Walmart Element

Walmart Global Tech is Walmart's technology and innovation division, which is dedicated to advancing the company's digital capabilities to improve retail experiences for customers and streamline operations

Walmart Global tech leverages technologies like AI/ML, cloud, 5G, voice and computer vision to build technology in retail industry to make retail easier, smarter and more affordable

- ➢ Walmart Element is a machine learning platform developed to leverage machine learning and AI in global operations.
- ➢ Element drives effective productivity and efficiency across value chain

Walmart started Element due to the following challengers
- • Vendor lock-ins
- • Exorbitant license cost and fees
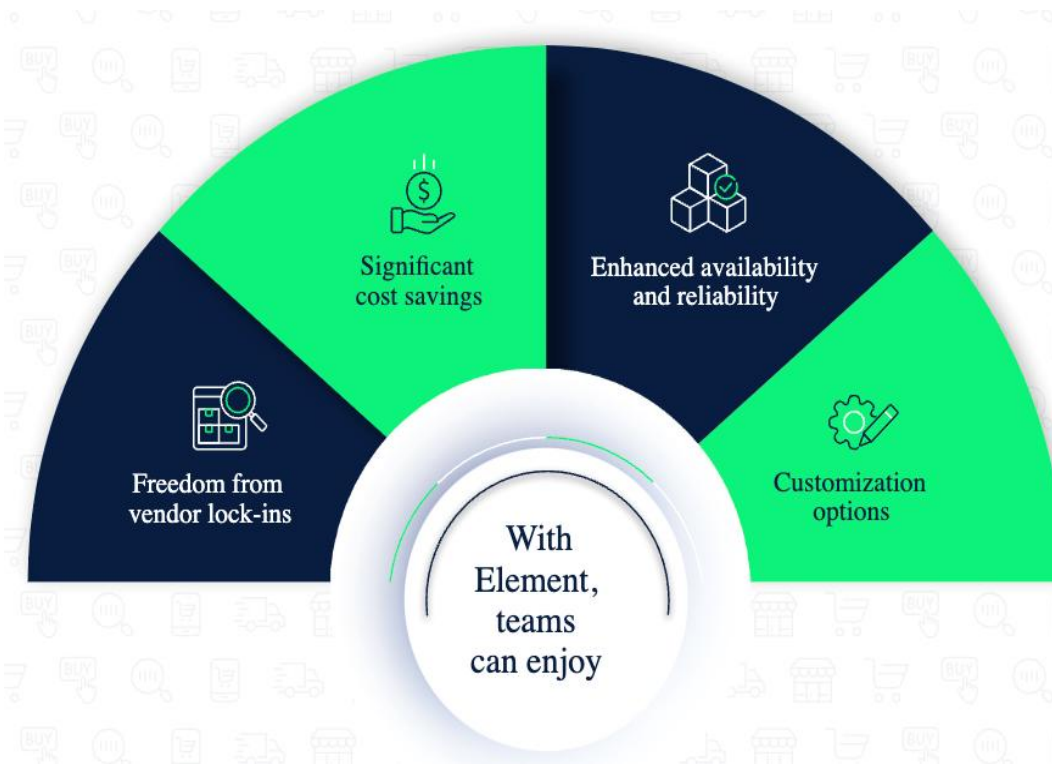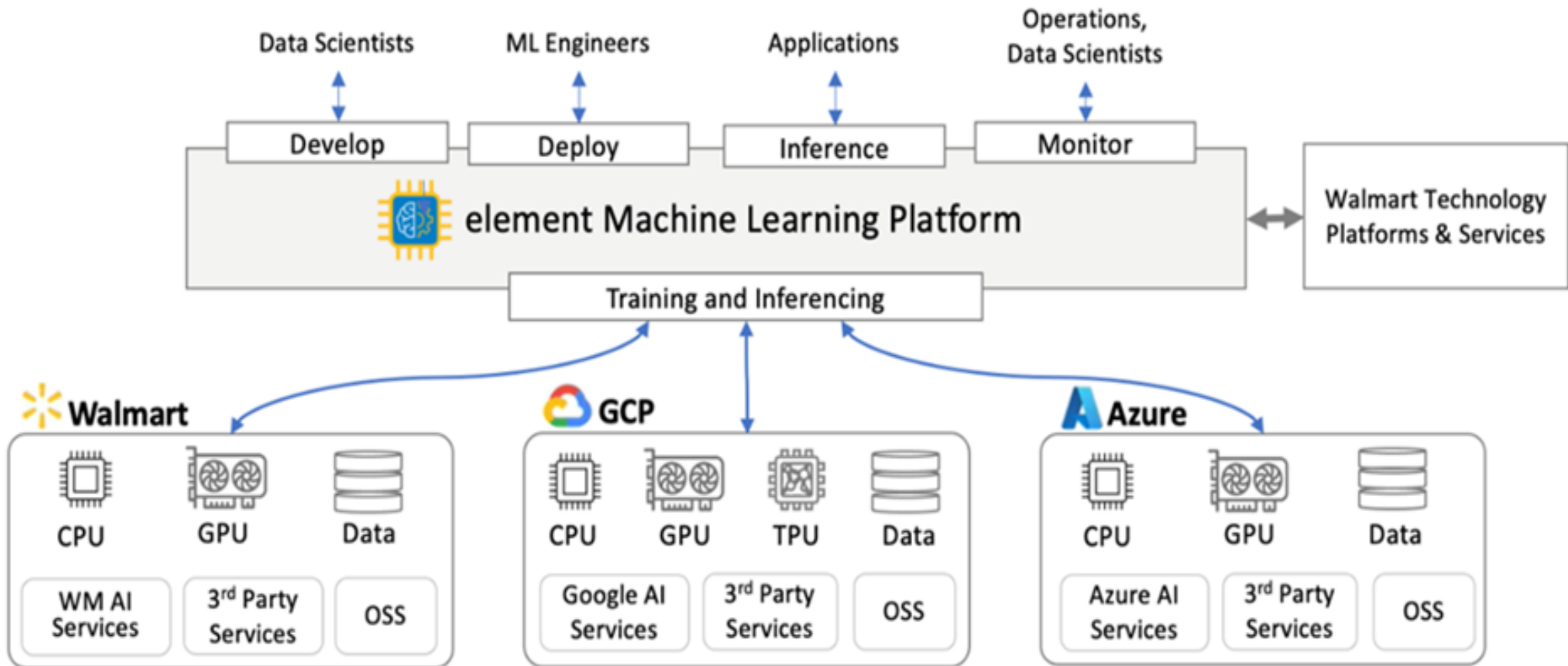- • Limited availability and reliability
- • Customization issues

- Element helps simplify the adoption of AI/ML at scale.
- This reduces time to market by deploying faster solutions.

Walmart Global Tech: Retail innovation at a glance

We help develop retail technology that enables other businesses through commercialized solutions and power our flywheel.

Walmart **Commerce Technologies**™

Walmart **GoLocal**

Walmart **Luminate**

Walmart Connect

sam's club **map**

With Element, teams can enjoy:
- Significant cost savings
- Enhanced availability and reliability
- Customization options
- Freedom from vendor lock-ins

- Less time spent in evaluation of multiple vendors, commercial and open-source tools
- Immediate access to multi-cloud cloud resources
- Faster development and deployment of high-quality AI solutions

Should Walmart keep Walmart Element as an internal tool to support its own operations, or should it commercialize the platform, making it available as a product for the external market?

Product Strategy

The product strategy for Walmart Element, should align with both Walmart's broader business objectives and the potential market opportunity of the platform. The strategy needs to consider internal optimization, external commercialization, and customer-centricity. Value-driven solutions to both internal Walmart teams and external customers, focusing on solving complex business challenges across value chains.

➢ **Internal Objective:** Enhance Walmart's operational efficiency, enabling data-driven decision-making and better resource allocation.

➢ **External Objective:** Expand Walmart Element as an offering, helping retailers and other industries use machine learning to solve similar challenges.

Business Model Canvas

Key Partners

- **System Integrators**: Across the systems, AI/ML platforms needs to be integrated this needs support from the specific system owner and the AI/ML platform
- **Hyperscaler Platform Providers**: Partners with hosted platform providers to host the cloud-native applications,
- **Other Software Providers / Open Source Communities**: Software tool providers that perform vulnerability checks and code-quality checks on the developed software. Leveraging and contributing to open-source AI tools.
- **Retail Partners**: Co-developing AI-driven initiatives with suppliers and third-party vendors.

Key Activities

- **Software Development**: Continuous development and delivery of features & updates
- **Model Development**: Building and training AI/ML models for internal use.
- **Platform Maintenance**: Ensuring high availability, scalability, and security.
- **Integration**: Connecting Element with existing Walmart systems.
- **Innovation**: Researching and adopting state-of-the-art AI techniques.

Key Resources

- **Engineering Team**: Software engineers/ developers responsible for designing and developing the platform internally
- **Product Management Team**: Streamlining the requirements of the other departments and ensuring the features are delivered to the customers at the right time
- **Infrastructure**: Hybrid multicloud environment leveraging CPUs, GPUs, TPUs.
- **Data Lake**: Enterprise data lake housing Walmart's vast datasets.
- **MLOps Framework**: Sophisticated tools for model training, deployment, and monitoring.

Value Proposition

- **Efficiency**: Rapid deployment of AI/ML workloads (minutes instead of days).
- **Scalability**: Operates seamlessly across hybrid multicloud environments.
- **Cost-Effectiveness**: Open-source tools and vendor-agnostic architecture reduce costs, supporting Walmart's "Every Day Low Cost" philosophy.
- **Innovation Support**: Empowers teams to experiment with AI models using a centralized data lake: Element facilitates a culture of experimentation by providing a unified platform and easy access to shared data, enabling cross-functional teams to build and refine models collaboratively.
- **Flexibility**: Vendor-agnostic, There is no vendor lock-in, enabling Walmart to switch between cloud providers easily. There is no Vendor lock-in
- **Security and Trust**: The platform incorporates robust data governance frameworks, ensuring compliance with regulatory standards and maintaining trust by safeguarding sensitive customer and operational data.

Customer Relationships

- **Collaborative Approach**: Close engagement with internal teams such as channel selection, search optimization for iterative improvements.
- **Training and Support**: Continuous skill-building for Walmart's tech teams.
- **Feedback Loops**: Mechanisms for teams to provide input on Element's usability and performance.

Channels

- **Internal Platforms**: Integrated into Walmart's internal tech stack.
- **Developer Resources**: SDKs and tools provided to Walmart's tech teams.
- **Training and Documentation**: Internal documentation and support for adopting AI technologies.

Customer Segments

Internal Users:
- Walmart's other departments such as supply chain and website search team
- Operations teams leveraging AI for in-store and online efficiencies.
- Walmart's AI and data science teams.
- Software developers across Walmart's tech infrastructure.

External Partners:
- Potential for external monetization through partnerships or licenses.

Cost Structure

- **Development Costs**: Ongoing developments and innovations
- **Infrastructure Costs**: Hyperscaler subscription and hosting costs, Cloud computing and hardware for AI workloads.
- **Software Licensing Costs & Operational Costs**: Other software that are used by the developers to develop the cloud native software
- **R&D Investments**: Developing and improving the Element platform.

Revenue Streams

- **Internal Savings**: Cost reduction from operational efficiencies.
- **Customer Experience Enhancements**: Indirect revenue via improved customer satisfaction and retention.
- **Potential External Monetization**: Licensing the platform or components to partners/vendors

Vision

Provide competitive advantage by developing transformational ML platform capabilities that simplify the adoption of AI/ML

Product Strategy

- Target Audience: Internal and external vendors, retailers. Small firms with ecommerce presence
- Value Proposition: Internal optimization, External SaaS
- Differentiation: AI driven solution tailored for retail and supply chain

Product Roadmap

Short	Mid	Long
Internal Adoption	Vendor Adoption	Early market cap
Data Integration	Feature Enhancement	Full SaaS Launch
Vendor onboarding	Scalability	
	Feature Expansion	

Key results (Short term)

- ❖ Onboard 30% of Walmart's top vendors
- ❖ Achieve 100% data integration
- ❖ Ensure 90% of vendors complete onboarding
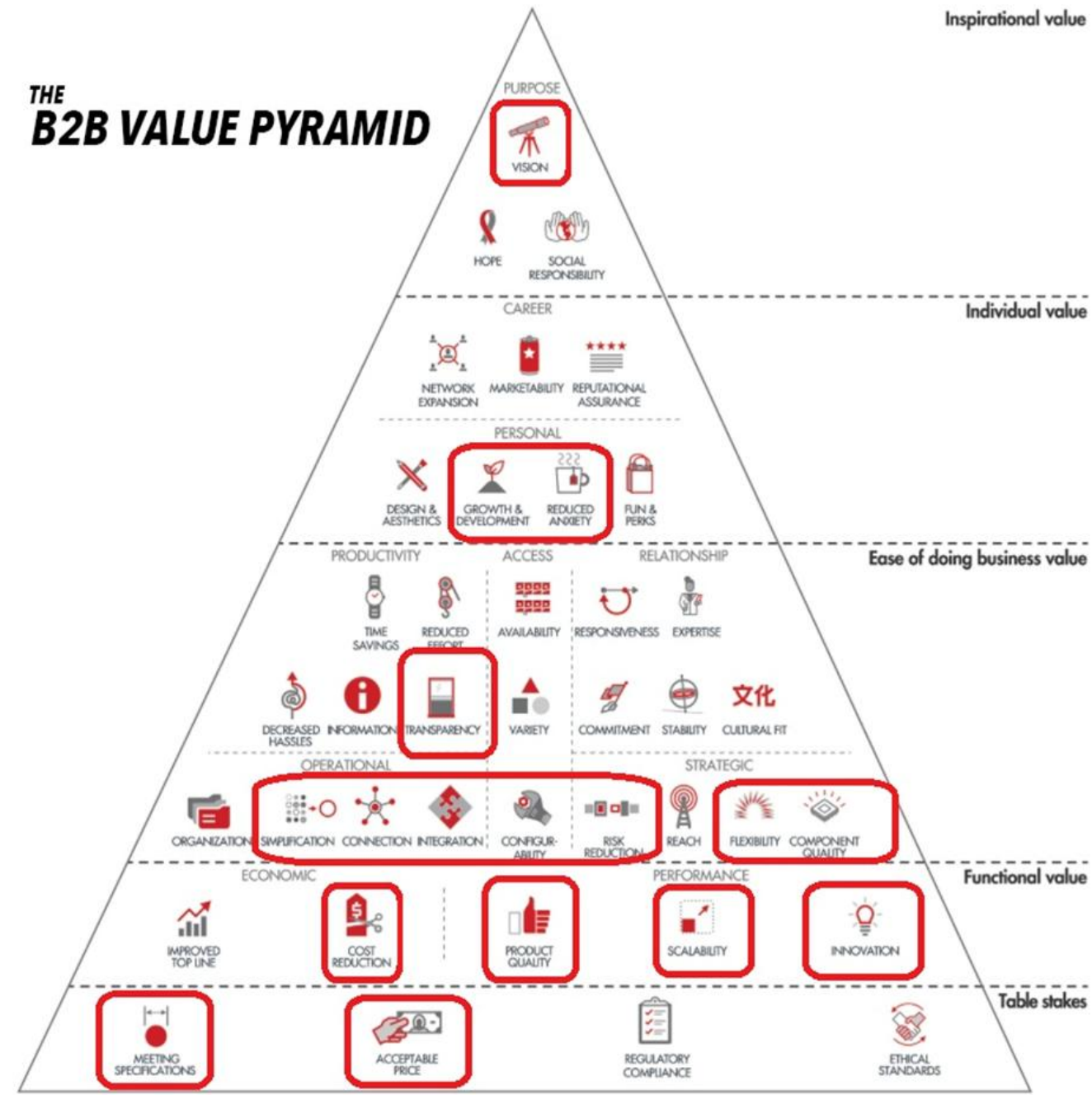
B2B Value Pyramid

THE **B2B VALUE PYRAMID**

Build on the concept of **Maslow's Hierarchy of Needs** with Vision as the inspirational value

Helps to achieve personal growth and reduces anxiety by automating the daily needs transparently.

Provides ease of doing business with superior integration, connectivity enabling flexibility and enhancing quality of work. Simultaneously it helps in cost reduction, scalability and fosters innovation at an acceptable price.

Walmart Element can incrementally build momentum and achieve **Product-Market Fit**. This process involves a **gradual expansion** from niche adoption to larger market penetration, which will be essential for long-term success.

Product Development

Deliver Value & Build Success Stories

Offer value-driven solutions to these niches (e.g., inventory optimization, demand forecasting) and build case studies.

Iterate and Optimize Based on Feedback
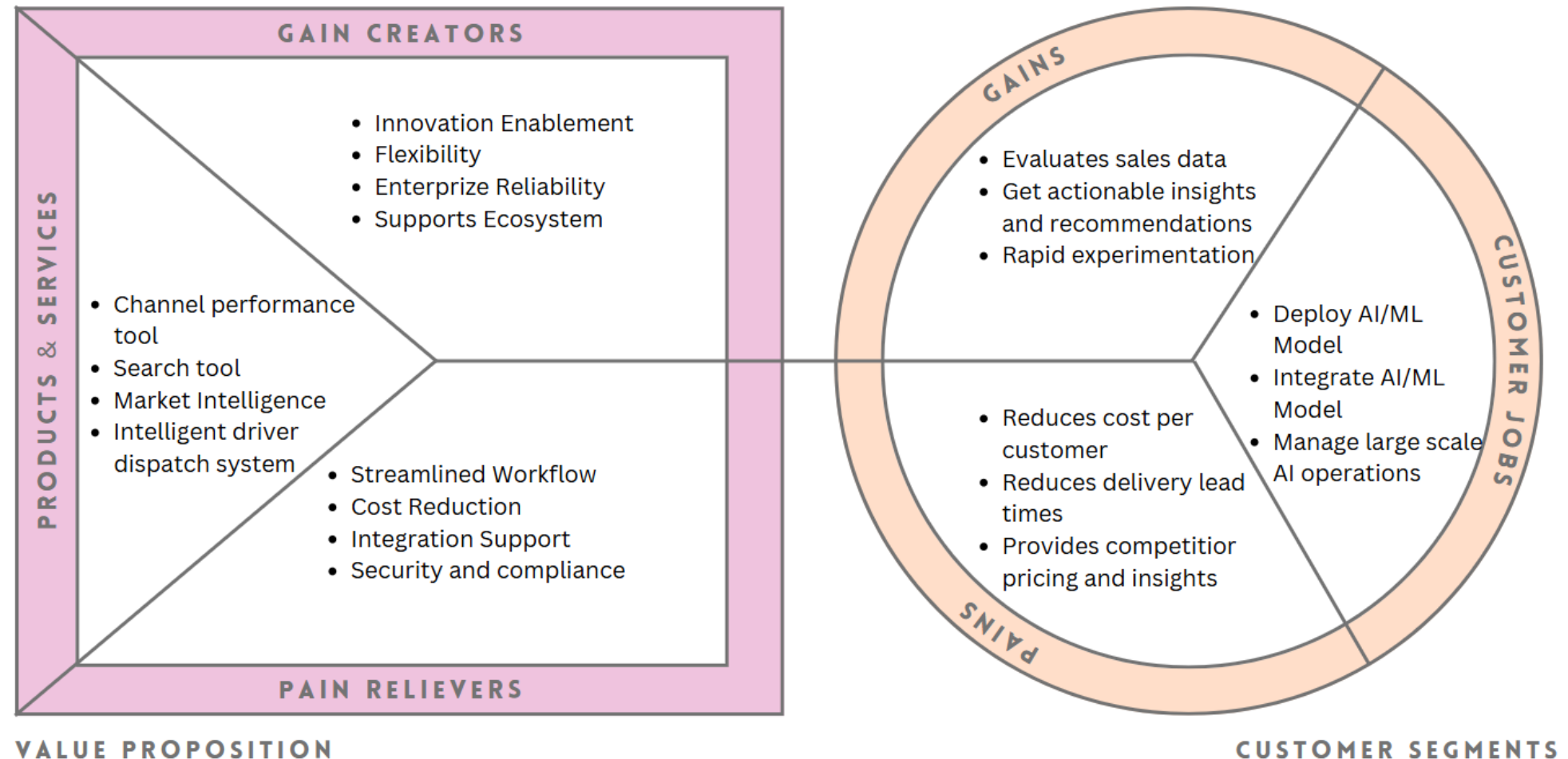
Continuously refine Walmart Element based on feedback from early users and ensure the platform addresses their specific needs.

Broader Market Adoption

New Niches – Logistics, Manufacturing

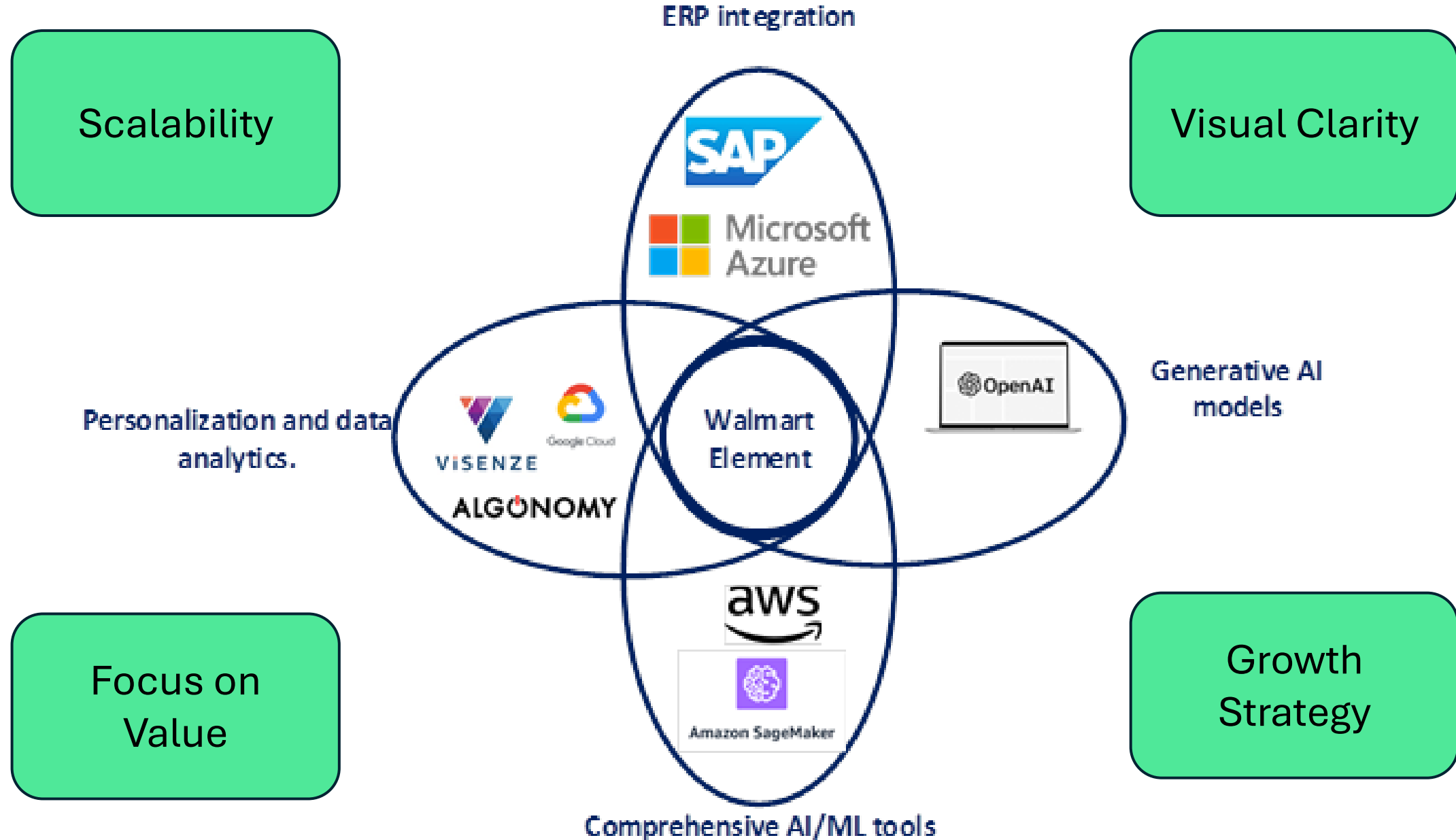Market Development

Chasm

Top vendors
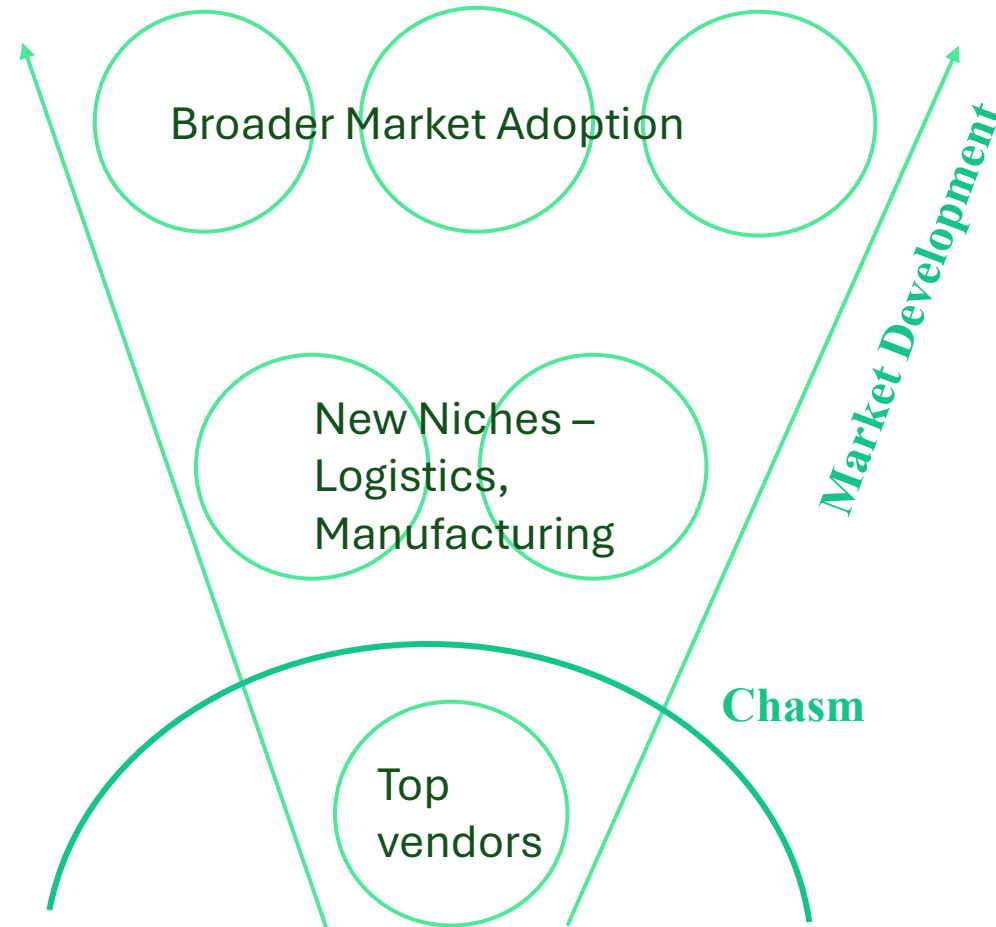
Value Business and Value Bundle

It helps teams quickly deploy AI/ML models, work efficiently across multiple cloud systems, and save costs using open-source and flexible architecture. Centralizing data and maintaining strong security, allows Walmart's teams to try new ideas and make smart, data-driven decisions

GAIN CREATORS

- Innovation Enablement
- Flexibility
- Enterprize Reliability
- Supports Ecosystem

PRODUCTS & SERVICES

- Channel performance tool
- Search tool
- Market Intelligence
- Intelligent driver dispatch system

- Streamlined Workflow
- Cost Reduction
- Integration Support
- Security and compliance

PAIN RELIEVERS

VALUE PROPOSITION

GAINS

- Evaluates sales data
- Get actionable insights and recommendations
- Rapid experimentation

CUSTOMER JOBS

- Deploy AI/ML Model
- Integrate AI/ML Model
- Manage large scale AI operations

- Reduces cost per customer
- Reduces delivery lead times
- Provides competition pricing and insights

PAINS

CUSTOMER SEGMENTS

Competitor Analysis

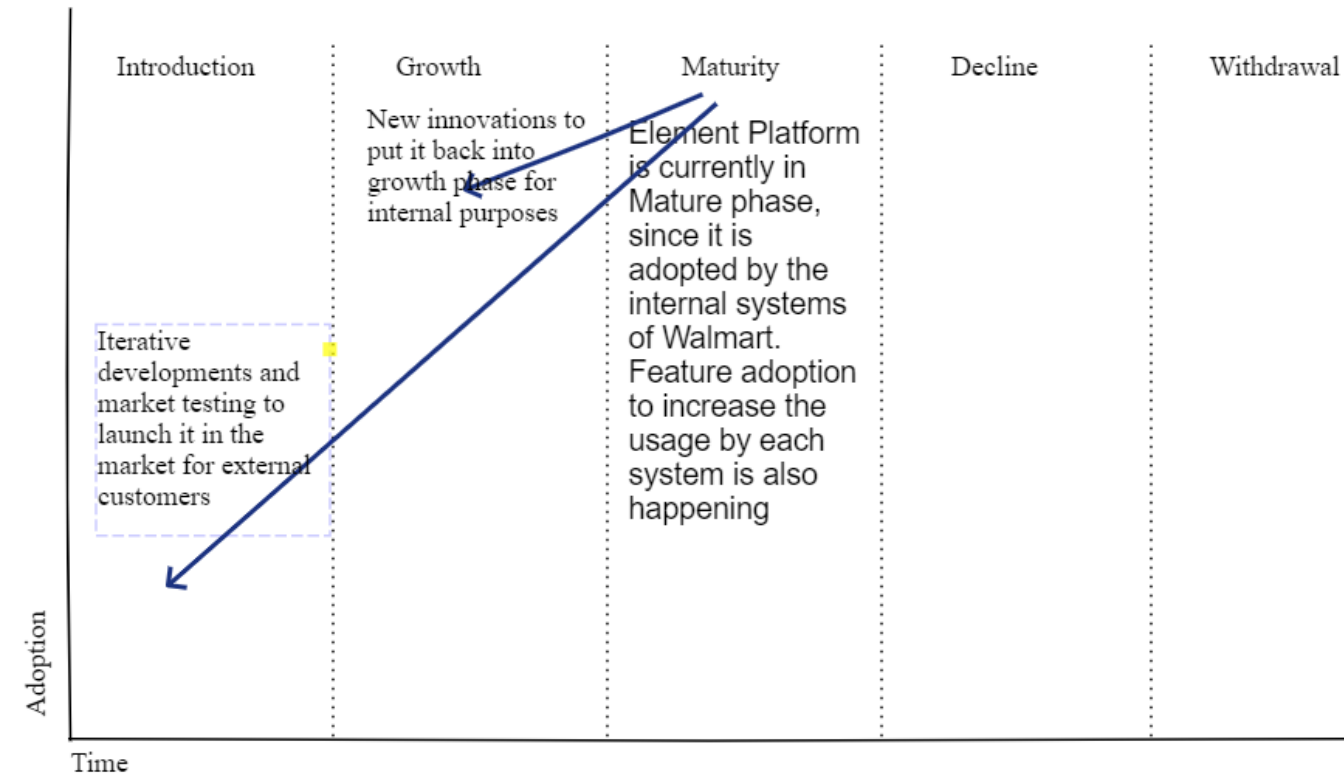| Competitor	Strengths	Competitive Edge
Amazon Web Services (AWS)	Comprehensive AI/ML tools like SageMaker, Rekognition, and Personalize.	Retail expertise as the backbone of Amazon; cost-efficient and scalable AI services
Google Cloud Platform (GCP)	Tools like Vertex AI, AutoML, and BigQuery ML for personalization and data analytics.	Advanced NLP and search technologies tailored for retail and supply chain
Microsoft Azure	Azure Machine Learning, Cognitive Services, and ERP integration through Dynamics 365.	Seamless integration with enterprise ecosystems and real-time analytics
SAP AI Solutions	AI-enabled ERP, supply chain optimization, and business process integration.	Unified AI solutions tailored to large-scale retail operations
OpenAI Solutions	Generative AI models like ChatGPT for conversational shopping and dynamic recommendations.	Flexibility for integration into various retail platforms, including startups
Retail AI Startups	Focus on niche applications like visual search (ViSenze), personalized marketing (Algonomy).	Specialized, agile solutions for specific retail challenges

Its lifecycle as an internal product has reached a maturity phase, characterized by widespread adoption across Walmart's internal systems. This maturity is reflected in several ways:
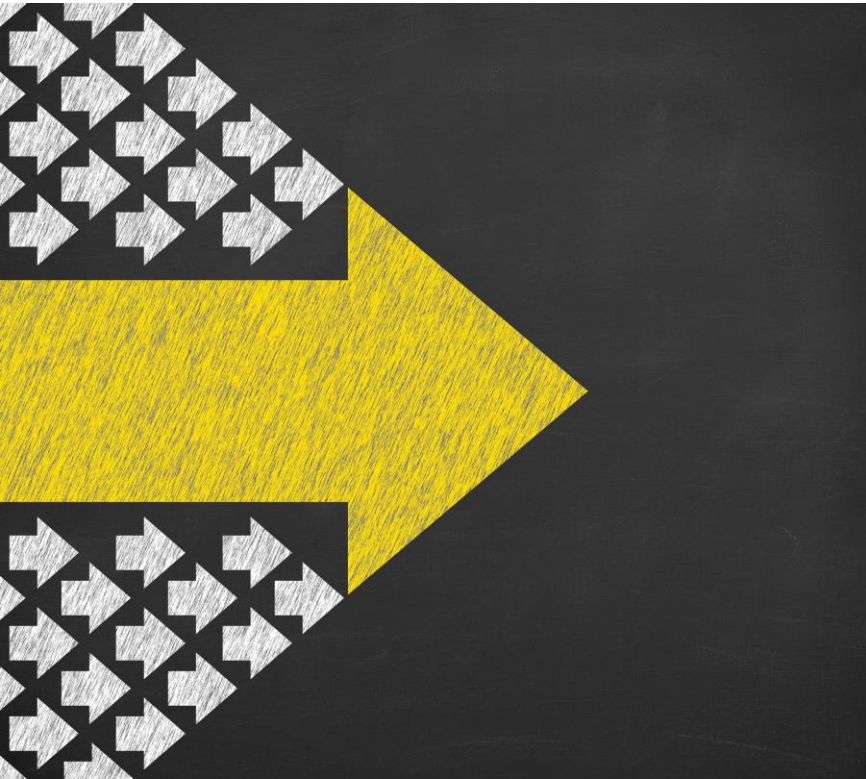
- Adoption Across Teams
- Increasing Feature Adoption
- Stagnation in innovation.

If Walmart decides to launch Element as an external product, the lifecycle must restart at the introduction phase. This requires:

1. Identifying target customers and market segments.
2. Refining the platform for external usability, such as user-friendly interfaces and support infrastructure.
3. Establishing branding, pricing models, and marketing strategies to position the product competitively in the market.

Such a transformation demands iterative development and market testing to ensure Element aligns with external customer needs while retaining its competitive edge.

| Introduction | Growth | Maturity | Decline | Withdrawal |

New innovations to put it back into growth phase for internal purposes

Element Platform is currently in Mature phase, since it is adopted by the internal systems of Walmart. Feature adoption to increase the usage by each system is also happening

Iterative developments and market testing to launch it in the market for external customers

Adoption

Time

•Considering the well-versed people with Walmart Element and the costs incurred for revamping the existing solution, we recommend the **product should be continued for internal usage**.

•Start with niche markets like **Walmart's suppliers in retail or e-commerce** which would **enhance relationships**, build case studies, and expand to adjacent industries for smooth adoption.

•**Pricing with Metering as a Service**: Implement **usage-based pricing** with flexible tiers, tracking consumption metrics for transparent billing and cost optimization.

•**Generative AI**: Integrate AI tools that allow **businesses to customize models** for specific tasks like inventory or demand forecasting, enhancing automation.

•**Domain-Specific ML Models**: Offer **pre-trained, industry-specific ML models** as APIs to **simplify integration** and speed time-to-value.

•**Partnerships and Ecosystem**: Partner with cloud providers and consultants to **extend functionality** and help businesses **integrate** Element.