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## Exploring the Efficiency and Effectiveness of Automation in Digital Marketing at Lakshmi Machine Works Ltd

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### ABSTRACT

The primary objective of this study is to evaluate the impact of automation on digital marketing processes. Data for the analysis was gathered using Google Analytics and Pre-CRM tools. The study focuses on examining the difference in Turn Around Time (TAT) before and after the implementation of automation, as well as identifying the most effective source of lead generation. By comparing TAT metrics pre- and post-automation, the researcher assessed improvements in process efficiency. The results highlight the percentage change in effectiveness and explore the relationships between various lead generation variables. Analytical methods applied in the study include the Paired Sample t-test, simple percentage analysis, cluster analysis, and relationship mapping, along with other visual tools. The findings reveal a 47.8% improvement in the effectiveness of TAT reduction following the adoption of automation.

Keywords: Automation Impact, Turnaround Time (TAT), Lead Generation Efficiency, Digital Marketing Analytics

### I. INTRODUCTION

Digital Marketing is one of the most emerging and in demand concept in the elaborate process of marketing of a product or service, be it any type of organization. Almost all the major companies around the world have exclusively adopted digital marketing as a core part of their marketing strategy. After the emergence of smartphones and the exponential rise in the number of social media users, digital marketing has become the need of the hour for top companies, corporates, start-ups and small-scale industries. It has almost been a decade since the advent of smartphones and digital technologies. Digital content has been existent over the last decade but has not been a prominent part of marketing. But since the pandemic and the sudden rise of digital content and supporting platforms like Facebook, Instagram, YouTube, Reddit, Twitter and many others, has forced companies to make digital marketing a fully functional business unit, like other existing departments such as Marketing, Finance and Human Resources.

### II. REVIEW OF LITERATURE

**Susana C. Silva, Leonardo Corbo, Božidar Vlačić, Mariana Fernandes in their research titled Marketing Accountability And Marketing Automation: Evidence From Portugal (2022)** published in the EuroMed Journal of Business, outline the role of marketing automation in measuring the return on marketing activities and the challenges associated with reaching accountability in marketing and the ability to measure the outcome of marketing activities emphasized through elements inherent to the new business paradigm, in which business goals are aligned with the new automation paradigm at a strategic level and these activities are relevant at both the operational and the strategic levels of an organization for the marketing activities that are undertaken and it illustrates the performance measurement, with specific factors that justify the insurgence of accountability in the marketing field, namely the existence of new metrics to carry out this measurement in the right way.

**Vicente Guerola-Navarro, Hermenegildo Gil-Gomez, Raul Oltra-Badenes, and Pedro Soto-Acosta, in their 2022 study titled Customer Relationship Management and Its Impact on Entrepreneurial Marketing: A Literature Review**, published in the International Entrepreneurship and Management Journal, highlight the transformative role of entrepreneurship in modern society. They emphasize how entrepreneurship plays a crucial role in identifying and capitalizing on emerging opportunities to meet evolving customer needs and expectations. The study underscores the significance of customer relationship management (CRM) as both a strategic approach and a technological tool in business management, particularly within entrepreneurial contexts. CRM has consistently shown strong potential for fostering business growth and delivering high returns on investment when effectively applied. The authors adopt a semi-systematic literature review approach to explore and analyze the relationship between CRM and entrepreneurial marketing in the business landscape.

**Afrina Yasmin, Sadia Tasneem, Kaniz Fatema in their research titled Effectiveness Of Digital Marketing In The Challenging Age: An Empirical Study (2015)** published in the International Journal of Management Science and Business Administration, focuses on the importance of digital

marketing for both marketers and consumers by examining the effect of digital marketing on the firms' sales, and the differences between traditional marketing and digital marketing are illustrated by describing the various forms of digital marketing, effectiveness of it and the impact it has on firm's sales and emphasises the utilization of electronic media by the marketers to promote the products or services into the market in a way of attracting customers and allowing them to interact with the brand through digital media.

**Ch. Balaraju In his 2017 study titled Digital Marketing Impact on Customer Relationship Management:** An Employee Perspective, published in the Indian Journal of Applied Research, Ch. Balaraju explores how companies manage their interactions with customers, clients, and potential leads, particularly within financial institutions aiming to boost customer satisfaction. The study emphasizes the role of technology in organizing, automating, and streamlining business operations. It points out that the primary goals of Customer Relationship Management (CRM) are to increase profitability, revenue, and customer satisfaction. To achieve these goals, businesses often employ various tools, technologies, and procedures that support and strengthen customer relationships, ultimately driving sales. Balaraju argues that CRM is more of a strategic business approach than a purely technical one. The core idea of CRM is to keep the customer at the center of a company's strategies, activities, and operations. The research also notes that retaining existing customers is generally more cost-effective and beneficial than acquiring new ones.

### SCOPE OF THE STUDY

This study focuses on evaluating the influence of automation within digital marketing operations, specifically identifying which tasks can be effectively automated. The research draws on data gathered from various customer interaction points involved in different promotional campaigns. The analysis is based on digital marketing insights provided by the Machine Tool Division of LMW, using customer data collected during August 2022. This dataset includes a detailed record of customer inquiries along with the corresponding time taken for each process.

### LIMITATIONS OF THE STUDY

- Access to data is restricted due to confidentiality concerns.
- The scope of data collection is confined solely to the Machine Tool Division of LMW.
- Precise lead information could not be obtained, as company policies limit access, and the time-related data consists of both exact and estimated figures.
- The results of the study may lack certainty, as automation in this context is a relatively new and evolving practice.
- The implementation process may require a trial-and-error methodology.
- Only one dataset was available for analysis, due to internal policy restrictions.
- As the technological landscape is continuously evolving, the findings of this study may be affected over time and may not remain valid in the long run.

### STATEMENT OF PROBLEM

In the rapidly evolving digital landscape, businesses are increasingly leveraging automation tools to streamline their marketing efforts. At Lakshmi Machine Works Ltd (LMW), a legacy industrial manufacturing company, the integration of digital marketing automation remains an area of growing interest. While automation promises improved efficiency, reduced manual labor, and consistent communication, its actual impact within the LMW marketing framework has not been fully assessed.

As LMW seeks to strengthen its digital presence, it becomes crucial to investigate how well automation aligns with their marketing goals. The organization may face challenges related to technology adoption, employee adaptability, and data-driven decision-making. Understanding the performance metrics tied to automation efforts is essential for optimizing marketing strategies.

### RESEARCH OBJECTIVES

- To examine the current digital marketing automation tools and platforms used at Lakshmi Machine Works Ltd (LMW).
- To evaluate the efficiency of marketing automation in terms of time, cost, and resource optimization.
- To assess the effectiveness of automation in improving customer engagement, lead generation, and conversion rates.
- To identify challenges and limitations faced by LMW in implementing and managing marketing automation tools.

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## III RESEARCH METHODOLOGY

Understanding the parameters that influence the effectiveness and efficiency of digital marketing is crucial for optimizing strategies. By identifying which tasks can be automated and recognizing processes that do not contribute significant value, organizations can streamline their efforts and improve overall performance. This study adopts a quantitative research approach, relying on numerical data to draw conclusions and support findings. An analytical framework is employed to systematically examine patterns, relationships, and trends within the data. This methodology enables a data-driven evaluation of digital marketing practices, providing actionable insights for strategic improvement.

## IV. Analysis and interpretation

### PARETO ANALYSIS INTERPRETATIONS

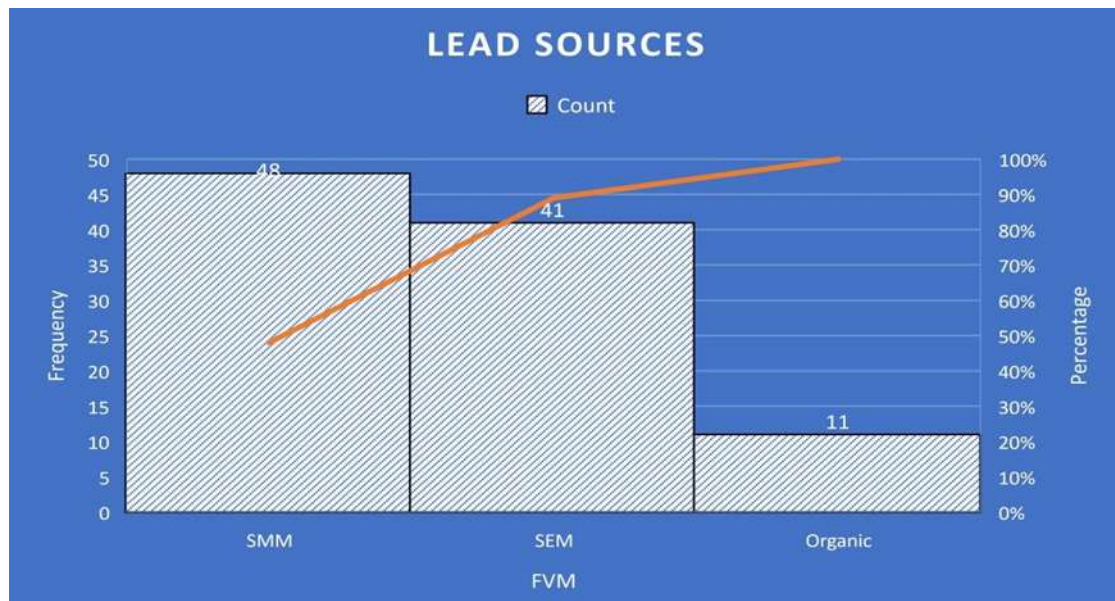


FIG 4.1

#### Application of Pareto Analysis in the Study

Pareto analysis is utilized in this study across two key scenarios.

#### 4.1. Evaluation of Lead Sources

The first application involves analyzing the hierarchy of lead sources to identify the most effective channel for lead generation and determine areas requiring the most attention. As depicted in Figure 4.1, the Pareto Chart reveals that Social Media Marketing (SMM) generates the highest number of leads. Therefore, it should be the primary focus for future marketing efforts.

Search Engine Marketing (SEM) follows as the next most significant source, while Organic leads contribute the least. This indicates a need to develop strategies to enhance performance in the Organic channel.

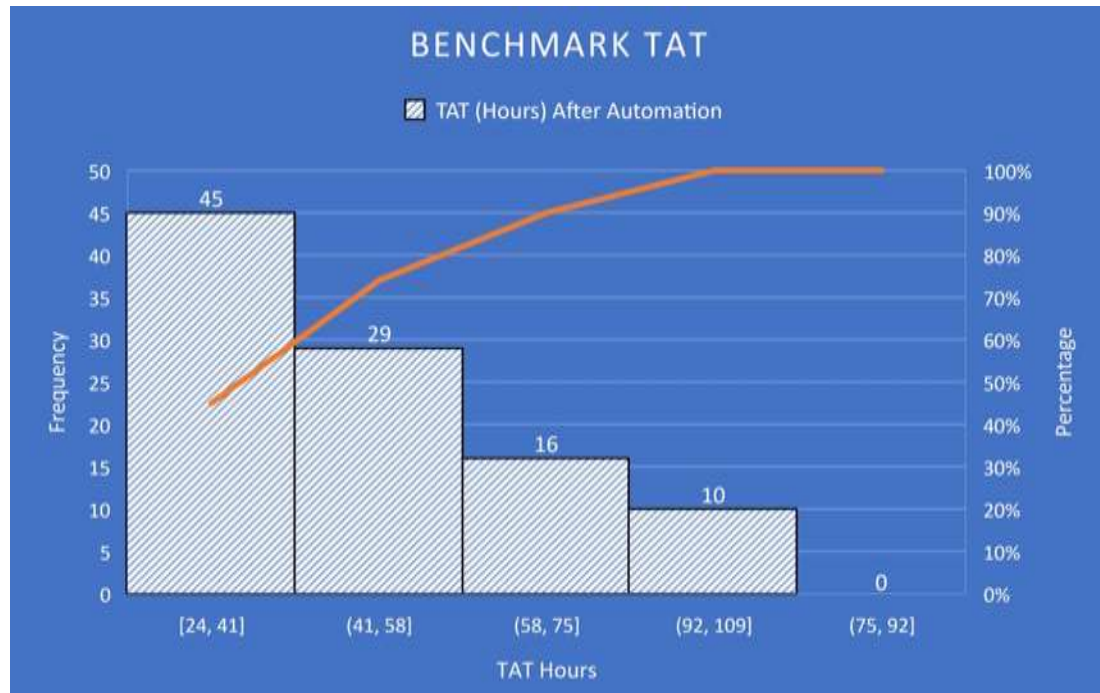
To summarize:

- Immediate focus: Prioritize SMM and SEM to maximize current results.
- Future strategy: Invest in improving Organic channels for long-term growth.

#### 4.2. Analysis of Turnaround Time (TAT) Post-Automation

- The second scenario uses Pareto analysis to assess the typical turnaround time (TAT) after automation was introduced. Figure 4.10 shows that the majority of leads are generated within the 24 to 41-hour window post-contact, which serves as a performance benchmark.
- The next most productive period is between 41 and 58 hours. Focusing marketing and outreach strategies within these key timeframes—particularly the 24- to 48-hour window—can significantly improve efficiency and lead generation outcomes.

FIG.4.2



## V Findings

Pareto analysis conducted in this study highlights that Social Media Marketing (SMM) and Search Engine Marketing (SEM) are the primary lead sources, contributing the majority of leads and thereby warranting focused attention in current marketing efforts. Organic traffic, while the least effective presently, represents an opportunity for long-term growth through strategic SEO and content development. Additionally, the analysis of Turnaround Time (TAT) post-automation reveals that most leads are generated within a 24 to 41-hour window, marking this period as critical for engagement and conversion.

## VI SUGGESTIONS

- Based on the findings from the paired sample t-test and percentage analysis, it is evident that automation plays a crucial role in enhancing both efficiency and effectiveness. Therefore, it is recommended that all relevant performance parameters be seamlessly integrated with the pre-CRM software to maximize operational productivity.
- Insights from the cluster analysis indicate that Social Media Marketing (SMM) and Search Engine Marketing (SEM) are the primary channels for lead generation. As a result, focused and strategic marketing efforts should be concentrated on these platforms to optimize results.
- The Pareto analysis further reinforces the significance of SMM and SEM, while highlighting that organic sources contribute the least to lead generation. To enhance the impact of organic channels, targeted strategies should be implemented to boost customer engagement. These could include keyword optimization, the creation of engaging videos and interactive content, the use of polls, search engine optimization (SEO), and the development of visually appealing on-site content—all of which serve as critical customer touchpoints.

## VII. Conclusion

This study primarily aimed to evaluate the impact of implementing automation within digital marketing processes and to identify the key sources contributing most significantly to lead generation. The findings clearly demonstrate that automation leads to notable improvements in both effectiveness and operational efficiency. Various parameters related to efficiency and effectiveness were analyzed, with changes presented through both visual and quantitative methods using appropriate analytical tools. The research successfully meets its stated objectives, and actionable suggestions have been provided based on the insights derived.

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