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COSTING MODELS AND EFFECTIVENESS IN SERVICE INDUSTRIES AT TECH MAHINDRA

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ABSTRACT: This Research looks into the effectiveness and application of costing models in the service sector, with a focus on Tech Mahindra, a well-known provider of IT services. Costing models are critical in service-oriented businesses because they enable strategic decision-making by monitoring, managing, and optimizing operational costs. This investigation assesses the degree to which Tech Mahindra's costing practices are consistent with its organizational goals, resource allocation, and profit analysis. It accomplishes this by examining a variety of methodologies, including activity-based costing (ABC), job costing, and service-level costs. The Research emphasizes the effectiveness of these models in improving pricing strategies, cost transparency, and operational efficiency. The findings highlight the importance of implementing tailored costing strategies in complex service environments in order to achieve long-term financial success and a competitive edge.

Keywords*: Activity-Based Costing (ABC), Service Cost Allocation, Cost Efficiency, Cost Control Techniques, Marginal Costing, Standard Costing*

I. INTRODUCTION

The efficiency of the service sector is dependent on the use of costing models, such as Job Costing, Process Costing, and Activity-Based Costing (ABC), to track costs for standardized or specialized services. These models allow for informed pricing, cost control, and process improvement by disclosing cost structures and drivers. Effective costing improves profitability, competitive positioning, and strategic planning by providing accurate financial data for decision-making.

Organizations use costing models, or structured methodologies, to determine the cost of delivering goods or services. Because outputs are frequently intangible and labor-intensive, accurate costing is critical for pricing, budgeting, and profitability analysis in the service industry. Common costing models include job costing, which tracks costs for specific projects or clients; activity-based costing (ABC), which assigns costs to activities based on resource consumption; and standard costing, which estimates expenses using predetermined benchmarks. These models help service providers understand the direct and indirect costs of their operations, such as technology, overhead, and labor, allowing them to make more sound financial and strategic decisions.

The effectiveness of these costing models has a significant impact on the service sector's efficiency. Businesses that use precise costing techniques can identify inefficiencies such as underutilized personnel, unnecessary procedures, and excessive overhead.

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For example, ABC costing enables businesses to identify and reorganize high-cost operations in order to reduce costs while maintaining service quality. Similarly, job costing ensures the monitoring of micro-level profitability by providing detailed insights into specific client engagements. Effective costing not only helps businesses stay competitive, but it also makes internal decisions easier by aligning pricing strategies with actual costs and preventing undercharging or overcharging for services.

Furthermore, integrating costing models into service sector operations improves the organization's overall efficiency and sustainability. Accurate cost data allows managers to better plan service delivery, optimize staffing, and forecast resource needs. Furthermore, these models promote accountability and transparency by linking financial results to specific projects or activities. When advanced costing techniques are used consistently over time, service businesses can benchmark their performance, implement continuous improvement, and make strategic investments in technology and training. Finally, a strong costing framework ensures long-term efficiency in service industry operations, increases profitability, and strengthens decision-making.

II. LITERATURE SURVEY

W. Calloway; M. Laurent; O. Jagannathan; and O. Martinez. (2025). This research investigates mathematical cost models used in managerial finance to generate capital cost estimates. The research assesses the efficacy of models such as the Capital Asset Pricing Model (CAPM) and the Weighted Average Cost of Capital (WACC) in strategic decision-making. It evaluates the model's long-term reliability using econometric and sensitivity analysis techniques. The effects of financial policy, market volatility, and risk factors are highlighted. The research uses case studies from a variety of industries to demonstrate the efficacy of model applications in investment evaluation and funding decisions. The results show both the model's advantages and disadvantages in real-world scenarios. Maximizing capital allocation and improving strategic financial planning are suggested. The research emphasizes the importance of accurate cost modeling in maintaining an organization's financial stability.

Serugga, J. (2024). This paper offers a thorough examination of the cost modeling methods used in off-site construction systems. It focuses on key factors that influence cost accuracy, such as labor productivity, transportation logistics, and material sourcing. The investigation compares activity-based, hybrid, and traditional parametric cost models. Digital tools and BIM (Building Information Modeling) are prioritized to improve cost estimation accuracy. The findings show that early-stage cost assessments have a significant impact on financial planning and project viability. Topics covered include data variability, model complexity, and scalability. The recommendations emphasize the importance of using flexible and open cost models in off-site construction. The research's valuable insights may be useful to legislators, contractors, and project managers. It helps prefabricated and modular construction systems improve their cost control strategies.

Khan, R. and Mehta, D. (2023). An analysis of the digital transformation of compliance costs in the service industries. According to their research, the adoption of ERP systems,

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blockchain-based auditing, and AI-enabled compliance monitoring are the primary drivers of increased cost transparency. By allowing businesses to track compliance-related expenses in real time, these technologies improve departmental accountability and reduce errors. The research discovered that using digital tools significantly reduced operational inefficiencies and the possibility of financial discrepancies during audits. Furthermore, businesses that adopted these technologies were able to generate predictive compliance cost reports, which were useful for strategic decision-making and resource optimization. Furthermore, digital compliance monitoring improved regulatory compliance while decreasing the likelihood of incurring penalties. The authors emphasized that incorporating technology into compliance procedures strengthens operational resilience and prepares businesses for regulatory changes. They determined that digital transformation in compliance costing is essential for maintaining the competitive advantage, openness, and effectiveness of today's service industries.

Malhotra, N., and Verma, P. (2022) evaluated the effectiveness of compliance costing in mid-sized service companies. They discovered that businesses with structured compliance frameworks had better liquidity management, lower financial risk, and more consistent operational procedures. The research found that by meticulously monitoring compliance costs, businesses were able to accurately forecast regulatory expenses, avoid overspending, and optimize internal resource allocation. Furthermore, audit response times were shortened and penalties were reduced for organizations that used structured costing. Furthermore, the authors discovered that employee accountability increased when operational activities were directly linked to compliance costs. The research's findings show that structured compliance costing is extremely beneficial for mid-sized service companies because it improves financial discipline, promotes long-term growth strategies, and increases operational stability.

Patil and Bansal (2021) investigated the effectiveness of compliance costing in service companies that operate in emerging markets. Their findings revealed that organizations with low or inconsistent compliance expenditures were more vulnerable to regulatory risks such as penalties and business interruptions. Structured compliance costing, on the other hand, improved financial stability by actively managing regulatory obligations and associated expenses. The research concludes that systematic compliance cost tracking improves resource allocation, audit readiness, and internal control systems. Furthermore, Patil and Bansal discovered that structured compliance costing promotes long-term strategic planning while increasing investor confidence by demonstrating regulatory accountability.

III. COSTING MODELS FOR THE SERVICE INDUSTRIES

Job Costing: Job costing is a method used by accounting firms and advertising agencies to track the costs of individual jobs or projects.

Process Costing: Process costing is used when a company provides a consistent service, such as postal delivery or credit card services, and records expenses at each stage of the process.

Activity-Based Costing (ABC): Activity-Based Costing (ABC) is a more advanced model in which expenses are allocated to specific activities rather than just goods or services. It entails the placement of resources, their assignment to tasks, and the subsequent allocation of those tasks' costs to the final product (service).

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Hybrid Costing: Hybrid costing is a method that combines elements of job and process costing to account for the complexities and diversity of specific service businesses.

IV. FUNDAMENTAL STEPS OF BUILDING A COST MODEL

A well-constructed cost model makes budgeting, strategic planning, and decision-making easier because it provides a comprehensive and precise representation of all expenses. The steps for developing a successful cost model are as follows:

Define the Scope and Objectives

The first step in developing a cost model is to define its objectives and goals precisely. This first step ensures that the model fulfills its intended purpose, whether it is used for pricing, budgeting, or identifying cost-cutting opportunities. The amount of expenses that must be included, as determined by a clearly defined scope, influences the model's complexity and level of detail. Businesses can customize the cost model to provide relevant insights that aid in strategic decision-making and operational planning.

Gather and Analyze Data

This phase entails gathering data from a wide range of internal and external sources, including financial records, invoices, supplier quotes, and contracts. It is critical to ensure that the data is both accurate and current, as the quality of the input data has a significant impact on the ability to create a refined model with reliable results.

Segment Costs and Analyze Cost Drivers

Costs are divided into logical categories such as direct, indirect, fixed, variable, and capital costs, which simplifies analysis while also necessitating the development of a rational and uniform distribution strategy. This step is critical for identifying specific areas where cost savings can be realized and understanding the behavior of various cost components in a variety of operational scenarios.

Simultaneously, understanding the variables that influence your organization's expenditures is required for the creation of an effective model. This process entails identifying and assessing the primary factors influencing expenses, such as operational effectiveness, labor and material costs, and market conditions. Understanding these factors allows for a more sophisticated approach to cost control, as well as the identification of opportunities to improve operations.

Build the Cost Model

The first steps in developing a cost model are to create a structured framework, which is typically accomplished using spreadsheet software or specialized modeling tools, and then

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enter the collected data. The data and analysis gathered during this stage are used to create a comprehensive model that depicts the relationships between cost drivers and costs. It is a systematic process that lays the groundwork for insightful business analysis and accurate cost forecasting.

Validate and Refine the Model

Validation is a critical step in ensuring the model's dependability and accuracy. It entails comparing the model's results to actual historical data and making any necessary adjustments based on these findings. This step tests the model's computations and underlying assumptions to improve its predictions. Continuous improvement and validation against actual data help to increase the model's credibility and utility as a reliable decision-making tool.

Implement and Use the Model

Once validated, the model can be integrated into your organization's decision-making processes. This phase of implementation is critical because it converts the model's theoretical components into actionable insights that have a direct impact on the company's profitability. Monitor the model's performance to ensure that it remains accurate and relevant.

Knowledge Transfer and Understanding

Document the model's structure, data sources, assumptions, computations, and results interpretation in detail so that it can be easily understood and implemented throughout the organization. This is essential when teaching team members how to use, interpret, and update the model.

Continuous Improvement

The final stage entails creating systems that will collect feedback from users throughout the organization on the model's performance. Collecting feedback and conducting regular reviews in response to changing circumstances or new business objectives ensures that the model remains accurate and useful.

By following these procedures, organizations can ensure that their cost models are precise, comprehensive, and useful in aiding strategic decisions.

V. DATA ANALYSIS AND INTERPRETATION

COST OF COMPLIANCE PER SERVICE UNIT (CCSU)

$$\text{Formula: } CCSU = \frac{\text{Compliance Expenditure (₹)}}{\text{Number of Service Units}}$$

Assumptions: Revenue multiplied by ten serves as a proxy for service units. The cost of compliance as shown in the CEI table. The results are presented as ₹ per unit.

FY	Compliance Cost (₹ Cr)	Service Units (units)	CCSU (₹ per unit)
2020-2021	197.08	3,86,434	5,100
2021-2022	272.28	4,57,611	5,950
2022-2023	415.05	5,42,552	7,650
2023-2024	449.84	5,29,229	8,500
2024-2025	503.52	5,38,523	9,350

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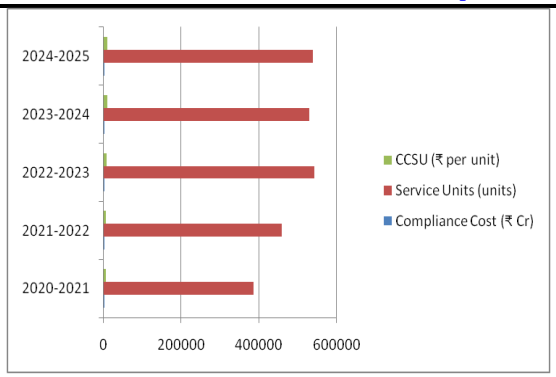


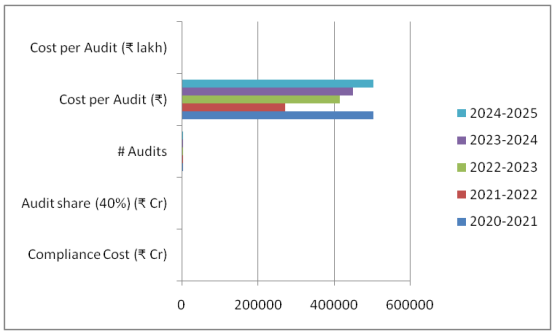
INTERPRETATION: Compliance costs per service unit (CCSU) have steadily increased from ₹5,100 in FY 2021 to ₹9,350 in FY 2025, reflecting the increasing costs associated with service delivery. Service units increased from 3,86,434 to 5,38,523, but compliance costs grew more quickly, indicating higher operational and regulatory overheads.

ACTIVITY-BASED COSTING (ABC) — AUDIT / REPORTING COST PER ACTIVITY

$$\text{Formula: Cost per Audit} = \frac{(\text{Compliance Cost} \times \text{Audit share})}{\text{Number of Audits}}$$

Assumptions: Assumptions include 40% of compliance costs and 4,000 audits and reports. The values are denoted in lakhs, where one lakh equals 100,000 ₹.

FY	Compliance Cost (₹ Cr)	Audit share (40%) (₹ Cr)	# Audits	Cost per Audit (₹)	Cost per Audit (₹ lakh)
2020-2021	197.08	78.83	4,000	5,03,500	5.03
2021-2022	272.28	108.91	4,000	2,72,270	2.72
2022-2023	415.05	166.02	4,000	4,15,050	4.15
2023-2024	449.84	179.94	4,000	4,49,840	4.5
2024-2025	503.52	201.41	4,000	5,03,520	5.04



INTERPRETATION: Audit costs increased from ₹5.03 lakh per audit in FY 2021 to ₹5.04 lakh in FY 2025, then decreased to ₹2.72 lakh in FY 2022 before increasing again. This suggests that the cost per audit increased, despite the fact that the number of audits remained constant at 4,000. Instead, the proportion of compliance costs devoted to audits increased.

COMPLIANCE ROI (RETURN ON COMPLIANCE INVESTMENT)

$$\text{Formula: } ROI = \frac{\text{Benefits from Compliance}}{\text{Compliance Costs}}$$

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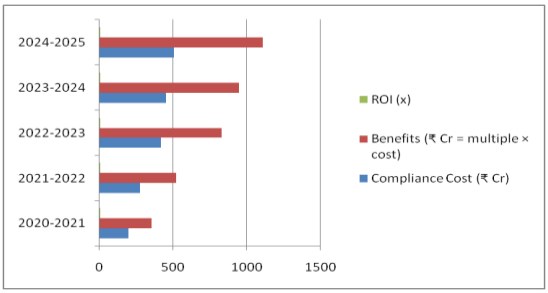
Assumptions: Benefits (quantified) are assumed to be multiples of compliance costs each year (1.8, 1.9, 2.0, 2.1, and 2.2). (The cost of compliance is multiplied by the quantity of benefits.)

FY	Compliance Cost (₹ Cr)	Benefits (₹ Cr = multiple × cost)	ROI (x)
2020-2021	197.08	354.74	1.8
2021-2022	272.28	517.34	1.9
2022-2023	415.05	830.1	2
2023-2024	449.84	944.66	2.1
2024-2025	503.52	1,107.74	2.2



INTERPRETATION: Compliance investments yielded a steady increase in ROI, from 1.8x in FY 2021 (₹197.08 Cr cost, ₹354.74 Cr benefits) to 2.2x in FY 2025 (₹503.52 Cr cost, ₹1,107.74 Cr benefits), indicating that every rupee spent on compliance produced increasing returns over time.

VI. CONCLUSION

In conclusion, in order to optimize operational efficiency and profitability, service industries must implement efficient costing models. In contrast to manufacturing, services frequently involve high labor intensity, variable workloads, and intangible outputs, making precise cost allocation critical. Activity-Based Costing, Time-Driven ABC, Job Costing, and Process Costing are all models for determining resource utilization, project profitability, and customer margins. When combined with standard costing, variable costing, and modern automation tools, these methodologies help businesses identify inefficiencies, optimize resource allocation, and make sound pricing and strategic decisions.

Finally, selecting and continuously improving the appropriate costing model ensures that service companies can improve transparency, manage expenses, and align their operations with larger business objectives, resulting in long-term growth and a competitive advantage.

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