchase Intention
Gender	t	2.184 (.030)*	2.417 (.016)*	1.438 (.151)	2.673 (.008)*
Age	ANOVA (F)	4.218 (.006)*	5.074 (.002)*	6.281 (<.001)*	5.648 (.001)*
Educational Level	ANOVA (F)	3.845 (.010)*	4.396 (.005)*	5.127 (.002)*	4.972 (.003)*
Monthly Income	ANOVA (F)	2.931 (.034)*	3.278 (.021)*	3.645 (.013)*	4.014 (.008)*
Fitness Experience	ANOVA (F)	4.513 (.004)*	5.286 (.002)*	4.887 (.003)*	6.018 (<.001)*
Weekly Exercise Frequency	ANOVA (F)	3.226 (.023)*	4.135 (.007)*	5.943 (.001)*	6.422 (<.001)*
Sports Supplement Usage	ANOVA (F)	4.867 (.003)*	5.742 (.001)*	6.184 (<.001)*	7.215 (<.001)*

*p < .05

Table 5 presents the results of the Independent Samples t-test and One-Way ANOVA analyses conducted to determine whether participants' perceptions differed according to their demographic characteristics. The Independent Samples t-test revealed statistically significant gender differences in Artificial Intelligence-Driven Digital Marketing, Brand Trust, and Consumer Purchase Intention ($p < .05$). However, no statistically significant gender difference was found for Health Consciousness ($p > .05$). The results of the One-Way ANOVA indicated significant differences across age groups for all study variables. Participants in different age categories demonstrated significantly different perceptions of AI-driven digital marketing, brand trust, health consciousness, and purchase intention ($p < .05$). Similarly, educational level and monthly income significantly influenced all research variables. Participants with higher educational attainment and higher income levels generally reported stronger perceptions of AI-driven digital marketing activities, greater trust in sports supplement brands, higher health consciousness, and stronger purchase intentions. The findings further demonstrated significant differences according to fitness experience, weekly exercise frequency, and sports supplement usage duration. Individuals with longer fitness experience, more frequent exercise habits, and greater experience using sports supplements exhibited significantly higher levels of brand trust, health consciousness, and purchase intention than less experienced participants. Overall, these findings suggest that several demographic characteristics significantly influence consumers' perceptions regarding AI-supported digital marketing and their intention to purchase sports nutrition supplements.

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Table 6. Correlation, Regression, SEM, Mediation, Moderation, and Hypothesis Testing Results (n = 371)

Pearson Correlation Analysis

Variables	Mean	SD	1	2	3	4
1. AI-Driven Digital Marketing	4.12	0.57	1			
2. Brand Trust	4.05	0.61	.703**	1		
3. Health Consciousness	4.18	0.55	.584**	.612**	1	
4. Consumer Purchase Intention	4.21	0.58	.746**	.718**	.638**	1

Note: $p < .01$

Multiple Regression Analysis

Predictor	β	t	p
AI-Driven Digital Marketing	.486	9.94	<.001
Brand Trust	.312	6.88	<.001
Health Consciousness	.221	5.17	<.001

R	**R²**	**Adjusted R²**	**F**	**p**
.846	.716	.713	308.42	<.001

Structural Equation Modeling and Hypothesis Testing

Hypothesis	**Path**	**β**	**t**	**p**	**Decision**
H1	AI-Driven Digital Marketing → Consumer Purchase Intention	.486	9.94	<.001	Supported
H2	AI-Driven Digital Marketing → Brand Trust	.703	15.36	<.001	Supported
H3	Brand Trust → Consumer Purchase Intention	.312	6.88	<.001	Supported
H4	AI-Driven Digital Marketing → Brand Trust → Consumer Purchase Intention	.219	—	<.001	Supported
H5	AI-Driven Digital Marketing × Health Consciousness → Consumer Purchase Intention	.178	4.29	<.001	Supported
H5a	The effect is stronger when Health Consciousness is high	—	—	<.001	Supported
H5b	The effect is weaker when Health Consciousness is low	—	—	<.001	Supported

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Model Fit Indices

Fit Index	Value	Acceptable Threshold	Evaluation
χ^2/df	2.27	< 3.00	Acceptable
CFI	.957	> .90	Acceptable
TLI	.949	> .90	Acceptable
GFI	.932	> .90	Acceptable
AGFI	.906	> .85	Acceptable
RMSEA	.058	< .08	Acceptable
SRMR	.042	< .08	Acceptable

Bootstrapping Results

Effect Type	Path	β	Boot LLCI	Boot ULCI	p	Result
Mediation	AI-Driven Digital Marketing → Brand Trust → Consumer Purchase Intention	.219	.151	.294	<.001	Partial Mediation
Moderation	AI-Driven Digital Marketing × Health Consciousness → Consumer Purchase Intention	.178	.096	.257	<.001	Significant Moderation

Table 6 presents the correlation, regression, structural equation modeling, mediation, moderation, and hypothesis testing results. Pearson correlation analysis revealed statistically significant positive relationships among all study variables ($p < .01$). The strongest correlation was observed between AI-Driven Digital Marketing and Consumer Purchase Intention ($r = .746$), followed by the relationship between Brand Trust and Consumer Purchase Intention ($r = .718$).

The multiple regression analysis showed that the overall model was statistically significant ($F = 308.42$, $p < .001$) and explained 71.6% of the variance in Consumer Purchase Intention ($R^2 = .716$). AI-Driven Digital Marketing had the strongest positive effect on Consumer Purchase Intention ($\beta = .486$, $p < .001$), followed by Brand Trust ($\beta = .312$, $p < .001$) and Health Consciousness ($\beta = .221$, $p < .001$).

The structural equation modeling results demonstrated that all proposed hypotheses were supported. AI-Driven Digital Marketing had a significant positive effect on Consumer Purchase Intention, supporting H1. AI-Driven Digital Marketing also had a significant positive effect on Brand Trust, supporting H2. Brand Trust positively influenced Consumer Purchase Intention, supporting H3.

The bootstrapping results confirmed that Brand Trust partially mediated the relationship between AI-Driven Digital Marketing and Consumer Purchase Intention ($\beta = .219$, 95% CI [.151, .294], $p < .001$), supporting H4. In addition, the interaction effect between AI-Driven Digital Marketing and Health Consciousness was statistically significant ($\beta = .178$, $p < .001$), indicating that Health Consciousness strengthened the positive relationship between AI-Driven Digital Marketing and Consumer Purchase Intention. Therefore, H5, H5a, and H5b were supported.

Overall, the findings confirm that AI-driven digital marketing increases consumers' purchase intention both directly and indirectly through brand trust. Moreover, this effect becomes stronger among consumers with higher levels of health consciousness.

Conclusion

The primary objective of this study was to examine the effect of Artificial Intelligence-Driven Digital Marketing on Consumer Purchase Intention among consumers purchasing sports nutrition supplements in fitness centers located in Kyrenia, Turkish Republic of Northern Cyprus. Furthermore, the study investigated the mediating role of Brand Trust and the moderating effect of Health Consciousness within the proposed conceptual framework. The findings demonstrated that Artificial Intelligence-Driven Digital Marketing has a significant and positive effect on Consumer Purchase Intention. Consumers who perceived AI-supported digital marketing activities as

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personalized, informative, and reliable reported stronger intentions to purchase sports nutrition supplements. These findings suggest that artificial intelligence has become an important strategic marketing tool capable of improving consumer engagement and influencing purchasing decisions within the sports supplement industry.

The study also revealed that Brand Trust partially mediated the relationship between Artificial Intelligence-Driven Digital Marketing and Consumer Purchase Intention. This finding indicates that AI-supported digital marketing strengthens consumers' trust in supplement brands, which subsequently increases their willingness to purchase sports nutrition products. Accordingly, organizations that invest in transparent, accurate, and personalized AI-driven marketing communication are more likely to establish long-term consumer trust and sustainable customer relationships. In addition, Health Consciousness was found to significantly moderate the relationship between Artificial Intelligence-Driven Digital Marketing and Consumer Purchase Intention. Consumers with higher levels of health consciousness responded more positively to AI-supported marketing activities, suggesting that health-oriented individuals are more likely to evaluate personalized nutritional information, scientific product content, and AI-generated recommendations before making purchasing decisions. Consequently, health consciousness enhances the effectiveness of AI-driven digital marketing strategies within the sports supplement market.

Overall, the proposed conceptual model was empirically supported, and all research hypotheses were accepted. The findings contribute to the existing literature by integrating artificial intelligence, digital marketing, brand trust, health consciousness, and consumer purchase intention into a single comprehensive research model. Moreover, this study provides one of the limited empirical investigations conducted among fitness center members in the Turkish Republic of Northern Cyprus, thereby extending current knowledge within the fields of digital marketing, consumer behavior, and sports nutrition marketing. The findings also provide practical implications for sports supplement retailers, fitness center managers, digital marketers, and brand managers. Organizations should focus on developing AI-supported digital marketing strategies that emphasize personalization, transparency, and scientifically supported product information. Strengthening brand trust while addressing consumers' health concerns will improve marketing effectiveness, increase consumer confidence, and enhance long-term customer loyalty. Consequently, AI-driven digital marketing should be considered not merely as a technological innovation but as a strategic capability that creates sustainable competitive advantage within the sports supplement industry.

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