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Dynamic Pricing in Financial Services

Elevating Banking Customer Experience and Loyalty

Abstract

Dynamic pricing is transforming the financial sector by enabling real-time price adjustments, thus enhancing competitiveness and customer satisfaction. Traditional static pricing models are inadequate in a rapidly changing market. This whitepaper explores how Dynamic pricing increases profitability, operational efficiency, and pricing accuracy while reducing costs and improving customer personalization.

Problem Statement

Traditional banking pricing models often rely on static pricing structures that do not adapt quickly to changing market dynamics or customer needs. This can lead to missed revenue opportunities, inefficient resource allocation, and difficulty in maintaining competitiveness. Traditional static pricing models are becoming increasingly inadequate in the face of rapidly changing market dynamics and customer preferences. A study by PwC indicates that banks using dynamic pricing models can achieve a 5-10% increase in profitability, yet 60% of financial institutions still rely on fixed pricing. McKinsey reports that personalized pricing strategies can increase revenue by 1-2% and boost customer satisfaction by 10-15%. Additionally, BCG notes that banks implementing automated pricing models see a 20% reduction in operational costs and a 30% improvement in pricing accuracy.

Introduction to dynamic pricing revolution

Dynamic pricing is revolutionizing the financial landscape by leveraging advanced technologies to enable real-time price adjustments while maintaining customer trust. In today's fast-paced financial world, the ability to adapt pricing strategies in real-time is crucial to maintain competitiveness and customer satisfaction. This whitepaper explores the concept, benefits, and implementation of dynamic pricing, drawing insights from the industry happenings.

Traditional Pricing often leads to:

1. **Lack of Personalization:**

   Traditional pricing models apply standardized rates and fees to all customers regardless of individual risk profiles or financial behaviors. There is no pricing flexibility for retail banking to attract more customers.

2. **Profitability Challenges:**

   Exact pricing is needed to sell more products and increase profits. Fixed price models cannot adjust prices dynamically in real-time according to market conditions, behaviors, risk assessments.

3. **Operational Efficiency Improvement:**

   Automation and algorithm-driven pricing decisions are needed to streamline operations, thereby reducing manual efforts and errors associated with traditional methods.

Traditional banking models frequently depend on static pricing structures that fail to swiftly adapt to evolving market conditions or individual customer requirements. This inflexibility results in multiple challenges:

- **Missed Revenue Opportunities:**
  Static pricing fails to capitalize on market demand fluctuations, potentially leading to revenue losses.
- **Inefficient Resource Allocation:**
  Resources are not utilized optimally, as pricing adjustments are neither timely nor based on the most current data.
- **Difficulty in Maintaining Competitiveness:**
  Banks find it challenging to remain competitive due to their inability to offer adaptive and personalized pricing in a fast-changing market.

What's the alternative banks or FI's are leveraging to fulfill dynamic pricing:

A dynamic pricing model adjusts prices based on real-time demand, competition, and other factors, maximizing revenue and market efficiency. Banks and FIs are adopting various solutions to address the problems of traditional pricing models. Here are some current methods and their gaps that the dynamic AI-based pricing model intends to address.

Customer Relationship Management (CRM) Systems	• Usage: Leveraging CRM systems to better understand customer behaviour and preferences. • Gaps: CRMs often lack advanced analytics capabilities and may not integrate seamlessly with pricing engines, leading to missed insights.
Advanced Analytics and Big Data	• Usage: Employing data analytics to segment customers more accurately and develop more refined pricing strategies. • Gaps: Traditional analytics might not handle real-time data effectively and can be limited by the quality and comprehensiveness of the data.
Personalized Offers and Loyalty Programs	• Usage: Creating personalized offers and loyalty programs based on historical customer data. • Gaps: These programs often rely on static data and may not adapt quickly to changes in customer behaviour or market conditions.
Dynamic Pricing Models	• Usage: Implementing rule-based dynamic pricing models that adjust based on predefined criteria. • Gaps: Rule-based systems can be rigid and lack the ability to learn and improve over time, limiting their effectiveness in rapidly changing environments.
Cloud-based Solutions	• Usage: Utilizing cloud computing for scalable and flexible pricing management. • Gaps: Cloud solutions can provide scalability but may not inherently offer the advanced AI capabilities needed for truly dynamic pricing.

Dynamic Pricing – The Next Gen Solution

Dynamic pricing represents a departure from traditional static models by enabling adaptive strategies that respond intelligently to changing market dynamics and customer preferences. A dynamic pricing solution must harness the power of AI/Gen AI to continuously gather and process real-time data from various sources such as customer transactions, market trends, competitor pricing, and economic indicators. Gen AI models must be used to enable rapid adjustments to pricing strategies based on current conditions, ensuring optimal pricing.

Expected benefits:

1. Personalization and Customer Segmentation:

Segmenting customers into more granular groups based on their behaviours, preferences, and transaction histories enables personalized pricing strategies that cater to individual customer needs and enhance satisfaction.

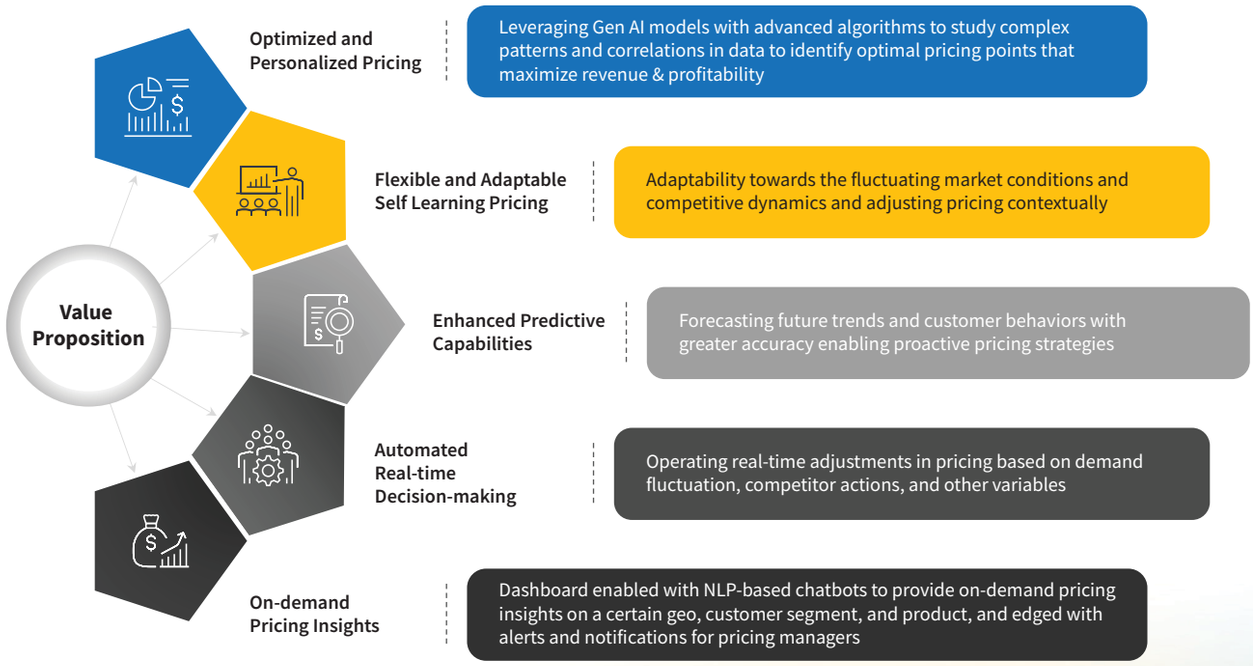
2. Real-time Data Processing:

By continuously gathering and processing real-time data, dynamic pricing adjustments that reflect current market conditions can be enabled.

3. Automated Learning, Adaptability and Forecasting:

Forecasts capabilities to predict future market conditions, demand fluctuations, and other variables that impact pricing decisions. The model continuously learns from new data and feedback, improving its accuracy and effectiveness over time.

The Unique Value Propositions a Dynamic Pricing Solution must offer:



- **Enhanced Predictive Capabilities:**
  Gen AI models with advanced algorithms to study complex patterns and correlations in data to identify optimal pricing points must be leveraged for maximized revenue and profitability. Solutions must incorporate forecasting capabilities to predict future market conditions, demand fluctuations, and other variables that impact pricing decisions. The solution must learn continuously from new data and feedback, improving its accuracy and effectiveness over time. It must also adapt its pricing strategies based on performance metrics, customer responses, and changes in external factors, ensuring relevance and competitiveness in dynamic markets.
- **Optimized and Personalized Pricing:**
  Solutions can adapt to fluctuating market conditions and competitive dynamics, adjusting pricing contextually. Customers must be segmented into more granular groups based on their behaviors, preferences, and transaction histories. This segmentation enables personalized pricing strategies that cater to individual customer needs and enhance customer satisfaction.
- **Automated Real-time Decision-making:**
  Pertains to real-time adjustments in pricing based on demand fluctuations, competitor actions, and other variables. Solutions must continuously gather and process real-time data from various sources such as customer transactions, customer life-time value, market trends, competitor pricing, and economic indicators. Gen AI models/algorithms enable rapid adjustments to strategies based on current conditions to reach optimal pricing.
- **On-Demand Pricing Insights:**
  A dashboard for product or pricing managers enabled with an NLP-based chatbot must provide on-demand pricing insights on specific geographies, customer segments, and products, along with alerts and notifications.

Expected Benefits:

Based on our experience, implementing dynamic pricing can lead to significant improvements, including a 15-20% increase in customer satisfaction, an 8-12% increase in revenue, a 40-50% improvement in pricing adjustment speed, a 25-30% reduction in pricing errors, a 35-40% improvement in adaptability to market fluctuations, and a 20-25% improvement in forecast accuracy. (indicative figures)

Key metrics to check benefits realization:

Customer Satisfaction

Measure the increase in revenue generated through dynamic pricing

Revenue Increase

Track improvements in customer satisfaction and loyalty scores

Operational Efficiency

Assess the reduction in manual effort and time spent on pricing adjustments

Speed of Adjustments

Monitor the speed and accuracy of real-time pricing adjustments

Market Share

Evaluate the growth in market share and competitive positioning

Profit Margin

Assess the profit margin movement through dynamic pricing

Valuable Use Cases

Some interesting use cases of dynamic pricing models include:

Loan Pricing - Interest Rates

Dynamic pricing provides personalized loan interest rates by analysing various factors, including the applicant's credit score, income level, and existing debt, to determine an optimal interest rate that balances customer appeal with profitability for the bank. Throughout the loan's lifecycle, the Core Banking System (CBS) manages the pricing, ensuring that the preferential rate is maintained during market rate changes while keeping the bank's threshold price to avoid losses. This dynamic adjustment helps retain customers and ensures the bank remains competitive in fluctuating market conditions.

Term Deposit - Interest Rates

Dynamic pricing offers personalized term rates based on deposit amount, tenure, and financial history. By monitoring market trends and adjusting rates, banks attract and retain depositors, ensuring liquidity and optimizing returns.

Credit Card - Interest Rates

Dynamic pricing personalizes credit card interest rates by evaluating spending habits, repayment history, and creditworthiness. Rates are adjusted throughout the card's lifecycle based on financial activity and market conditions, enhancing customer acquisition and risk mitigation.

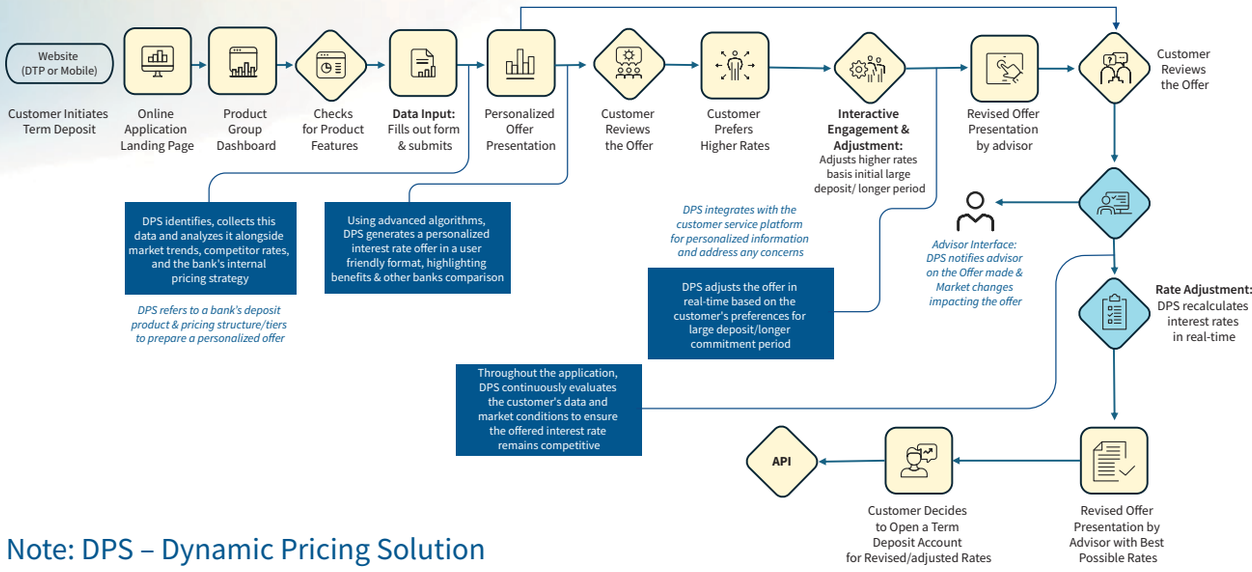
Mortgage Interest Rates

Dynamic pricing personalizes mortgage interest rates by evaluating the borrower's income stability, credit history, property value, and current market rates. Pricing solution dynamically adjusts these rates based on economic changes and repayment patterns, ensuring optimal rates for customers and protecting the bank's interests.

Charges/Fees - Rate/Amount

Dynamic pricing determines the rates for charges and fees, such as check books, overdraft fees, and maintenance charges. By analyzing account activity, transaction frequency, and customer relationships, it offers competitive and personalized pricing, boosting satisfaction, loyalty, and bank revenue.

Indicative Process Flow for Term Deposits Use Case:



Note: DPS – Dynamic Pricing Solution

Adjusting Term Deposit Product Rates Based on Customer Preferences

1. Initial Contact

- **Customer Action:** The customer visits the bank's website to inquire about opening a term deposit with a competitive interest rate.
- **Bank's Online System:** The system prompts the customer to enter basic information such as age, income, savings goals, and current financial situation.

2. Data Input and Analysis

- **Customer Action:** The customer inputs their information into the online form.
- **Dynamic Pricing Tool:** The tool analyzes the customer's data in real-time, comparing it with market trends, competitor rates, and the bank's internal pricing strategy.

3. Generating a Personalized Offer

- **Dynamic Pricing Tool:** Based on the analysis, the tool generates a personalized interest rate tailored to the customer's profile.
- **Bank's Online System:** The system displays the personalized offer to the customer.

4. Presenting the Offer

- **Bank's Online System:** The system explains the personalized interest rate offer, highlighting how it compares to other banks' rates and the benefits of choosing this term deposit.
- **Customer Action:** The customer reviews the offer and can access additional information for clarification.

5. Interactive Engagement and Adjustments

- **Customer Action:** The customer expresses interest but mentions specific preferences, such as a higher interest rate for a larger initial deposit or a longer commitment period.
- **Bank's Online System:** The system allows the customer to adjust the offer in real-time based on their preferences. For example:
  - **Higher Initial Deposit:** The customer inputs a higher initial deposit amount, and the tool recalculates the interest rate to offer a more competitive rate.
  - **Longer Commitment Period:** The customer adjusts the account terms to reflect a longer commitment period, which may result in a higher interest rate.
  - **Central Bank Rate Changes:** If the central bank has recently lowered interest rates, the tool adjusts the mortgage rate accordingly.
  - **Competitor Rate Changes:** If competitors have recently adjusted their rates, the tool ensures the bank's offer remains competitive.
  - **Economic Indicators:** If economic indicators suggest a stable or improving economy, the tool may offer more favourable rates.

6. Revised Offer Presentation

- **Bank's Online System:** The system presents the revised interest rate offer, explaining how the adjustments were made based on the customer's preferences.
- **Customer Action:** The customer reviews the revised offer and decides whether to proceed.

7. Application Process

- **Customer Action:** The customer decides to proceed with the term deposit and begins the application process online.
- **Bank's Online System:** The system guides the customer through the application, ensuring all necessary information is accurately entered.

8. Approval and Account Setup

- **Dynamic Pricing Tool:** The tool continuously evaluates the customer's data and market conditions during the application process to ensure the offered interest rate remains optimal.
- **Bank's Online System:** The system monitors the approval process and keeps the customer informed of the status.

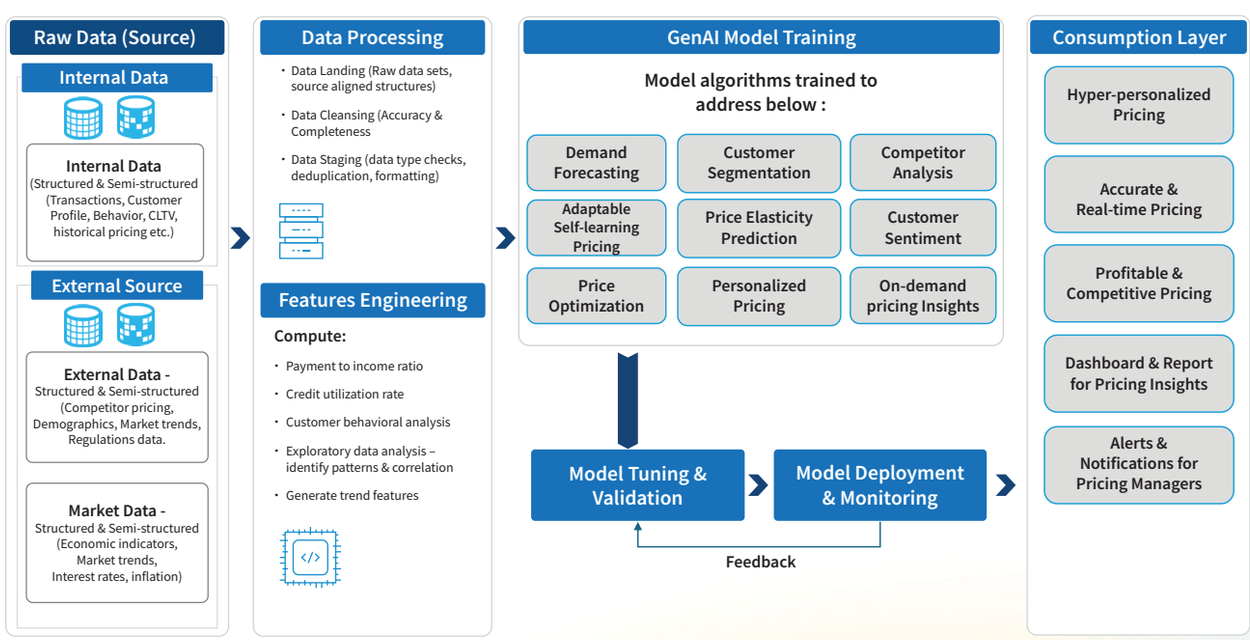
9. Account Activation and Onboarding

- **Customer Action:** Upon approval, the customer receives confirmation and instructions to activate their new term deposit.
- **Bank's Online System:** The system provides personalized onboarding materials, including tips on maximizing savings and information on additional products that might be of interest.

10. Ongoing Relationship Management

- **Customer Action:** The customer starts using the term deposit and regularly checks for updates and offers.
- **Bank's Online System:** The system uses the dynamic pricing tool to monitor the customer's account activity and market trends, providing ongoing personalized offers, such as higher interest rates for increased deposits or bundled product discounts.

Conceptual Flow of Dynamic Pricing Solution



In Gen AI-based dynamic pricing, raw data is collected from various sources, which is then cleaned and organized by data processing. Feature engineering then extracts relevant attributes from the model. The Gen AI model is then trained to handle scenarios like customer segmentation, competitor analysis, self-learning, and price optimization. Subsequently, tuning and validation ensure accuracy and reliability. Finally, the model is deployed and continuously monitored to adapt to market changes and improve pricing strategies. This process enables businesses to dynamically adjust prices in real-time, maximizing revenue and market efficiency

Solution Building Approach:

The solution's modular architecture allows banks to easily add or remove features based on their specific needs without extensive reconfiguration. The standardized APIs for seamless integration with existing banking systems ensure minimal disruptions and a quick setup. Cloud-based deployment will enable rapid provisioning, scalability, and reduced infrastructure management. Additionally, pre-configured templates and low-code/no-code customization will enable the bank staff to manage the solution without requiring deep technical expertise.

Modular Architecture

Allows banks to easily add or remove features based on their specific needs without extensive reconfiguration.

API Standardization

Standardized APIs for seamless integration with existing banking systems, ensuring minimal disruption and quick setup.

Cloud-based Deployment

Cloud-based deployment, such as rapid provisioning, scalability, and reduced infrastructure management.

Pre-configured Templates

Pre-configured pricing templates and rules that can be quickly customized to fit the specific needs of different banks

Low-Code/No-Code Customization

Low-code or no-code platforms that enable bank staff to customize and manage the solution without requiring deep technical expertise

Security & Compliance

Complies with financial regulations and standards (e.g., GDPR, PCI DSS) and includes robust security measures to protect sensitive data

Comprehensive Documentation and Support

Provides detailed documentation, tutorials, and support resources to assist banks in the implementation process.

Conclusion

The implementation of an AI/Gen AI-based dynamic pricing solution will revolutionize the way banks interact with their customers. By leveraging advanced technologies, banks can offer highly personalized and competitive pricing strategies that respond to real-time market conditions and individual customer behaviours. This not only enhances customer satisfaction and loyalty but also drives significant improvements in the bank's operational efficiency and profitability. With the flexibility and scalability of the proposed solutions, banks can swiftly adapt to changing market demands and continue to innovate in the financial landscape.

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Charan is an accomplished digital transformation leader with over 18 years of experience in IT business analysis and domain-driven consulting. Currently, he is designing AI/Gen AI-based solutions for retail banking that help elevate customer experience through process optimization and hyper-personalization. Additionally, he leads the Banking vertical within LTIMindtree's BFS Consulting with a mandate for driving excellence in the Business Analysis practice.

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