Kroger and GenAI: A Forward-Looking Growth Strategy

Presented by Keegan Conley

Agenda

1. Current Situation
2. Recommendations
3. Timeline
4. Risk & Mitigation
5. Conclusion

Empowering Kroger on the Road Ahead

Kroger is a leading U.S. grocery chain with thousands of locations, reliable cash flow, and successful expansion into e-commerce and health/wellness.

As retailers quickly explore ways to leverage AI to improve efficiencies and enhance customer service, Kroger risks shedding its competitive parity.

How should Kroger leverage Gen AI to enhance its service-oriented retail model and core sectors to develop a durable competitive advantage?

Kroger can achieve competitive advantage by improving customer service through AI-driven healthcare provisions and optimization of its e-commerce platform

Unlike Walmart or discounters that emphasize low prices, Kroger's model emphasizes **personalized service, fresh food quality, and community presence**

This aligns naturally with GenAI's ability to provide **personalized**, **proactive** customer interactions, and minimizes departure from existing core competencies

Integrate AI personalization into Kroger's existing app and online shopping experience to drive basket size

- Brands report significant support volume reduction and increased place elasticity (Netscribes)

Pilot AI pharmacy tools (reminders, refill nudges) in regional markets before national rollout

- Mass market retailers outperform chain drug stores on **staffing**, **trust**, **ease** of ordering and fill time (JDPower)

Leverage 84.51° data science teams to **train and monitor AI models**, ensuring compliance and accuracy

- GenAI adoption across retail could unlock a *~1.2–1.9 percentage point* margin improvement (McKinsey)

Source(s): Netscribes; McKinsey; JDPower

Kroger can create differentiated customer experiences by deploying GenAI assistants that help with health needs and online shopping via a tech ecosystem

E-Commerce Shopping Guide

AI as a guide will facilitate **higher conversion rates**, **higher spend**, and **faster decision-making** (Hellorep)

- *12.3% of shoppers* who engage with AI-powered chat *make a purchase*, compared to just 3.1% of those who do not
- Returning users spend *25% more* than non-AI
- Shoppers complete purchases *47% faster*

Health Agent

Providing AI-assisted healthcare will **increase retention, spend, and leverage with payers** (Walgreens, AJMC)

- AI adherence tools boost refill rates by 6-9%, *directly increasing sales*
- Adherence reduces medical costs, leading to savings from payers
- Combining health and grocery leads to *10-20% higher spend*

Tech Ecosystem

A refined, data-driven end-to-end ecosystem ensures **maximum positive impact** to the consumer (Hellorep, MM)

- Companies that lead in AI-driven personalization generate *40% more revenue* than non-adopters
- Product recommendation systems account for 31% of total online revenue
- 56% of online shoppers gravitate to companies with personal recommendations

Source(s): Hellorep; Walgreens; AJMC; Mood Media

Kroger can scale adoption of these innovations by using its 84.51° loyalty platform to personalize rewards and engagement

84.51°

→ **Activate loyalty and transaction data** (60M+ households) to train GenAI models

→ **Integrate insights into Kroger's app and digital channels** to deliver individualized promotions, nudges, and health recommendations in real time

→ **Deploy "AI Factory" capabilities** to monitor accuracy, reduce bias, and continuously refine at scale

Established Data Architecture –
95% of Kroger's sales are *tied to loyalty accounts*, making the program a good source for inspiration-driven targeting (Emarketer)

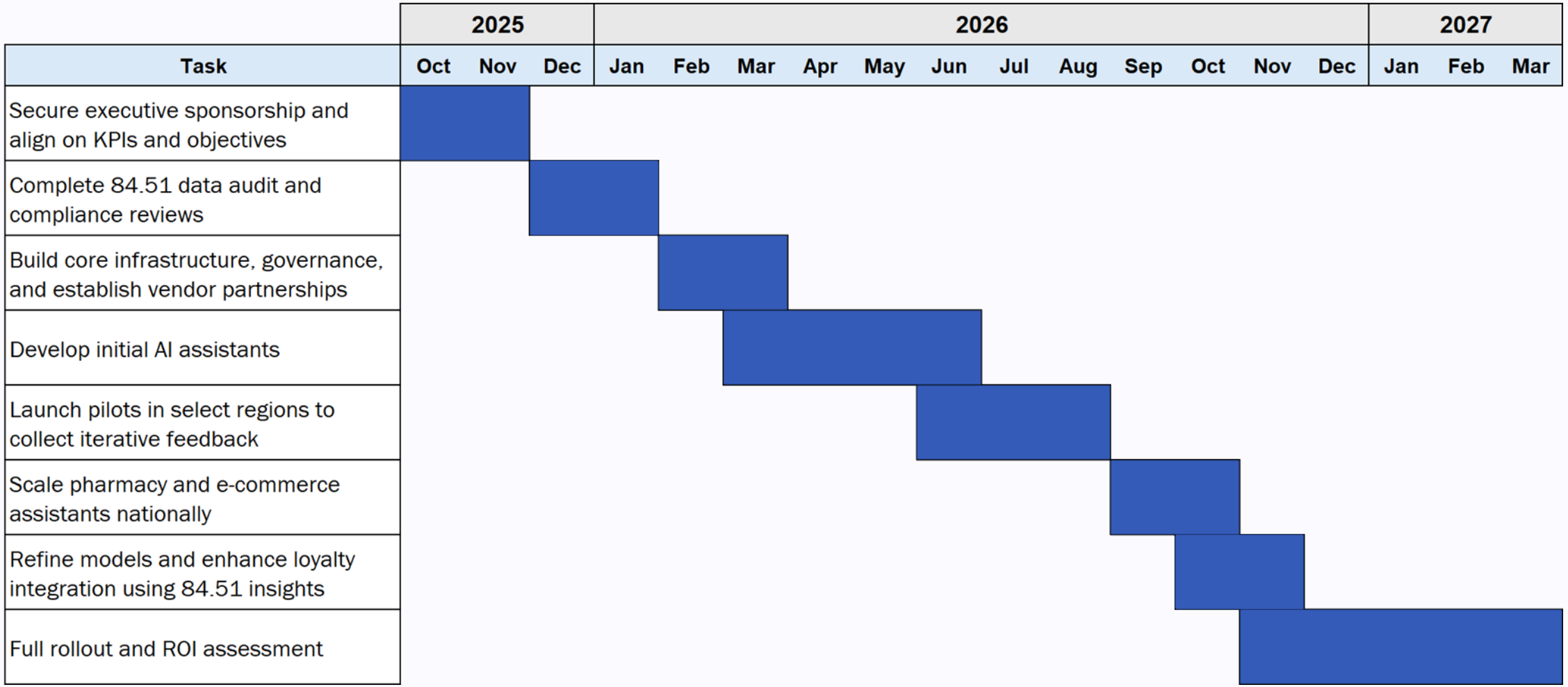
- Tying rewards to new features gives tangible incentives to try using it

Partnership Potential –
There is room for *partnering with existing firms* on big tech and AI to power both the customer experience and operations

- Example 1: Sainsbury and Microsoft partnered to make online shopping more interactive
- Example 2: AlixPartners developing models to improve CTR by 40% and revenue by 25%

Source(s): Emarketer; Sainsbury; AlixPartners

Kroger can bolster their unique retail market position and secure customer loyalty through a focused 18-month AI-oriented deployment plan



Kroger has the resources to sustain real sales impact in a pragmatic, modern way

Cost Breakdown

One-Time (non-recurring; during 18-month setup)	
External Consultancy & Partnerships (outside 84.51)	$ 2,500,000
Setup costs for vendors and staff	$ 3,012,500
Technical experts to build and integrate models	$ 12,900,000
Data Preparation and Governance	$ 1,250,000
One-Time Costs per Period	**$ 19,662,500**
Recurring (after 18-month setup)	
Infrastructure Ownership, Support & Licensing	$ 2,850,000
Continuous Development	$ 1,750,000
Data Security & Compliance	$ 800,000
Recurring Costs per Period	**$ 5,400,000**

Cost Assumptions:
1) Product Managers and Governance will only be necessary at the design stage
2) Pharmacist training post-deployment will be done informally (easy to learn) and deployment will occur across all 2,250 pharmacies
3) Data Scientists are in addition to existing staff at 84.51; approx. 32 engineers and 24 software developers required for creation and system integration

Benefits Breakdown

Reduction in manual staffing and input	$ 2,250,000
Indirect efficiency / in-house development savings	$ 2,500,000
Increase in sales and secondary benefits	$ 10,460,000
Recurring Savings per Period	**$ 15,210,000**

Benefit Assumptions:
1) Of Kroger's $13 billion in annual e-commerce sales, 1% of users would come from AI technologies, and of that, they will increase their overall spend (revenue) by 5%
2) Of Kroger's $12 billion in annual pharmacy sales, 1% of users would generate an 8% cost savings for Kroger due to benefits derived from increased prescription adherence
3) Of Kroger's 60 million members, 0.1% will derive a motivation to spend additional money in-store due to the assistants, at an average annual increase of $50 in spend

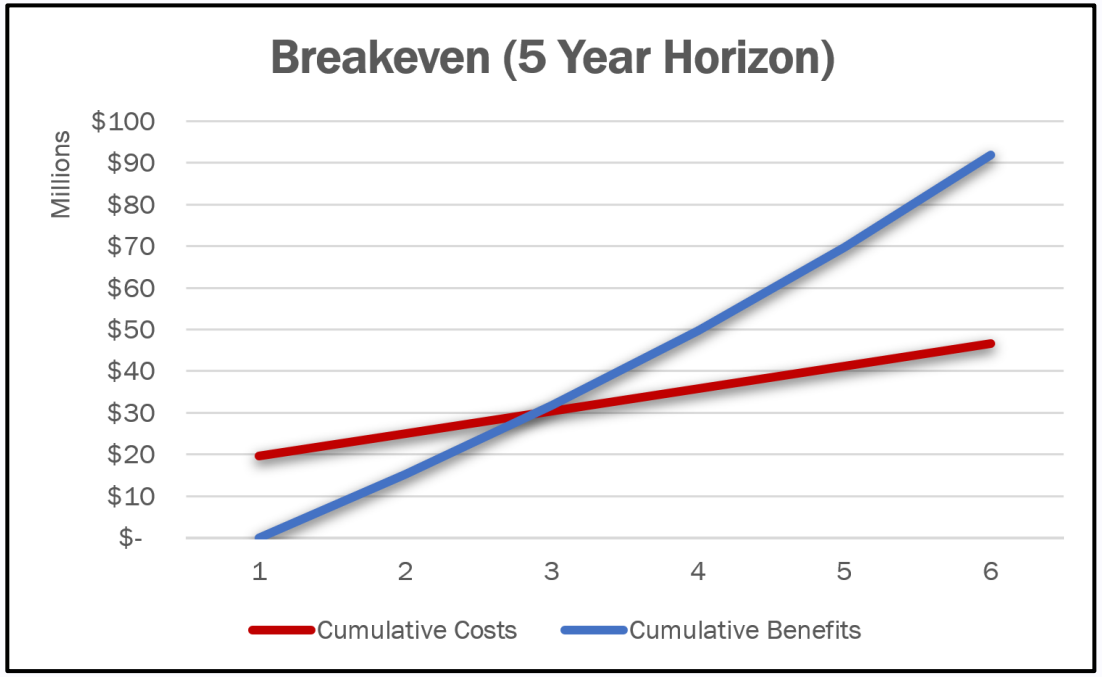
Benefit Assumptions (cont.):
4) Kroger spends approx. $25 million/yr specifically on web-facing support and the chatbot would dissuade 5% of users
5) YoY e-commerce sales will experience a 20% annual growth rate due to word-of-mouth and naturally shifting consumer values
6) Some limited benefit can be gained from in-house solutions that would be lost for an equivalent solution with a vendor (opportunity cost)

NPV
$34,246,062

Uses WACC of **5.96% as a grocery retailer industry average*

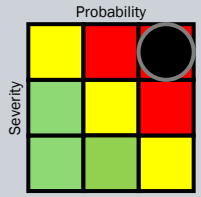
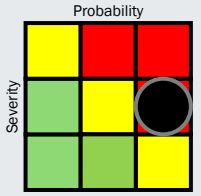
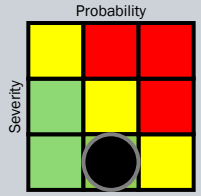
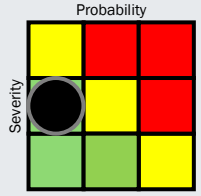
ROI

Year 1	Year 2	Year 3	Year 4	Year 5
-39%	4%	39%	69%	97%

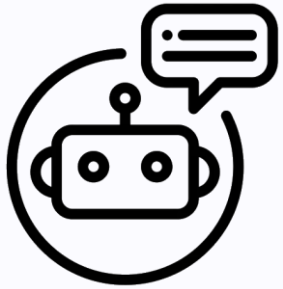


Source(s): Gigster, Glassdoor, TechMagic, Medium, Kroger

Kroger retains the scale, infrastructure, and cash flow to effectively mitigate risks

Risk	Severity	Mitigation
Delays: Upfront investment required for development of platforms may not deliver in 18 months		Prioritize aspects of the platform that facilitate sales to highest-margin goods (phased approach)
Disinterest: Alienating consumers with technologies they don't understand or don't care about; perception that assistants are intrusive or impersonal		Non-committal user interface (bots that clearly communicate value) including fallbacks; provide centricity of control
Erroneous Models: Incorrect prescription reminders, product recommendations, or errors in navigation could damage the company's image		Offset through (a) incremental development and (b) comprehensive user testing to minimize errors
Staff Resistance: Customer service reps, staff, or pharmacists may resist AI adoption out of concern for job security		Frame as an enabler and not a replacer in corporate messaging; provide sufficient training to utilize

By integrating GenAI across healthcare, e-commerce, and loyalty, Kroger can strengthen customer buy-in, grow sales margins, and build a defensible advantage



Differentiate service model
AI-driven pharmacy and e-commerce enhance Kroger's customer-first positioning versus price-focused competitors

Improving Lead Generation
Adoption will boost refills, reduce manual service, facilitate higher sales, and improve marketing ROI

Quick Deployment and Analytics
Accelerating development and utilizing robust loyalty program ensures maximally tailored service

Appendix

Appendix A: Utilization of AI

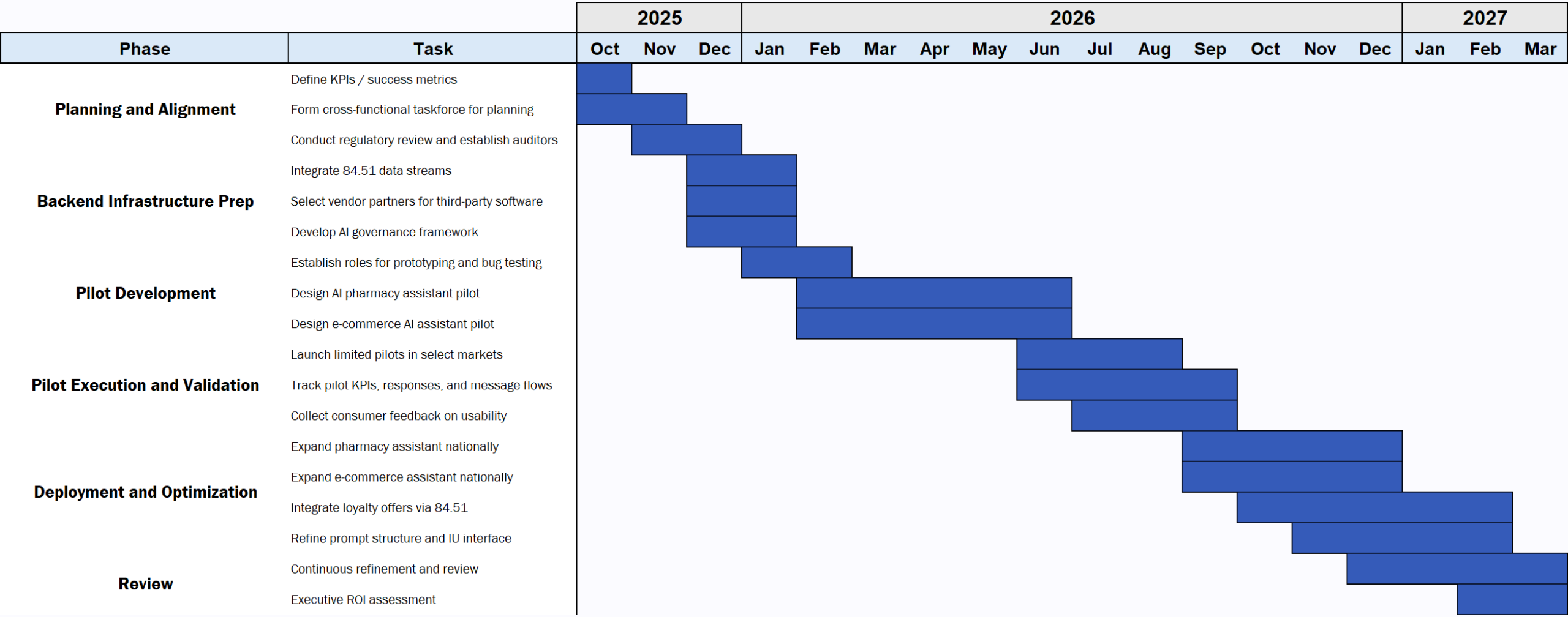
AI helped me to achieve the following:

- Broke down how to interpret the instructions and make the guidance provided in the CA5 deck more digestible
- LLM as a judge: It evaluated parts of my existing work – especially on framing and sentence structure – and recommended areas of improvement
- Provided advice on consulting practices such as the ordering logic of risk and mitigation and styling of bulleted points
- Helped identify credible industry sources and references (ex. McKinsey, Walgreens) to quantify benefits
- Expanded my understanding of core risks beyond the initial understanding I developed from business research
- Evaluated general flow structure of arguments to maximize clarity and ensure an error-free delivery

Appendix B: Alternative Options & Assessments

Alternative Option	Assessment
Improving the online app to further accommodate user experience	Potentially helpful as an indirect mechanism to improve serviceability and facilitate sales
AI assistant as healthcare aid / prescription reminder	Clear differentiator for one of Kroger's core services; hard to replicate due to their business model and the nature of their customer base
Collaboration with tech firms and/or continued work on their analytics arm (84.51)	Benefits inexplicit but worthwhile when most businesses are in the exploratory/initialization phases of AI deployment
AI theft detection for loss prevention that prompts 1-2% of lost sales	Positive, but not a direct value generator and not noticeable to the consumer (plus actual benefit is lower given actual manufacturing cost)
Optimizing demand forecasting models to decrease stockouts	Value-add, but Kroger is already doing a lot to facilitate backend efficiencies using advanced analytics and ML
Physical infrastructure + IoT developments to more closely monitor consumer behavior	Capability to facilitate is there because of 84.51, but the existing loyalty program is effective (resource problem)
In-store guidance via large, directory-like screens	Useful depending on size of the store, but many customers may appreciate exploratory element; unlikely to be used by older customers

Appendix C: Expanded Timeline



Appendix D: Expanded Risk & Mitigation

Risk	Severity	Mitigation
Alienating consumers with technologies they don't understand or don't care about; perception that assistants are intrusive or impersonal	7/10	Non-committal user interface (bots that clearly communicate value) including fallbacks; provide centricity of control
Regulatory shifts in healthcare prompt restrict AI use in pharmacy (ex. EU AI Act)	5/10	Design tools as decision support rather than a diagnostic tool; involve legal counsel in design
Privacy concerns about selling and exchanging data from loyalty program	5/10	Adopt and openly communicate intent to employ anonymization of private data for AI training purposes; also use third-party audits
Incorrect prescription reminders, product recommendations, or errors in navigation could damage the company's image	4/10	Offset through (a) incremental development and (b) comprehensive user testing to minimize errors
(General) Being outpaced by other retailers that also have significant resources	7/10	Push loyalty rewards tied to "low-hanging fruit" – piloted AI solutions
Upfront investment required for development of platforms may not deliver in 18 months	9/10	Prioritize aspects of the platform that facilitate sales to highest-margin goods (phased approach)
Customer service reps, staff, or pharmacists may resist AI adoption out of concern for job security	5/10	Frame as an enabler and not a replacer in corporate messaging; provide sufficient training to utilize
Online shopping with AI assistants could cannibalize high-margin in-store sales	4/10	Engineer AI assistant dialog to recommend add-on products that mimic impulse/high-margin categories

Appendix E: Sources for Financial Analysis

Costs								
Period (e.g. Year)	**0**	**1**	**2**	**3**	**4**	**5**		
One-Time (non-recurring; during 18-month setup)								
External Consultancy & Partnerships (outside 84.51)	$ 2,500,000							
Setup costs for third-party vendor services	$ 2,000,000							
AL/ML Engineers and Data Scientists to build models	$ 7,680,000							
Software Developers to integrate systems	$ 4,500,000							
Product Manager and UX Designers	$ 720,000							
Pharmacist Training	$ 1,012,500							
Data Preparation and Governance	$ 1,250,000							
One-Time Costs per Period	$ 19,662,500						$ 19,662,500	Total One-Time Costs
Recurring (after 18-month setup)								
Cloud & Infrastructure Costs	$ -	$ 1,250,000	$ 1,250,000	$ 1,250,000	$ 1,250,000	$ 1,250,000		
Software Licensing / API Usage	$ -	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000		
Data Scientists & Developers for continued refinement	$ -	$ 1,750,000	$ 1,750,000	$ 1,750,000	$ 1,750,000	$ 1,750,000		
Anonymization & Compliance Audits	$ -	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000		
Security & Monitoring	$ -	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000		
Ongoing Maintenance & Support	$ -	$ 600,000	$ 600,000	$ 600,000	$ 600,000	$ 600,000		
Recurring Costs per Period	$ -	$ 5,400,000	$ 5,400,000	$ 5,400,000	$ 5,400,000	$ 5,400,000	$ 27,000,000	Total Recurring Costs
Total One-Time and Recurring Costs per Period	$ 19,662,500	$ 5,400,000	$ 5,400,000	$ 5,400,000	$ 5,400,000	$ 5,400,000	$ 46,662,500	Grand Total Costs
Cumulative Costs	$ 19,662,500	$ 25,062,500	$ 30,462,500	$ 35,862,500	$ 41,262,500	$ 46,662,500		
Benefits								
Cost reduction								
Lower support volume online (5%)	$ -	$ 1,250,000	$ 1,250,000	$ 1,250,000	$ 1,250,000	$ 1,250,000		
Less manual calls for pharmacists	$ -	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000		
Cost avoidance								
Avoided vendor dependency	$ -	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000		
Marketing efficiency	$ -	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000		
Value/revenue enhancement								
Increased e-commerce sales (+0.05% w/ 1.2x YoY growth)	$ -	$ 6,500,000	$ 7,800,000	$ 9,360,000	$ 11,232,000	$ 13,478,400		
Increased secondary benefits from prescription adherence	$ -	$ 960,000	$ 960,000	$ 960,000	$ 960,000	$ 960,000		
Increased in-store sales from site-to-store conversion	$ -	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000	$ 3,000,000		
Total Benefits per Period	$ -	$ 15,210,000	$ 16,510,000	$ 18,070,000	$ 19,942,000	$ 22,188,400	$ 91,920,400	Grand Total Benefits
Cumulative Benefits	$ -	$ 15,210,000	$ 31,720,000	$ 49,790,000	$ 69,732,000	$ 91,920,400		

Cost Assumptions:
1) Product Managers and Governance will only be necessary at the design stage
2) Pharmacist training post-deployment will be done informally (easy to learn) and deployment will occur across all 2,250 pharmacies
3) Data Scientists are in addition to existing staff at 84.51; approx. 32 engineers and 24 software developers required for creation and system integration

Benefit Assumptions:
1) Of Kroger's $13 billion in annual e-commerce sales, 1% of users would come from AI technologies, and of that, they will increase their overall spend (revenue) by 5%
2) Of Kroger's $12 billion in annual pharmacy sales, 1% of users would generate an 8% cost savings for Kroger due to benefits derived from increased prescription adherence
3) Of Kroger's 60 million members, 0.1% will derive a motivation to spend additional money in-store due to the assistants, at an average annual increase of $50 in spend
4) Kroger spends approx. $25 million/yr specifically on web-facing support and the chatbot would dissuade 5% of users
5) YoY e-commerce sales will experience a 20% annual growth rate due to word-of-mouth and naturally shifting consumer values
6) Some limited benefit can be gained from in-house solutions that would be lost for an equivalent solution with a vendor (opportunity cost)

Source List:

- Gigster: Estimates for some employee salaries and AI project given there is existing data and company knowledge
- Glassdoor: Estimates for tech-facing salary ranges in 84.51
- TechMagic: Background on ongoing maintenance costs
- Medium: Background on consulting, vendor, and integration services (generalized)
- Kroger: E-commerce figure relevant to benefit estimates
  - Benefit estimates mostly derived from research provided in the recommendation(s) combined with market assumptions

Appendix F: NPV and ROI

Period (e.g. Year)	0	1	2	3	4	5
Net Cash Flows (NCF)	$ (19,662,500)	$ 9,810,000	$ 11,110,000	$ 12,670,000	$ 14,542,000	$ 16,788,400
NPV (Annual)	$ (19,662,500)	$ 9,258,211	$ 9,895,327	$ 10,650,028	$ 11,536,029	$ 12,568,966
ROI (Running Total)	-100%	-39%	4%	39%	69%	97%
			Break Even			

NPV	Calculation
Year 0	-$19,662,500 (net of one-time costs)
Year 1	$9,810,000/(1+0.0596)^1
Year 2	$9,895,327/(1+0.0596)^2
Year 3	$10,650,028/(1+0.0596)^3
Year 4	$11,536,029/(1+0.0596)^4
Year 5	$12,568,966/(1+0.0596)^5
NPV	Sum of Years 0-5 = $34,246,062

ROI		
Forecast	**Costs**	**Benefits**
Year 0	$19,662,500	*Implementation*
Years 1-5	$5,400,000	$18,384,080 (avg.)
Total	$46,662,500	$91,920,400
($91,920,400 - $46,662,500) / $46,662,500 → 97%		

Appendix G: Sensitivity Analysis

WORST CASE

COSTS	
One-Time (non-recurring; during 18-month setup)	
External Consultancy & Partnerships (outside 84.51)	$ 3,500,000
Setup costs for vendors and staff	$ 3,012,500
Technical experts to build and integrate models	$ 21,240,000
Data Preparation and Governance	$ 1,250,000
One-Time Costs per Period	**$ 29,002,500**
Recurring (after 18-month setup)	
Infrastructure Ownership, Support & Licensing	$ 2,850,000
Continuous Development	$ 1,750,000
Data Security & Compliance	$ 800,000
Recurring Costs per Period	**$ 5,400,000**
BENEFITS	
Reduction in manual staffing and input	$ 2,250,000
Indirect efficiency / in-house development savings	$ 2,500,000
Increase in sales and secondary benefits	$ 6,730,000
Recurring Savings per Period	**$ 11,480,000**
NPV	**$ (3,363,435)**
ROI	**2%**

- 50% under in online sales and prescription adherence due to low visibility and engagement
- 50% increase in development staff needed caused by deployment issues
- 6-month extension for software developers due to system integration shortfalls
- Outside consultancy 40% over budget

BASELINE

COSTS	
One-Time (non-recurring; during 18-month setup)	
External Consultancy & Partnerships (outside 84.51)	$ 2,500,000
Setup costs for vendors and staff	$ 3,012,500
Technical experts to build and integrate models	$ 12,900,000
Data Preparation and Governance	$ 1,250,000
One-Time Costs per Period	**$ 19,662,500**
Recurring (after 18-month setup)	
Infrastructure Ownership, Support & Licensing	$ 2,850,000
Continuous Development	$ 1,750,000
Data Security & Compliance	$ 800,000
Recurring Costs per Period	**$ 5,400,000**
BENEFITS	
Reduction in manual staffing and input	$ 2,250,000
Indirect efficiency / in-house development savings	$ 2,500,000
Increase in sales and secondary benefits	$ 10,460,000
Recurring Savings per Period	**$ 15,210,000**
NPV	**$ 34,246,062**
ROI	**97%**

**Current best estimates of costs and benefits*

BEST CASE

COSTS	
One-Time (non-recurring; during 18-month setup)	
External Consultancy & Partnerships (outside 84.51)	$ 2,500,000
Setup costs for vendors and staff	$ 3,012,500
Technical experts to build and integrate models	$ 12,900,000
Data Preparation and Governance	$ 1,250,000
One-Time Costs per Period	**$ 19,662,500**
Recurring (after 18-month setup)	
Infrastructure Ownership, Support & Licensing	$ 2,850,000
Continuous Development	$ 1,750,000
Data Security & Compliance	$ 800,000
Recurring Costs per Period	**$ 5,400,000**
BENEFITS	
Reduction in manual staffing and input	$ 3,937,500
Indirect efficiency / in-house development savings	$ 2,500,000
Increase in sales and secondary benefits	$ 17,440,000
Recurring Savings per Period	**$ 23,877,500**
NPV	**$ 58,256,221**
ROI	**156%**

- E-commerce sales (major driver) perform at double the expected rate
- Prescription adherence benefits 50% higher
- Manual labor (support and pharmacist calls) savings 75% higher than expected