

The Effect of Digital Marketing Adoption on the Sustainable Growth of Agricultural Industries: Empirical Evidence from Iran

Abstract

In recent decades, digital marketing has been recognized as one of the key tools for increasing productivity and accessing new markets in various industries. The agricultural industry is no exception to this rule and digital marketing plays a vital role in its development and progress. Therefore, the purpose of the research is to investigate the impact of digital marketing adoption on the sustainable growth of Iran's agricultural industries through a case study of Khuzestan province. The research is applied in terms of purpose and descriptive-causal in terms of nature. The statistical population was employed in agricultural industries in Khuzestan province. The sample size was estimated using Morgan's table to be 384 people, taken by simple randomization.

The data collection instrument was a questionnaire whose validity was determined by a panel of experts and whose reliability was determined by estimating Cronbach's alpha coefficient, which was estimated to be more than 0.7 for all sections of the questionnaire. The data were analyzed using frequency distribution, percentage, and mean in the descriptive section and structural equation model in the analytical section. The results of the research showed that the attitude towards digital marketing has a positive and significant effect on the behavioral intention to use digital marketing, and the attitude towards digital marketing has a significant effect on sustainable growth. Also, the results showed that mental norms have a positive and significant effect on the behavior intention to use digital marketing and the actual use of digital marketing. In addition, the perceived behavioral control has a positive and significant effect on the behavioral intention to use digital marketing. Finally, the use of digital marketing has a direct and positive effect on the sustainable growth of agricultural industries. The study's results serve as guidelines for prospective adopters of digital platforms as they develop their sustainability strategies.

Keywords: digital marketing, sustainable growth, agricultural industries, Khuzestan province

Introduction

The increasing speed of the Internet has made it possible to invent smartphones and other digital technologies that have revolutionized communication. Due to the recent dynamics of the business environment, the Internet has become an essential platform to market goods and services. Digital technologies have emerged as innovative tools for conducting business operations and have increased competition and the importance of digital marketing in companies' communication strategies (Ziółkowska, 2021). Digital marketing is

defined as "the use of technology in marketing efforts and business practices through the marketing of goods, services, information, and ideas using the Internet, mobile phones, display advertising, and other electronic media" (Pradhan & Nigam, 2018). Digital technologies can improve company performance and, at the same time, facilitate entrepreneurial activities. In addition, they provide an effective medium for idea generation, thereby leading companies to sustainability. From customers' viewpoint, technology adoption

influences their behavior and decisions (Wilson & Makao, 2018).

Using digital marketing techniques in the agricultural sector can help farmers gain superiority in price determination and reduce production and marketing costs of agricultural products. For this, farmers should be encouraged to prefer digital marketing tools in agricultural marketing and policies should be developed by policy makers for the development of digital marketing in agriculture (Fatih, Atli., 2024).

Consequently, businesses have been led to use digital technologies to focus more on customers for business growth. Recently, marketing activities have been carried out using digital media to disseminate information, build a customer base, and connect with current customers and prospects. Businesses sell products and services through digital marketing platforms that significantly influence decisions. Therefore, customers can access various goods and services through information shared on digital platforms, e.g., social media, affiliate marketing, email, search engines, digital advertising, viral marketing, content marketing, and mobile marketing (Ahene Djan, 2021). In addition, digital marketing is considered a tool to reach the target audience, increase brand loyalty, and increase financial turnover. It has been proven that digital transformation in an organization reduces costs and enhances efficiency and organizational effectiveness. However, the use of digital technologies has declined because there is a perception that it may increase conspiracy, cyberbullying, and general tension (Mujahid & Mubarak, 2021).

In addition to improving production processes, digital farming practices also help reduce food waste and increase food safety. Using technologies such as blockchain, artificial intelligence, cloud computing and

IoT, producers and consumers can better see the movement of products through the distribution channel and monitor the conditions of farms in real time (Sevli, 2023).

This improved traceability in the food supply chain helps ensure food safety. Digital platforms and tools can be used to market and sell agricultural products directly to consumers, reduce the need for intermediaries, increase income potential, and increase the efficiency and sustainability of agricultural businesses (Şalvarlı, 2023).

Effective digital marketing enables businesses to compete with larger enterprises, gather market intelligence, reduce marketing costs, enhance new product development, and ultimately, achieve competitive advantage and sustainable growth. Digital marketing technologies have improved internal communication, increased sales to both existing and new customers, and boosted brand awareness. Consequently, businesses can benefit from customers at a lower cost by utilizing digital marketing platforms. Most importantly, digital marketing tools help businesses increase organizational productivity and enhance collaboration (Bruce et al., 2023). Businesses play a central role in economic growth, especially in developing countries, by creating jobs through innovation. Globally, businesses contribute to more than 80% of employment in both developed and developing economies and 70% of GDP. Previous studies have shown that with the rise in global competition, the ability of businesses to learn and acquire knowledge for business development has become significant (Low et al., 2020).

Technology advancement has impacted all occupations, including agricultural industries. In this regard, strong industries

are necessary for the organizational competitiveness and survival of agricultural industries. In addition, digital marketing has been proposed as an essential tool for business growth. Agricultural growth should continuously focus on customer-oriented strategies for operational productivity. Researchers have, however, found various reasons why businesses have failed to adopt new modern technologies to increase performance and sustainable growth (Eze et al., 2020).

Companies facing limited resources, financial challenges, limited marketing strategies, and insufficient capabilities hinder the adoption of digital technologies as new strategic tools for sustainable growth. Furthermore, researchers have emphasized that the failure of businesses in developing countries to compete with larger firms is due to their inability to adopt and integrate digital technologies into their business marketing strategies. As a result, these challenges affect the speed of economic development in developing economies. They have also observed that there is a relatively low adoption rate for digital technologies among businesses in developing countries, which has become a challenge for businesses in all industries, including agriculture, and needs further investigation (Pollák & Markovi 2021: 61). In developing countries, the rapid growth of Internet users has been reported at a high rate, implying that digital technologies are a developing trend that businesses must use to gain a competitive advantage. Nonetheless, few businesses have surprisingly integrated and implemented these new digital marketing approaches into their company's sustainable marketing strategies. Businesses usually face challenges like insufficient resources, weak marketing mechanisms, and limited markets and are unable to succeed in the challenging business environment (Frimpong et al., 2022). Researchers have

argued that the adoption of digital technologies is the key to a successful marketing campaign and is considered an approach that businesses can use to quickly respond to uncertainty in today's dynamic business environment. It is clear that digital marketing technologies, such as social media, e-marketing, content marketing, and affiliate marketing, have become sustainable digital advertising tools and can be vital to agricultural industries as they provide two-way communication, prospects, business development, and rapid communication (Abraham et al., 2022).

Adopting digital marketing offers a solution that can help businesses overcome their marketing and advertising challenges and allow them to compete with larger companies. In addition, agricultural businesses have a very large share in the economy, so their inability to cope with the globalization process will be a challenge to their development. As a result, businesses' transition to digitalization is crucial for their growth and development, as their success is significant for the national economy. With this in mind, it is essential to examine and understand the objectives of businesses in the agricultural industry regarding the adoption of digital marketing, given their potential benefits, especially for marketing reasons. Therefore, the current research tries to answer the question as to whether the adoption of digital marketing influences the sustainable growth of agricultural industries in Khuzestan province.

Theoretical Framework

Attitude towards Digital Marketing:

Digital marketing conceptualizes marketing through the use of any type of smart device. During the past two decades, digital marketing has revolutionized global marketing through the establishment of media and electronic tools in order to

implement goal-based, relational and interactive marketing. (Krishen et al. 2021)

Attitude toward digital marketing is defined as the degree to which an individual has a favorable or unfavorable evaluation of using digital marketing. Attitude is also the assessment of the desirability or undesirability of performing specific actions based on digital marketing (Ajzen, 2020). Individuals' attitudes have a significant impact on their behavioral intentions. Consequently, it is argued that industries' positive feelings toward digital marketing are essential for their successful adoption and use. Abbas and Mahmood (2021) analyzed a sample of 282 startup owners in India and showed that attitude significantly affected the intention to use digital marketing. In addition, they showed that business owners' attitudes, skills, and motivation were essential in adopting digital marketing (Sanders & Galloway, 2013).

Perceived Behavioral Control: Perceived behavioral control, a fundamental construct of the Theory of Planned Behavior, is defined as the individual's capacity and efficiency to perform and control a specific action. It is considered an element that may affect the performance of the individual's certain acts (Zolait, 2014). Perceived behavioral control refers to the individual's capacity to perform a specific action (Bruce et al., 2023). It refers to the degree of an individual's voluntary control over performing or not performing a behavior. If an individual believes that they do not have the necessary resources or opportunities to perform the desired behavior, the likelihood of performing the behavior will be reduced (Razaghi Borkhani & Mirtorabi, 2021). Globalization has made the market highly competitive, and farmers must cope with the challenge of globalization by changing and reorienting themselves. Marketing and the

use of information technology are essential components of agricultural modernization. Despite the growing adoption of digital marketing in recent years and its widespread impact on farmers' production activities, many farmers are still deprived of digital services (Su et al., 2021).

Subjective Norms: Subjective norms refer to the perceived social pressure to engage in or avoid a behavior (Bruce et al., 2023: 3). They show motivation to comply with such social pressure. In other words, they refer to an individual's perception of the extent to which others approve or disapprove of the behavior (Dehghanpour & Sebet, 2019). Subjective norms measure the influence of others on behavior. If social expectations are that people should perform the behavior in question, the individual is more likely to perform it (Razzaghi Borkhani & Mirtorabi, 2021: 66). Overall, research has also shown that subjective norms positively influence behavioral intentions to adopt new media technologies (Bruce et al., 2023). Subjective norms played an essential role in explaining behavioral intentions in cloud technology adoption. Many recent studies have revealed that subjective norms affect the measurement of behavioral intention (Apau & Koranteng, 2019). Digital marketing provides a solution that helps farmers overcome their marketing and advertising challenges and allows them to achieve their set goals (Selase et al., 2019).

Behavioral Intention: Behavioral intention to use digital marketing refers to individuals' willingness and attitude to use digital marketing in the future (Nguyen et al., 2019). In recent years, digital marketing has transformed how companies communicate with their customers around the world. The increasing use of social networks and how users interact with companies on the Internet have created new business models based on

two-way communication between companies and internet users. Digital marketing, new business models, online advertising campaigns, and other digital strategies have collected users' opinions and feedback through this new online channel. In this way, companies have started to look at the digital ecosystem not only as the present but also as their future (Saura et al., 2022). The intention to perform a specific behavior explains why an individual engages in that behavior. Therefore, individuals' intentions influence behavioral actions. In the context of technology adoption, researchers have recently stated that intention is recognized as the driving force of technological innovation adoption, which influences actual behavior. Several researchers have examined the importance of behavioral intention in the context of technology adoption. They argued that behavioral intention has a significant impact on the actual use of social media for engagement (Bruce et al., 2023).

Actual Use of Digital Marketing: Actual use of digital marketing refers to the engagement, perceived usefulness, and enjoyment of using digital marketing (Alalwan, 2022). Digital marketing techniques can be linked to companies' sustainability strategies. The digital marketing strategies most commonly used by companies are those related to search engine optimization, search engine marketing, social media marketing, programmatic advertising, influencer marketing, etc. Digital marketing techniques are increasingly used, complemented by algorithms that analyze users' emotions about how companies' messages are shared over the Internet (Stieglitz et al., 2018). According to the Theory of Planned Behavior, it is assumed that attitudes, subjective norms, and perceived behavioral control influence the actual use of

innovation. This theory states that behavioral intention acts as an indicator of actual technology use. Previous studies on the Theory of Planned Behavior have shown that behavioral intention to use is associated with the actual use of innovation. Digital marketing is an information system that encourages collaboration and interaction through enjoyable use. According to Chaveesuk et al.'s (2021) study on digital payment system innovations, the impact of attitude, perceived risk, and behavioral intention on the actual use of digital marketing was demonstrated. They examined consumer acceptance and use of information technology and found evidence of the impact of behavioral intention on information technology use (Bruce et al., 2023).

Sustainable Growth: Sustainable growth refers to the rate at which a business outperforms its competitors financially in terms of sales and profitability (Nimfa et al., 2021). Under the influence of new technologies and the development of the Internet in recent years, new business models have emerged that focus on using sustainable strategies in organizational social identity and marketing strategies. With the development of these technologies, the concept of sustainability has become linked with not only the environment but also sustainable development, the types of resources used by companies, and the technologies and tools used by companies. The Internet has become a tool for the sustainable growth of many companies. Now, these companies must adapt their business models to allow them to sell their products and services 24/7 and also enable global shipments to use increasingly ambitious and global e-commerce strategies. These new business models are based on how Internet users behave on social networks, including the analysis of user-

generated content and the tools those users use (Li et al., 2019). The adoption of modern technologies enables companies to keep pace with the recent dynamic business environment. Researchers have argued that the integration of modern technologies, e.g.,

digital marketing, has had positive results. For example, Alzubaidi et al. (2021) showed that digital marketing helped companies achieve sustainable growth (Bruce et al., 2023).

Table 1: Literature Review Table

Research Title	Author(s)	Research Findings
Presenting a Model for Sustainable Marketing Development Using Digital Marketing	Bashkoh et al. (2023)	The findings show that the research model includes two main variables: sustainable marketing with 8 dimensions and 24 indicators, and digital marketing with 4 dimensions and 15 indicators. The results also show that the sustainable marketing variable has eight dimensions: social marketing, human capabilities, attention to education, communication and interaction capabilities, strengthening loyalty and customer orientation, emotional motivators, accessible distribution, and sustainable products. Digital marketing also has four dimensions: interactive strategy, distribution strategy, communication strategy (customer-oriented), and information strategy.
Presenting a Model of Acceptance and Adoption of Digital Marketing by Managers to Enhance Brand Equity for Small Businesses	Saeedi and Hosseinzadeh (2022)	The research findings were formed from 184 initial concepts in 35 categories. Then, using axial coding, the categories were placed in seven axes: organizational factors, environmental factors, technical factors, digital marketing strategies, digital marketing tools, digital marketing consequences, and brand equity. In the next step, in the selective coding stage, all axes were explained, the storyline was drawn, and the final research model was developed. Based on the research results, digital marketing strategies in small businesses improve brand equity for these businesses by increasing the opportunity to reach target markets, identify customers, and stimulate sales growth.
Investigating the Impact of Digital Marketing on Consumer Purchase Behavior	Khosravilagh et al. (2022)	The results showed that all digital marketing tools and channels, e.g., search engines, content, social media, online public relations, affiliate marketing, email marketing, and behavioral marketing, have a positive impact on consumer purchasing behavior.
Investigating the Impact of Digital Marketing on Online Purchase Intention of Sport Customers with the Mediating Role of Customer Trust	Esmailkhanlu et al. (2022)	The results showed that digital marketing has a significant positive effect on sports customers' trust. Digital marketing has a significant positive effect on sports customers' online purchase intention. Customers' trust has a significant positive effect on sports customers' online purchase intention. It was also found that digital marketing has a significant positive effect on sports customers' online purchase intention through the mediating variable of customer trust.
Presenting a Conceptual Framework for Using Digital Marketing in the Capital Market Based on the Theories of Planned Behavior and	Hosseinzadeh et al. (2022)	The results showed that perceived usefulness and perceived ease of use have a significant impact on attitude towards digital marketing. Also, attitude, perceived risk, anticipated regret, subjective norms, and behavioral control significantly influence behavioral intention toward digital marketing.

Technology Acceptance		
Investigating the Impact of Digital Marketing Capabilities and Market Sensing on Organizational Performance	Al-Raji (2022)	The results showed a significant correlation and direct effect of digital marketing on firm performance.
The Impact of Digital Marketing on Sustainable Competitive Advantage with the Mediation of Customer Acquisition	Azad and Kamali Birjandi (2022)	The results showed that smart marketing capabilities have a positive and significant impact on sustainable competitive advantage. In the same vein, it was shown that customer acquisition has a positive and significant impact on sustainable competitive advantage.
Investigating the Factors Affecting the Acceptance of Digital Marketing and Its Impact on Sustainable Performance	Mahdavizadeh Ardastani (2021)	The results confirmed the positive and significant impact of internal and external factors on sustainable performance through the implementation of e-marketing.
Investigating the Impact of Digital Marketing Adoption on the Sustainable Growth of Small and Medium-Sized Enterprises in Ghana	Bruce et al. (2023)	The findings showed that while attitude towards digital marketing did not affect the intention to use digital marketing, perceived behavioral control and subjective norms do affect individuals' intention to use digital marketing. In addition, the results showed a positive direct relationship between subjective norms and actual behavioral use of digital marketing. Finally, the relationship between the actual use of digital marketing and the sustainable growth of small and medium-sized enterprises was also found to be positive.
Examining the Adoption of Digital Marketing and Its Impact on the Business Success of the Creative MSME Sector in Indonesia and Malaysia	Afifah and Najib (2022)	The research concludes that the factor that significantly affects the success of digital marketing adoption is knowledge, and knowing its benefits can provide more benefits for the future of their business.
Investigating the Impact of Digital Marketing Practices on Sales Growth and Sustainability	Venkat et al. (2022)	The results showed that digital marketing had a significant positive impact on business outcomes such as revenue growth and firm lifespan.
Examining the Adoption of Social Media Platforms and Sustainability	Mujahid and Mubarak (2021)	The findings show that social media is a vital virtual platform for resource-based startups. Therefore, if a platform is used properly, it can play a key role in the sustainable development of a startup.
Investigating the Smart Digital Marketing Capabilities for Sustainable Development	Low et al. (2020)	The results showed that sample real estate development companies are guided by the easy

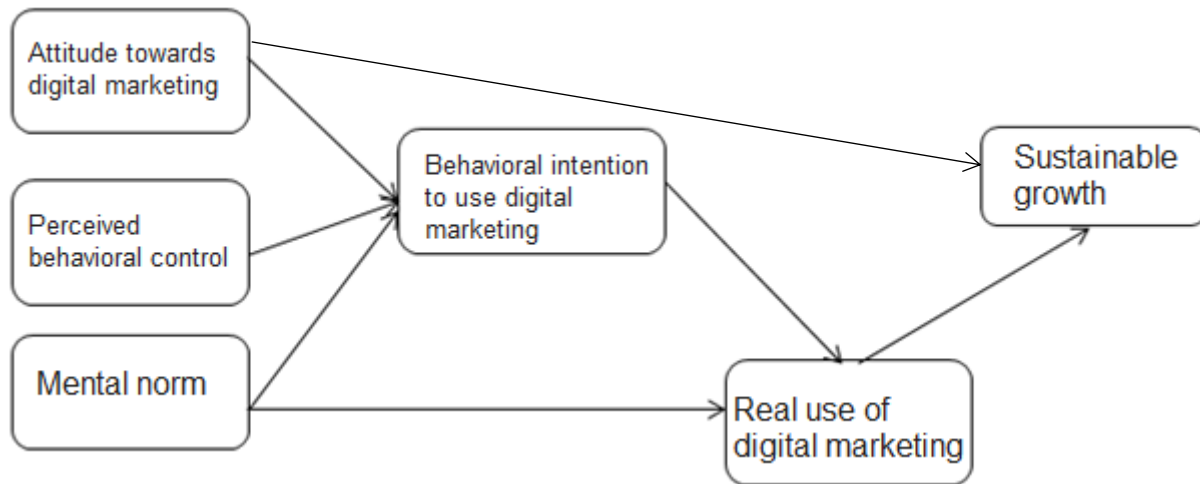


Figure 1. The conceptual model made by the researcher

Methodology

The researcher adopted the causal survey methodology due to the research's applied and descriptive nature. The statistical population was composed of employees and people working in agricultural industries in Khuzestan province, Iran. Since the exact number of these people was unknown, the sample size was determined by Morgan's table at 384 people who were sampled by simple randomization. The data collection instrument was Bruce et al.'s (2023)

standard questionnaire, which includes 23 questions to measure six research variables. The questions were answered on a 5-point Likert scale from "very little" to "very much." To determine the validity of the questionnaire, its face validity was checked by a panel of management experts. Cronbach's alpha coefficient and composite reliability were used to determine its reliability. The results are presented in Table 2.

Table 2. The results of Cronbach's alpha and composite reliability tests

Variables	Cronbach's Alpha	Composite Reliability
Actual use of digital marketing	0.86	0.914
Sustainable growth	0.78	0.853
Behavioral intention to use digital marketing	0.766	0.841
Attitude towards digital marketing	0.909	0.936
Subjective norms	0.776	0.861
Perceived behavioral control	0.803	0.871

The data was analyzed using frequency distribution, percentage, and means in the descriptive section and the structural equation model in the inferential section. The SPSSv25 and PLS Smart software suites were used to help data analysis.

Results

Descriptive section

The results obtained from the participants indicate that the majority of them were men. Among the 384 people surveyed, 251 were married and 133 were single. In terms of educational level, three had high-school diplomas, 93 had associate's degrees, 133 had bachelor's degrees, 150 had master's degrees, and five had Ph.D. degrees or higher. Regarding age, 65 were under 30 years old, 107 were 30 to 40 years old, 112

were 41 to 50 years old, and 100 were over 50 years old.

Inferential section

The Kolmogorov-Smirnov test was used to measure the normality of the research variables. The test is used to check the claim made about the data distribution of a quantitative variable. By using the comparison of the cumulative function of the probability of the data and the cumulative function of the probability of the normal distribution, it examines the assumption that the data are normally distributed (Momeni & Active Qayyumi, 2007). The results of the normality test are presented in Table 3. Considering the significance level of the test, which is more than 0.05, the null hypothesis is not rejected, and the claim of normality of the research data is confirmed.

Table 3. The results of the Kolmogorov-Smirnov test for the research variables

Indicator	Normal distribution parameter	Significance level	Result
Mean	3.11	0.993	0.001
Standard deviation	3.281	0.866	0
Subjective norms	3.474	0.845	0
Behavioral intention to use digital marketing	3.563	0.796	0
Actual use of digital marketing	3.636	0.88	0
Sustainable growth	3.54	0.851	0

After determining the measurement models, the research questions were tested using the structural equation model to evaluate the conceptual model of the research, verify the existence of a causal relationship between the research variables, and check the

appropriateness of the observed data with the conceptual model of the study. The research presents two models, according to the model assumptions: standard and meaningful.

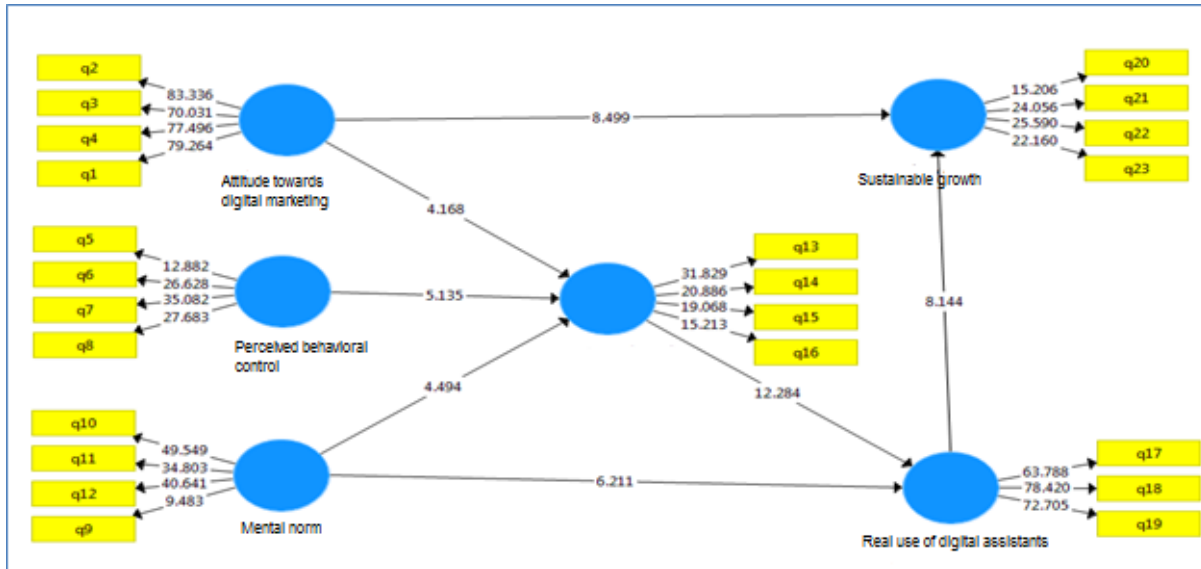


Figure 2. The research model in meaningful model

Figure 2 shows the results of the structural equations in the significance model. In the significance model, the t-value (the path coefficient in the significance model) must be greater than 1.96 for the relationship between the variables or research

hypotheses to be significant. If the t-value for the relationship between the variables is greater than 1.96, the relationship between the variables and the dependent variable is significant.

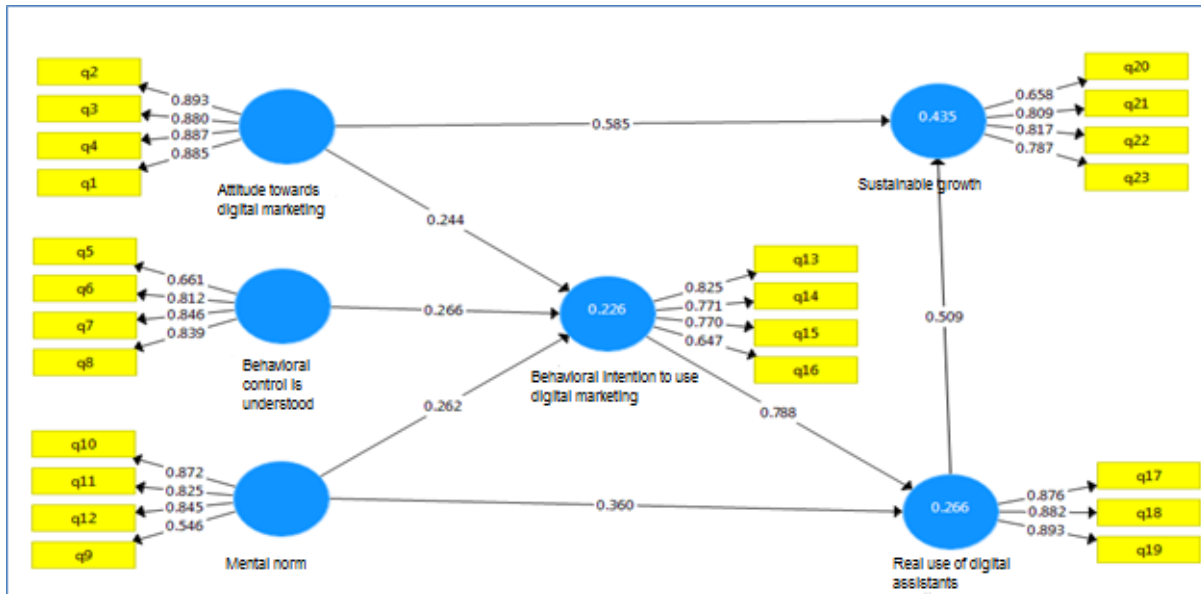


Table 5. The results of the research hypotheses

Hypothesis	Standardized	Significance	Result
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Hypothesis 1: Attitude toward digital marketing has a positive and significant impact on behavioral intention to use digital marketing.	-0.244	-4.168	Supported
Hypothesis 2: Attitude toward digital marketing has a positive and significant impact on sustainable growth.	-0.585	-8.499	Supported
Hypothesis 3: Perceived behavioral control has a positive and significant impact on behavioral intention to use digital marketing.	-0.266	-5.135	Supported
Hypothesis 4: Subjective norms have a positive and significant impact on behavioral intention to use digital marketing.	-0.262	-4.494	Supported
Hypothesis 5: Subjective norms have a positive and significant impact on the actual use of digital marketing.	-0.36	-6.211	Supported
Hypothesis 6: Behavioral intention to use digital marketing has a positive and significant impact on the actual use of digital marketing.	-0.788	-12.284	Supported
Hypothesis 7: The actual use of digital marketing has a positive and significant impact on sustainable growth.	-0.509	-8.144	Supported

According to the results obtained from the path coefficient and t-statistic shown in Figures 2 and 3, it can be stated that attitude toward digital marketing has a significant impact on behavioral intention to use digital marketing. The significance value is 4.168 (the t-statistic is outside the range of -96.1 to 96.1). Therefore, the first hypothesis is confirmed. The path coefficient between these two variables is also 0.244. Based on the path coefficient, it can be said that the impact of attitude towards digital marketing on behavioral intention to use digital marketing is positive and significant since the obtained path coefficient is positive. The results of this hypothesis are consistent with those reported by Bruce et al., Bashkoh et al. (2023), Saeedi and Hosseinzadeh, Khosravilagh et al., Hosseinzadeh et al. and Gupta and Chopra (2020).

According to the results of the path coefficient and t-statistic (Figures 2 and 3), it can be stated that attitude toward digital marketing has a significant impact on sustainable growth. The significance value is 8.499 (the t-statistic is outside the range of -96.1 to 96.1). Therefore, the second hypothesis is confirmed. The path coefficient between these two variables is also 0.585. It can be inferred from the path coefficient that the impact of attitude toward digital marketing on sustainable growth is

positive and significant since the obtained path coefficient is positive. The results of this hypothesis agree with those reported by Bruce et al., Bashkoh et al. (2023), Venkat et al. Saeedi and Hosseinzadeh, Hosseinzadeh et al. (2022), Mahdavizadeh Ardastani, Mujahid and Mubarak (2021), and Low et al. (2020).

Based on the results of the path coefficient and t-statistic depicted in Figures 2 and 3, it can be stated that perceived behavioral control has a significant impact on behavioral intention to use digital marketing. The significance value is 5.135 (the t-statistic is outside the range of -96.1 to 96.1), supporting the third hypothesis. The path coefficient between these two variables is also 0.266. Based on the path coefficient, it can be said that the impact of perceived behavioral control on behavioral intention to use digital marketing is positive and significant since the obtained path coefficient is positive. The results of this hypothesis are consistent with those reported by Low et al. 2020, Saeedi and Hosseinzadeh., Khosravilagh et al. Hosseinzadeh et al. Afifa and Najib 2022, Bruce et al, Bashkoh et al, 2023).

As the results of the path coefficient and t-statistics (Figures 2 and 3) revealed, subjective norms have a significant effect on the behavioral intention to use digital

marketing. The significant value is equal to 4.494 (t-statistic is outside the range of negative 1.96 to positive 1.96), confirming the fourth hypothesis. Also, the path coefficient between these two variables is equal to 0.262. According to the coefficient of the path, it can be said that the influence of the norms on the behavioral intention to use digital marketing is positive and significant because the coefficient of the obtained path is positive. The results of this hypothesis are consistent with the studies of, Saeedi and Hosseinzadeh and Hosseinzadeh et al. (2022). Bashkoh et al. (2023)

The results of the path coefficient and t-statistic in Figures 2 and 3 show that subjective norms have a significant impact on the actual use of digital marketing. The significance value is 6.211 (the t-statistic is outside the range of -96.1 to 96.1). Therefore, the fifth hypothesis is confirmed. The path coefficient between these two variables is also 0.360. Based on the path coefficient, it can be said that the impact of subjective norms on the actual use of digital marketing is positive and significant since the obtained path coefficient is positive. The results of this hypothesis are consistent with the studies of Saeedi and Hosseinzadeh, Hosseinzadeh et al. (2022), and Bashkoh et al, Bruce et al. (2023).

As the results of the path coefficient and t-statistic shown in Figures 2 and 3 revealed, behavioral intention to use digital marketing has a significant impact on the actual use of digital marketing. The significance value is 12.284 (the t-statistic is outside the range of -1.96 to +1.96). Therefore, the sixth hypothesis is supported. The path coefficient between these two variables is also 0.788. Based on the path coefficient, it can be said that the impact of behavioral intention to use digital marketing on the actual use of digital marketing is positive and significant since the obtained path coefficient is positive. Farmers play a pivotal role in economic

growth, especially in developing countries, through innovation, job creation, and social inclusion. At the global level, they account for a significant share of job growth in developed and developing economies. Effective digital marketing creates competition among farmers. Digital marketing allows farmers to collect market information, reduce marketing costs, improve new product development, and ultimately achieve competitive advantage and sustainable growth. Additionally, the use of digital marketing technologies improves internal communications, increases sales to current and new customers, and increases awareness for new customers. Therefore, farmers benefit from customers at a lower cost by using digital marketing platforms.

The results of this hypothesis are consistent with those reported by Saeedi and Hosseinzadeh, Afifa and Najib Khosravilagh et al, Hosseinzadeh et al. (2022), Bruce et al, Bashkoh et al. (2023).

According to the results obtained from the path coefficient and t-statistic shown in Figures 2 and 3, it can be stated that the actual use of digital marketing has a significant impact on sustainable growth. The significance value is 8.144 (the t-statistic is outside the range of -96.1 to 96.1). Therefore, the seventh hypothesis is confirmed. The path coefficient between these two variables is also 0.509. Based on the path coefficient, it can be said that the impact of the actual use of digital marketing on sustainable growth is positive and significant since the obtained path coefficient is positive. The results of this hypothesis are consistent with the studies of Low et al. (2020). Mahdavidzadeh Ardastani, Mujahid and Mubarak (2021), Saeedi and Hosseinzadeh, Hosseinzadeh et al. Venkat et al. (2022), Bashkoh et al, Bruce et al. (2023).

Conclusion

The present study investigated the effect of digital marketing on sustainable growth in the agricultural industry in Iran. Seven hypotheses were developed to answer the main purpose of the research. The results showed that attitude toward digital marketing, perceived behavioral control, and subjective norms affected the behavioral intention of the marketing user. In addition, these three variables affected the actual use of digital marketing through behavioral intention. Most importantly, it was concluded that the use of digital marketing had a direct and important impact on the sustainable growth of the agricultural industry in Iran, which can be attributed to the effective use of digital technology as effective use increases customer relations and performance in the agricultural industry. The study makes better and more comprehensive strategies to be predicted in Iran's agricultural industry, strategies that have the necessary accountability in digital marketing compared to the business environment, so that the agricultural industry can prepare for innovation and face global challenges. Therefore, the agricultural industry in Iran should use digital marketing tools such as electronic marketing, social media, search engine marketing and content marketing to create more awareness and strive for healthy competition in a dynamic environment.

Recommendations

Some recommendations can be derived from the results, as expressed below:

Agricultural business owners are recommended to strive to adopt and use digital marketing, incorporating it into their companies. They should aim to control the knowledge and ability to use digital marketing communication tools for their agricultural purposes and actively participate in developing agricultural industries in an applied and up-to-date manner.

The type of attitude towards digital marketing for agricultural businesses in developing economies like Iran is crucial. This is especially true considering their vulnerability to economic shocks that often take them out of their core business. This study reinforces the need to search for appropriate technologies to meet the sustainable needs of farmers.

The use of digital marketing has a direct and positive impact on the sustainable growth of agricultural industries. This significant impact can be attributed to the effective use of digital marketing technologies, which increases customer acquisition and improves relationships and performance. This study listed some factors that may influence the behavioral intentions of agricultural company managers in their efforts to adopt digital platforms to increase their sustainable growth.

Digital technologies have become an essential element for achieving sustainable growth. In short, the effects of digital marketing adoption on the sustainable growth of agricultural industries are significant when they intend to use more digital marketing tools for business activities and operations and achieve sustainable development goals. Therefore, when the goals of agricultural industry managers and owners are clear about adopting and using digital marketing, these industries are likely to use digital marketing, which significantly improves performance.

Perceived behavioral control and subjective norms affect the intention to use digital

marketing platforms. This is informative, showing that agricultural company managers are influenced by their own behavioral tendencies and social pressure. Therefore, managers of these companies are concerned about how the application of this technology will guide the required behavioral norms to help improve their profitability and sustainability in their efforts to adopt digital platforms.

Digital technologies should be incorporated into the marketing strategies of agricultural industries to effectively promote goods and services, maintain continuous communication with customers, innovate, and address the global challenge of sustainable growth in this industry.

Digital marketing tools, such as e-marketing, social media marketing, search engine marketing, and content marketing, should be used to create awareness and competition in the dynamic and competitive market.

The findings of the current study prove that agricultural companies and businesses can quickly adapt to the changing business environment and become competitive through the adoption of digital marketing, which offers various platforms for improving business performance and consequently sustainable growth. Profitability is the core of any business, which is provided by prominent research threads. Digital platforms strengthen the competitive sustainability of these companies through digital marketing mechanisms, which is arguably its most important advantage.

Digital marketing platforms provide effective media for agricultural businesses to achieve business growth through effective customer communication, back-office operations, customer base creation, and increased turnover. Therefore, it is important for agricultural companies in the studied province to consider digital marketing tools

as a strategic partner and integrate them to increase performance, resulting in achieving a competitive advantage and reducing marketing costs. The application of advanced technologies, including robotics, wireless technology, the Global Positioning System (GPS), the Geographic Information System (GIS), and the Database Management System (DBMS), has been recently seen in the agricultural sector. Given the rapid growth of traditional agriculture towards precision agriculture, it is essential to use information technology systems in the agricultural sector.

Future research

Future research could examine large agricultural organizations in emerging economies using similar structures and test the validity of the present study. Also, the current study did not examine the implications of digital marketing risk for agricultural businesses. Therefore, future researchers are advised to examine some of the implications of using digital marketing. And it can also be investigated using a qualitative approach in subsequent studies.

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