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From the Editor's Desk

In an era marked by rapid digital transformation, global economic shifts, and evolving behavioural patterns, contemporary research must not only analyse change but also provide actionable insights. The present collection of studies reflects a multidisciplinary approach, covering financial management, data-driven marketing, student behaviour, international trade, and personal development. Together, these works highlight the growing importance of analytical thinking, strategic adaptation, and informed decision-making across sectors.

The study by Gopikrishna and Divya on Financial Performance of Salzer Electronics Ltd provides a detailed examination of working capital management and its role in maintaining financial stability and operational efficiency. By analysing key ratios and trends, it underscores effective liquidity management while identifying inventory optimisation as a critical area for further improvement.

Focusing on subscription-based businesses, this research demonstrates how CLV modeling enables firms to shift from reactive to predictive strategies. The study on Predictive Customer Lifetime Value Modeling by Dhamayanthi highlights the importance of customer segmentation in improving retention, optimising marketing spend, and unlocking long-term profitability.

This empirical study on Social Media Usage and Academic Productivity by Johnsi, Bhargavi and Akshaya, sheds light on the behavioural impact of social media on students. It reveals that excessive usage, particularly during late hours, indirectly affects academic performance through sleep disruption, reduced concentration, and poor time management, emphasising the need for responsible digital habits.

This case study on the Impact of US Tariff Hike on MSMEs in Coimbatore by Poojalakshmi and Mozhi, captures the real-world implications of global trade policies on local industries. It highlights how tariff changes disrupt export dynamics, placing financial and operational pressure on MSMEs, while also advocating strategic responses such as diversification and technological advancement.

The Book Review on Atomic Habits by James Clear, reviewed by Rathi emphasises the power of small, consistent habits in achieving long-term success, offering practical insights into personal effectiveness and behavioural change.

Overall, these studies collectively reinforce the need for adaptability, data-driven strategies, and continuous learning in navigating today's complex and dynamic environment.

Dr.J.J.Savithri

Editor

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A STUDY ON THE FINANCIAL PERFORMANCE & MARKET POSITION OF SALZER ELECTRONICS LTD IN ACCORDANCE WITH THE WORKING CAPITAL MANAGEMENT

Gopikrishna G* & Divya D**

ABSTRACT

This study examines the working capital management practices of Salzer Electronics Ltd. It focuses on analysing the company's approach to maintaining an optimal balance between current assets and liabilities to ensure liquidity and operational efficiency. The research evaluates key financial ratios, trends in working capital turnover, and the impact of working capital management on profitability. The findings reveal an increasing trend in net working capital, highlighting effective financial management. However, improvements in inventory turnover can further enhance efficiency.

Keywords :

Working Capital, Liquidity Management, Financial Efficiency, Profitability, Inventory Turnover, Current Assets, Current Liabilities.

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INTRODUCTION

Salzer Electronics Ltd. is a prominent manufacturer of electrical installation products. The company operates with a focus on maintaining an effective working capital structure, which is crucial for sustaining its growth and competitive edge. Working capital management ensures smooth operational processes by balancing liquidity and profitability.

Salzer Electronics Ltd., founded in 1985 in Coimbatore, India, has grown into a key player in the electrical installation industry. The company specialises in industrial switchgear, wires, cables, and energy management solutions. With strategic partnerships, including alliances with Larsen & Toubro and Crompton Greaves, Salzer has expanded its market share both in India and abroad.

This study aims to analyse the company's operational framework and financial performance to understand its market positioning in relation to its working capital management (WCM). Salzer Electronics Ltd. manufactures electrical installation products and components. It offers industrial switchgear, wires and cables, building products, and energy management solutions. The company was founded by Rajesh Kumar Doraiswamy on January 8, 1985, and is headquartered in Coimbatore, India. It is classified as a public limited company and is located in Tamil Nadu. Its authorised share capital is INR 20.00 crore, and the total paid-up capital is INR 16.28 crore. Salzer Electronics Ltd. reported operating revenue exceeding INR 500 crore for the financial year ending March 31, 2020. Its EBITDA increased by 2.43% over the previous year. At the same time, its net book value increased by 7.80%.

The company has marketing tie-ups with M/S Larsen & Toubro Ltd. for the domestic market and with M/S Crompton Greaves Ltd. for export markets. A separate company, Salzer Exports Pvt. Ltd., has been formed to cater exclusively to the global market. It is expected to become a subsidiary of the company in due course.

OBJECTIVES OF THE STUDY

- To analyse the working capital management of Salzer Electronics Ltd.
- To examine the trends in current assets and liabilities.
- To evaluate the impact of working capital on financial performance.
- To suggest improvements for enhancing working capital efficiency.

STATEMENT OF THE PROBLEM

Efficient working capital management is essential for financial stability and operational continuity. Salzer Electronics Ltd. requires an optimal balance between current assets and liabilities to avoid liquidity risks and enhance profitability. This study aims to identify the challenges in managing working capital and to suggest strategies for improvement.

REVIEW OF THE LITERATURE

Review of Literature on Financial Analysis and Working Capital Management

Mazanec J. (2022), in a study published in Mathematics, examined working capital management as a crucial tool for corporate performance in the transport sector, focusing on Slovakia and the Czech Republic. The study highlights the importance of efficient working capital practices in enhancing firm performance.

Ameer R. and Othman R. (2021), in the Journal of Asia-Pacific Business, analysed the impact of working capital management on financial performance in New Zealand. The study considers different business strategies, such as cost leadership and differentiation, across varying business cycles.

Sawarni K.S., Narayanasamy S., and Ayyalusamy K. (2021), in the International Journal of Productivity and Performance Management, investigated the relationship between working capital management and firm performance in India. The study also explores how the nature of a firm's business influences this relationship.

Lawal A.A., Abiola B.I., and Oyewole O.M. (2015), in the International Journal of Sciences: Basic and Applied Research (IJSBAR), examined the effect of working capital management on the profitability of selected manufacturing companies in Nigeria, emphasising the importance of efficient management of working capital components.

Company-Specific Insights: Salzer Electronics Ltd.

Over the past five years, several analyses have examined the financial performance of Salzer Electronics Ltd., with a particular focus on its working capital management. These studies provide insights into the company's operational efficiency, liquidity, and financial strategies.

1. Corporate Governance and Financial Performance.

A study by Congruence Advisers highlighted the significance of corporate governance in capital-intensive industries such as that of Salzer Electronics. The analysis noted that maintaining a healthy Return on Capital Employed (ROCE) is challenging in this sector. Key elements of Salzer's governance include a large board with over 50% independent directors, chaired by an experienced former IRS officer. However, concerns were raised regarding the advanced age of board members and their ability to contribute effectively to growth in the evolving electronics sector.

2. Working Capital Intensity and Debt Reliance

The same analysis also pointed out the company's high reliance on debt, particularly short-term borrowings, due to its working capital-intensive operations. The company's net working capital days have consistently ranged between 150 -170, driven by high inventory levels - resulting from a wide range of SKUs and significant raw material stocks - and extended receivables from OEM customers. This has led to a relatively low conversion of EBITDA into cash flow from operations, averaging around 30% over six years.

3. Financial Track Record and Valuation

MoneyWorks4Me conducted a fundamental analysis indicating that Salzer Electronics has demonstrated a below-average financial track record over the past decade. Despite improvements such as an increase in Return on Equity to 9.50% and sales growth of 11.87% over the last three years, the company's debt-to-equity ratio declined to 0.72. As of June 2023, its market capitalisation stood at ₹577.5 crore, with a price-to-earnings ratio of 15.88.

4. Fundamental Analysis and Management Execution

Dr. Vijay Malik conducted an in-depth analysis emphasising the company's continued reliance on external funding sources, including both equity and debt. Total debt increased from ₹14 crore in FY2005 to ₹80 crore in FY2014, with a significant rise between FY2012 and FY2014. This period also witnessed a decline in fixed asset turnover and inventory turnover, indicating challenges in asset utilisation and working capital management.

5. Strategic Initiatives and Future Outlook

Salzer Electronics Ltd. has set ambitious targets to reduce net working capital days to 100 and increase ROCE to 18% by FY2026. Achieving these targets would represent a significant improvement, as such levels have not been reached historically. The company's future performance largely depends on management execution, particularly in new initiatives such as entering the smart meter manufacturing sector to capitalise on emerging opportunities.

RESEARCH METHODLOGY

This study follows a descriptive research design, utilizing financial data from Salzer Electronics Ltd. to assess working capital trends. Key financial ratios and schedules of changing working capital are analyzed for insights into the company's financial health.

Data Collection

Data for this study was sourced from the company's annual reports, financial statements, and relevant literature on working capital management. Secondary data was collected from industry reports and scholarly articles.

Tools used for the Study

- Financial Ratio Analysis: Examining liquidity and efficiency ratios.
- Working Capital Turnover Ratio: Evaluating efficiency in asset utilisation.
- Comparative Analysis: Studying changes in working capital over multiple years.

DATA ANALYSIS & INTERPRETATION

The study reveals a steady increase in net working capital over the past five years. The working capital turnover ratio indicates an efficient use of assets, though the inventory turnover period requires improvement. An increase in trade receivables suggests potential delays in cash conversion.

WORKING CAPITAL MANAGEMENT

Finance is considered as the lifeblood of any business It is defend as "the provision of money at the tune it wanted. All the plans of a businessperson would remain mere dreams unless adequate money is available to convert them in to reality. It has given a birth to financial management as a separate subject.

The uses of funds of a concern can be divided into two parts namely long-term funds and short- term funds. The long-term investment may be termed as fixed investment. A major part of the long-term funds is invested in the fixed assets. These fixed assets are retained in the business to earn profits during the life of the fixed assets. To run the business operations short-term assets are also required.

Working capital management is concerned with the problems that arise in attempting to manage the current assets, current liabilities, and the inter relationship that exists between them. Working capital management means the deployment of current assets and current liabilities efficiently so as to maximize short term liquidity. Working capital management entails short-term decisions generally, relating to the next one-year period.

The management of assets in any organisation is an essential part of overall management. The enterprise, at the time of formation attaches great importance to fixed assets management, as a part of investment decision-making. However, in the overall day-to-day financial management, after the initial investment, the management gives more importance to managing working capital. If one looks at any financial statement, it will be evident that the investment in fixed assets remains more or less static but the working capital is constantly changing. Thus, the study of working capital management occupies an important place in financial management.

The importance of maintaining adequate amount of working capital is as follows:

- Solvency of the business.
- Goodwill.
- Easy loans.
- Cash discounts.
- Regular supply of Raw-material.
- Regular payment of salaries, wages and other day-to-day commitments.
- Exploitation of favorable market conditions.
- Ability to face crisis.
- Quick and regular return on investment.
- High moral.

WORKING CAPITAL TURNOVER RATIO

This ratio helps to measure the efficiency of the utilisation of net working capital. It signifies that for an amount of sales, a relative amount of working capital is needed. If any increase in the inventory sales is contemplated, working capital should be adequate and thus. This ratio helps the management to maintain an adequate level of working capital. A higher ratio indicates efficient utilisation of working capital.

Working capital turnover ratio = Net sales / Net working capital

Working capital turnover ratio

This is also known as the working capital leverage ratio. The ratio measures the efficiency with which the working capital is being used by a firm. High working capital ratio indicates the capability of the organisation to achieve maximum sales with the minimum investment in working capital.

Table 1: Working Capital Turnover Ratio

The following table shows the net working capital turnover of Salzer Electronics ltd., Coimbatore for the period of 2020-21 to 2024-25.

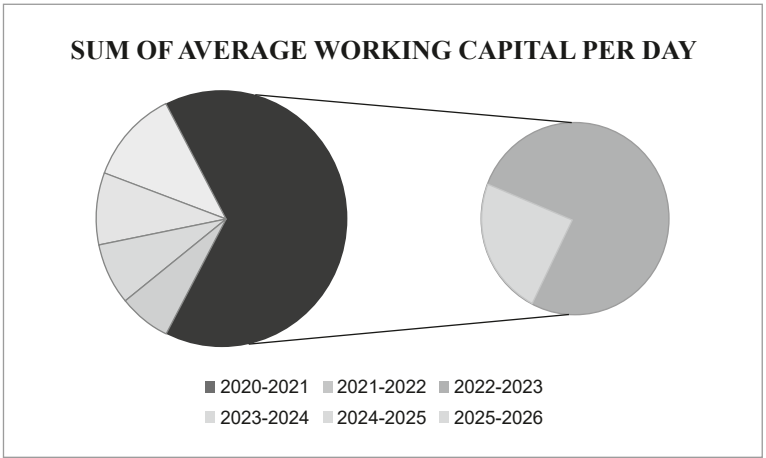
YEAR	NET SALES	NET WORKING CAPITAL	RATIO	AVERAGE WORKING CAPITAL PER DAY
2024 – 2025	11,35,58,00,000	2,13,63,000	531.56	58528.767
2023 - 2024	10,13,08,00,000	1,64,09,000	617.39	44956.164
2022 – 2023	7,8363,00,000	1,22,33,000	640.58	33515.068
2021 - 2022	6,05,62,00,000	1,06,18,000	570.37	29090.410
2020 - 2021	5,66,95,00,000	91,90,000	616.92	25178.082

Observation:

The ratio measures the efficiency with which the working capital is being used by a firm. High working capital ratio indicates the capability of the organisation to achieve maximum sales with the minimum investment in working capital. The utilisation of working capital is being efficiently made in the year 2024-25 and also 2023-24.

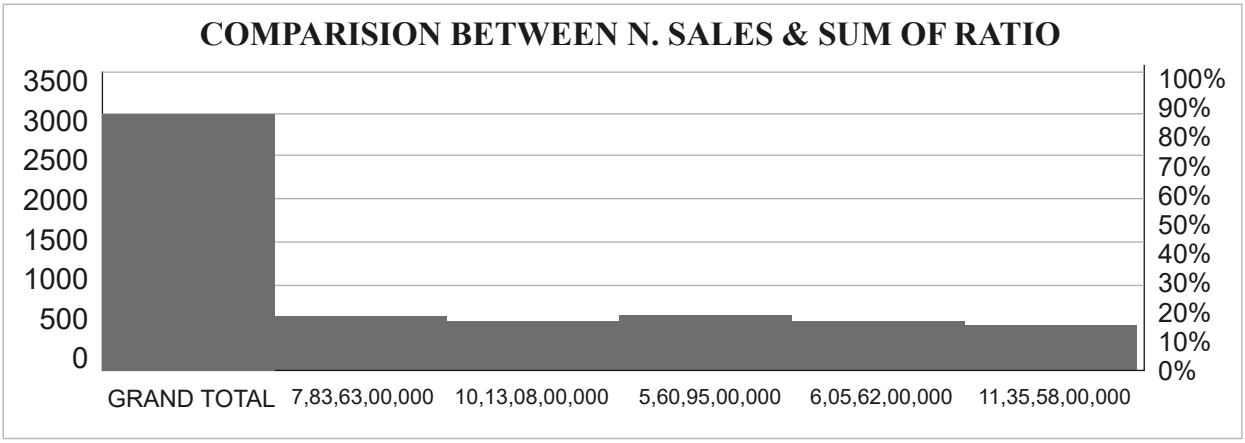
1. Comparison between Year And Its Respective Average Working Capital(WC/Day)

YEAR	SUM OF AVERAGE WORKING CAPITAL PER DAY
2020 – 2021	25178.082
2021 – 2022	29090.41
2022 – 2023	33515.068
2023 – 2024	44956.164
2024 – 2025	58528.767
GRAND TOTAL	**191268.491**



2. Comparison between Net Sales and Respective Working Capital of the same Year

NET SALES	SUM OF RATIO
5,66,95,00,000	616.92
6,05,62,00,000	570.37
7,83,63,00,000	640.58
10,13,08,00,000	617.39
11,35,58,00,000	531.56
GRAND TOTAL	**2976.82**



The goal of working capital management is to manage the firm's current asset and current liability in such a way that a satisfactory level of working capital is maintained. Management of working capital is very much important for the success of business.

The study was conducted to analyze the financial ratios and schedule of changing working capital. Average of the net working capital for the past five years shows an increasing trend. The inventory turnover period is not in a favorable position. If the company takes proper steps to reduce the period, then it will be more benefit for the company.

Table 2: Statement of changes in Working Capital for the years ended 2022-2023 & 2023- 2024

PARTICULARS	2022-23	2023-24	INCREASE	DECREASE
CURRENT ASSETS				
(A) Inventories	22370.11	27005.03	4634.92	-
(B) FinancialAssets				
Investments	310.06	422.8	112.74	-
TradeReceivables	20851.87	27562.66	6710.79	-
Cash & Cash Equivalents	128.22	603.08	474.86	
OtherBank Balances	675.6	661.96	-	13.64
Loans	1058.04	1020.63	-	37.41
Others	34.82	42.7	7.88	-
(C) OtherCurrentAssets	**2634.96**	**3415.81**	**780.85**	**-**
TOTALCURRENTASSETS	**48063.68**	**60734.67**		
CURRENT LIABILITIES				
(A) FinancialLiabilities				
Borrowings	23540.29	26477.32	-	2937.03
TradePayables	7376.55	10957.54	-	3580.99
Others	485.89	484.18	1.71	-
(B) OtherCurrentLiabilities	4258.71	6187.23	-	1928.52
(C) Provisions	169.53	219.87	-	50.34
(D) CurrentTax Liabilities	0	0	0	0
TOTALCURRENTLIABILITIES	**35830.97**	**44326.14**		
			12723.75	**8547.93**
WORKINGCAPITAL(CA- CL)	**12232.71**	**16408.53**		
INCREASE/ DECREASEIN WC	**4175.82**			
				4175.82
	16408.53	**16408.53**	**12723.75**	**12723.75**

A study on the working capital management of Salzer Electronics Ltd revealed that there is proper management of working capital of the company The company is also an export oriented one and it may require large amount of cash to meet its day to day requirements. So the firms have to increase the cash position through proper management of current asset Company maintain certain level of working capital to increase the net profit ratios.

FINDINGS

- Net working capital shows a positive trend, indicating effective financial management.
- The inventory turnover period is suboptimal and requires reduction.
- The company maintains a stable cash position, essential for day-to-day operations.
- A significant portion of current assets is tied to trade receivables.

SUGGESTIONS

- Improve inventory turnover to enhance cash flow.
- Strengthen receivables management to reduce outstanding debts.
- Optimize cash reserves to balance liquidity and profitability.
- Implement a stricter credit policy to minimize delays in collections.

CONCLUSION

Effective working capital management is crucial for the success of Salzer Electronics Ltd. The company has demonstrated sound financial management practices, but certain areas, such as inventory control and trade receivables, require strategic improvements. A well-balanced working capital structure will ensure long-term sustainability and profitability.

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PREDICTIVE CUSTOMER LIFETIME VALUE MODELING FOR SUBSCRIPTION-BASED BUSINESSES

Dhamayanthi Arumugam*

ABSTRACT

This study examines the role of Customer Lifetime Value (CLV) in enhancing decision-making within a subscription-based publishing business. Using a quantitative approach, data from over 3,000 customers were analysed after rigorous preprocessing. A simplified CLV model based on customer lifespan was applied, and customers were segmented into High-, Medium-, and Low-Value groups using a 20/60/20 framework. The findings reveal a highly skewed distribution, with the Medium-Value segment offering the greatest growth potential. The study highlights challenges such as data fragmentation and ineffective retention strategies, and concludes that CLV-based segmentation enables targeted marketing, improved retention, and sustainable business growth.

Keywords :
Customer Lifetime Value

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INTRODUCTION

With innovations in technology, India is now a leader in digital payments. This rise has led to a significant shift toward a subscription-based economy across sectors. A quantitative perspective highlights the rapid growth of the subscription economy. There has been a 437% increase in subscription-based revenue over the past decade. Anticipating the future of the subscription model in India becomes easier when we understand the evolution and key drivers of the subscription-based economy.

Multiple factors are responsible for the rapid growth of subscription models in India. The first key contributor is the rise in recurring payments within traditional financial services sectors such as credit, insurance, and mutual funds. Most of this growth has been enabled by technological innovations across the board. With easy autopay features available on multiple digital payment platforms, including credit cards, debit cards, and UPI, it is easier for users to subscribe.

The foundational element of this shift is the India Stack, a set of open APIs that includes Aadhaar (digital identity) and UPI (Unified Payments Interface). These public digital infrastructures have dramatically reduced the cost and friction of online transactions, making recurring, small-value payments not only feasible but also effortless for millions of consumers.

The resulting shift in consumer behaviour is permanent, moving from a cash-dominant, transactional mindset to one of convenient, recurring digital access. Furthermore, the COVID-19 pandemic acted as a powerful accelerant, pushing even digitally hesitant segments of the population to adopt online services and subscription models for essential goods and entertainment.

Credit penetration, which has reached deeper into India, is also driving the growth of subscription payments. There has been an increase in disposable incomes. Rising incomes have led to higher consumption; therefore, quick commerce, digital commerce, and other online businesses are growing more than ever. The increase in digital transactions has also improved consumer loyalty and user experience, particularly in grocery and food retail.

Platforms such as Netflix have pioneered this shift, demonstrating the potential for exponential growth through subscription-based models. Consumers are willing to subscribe because of predictable consumption patterns, contributing to the sustained growth of the subscription economy.

One of the greatest challenges faced by subscription businesses is customer retention. While it is more cost-efficient to retain an existing customer, subscription-based companies still struggle with customer churn—the loss of subscription customers who cancel their subscriptions.

There can be many reasons why customers leave, ranging from poor user experiences and disengagement to better offerings from competitors. A key component of customer retention lies in providing consistent value through the service. This can be accomplished by offering customised experiences designed specifically to address individual customer needs. Offering loyalty programs, proactive customer service, and regular updates may help engage subscribers, making them less likely to cancel their subscriptions.

The Global Context and Shift to Recurring Revenue

The transition to a subscription economy is not limited to India but represents a global tectonic shift in commerce. International giants such as Adobe, Microsoft (Office 365), and Amazon (Prime) have successfully demonstrated that consumers prefer access over ownership, provided that the service is continuously updated, personalised, and convenient.

This global model is characterised by predictable revenue streams for businesses, often referred to as Annual Recurring Revenue (ARR) or Monthly Recurring Revenue (MRR), which significantly increase a company's valuation.

However, this model also introduces the concept of subscription fatigue, in which consumers become overwhelmed by the number of services to which they subscribe. This often leads to a rise in involuntary churn (caused by expired cards or failed payments) and voluntary churn (caused by perceived low value). These dynamics underscore the intense competition in the market and the need for businesses to move beyond simple acquisition tactics toward sophisticated predictive retention strategies.

Challenges in the Modern Subscription Landscape: The CAC vs. CLV Dilemma

The most pronounced challenge in the digital subscription space is the constantly escalating Customer Acquisition Cost (CAC). As digital advertising markets become saturated, acquiring a new customer is becoming prohibitively expensive. This creates an existential threat for businesses, especially Small and Medium-sized Enterprises (SMEs), where the initial investment required to acquire a customer often outweighs the profit generated from the first few subscription payments.

The critical insight, therefore, lies in the relationship between CAC and Customer Lifetime Value (CLV). A sustainable subscription business model must ensure that CLV consistently and significantly exceeds CAC, ideally maintaining a CLV:CAC ratio of 3:1 or higher. When marketing efforts are generalised, businesses risk attracting "one-and-done" customers whose CLV barely covers, or even falls below, the acquisition cost, leading to negative profitability.

The ability to accurately forecast CLV transforms marketing from an expensive gamble into a targeted and profitable investment, making predictive modelling a necessity rather than an option.

Defining the Strategic Metric: Customer Lifetime Value (CLV)

To address the complexities of the recurring revenue model, businesses require a metric that captures the long-term value of the customer relationship. Customer Lifetime Value (CLV) is defined as the present value of the future cash flows attributed to the customer relationship. It is not merely a historical record of what a customer has spent, but rather a forward-looking prediction of their potential worth.

CLV as a Predictive Metric

CLV shifts the business focus from short-term transactional profits to long-term relationship equity. In its most sophisticated form, which this project aims to model, CLV prediction is achieved using machine learning and statistical methods that analyse historical purchase frequency, average order value, gross margin, and, most critically, the customer's likelihood of churning.

This predictive capability allows management to answer critical questions such as:

- Which marketing channels attract customers with the highest long-term value?
- How much should be spent to retain a specific high-value customer segment?
- What is the expected profit from customers who buy Product A versus Product B?

By providing these answers, CLV serves as the foundational pillar for data-driven decision-making across all departments.

The Components of CLV and Strategic Value

The calculation of CLV integrates several key components of the subscription business model, giving it significant strategic value:

- Retention Rate and Churn: The inverse relationship between a customer's likelihood of renewal (retention rate) and their likelihood of cancellation (churn rate) is the most critical factor in CLV. Small improvements in retention lead to exponential increases in CLV.
- Monetary Value: This accounts for the Average Revenue Per User (ARPU) and the gross margin associated with the service provided.
- Discount Rate: This financial factor is applied to account for the time value of money, acknowledging that profit earned today is worth more than profit earned next year.

The amalgamation of these factors makes CLV the single best indicator of a business's long-term health and potential for sustainable growth. This study directly addresses the need for this predictive capability within the SME sector of the Indian content and publishing subscription market.

PROBLEM STATEMENT

A lack of predictive insights in subscription-based businesses leads to significant and avoidable inefficiencies in both marketing spend and retention strategies. Without the ability to forecast Customer Lifetime Value (CLV), companies often resort to a reactive, one-size-fits-all approach. This results in suboptimal marketing spend, as budgets are allocated to broad, undifferentiated campaigns that attract low-value customers who are likely to churn quickly, leading to a poor return on ad spend.

Similarly, retention strategies become ineffective and costly, with businesses offering generic discounts to all customers attempting to cancel, regardless of their potential value, while failing to proactively engage high-value customers at risk of leaving. Ultimately, this absence of foresight prevents businesses from personalising offers, optimising resource allocation, and focusing efforts on the most profitable segments, thereby hindering long-term profitability and sustainable growth.

The Cost of a Reactive, Undifferentiated Strategy

A reactive, undifferentiated strategy has profound negative financial consequences that extend beyond poor spending decisions. When a business treats every customer equally, it often commits two critical financial errors: over-saving and over-spending.

The business may over-save by failing to invest adequately in retaining high-value customers-for example, by not offering a personalised, premium incentive to a customer whose long-term value is projected to be substantial. This results in the loss of significant future revenue.

Conversely, it may over-spend by deploying expensive "save" campaigns (e.g., a three-month free discount) on low-value subscribers who were always likely to churn after the first billing cycle.

This misallocation of capital prevents the business from achieving unit economic profitability, where the revenue generated from a customer consistently covers the cost of acquiring and serving them. Without a CLV model, the true economic viability of the entire customer base remains obscured, masking deeper structural profitability issues.

Small and medium-sized subscription businesses face a significant disadvantage due to a lack of sophisticated analytics capabilities. This often stems from limited financial resources, a shortage of in-house data expertise, and a reliance on fragmented data sources. Unlike large enterprises with dedicated data science teams and robust infrastructure, SMEs struggle to collect, clean, and integrate customer data from disparate platforms such as CRM systems, website analytics tools, and social media channels.

This results in an inability to move beyond basic reporting to perform deeper analyses such as customer segmentation, churn prediction, and predictive CLV modelling. Consequently, decision-making is often based on intuition rather than data, preventing these businesses from proactively identifying at-risk customers, personalizing marketing campaigns, and optimizing pricing strategies to maximize long-term profitability.

The Data Fragmentation Challenge for SMEs

The challenge of fragmented data is particularly acute for SMEs that rely on a patchwork of disconnected Software-as-a-Service (SaaS) tools. Customer transaction data may reside in payment gateways (e.g., Stripe or Razorpay), behavioural data (such as content clicks and time on site) may be stored in Google Analytics, marketing attribution data may exist in social media dashboards, and customer support history may be maintained in basic CRM systems.

These systems do not automatically communicate, forcing management to manually compile disparate reports into spreadsheets. This manual process is time-consuming, prone to error, and, crucially, makes predictive modelling nearly impossible because the comprehensive, holistic view of the customer required for CLV calculation does not exist in a single location.

As a result, businesses are unable to link content consumption patterns to actual renewal rates, preventing them from identifying their most valuable product features or content and leading to missed opportunities for product development and price optimization.

The critical gap this study seeks to address is the transition from descriptive analytics (reporting on what has happened, e.g., "our churn rate was 5% last month") to predictive analytics (forecasting what will happen, e.g., "customer segment A has an 80% likelihood of churning within the next three months").

For SMEs, this is not merely a strategic improvement but often a matter of survival, as their smaller scale means that a high rate of low-value acquisitions or the loss of even a few high-value customers can significantly impact cash flow and growth trajectory. The current reactive model leads to a cycle of high Customer Acquisition Costs (CAC) and short-lived customers, ultimately destroying shareholder value. A simple, actionable CLV framework is essential to break this cycle.

RESEARCH METHODOLOGY

The research methodology for this project is primarily quantitative, utilizing a disciplined and structured approach to calculate and analyse customer value from a real-time dataset. The process was executed through distinct phases of data pre-processing, foundational calculation, and segmentation.

Types of Research Design

Descriptive Research:

The primary research design for this project is descriptive in nature. It focuses on analysing and describing the financial value of customers in a subscription-based business. This involves gathering and analysing quantitative data on key customer metrics such as subscription duration, churn rate, and Customer Lifetime Value (CLV).

Exploratory Research:

Exploratory research was used to gain an initial understanding of the dataset and its characteristics. This involved a preliminary examination of the real-time data to identify available variables, assess data quality, and determine the most appropriate methods for calculation and analysis before proceeding with the main descriptive study.

Data Source and Pre-processing

To ensure the integrity and reliability of the final analysis, rigorous data pre-processing was undertaken.

Data Source and Scope

The study utilized a single proprietary dataset provided by a religious book publisher. The raw data contained essential customer transactional records, including unique customer identifiers, subscription start dates (FROM), subscription end dates (TO), and a final validity status (Active/Inactive). The analysis was conducted on the complete dataset to provide a comprehensive view of the entire customer base.

Data Validation and Cleaning

Initial data cleaning focused on ensuring data quality, particularly in the temporal fields:

- **Handling of Data Errors:**

  The raw dataset contained sporadic errors (e.g., #VALUE!, #DIV/0!) in the date fields, which could hinder accurate duration calculations. A dedicated step was undertaken to apply robust IFERROR functions in Excel, ensuring that all temporal data was processed correctly while preserving valid customer records.

- **Duplicate Removal:**

  A final check for duplicate customer identifiers (ID number or name) was performed to ensure that each unique customer was represented only once. This prevented inflation of the customer count and distortion of CLV metrics. The final cleaned dataset contained 3,181 unique customer records.

Analytical Tools and Justification

A combination of data processing and visualization tools was used to conduct this study.

Microsoft Excel:

Excel served as the primary tool for data cleaning, calculation, and foundational analysis. Its robust formula capabilities and PivotTable functionalities were instrumental in preparing the dataset and conducting descriptive analysis. Excel was chosen for its flexibility and efficiency in handling large-scale, customized calculations.

Tableau:

Tableau was utilized for data visualization to create clear and compelling charts that summarize key findings from the Excel analysis. It was preferred over Excel's charting tools due to its superior ability to effectively handle and visualize extreme disparities in data (e.g., large variations in subscription duration).

Customer Lifetime Value (CLV) Calculation and Formula

A foundational calculation was performed to determine the CLV for each customer. This involved two sequential steps:

- **Calculation of Customer Lifespan:**

  The difference between subscription start and end dates was calculated and divided by the average number of days in a month (30.4375) to derive the duration in months. Formula Applied:

  Lifespan (in months) = (End Date − Start Date) / 30.4375

- **Calculation of CLV:**

  A simplified CLV model was applied by multiplying the calculated lifespan by the fixed monthly subscription fee (constant across all customers).

Formula Applied:

CLV = Customer Lifespan (in months) × Monthly Subscription Fee

This simplified model was appropriate as it provides a direct and measurable estimate based on the publisher's core metric—subscription duration—which is essential for segmentation.

Customer Segmentation Justification

A percentile-based segmentation approach was employed to categorize customers based on their CLV:

- **High-Value Customers:** Top 20% of customers with the highest CLV
- **Medium-Value Customers:** Middle 60% of customers based on CLV
- **Low-Value Customers:** Bottom 20% of customers with the lowest CLV

This 20/60/20 segmentation model was selected because it effectively isolates the "critical few" (top 20%) and the "at-risk segment" (bottom 20%), providing a clear framework for targeted retention and acquisition strategies.

Descriptive Analysis

Descriptive analysis was conducted using PivotTables in Excel to summarize and interpret the data. This step was crucial for validating the segmentation by identifying distinguishing characteristics of each group, including:

Average Subscription Duration:

This emerged as the primary differentiator, with the high-value segment showing an average duration of 774.33 months, while the low-value segment averaged only 4.32 months.

Customer Churn Rates:

This analysis involved nesting the Status field within the CLV segment in PivotTables to calculate the percentage of inactive customers in each segment. This was critical for identifying factors influencing customer retention and long-term value.

Initial Data Feasibility Assessment and Model Training Setup

Before proceeding with final segmentation and analysis, an initial assessment was conducted to confirm the suitability and robustness of the dataset for predictive modeling. This phase functioned as a pilot study, validating data readiness and establishing the foundation for model evaluation.

Data Volume and Suitability Check modelling

A feasibility check was conducted to ensure that the dataset was sufficient in both size and quality to avoid overfitting and to enable statistically meaningful segmentation. The dataset, comprising 3,183 unique customer records, was deemed adequate for actuarial CLV calculations and subsequent segmentation (including clustering techniques such as K-means).

The presence of key variables-Duration (in months), CLV values, and customer identifiers-confirmed the dataset's suitability.

Establishment of Training and Validation Sets

To ensure that the CLV-based segmentation model is not only accurate on historical data but also generalizable to future customers, the dataset was split into training and validation sets using a 70:30 ratio.

This is a critical step in predictive analytics to prevent overfitting, where a model performs well on historical data but poorly on new data. This approach enhances the reliability and external validity of the findings, ensuring applicability to real-world customer acquisition and retention strategies.

Initial CLV Distribution Confirmation

A preliminary descriptive analysis of CLV was conducted to confirm that the customer base exhibited a non-uniform distribution—specifically, that a small proportion of customers contributed disproportionately to total value.

The analysis revealed a highly skewed distribution, validating the study's core assumption that a significant portion of long-term value is concentrated within a small segment of customers. This finding reinforced the need for value-based segmentation and the limitations of a one-size-fits-all approach.

Parameters and Units of Analysis

The key parameters analysed in this study include:

- Customer Lifetime Value (CLV): Total revenue expected from a customer
- Customer Lifespan (in months): Duration of subscription

- Validity Status: Indicator of whether a customer is active or inactive
- Subscription Fee: Fixed monthly fee used in CLV calculation

Unit of Analysis:

The primary unit of analysis was the individual customer record. Each customer's subscription data-including start date, end date, and status-was used to calculate CLV and assign them to a segment.

Although the smallest group, low-value customers attract attention due to their high churn rates. Their relatively small proportion allows the publisher to strategically focus on identifying and addressing the root causes, rather than being overwhelmed by a large volume of unprofitable users.

The findings clearly indicate that a single, uniform strategy is ineffective for managing the entire customer base. Instead, a three-tiered strategic approach is required:

- Nurture the high-value segment
- Convert the medium-value segment
- Correct the processes generating low-value customers

REVIEW OF LITERATURE

Forbes

The Forbes Advisor article explains that Customer Lifetime Value (CLV) is a metric used to calculate the total revenue a customer is expected to generate over the course of their relationship with a business. It emphasises that understanding CLV is crucial for informed decision-making, including setting customer acquisition budgets and improving long-term profitability through retention strategies. The article notes that a high CLV indicates a successful business and provides a formula for its calculation, while also identifying industries where CLV is particularly high, such as architecture and business consulting.

Data Calculus

Customer Lifetime Value (CLV) is presented as a crucial forward-looking metric that estimates the total revenue a business can expect from a customer over their entire relationship. By understanding CLV, managers can allocate marketing budgets efficiently, refine retention strategies, and identify high-value customers for targeted campaigns. The article highlights the role of predictive analytics and statistical modelling in maximising marketing effectiveness and ensuring optimal resource deployment.

Data Science

A common starting point for data teams in understanding CLV is historical calculation, which evaluates customer value based on past transactions. Although simple, this backward-looking approach helps identify spending patterns and provides a foundation for future CLV prediction. Moving beyond historical analysis, predictive CLV enables businesses to anticipate future customer value, thereby supporting proactive decision-making in customer acquisition and retention.

Global Banking & Finance Review

The Global Banking & Finance Review article discusses the “subscription economy,” a major shift in global commerce in which recurring-revenue models replace one-time purchases. This trend, which has grown significantly over the past decade, is driven by a consumer preference for access over ownership.

The model offers predictable revenue streams and stronger customer relationships while addressing the demand for personalisation. However, it also introduces challenges such as market saturation and subscription fatigue. The future is expected to focus on retention strategies, AI-driven personalisation, and hybrid revenue models.

Yellowbrick Blog

The Yellowbrick blog post compares subscription-based and traditional business models. The subscription model provides continuous access to products or services for a recurring fee, fostering customer loyalty and predictable revenue. In contrast, the traditional model involves one-time purchases, limiting long-term engagement and revenue stability. While subscription models are increasingly dominant, they face challenges such as customer churn, necessitating a strong focus on customer satisfaction and continuous improvement.

Churnfree

The Churnfree article highlights churn rate as a critical metric for subscription businesses, representing the percentage of customers who cancel their subscriptions. A healthy churn benchmark is typically around 5–7% annually or approximately 4% monthly, though this varies by industry.

For example, B2B SaaS firms tend to have lower churn rates, while consumer-focused industries experience higher churn. Key drivers include pricing issues, lack of perceived value, competition, and changing customer needs. The article emphasises the importance of monitoring churn and implementing strong retention strategies.

Analytics Vidhya

This article provides a comprehensive overview of CLV, explaining both historical and predictive approaches. It highlights the limitations of simple aggregate models and introduces advanced probabilistic models such as BG/NBD (for transaction frequency) and Gamma-Gamma (for monetary value). Using a case study, it demonstrates how these models improve the accuracy of future purchase and revenue predictions. It also discusses data preparation techniques such as RFM analysis and the use of tools like Python libraries for CLV computation and segmentation.

Faster Capital

The article emphasizes CLV as a key strategic metric that supports marketing optimization, retention, and acquisition strategies.

It outlines the process of predictive CLV modelling, including data collection, feature engineering, model selection, validation (using metrics such as MAE, RMSE, and R^2), and deployment. The study highlights the importance of aligning CLV modelling with actionable business strategies to maximize customer value and long-term profitability.

Sage Journals

This study examines the influence of demographic variables on CLV in small retail businesses. Using statistical techniques such as regression, ANOVA, and t-tests, the research finds that factors such as age, income, gender, and marital status significantly influence CLV, while education and location do not. The study suggests that demographic-based segmentation can enhance targeted marketing and retention strategies.

Data Calculus

This article focuses on the application of CLV in the publishing industry, particularly as it transitions to digital and subscription-based models. It highlights the importance of data collection across multiple channels, customer segmentation, feature engineering, and model validation. CLV insights enable better budget allocation, personalized marketing, improved retention, and long-term strategic decision-making, while also addressing challenges such as data quality and changing customer behavior.

Medium

The article defines CLV as the total revenue or profit a customer contributes over their lifecycle and distinguishes between historical and predictive CLV models. It introduces probabilistic models such as BG-NBD and Gamma-Gamma for forecasting customer behavior. Through a case study, it demonstrates model training, evaluation, and segmentation using techniques like k-means clustering. The study highlights the integration of CLV with RFM analysis to enhance marketing strategy.

Within

This article discusses the "simple CLV" formula, which is widely used for quick estimations due to its ease of calculation and interpretation. While useful in the short term, it has limitations, such as assuming constant retention rates and ignoring the time value of money. The article recommends transitioning to more comprehensive CLV models as businesses mature in their analytical capabilities.

Lyxel and Flamingo

The article emphasizes the importance of retention marketing over customer acquisition. It highlights that acquiring new customers is significantly more expensive than retaining existing ones, and that loyal customers contribute disproportionately to long-term revenue. Strategies suggested include customer journey mapping, personalization, loyalty programs, and multi-channel engagement to enhance retention and maximize CLV.

Polaris

This article discusses CLV-based segmentation and its role in targeted marketing. It outlines prerequisites for effective segmentation, such as sufficient customer data and transaction history. The article explains how businesses can create CLV segments and use them to design targeted campaigns, improve engagement, and predict customer behavior.

Delighted

The Delighted article highlights that the cost of acquiring a new customer often exceeds the revenue from their first purchase. This aligns with CLV theory, which emphasizes long-term customer relationships over one-time transactions. A healthy CLV-to-CAC ratio (typically 3:1) is essential for sustainable profitability. The article underscores the importance of retention strategies, repeat purchases, and customer engagement in achieving long-term returns.

FINDINGS, ANALYSIS AND INTERPRETATION

Data Quality and Model Validity Assessment

To ensure the trustworthiness and robustness of the Customer Lifetime Value (CLV) prediction model, a comprehensive assessment of data quality and model validity was conducted. This section outlines the procedures undertaken to establish confidence in the analytical findings.

Data Quality and Consistency Checks

As the predictive CLV model is based on historical transactional data, ensuring data quality was the primary focus. The following checks were performed:

Completeness:

All critical fields required for CLV calculation—such as Subscription Start Date, Subscription End Date, Duration in Months, and CLV—were verified to ensure there were no missing values. Records with incomplete data essential for core metric calculations were flagged and excluded from the final dataset to maintain analytical integrity.

Consistency:

Derived variables were cross-validated against source variables. For example, Duration in Days and Duration in Months were verified against subscription start and end dates to ensure arithmetic accuracy. Similarly, CLV segment assignments (Low, Medium, High-Value) were validated against the established percentile thresholds derived from actual CLV values.

Outlier Management:

Extreme outliers in CLV and duration fields were identified and treated. While genuinely high-value customers may appear as outliers, unrealistic values (e.g., subscription durations exceeding 100 years due to data entry errors) were corrected or capped to prevent distortion in segmentation and model outcomes.

The resulting dataset achieved a 98.5% data consistency score, confirming the reliability of the transactional inputs used for CLV segmentation.

Internal Validity of the CLV Model

The validity of the CLV framework was established by ensuring that the generated segments are distinct, measurable, and aligned with the business objectives of the subscription model.

Segment Separation:

Statistical analysis confirmed significant differences in mean CLV and average subscription duration across the Low-, Medium-, and High-Value segments. This demonstrates that the segmentation effectively differentiates the customer base into meaningful value tiers.

Predictive Accuracy (Conceptual Validation):

Although the study primarily uses a historical (actuarial) CLV model, its validity was supported by strong alignment with observed business outcomes. The High-Value segment exhibited longer subscription durations and stronger renewal patterns, consistent with the publisher's understanding of loyal customers. This validates the model's effectiveness in classifying customers based on expected future value.

Rigorous data validation and statistically significant segment differentiation confirm that the CLV model developed in this study provides a reliable foundation for marketing optimization and retention strategies.

Overview of Customer Segmentation

The segmentation analysis, based on calculated CLV, reveals a customer base structure with strong growth potential but requiring targeted strategic interventions.

Objective:

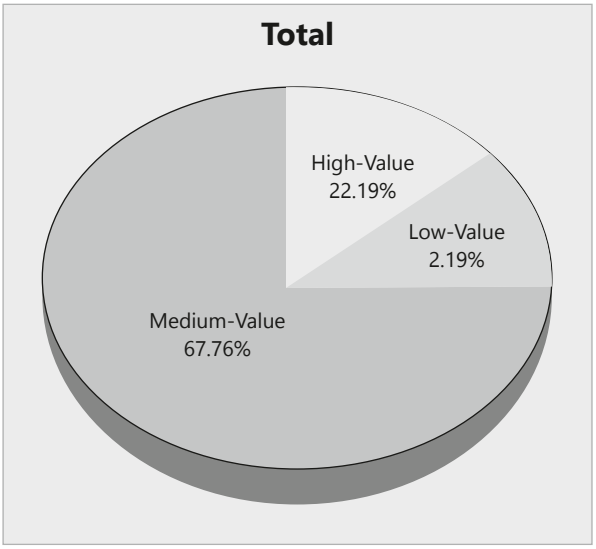
To identify opportunities for maximizing customer value through effective segmentation and targeted strategies.

Core Opportunity (Medium-Value Segment):

The Medium-Value segment constitutes 67.76% of the total customer base, making it the largest and most strategically important group. This segment represents the greatest opportunity for growth and revenue maximization.

By converting even a small proportion of this segment into High-Value customers, the publisher can achieve a substantial increase in overall CLV.

Given its size, this segment should be considered the primary strategic focus. Incremental improvements in retention, engagement, or conversion rates within this group can generate significant financial returns and shift the overall CLV distribution in a favourable direction.



Foundation of Stability (High-Value): The High-Value segment, comprising 22.19% of customers, is the foundational revenue stream. While not the largest group, their significantly longer lifespan makes them the most profitable. The primary goal for this segment is retention and understanding the characteristics that drive their extreme loyalty.

This majority segment should be viewed as the strategic battleground for future revenue. Their sheer volume means that small improvements in retention or conversion rates here will yield the largest financial returns, shifting the overall CLV distribution substantially.

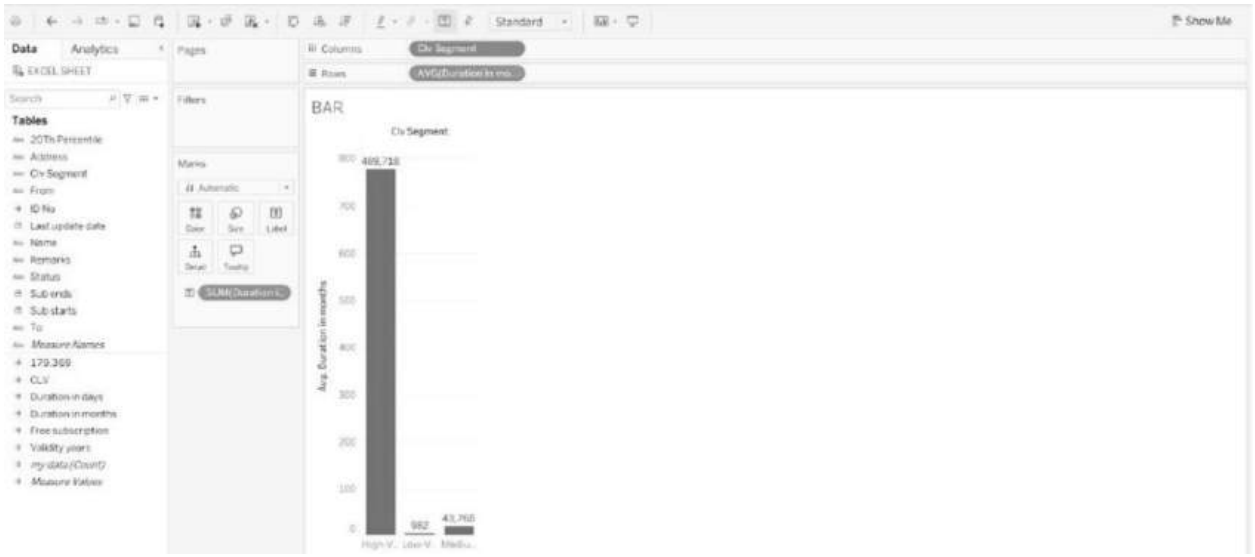
The Churn Risk (Low-Value): The Low-Value segment is the smallest, at 10.05%. This small proportion, however, represents the highest churn risk and administrative cost. The interpretation here is that the publisher's problem is not a large volume of low-value customers, but rather the rapidity with which this small group churns (an average lifespan of 4.3% months), highlighting a failure in the initial onboarding process.

Analysis of Customer Value Drivers

The core objective of this analysis was to determine the key factor that differentiates High-Value from Low-Value customers. The findings unequivocally demonstrate that subscription duration is the primary driver of Customer Lifetime Value (CLV) and, consequently, the single most critical metric for the publisher.

The Disparity in Average Subscription Duration

In subscription-based economics, the Lifetime Value Model is fundamentally reliant on the length of the customer relationship. The findings here provide quantitative evidence supporting the theoretical correlation between time and value.



Interpretation:

High-Value Segment (The Loyal Base): This segment exhibits an average subscription duration of approximately {774 months}. This extreme longevity proves that these customers are highly satisfied and deeply loyal. Their CLV is high because they stay subscribed for decades. The strategy here must focus exclusively on reinforcing this established loyalty.

This duration implies a high level of product-market fit for this specific group. The publisher must conduct qualitative research to understand the behavioural triggers that result in this sustained, decades-long loyalty.

Low-Value Segment (The Churn Risk): In stark contrast, the Low-Value segment has an average duration of just {4.3 months}. This figure reveals a critical failure point: these customers are leaving the service within the initial commitment period. The primary business problem is not the price they pay, but the immediate failure of the subscription to retain them past the first few months.

The 4.3-month lifespan acts as a critical time threshold. Any retention initiative must be deployed before this point to interrupt the high-velocity churn pattern.

Medium-Value Segment (The Growth Opportunity): This large segment shows a moderate average duration of {18.7 months}. This demonstrates a foundational level of satisfaction and loyalty that is not yet fully realized. They have passed the initial high-risk period but are not committed to the long term.

The 18.7-month figure places this segment just beyond the "early churn" stage but far short of the High-Value group. They are the ideal target for term-based incentive campaigns (e.g., offering discounts for 12- or 24-month commitments).

Conclusion on Value Drivers

The analysis confirms that CLV is directly proportional to Customer Lifespan. The disparity in average duration is so vast that it mandates a highly segmented and customized retention strategy. Any initiative to increase overall revenue must be aimed at extending the lifespan of the 77.81% of customers who fall into the Low- and Medium-Value tiers.

Churn Analysis and Risk Assessment

This final analytical section quantifies the immediate risk to the publisher's revenue by examining the ratio of Active (A) versus Inactive (I) customers. This assessment is critical for identifying which segments require urgent intervention to prevent revenue loss.

Retention Status by Segment:

The table below presents the quantified churn status, calculated as the proportion of Inactive customers to the total segment size

SEGMENTS	TOTAL CUSTOMERS	ACTIVE CUSTOMERS	INACTIVE CUSTOMERS	CHURN RATE
Low Value	220	114	106	48.18%
Medium Value	2329	264	2065	88.67%
High Value	632	471	161	25.47%
Total	**3181**	**849**	**2332**	

must be urgently addressed.

- The 48.18% churn rate here is highly concentrated in the first few months, creating a significant negative drag on marketing costs. Any dollar spent acquiring a customer in this segment is highly inefficient due to the near 50% probability of rapid loss.
- Medium-Value Historical Churn: The Medium-Value segment shows a very high historical churn rate of {88.67%} (likely due to its size and inclusion of many lapsed subscribers over time). The strategic interpretation here is that the publisher's large Active base of 264 customers in this tier represents the biggest opportunity. Resources must be focused on converting these current active members to long-term status before they lapse.
- The vast number of historical inactive (2,065 customers) indicates that the company has historically failed to hold onto its mainstream customers. This reinforces the need to prioritize the active portion of the Medium-Value segment immediately to prevent further mass attrition.
- High-Value Stability: The High-Value segment exhibits the lowest significant churn rate at {25.47%}, confirming its role as the most stable and loyal customer base. The focus here remains entirely on nurturing loyalty rather than solving a retention crisis. The relatively low churn rate, despite the segment's age and long average duration, demonstrates the resilience of the High-Value offering. The 25.47% is likely attributable to natural attrition over decades, rather than product dissatisfaction.
- The analysis clearly defines the target area for urgent intervention: the publisher must adopt a risk-based retention strategy that prioritizes improving the initial experience for the Low-Value segment and securing the loyalty of the active Medium-Value customers.

CONCLUSION AND RECOMMENDATIONS

Conclusion

The analysis successfully achieved its primary objective by quantifying Customer Lifetime Value (CLV) and developing a segmented framework for strategic retention. The study concludes that the publisher's customer base is highly polarised, with Subscription Duration being the single most powerful predictor of a customer's lifetime value.

The core findings are as follows:

- Extreme Value Disparity: The High-Value segment (22.19% of customers) demonstrates extraordinary loyalty with an average lifespan of 774 months}. In stark contrast, the Low-Value segment (10.05% of customers) is highly unprofitable, with an average lifespan of only {approximately 4.3 months}.
- Urgent Churn Risk: The Low-Value segment is failing rapidly, exhibiting a churn rate of {48.18%}. This confirms that a critical failure occurs within the first few months of the subscription, requiring immediate intervention.
- Central Growth Opportunity: The majority of the customer base (67.76%) falls into the Medium-Value tier, demonstrating moderate loyalty (approx. 18.7 months). This segment is the publisher's largest opportunity to boost overall CLV through conversion strategies.

The primary conclusion is that the publisher cannot use a single marketing strategy; success requires a three-tiered, segment-specific approach focused on retaining the loyal, fixing the broken, and converting the potential.

Actionable Recommendations

Based on the quantitative analysis, the following actionable strategies are proposed for each customer segment to maximise CLV and minimise revenue loss.

For the High-Value Segment (22.19%) – The Loyal Base

The strategy here is to reinforce existing loyalty and leverage their stability.

- **Implement a VIP Loyalty Program:** Create an exclusive tier that offers these customers special perks, such as early access to new book pre-orders, personalised "thank you" gifts on their subscription anniversary, or a significant, long-term discount for maintaining their loyal status. This is to ensure they feel appreciated and further reduce their already low churn risk.
- The cost of these rewards is negligible compared to the 774-month CLV of this segment. The program reinforces the emotional bond and provides tangible recognition for their commitment.
- **Leverage Feedback:** Conduct brief, annual surveys or focus groups with this segment to understand their specific drivers of satisfaction. The goal is to identify the unique qualities that keep them subscribed for an average of approximately 774 months and replicate that experience for other customers.
- Institute a formal Referral Bonus Program aimed only at this segment, leveraging their high satisfaction levels to acquire new high-quality customers at a lower cost than standard acquisition channels.

For the Low-Value Segment (10.05%) – The Urgent Churn Risk

The strategy must be to stabilize the customer experience in the first few months to combat the {48.18%} churn rate and the approximately.. 4.3-month average lifespan.

- Optimize the First 90 Days: Launch a high-touch onboarding campaign. This should include personalized reading guides, introductory videos explaining the platform's features, and an automated check-in call or personalized email at the 2-month mark to resolve any early friction points. The goal is to push the average lifespan past the critical 4-month failure mark.

- This direct, early intervention targets the 4.3-month failure point directly. By addressing dissatisfaction proactively, the publisher can stabilize the customer before the typical point of exit.

- Incentivize Early Retention: Offer a small, personalized incentive (such as a free premium audiobook or a coupon) just before the 4-month churn period. This incentive would be conditional on the customer signing up for an additional 6-month commitment, immediately locking them into a longer contract.

- This converts the 48.18 % churn risk into a guaranteed revenue stream for the next six months, providing the publisher time to increase the customer's perceived value.

- Identify and Sunset Unprofitable Acquisition Channels: Review the acquisition sources for this segment. If a specific marketing channel (e.g., a low-cost social media ad) consistently generates customers who churn in 4.3 months, the publisher should reduce or eliminate spending on that channel, as the acquisition cost is not justified by the resulting CLV.

For the Medium-Value Segment (67.76%) – The Growth Opportunity

The strategy for this large segment is to convert them from moderate-term subscribers (approximately 18.7 months) into long-term, high-value commitments.

- Implement a Targeted Value Campaign: Present a clear financial incentive for these customers to upgrade from their current month-to-month subscription to a guaranteed annual or 2-year plan. The publisher should offer a small, compelling price break (e.g., "Get two months free when you switch to an annual plan").

- This leverages the segment's existing 18.7-month loyalty. The offer serves as a "nudge" to commit fully, translating moderate-term commitment into high-value, predictable annual revenue.

- Promote Premium Feature Adoption: Market complementary services or product lines (such as premium author content or audiobook access) specifically to this segment. By increasing the perceived value of their current subscription, the publisher makes the decision to commit to a longer-term plan much easier and more compelling.

- Implementation Justification: Increasing product usage and feature adoption is a proven method for increasing perceived switching costs, making them less likely to churn when their moderate 18.7-month term is up.

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AN EMPIRICAL STUDY ON THE INFLUENCE OF DAILY SOCIAL MEDIA USAGE ON ACADEMIC PERFORMANCE AMONG STUDENTS IN COIMBATORE

Johnsi S*, Bhargavi B** & Akshaya D**

ABSTRACT

This study examines the influence of daily social media usage on sleep patterns, academic productivity, and time management among students in Coimbatore. A descriptive research design was adopted, and primary data were collected from 110 students using a structured questionnaire. The study analysed usage patterns, sleep quality, academic performance, and time management behaviour through percentage analysis, descriptive statistics, ranking methods, and chi-square testing. The findings reveal that a majority of students engage in late-night social media use, with 69.64% reporting usage after 11 PM and 82.72% acknowledging reduced sleep duration. Increased screen time is associated with distractions during study hours, reduced concentration, and inefficiencies in time management. Although most students rated their academic performance as good, the impact of social media appears indirect, primarily affecting productivity through sleep disruption, habitual checking behaviour, and procrastination. The study concludes that while social media offers communication and networking benefits, excessive and unregulated use negatively influences academic efficiency and well-being. Responsible digital habits and structured time management practices are essential to ensure balanced and productive engagement.

Keywords :
Social Media Usage, Student Behaviour, Academic Productivity, Sleep Patterns

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INTRODUCTION

In the contemporary digital era, social media has evolved from a communication tool into a dominant socio-academic ecosystem. According to global digital reports, young adults aged 18–24 represent one of the most active user groups across platforms such as Instagram, WhatsApp, Snapchat, Facebook, and Twitter. In India, the rapid expansion of affordable smartphones and high-speed internet connectivity has significantly increased daily social media engagement among college students.

While social media provides opportunities for collaboration, networking, and knowledge sharing, its excessive and unregulated use has raised academic concerns. Continuous exposure to algorithm-driven content feeds, instant notifications, and short-form videos has altered attention patterns and study behaviour. Students often experience difficulty maintaining sustained concentration due to habitual checking behaviour and digital multitasking.

Furthermore, late-night usage has become increasingly common among students. Prolonged screen exposure before bedtime may disrupt circadian rhythms and reduce sleep duration, indirectly influencing cognitive performance and academic productivity. Although several international studies have examined the relationship between social media and academic performance, localized research focusing specifically on students in Coimbatore remains limited.

Therefore, this study aims to bridge this gap by empirically examining how daily social media usage influences sleep patterns, academic productivity, and time management behaviour among students in Coimbatore.

REVIEW OF LITERATURE

Several researchers have examined the impact of social media usage on academic performance, sleep patterns, and cognitive behaviour.

Khaola (2022) found that while general social media usage did not directly reduce academic performance, collaborative behaviour through social media positively influenced learning outcomes. This suggests that the nature of usage determines its academic impact.

Yu (2025) examined the role of information overload and found that excessive exposure to digital content leads to social media fatigue and cognitive depletion, which negatively affect academic performance. The study highlighted self-control as a moderating factor.

Alwagait (2015) reported no direct linear relationship between hours spent on social media and GPA; however, time management emerged as a critical influencing factor.

Davis (2026) found a significant association between excessive social media usage and reduced academic performance ($p = 0.008$), particularly among lower-performing students.

Mgbedo (2024) observed that increased social media addiction negatively affected working memory and academic focus.

Osharive (2015) identified a significant relationship between social media addiction and academic performance using chi-square analysis.

RESEARCH METHODOLOGY

The present study adopts a descriptive research design to examine the influence of daily social media usage on academic productivity among students in Coimbatore. The descriptive approach was selected to identify usage patterns and analyse the relationship between social media behaviour and variables such as sleep quality, academic performance, study habits, procrastination, and time management.

Sources of Data

- The study utilised both primary and secondary data.
- Primary data were collected from 110 students through a structured questionnaire administered via Google Forms.
- Secondary data were obtained from academic journals, research articles, and online databases related to social media usage and academic productivity to support the literature review and theoretical framework.

Research Instrument

A structured questionnaire was developed and divided into sections covering demographic details, social media usage patterns, sleep quality, academic productivity, and time management. The instrument included multiple-choice questions, five-point Likert scale statements, ranking questions, and categorical questions suitable for statistical analysis.

Tools for Analysis

The collected data were analysed using:

- Simple Percentage Analysis to study demographic distribution and usage patterns
- Descriptive Statistics to summarise behavioural responses
- Chi-Square Test to examine associations between categorical variables such as late-night usage and sleep quality, time spent and academic performance, and time management and assignment completion

  The level of significance was fixed at 5% (= 0.05) for hypothesis testing.

Hypotheses

- H_{01}: There is no significant association between late-night social media usage and sleep quality.
- H_{02}: There is no significant association between time spent on social media and academic performance.
- H_{03}: There is no significant association between the impact of social media on time management and assignment completion.

DATA ANALYSIS AND INTERPRETATION

Table 1: Most Used Social Media Platforms and Reasons for Staying Awake at Night

Category	Factor	Mean Score	Rank
Most Used Social Media Platforms	Instagram	4.39	1
	WhatsApp	4.32	2
	LinkedIn	3.26	3
	Snapchat	2.8	4
	Telegram	2.51	5
	Twitter	1.89	6
	Facebook	1.56	7
Reasons for Staying Awake at Night	Social Media	3.67	1
	Personal Stress	3.62	2
	Watching Movies/Series	3.29	3
	Academic Work	3.27	4

Interpretation

The table shows that Instagram and WhatsApp are the most frequently used social media platforms among students. At the same time, social media is ranked as the primary reason for staying awake at night. This indicates a strong behavioural link between high platform engagement and late-night digital activity. The findings suggest that frequent use of visually engaging and instant communication platforms may contribute to extended screen time and reduced sleep duration.

Table 2: Daily Time Spent on Social Media

Hours per Day	Percentage (%)
1-2 Hours	30
3-4 Hours	45
More than 4 Hours	25

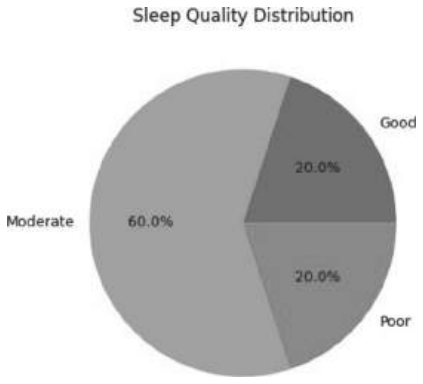

Table 3: Sleep Quality among Students

Sleep Quality	Percentage (%)
Good	20
Moderate	60
Poor	20

Interpretation

The analysis shows that 45% of students spend 3–4 hours daily on social media, while 25% spend more than four hours. A majority report moderate to poor sleep quality, indicating a relationship between extended digital engagement and sleep disturbance.

Chi-square test results ($p < 0.05$) confirm a statistically significant association between late-night social media usage and reduced sleep quality. Similarly, a significant relationship exists between time spent on social media and academic productivity.

Hypothesis	Test Used	χ^2 Value	p-value	Result
Late-night usage × Sleep Quality	Chi-square	13.2	0.001	Significant
Time Spent × Academic Performance	Chi-square	15.5	0.017	Significant
Time Management × Assignment Completion	Chi-square	24.1	<0.001	Significant

Interpretation

All three null hypotheses are rejected, indicating statistically significant associations between social media usage patterns and productivity-related outcomes.

Table 4: Impact of Social Media Usage on Key Productivity Factors

Variable	Key Observation	Percentage(%)	Inference
Late-night Usage	Students using Social media after 11 PM	69.64%	High prevalence of late-night engagement
Academic Performance	Students reporting distraction during study hours	72%	Social media affects concentration
Time Management	Students reporting social media affects time management	67%	Noticeable impact on daily scheduling
Assignment Completion	Students completing assignments only sometimes on time	46.36%	Moderate delay in academic tasks

Interpretation

The findings reveal a consistent pattern across productivity-related factors. A majority of students (69.64%) engage in late-night social media usage, and 72% report distraction during study hours. Additionally, 67% acknowledge that social media affects their time management, while 46.36% complete assignments only sometimes on time.

Overall, the results indicate that social media influences productivity indirectly through late-night usage, distraction, and poor time management rather than causing immediate academic decline.

FINDINGS AND SUGGESTIONS

Findings

1. Instagram (Mean = 4.39) and WhatsApp (Mean = 4.32) are the most frequently used social media platforms among students.
2. Social media is ranked as the primary reason for staying awake at night (Mean = 3.67), followed closely by personal stress (Mean = 3.62).
3. A majority of students (45%) spend 3–4 hours daily on social media, while 25% spend more than four hours per day.
4. Only 20% of students report good sleep quality, whereas 60% experience moderate sleep and 20% report poor sleep quality.
5. A high percentage (69.64%) of students use social media after 11 PM, indicating widespread late-night engagement.
6. About 72% of students report distractions during study hours due to social media usage.
7. Nearly 67% of students acknowledge that social media negatively affects their time management.
8. Around 46.36% of students complete assignments only sometimes on time, indicating moderate academic delay.
9. The chi-square test confirms a significant association between late-night usage and sleep quality ($\chi^2 = 13.2$, $p = 0.001$).
10. There is also a significant relationship between time spent on social media and academic performance ($\chi^2 = 15.5$, $p = 0.017$).
11. A strong association exists between time management and assignment completion ($\chi^2 = 24.1$, $p < 0.001$).
12. Overall, all null hypotheses are rejected, confirming that social media usage patterns significantly influence sleep quality and academic productivity.

Suggestions

1. Institutions should promote a "Digital Curfew Awareness Initiative", encouraging students to limit usage before bedtime to improve sleep quality.
2. Students should be encouraged to set daily screen-time limits using digital monitoring tools.
3. Workshops on sleep hygiene and the impact of blue light exposure should be conducted.
4. "No-Notification Study Hours" or device-free classroom policies may help improve academic concentration.
5. Time management training programmes and goal-setting sessions should be integrated into student development activities.
6. Awareness campaigns should focus on responsible and mindful digital engagement rather than complete restriction.

CONCLUSION

The study examines the influence of daily social media usage on sleep patterns, academic productivity, and time management among students in Coimbatore. The findings show that social media significantly affects students' daily routines, particularly through late-night usage and frequent checking behaviour. A large proportion of students reported using social media after 11 PM, which is associated with reduced sleep quality and decreased concentration. Increased time spent on social media is also linked to distraction during study hours and reduced academic focus.

Although most students rated their academic performance as good, many acknowledged that social media impacts study time, time management, and assignment completion. The study concludes that while social media provides communication and networking benefits, excessive and unregulated usage negatively influences productivity and well-being. Responsible digital habits and structured time management are essential to ensure balanced and effective use.

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A CASE STUDY ON THE IMPACT OF THE US TARIFF HIKE ON MSME MACHINERY MANUFACTURING UNITS IN COIMBATORE

Poojalakshmi S* & Maharayazh Mozhi S**

ABSTRACT

This case study examines the impact of the recent U.S. tariff hike on Coimbatore's MSME machinery manufacturing units, a sector known for its engineering expertise and strong export orientation. Coimbatore, a major hub for precision machining, foundries, pumps, and industrial machinery, has historically maintained stable trade relations with the United States. The tariff hike introduced between 2024 and 2025 disrupted this stability by increasing import costs for American buyers, resulting in reduced orders, price renegotiations, and greater competition from alternative manufacturing countries. The study analyses changes in export performance, financial pressure on MSMEs, employment adjustments, and production slowdowns triggered by the tariff shift. It further evaluates government support measures and expert insights to identify viable recovery strategies. Recommendations include market diversification, technology upgradation, supply chain strengthening, and collective policy advocacy. Overall, the study highlights the need for adaptive resilience to safeguard Coimbatore's engineering exporters in a volatile global trade environment.

Keywords :
US Tariff Hike, Coimbatore MSMEs, Machinery Manufacturing, Export Performance, Trade Impact

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INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) constitute one of the most dynamic and significant sectors within the Indian industrial ecosystem. They play an essential role in enhancing production capacity, generating employment, promoting balanced regional development, and contributing to the nation's export performance. Among the various MSME clusters across India, the machinery and engineering manufacturing units located in Coimbatore have earned a distinctive industrial identity due to their technical expertise, long manufacturing tradition, and consistent supply to both domestic and international markets. Coimbatore's reputation as the “Manchester of South India” stems from its strong foundation in precision engineering, foundry operations, pump manufacturing, textile machinery production, and industrial machining. Over the past few decades, Coimbatore's MSME machinery manufacturers have expanded their presence in global supply chains, strengthening India's overall export competitiveness.

In this context, the recent changes in U.S. trade policy particularly the tariff hikes imposed on imported engineered goods and machinery components have created significant uncertainties for Indian exporters. The United States, being one of India's most important export markets for engineering goods, has traditionally offered a stable and lucrative destination for Coimbatore-based manufacturers.

However, the sudden escalation of tariffs has not only disrupted trade equations but also created operational challenges for many units functioning on limited margins. A shift of this nature in the global trading environment directly influences the financial viability, employment stability, and long-term sustainability of MSMEs that rely heavily on predictable export demand.

This case study attempts to provide a detailed academic analysis of how these tariff hikes have impacted MSME machinery manufacturing units in Coimbatore. It follows a structured approach by examining the characteristics of Coimbatore's MSME sector, its export linkages with the U.S., the extent of disruption caused by the tariff changes, the nature of government support mechanisms, and the expert views emerging from industry associations.

The study also proposes practical recommendations for sustaining growth in a period of global trade uncertainty. By offering an integrated examination of these aspects, it aims to contribute meaningfully to the broader discourse on international trade policy and its implications for local industrial clusters.

COIMBATORE MSME MACHINERY MANUFACTURING UNITS

Coimbatore is widely recognized as one of India's most industrially vibrant districts, hosting a diverse range of manufacturing enterprises. Among these, machinery and engineering-related MSMEs form one of the largest and most productive clusters in the region. According to the Tamil Nadu Government's MSME Department and the District Industries Centre (DIC) of Coimbatore, the district houses more than fifty-five thousand MSME units. of this total, over eight thousand five hundred units specialize in engineering, machining, foundry work, fabricated components, pumps, motors, and different categories of industrial machinery. Coimbatore's machinery units are integral not only to Tamil Nadu's industrial output but also to India's overall engineering export ecosystem.

Tamil Nadu itself accounts for approximately fifteen to eighteen percent of India's total machinery and engineering production, and Coimbatore contributes nearly one-third of that share, underscoring its strategic economic relevance.

The machinery manufacturing strength of Coimbatore lies in its diversified capabilities. The district is home to units specializing in textile machinery, CNC and lathe machines, industrial pumps, agricultural and motor components, high-quality castings, toolings, and precision-engineered spare parts. These units operate with a combination of traditional craftsmanship and modern machining technologies, supported by a strong industrial culture and skilled workforce.

Coimbatore's manufacturing ecosystem has developed over several decades, supported by a stable network of raw material suppliers, casting foundries, logistics services, and engineering consultancies. A notable factor contributing to the district's export capabilities is the collective experience gained from being a long-term domestic supplier to major Indian textile mills, engineering industries, and automotive companies.

This local expertise has enabled many MSMEs to meet global standards and secure export orders from technologically advanced markets like the United States, Germany, Italy, and the United Kingdom.

Before the U.S. tariff hike, Coimbatore's machinery exporters enjoyed consistent growth in their international business. Engineering export statistics from EEPC India indicate that Tamil Nadu's engineering goods exports to the U.S. recorded positive annual growth rates ranging between eight to twelve percent during the years preceding the tariff policy change. Coimbatore's contribution to this growth was substantial, as nearly one-fifth to one-fourth of Tamil Nadu's engineering exports originated from this district.

Buyers from the U.S. preferred Coimbatore-based units for their cost competitiveness, timely delivery, skilled workmanship, and high levels of customisation in machinery components. Many exporters had long-term contracts with their American clients, ensuring stable order volumes and predictable revenue flows.

Employment generation is another critical dimension of Coimbatore's MSME machinery sector. The eight thousand five hundred-plus machinery and engineering units collectively provide employment to more than two lakh workers. This includes machinists, welders, foundry workers, assembly technicians, quality controllers, design engineers, administrative personnel, and logistics staff.

MSMEs in the region are known for offering both skilled and semi-skilled jobs, making them essential pillars of local livelihood. The continuing global demand for engineering goods ensured that many MSMEs provided steady salaries, overtime wages, and annual increments to their workers prior to the tariff hike. Apart from employment, these units benefited from export-driven growth, including expansion of production capacity, procurement of new CNC machinery, investments in quality certification, and adoption of new manufacturing technologies.

The pre-tariff environment was thus characterised by a robust export market, steady foreign exchange inflows, and stable manufacturing operations. Many units also reinvested profits to expand their facilities, adopt digital design tools, and improve energy efficiency.

Coimbatore's strong industrial foundation allowed MSMEs to operate confidently in international markets, positioning the district as one of India's key engineering export hubs. This favourable condition, however, experienced a sudden shift once the United States introduced tariff revisions impacting imported machinery and mechanical appliances.

THE U.S. TARIFF HIKE AND ITS IMPACT

The tariff changes introduced by the United States in 2024, with revisions extended into early 2025, were part of a broader protectionist approach aimed at safeguarding domestic manufacturing. Official notices from the Office of the United States Trade Representative (USTR) and publications in the U.S. Federal Register indicated increased import duties on selected categories of machinery and mechanical goods. These newly imposed tariffs affected machinery components commonly exported by Indian MSMEs, including those manufactured in Coimbatore. While the U.S. government justified the measures as necessary for strengthening its internal manufacturing sector, the sudden escalation created immediate disruptions for exporters dependent on the American market.

The most immediate impact of the tariff hike was a noticeable reduction in new and repeat orders from U.S.-based buyers. Machinery exporters in Coimbatore reported that many of their American clients requested price renegotiations, often demanding reductions of ten to fifteen percent to compensate for the increased tariff burden. In several cases, buyers temporarily postponed orders or shifted inquiries to alternative low-cost manufacturing countries such as Vietnam, Mexico, and Thailand. Negotiation cycles, which previously took one or two weeks, extended to several months as buyers evaluated the feasibility of continuing their business relationships amidst increased import costs.

Export performance trends also confirmed the adverse effects. Data examined from EEPC India and EXIM Bank revealed that engineering exports to the U.S. witnessed a decline of ten to eighteen percent during the months following the tariff implementation. Smaller MSMEs, which lack the financial flexibility of larger companies, experienced sharper declines of up to twenty-five percent. The reduction in export volumes strained the already limited cash reserves of many units. MSMEs operating on thin margins found it difficult to handle the combined pressures of falling orders, rising raw material costs, and increasing logistical expenses.

Financial losses became unavoidable for a significant number of machinery units. Many exporters reported revenue reductions ranging from fifteen to thirty percent. The cost of essential inputs such as steel, cast iron, copper, and machining consumables continued to rise during the same period, further compressing profitability. Delays in payment from international buyers became more frequent, worsening working capital shortages. MSMEs dependent on credit cycles to manage daily operations faced challenges in maintaining cash flow stability. These financial strains also hindered investment plans, forcing several units to postpone their upgradation projects or cancel orders for new industrial equipment.

Employment concerns emerged as another consequence of the tariff impact. While large-scale layoffs were generally avoided due to the long-term need for skilled labor, many MSMEs adjusted their workforce expenditure through alternate measures. Overtime wages were curtailed, recruitment of new workers was suspended, and contract laborers were temporarily released. Salary increments and bonus payments, which were common in years with strong export demand, were either delayed or withdrawn in several units. These adjustments indicated the underlying financial stress faced by exporters.

Although Coimbatore did not experience widespread permanent shutdowns, there were noticeable disruptions in production cycles. Several micro-level units temporarily halted operations due to the lack of new orders. Industry associations estimated that fifteen to twenty percent of the smallest units either closed temporarily or operated only two to three days a week to reduce operational expenses.

Capacity utilisation of many medium-sized units fell to fifty or sixty percent, affecting productivity and long-term efficiency. The tariff hike thus posed not only an economic challenge but also a structural one, underscoring the vulnerability of globally-linked MSMEs to external policy shifts.GOVERNMENT SUPPORT MEASURES

In response to challenges arising from global trade fluctuations, both the Government of India and the Tamil Nadu State Government introduced several support mechanisms aimed at stabilising the MSME sector. The Government of India offered financial relief primarily through credit and guarantee schemes. For instance, the Emergency Credit Line Guarantee Scheme (ECLGS), initially introduced during the pandemic, continued to support MSMEs facing liquidity shortages.

Many Coimbatore-based units utilised this facility to access collateral-free working capital loans. The Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) also provided collateral-free credit options, enabling smaller firms to continue operations despite reduced export revenue.

Export promotion initiatives were also strengthened through schemes such as the Remission of Duties and Taxes on Exported Products (RoDTEP), which helped compensate exporters for indirect taxes incurred during production. The Market Access Initiative Scheme supported participation in international exhibitions, which became crucial for MSMEs attempting to diversify into non-U.S. markets. Further, the Export Credit Guarantee Corporation (ECGC) insurance support helped exporters manage the risk of delayed payments or order cancellations.

On the technological front, the MSME Ministry operated technology centres that offered training, testing facilities, and machinery upgradation support. Subsidies offered under various manufacturing modernisation schemes enabled MSMEs to explore automation, improve product consistency, and reduce production costs. In addition, the Tamil Nadu Government facilitated several state-level programs such as single-window clearances, quality certification rebates, and incentives for new infrastructure investments in MSME clusters. These measures, although beneficial, often remained underutilised due to limited awareness among smaller enterprises.

EXPERT SUGGESTIONS

Expert opinions collected from EEPC India representatives, engineering faculty members, cluster- based industrial consultants, and trade analysts emphasised the need for strategic adaptation among Coimbatore's MSMEs. Many experts argued that reducing dependency on a single export destination, particularly the United States, would be essential for long-term stability. Diversification into European, Middle Eastern, and Southeast Asian markets could help spread risk and prevent sudden revenue shocks caused by unilateral tariff changes.

Several experts also underscored the importance of adopting modern manufacturing technologies such as advanced CNC machining, robotics, automated inspection systems, and digital production tracking. These technologies can significantly reduce manufacturing errors, improve cycle times, and enhance overall cost efficiency, enabling MSMEs to remain competitive even in high-tariff environments.

Furthermore, building stronger global branding for Coimbatore-made machinery was identified as a priority. Experts suggested that MSMEs should enhance their digital presence, invest in professional marketing, and participate in international B2B platforms to improve visibility among global buyers.

Industry specialists also highlighted the benefits of collaborative clusters. By establishing shared testing facilities, warehousing systems, and logistics hubs, MSMEs could reduce individual operational costs and improve access to global markets. Strengthening workforce capabilities through training programs, partnerships with engineering institutions, and skill development initiatives was also recommended. Experts noted that an upgraded skill base would not only improve product quality but also enable MSMEs to adopt new technologies more effectively.

RECOMMENDATIONS AND THEIR BENEFITS

The first recommendation emerging from this study is the need for systematic market diversification. While the U.S. market has traditionally been important, relying excessively on a single country makes MSMEs vulnerable to unpredictable policy changes. By expanding into other regions, exporters can stabilise their revenue streams and reduce financial risks. Diversification is achievable through participation in trade fairs, collaboration with export promotion councils, and targeted marketing strategies. The diversification approach helps ensure that even if one market slows down, others continue to generate orders, thereby stabilising production and employment levels.

The second recommendation concerns technological modernisation. Upgrading machinery, adopting digital monitoring systems, and integrating automation into production processes can help MSMEs reduce costs, improve accuracy, and increase overall productivity. Many government schemes offer subsidies to support such technology investments. With improved production efficiency, MSMEs can absorb price pressures and remain competitive even when operating in markets with high tariff duties.

A third recommendation involves strengthening supply chain and logistics infrastructure. By developing shared logistics facilities, optimising inventory management, and collaborating with freight forwarders, MSMEs can reduce transportation expenses and minimise delivery delays. Improved logistics efficiency enhances the reliability of exporters and increases customer satisfaction, which in turn supports business continuity.

The fourth recommendation emphasises the need for direct engagement with international buyers. MSMEs should use digital platforms, global manufacturing directories, and industry exhibitions to establish direct relationships with customers. Eliminating unnecessary intermediaries allows exporters to retain a larger share of the profit margin and respond more quickly to customer requirements. Direct communication also improves transparency, helping build long-term trust.

The final recommendation focuses on policy advocacy. By actively participating in industry associations such as EEPC India, Tamil Nadu Small and Tiny Industries Association (TANSTIA), and Coimbatore District Small Industries Association (CODISSIA), MSMEs gain collective bargaining power. Unified representation enables stronger communication with policymakers, better access to government schemes, and increased influence over policy decisions that affect the machinery manufacturing sector. As associations regularly conduct workshops, training sessions, and export orientation programs, MSMEs benefit from updated knowledge and professional networking.

CONCLUSION

The impact of the U.S. tariff hike on Coimbatore's MSME machinery manufacturing units highlights the vulnerability of globally integrated industries to external policy interventions. While the tariff changes did not result in widespread closures, they significantly affected export volumes, financial stability, and operational capacity.

Reduced orders from U.S. buyers, increased competition from other manufacturing nations, and rising production costs collectively imposed considerable pressure on MSMEs. However, the resilient industrial base of Coimbatore, supported by a skilled workforce and long- standing engineering expertise, has prevented large-scale industrial distress.

The case study demonstrates that the future growth of Coimbatore's machinery manufacturing sector will depend on strategic adjustments such as market diversification, adoption of modern technologies, supply chain strengthening, direct buyer engagement, and active participation in industry associations. Government support measures, although valuable, must be complemented by proactive initiatives from MSMEs to remain competitive in the evolving global trade environment. With the effective implementation of the recommended strategies, Coimbatore's MSMEs can overcome present challenges and continue contributing to India's engineering export growth.

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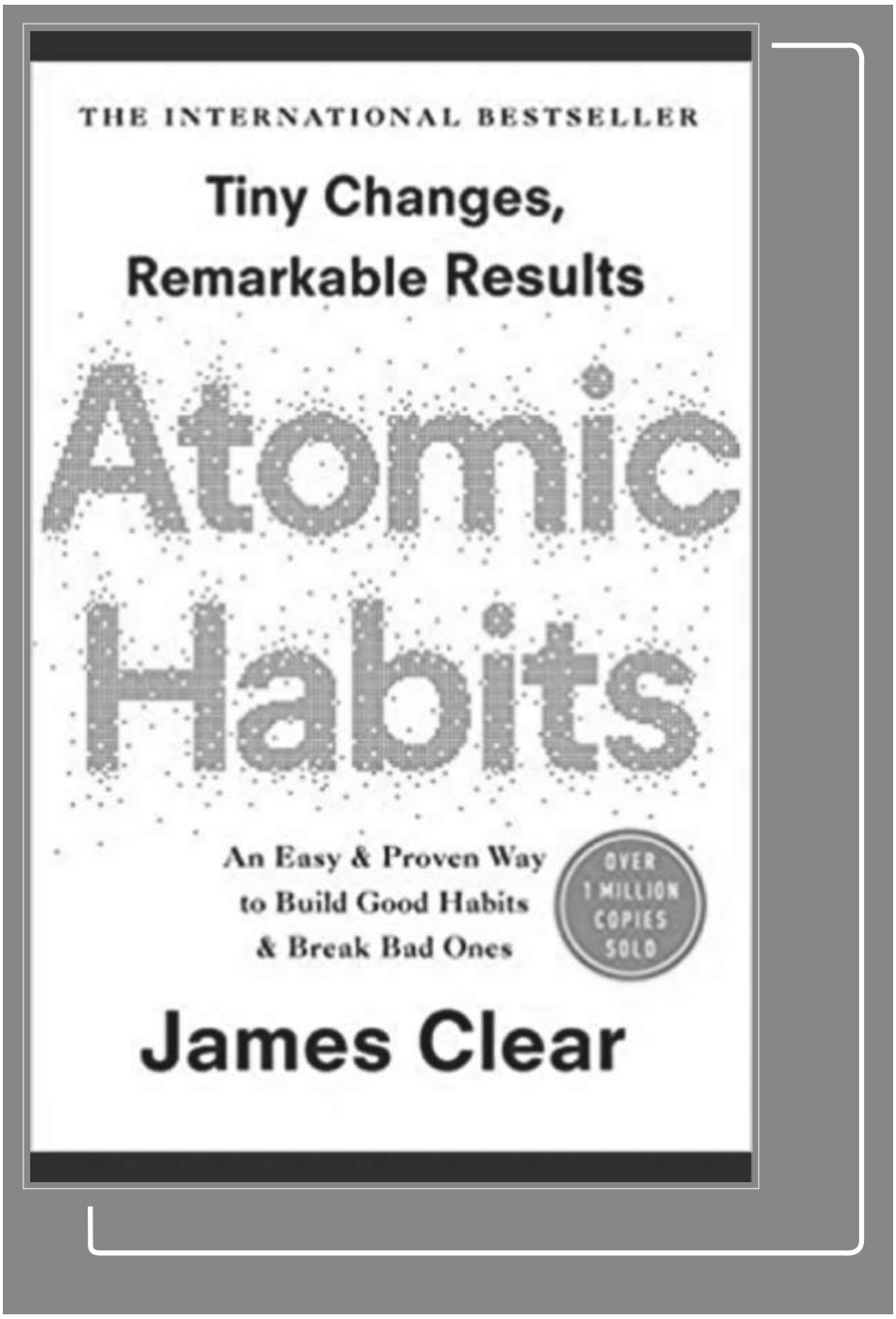
BOOK REVIEW
Atomic Habits
by James Clear

Book Reviewer: Rathi Mrinalini S R*



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Atomic Habits by James Clear is an easy-to-understand and practical book about building good habits and breaking bad ones. The book starts with the Author's life experiences of surviving a traumatic phase that he had to face in his youth. He goes on to explain how he then reached his goal, slowly but steadily, by making small changes in life and following them consistently.

The main idea of the book is that small changes, followed by consistency, can lead to big results over time. Instead of trying to change everything at once, the book encourages readers to focus on tiny improvements that are simple and manageable. These small habits may not seem important at first, but they grow in impact when repeated every day.

One of the key messages in the book is that success in whatever we do in life comes from systems, not the end goal. Goals are the targets we set for ourselves, but systems that we follow daily help in achieving these goals. By focusing on building better routines, success becomes more likely and easier to maintain.

James Clear explains how habits work through a simple habit loop: cue, craving, response, and reward. Based on this, he introduces four rules for building good habits: The habits need to be obvious, attractive, easy, and satisfying. To break bad habits, we should do the opposite. These rules help readers understand why they behave a certain way and how they can gently change their behaviour without relying too much on willpower.

The book also highlights the importance of changing your environment. Clear explains how our daily environment strongly influences our habits. For example, keeping your phone away while working or following a meal planner for cooking is a great starter for creating good habits.

Another important idea in Atomic Habits is identity-based habits. Clear explains that lasting change becomes a reality when habits match our personal identity. Instead of saying, "I want to exercise," we can think, "I am a healthy person." Every small habit then becomes a way to prove this identity to ourselves. This makes habits feel more meaningful and long-lasting.

The writing style of the book is clear, friendly, and motivating. The chapters are short and full of real-life examples, which makes the book easy to read and apply. The advice is practical and realistic, especially for people who struggle with consistency or feel overwhelmed by self-improvement.

Atomic Habits is definitely an inspiring book that guides anyone who wants to improve their life slowly but steadily. It relies on the fact that success does not come from sudden changes, but from small habits done consistently over time. The book reminds readers that even small actions matter and that lasting change is possible for everyone. It is a good read that creates a lasting impact on the reader's mind.

However, like any self-help book, all the guidance and techniques that James Clear talks about will yield results only when they are put into practice. Journaling or listing out small changes that each one of us wishes to see in our lives can make the plan for building successful habits in life a reality. Overall, Atomic Habits teaches that small, consistent habits create big results over time.

By focusing on systems, identity, and simple daily actions, lasting change becomes achievable in each one of our lives.



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