

UNDERSTANDING PBH AS AN ALTERNATIVE TO TRADITIONAL CAPEX MODEL

Abstract

The increasing cost of capital forcing companies to innovate ideas for its reduction. Capital Expenditure is an area where a big part of the capital of the companies gets stuck for a long period, result in increasing cost of capital in the forma of finance cost etc. In industries like aviation, solar, mining etc, the amount of capital expenditure is comparatively in higher side and gestation period is long. Therefore, now a days companies are adopting PBH Model.

This article discussed the concept of PBH in details.

What is PBH model?

The Power-by-the-Hour (PBH) model represents a major transformation in industrial world. Traditionally and historically, most of the industries rely on procuring capital-intensive products on ownership basis (CAPEX - Capital Expenditure). The Companies (customers) purchase equipment and manage maintenance themselves.

But today many sectors are shifting toward service-based and availability-based business models, where customers pay for performance, uptime, or usage rather than ownership.

In the PBH model, customers pay a fixed fee per hour of equipment usage, while the manufacturer retains responsibility for maintenance, repair, and operational performance. This approach transforms industrial equipment into long-term service platforms, generating predictable recurring revenue streams for suppliers while reducing financial risk for customers.

This concept originated in 1962 when Rolls-Royce introduced PBH contracts for aircraft engines, allowing airlines to pay, based on engine



CMA Ajay Deep Wadhwa

Practicing Cost Accountant

Ranchi

wadhwa103@yahoo.co.in

flight hours rather than purchasing engines outright. Today, the model has expanded beyond aerospace into industries such as energy, healthcare equipment, industrial machinery, and digital infrastructure.

As per one report, the estimated global PBH services market is of more than \$25 billion in 2025 and is expected to double in next five to seven years.

As already mentioned earlier, the PBH concept originated in the aerospace industry. Rolls-Royce introduced the model in the early 1962 when airlines faced financial constraints and unpredictable engine maintenance costs. Instead of selling engines outright, the company started charging the airlines per flight hour for engine performance and maintenance support.

This solved some key problems of Airlines as well of manufacturers. For airlines, it reduced upfront capital expenditure, predictable maintenance costs and reduced operational risk. For manufacturers, it became a source of long-term recurring revenue, stronger customer relationships and continuous performance data collection.

In a nutshell, one of the key drivers of PBH adoption is the shift from capital expenditure (CAPEX) to operating expenditure (OPEX).

Why PBH Model?

In capital intensive industries like aviation, mining, solar, heavy machinery etc, where capital expenditure

as well as well as gestation period is very high, which results in increase in cost of capital on regular basis. Therefore, now many companies are adopting PBH model. Aviation industries were first one to adopt but now many capital-intensive industries have also adopted this one, as discussed in following paras.

Traditional Asset ownership model (CAPEX)

Historically selling companies generated revenue primarily through one-time equipment sales. In such models, customers buy asset (engine, machine, equipment etc). Sellers earns revenue once and customer bears maintenance risk and life-cycle costs.

Characteristic	Description
Asset Ownership	Customer owns equipment
Upfront Cost	Very High
Maintenance Risk	Customer bears Risk
Cost Structure	Irregular and Unpredictable

Service-Based Model (OPEX)

Technological and financial pressures have shifted demand toward OPEX model. Companies increasingly started preferring paying for outcomes rather than assets.

Under this model, the customer pays for usage or performance of assets to suppliers. Supplier retains responsibility for asset reliability and revenue becomes recurring and long-term.

Characteristic	Description
Asset Ownership	Often retained by manufacturer
Upfront Cost	Low
Maintenance Risk	Manufacturer assumes risk
Cost Structure	Predictable recurring payments

PBH Revenue Model

The PBH model is typically structured as a long-term performance-based contract between the equipment manufacturer and the operator.

For example, in aviation industry, where this model was introduced first time, the core revenue components is usage-based fees. Customers pay based on operational metrics such as, flight hours,

engine cycles, equipment uptime and output produced.

PBH contracts usually include maintenance, repairs, spare parts, logistics support, predictive diagnostics. Service providers commit to specific uptime or reliability levels. Failure to meet performance metrics often triggers penalties and contract renegotiation.

This model saves customers from large upfront investment, uncertain maintenance costs, asset ownership risk, internal maintenance infrastructure etc. Moreover, provisions for spare parts, overhauls and unexpected failures are also required to be made.

Whereas under this model, no large upfront capital is required. Fixed cost per hour get reduced and supplier bears maintenance risk.

This model creates a win-win sort of situation for supplier and customer because it fundamentally changes revenue generation for manufacturers also. Instead of one-time sales, manufacturers receive continuous service income over decades. Most of the assets often remain in service for around twenty or more years, making life-cycle services highly profitable. Research shows that service revenues can generate up to seven times more profit than initial product sales because service divisions often produce significantly higher margins than equipment sales.

Moreover, since PBH contracts are long terms contracts, it makes switching difficult because maintenance infrastructure is integrated and data systems & proprietary and spare parts supply is centralized.

PBH generates enormous operational datasets. Manufacturers gain insight into failure patterns, component lifespan and operational efficiency

Similarly, customers benefit from stable and predictable operational budgets and unexpected maintenance costs are transferred to the service provider. PBH providers handle spare parts logistics, repair scheduling and technical diagnostics for customers which allows operators to focus on core business operations.

PBH providers ensure high dispatch reliability and rapid repair turnaround. Global component pools and logistics networks reduce downtime significantly. Companies can scale operations without investing heavily in equipment ownership.

Internationally, the major PBH providers include

Rolls-Royce, GE Aerospace, Pratt & Whitney, Honeywell Aerospace, Lufthansa Techni, Globe Newswire etc.

Many Indian companies also shifted from CAPEX to OPEX. For the examples, Siemens India was earlier selling turbines & automation systems (CAPEX) and now offering digital twin services, predictive maintenance & Rail availability contracts. Indian Railways partnerships with Siemens for maintaining locomotives and signalling systems and is paid based on uptime and performance.

Similarly, Philips India was earlier selling lighting products & medical devices but now providing Lighting-as-a-Service (Laas) and Pay-per-use healthcare equipment.

The PBH model has influenced many industries, including industrial equipment manufacturers, healthcare industry, turbine manufacturers in energy sector etc.

Risks and Challenges

Despite its advantages, PBH presents several strategic challenges. Manufacturers assume the cost of unexpected failures, maintenance complexity, spare part logistics etc and poor reliability can significantly reduce profitability. Manufacturers are also required to finance long-term service obligations which needs strong balance sheets and long-term capital planning.

Conclusion

The Power-by-the-Hour model represents a fundamental transformation in industrial business strategy. By shifting from asset ownership to performance-based services, companies are redefining how value is delivered and captured.

Key outcomes of this transformation include -

- ⊙ Predictable recurring revenue for manufacturers
- ⊙ Reduced capital expenditure for customers
- ⊙ Improved equipment reliability
- ⊙ Stronger long-term partnerships between suppliers and operators.

As digital technologies continue to advance, PBH-type models is likely to expand further and to become a dominant framework for industrial revenue generation in years to come. The future of manufacturing may therefore lie not in selling products, but in delivering guaranteed performance and operational outcomes. **MA**

References

1. *The Economic Times*
2. *The Business Standard*
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Academic Excellence and Inspiring Resilience in CMA Journey!!!



Ms. Oviya G. V., a visually challenged CMA student, has demonstrated remarkable resilience and determination by continuing her academic journey despite significant challenges. A bright and dedicated student, she had secured an impressive 89.4% and 91.4% in her Class X and XII examinations, respectively.

Recognizing her perseverance and academic excellence, the President of The Institute of Cost Accountants of India waived her CMA course & examination fees. The Institute also extended its support by enabling her to appear for the CMA examinations with a scribe. She successfully has cleared Group II of the Intermediate level in December 2025, securing 223 marks.

Ms. Oviya has also completed her Bachelor's degree in Commerce from PSG

College of Arts and Science, Coimbatore, with First Class with Distinction—further reflecting her academic excellence.

In recognition of her achievements, CMA Prasanna Kumar Acharya, Director (Finance), NLC India Limited, felicitated Ms. Oviya and presented her with an AI-enabled voice device to support her continued learning and professional growth.

Ms. Oviya expressed her heartfelt gratitude to ICMAI, its management, the Neyveli Chapter, NLC India Ltd., and all those who supported her in reaching this milestone.

The Institute of Cost Accountants of India continues to actively support students in their pursuit of higher education, with a special emphasis on empowering girl students. The Institute extends its best wishes to Ms. Oviya for her future endeavours.