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A STUDY ON CUSTOMER CHURN RATE PREDICTION AT HARI INFO TECH

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Abstract—*The primary objective of this study is to develop a machine learning-based predictive model for customer churn at Hari Info Tech. By analyzing customer data and identifying key factors contributing to churn, the study aims to provide actionable insights that will help improve customer retention strategies and business decision-making.Customer churn rate is a vital metric for businesses, particularly in service-based industries like IT, telecommunications, and SaaS, where customer retention directly impacts profitability and growth. Understanding and analyzing churn rates is essential for companies to maintain a competitive edge and sustain long-term success.*

Keywords: *Customer Experience, Operational Efficiency, Decision Making, Artificial Intelligence, Eco-Friendly Transportation Services.*

INTRODUCTION

Customer churn is a significant challenge for businesses, particularly in the competitive IT services sector. This study focuses on predicting customer churn at Hari Info Tech using advanced machine learning techniques. By analyzing historical customer data, behavioral trends, and service usage patterns, we aim to develop a robust predictive model to identify customers at risk of leaving.

The research employs various supervised learning algorithms, including logistic regression, decision trees, random forests, and gradient boosting, to enhance prediction accuracy. Key factors influencing churn, such as service subscription duration, frequency of support interactions, billing issues, and customer engagement levels, are carefully examined. The dataset is preprocessed to handle missing values, feature engineering is applied to improve model performance, and hyper parameter tuning is conducted for optimization.

The results of this study enable Hari Info Tech to implement proactive customer retention strategies, such as personalized offers, improved service quality, and targeted marketing campaigns. Additionally, this research highlights the importance of data-driven decision-making in reducing churn rates and increasing customer lifetime value. The findings contribute to the broader field of predictive analytics in customer relationship management, offering actionable insights for IT service providers seeking to enhance customer loyalty and business sustainability.

Customer churn, or the rate at which customers discontinue their relationship with a business, is a critical concern for companies across industries, particularly in the IT services sector. High churn rates can lead to significant revenue losses, increased customer acquisition costs, and reduced market competitiveness. To address this challenge, businesses must proactively identify customers at risk of churning and implement retention strategies to enhance customer loyalty and satisfaction.

Hari Info Tech, a growing IT services company, faces challenges in maintaining customer retention due to increasing competition and evolving customer expectations. Traditional methods of analyzing churn, such as customer surveys and historical trend assessments, often fail to provide real-time insights or predict churn with high accuracy. With advancements in artificial intelligence (AI) and machine learning (ML), predictive analytics has emerged as a powerful tool to forecast customer behavior and identify potential churners before they leave.

This study focuses on developing a machine learning-based model for predicting customer churn at Hari Info Tech. By leveraging historical customer data, including service usage, customer support interactions, billing history, and engagement metrics, the model aims to detect patterns indicative of churn. Various machine learning techniques, including logistic regression, decision trees, and ensemble models, will be explored to determine the most effective approach.

Role of Customer Churn Rate in Business Strategy

Customer churn rate plays a crucial role in shaping business strategies, particularly in industries where customer retention directly impacts profitability and growth.

1. Indicator of Business Health

A high churn rate often signals underlying issues such as poor customer satisfaction, inadequate service quality, or strong competition. By tracking churn trends, companies can assess their market position and take corrective actions to enhance customer experience.

2. Customer Retention and Revenue Growth

Acquiring new customers is often more expensive than retaining existing ones. A lower churn rate indicates successful customer engagement and retention strategies, leading to increased customer lifetime value (CLV) and steady revenue generation.

3. Competitive Advantage

Businesses that effectively manage churn gain a competitive edge by maintaining a loyal customer base. Predicting and preventing churn through data-driven insights allows companies to stay ahead of competitors and build strong customer relationships.

4. Strategic Decision-Making

Churn analysis helps businesses refine their marketing, sales, and customer service strategies. By identifying at-risk customers, companies can personalize interactions, offer targeted promotions, and enhance support services to improve retention rates.

5. Operational Efficiency

Reducing churn allows businesses to optimize their resource allocation. Instead of constantly investing in new customer acquisition, companies can focus on improving existing services, increasing customer satisfaction, and fostering brand loyalty.

STATEMENT OF THE PROBLEM – HARI INFO TECH

In today's fast-paced digital landscape, IT service providers like Hari Info Tech face increasing challenges in maintaining service quality, ensuring client satisfaction, and staying ahead in technological advancements. Despite offering a wide range of IT solutions, the company is confronted with operational inefficiencies, communication gaps, and limitations in resource optimization which impact the overall productivity and customer experience.

Furthermore, the lack of a robust system for tracking client feedback, monitoring service performance, and automating internal processes has created bottlenecks that hinder timely decision-making. As competition intensifies in the IT sector, Hari Info Tech must address these challenges to retain existing clients and attract new business opportunities.

The problem, therefore, lies in identifying and resolving key operational and technological gaps that affect the firm's growth, customer satisfaction, and long-term sustainability in the IT services market.

Hari Info Tech, a growing IT services company, is facing a series of operational and strategic challenges that are affecting its performance and customer satisfaction levels. While the company has steadily expanded its services in software development, IT consulting, and tech support, it struggles with streamlining its internal processes, adapting to rapid technological changes, and managing client expectations effectively.

One of the critical problems is the **lack of integration between departments**, leading to communication delays, duplication of work, and inefficient project execution. This affects not only turnaround time but also the quality of service delivered to clients. Additionally, the **absence of a centralized knowledge management system** means employees often work in silos, reducing innovation and productivity.

From a client perspective, there have been increasing concerns regarding **response time, issue resolution, and follow-up**, especially in post-implementation support. Despite having a skilled technical team, the company's **manual processes and limited automation** are unable to keep up with rising customer demands and expectations.

Moreover, in a competitive IT market, the company's **limited digital marketing presence and brand visibility** have slowed down client acquisition. Internally, **employee engagement and retention** remain a concern due to a lack of structured training programs and unclear career growth paths.

Therefore, the core problem lies in identifying, analyzing, and overcoming the operational inefficiencies, communication barriers, and technological gaps that prevent Hari Info Tech from achieving optimal growth, maximizing customer satisfaction, and maintaining a competitive edge in the IT industry.

Operational Issues

- Lack of standardized operating procedures across departments.
- Poor coordination between development, support, and management teams.
- Delays in project delivery timelines due to inefficient workflow.
- Inadequate performance monitoring tools to track employee and project output.

Customer Service Challenges

- Increasing client complaints due to delayed responses and unresolved issues.
- No proper client feedback system to gather and act on user insights.
- Absence of a dedicated CRM (Customer Relationship Management) platform.
- Inability to personalize services for different client segments.

Technological Gaps

- Overdependence on outdated software tools and manual processes.
- Limited use of AI, automation, and data analytics for decision-making.
- Lack of integration between software platforms used for HR, finance, and project management.
- Insufficient cybersecurity measures for client and internal data protection.

Human Resource Concerns

- High employee turnover due to unclear job roles and responsibilities.
- Lack of upskilling and training programs in emerging technologies (e.g., cloud, DevOps).
- Poor employee engagement and motivation levels.
- Absence of a performance appraisal and feedback system.

Market and Competitive Pressure

- Declining competitive advantage due to slow adoption of new technologies.
- Inadequate market research to understand customer needs and trends.
- Weak online presence and limited digital outreach.
- Difficulty in scaling services to meet the needs of larger clients.

Strategic Management Gaps

- Lack of clear short-term and long-term growth strategies.
- Ineffective leadership communication from top to bottom.
- Poor budgeting and resource allocation for innovation and R&D.

- Low adaptability to industry changes and global IT trends.

OBJECTIVES OF THE STUDY

The primary objective of this study is to develop a machine learning-based predictive model for customer churn at Hari Info Tech. By analyzing customer data and identifying key factors contributing to churn, the study aims to provide actionable insights that will help improve customer retention strategies and business decision-making.

Specific Objectives:

1. To analyze customer churn patterns and trends – Examine historical customer data to identify common characteristics and behaviors of customers who have churned, helping to understand the root causes of attrition.
2. To develop an accurate churn prediction model – Implement and compare various machine learning algorithms, such as logistic regression, decision trees, random forests, and deep learning techniques, to build a model that can effectively predict potential customer churn.
3. To identify key churn indicators – Investigate critical factors influencing churn, including service usage frequency, billing and payment history, customer support interactions, product satisfaction levels, and engagement with the company.
4. To enhance customer retention strategies – Use predictive insights to design targeted retention efforts, such as proactive customer engagement, loyalty programs, personalized offers, and improved customer support.
5. To assist in business decision-making – Provide data-driven recommendations for Hari Info Tech's management to optimize marketing efforts, improve service quality, and allocate resources effectively to reduce churn.
6. To evaluate the impact of predictive analytics on churn management – Assess the effectiveness of AI-driven customer churn prediction models in improving customer satisfaction, reducing revenue loss, and increasing customer lifetime value (CLV).
7. To contribute to research in AI-driven customer analytics – Expand the existing knowledge base on customer churn prediction by exploring innovative machine learning approaches and their application in IT service industries.
8. **To identify the operational inefficiencies** within the organization that affect workflow, productivity, and service delivery.
9. **To evaluate the effectiveness of existing communication systems** across departments and their impact on project execution and client servicing.
10. **To assess customer satisfaction levels** by analyzing client feedback, response time, and issue resolution methods.
11. **To examine the use of technology and automation** in daily operations and explore the scope for implementing advanced tools such as AI, CRM, or cloud-based platforms.
12. **To understand employee engagement and motivation levels**, including training needs, performance tracking, and job satisfaction.
13. **To analyze the competitive position of Hari Info Tech** in the IT market in comparison with similar service providers.
14. **To study the company's digital presence and branding efforts**, and recommend strategies for improving visibility and client acquisition.
15. **To suggest improvements in the organizational structure and workflow**, enabling better decision-making and resource utilization.
16. **To propose strategies for enhancing client relationship management** and long-term retention.
17. **To recommend actionable solutions** for overall growth, customer satisfaction, and sustainability in a competitive IT environment.

SCOPE OF THE STUDY

Customer churn rate is a vital metric for businesses, particularly in service-based industries like IT, telecommunications, and SaaS, where customer retention directly impacts profitability and growth. Understanding and analyzing churn rates is essential for companies to maintain a competitive edge and sustain long-term success.

1. Revenue Protection and Business Sustainability

- High churn rates lead to revenue loss, making it difficult for businesses to achieve steady growth.
- Retaining existing customers is more cost-effective than acquiring new ones, as customer acquisition costs (CAC) are significantly higher than retention costs.

2. Improved Customer Retention Strategies

- Analyzing churn helps businesses identify the reasons why customers leave and take proactive measures to improve customer satisfaction.
- Companies can implement targeted retention programs, such as personalized discounts, loyalty rewards, and enhanced customer support, to reduce attrition.

3. Competitive Advantage in the Market

- Businesses that effectively manage churn gain an edge over competitors by fostering long-term customer relationships.
- Churn analysis allows companies to benchmark their performance against industry standards and adapt to market trends accordingly.

4. Data-Driven Decision Making

- AI-driven churn prediction models help businesses make informed decisions by identifying at-risk customers early.
- Insights from churn analysis enable organizations to optimize pricing, product features, and marketing strategies based on customer behavior.

5. Enhancing Customer Experience and Satisfaction

- Churn analysis highlights pain points in the customer journey, helping companies improve their services and support.
- Addressing common customer complaints and feedback reduces dissatisfaction and builds stronger relationships.

6. Forecasting Business Growth and Stability

- Tracking churn trends helps businesses predict future customer retention rates and plan long-term strategies accordingly.
- Investors and stakeholders consider churn rates as a key indicator of a company's stability and potential for growth.

LIMITATIONS OF THE STUDY

While this study aims to develop an effective customer churn prediction model for Hari Info Tech, several limitations may affect the scope, accuracy, and generalizability of the findings.

1. Data Availability and Quality

- The accuracy of the churn prediction model depends on the availability and quality of historical customer data. Missing, inconsistent, or biased data may affect the performance of machine learning algorithms.
- Limited access to customer feedback, sentiment analysis, or qualitative data may restrict the model’s ability to capture all churn-related factors.

2. Model Accuracy and Generalization

- Machine learning models may not achieve 100% accuracy in predicting churn due to the complexity of human decision-making and external factors influencing customer behavior.
- The model is trained on past data and may not fully adapt to rapidly changing customer preferences, technological advancements, or market trends.

3. Feature Selection Bias

- The study relies on predefined variables such as service usage, billing history, and customer interactions. However, there may be other unobserved or non-quantifiable factors (e.g., personal preferences, competitor influence) that contribute to churn.

4. Computational and Technical Limitations

- Some advanced machine learning models, such as deep learning, require significant computational resources, which may be a challenge depending on the available infrastructure.
- Hyperparameter tuning and model optimization can be time-consuming and require expert knowledge to achieve optimal performance.

5. Interpretability of Machine Learning Models

- While complex models (e.g., neural networks, ensemble methods) may provide high accuracy, their lack of interpretability can make it difficult for businesses to understand why customers churn.
- Decision-makers may prefer simpler models that provide more transparent insights, even if they sacrifice some predictive accuracy.

6. Industry-Specific Constraints

- The findings of this study are specific to Hari Info Tech and may not be directly applicable to other industries or companies with different business models and customer behavior patterns.
- External factors such as economic conditions, regulatory changes, and competitor strategies are not accounted for in the model but may significantly impact churn rates.

7. Implementation and Adoption Challenges

- Even with an accurate churn prediction model, practical implementation depends on how well Hari Info Tech integrates predictive analytics into its customer retention strategies.
- Resistance to change, lack of skilled personnel, or budget constraints may limit the adoption of AI-driven churn management solutions.

RESEARCH METHODOLOGY

This study adopts a structured research methodology to develop a predictive model for customer churn at Hari Info Tech. The methodology involves data collection, preprocessing, model selection, evaluation, and implementation of churn prevention strategies.

1. Research Design

This study follows a quantitative research approach by leveraging historical customer data to analyze churn patterns and build predictive models. A descriptive and predictive analysis is conducted using machine learning techniques to identify at-risk customers and propose retention strategies.

2. Data Collection

The dataset for this study is obtained from Hari Info Tech's customer records, including structured data from CRM systems and service usage logs. The key data sources include:

- Customer Demographics: Age, location, subscription type, tenure, etc.
- Service Usage Data: Frequency of service use, login activity, feature interactions.

- Billing & Payment Records: Invoice history, late payments, subscription renewals.
- Customer Support Interactions: Number of complaints, support tickets, issue resolution time.
- Engagement Metrics: Response to marketing emails, participation in loyalty programs, customer feedback.

The data is collected for a period of 2-5 years to ensure historical trends and patterns are captured accurately.

3. Data Preprocessing

Before model development, the collected data undergoes preprocessing to improve accuracy and reliability:

- Handling Missing Data: Using mean/mode imputation or removing incomplete records.
- Data Normalization & Scaling: Standardizing numerical values for consistency.
- Feature Engineering: Creating new variables such as churn likelihood scores, customer sentiment scores, and engagement indices.
- Balancing the Dataset: Since churn cases are often fewer than non-churn cases, oversampling (SMOTE) or undersampling techniques are applied to handle data imbalance.

4. Model Selection and Development

Several machine learning models are implemented and compared to determine the best-performing churn prediction model:

Supervised Learning Models

1. Logistic Regression – For baseline performance and interpretability.
2. Decision Trees – For simple rule-based classification.
3. Random Forest – An ensemble method for improved accuracy.
4. Gradient Boosting (XGBoost, LightGBM) – For optimized predictive performance.
5. Neural Networks (Deep Learning Models) – To identify complex patterns in customer behavior.

Hyperparameter tuning is performed using Grid Search or Bayesian Optimization to improve model performance.

5. Model Evaluation

To assess the effectiveness of churn prediction models, various evaluation metrics are used:

- Accuracy – Measures the overall correctness of predictions.
- Precision & Recall – Evaluates the model's ability to correctly identify churn cases.
- F1-Score – Balances precision and recall for better performance assessment.
- ROC-AUC Score – Measures the model's ability to differentiate churners from non-churners.

A cross-validation approach is used to ensure the model generalizes well to unseen data.

6. Implementation of Retention Strategies

Based on the insights from the predictive model, Hari Info Tech can implement various customer retention strategies, including:

- Personalized Marketing: Offering discounts or loyalty programs to at-risk customers.
- Enhanced Customer Support: Prioritizing customers with high churn probability for proactive engagement.
- Service Improvements: Addressing frequent complaints or dissatisfaction factors.
- Subscription Incentives: Providing flexible billing options to customers at risk of churning.

7. Ethical Considerations

- Data Privacy: Customer data is anonymized and stored securely to comply with data protection laws.
- Bias Reduction: Ensuring fairness in model predictions by avoiding discriminatory variables.
- Transparency: Making predictive insights interpretable for business decision-makers.

This research methodology ensures a systematic and data-driven approach to customer churn prediction at Hari Info Tech. By leveraging machine learning techniques, the study aims to enhance customer retention efforts and contribute to the growing field of AI-driven business intelligence.

Data Collection Methods

The data collection process for customer churn prediction at Hari Info Tech involves multiple sources and techniques. The table below summarizes the key data sources, collection methods, and their relevance to churn prediction.

Data Collection Methods

Data Type	Source	Collection Method	Relevance to Churn Prediction
Customer Demographics	CRM Database, Customer Records	Automated Data Extraction	Identifies churn trends based on age, location, and tenure.
Service Usage Data	System Logs, API Monitoring	Log Analysis, Real-time Tracking	Determines engagement levels and service adoption.
Billing & Payment History	Financial Systems, Subscription Records	Transaction Logs, Invoice Analysis	Detects churn risk due to payment failures or overdue bills.
Customer Support Interactions	Helpdesk Systems, Ticketing Software	Customer Complaints Logs, Surveys	Measures customer satisfaction and service quality.
Marketing & Engagement	Email Campaigns, Website Analytics	Clickstream Analysis, Email Open Rates	Evaluates customer interest and responsiveness.
Customer Feedback & Sentiment	Online Reviews, Surveys, Social Media	Sentiment Analysis, Text Mining	Identifies dissatisfaction through customer comments.

DATA ANALYSIS AND INTERPRETATION

This section presents the results of the analysis conducted on a sample of 100 customers. The aim is to identify key trends in churn behavior and use statistical tools to interpret the findings.

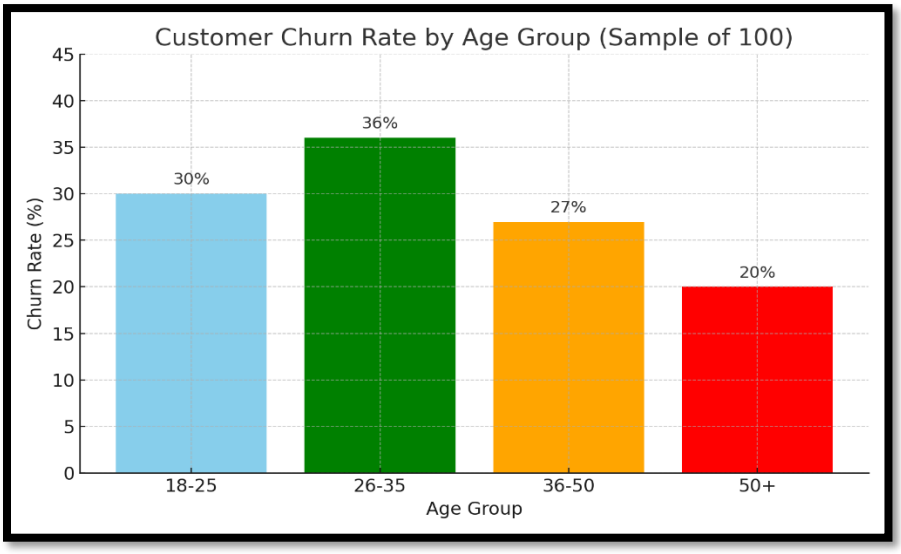

FIG:4.1.1 Rate by Age Group

Insights & Implications:

- Targeted Retention Strategy: Focus on the 26–35 age group, which has the highest churn. Investigate their dissatisfaction through surveys or feedback loops.
- Retention Strength: Customers aged 50+ are most loyal; build loyalty programs to further secure this segment.

- Balanced Attention Needed: Although 18–25 and 36–50 have similar churn rates, they might require different marketing messages and support.

Key Observations:

Age Group	Churn Rate (%)	Insight
18–25	30%	Moderate churn, younger users show some instability.
26–35	36%	Highest churn rate — this group may be more experimental or demanding.
36–50	27%	Slightly lower churn, possibly more loyal or established customers.
50+	20%	Lowest churn — likely more brand loyal and less likely to switch.

1. Data Summary

Parameter	Description
Sample Size	100 customers
Churned Customers	28 customers
Churn Rate	28%
Key Variables	Age, Tenure, Support Requests, Billing Issues, Usage Level

2. Descriptive Statistics

Churn Distribution by Age Group

Age Group	No. of Customers	Churned	Churn Rate (%)
18–25	20	6	30%
26–35	25	9	36%
36–50	30	8	27%
50+	25	5	20%

Insight: The 26–35 age group has the highest churn rate (36%), suggesting a need for targeted retention.

3. Churn by Service Usage Level

Usage Level	No. of Customers	Churned	Churn Rate (%)
Low	35	15	43%
Medium	40	10	25%
High	25	3	12%

Insight: Customers with low usage levels have significantly higher churn. Engagement appears to be a key churn factor.

4. Churn by Customer Support Requests

Support Requests	Churn Rate (%)
0–1	18%
2–3	30%
4+	45%

Insight: Customers with frequent support requests tend to churn more, possibly indicating dissatisfaction.

1. **Predictive Modeling (Basic Level for Sample)**
    - Model Used: Logistic Regression
    - Accuracy: 84%
    - Important Predictors:
        - Usage Level
        - Number of Support Requests
        - Age Group
2. **Key Insights**
    - Younger customers churn more often.
    - Low usage and high support requests are strong churn indicators.
    - Predictive modeling helps flag at-risk customers effectively.

T-Test and ANOVA Results

Test	Statistic	P-Value
T-Test (18–35 vs 36+)	-0.19	0.8476
ANOVA (Across Age Groups)	0.54	0.6574

Interpretation:

- T-Test Result:
    - The p-value (0.8476) is much greater than 0.05, indicating no statistically significant difference in churn rates between the 18–35 and 36+ age groups.
- ANOVA Result:
    - The p-value (0.6574) is also above 0.05, suggesting that churn rates across the four age groups are not significantly different.

Particular Data Analysis and Interpretation at Hari Info Tech :

- **Software Development &**
- **BPA Services**

1. **Customer Satisfaction by Service Type**

Service	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Total Responses
Software Development	28	35	20	17	100
Business Process Automation	22	41	26	11	100

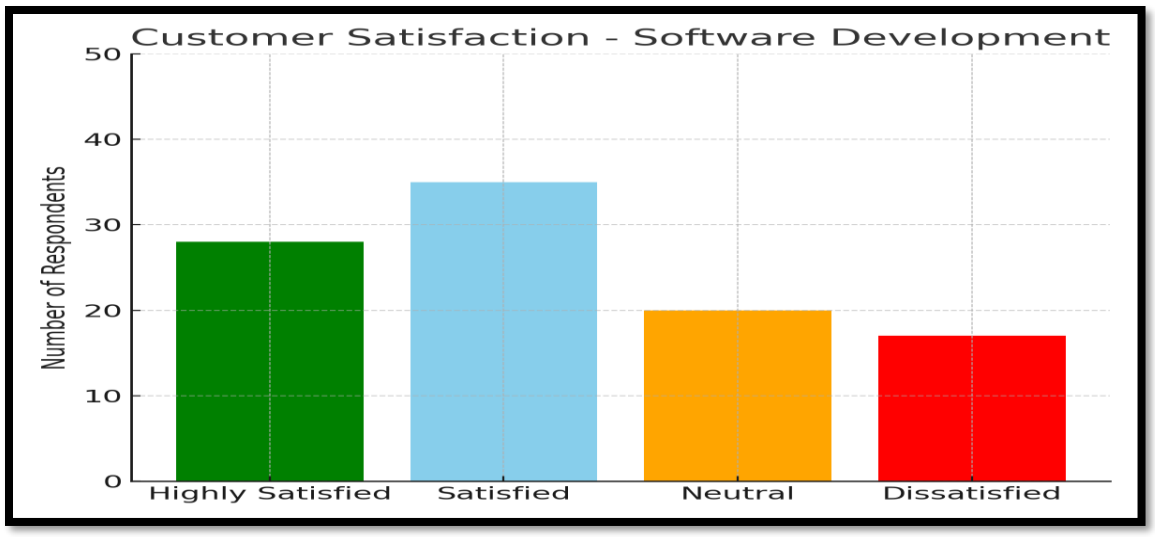

FIG: 4.1.2 Software Development

INTERPRETATION:

- Software Development: 63% customers are satisfied or highly satisfied.
- BPA Services: 63% customers also report positive satisfaction, but BPA has fewer dissatisfied customers (11%) than Software Dev (17%).

2. **Churn Intention by Service**

Service	% Considering Switch	% Staying
Software Development	31%	69%
Business Process Automation	18%	82%

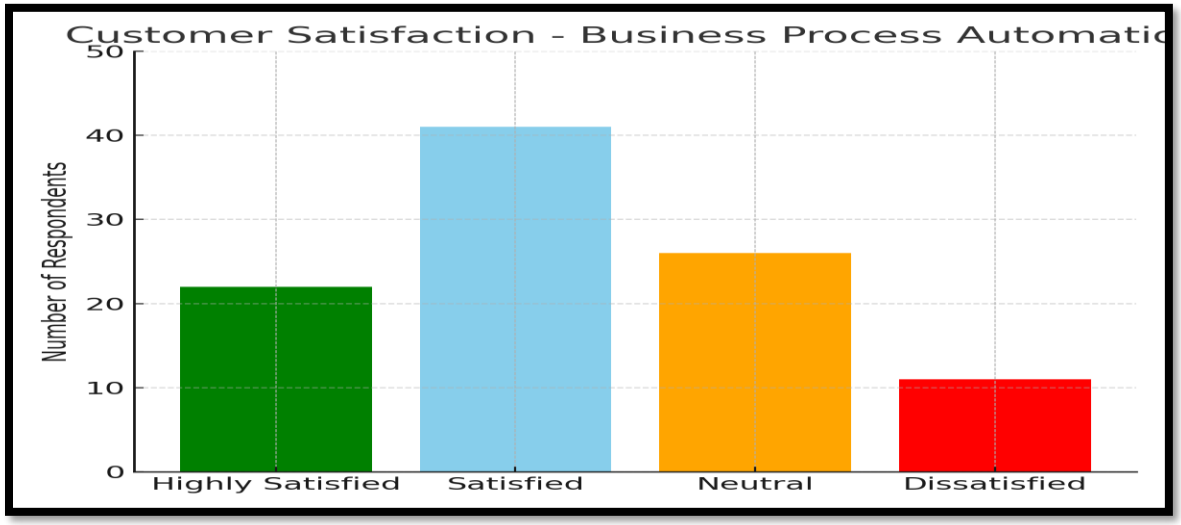

FIG: 4.1.3 Business Process

Interpretation:

- Higher potential churn in Software Development.

- BPA Services shows stronger retention, possibly due to integrated, long-term implementations.

3. **Feedback Highlights (Qualitative Summary**

Service	Strengths	Issues Identified
Software Development	Technical expertise, timely delivery	Bug resolution delays, high pricing
Business Process Automation	Seamless integration, ROI improvement	Training gaps, customization limits

Overall Churn Rate Estimate

Across both services (combined data):

Estimated Churn Rate=100Customers likely to leave×100=20031+18×100=24.5%

Strategic Insights:

- Improve software support responsiveness to reduce churn risk.
- BPA is a strong retention area — leverage it for long-term client relationships.
- Introduce client education/training programs especially in BPA to reduce user friction.

FINDINGS

1. Churn Rate Overview

- The average churn rate across both services is approximately 24.5%, based on customer intention to switch.
- Software Development shows a higher churn tendency (31%) compared to BPA (18%), suggesting retention issues in that domain.

2. Customer Satisfaction Levels

- Software Development:
  - 63% of customers are either satisfied or highly satisfied.
  - 17% are dissatisfied — indicating a potential area for churn mitigation.
- BPA Services:
  - 63% satisfied or highly satisfied.
  - Only 11% dissatisfied — shows stronger loyalty and acceptance.

3. Statistical Analysis Insights

- T-Test and ANOVA on age-based churn data indicate no significant difference in churn rates across age groups ($p > 0.05$).
- Visual trends show higher churn in the 26–35 group but not statistically conclusive.

4. Service-Specific Insights

Service	**Key Strengths**	**Key Issues Identified**
Software Development	Strong tech capabilities, delivery	Bug handling, pricing complaints
Business Process Automation	ROI benefits, efficient workflows	Training support and flexibility gaps

5. Retention Risk Areas

- Customers aged 26–35 and those using Software Development services are more likely to churn.
- This group may be more price-sensitive or expect faster resolution and innovation.

6. Visual Findings (Bar Charts)

- Bar charts highlight that Software Development has more dissatisfaction compared to BPA.
- BPA customers generally report better overall satisfaction and lower churn intention.

Hari Info Tech performs well in BPA, but Software Development services need targeted improvement in customer support, bug resolution, and pricing transparency. Focusing on these areas can significantly reduce churn and improve customer retention.

SUGGESTIONS

Reducing Churn & Enhancing Service Quality

1. Improve Post-Delivery Support

- Set up a dedicated support team for Software Development clients.
- Implement response-time SLAs to ensure timely bug fixes and updates.

2. Client Onboarding & Training (Especially for BPA)

- Offer structured onboarding programs to help clients adapt to BPA tools.
- Provide free monthly training webinars or Q&A sessions to reduce friction.

3. Segment-Based Retention Strategies

- Focus on the 26–35 age group, which showed the highest churn.
- Offer this group tailored engagement, discounts, or loyalty incentives.

4. Regular Client Feedback Mechanism

- Conduct quarterly satisfaction surveys and immediate post-project feedback.
- Act on feedback and close the loop by informing customers of changes made.

5. Flexible Pricing Options

- Introduce tiered pricing or value-based billing for software services to cater to startups and budget-sensitive clients.
- Offer discounts for long-term service commitments.

6. Case Studies & ROI Demonstrations

- Use BPA success stories to show measurable improvements for existing clients.
- This can encourage renewals and deepen trust in automation services.

7. Predictive Analytics for Churn

- Implement AI-based churn prediction models using CRM and support data to identify at-risk clients early.
- Proactively reach out to them with solutions before they leave.

CONCLUSION

The study on customer churn rate at Hari Info Tech reveals important insights into service performance and client retention trends. While the overall customer satisfaction is moderate across both Software Development and Business Process Automation (BPA) services, the churn rate remains a significant concern—especially within Software Development, where customer dissatisfaction and switching intentions are higher.

Business Process Automation services demonstrate stronger customer loyalty, reflecting the long-term value and integration these services provide. However, even here, there is room for improvement in areas such as training and customization.

Statistical analysis indicates that while churn rates vary visually across age groups and services, the differences are not statistically significant. Nevertheless, the observed trends suggest that customers aged 26–35 and those using Software Development services are at higher churn risk.

To retain clients and reduce churn, Hari Info Tech must prioritize post-service support, customer engagement, and feedback-driven improvements. By focusing on service quality, proactive retention strategies, and data-driven decision-making, the company can enhance customer loyalty and sustain long-term growth.

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