

Framework of Digital Marketing on Social Media

Niranjan S. Deokule¹, Abhilasha V. Sathe², Kunjali R. Pawar³

^{1,2,3}Assistant Professor, Department of Information Technology, Government College of Engineering, Karad, India.

¹niranjan.deokule@gmail.com, ²satheabhilasha999@gmail.com,

³kunjali555@gmail.com

Abstract

Few decades ago, businesses used to do marketing by running advertisements on televisions, banner ads, newspapers, radios and magazines for attracting customers and selling their products. This offline marketing has limitations like higher marketing cost, lesser attraction of customers, limited accessibility and time constraint. Due to evolution in technology and internet, everyone has access to internet through desktops, mobiles, tablets etc. With this easy internet access, small and medium businesses can reach wide variety of customers by using digital marketing for making aware about their products and services. The digital marketing has many advantages over traditional marketing like low cost, more targeted customers, no time constraint, easy to measure growth of marketing, easy to switch to different platforms, easy to share, and perform data analytics to attract more customers. This paper focuses on a novel approach of digital marketing for small and medium businesses to set up the business objectives on social media platforms, selection of social media platforms, planning marketing calendar, how to reach out to targeted customers by making suitable content on different social media platforms. This digital marketing framework also helps to influence more customers by using Search Engine Optimization and data analytics methods, and to measure the growth of marketing the products and services by using key performance indicators.

Keywords: Digital Marketing, Search Engine Optimization, Social networking, Data Analytics.

1. Introduction

The traditional marketing focuses on promoting information about the products and services by running advertisements on TV, radio, billboards, news magazines etc. This marketing technique requires huge amount of money to build and promote products marketing campaign for selling the products. Also the traditional marketing requires few months to measure the success of products in reaching the targeted customers. In case of failure in reaching to the customers for making them aware about your products, it requires to recycle the previous advertisements which is very time consuming process and it is not affordable to small and medium business and enterprises.

Every businessman wants to promote their products and services amongst the wide variety of customers and grow their business easily. This can be easily achieved through modern marketing technique called Digital Marketing. Digital marketing can also be known as Online Marketing, Internet Marketing. Digital Marketing allows small and medium business to make use of social media platforms like Facebook, Instagram, Twitter etc. to market their products and services amongst specific group of customers. It also provides 24x7 online customer support to solve customer's problem regarding products. The digital marketing has many advantages over traditional marketing like cost efficiency, time to update content, efficiency in results, easiness in tracking the success of the product, specific marketing, understand consumer behavior as described in Table No.1.

In this paper, we have proposed a framework of digital marketing which will help the businesses to understand how digital marketing will promote and sell their products to specific

group of customers, different social media platforms to be used for marketing their products, track customers journey from visitors to genuine buyers by using search engine optimization techniques, content writing, and use of different data analytics tools to influence the customers to buy their products. The proposed framework will help to choose the social media platform for setting up business objectives and business profile creation. It will also provide the guidance for planning and creating suitable post for promoting information about the product, to influence targeted customers and measure the growth of the business.

The section 2 describes the problem statement, section 3 focuses on research objectives of this study. The literature survey is described in section 4. The framework of digital marketing is presented in section 5. The mathematical model is presented in section 6 and section 7 describes the conclusion of this study.

Table 1. Difference between Traditional Marketing and Digital Marketing

| Attributes | Traditional Marketing | Digital Marketing |
|----------------------------|--|---|
| Cost Efficient | More expensive | Less expensive |
| Time to update the content | It is a time consuming process as it requires more time to update the contents of advertisements and broadcast them. | Digital marketing provides easy platform to create and update the contents of advertisements. |
| Efficiency in Results | Traditional marketing requires months to measure the success of product. | Digital marketing provides exact results in shorter duration of time in terms of number of page visits, leads generated etc. |
| Reach out to new customer | Due to technological barriers, insufficient resources and language problems, traditional marketing fails to reach the customers. | Due to easy internet access, digital marketing provides easy way to reach out to new customers and retain them by posting suitable content of their interest. |
| Specific Marketing | Traditional marketing involves forceful promotion of products and services without knowing the customer's background. | Digital marketing does segmentation of customers on the basis of age, gender, area of interest, relationship status, geographical locations etc. |
| Consumer Behaviour | Hard to track consumer behavior about products and services | With the help of online feedbacks, likes, comments, consumer behavior can be easily tracked to increase the sells of products. |

2. Problem Statement

This study aims at providing solution to the following problems.

1. Small and medium enterprises does not have proper knowledge of digital marketing techniques.
2. Very few digital marketers are utilizing latest technology for promoting their products across the globe.
3. Many digital marketers failed to attract targeted customers by using latest technology like data analytics, and measure the growth of their business

3. Research Objectives

The objectives of this study are

1. To provide correct knowledge about workflow in digital marketing for new businesses.
2. To adapt current technology for betterment and innovation in digital marketing.
3. To utilize data analytics methods for influencing targeted customers for buying the products.

4. Literature Survey

The Digital Marketing leads to fragmentation which exhibits the complexity of Internet. This comprises to develop a Framework [1] for Digital Marketing in such a way that managers provide social technical systems. Before that it is necessary to contribute in literature of traditional Digital Marketing framework. The Framework implementation may include Active Learning Mechanism [2]. Active Learning emphasizes the number of Advertisises and running websites of project. The gap between digital marketing strategies and traditional processes [3] is key aspect that research is required to get involved in real world practitioners. Digital Marketing strategies evolves due to new business opportunities and technological progress. Digital technologies reflected on business to business marketing. Digitization of business to business marketing [4] examines the issues in Digitization Capability which integrates from data, permission and analytics. Overall analysis of Digital Marketing embraces to Digital Marketing Communication (DMC) [5]. DMC evaluates digital communication channels which shows paradigm changes in the domain of marketing.

Artificial Intelligence (AI) can enhance the marketing functions across different stages of marketing planning processes [6]. AI is becoming broadly integrated into digital marketing practices to scale down process time. However AI functionality transforms important and relevant data into information. This information synthesized with expertise, context and intuition becomes knowledge. All data foundation enables to have robust systems capable of tracking relevant data. Digital Marketing highlights some new marketing strategies where digital technologies has its own impact. To develop a framework which analyses marketing strategy processes [7] occurs during previous research. Artificial Intelligence based applications are monitoring social media by three different ways like to get a people's views and thinking on social networks that is sentiment analysis. How they are useful and their approach towards personalized content (audience analysis) and what kind of images they share enable on social media content (image analysis). AI software with Machine learning (ML) based algorithms useful to identify and classify patterns within big data category wise, is best suited method for analyzing content social media [8]. Influencer marketing is one of the better ways for utilizing the services through social media considering three components like the audience, the endorser, and the social media manager. Different kinds of influencers play an important role in advertising the product like Nano, Micro, Macro, Mega and Celebrity Influencers [9].

Firms are using technologies to interact with their customers so that it shortened the distance and time to market. And also increases the scope for one-to-one communication on a mass scale by deploying Big Data analytics [10]. Both practitioners and researchers should learn to navigate the reality of a marketing landscape that is getting increasingly virtual to deal with issues that have already arrived. The historical Internet analysis focused on evolution of virtual world. In a result it was found that historical Internet repository dependent on real world repository [11]. Digital Marketing approach [12] enhance users to accommodate current trends in Digital Marketing for Artificial Intelligence (AI) and security purpose. Some recent tools are difficult to use. This motivates to provide support for automation tools and user friendly guidance. This helps the users to have well perceptive on performance of automation tools. Another function is to set the digital marketing environment which came out from traditional marketing environment.

Some users/customers share mouth to word information or vice versa on an extended social network. The contribution behind social media derived from influential hypothesis [13] which includes image related utility and intrinsic utility.

A Web based hybrid system for evaluating performance of e-commerce web sites [14] based on traditional marketing performance, social media, financial performance, web analytics. They have developed WebMarp system which consists of user interface, web database, expert system with fuzzy logic rules, graphical components for displaying evaluation results. The WebMarp is a server-side system developed by using open source tools like Ajax, MySQL, PHP and JavaScript. In addition, this application uses Fuzzy logic rules in terms of “If –then” action rules for performance evaluation of e-commerce websites. In paper [15], proper process of digital marketing and its availability in Malaysia is proposed. Their study aims at to provide resourceful and correct knowledge about digital marketing with the help of latest technology like AI for innovation in digital marketing. They have proposed Digital Marketing Framework which consists of three stages- process flow, study and analysis, and findings and implementation. The process flow has five elements – customer’s need, platform used, marketing strategy, measure in response and end product. The second stage include three elements- latest technology used, user’s visibility and platform used. The last stage consists of three elements – research on new findings, implement new findings and provide user friendly guidance. The paper [16] talks about the analysis of motorbike service called GO-JEK mobile application in Jakarta. They have done case study on GO-JEK by taking observations and interviews of college students to analyze digital marketing strategy used by the application. This application provides services like Instant courier, Go-Food, Transport and shopping. This application uses digital marketing by promoting promotion price of IDR10,000 to the customers which help the popularity of this application amongst the customers.

An application of data mining for digital marketing strategy was proposed in paper [17]. This paper focuses on four stage structure of digital marketing which include selection of process of marketing, analysis of different marketing strategies and platform, selection of marketing platforms and tactics and last stage is analyze consumer behavior and track market reaction. They have segmented the customers based on customer’s age, education level, family income. The real time example of promotion of credit card is discussed in this paper. For analyzing credit card promotion information, iData analyzer data mining tool was used to cluster the customers based on sex, age, income range, credit card insurance, life insurance promotion, magazine promotion, and watch promotion. Their study based on marketing response, consumer behavior, feedback mechanism and click through rate. This papers describes the concepts of digital marketing, internet marketing and data mining. Smart Market android application [18] uses Aadhar database for avoiding manual transactions with the help of cloud server, automatic weighing machine, and thumb enrollment. This application is able to scan QR code and barcode of the product for fetching information about the product, then customers has to self-authenticate by using thumb in order to initialize the transactions. A web based tag discovery and analysis application was proposed in paper [19]. They have embedded a JavaScript file on the page in order to track the journey of a page in terms of tags, parameters of tags and values propagated with parameters of tags. Their application also provides dashboard for visualizing tags and site performance using web analytics tools.

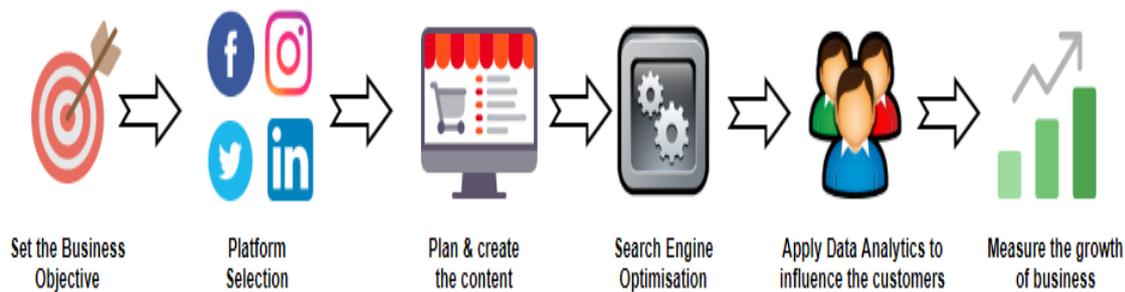


Figure 1. Framework of Digital Marketing

5. Framework of Digital Marketing

Our framework of digital marketing consists of six stages.

1. Set the business objectives
2. Platform Selection
3. Plan and create the content
4. Search Engine Optimization
5. Apply Data Analytics and influence the customers
6. Measure the growth of business.

5.1. Set the business objectives

Every businessman must set goals and objectives of marketing as without focus on strong goals, the process of digital marketing becomes fail. These goals can varies from making awareness about information of the products and services across the globe, attracting and retaining loyal customers, achieving a certain benchmark in the sales of products in few months. These business goals must be specific, measurable, time bound and actionable. The business objectives must be clear and specific as unclear and irrelevant goals leads to failure of marketing strategy. The business objectives must be measurable as without which you cannot understand whether the specific goals have achieved or not. The business goal must be time bound by setting clear deadlines for achieving specified goals and tracking progress of the business in terms of sales and revenue. The business objectives must be achievable as unrealistic goals leads to failure of marketing strategy and waste of money and time, and it will damage the reputation of company. Before setting business objectives, the enterprises must do market research in order to set specific, measurable, time bound and achievable business objectives.

5.2. Platform Selection

Once the businesses have set specific, relevant, actionable, measurable marketing goals, the next step is to choose the best social media platform that can be used to attract and target the specific group of customers. Depending on the business objectives set, the businesses can choose social media platforms like Facebook, Instagram, Twitter, YouTube etc. to promote the information about the products and services offered by them by making a strong profile on social media, writing a blogs about the services offered, creating a web site, developing a mobile based application or simply writing mails to customers by providing them latest offers and coupons to increase the sales of products. The social media platform allows businesses to connect to huge

pool of customers, to easily grow the brand awareness, lower advertising cost, advanced targeting the specific group of customers, increase the traffic towards the landing page by using search engine ranking techniques, it also helps to increase the leads and sales of the product in shorter duration of time. The best social media platform must be popular, easily accessible, widely used by the customers, allows easy way to get engage with the customers, provides simple tools to create right content promoting the information of the product.

5.3. Plan and create the content

Once businesses have chosen the best and popular social media platform for promoting the information about the products and engaging with customers, next step is to plan the weekly or monthly calendar for creating and posting the suitable content about products and services offered by the enterprises. A good digital marketing plan is essential for business as it will have clear deadlines for achieving the business goals. Before creating contents for promoting information about products, one should research the current trends in the market, what are customer's demand, what other competing companies are doing, and provide the solution to problems of customers. The content management system can be employed for planning, creating, and publishing the contents or landing page of business. The type of content depends on business brand, type of business, target customers, problems of customers. The type of content can be blog post, videos, webinars, images, email content, EBooks, testimonials. The type of content must be unique, easy to understand by customers, meeting the objectives set by the business, making aware about the products and services information to the customers, sharable on other social media platforms.

5.4. Search Engine Optimization

Search engine optimization is a process of getting more traffic from free, organic and natural search results on the search engines. It helps in making a page easy to find, easy to crawl and categorize. The search engine optimization also helps to increase the visibility of web page, to make easy crawling and indexing of web pages by the bots, help the web pages to stay on first pages of results on search engines. The SEO uses two types of searches, organic search and paid search. The organic search results are unpaid, natural search results displayed depending on merit of the content, relevance to search keyword, quality score. The paid search results are the advertisements appearing on very top of the search results, sometimes left or right corner of sidebar depending on the bid and quality score of the web page.

The search engine optimization does crawling, indexing and caching of web pages depending on title tag, URLs, Meta tags description, quality of the content, image alternate text etc. In order to promote the information about the products and services, the business should create content containing long tail keywords depending on market research, popularity of keyword amongst the customers and current market trends. The long tail keywords are keyword phrases that are usually longer, more specific and commonly searched on the internet by the customers. The long tail keywords are capable of getting huge traffic towards the business web page, high conversion rate and increasing the revenue for the business.

5.5. Apply Data Analytics and influence the customers

With the evolution in internet technology, everyone has access to internet through smartphones, desktops, tablets etc. As customers move along different devices, they are creating different customer touch points across different mediums like online, offline, social networks, and location based. This leads to creation of huge amount of data regarding customer's region of interest (ROI), new marketing trends, and customer's recent problems. These customer touch points are the points where customers comes in contact with the business process directly or

indirectly. The good marketer needs to identify and analyze these customer touch points in order to segment the audience into targeted customers and influence them to buy the products and services offered by the businesses.

When customers search on internet about products through any devices, they create lots of new data at every step. This data can be structured like number of clicks, likes or unstructured data like comments on Facebook, Instagram. The data analytics tools can be applied to this raw data in order to study the customer's hidden pattern of searching and buying the products. Once these hidden patterns are identified with help of data analytics methods, one can easily segment the customers depending on their age, gender, income value, education, relationship status, previous purchases made by them, their geographical locations etc. After identifying the target customers, the digital marketer can easily influence the customers by making aware them with information of the products and services offered by them.

5.6. Measure the growth of business

After setting business goals and objectives, creating strong social media profile, planning marketing calendar, creating customer-centric posts and contents, applying search engine optimization methods to increase the traffic towards business web sites, applying data analytics methods to segment the targeted customers and influence them to buy your products and services, next most important step is to measure the growth of the business through number of leads generated, number of visitors converted into successful buyers, number of sales. To measure the growth of the business, the key performance indicators can be used.

The Key Performance Indicators (KPIs) are used to define whether businesses have met the business objectives and to measure the growth of the business. These KPIs are the measureable values that helps to identify whether businesses have achieved their key goals and objectives. The KPIs can contain number of page visitors, time spent by the visitor on the page, number of leads generated, number of comments and social shares of posts and comments, actions done by the customers in web pages. The businesses can use key performance indicators at multiple levels to evaluate the overall performance of the business in reaching the targets specified before the deadlines, progress of sales of products and services.

6. Mathematical Model

The mathematical model of our framework of digital marketing described below:

Let S be the framework of digital marketing which takes input as set of business objectives, functions like platform selection, planning marketing calendar, creating customer-centric post and contents, employing SEO to get maximum traffic, using data analytics to target customers and influencing them to buy our products.

The S has some constraints like availability of resources, like internet, accessibility of devices, technological barriers, and language problems. The output of the system is to increase the revenue of the business by making new customers on social media and measure the growth of the business.

$S = \{I, O, F, C, Su, Fa\}$.

$I = \{i_1, i_2, \dots, i_n\}$ set of inputs given to the system S .

Here, I is a set of business objectives and goals set in order to maximize the profit and increase the sales of products by using digital marketing.

O = Output of the system S i.e. number of sales and revenue generated.

$F = \{f_1, f_2, f_3, f_4\}$ = set of functions performed by the system in order to achieve business goals and objectives.

$f_1 = \text{platform_selection}()$.

f1 is a social media platform selection depending on current trends, customer demand and market research.

f2 = plan_create().

f2 is a function of planning marketing calendar and creating post for promoting information about the products.

f3 = use_search_engine_optimization().

f3 is a function which utilizes search engine optimization methods to increase the traffic towards the business web pages.

f4 = measure_growth_of_business().

Function f4 is used to measure the growth of the business by using different key performance indicators (KPIs).

Fa = {Failure of the system when it fails to achieve specific goals and objectives set by the businesses}

Su = {Success of the system is when business achieves specific goals and objectives, and generates revenue in the business by selling maximum products and services.}

7. Conclusion

In this paper, we have proposed a general framework of digital marketing which will help the small and medium businesses to shift from traditional marketing to digital marketing by providing them with clear and resourceful knowledge about the process of digital marketing on social media. Our framework of digital marketing will help the businesses to set up business objectives and goals, better social media platform selection, planning marketing calendar, creating customer-centric post and contents. This framework also helps them to utilize search engine optimization (SEO) to get maximum traffic toward business web page and data analytics methods to segment the target customers in order to influence them for buying their products. Our framework uses keyword performance indicators (KPIs) for measuring the growth of the business in terms of targets achieved within specific deadline, number of leads generated, number of sales increased and revenue generated.

Acknowledgments

The authors would be extremely grateful to the Department of Information Technology of Government College of Engineering, Karad, India for their generous support. The authors would sincerely thank the Principal Dr. A. T. Pise and HoD Dr. S. J. Wagh for sharing pearls of wisdom with us during the course of this research. The authors also wish to express gratitude to all staff members and we thank reviewers for their so-called insights. The authors are also immensely grateful to those who provided their comments on an earlier version of the manuscript, who rendered their help during research.

References

- [1] Laurent Busca and Laurent Bertrandias, "A Framework for Digital Marketing Research: Investigating the Four Cultural Eras of Digital Marketing," Elsevier ScienceDirect Journal of Interactive Marketing, pp. 1-19, 2020.
- [2] Toshiaki Ueda and Hiroshi Ban, "Active Learning on Digital Marketing for Advertising A University Museum Exhibition," Elsevier ScienceDirect 22nd International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, pp. 2097-2106, 2018.
- [3] Florin Sabin Foltean, "Bridging marketing theory - practice gap to enhance firm performance: Introduction to the special issue," Elsevier Journal of Business Research, pp.520-528, 2019.

- [4] Thomas Rittera and Carsten Lund Pedersen, “Digitization capability and the digitalization of business models in business to-business firms: Past, present, and future,” Elsevier ScienceDirect Industrial Marketing Management, November 2019.
- [5] Juran Kima, Seungmook Kangb and Ki Hoon Leec, “Evolution of digital marketing communication: Bibliometric analysis and network visualization from key articles,” Elsevier ScienceDirect Journal of Business Research, September 2019.
- [6] Colin Campbell, Sean Sands, Carla Ferraro, Hsiu-Yuan (Jody) Tsao and Alexis Mavrommatis, “From data to action: How marketers can leverage AI,” Elsevier ScienceDirect Kelley School of Business, Indiana University, Published by Elsevier Inc.,2019.
- [7] P. K. Kannan and Hongshuang (Alice) Li, “Digital Marketing: A Framework, Review and Research Agenda,” Manuscript appear in International Journal of Research in Marketing, November 2016. DOI: 10.1016/j.ijresmar.2016.11.006
- [8] Alexandru Capatinaa, Maher Kachour, Jessica Lichy, Adrian Micu, Angela-Eliza Micu and Federica Codignola, “Matching the future capabilities of an artificial intelligence-based software for social media marketing with potential users’ expectations,” Elsevier ScienceDirect Technological Forecasting & Social Change, 2020.
- [9] Colin Campbell and Justine Rapp Farrell, “More than meets the eye: The functional components underlying influencer marketing,” Elsevier ScienceDirect Kelley School of Business, Indiana University, Published by Elsevier Inc, pp. 1-19, 2020.
- [10] Ko de Ruyter, Debbie Isobel Keeling and LiemViet Ngo, “When nothing is what it seems: A digital marketing research agenda,” Elsevier ScienceDirect Australasian Marketing Journal, pp. 199-203, 2018.
- [11] Brodie, Roderick J., Michael Saren, and Jaqueline Pels, “Theorizing About the Service Dominant Logic: The Bridging Role of Middle Range Theory,” Marketing Theory, pp 75-91, 2011. DOI: 10.1177/1470593110393714.
- [12] Surrin Summel A/L Narayanasamy, Asif Iqbal Hazamydeen and Zurida Ishak, “Theoretical Framework of Digital Marketing and the Future Availability in Malaysia,” IEEE 9th International Conference on System Engineering and Technology (ICSET), Malaysia, October 2019. DOI: 10.1177/1470593110393714
- [13] Watts D.J. and Dodds P. S. , “Influentials, networks, and public opinion formation,” Journal of consumer research, vol. 34(4), pp 441-458, May 2007
- [14] Li, S., Li, J. Z., & Li, S. S. , “A web-based hybrid system for evaluating marketing and e-Commerce web site performance,” 2013 Fourth International Conference on Digital Manufacturing & Automation, 2013.
- [15] Narayanasamy, S. S. A., Hajamydeen, A. I., & Ishak, Z. (2019). Theoretical Framework of Digital Marketing and the Future Availability in Malaysia. 2019 IEEE 9th International Conference on System Engineering and Technology (ICSET). doi: 10.1109/icsengt.2019.8906342
- [16] Wirawan, F. W., & Oktivera, E., “Analysis on the implementation of digital marketing towards motorbike transport service,” case study: GO-JEK (online taxi motorbike) Jakarta, Indonesia. 2015 International Conference on Information Technology Systems and Innovation (ICITSI).
- [17] Yan, K., Wang, S., Wang, S., & Lin, Y. , “Application of data mining for enterprise digital marketing strategy making,” Third International Conference on Communications and Mobile Computing, 2011.

- [18] Kalra, R., Kumar, K., Batra, S., & Namrata, “Smart market: A step towards digital India,” International Conference on Computing and Communication Technologies for Smart Nation (IC3TSN) , 2017.
- [19] Bengel, A., Shawki, A., & Aggarwal, D, “Simplifying web analytics for digital marketing,” IEEE International Conference on Big Data (Big Data), 2015.