

IJEAST

INTERNATIONAL JOURNAL
OF ENGINEERING APPLIED SCIENCE
AND TECHNOLOGY

VOLUME : 8 ISSUE : 04 Print / Issue Publication Date: 07-Nov-2023

ISSN : 2455-2143

DOI : 10.33564/IJEAST.2023.v08i04.015

Indexed In

Google SCHOLAR OPEN ACCESS doi Crossref

WWW.IJEAST.COM

editor@ijeast.com

International Journal of Engineering Applied Sciences and Technology, 2023
Vol. 8, Issue 04, ISSN No. 2455-2143, Pages 118-123
Published Online August 2023 in IJEAST (http://www.ijeast.com)

TECHNOLOGY IN DIGITAL MARKETING

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Abstract— **This paper focuses on understanding new developments that have impacted modern day marketing. This paper also discusses technological concepts that changed the concept of marketing. When we talk about marketing and the role of technology in it, we understand that new marketing ideas have transformed the face of 21st century marketing strategies. Now marketing is heavily dependent on technology, the emergence of a new marketing sector also known as digital marketing. Digital marketing is the use of electronic media by advertisers to advertise products or services in the market. The main purpose of digital marketing is to attract customers and allow them to interact with the product through digital media devices such as smartphones and computers**

Keywords— **Technological concepts, Marketing strategies, Digital marketing, electronic media.**

I. INTRODUCTION

This started with the beginning of marketing, the idea of finding new ways to market. New strategies for marketers to target the market. Then came technology, which brought a new dimension to old school advertising and brought about change. Definition of technology means "the making, use, and knowledge of tools, machinery, techniques, crafts, systems or systems for solving a problem or performing a task" while marketing terms technology as a means or medium that helps marketers deliver what they bring to the end user. Technology has shifted from television commercials to online advertising.
Another marketing term for the new era is Digital marketing. Sales transfer the value of a product, service or type to customers, for the purpose of promoting or selling that product, service, or brand. Marketing strategies include targeting market targeted by market analysis and market segregation, as well as understanding consumer behavior and advertising product value to the customer. From a societal point of view, marketing is a link between the material needs of the community and the way it responds to the economy. Marketing satisfies those desires and necessities through trade tactics and constructing long-time period relationships. Marketing involves the arts and applied sciences as well as the use of information technology. Marketing is used in companies and organizations through advertising management. The best result is to bring technology to innovate. With fast new design stands as the key to success. The products on the market grabbed the audience quickly. There are a number of products lying in the market to satisfy the needs and desire of the market. Needs, basic or subtle, have always kept retailers on their toes. "Technology is good for Marketing" is a myth although technology offers many benefits but has many negative points in it. The benefits of technology bring new customers, help with automatic tracking, online decision-making etc. Traps on the other hand are costly and difficult to deal with brevity of time. The trade-off between the good and the bad of this must be carefully weighed in order to determine the appropriate action. The use and presentation of technology at the right time for product marketing plays an important role. The introductory category for any new entrants could be a product or service, where direct marketing is very important. Although with the advent of maturity, that is to keep the product alive, technology is essential. It adds energy to a boring dead product and revives the audience's perception of that product. As technology grows it becomes more costly in research. This research spawns' new inventions. We see this as technological advances. Advertisers strongly believe in the above. So, they always put in their smart efforts and worked hard to bring new ideas to market their product. The meaning and concepts of marketing have changed over the decades. It has easily changed from black and white over the years to a colorful version. Road from door-to-door marketing to online marketing covers a long range. The right combination of technology and innovation has been a solid pillar in it.

II. OBJECTIVES OF STUDY

1.To understand the role of technology in marketing
2.To know the impact of technology on marketing
3.To learn the future of technology in marketing

III. RESEARCH METHODOLOGY

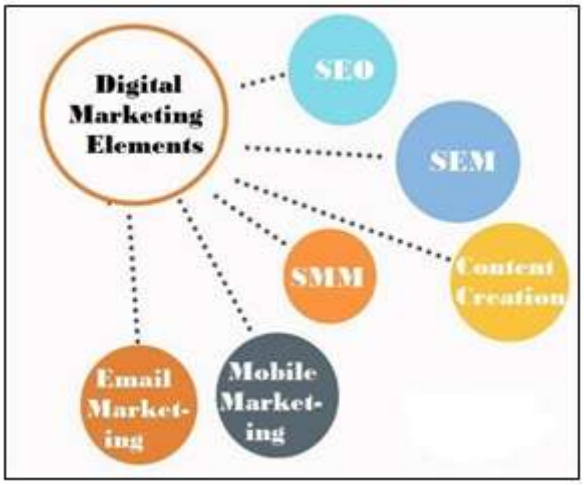
Methodology arises from a systematic and theoretical analysis of the methods of assessing the suitability of a particular method to be used in the field of study. It usually includes concepts such as paradigm, theoretical model, categories and

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quantitative or qualitative techniques. This study was conducted on the basis of secondary data sources.
The secondary source of data is the source from which we collect data that has already been collected by someone else. I have collected secondary data from journals, articles and magazines. This study shows the results in a descriptive way.

IV. VARIOUS ELEMENTS OF DIGITAL MARKETING

There are various aspects of digital marketing. All forms work with electrical devices. The most important elements of digital marketing are given below:



1.Online Advertising
Online advertising is a completely crucial part of virtual marketing. It is also called internet advertising through which a company can deliver a message about products or services. Online-based advertising provides content and ads that better match the interests of consumers. Publishers place their products or services on their websites so that consumers or users can get free information. Advertisers should include the most effective and relevant online ads. Through online advertising, a company effectively manages its budget and has full control over time.

2.Email Marketing
When a message about products or services is sent by email to an existing or potential consumer, it is defined as email marketing. Direct digital marketing is used to deliver ads, build product and customer loyalty, build customer trust and create brand awareness. A company can promote its products and services by using this digital marketing feature easily. It is a low cost compared to advertising or other forms of media exposure. The company can bring the full attention of the customer by creating an attractive combination of images, text and links to products and services.

3.Social Media
Today, social media marketing is one of the most important channels of digital marketing. It is a computer-based tool that allows people to create, exchange ideas, information and images about a company's product or services. According to Nielsen, internet users continue to spend more time with social networking sites than in any other form. Social media marketing networks encompass Facebook, Twitter, LinkedIn and Google+.
Through Facebook, the company can promote events related to products and services, run promotions that follow Facebook guidelines, and explore new opportunities. Through Twitter, a company can increase awareness and visibility of its brand. It is the best tool for the promotion of company's products and services. At LinkedIn, experts write their profiles and proportion statistics with others. The company may develop its profile on LinkedIn so that professionals can view and obtain more information about the company's products and services. Google+ is also a social media network which is more effective than other social media like Facebook, Twitter. It is not only a simple social media network, but it is also an authorship tool that connects web-content directly to its owner.

4.Text Messaging
It is a way of sending information about products and services from smartphones and smart phone devices. By using mobile devices, a company can send information by text (SMS), photos, video or audio (MMS). Mobile SMS marketing (Short Message Service) became very popular in the early 2000s in Europe and other parts of Asia. One can send order confirmations, shipping notifications using a text message. Using SMS in campaigns get faster and more important results. Under this process, companies can send marketing messages to their customers in real time, at any time and can be sure that the message will be visible. The company can compile a list of queries and obtain customer feedback that is critical to improving their products or services in the future.

5.Affiliate Marketing
Affiliate marketing is a type of performance-based marketing. In this type of marketing, the company rewards its partners for each visitor or customer they bring in the marketing efforts they create on behalf of the company. The industry has four key players: merchant (also known as “retailer” or “brand”), network, publisher (also known as “affiliate”) and customer. The market has grown with such complexity that it has led to the emergence of a second class of players that includes affiliate management agencies, super-affiliates and specialized third party vendors. There are two ways to access affiliate marketing: A company can offer a membership program to others or it can sign up to be an ambassador for another business. If a company wants to drive an affiliate program, then the company owner must pay the affiliates a commission on all earnings or sales they drive on the company's website.

The company's main goal here is to find partners who can access unused markets. For example, an e-four company may be a good company because its subscribers are hungry for resources. Therefore, the presentation of a personal offer by a "trusted" company may draw attention to expectations that may not otherwise have been achieved.

6.Search Engine Optimization (SEO)
Search engine optimization (SEO) is the process of affecting the visibility of a website or webpage in the search results "natural" or free ("organic") of a search engine. Usually, at the beginning (or at the top of the page search results page), and often the site appears in the search results list, it will get more visitors from search engine users. SEO can target a variety of search types including image search, location search, video search, educational search, news search and industry-specific search engines.

7.Pay Per Click (PPC)
Pay per click marketing is a way to use search engine optimization to generate clicks on your website rather than "win" those clicks organically. Pay per click is good for search and advertisers. It is the best way for a company to advertise as it brings lower costs and greater interaction with products and services.

V. ROLE OF TECHNOLOGY IN MARKETING

Technology is changing the nature of marketing. Continued technological advances have helped advertisers redesign marketing strategies and create more effective marketing campaigns. The social media platform is huge, and marketers use the platform to connect with targeted audiences and grow their customer base. Let's discuss the technological role of marketing.

1.Voice
In the digital world, every word matters! Today's technology makes it simple and quick for people to obtain information. According to surveys, more than a third of consumers use the Voice search option while conducting search engine inquiries.
They utilize the tool to look for items and services, locate a local business that can help them, and lastly make a purchase decision. People's perceptions of information on the internet have shifted as a result of voice technologies.
Voice assistants have gained a lot of traction, and their use is rapidly expanding. Today, millions of people make voice searches on the internet. Marketers must now fine-tune their SEO strategy and adapt them to evolving technologies. They may be aware of the behavior of customers who prefer to utilize voice search rather than typing their query into a search engine.
As a result, marketing should include predicting what the customer wants utilizing simple conversational language and complete words that aid in the understanding of consumer preferences.

2.Chatbots
Chatbots are a new type of technology that has revolutionized how businesses engage with potential and existing customers. Text, speech, and messaging are all used in chatbots.
They are increasingly being used to provide clients with immediate access to the company at any time. Chatbots assist in providing sophisticated user information, and businesses need pleased consumers. The chatbot function is quite beneficial. As a result, marketers should think about how they might use technology to improve communication and sales.
According to a recent survey, 40% of large firms are planning to integrate this technology into their systems in the near future to connect with their consumers and deliver a high level of satisfaction by providing customer feedback to enhance products and satisfy their expectations.

3.Mobile Advertising
Smartphones have become an important accessory. The convenience of consumers using smartphones and mobile devices gives advertisers an excellent opportunity to interact with their customers.
Mobile advertising has become a major issue in the marketing industry today. Organizations large and small alike use social media to communicate with their audiences through personal campaigns. Through various forums, organizations can contact the buyer immediately.
Brand message has progressed to the next level thanks to mobile advertising. Advertisers can use mobile devices to market their products, improve sales, and progressively grow their consumer base. Cell phones accounted for 72 percent of digital advertising costs last year, according to studies.

4.Video Marketing
It is one of the world's most important marketing tactics. Videos are a simple and effective approach to engage and keep customers. Users' attention is drawn to videos with appealing and distinctive content.
They effectively communicate the product message. Vlogging has transformed marketing in today's digital environment. Customers can be informed, educated, and persuaded to make a purchase choice through video marketing.
Creating appealing films with interesting content that engages the audience can help businesses improve sales.
5.Artificial Intelligence and Machine Learning
This cutting-edge technology is proving to be a game-changer in the marketing business. Understanding consumer behavior is critical in advertising.
These technologies assist advertisers in gaining a better understanding of the customer's mindset and developing marketing tactics that can have a significant positive impact. These technologies make it possible to lower the risks of

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promoting and selling items that are tailored to the demands of consumers.
According to the analysis, the global AI and ML market will grow to USD 471.39 by 2028, with a CAGR of 35.2 percent. According to Gartner's research, Artificial Intelligence and Machine Learning Technologies will account for 30% of digital business revenue, with 60% of companies using AI and ML for digital marketing.

VI. PAST, PRESENT & FUTURE OF MARKETING TECHNOLOGY

1. Fast forward to 2020, and while we have everything at our fingertips, technology's relentless growth into our daily lives isn't all good news, as society grapples with technology's dark side: fake news, display reliance, and virtual fatigue. These four issues have changed the advertising and match industries over the last decade, and they will continue to do so in the near future. All four depict the enormous changes that technology has brought about, as well as the impact it has had on humanity.

2. The ubiquity of smart device technology

Apple's iPad became available in 2010, and Mary Meeker's 2010 internet trends report predicts that "cell first" will rule in the future years. In 2011, only 35 percent of Americans owned a telephone.
But, by the end of the decade:

- A smartphone is owned by 81 percent of Americans.
- During the 2019 Christmas season, Facebook will conduct a "Portal" tool campaign. Celebrity influencers as Muppets....
- Walmart is offering a $450 gift card for phone trade-ins on Black Friday.
- Health systems, such as the Smart fitness mirror and Peloton cycle, have evolved into immersive smart devices that allow users to conduct personal health studies at home.
- Amazon Alexa expands/will be available in automobiles (voice search optimization becomes crucial) - all of which adds to the deluge of displays/device-time. It'll only be a matter of time before she's relegated to the passenger seat.
- In 2020, there will be 200 million Amazon Alexa-enabled devices.
- Your child spends their whole waking hours on smart devices, talking to their friends, playing video games, and ostensibly "doing schoolwork."
- Apple begins a privacy marketing campaign - Apple launches a privacy marketing campaign that strikes an alarming note on the subject of the data you have on your smart device "You're in the neighborhood. Messages from you. After a run, your heart rate spikes. This is a personal subject. And that they should be yours "

You know someone who has unplugged their Google Assistant because they are afraid it is constantly listening to them. Come chat to me if you haven't already; I'll tell you about my unsuccessful Christmas present to my folks.
By 2020, mobile and smart tool tech has reached maximum "stickiness." Conversely, tool-free time will become crucial. Records privateness worries upward push with the ubiquity of smart gadgets.
So, what does this imply for the next ten years? The ubiquity of smart devices means brands will have to create greater variations of content inside the coming decade which can be optimized for every smart tech tool and also throughout the smart tech environment. Assume smart watch creative, ads for smart fitness equipment, voice search optimization (replica snippets for AI (synthetic intelligence) assistants), and so on. To be able to meet the demand for content material, entrepreneurs will search for new ways to automate innovative, at the same time as staying on-emblem.
Brands will be tasked with placing more emphasis at the safety and protection of consumer statistics, whilst concurrently offering customized stories which can be necessarily fueled with the aid of this statistics. They'll additionally need robust match solutions in area so one can arrange, host, and distribute this content material to an environment of smart connected gadgets and offerings.
3.The rise of digital convenience
You in all likelihood bought books, did holiday buying and perhaps that was the extent of your Amazon utilization. You drove to the grocery, keep to shop for groceries and items you wished. But, by the end of the decade:

- You use Amazon Prime Now to supply groceries or items from Amazon's warehouse. You simply ask Alexa to reorder toilet paper or toddler wipes or whatever and pass about your day.
- People started valuing their time more than the cost of delivery.
- An entire new host of shipping offerings emerges: Uber Eats, Instacart, Door dash, Deliveroo, Drizzly.
- Grocery shops begin imparting pick up and/or shipping together with major players like Walmart and Target.



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This rise in digital convenience means manufacturers will have to produce a lot greater content material in the coming decade to "inventory" the virtual shelf and make sure that their products and services content material is easily disbursed to a host of recent digital shop fronts.
With the heavy burden of manual work preserve these store fronts updated, brands will look for methods to automate this process through match solutions like digital asset control and product information management system integrations and thoughtful packages of artificial intelligence.

4. Social media ad targeting and declining organic social reach
In 2010, social media is a "new component" for marketers to exploit (60 million LinkedIn members in 2010). In 2010, there were 482 million Facebook users. There are 100 million Twitter users.) Manufacturers have a $50 billion opportunity to match their internet marketing spend with media time.

By the end of decade:
- You take a look at Instagram to catch up, see one ad and turn out to be shopping for a $90 make-up foundation from a D2C logo you've never even heard of. Why? Micro-targeting and social proof make it the proper time, proper place.
- Brands fill the distance that the net trends report highlighted in 2010 - spending billions on internet advertising and marketing by 2019.
- Social media is ubiquitous. LinkedIn 660+ million customers. Facebook: 2. forty-five billion users. Twitter 330 million customers.

Social media turned into for a time a vital part of the marketing mix for brands - ad spend accelerated to reach purchasers. Twitter is used as a real-time customer service conversation platform, however by the end of the decade, organic attainment for manufacturers on social significantly declines.
Brands are converting how they approach social media, that means we may see a completely one-of-a-kind social media panorama by 2030. That means you would possibly begin seeing brands recognition on other platform like TikTok or making an investment extra closely on influencer advertising instead of logo-owned social profiles.
Other than leveraging influencers on mainstream social media structures like Instagram and fb, you could even see some brands begin to leverage their influencer networks on lesser-acknowledged, rising anonymous social networking apps like Whisper - in which communities are organized round specific hobbies and subjects.
5.Frictionless customer experience
Chief Martsch's infamous advertising technology landscape super-graphic didn't even exist in 2010. It debuted in 2011 - in which only five digital asset management platforms had been indexed. It's expected that match spend will only account for 1% of the overall advertising finances in 2012.

By the end of the decade:
- 43 MRM and DAM vendors listed; 7,040 total match companies listed.
- Around 121 billion dollars is spent on match worldwide.
- "Marketers report they only use around 61% of the capability to be had in their match portfolio. They lack the sources and skills to combine and undertake the tools."

There's no cause why the second golden age of advertising and marketing won't additionally consist of advances in advertising era. people (already) expect a frictionless experience in relation to purchases of their personal lives - why not also of their business lives? We anticipate frictionless experiences to come to be a major match trend in the coming decade.
Martsch companies will need to stay as much as the concept of "everything less difficult, more handy and more amusing." and brands will need to get savvier about the technology they select to adopt and combine into their advertising tech stack - prioritizing those so as to help them create more frictionless experiences for their customers.

VII. CONCLUSION

Many companies' marketing strategies now include a digital marketing channel. Even small business owners can now sell their products or services in a cost-effective and efficient manner. There are no boundaries when it comes to digital marketing. To market the firm and its products and services, the corporation can utilize any device such as smartphones, tablets, computers, televisions, gaming consoles, digital billboards, and media such as social media, SEO (search engine optimization), videos, content, email, and much more. If the requirements of users are prioritized, digital marketing can be very effective.
Involving the customer with a product or service will be key in the years to come. The social media will continue to dominate digital marketing as it can increase brand awareness and connect companies and consumers in a way that has never been seen before. Technology may create shifts in the future, but staying on top of trends will ensure the long-term success of businesses.
Technology is changing everything, products in all sectors need to be constantly evolving to keep pace with the rapid development of this decade and beyond. In marketing, emerging technology is a dream come true for all marketing, as it takes the efficiency of your marketing efforts to the next level. Ultimately, technology is the present and the future and will continue to transform industries around the world.



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H-INDEX	i10-INDEX	IJEAST CITATIONS	PEER-REVIEWED & OPEN ACCESS
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2455-2143