Case Studies & Guesstimates for FinTech Industries

The FinTech industry has emerged as a dynamic and transformative force in the financial sector, integrating technology with financial services to enhance efficiency, accessibility, and customer experience. In today's era, FinTech is crucial for democratising financial services, providing underserved populations with access to banking, credit, and investment opportunities. It fosters innovation through digital payment systems, peer-to-peer lending platforms, and blockchain technology, revolutionising traditional banking practices.

Data scientists play a pivotal role in the growth of FinTech by leveraging advanced analytics and machine learning to improve risk assessment, fraud detection, and personalised financial services. Their expertise enables FinTech companies to analyse vast amounts of financial data, uncovering insights that drive strategic decision-making, optimise operations, and enhance customer satisfaction. By harnessing the power of data, data scientists help FinTech firms stay competitive, innovate continuously, and contribute to a more inclusive and efficient financial ecosystem.

PART - I

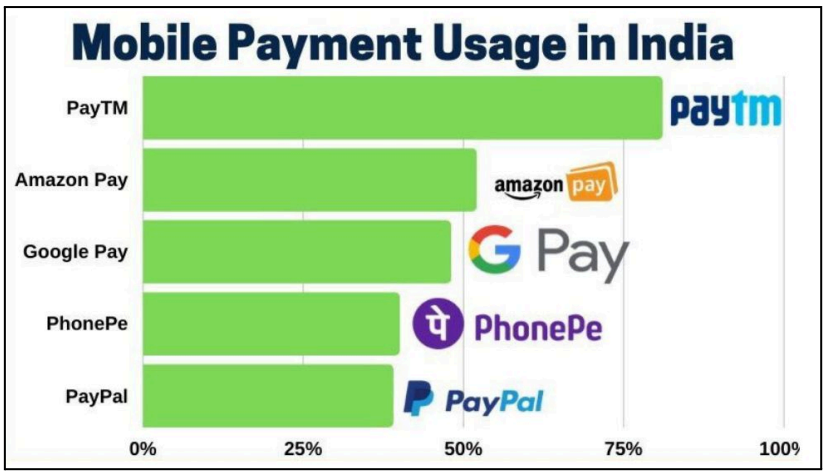
Product Dissection:

1. Platform Selection

Question: Choose a leading platform from a domain related to the **e-commerce** industry. Justify your selection by discussing the platform's popularity, impact, and relevance in its industry.

Answer: GooglePay

Popularity: Google Pay has millions of active users worldwide. It is particularly popular in countries like India, the United States, and Japan.Google Pay is accepted by numerous merchants, both online and offline, across various countries.Google Pay has been highly successful linking up with UPI, the most important retail payments rail in India. Since 2018, according to India’s Ministry of Finance, UPI transaction volume has surged from 920 million to 83.75 billion. In India, Google Pay has become one of the leading digital payment platforms, driven by the Unified Payments Interface (UPI) system. Its association with Google, a globally recognized and trusted brand, adds to its credibility and user trust.



Impact: Users can make instant payments without needing to remember bank account details. Payments can be made using just the recipient's UPI ID or phone number. Users can link multiple bank accounts to a single UPI ID and use Google Pay as a unified platform for all transactions. Merchants can accept payments from a wide user base, potentially increasing sales and customer reach.UPI payments are settled quickly, improving cash flow for businesses.Banks see increased transaction volumes and customer engagement through UPI, leading to potential growth in revenue from other banking services.

Relevance: Google Pay enables quick and easy transactions with just a few taps, eliminating the need to carry cash or cards.The reasons for using Google Pay are mobile recharge followed by payment of EMI, DTH recharge, payment of insurance premium, settlement of hotel bill, payment of electricity bill, ticket booking, bank transfer and online purchase.Google Pay often offers cashback, discounts, and other rewards, providing additional value to users.Real-time alerts and the ability to report suspicious activity enhance user trust.

2. Core Features and Functionalities

Question: Research and list the core features and functionalities of the selected platform. Describe how these features contribute to the platform’s success and user engagement.

Answers: Core Features and Functionalities of GooglePay.

1. **Convenience:** Google Pay eliminates the need to carry physical cards, offering a one-tap payment solution for in-store purchases, online transactions, and even

sending money to friends and family.Users can recharge prepaid mobile connections, pay postpaid mobile and light bills, MNGL bills and make DTH (Direct-To-Home) payments through the app.

2. Security: Google Pay prioritises user safety. It utilises multi-layered security measures.

3. Speed: Google Pay transactions are significantly faster compared to traditional payment methods, streamlining the checkout process for a quicker and more efficient experience.

4. Rewards and Cashback: Google Pay frequently partners with various merchants to offer lucrative rewards and cashback programs, allowing you to earn benefits while spending.

5. Cost-Effectiveness: Zero transaction fees for UPI payments and access to cashback and discounts make Google Pay a cost-effective option for users.

6. Wide Acceptance: Extensive merchant acceptance and the ability to link multiple bank accounts and cards increase the utility of Google Pay.

7. Spending Insights: Provides personalised insights and recommendations based on user spending patterns.

8. For Business: Merchants can manage transactions, view payment history, and generate reports through a dedicated business interface.

9. 24/7 Availability: Operates round the clock, catering to customers with varying schedules and increasing convenience.

Contribution to Success and User Engagement :

- **Increased Adoption:** The combination of convenience, cost-effectiveness, and security drives user adoption, making Google Pay a preferred payment method.
- **User Retention:** Regular rewards and offers, coupled with a user-friendly interface and seamless transactions, contribute to high user retention rates.
- **Enhanced User Trust:** Robust security measures and proactive fraud detection build trust among users, encouraging them to use Google Pay for various financial transactions.
- **Broader Market Reach:** Integration with the Google ecosystem and extensive merchant partnerships expand the market reach of Google Pay, attracting a diverse user base..
- **Continuous Engagement:** Personalised recommendations, social features like peer-to-peer transfers and bill splitting, and comprehensive financial management tools keep users engaged with the platform on an ongoing basis.

These features collectively drive GooglePay success and high user engagement in the competitive e-commerce market.

3. Real World Problems:

Question: Identify the real-world problems that the platform aims to solve. Discuss how the platform addresses these problems through its features and functionalities.

Answers: Real-World Problems Addressed by GooglePay

1. Inconvenience of Cash Transactions:

- **Problem:** Carrying and handling cash can be inconvenient, especially for large transactions. It also poses risks of loss and theft.
- **Solution:** Google Pay enables instant, cashless transactions between bank accounts, reducing the need to carry physical cash. Contactless payments via NFC technology allow users to make secure payments at physical stores without cash.

2. High Transaction Fees:

- **Problem:** Traditional payment methods, such as credit cards, often come with high transaction fees, which can be a burden for both consumers and merchants.
- **Solution:** UPI transactions through Google Pay are typically free, making it a cost-effective option for users.

3. Security Concerns:

- **Problem**: Digital payments can be prone to security breaches and fraud, deterring people from using online payment platforms.
- **Solution**:Google Pay uses encryption, tokenization, PIN, and biometric authentication to ensure secure transactions.Real-time alerts and reporting mechanisms help prevent and address fraudulent activities.

4. Lack of Financial Inclusion:

- **Problem**: Many individuals, especially in developing regions, do not have access to traditional banking services, limiting their participation in the digital economy.
- **Solution:** Google Pay leverages UPI to provide a simple, accessible way for people to participate in the digital economy without needing a credit card or extensive banking knowledge.

5. Complexity in Managing Multiple Accounts and Payments:

- **Problem:** Managing multiple bank accounts, cards, and payments can be complex and time-consuming.
- **Solution:** Google Pay allows users to link and manage multiple bank accounts and cards through a single interface. Users can pay utility bills, manage subscriptions, and view transaction history in one place.

Database Management & Schema Design

4. Schema Design

Question: Based on the features and functionalities you have identified, design a schema that reflects the platform's data structure. Define the key entities, attributes, and relationships that underpin these features.

Answers: Schema Design for GooglePay

The schema design for GooglePay should reflect its core features and functionalities, ensuring efficient data management and enabling the platform to deliver a seamless user experience. Below is an overview of the key entities, attributes, and relationships:

Key Entities and Attributes:

1. User

Attribute	Type	Description
UserID	Primery Key	Unique identifier for the user
Name	Varchar	Full name of the user
PhoneNumber	Varchar	Phone number associated with the user
Email	Varchar	Email address of the user
PasswordHash	Varchar	Encrypted password for authentication
BiometricData	Blob	Data for biometric authentication
AccountCreationDate	Datetime	Date the user account was created
LastLoginDate	Datetime	Date of the last login

2. Bank Account:

Attribute	Type	Description
AccountID	Primery Key	Unique identifier for the bank account
UserID	Foreign Key	Identifier linking the bank account to the user
BankName	Varchar	Name of the bank
AccountNumber	Varchar	Bank account number
IFSCCode	Varchar	Bank's IFSC code
AccountType	Varchar	Type of bank account (e.g., savings, current)
Balance	Decimal	Current balance in the bank account

3. Transaction:

Attribute	Type	Description
TransactionID	Primery Key	Unique identifier for the transaction
SenderAccountID	Foreign Key	Bank account identifier of the sender
ReceiverAccountI	Varchar	Bank account identifier of the receiver
Amount	Decimal	Transaction amount
TransactionDate	Datetime	Date and time of the transaction
TransactionType	Varchar	Type of transaction (e.g., UPI, Tap-to-Pay, Bill Payment)
Status	Varchar	Status of the transaction (e.g., successful, pending, failed)
Description	Text	Description or note about the transaction

4. Merchant:

Attribute	Type	Description
MerchantID	Primery Key	Unique identifier for the merchant
MerchantName	Varchar	Name of the merchant
MerchantCategory	Varchar	Category of the merchant (e.g., retail, restaurant)
Location	Varchar	Physical location of the merchant
ContactDetail	Varchar	Contact details of the merchant
UPIID	Varchar	UPI ID associated with the merchant

5. Rewards:

Attribute	Type	Description
RewardID	Primery Key	Unique identifier for the reward
UserID	Foreign Key	Identifier linking the reward to the user
RewardType	Varchar	Type of reward (e.g., cashback, discount)
RewardAmount	Decimal	Amount of the reward
RewardDescription	Text	Description of the reward
ExpiryDate	Datetime	Expiry date of the reward
Status	Varchar	Status of the reward (e.g., available, redeemed, expired)

6. Bill:

Attribute	Type	Description
BillID	Primery Key	Unique identifier for the bill
UserID	Foreign Key	Identifier linking the bill to the user
MerchantID	Foreign Key	Identifier linking the bill to the merchant
BillAmount	Decimal	Total amount of the bill
DueDate	Datetime	Due date for bill payment
PaymentStatus	Varchar	Status of the bill payment (e.g., unpaid, paid)
BillDescription	Text	Description or note about the bill

Google Pay

7. Notifications:

Attribute	Type	Description
NotificationID	Primery Key	Unique identifier for the notification
UserID	Foreign Key	Identifier linking the notification to the user
Message	Text	Content of the notification
Timestamp	Datetime	Date and time when the notification was sent
Status	Varchar	Status of the notification (e.g., read, unread)

Relationship:

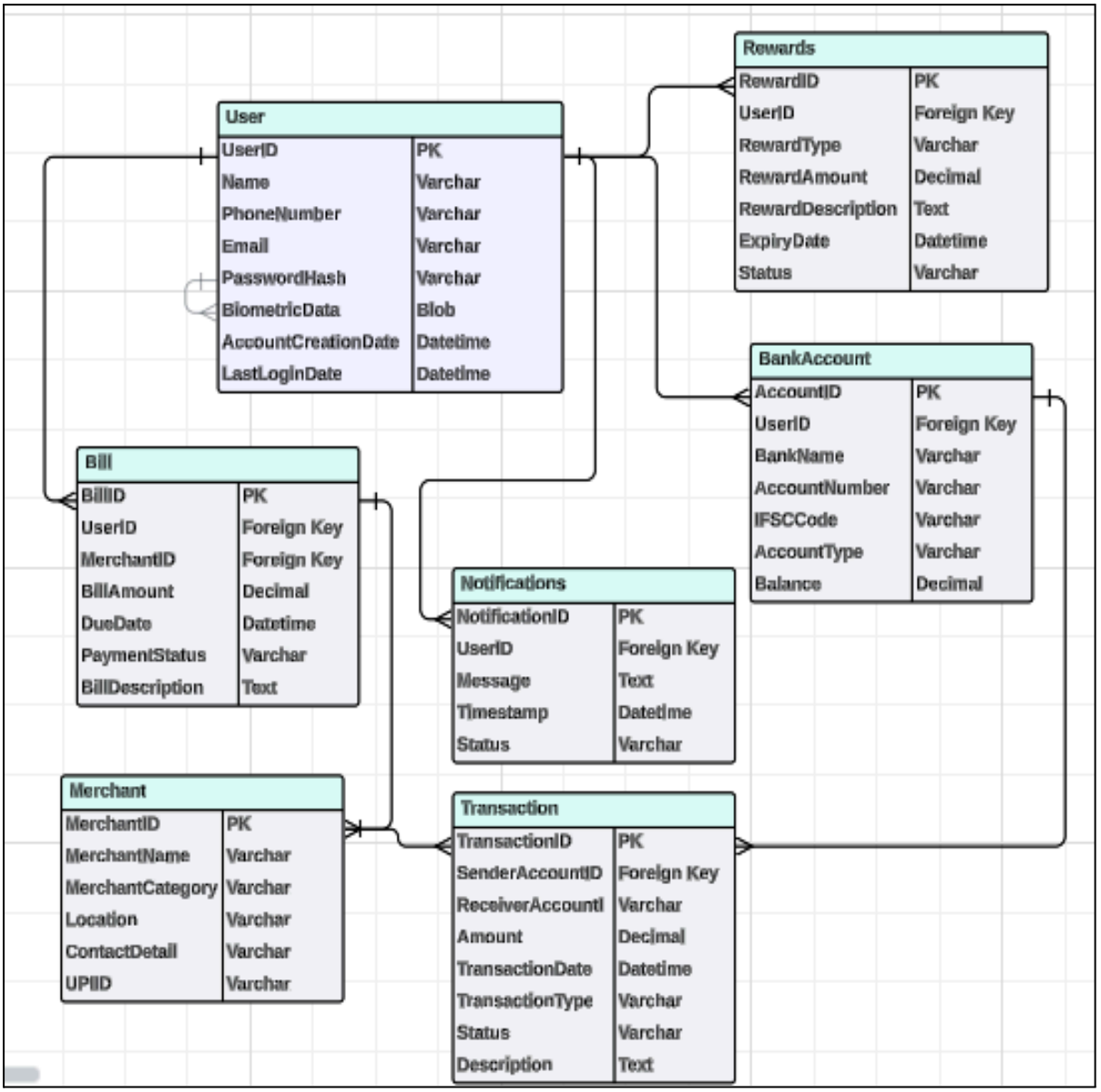
From Table	From Attribute	To Table	To Attribute	Relationship Type
User	UserID	BankAccount	UserID	One-to-Many
User	UserID	Transaction	SenderAccountID	One-to-Many (as Sender)
User	UserID	Transaction	ReceiverAccountID	One-to-Many (as Receiver)
User	UserID	Reward	UserID	One-to-Many
User	UserID	Bill	UserID	One-to-Many
User	UserID	Notification	UserID	One-to-Many
BankAccount	AccountID	Transaction	SenderAccountID	One-to-Many (as Sender)
BankAccount	AccountID	Transaction	ReceiverAccountID	One-to-Many (as Receiver)
Merchant	MerchantID	Bill	MerchantID	One-to-Many
Merchant	MerchantID	Transaction	ReceiverAccountID	One-to-Many (as Receiver)

This schema design captures the essential data interactions and relationships within GooglePay, supporting its features and functionalities efficiently. It ensures scalability, performance, and a personalised user experience, contributing to the platform's overall success.

5. ER Diagram Creation:

Question: Utilise tools like the Miro platform or similar applications to create an illustrative Entity-Relationship (ER) diagram. This diagram should vividly depict the entities, attributes, and relationships present within your schema design.

Ans:



Google Pay

Revenue and Profit Growth Strategies:

Question: After completing the product dissection and schema design steps for the chosen platform, conduct a comprehensive case study on the above chosen industry. Your goal is to identify and propose strategies to increase the **profit of the industry by at least 25%**.

Create a detailed report summarising your findings and proposals. Include data-driven justifications for each proposed strategy and present your case study using visual aids such as charts, graphs, and diagrams to illustrate your points. Outline the steps, resources, and timeline required to achieve the desired revenue and profit growth.

Ans: Focus on the following aspects:

I: Analysing GooglePay Current Status -

To find the status of GooglePay and develop a strategy to increase its profit by 25%, we need to conduct a thorough analysis of the company's current scenario. This includes examining its current profit, understanding the sources of revenue and expenses, and analysing customer acquisition and retention. Here's how data science students can approach this analysis:

Category	Details
Current Financial Data	**Collect Financial Data**
	Revenue: Gather data on all revenue streams, including sales from groceries, subscriptions, and any additional services.
	Expenses: Collect data on all operational costs, including supply chain costs, marketing expenses, technology investments, and employee salaries.
	Analyse Current Profit
	Profit Calculation: Calculate the current profit by subtracting total expenses from total revenue.
	Profit Trends: Analyse profit trends over the past few months or years to identify growth patterns or any potential declines.
Sources of Revenue	**Identify Revenue Streams**
	Product Sales: Revenue from selling groceries and daily essentials.

	Subscriptions: Income from subscription services offering regular delivery of essential items.
	Advertising: Revenue from advertisements displayed on the platform.
	Partnerships: Income from partnerships with brands or suppliers.
	Analyse Revenue Contribution
	Segmentation: Break down the revenue by each stream to understand the contribution of each segment.
	Top Products/Services: Identify the top-selling products and most popular subscription plans.
Sources of Expenses	**Identify Major Expenses**
	Supply Chain Costs: Costs related to procurement, storage, and transportation of goods.
	Marketing and Advertising: Expenses incurred in promoting GooglePay and attracting new customers.
	Technology: Investments in maintaining and upgrading the platform, including servers, software, and security.
	Employee Salaries: Costs associated with paying staff, including delivery personnel, customer service, and technical support.
	Analyse Expense Distribution
	Segmentation: Break down the expenses by category to understand where the majority of the money is being spent.
	Cost Efficiency: Identify areas where costs can be reduced without compromising quality or service.

By analysing the current status of GooglePay, including its financial data, revenue sources, expenses, and customer acquisition channels, data science students can develop a comprehensive strategy to increase the company's profit by 25%. Focusing on optimising expenses, enhancing revenue streams, and improving customer satisfaction and retention will ensure sustainable growth and profitability for GooglePay. Using data-driven insights at each step will lead to more effective and strategic decision-making.

II. Focus Areas for Increasing GooglePay's Profit by 25%:

To increase GooglePay profit by 25%, the company must strategically focus on several key areas. These focus areas include internal management, product strategy, market expansion, post-sales management, and branding. By addressing these areas with targeted initiatives, GooglePay can enhance its operational efficiency, customer satisfaction, and market reach.

Google Pay

Category	Focus Area	Measures
Internal Management ~ 8%	**Operational Efficiency ~ 6.5%**	**Waste Management:** Use advanced data analytics to optimise inventory management, reduce waste, and improve procurement.
		Automate Processes: Implement AI and ML for fraud detection and customer service
		Cost Control: Conduct regular audits of Internal Softwares and service agreements. Negotiate better terms and seek cost-effective alternatives without compromising quality.
	Employee Productivity ~ 1.5 %	**Training Programs:**Regular training for employees on new technologies and customer service.
		Performance Metrics: Implement a robust performance tracking system with clear metrics and reward systems to motivate employees and improve productivity.
Supply Chain Management ~ 2 %	**Vendor Management ~ 1%**	Renegotiate favourable terms with vendors and look out cheaper options. Negotiate bulk purchase discounts with suppliers.
	Logistics Optimization ~ 1 %	Enhance logistics operations to reduce shipping times and costs, improving overall efficiency.
Product Strategy ~3 %	**Launch of New Products ~ 1%**	**Market Research:** Conduct regular and comprehensive market research to identify new product opportunities and stay ahead of consumer trends.
		New Product Introduction: Introduce high-margin products and services that cater to emerging customer needs, such as health-focused products and organic produce.
	Product Optimization ~ 2%	**Cut Down Underperforming Products:** Regularly analyse sales data to identify and phase out underperforming products, focusing on high-demand and high-margin items.
		Launch Combo Products: Create attractive combo offers and value packs to increase average order value and appeal to price-sensitive customers.
Market Expansion ~ 4%	**Geographic Expansion ~ 2%**	**New Markets:** Identify and enter new geographic markets with high demand potential, both domestically and internationally, to increase market share.

		Localization: Tailor product offerings and marketing strategies to fit the preferences and needs of local markets, ensuring cultural and regional relevance.
	Market Penetration ~ 2%	**Deep Dive Strategy:** Enhance market penetration in existing locations by improving delivery speed, expanding product range, and elevating the overall customer experience.
Post-Sales Management ~ 2%	**Customer Satisfaction ~ 1%**	**Customer Feedback:** Implement a robust system for collecting and analysing customer feedback to continuously improve product quality and service delivery.
		Enhanced Support: Support exceptional post-sales through multiple channels, ensuring prompt and efficient resolution of customer issues.
	Customer Retention ~ 1%	**Loyalty Programs:** Develop and implement loyalty programs that reward frequent purchases and referrals, fostering long-term customer loyalty.
		Personalised Follow-Ups: Use data analytics to send personalised follow-up emails and promotions, encouraging repeat purchases and customer retention.
Branding and Marketing ~ 6 %	**Brand Awareness ~ 1.5%**	**Digital Marketing:** Increase investment in digital marketing campaigns, including social media advertising, influencer partnerships, and content marketing to boost visibility.
		SEO and SEM: Optimise the website for search engines (SEO) and invest in search engine marketing (SEM) to drive more organic and paid traffic to the platform.
	Word of Mouth and Referrals ~ 2.5%	**Referral Programs:** Create and promote referral programs that incentivize existing customers to bring in new customers through rewards and discounts.
		Positive Reviews: Actively encourage satisfied customers to leave positive reviews and testimonials on social media and review platforms.
	Community Engagement ~ 1%	**Local Events and Sponsorships:** Participate in and sponsor local events and community activities to build a strong brand presence and connect with the community.
	Acquisition Channels ~ 1 %	**- Digital Advertising:** Invest in targeted digital advertising campaigns to attract new customers. **- Partnerships and Affiliates:** Form strategic partnerships and affiliate programs to expand reach and acquire new customers.

Google Pay

By focusing on internal management, product strategy, market expansion, post-sales management, and branding, GooglePay can strategically enhance its profitability by 25%. Each focus area should be approached with data-driven insights to ensure that initiatives are effective and aligned with customer needs and market demands. Implementing these strategies will not only increase profitability but also strengthen GooglePay's position in the competitive e-commerce market.

III. Defining Strategies:

Category	Details
Optimise Expenses	**Cost Reduction**: Implement measures to reduce operational costs, such as negotiating better terms with suppliers, streamlining logistics, and adopting cost-effective technologies.
	Efficiency Improvements: Use data analytics to optimise inventory management and reduce waste.
Enhance Revenue Streams	**Upselling and Cross-Selling**: Develop strategies to increase the average order value by recommending complementary products.
	New Revenue Streams: Introduce new products, services, or subscription models that meet customer needs and generate additional income.
	Pricing Strategies: Use dynamic pricing to adjust prices based on demand, competition, and customer behaviour.
Improve Customer Satisfaction and Retention	**Personalised Experiences:** Offer personalised recommendations and promotions to enhance customer satisfaction and encourage repeat purchases.
	Loyalty Programs: Implement loyalty programs that reward customers for frequent purchases and referrals.
	Customer Feedback: Continuously gather and act on customer feedback to improve products and services.

By adopting an **inside-out methodology,** one can systematically address key areas to drive profitability. Focusing first on optimising expenses, then enhancing customer satisfaction and retention, and finally boosting revenue streams provides a structured approach to achieving a significant profit increase. Using data-driven insights at each step ensures that decisions are based on solid evidence, leading to more effective and sustainable improvements. This comprehensive approach will help GooglePay achieve the desired 25% profit increase.

PART - II

Guesstimate Questions

Que 1. What will be the percentage increase in global FinTech investments over the next five years?

Ans: Flowchart for Guesstimation:

Step	Description	Calculation/Assumptions	Result
Current Investment (2024)	Current global investment in Google Pay's FinTech sector	$10 billion (hypothetical figure for estimation purposes)	$10 billion
Annual Growth Rate	Estimated annual growth rate of global FinTech investments	20% per year (based on industry trends and projections)	20%
Year 1 Projection (2025)	Investment at the end of Year 1	$10 billion × (1 +20%)	$12 billion
Year 2 Projection (2026)	Investment at the end of Year 2	$12 billion × (1 +20%)	$14.4 billion
Year 3 Projection (2027)	Investment at the end of Year 3	$14.4 billion × (1 + 20%)	$17.28 billion
Year 4 Projection (2027)	Investment at the end of Year 4	$17.28 billion × (1 + 20%)	$20.736 billion
Year 5 Projection (2027)	Investment at the end of Year 5	$20.736 billion × (1 + 20%)	$24.8832 billion
Total Growth	Total growth in investment over 5 years	$24.8832 billion - $10 billion	$14.88 billion

Summary :

The guesstimated percentage increase in global FinTech investments for Google Pay over the next five years is approximately 148.83%. This estimation is based on an assumed annual growth rate of 20%, reflecting the current trends and future projections in the FinTech industry.

Google Pay

2. How many people will adopt digital banking services in developing countries over the next decade?

Ans:

Step	Description	Calculation/Assumptions	Result
Population of Developing Countries	Current population of developing countries (2024)	5 billion	5 billion
Unbanked Population	Percentage of population currently unbanked	40%	2 billion
Digital Banking Adoption Rate	Estimated annual adoption rate of digital banking services	10% per year	10%
Year 1 Adoption	New users in Year 1	2 billion × 10%	200 million
Year 2 Adoption	New users in Year 2	(2 billion - 200 million) × 10%	180 million
Year 3 Adoption	New users in Year 3	(2 billion - 200 million - 180 million) × 10%	162 million
Year 4 Adoption	New users in Year 4	(2 billion - 200 million - 180 million - 162 million) × 10%	145.8 million
Year 5 Adoption	New users in Year 5	2 billion - 200 million - 180 million - 162 million - 145.8 million) × 10%	131.22 million
Cumulative Adoption (5 Years)	Cumulative new users over 5 years	Sum of annual adoptions (200 + 180 + 162 + 145.8 + 131.22) million	819.02 million
Year 6 Adoption	New users in Year 6	(2 billion - 819.02 million) × 10%	118.10 million
Year 7 Adoption	New users in Year 7	(2 billion - 819.02 million - 118.10 million) × 10%	106.29 million

Year 8 Adoption	New users in Year 8	(2 billion - 819.02 million - 118.10 million - 106.29 million) × 10%	95.66 million
Year 9 Adoption	New users in Year 9	(2 billion - 819.02 million - 118.10 million - 106.29 million - 95.66 million) × 10%	86.10 million
Year 10 Adoption	New users in Year 10	(2 billion - 819.02 million - 118.10 million - 106.29 million - 95.66 million - 86.10 million) × 10%	77.49 million
Cumulative Adoption (10 Years)	Total number of new digital banking users over 10 years	Sum of annual adoptions (819.02 million + 118.10 million + 106.29 million + 95.66 million + 86.10 million + 77.49 million)	1.30 billion

Summary:

Over the next decade, approximately 1.30 billion people in developing countries are estimated to adopt digital banking services, based on an annual adoption rate of 10% and starting with a 40% unbanked population. This guesstimate provides a realistic projection considering the current trends in digital financial services adoption.

3. What percentage of small and medium-sized enterprises (SMEs) will use FinTech solutions for their financial needs by 2025?

Ans: Estimating the assumptions rate of FinTech services among SMEs

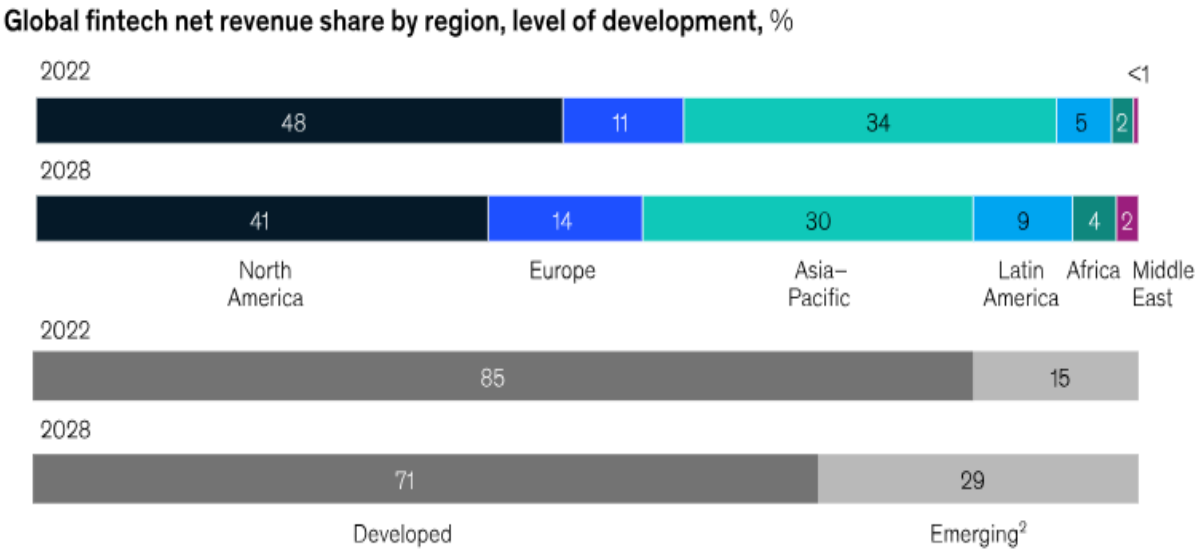
Step	**Description**	**Calculation/Assumptions**	**Result**
Total Number of SMEs	Current total number of SMEs globally (2024)	~400 million (hypothetical figure for estimation purposes)	~400 million
Current Adoption Rate (2024)	Percentage of SMEs currently using FinTech solutions	~30% (based on industry reports and trends)	~120 million SMEs
Annual Growth Rate	Estimated annual growth rate of FinTech adoption among SMEs	~15% per year	~15%
Year 1 Adoption (2024-2025)	New SMEs adopting FinTech solutions in	~20 million × 15%	~18 million

Google Pay

	Year 1		
Year 2 Adoption (2025-2026)	New SMEs adopting FinTech solutions in Year 2	(120 million + 18 million) × 15%	~20.7 million
Year 3 Adoption (2026-2027)	New SMEs adopting FinTech solutions in Year 3	(120 million + 18 million + 20.7 million) × 15%	~23.61 million
Year 4 Adoption (2026-2027)	New SMEs adopting FinTech solutions in Year 4	(120 million + 18 million + 20.7 million + 23.61 million) × 15%	
Year 5 Adoption (2026-2027)	New SMEs adopting FinTech solutions in Year 5	(120 million + 18 million + 20.7 million + 23.61 million + 27.1515 million) × 15%	~31.22 million
Cumulative Adoption (2024-2029)	Total number of SMEs using FinTech solutions by 2029	Sum of annual adoptions (120 + 18 + 20.7 + 23.61 + 27.1515 + 31.223225) million	~240.68 million
Percentage Adoption by 2025	Percentage of SMEs using FinTech solutions by 2025	(240.68/400)×100%	~60.17 %

Summary: By 2025, it is estimated that approximately 60.17% of small and medium-sized enterprises (SMEs) will use FinTech solutions for their financial needs, considering an annual growth rate of 15% in adoption and the current adoption rate of 30%. This estimation reflects the increasing trend of FinTech adoption among SMEs for payments, lending, and financial management tools.

Global FinTech approximate net revenue by region , level of development in percentage:



4. What will be the average transaction value of mobile payments in the next three years?

Ans:

Step	Description	Calculation/Assumptions	Result
Current Average Transaction Value (2024)	Current average transaction value for mobile payments (2024)	$50 (hypothetical figure for estimation purposes)	$50
Annual Growth Rate	Estimated annual growth rate of average transaction value	10% per year	10%
Year 1 Projection (2025)	Average transaction value at the end of Year 1	$50 × (1 + 10%)	$55
Year 2 Projection (2025)	Average transaction value at the end of Year 2	$55 × (1 + 10%)	$60.50
Year 3 Projection (2025)	Average transaction value at the end of Year 3	$60.50 × (1 + 10%)	$66.55
Cumulative Average Growth	Cumulative growth in average transaction value over 3 years	Sum of annual increases (50 + 55 + 60.50 + 66.55) / 4	$58.51

Estimated Average Transaction Value (2027)	Estimated average transaction value for mobile payments in 2027	$60.50 × (1 + 10%)	$66.55

Summary:

The average transaction value of mobile payments is estimated to be approximately $66.55 in the next three years, assuming an annual growth rate of 10% from a current average value of $50. This estimation considers the increasing trend in mobile commerce and the growing adoption of digital wallets.

5. How much will blockchain technology reduce the costs of cross-border transactions in the next five years?

Ans:

Step	Description	Calculation/Assumption	Result
Current Cost of Cross-Border Transactions (2024)	Average current cost as a percentage of the transaction amount	7% (based on industry reports)	7%
Current Volume of Cross-Border Transactions	Total annual volume of cross-border transactions	$10 trillion (hypothetical figure for estimation purposes)	$10 trillion
Annual Cost of Cross-Border Transactions	Annual cost of cross-border transactions (2024)	7% of $10 trillion	$700 billion
Cost Reduction Rate Using Blockchain	Estimated cost reduction due to blockchain technology	50% over 5 years	50%
Annual Reduction Rate	Annual cost reduction rate due to blockchain technology	50% / 5 = 10% per year	10%
Year 1 Cost Reduction	Cost reduction in Year 1	$700 billion × 10%	$70 billion
Year 2 Cost Reduction	Cost reduction in Year 2	($700 billion - $70 billion) × 10%	$63 billion

Year 3 Cost Reduction	Cost reduction in Year 3	($700 billion - $70 billion - $63 billion) × 10%	$56.7 billion
Year 4 Cost Reduction	Cost reduction in Year 4	($700 billion - $70 billion - $63 billion - $56.7 billion) × 10%	$51.03 billion
Year 5 Cost Reduction	Cost reduction in Year 5	($700 billion - $70 billion - $63 billion - $56.7 billion - $51.03 billion) × 10%	$45.93 billion
Cumulative Cost Reduction (5 Years)	Total cost reduction over 5 years	Sum of annual cost reductions (70 + 63 + 56.7 + 51.03 + 45.93) billion	$286.66 billion
Final Cost of Cross-Border Transactions (2029)	Annual cost of cross-border transactions after 5 years	$700 billion - $286.66 billion	$413.34 billion
Cost Reduction Percentage	Percentage reduction in cross-border transaction costs due to blockchain	(286.66 / 700) × 100%	40.95%

Summary:

Blockchain technology is estimated to reduce the costs of cross-border transactions by approximately 40.95% over the next five years, resulting in annual savings of around $286.66 billion from the current annual cost of $700 billion. This estimation considers a 10% annual reduction rate, reflecting the efficiency improvements and cost savings brought by blockchain adoption.

6. Guesstimate the total market size of UPI transactions of GooglePay in 2025 and then the revenues of FinTech firms such as GPay. Also, recommend how GooglePay market share could increase.

Flowchart for Guesstimation:

Ans:

Step	Description	Calculations / Assumptions	Result
Population Estimation	India's Population in 2024	Approx. 1.4 billion	1.4 billion
Internet Penetration	Estimate 70% of the population has internet access	Internet users Internet users = 1.4 million * 0.7 = 9.8 million	Approx.980 million
UPI Users	Percentage of population using UPI	UPI users ~60% 1.4 billion×0.60=0.84 billion	Approx.0.84 billion (840 million)
Google Pay's Market Share	Google Pay's share of UPI users	GPay shares ~40% 1.4 billion×0.40=0.56 billion	0.56 billion (56 million)
Monthly Transactions/User	Average number of transactions per user per month	15 transactions/user/month	~15 transaction/ month
Average Transaction Value	Average value per transaction	₹500 per transaction	₹500
Monthly Transactions	Total monthly transaction by users	0.56 billion users * 15 transactions/user/month	8.4 billion transactions
Monthly Transactions Value	Total value of monthly transactions	8.4 billion transactions × ₹500	₹4,200 billion
Annual Transaction Value	Total value of annual transactions	₹4,200 billion/month × 12 months	₹50,400 billion
Revenue from Transactions	Google Pay's fee on transactions	0.25% * ₹50,400 billion	₹12.6 billion/year