

# SEPHORA AI STRATEGIC PLAN

Ily, Isha, Namandeep, Pavan, Bingqing

# TABLE OF CONTENTS

---

1. Overview of the Company & Business Function
2. AI Opportunities
3. Technology, Data & Talent Strategy
4. Governance, Learning and Innovation Strategy
5. Global AI Implementation Blueprint



# EXECUTIVE SUMMARY

---

Sephora's AI strategy targets three key opportunities: personalized beauty experiences using AI-powered skin analysis, enhanced product discovery through virtual try-on technologies, and operational excellence via inventory optimization. Implementation will follow a 36-month phased approach, supported by robust governance with emphasis on ethical beauty AI practices and a comprehensive learning ecosystem.

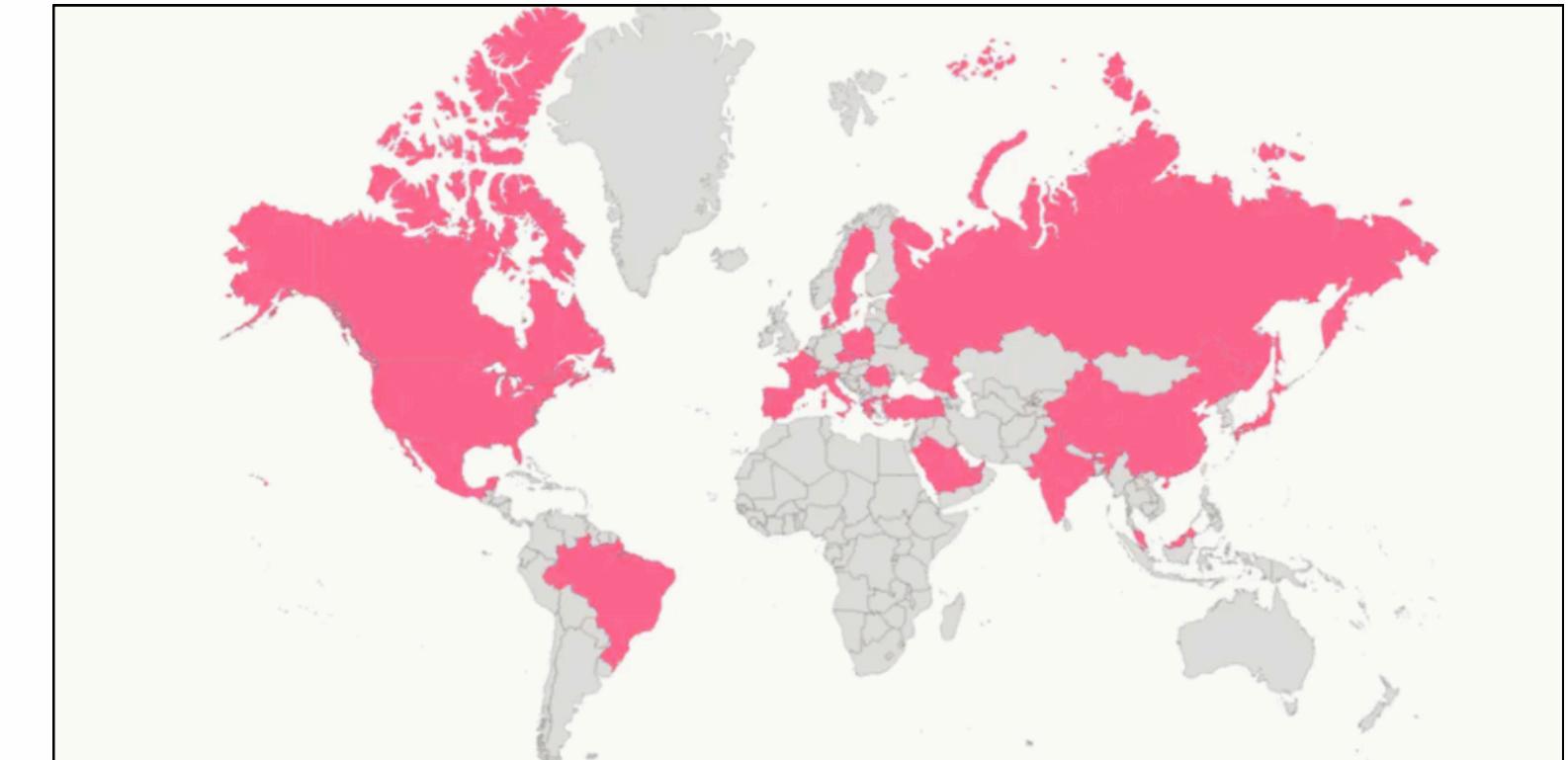
This plan will cement Sephora's position as the beauty technology leader while delivering measurable business value through increased customer lifetime value and operational efficiency.



# I. OVERVIEW OF THE COMPANY

## 1. DESCRIPTION

- Sephora is a **global leader in prestige beauty retail**, founded in 1969 in France and owned by **LVMH** since 1997. With **over 3,000 stores across 35+ markets** and a strong e-commerce presence, Sephora offers a wide range of cosmetics, skincare, fragrance, and wellness products.
- Known for curating both luxury and indie brands, Sephora is recognized for its **innovative in-store experiences** such as beauty tutorials, skin diagnostics, and personalized recommendations.



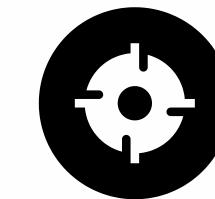
Sephora Global Presence

# I. OVERVIEW OF THE COMPANY

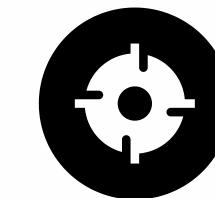
---

## 2. MISSION STATEMENT

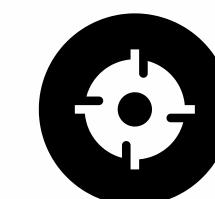
To create a welcoming beauty shopping experience for all and inspire fearlessness in our community.



Commitment to inclusivity



Devotion to empowerment



Delivering a unique, engaging & accessible  
beauty retail experience

# I. OVERVIEW OF THE COMPANY

## 3. BUSINESS OBJECTIVES



### Customer-Centric Growth & Loyalty

Deliver personalized beauty experiences through AI, machine learning, and in-store tools



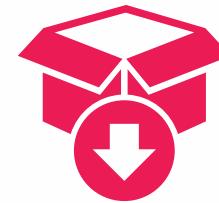
### Innovation & Technology Leadership

- Stay at the forefront of beauty and retail technology by adopting AI/AR/VR tools
- Invest in beauty tech startups via the Sephora Accelerate program and foster continuous digital innovation



### Operational Efficiency & Profitability

Optimize store layouts, supply chain, and technology infrastructure to improve margins and operational agility.



### Global Growth Strategy

- Strengthen presence in high-growth markets (e.g., Asia-Pacific)
- Localize offerings and marketing to reflect cultural beauty standards and preferences.



### Omnichannel Excellence

Create a seamless, integrated shopping experience across physical stores, mobile apps, e-commerce, and social platforms.



### Sustainability & Social Impact

- Advance environmental goals through the Clean at Sephora initiative, sustainable sourcing, & eco-friendly packaging
- Uphold DEI across workforce, brand portfolio & marketing strategies

## II. AI OPPORTUNITIES

---

# III. TECHNOLOGY, DATA, AND TALENT STRATEGY

---

## 1. AI TECHNOLOGIES

Sephora already uses AI in areas like virtual try-ons, chatbots, and product recommendations. Our strategy builds on this foundation and takes it further with advanced, scalable technologies:

### 1. Product Recommendation System:

**What they use now:** Sephora recommends products based on what users previously viewed or bought.

**How to improve it:** Use deep learning models like BERT4Rec or Meta's DLRM to learn from customer behavior across website, app, and store.

**These models can recommend:** Products needed next (e.g., skincare after makeup), Items similar customers liked, Seasonal or trending products

**Tech used:** Python, TensorFlow, PyTorch, BigQuery, real-time API

**Strategic value:** Improves personalization and cross-selling, boosts engagement, and drives overall sales.

### 2. Virtual Try-On Tool:

**What they use now:** Sephora uses Modiface, an AR tool for virtual makeup try-ons.

**How to improve it:** Use Generative AI (GANs or Stable Diffusion) to make try-ons more realistic (lighting, skin tone, facial angles) and capable of showing complete looks (lipstick + foundation + blush)

**Tech used:** OpenCV, GANs, Unity, mobile AR SDKs

**Strategic value:** Enhances customer confidence, reduces product returns, and increases conversions — especially for online shoppers who can't test in-store.

## III. TECHNOLOGY, DATA, AND TALENT STRATEGY

---

### 1. AI TECHNOLOGIES

#### 3. Chatbots and Virtual Assistants

**What they use now:** Sephora's chatbot helps with basic questions and product suggestions (mostly rule-based).

**How to improve it:** Use AI language models like GPT-4 or Amazon Lex to:

- Give beauty advice based on customer profile
- Build routines (e.g., “build me a skincare routine for dry skin”)
- Respond in multiple languages or via voice

**Tech used:** GPT-4 (via OpenAI API), Google Dialogflow, Twilio (for WhatsApp/voice), Shopify integrations

**Strategic value:** Improves customer support quality, provides 24/7 assistance, and reduces staff load while making the shopping experience more helpful and personalized.

#### 4. Inventory and Demand Forecasting

**What they use now:** Basic forecasting based on past sales and seasons.

**How to improve it:** Use ML models like XGBoost or Prophet, which can include:

- Influencer campaigns
- Weather conditions
- Local events and promotions

**Tech used:** XGBoost, Prophet, SQL, Tableau or Power BI

**Strategic value:** Helps ensure the right products are stocked at the right time and place, reducing inventory waste, improving availability, and supporting smarter supply chain decisions.

## III. TECHNOLOGY, DATA, AND TALENT STRATEGY

### 2. DATA NEEDS AND USAGE

AI Tool	Data Needed
Recommendation Engine	Purchase history, page views, cart activity, wishlists, loyalty usage
Virtual Try-On	Selfies, skin tone info, lighting conditions, facial angles, product images
Chatbot	Customer queries, account preferences, product FAQs
Demand Forecasting	Sales data, store footfall, promotions, holidays, influencer activity, weather

#### How This Data Should Be Managed and Used?

All data should be stored securely in cloud platforms like AWS or Google Cloud and has to be updated in real time using tools like Apache Airflow to keep AI models accurate. Also, Customer privacy must be protected by following laws like GDPR and CCPA. Additionally, personal data should be anonymized so it can't be traced back to individuals. When real data is limited (e.g., for certain skin tones), synthetic data should be used to train fair and inclusive models. AI systems should only show results that are relevant and useful to each customer.

## III. TECHNOLOGY, DATA, AND TALENT STRATEGY

### 3. TALENT STRATEGY

Sephora needs both specialist roles and a learning mindset in the company., to make all this happen:

#### 1. Roles Sephora Needs

Data Scientists – to create smart models (e.g., recommend what to buy next)

ML Engineers – to build tools into the app or website

Computer Vision Experts – to improve try-on experiences

NLP Experts – for smarter chatbots

AI Product Managers – to make sure AI helps customers and fits business goals

#### 2. Training and Partnerships

Start an “AI for Beauty” learning program to train marketers, store staff, and tech teams

Partner with AI startups or universities for research and idea-sharing

Run internal hackathons to try out new ideas using real data



# IV. GOVERNANCE, LEARNING AND INNOVATION STRATEGY

## 1. AI GOVERNANCE FRAMEWORK

### Ethics Committee Structure

- Executive Oversight Board: C-suite representation with quarterly reviews
- Cross-functional Working Group: Representatives from all key departments
- External Advisory Panel: Industry experts and ethics scholars

### Responsible AI Guidelines

- Inclusivity: Mandatory testing across all Fitzpatrick skin types
- Transparency: Clear disclosure and explanation of AI-driven recommendations
- Privacy: Zero retention for biometric data, federated learning implementation
- Anti-Stereotyping: Protocols to avoid reinforcing harmful beauty standards

### Quality Control System

#### Algorithmic Audits

Quarterly third-party audits and continuous monitoring

#### A/B Testing

Ethical considerations integrated into all test designs

#### Bias Detection

Automated systems for monitoring recommendation fairness

#### Feedback Loops

Multi-layered system capturing diverse customer input

# IV. GOVERNANCE, LEARNING AND INNOVATION STRATEGY

## 2. LEARNING AND INNOVATION STRATEGY

### Innovation Ecosystem

#### 01 Sephora AI Lab

25-person research team with 15% exploration time

#### 02 Sephora Accelerate for AI

Annual cohort of 5-7 beauty AI startups

#### 03 Academic Research Network

Partnerships with MIT, Stanford, and NYU

#### 04 Open Innovation Initiatives

Annual hackathons and quarterly challenges

### Knowledge Management

- AI Insights Platform

Centralized repository of experiments and results

- Cross-functional Knowledge Exchange

Monthly showcases and rotation programs

- Learning Documentation

Standardized case studies for all initiatives

- Innovation Metrics

Tracking experiments, adoption rates, and patents

# IV. GOVERNANCE, LEARNING AND INNOVATION STRATEGY

## 3. CHANGE MANAGEMENT STRATEGY

### Innovation Ecosystem

- E** **Executive Sponsorship Program**  
C-suite members sponsor specific AI initiatives with KPIs tied to adoption
- A** **AI Ambassador Network**  
100+ trained ambassadors across all functions and regions
- S** **Success Communication Strategy**  
Bi-weekly AI win stories and quantified business impact reporting
- I** **Adoption Incentive Structure**  
Recognition awards and career advancement paths for AI champions

### Culture Transformation Roadmap

- 1** **Data-Driven Decision Culture**  
"Data first" policy for all major decisions with literacy training for all employees
- 2** **Experimentation Mindset**  
"Fast failure" celebration and reduced bureaucracy for experiments
- 3** **Continuous Learning Environment**  
AI curriculum for all levels and learning sabbaticals for deep skill development
- 4** **Change Reinforcement**  
Regular pulse surveys and celebration rituals for AI transformation milestones

# IV. GLOBAL AI IMPLEMENTATION AND RISKS

## 1. IMPLEMENTATION : VISION AND OBJECTIVES

- Personalized CX – AI product recommendations, virtual try-on
- Agile Supply Chain – demand forecasting, smart inventory optimization
- Precision Marketing – dynamic segmentation, real-time campaign tuning

## 2. FOUR-PHASE ROLL-OUT

<b>PILOT (Q3 2025)</b>	<b>SCALE (H1 2026)</b>	<b>GLOBALIZE (H2 2026)</b>	<b>INNOVATE (2027+)</b>
<ul style="list-style-type: none"> <li>• Run CX, supply-chain, marketing pilots in NA/EU</li> <li>• Launch data mesh v1 and train staff in AI Essentials</li> </ul>	<ul style="list-style-type: none"> <li>• Promote high-ROI pilots to production; automate MLOps</li> <li>• Create regional AI pods and expand data mesh</li> </ul>	<ul style="list-style-type: none"> <li>• Deploy virtual try-on, demand-forecast, next-best-offer to APAC/LATAM</li> <li>• Institute quarterly Responsible-AI audits</li> </ul>	<ul style="list-style-type: none"> <li>• Roll out Gen-AI personalization + multi-channel beauty concierge</li> <li>• Monetize “Sephora Tech” platform and reach AI-fluency enterprise-wide</li> </ul>

## 3. OPERATING MODEL

- AI Center of Excellence (strategy, governance)
- Regional AI pods (local adaptation)
- Unified MLOps platform + data mesh & feature store

## 4. CHANGE & ENABLERS

- C-suite sponsorship & Responsible-AI toolkit
- 3-tier AI-fluency upskilling (Essentials / Practitioner / Expert)
- Strategic cloud + beauty-tech ecosystem partnerships

## IV. GLOBAL AI IMPLEMENTATION AND RISKS

---

Risk	Impact	Mitigation	KPI to track AI Implementation
Bias & Fairness	Unequal offers, reputational damage	Bias testing, diverse training data, model-audit scorecards	Recommendation Acceptance Rate $\geq 30\%$ (% of shoppers who add AI-suggested items to cart)
Data Privacy & Security	Regulatory fines, loss of consumer trust	GDPR/CPRA compliance matrix, zero-trust architecture, regular pen-tests	CX-NPS Uplift $\geq +5$ pts (Net Promoter Score vs. pre-AI baseline)
Model Drift & Reliability	Stock-outs, mis-priced promos, poor CX	Automated drift alerts, monthly model retraining pipeline	Forecast Accuracy(MAPE) $\leq 8\%$ (Demand-forecast error across regions)
Ethical Use	Customer backlash over intrusive personalization	Clear opt-in/opt-out controls, ethics-board sign-off before launch	Incremental AI-Driven Sales $\geq +8\%$ YoY (Revenue attributed to AI recommendations & dynamic offers)
Workforce Impact	Resistance to change, skill gaps	Human-in-the-loop design, 3-tier AI-fluency training, 90% staff certified	Workforce AI-Fluency $\geq 90\%$ Certified (Staff completing Essentials-level AI training)

### GOVERNANCE STACK

Responsible-AI Board → Documented Policies & Standards → Continuous Monitoring &  
Independent Audit → AI Scorecard (revenue lift, CX-NPS, carbon-savings)

# SEPHORA

# THANK YOU!

Questions?

# REFERENCES

---

- LVMH. (n.d.). Sephora. Retrieved April 30, 2025, from <https://www.lvmh.com/houses/selective-retailing/sephora/>
- Sephora USA, Inc. (n.d.). Sephora: Cosmetics, beauty products and skincare. Retrieved April 30, 2025, from <https://www.sephora.com>
- Business of Fashion. (2023). Sephora Company Profile. Retrieved from <https://www.businessoffashion.com>
- Forbes. (n.d.). Sephora. Retrieved April 30, 2025, from <https://www.forbes.com/companies/sephora/>
- Statista. (2024). Number of Sephora stores worldwide from 2013 to 2023. Retrieved from <https://www.statista.com/statistics/1016186/sephora-store-numbers-worldwide/>
- Retail Dive. (2023, August 10). How Sephora is redefining beauty retail through tech and partnerships. Retrieved from <https://www.retaildive.com>
- Women's Wear Daily. (2023, October 5). Sephora expands global footprint and inclusive brand offerings. Retrieved from <https://www.wwd.com>
- McKinsey & Company. (2023). The future of beauty: Accelerating industry innovation. Retrieved from <https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/the-future-of-beauty>
- CLAUDE AI - 3.7 SONNET VERSION