

# Mphasis Builds AWS-based AI/ML Technology Roadmap to Enable Fabshop's Business to Scale



*Binbag aims to datafy every activity of the e-waste value chain - from buying to operations to selling. Mphasis' AI for Industry Verticals Professional Service, available on AWS Marketplace, has set the foundation for us to become a data-first company and present a clear roadmap for the future.*

**Achitra Borgohain**, Founder and CEO, Fabshop Technologies Pvt Ltd

## Customer Challenge

Over the last eight years, **Fabshop** has fine-tuned its product-market fit through continuous experimentation. Fabshop has progressed from startup to a scale-up and is now targeting a 30x business growth. The question before the company was how to leverage technology for customer acquisition, retention of new customers/buyers and improved logistics. More specifically, they needed answers to questions such as: How can AI/ML enable scale enhancement? What could be the specific AI/ML use cases? What would be the solution approach? How much effort would it take to build the solution? etc. Fabshop was clear on where it wanted to go, but needed direction and a technology roadmap to support its business growth and expansion plans.

## Partner Solution

Fabshop engaged **Mphasis** to perform a Technology Roadmap Assessment to get these answers. As a technology option, AWS was chosen as Fabshop had originally built the core platform on AWS. In addition, Mphasis' Professional Services (*AI for Industry Verticals – Assessment Service*), listed on the **AWS Marketplace** offers a service that meets Fabshop's requirements to develop an AI/ML technology roadmap assessment. The assessment service involves evaluating the current operating environment to find the right AI/ML technology and frameworks for Fabshop. Mphasis' engagement methodology is based on developing a deep understanding of the client's business, and the end-user needs to be rooted in design thinking principles.

Mphasis' assessment service for Fabshop consisted of two phases.

**Phase 1:** Business understanding. In this phase, Mphasis' AI experts worked closely with Fabshop's stakeholders through joint workshops (face-to-face meetings with whiteboarding, online meetings and follow-up questions) to understand:

- Existing business process, business goals, pain points
- Existing data landscape
- Fabshop's vision for the digital platform

**Phase 2:** Use cases identification, prioritization and solution approach. In this phase, Mphasis' AI experts developed:

- AI/ML use cases portfolio based on business goals and problems
- Prioritization of use cases based on business value and complexity
- High-level solution approach and AWS services-based architecture
- Effort estimates to build solutions

Mphasis designed AWS services-based architectures for the top-priority use cases:

- Setting up a data platform
- Commodity price forecasting
- Pricing engine
- Recommendation engine

## About Fabshop



Responsible disposal and recycling of electronic waste (e-waste) - products such as desktop computers, servers, laptops, mobile phones, televisions, air conditioners, etc., that are discarded after use contribute to improved environmental and resource sustainability. Enterprises struggle to dispose off their e-waste. The current process is complex, with poor service levels from e-waste vendors and lacks visibility. Enterprises with multiple branches especially find it cumbersome to monitor and coordinate with every branch and the e-waste vendor for disposal. Buyers (commodity recyclers, refurbishers, etc.) struggle to purchase specific e-waste material for recycling and are not certain about the material quantity and quality. Moreover, the enterprise and buyer may be in different locations making the logistics a challenge. Fabshop Technologies Pvt Ltd (trade name: Binbag) helps solve these challenges through a digital platform that connects both sides of the market - enterprises and buyers.

Mphasis designed foundational architectures addressing the unique needs of Fabshop. This design was based on loose coupling, microservices and cloud-native applications. The architecture was developed in line with AWS' fundamental pillars of operational excellence, security, reliability, performance efficiency and cost optimization. The architecture leverages 20+ AWS services for various components:

### Key components and services of the AWS-based architectures

Component	AWS Services
DevOps	AWS CodeCommit, AWS CodePipeline, AWS CodeDeploy
Containerization	Amazon Elastic Container Registry
Compute	AWS Fargate, AWS Deep Learning AMLs, AWS DL Containers
Database	Amazon DynamoDB, Amazon RDS
Control Tower	Amazon CloudWatch, AWS CloudTrail, AWS Control Tower
Security Center	AWS Shield, AWS Single Sign-On, AWS Key Management Service (KMS), AWS Identity and Access Management
ETL	Amazon Kinesis, AWS Lambda
Data Hub	Amazon S3
Service Integration	Amazon MQ, Amazon SQS
Drift Monitoring	Amazon CloudWatch, AWS Lambda
General	Application Load Balancer, Amazon API Gateway

The primary AI/ML services recommended are:

- Amazon SageMaker to build, train and deploy models at scale and significantly lower the compute costs. Amazon SageMaker also provides a secure environment to utilize external and user-generated data for ML models.
- Amazon Forecast to build custom models for short-term commodity price forecasting based on historical time-series data
- Amazon Personalize builds a personalized recommendation system based on user behavior

### Results and Benefits

Fabshop gained a clear understanding of the pathway to scale up leveraging AI/ML technology, by collaborating with Mphasis on AWS Marketplace. For example, Fabshop understood how cloud-native services can be utilized through a scalable foundational data platform without incurring high upfront costs to set up infrastructure and data pipelines. This is important for a startup looking to scale their business rapidly and economically. After completing the assessment service, Fabshop achieved clarity on the phase-wise development of AI/ML capabilities. Through Mphasis' Professional Service, they now possess the recommended AWS services-based architectures and resource estimates to translate their vision into reality. AWS AI/ML services-based digital platform now forms the basis for Fabshop's expansion targeting a 30x growth in the number of customers and buyers.



- DevOps Services Competency
- Security Services Competency
- Financial Services Competency

- Travel & Hospitality Services Competency
- Migration & Modernization Services Competency

### About Mphasis

Mphasis' purpose is to be the "Driver in the Driverless Car" for Global Enterprises by applying next-generation design, architecture and engineering services, to deliver scalable and sustainable software and technology solutions. Customer centricity is foundational to Mphasis, and is reflected in the Mphasis' Front2Back™ Transformation approach. Front2Back™ uses the exponential power of cloud and cognitive to provide hyper-personalized ( $C = X2C_{TM} = 1$ ) digital experience to clients and their end customers. Mphasis' Service Transformation approach helps 'shrink the core' through the application of digital technologies across legacy environments within an enterprise, enabling businesses to stay ahead in a changing world. Mphasis' core reference architectures and tools, speed and innovation with domain expertise and specialization, combined with an integrated sustainability and purpose-led approach across its operations and solutions are key to building strong relationships with marquee clients. [Click here](#) to know more. (BSE: 526299; NSE: MPHASIS)

