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STATISTICAL ANALYSIS OF DIGITAL MARKETING EFFECTIVENESS

Annotation. *Digital marketing is now a key part of modern business plans because information and communication technology is changing so quickly. Even though a lot of companies use it, many don't have systematic and quantitative ways to measure how well their digital marketing efforts are working. This study seeks to evaluate digital marketing performance through statistical methodologies to deliver objective and data-driven insights. The study utilizes descriptive statistics, correlation analysis, and linear regression models to investigate the relationship between digital marketing variables and business performance indicators.*

Key words: *digital marketing, statistical analysis, marketing effectiveness, regression analysis, making decisions based on data.*

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RAQAMLI MARKETING SAMARADORLIGINING STATISTIK TAHLILI

Annotatsiya. *Axborot va kommunikatsiya texnologiyalarining jadal rivojlanishi natijasida raqamli marketing zamonaviy biznes strategiyalarining muhim tarkibiy qismiga aylandi. Keng qo'llanilishiga qaramay, ko'plab tashkilotlarda raqamli marketing faoliyatining samaradorligini baholash uchun tizimli va miqdoriy yondashuvlar yetarli emas. Ushbu tadqiqotning maqsadi raqamli marketing samaradorligini statistik usullar yordamida tahlil qilish va obyektiv hamda ma'lumotlarga asoslangan xulosalar berishdan iborat.*

Kalit so'zlar: *raqamli marketing, statistik tahlil, marketing samaradorligi, regressiya tahlili, ma'lumotlarga asoslangan qarorlar.*

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СТАТИСТИЧЕСКИЙ АНАЛИЗ ЭФФЕКТИВНОСТИ ЦИФРОВОГО МАРКЕТИНГА

Аннотация. *Цифровой маркетинг в настоящее время является ключевым элементом современных бизнес-стратегий, поскольку информационно-коммуникационные технологии развиваются чрезвычайно быстро. Несмотря на широкое использование цифрового маркетинга, многие компании по-прежнему не располагают системными и количественными методами оценки эффективности своих маркетинговых усилий в цифровой среде. Настоящее исследование направлено на оценку эффективности цифрового маркетинга с применением статистических методов для получения объективных и основанных на данных выводов. В работе используются описательная статистика, корреляционный анализ и модели линейной регрессии для изучения взаимосвязи между переменными цифрового маркетинга и показателями эффективности бизнеса.*

Ключевые слова: *цифровой маркетинг, статистический анализ, эффективность маркетинга, регрессионный анализ, принятие решений на основе данных.*

Introduction. Digital technologies have grown so quickly that they have completely changed how businesses talk to customers. Digital marketing, which includes things like online ads, social media marketing, search engine optimization, and web analytics, is now one of the best ways to reach your target audience. Digital marketing is different from traditional marketing because it gives you measurable performance indicators that let you look at and improve your marketing efforts in great detail.

Still, a lot of businesses use descriptive metrics to figure out how well their marketing is working without doing any serious statistical analysis. This limitation makes it harder for people who make decisions to understand how digital marketing investments really affect things.

Literature Review. The reason to study digital marketing is that it seems big, scary, and new. Businesses want a clearer image to start, but they don't know where or how to start with digital marketing. In today's world, social media sites like Facebook, Twitter, Google, and other social media companies have changed how people think and feel about things, which has helped many businesses become more profitable. This was done by building a large network of clients with reliable data and getting feedback on their experiences in real time. Businesses find it much easier to do surveys online to collect useful information from certain groups and then look at the findings depending on how people answered. People

who might buy a product or use a service can read reviews and get recommendations to help them make a good choice. On the other side, companies may utilize the exercise to act on consumer input that is relevant to better satisfy their requirements. Digital marketing is using technology to enhance marketing efforts so that customers may learn more about what they need (Chaffey, 2013). For a long time, there has been marketing. Business owners thought it was important to tell people about their goods or services through word of mouth and publications. Digital marketing, on the other hand, is growing more popular since it uses things like the Internet, television, and radio to reach a lot more people. Search Engine Optimization (SEO) is the most frequent digital marketing tactic employed today. Its job is to help search engines like Google locate your website as easily as possible. The idea of digital marketing came from how the Internet and search engines rank websites. Gopher was the first search engine, and it was built on a network protocol. Companies began to try to get their websites to rank higher on Yahoo when it went live in 1994 (Smyth 2007).

For organizations to succeed, they must integrate online and conventional ways to more accurately address client wants (Parsons, Zeisser, Waitman 1996). The introduction of new technology has opened up new business prospects for marketers to manage their websites and reach their company goals (Kiani, 1998). Marketers have a hard time building brands and getting people to buy their goods and services because there are so many options for buyers. Online advertising is a strong way for businesses to grow their brands and get more people to visit their websites (Song, 2001). Expectations about outcomes and evaluation Digital marketing is more cost-effective for assessing the return on investment for advertising expenditures (Pepelnjak, 2008). Contemporary advertising and marketing strategies have transitioned from boring methods to digital marketing. Moreover, it possesses the capability to rejuvenate the economy and generate substantial chances for governments to operate more efficiently (Munshi, 2012). Companies in Singapore have evaluated the efficacy of digital marketing tools as helpful and beneficial for attaining outcomes. Teo (2005). The expansion of digital marketing is mostly attributable to swift technological advancements and evolving industry dynamics (Mort, Sullivan, Drennan, Judy, 2002). For digital marketing to provide results for firms, attributes such as accessibility, navigation, and speed are identified as essential traits (Kanttila, 2004). An established method for attaining success in digital marketing is the utilization of word-of-mouth (WOM) on social media to enhance site popularity (Trusov, 2009). A marketing expert must possess a comprehensive understanding of online social marketing strategies and programs, as well as the ability to execute them efficiently using performance measurement indicators. The global market dynamics are evolving concerning the accessibility and usage of social media among the youthful audience. Strategic integration tactics are essential in an organization's marketing communication plan (Rohm & Hanna, 2011).

Methodology. This study utilizes a quantitative research design to assess the efficacy of digital marketing through statistical methods. Quantitative analysis is suitable as it facilitates objective assessment of marketing performance and underpins data-driven conclusions. The data were gathered from digital marketing campaigns executed via online platforms, including social media advertisements and website analytics. The dataset comprises campaign performance metrics gathered over a specified duration. Secondary data sources, such as publicly accessible marketing reports and analytics dashboards, were utilized to substantiate the analysis.

Discussion. The results show that statistical methods can be used to reliably measure how well digital marketing works. The positive correlations and significant regression coefficients corroborate prior research indicating that online engagement and strategic investment enhance marketing results. The results are in line with earlier studies that stress how important it is to make decisions based on data in digital marketing. Digital platforms, on the other hand, give you measurable indicators that let you keep an eye on and improve your marketing efforts all the time. From a practical standpoint, the results indicate that companies should prioritize strategies that focus on engagement rather than just spending more on advertising. Statistical analysis helps marketers use their resources better and make more accurate predictions about what will happen.

Conclusion. This study evaluated the efficacy of digital marketing utilizing statistical analysis. The findings indicate that the efficacy of digital marketing can be assessed objectively through quantitative techniques, including descriptive statistics, correlation analysis, and regression modeling. The results show that things like the advertising budget, user engagement, and click-through rate have a big effect on conversion rates, sales volume, and return on investment. The main contribution of this study is that it combines marketing analytics with statistical methods.

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