🚗 Bengaluru Parking Meters – A Case Study

Level of Difficulty: Medium
Inspired by: Wharton Casebook (Chicago Parking Meters)
Topics Covered: Market sizing, mathematical estimation, cost-benefit analysis, innovation strategy, and strategic thinking.

📘 Case Background

The **Bruhat Bengaluru Mahanagara Palike (BBMP)** is considering leasing the **rights to manage and collect revenues from all street parking meters** in the city to a private operator for a period of **20 years**. This is part of BBMP's effort to streamline parking operations, raise upfront capital, and offload operational burdens.

In exchange for a **one-time lump-sum payment**, the winning bidder will manage the parking meter infrastructure, collect usage fees, and upgrade the system with **smart meters** that support **UPI, credit/debit cards, mobile wallets**, and more.

> Note: Any penalties or fines issued (for illegal parking, overstay, etc.) will **still go to BBMP**, not the private operator.

🎯 Objective

You've been hired by a private company named **"ParkSmart India"**, which is planning to participate in BBMP's competitive bid. Your consulting team is expected to:

1. **Estimate a fair price** ParkSmart should offer for the rights to Bengaluru's parking meters for 20 years.
2. **Analyze revenue, costs, and risks**.
3. **Recommend operational and strategic enhancements** to stay competitive.

🔢 Step-by-Step Framework

1️⃣ Revenue Estimation

a. Meter Distribution (Urban Zones)

Zone	Location	Price per hour (₹)	% of Meters	Daily Usage
I	Central Bengaluru (MG Road, Koramangala)	₹50	5%	12 hrs/day
II	Business Hubs (Whitefield, Jayanagar, Indiranagar)	₹30	25%	8 hrs/day
III	Outer Zones/Suburbs (Hebbal, HSR Layout, Rajajinagar)	₹15	70%	4 hrs/day

Assume Bengaluru has around **60,000** metered parking spaces.

b. Usage Assumptions

- Uniform usage 30 days/month, 12 months/year
- No seasonal fluctuation (for simplicity)
- No growth in usage (zero growth rate for base scenario)

c. Annual Revenue

Zone-wise calculation:

- **Zone I:** 5% of 60,000 = 3,000 meters
  ₹50 x 12 hrs x 30 x 12 x 3,000 = ₹648,000,000
- **Zone II:** 25% of 60,000 = 15,000 meters
  ₹30 x 8 hrs x 30 x 12 x 15,000 = ₹1,296,000,000
- **Zone III:** 70% of 60,000 = 42,000 meters
  ₹15 x 4 hrs x 30 x 12 x 42,000 = ₹1,134,000,000

Total Annual Revenue = ₹3,078,000,000
20-Year Revenue = ₹61,560,000,000

2️⃣ Cost Estimation

a. One-Time Setup Costs

Assume 1 smart meter can serve 8 spots → 60,000 / 8 = **7,500 meters**
Cost per smart meter = ₹10 lakh
Total CapEx = ₹750 crores

b. Recurring Operational Costs

- Staff: 1 person per 80 spots → 750 people
- Wage: ₹20,000/month → ₹1.8 crore/month → ₹21.6 crore/year
- Maintenance: ₹2,000/meter/month → ₹1.8 crore/month → ₹21.6 crore/year

Total Recurring Cost/year = ₹43.2 crore
20-Year Recurring Costs = ₹864 crore
Total Cost (20 years) = ₹750 + ₹864 = ₹1,614 crore

3️⃣ Profit & Bid Estimate

Total Revenue (20 years): ₹6,156 crore
Total Cost (20 years): ₹1,614 crore
Net Cash Flow: ₹4,542 crore

Assuming ParkSmart wants to offer a competitive bid with a healthy margin and leave some buffer for risks, it could bid around **₹3,000–₹3,200 crore** upfront.

4️⃣ Creative Strategy Suggestions

a. Revenue Boost Ideas

- **Dynamic Pricing:** Increase charges during peak hours (e.g., 10 AM–6 PM) in Zone I and II.
- **Monthly Passes:** Offer discounted subscriptions to frequent users.
- **Leasing Model:** Lease select spots to offices, malls, or delivery services.

b. Service Enhancements

- **Mobile App:** Real-time availability, UPI payments, time extensions, alerts

- **Digital Kiosks:** Language support, SMS-based alerts for non-smartphone users
- **Integrated System:** Seamless integration with BMTC & Namma Metro apps

c. Risk Management

- **Tech upgrades every 5–7 years** to remain user-friendly and secure
- **Weather-proof infrastructure** to avoid Bengaluru rain-related malfunctions
- **Behavioral shift:** Encourage digital payment habit via reward points or discounts

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✅ Summary Recommendation

Suggested Bid Price: ₹3,000–₹3,200 crore
Rationale: Balanced profit margin with contingency buffer over a ₹6,156 crore potential revenue
Key Drivers of Success: High uptime meters, user-friendly tech, efficient workforce, and adaptable pricing.