



**Hey retailer/CPG—Tell
me your price, and I'll tell
you how good you are!**

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Executive summary

Why quality engineering must adapt

"Your Price is Your Report Card" is a six-part compendium on modern pricing strategy.

Drawing from a 2023 meta-analysis of over 5,000 firms synthesized from McKinsey, BCG and academic journals, pricing misalignments cause 30% of retail failures.¹ Yet, companies mastering "intelligent pricing" (AI-optimized, context-aware) achieve 15%–25% higher return on invested capital (ROIC), per Deloitte benchmarks.²

The series dissects the dual nature of pricing tactics. It explores how discounting can be a strategic weapon for "value leaders" like Costco, or a signal of operational weakness for "reactive discounters." Similarly, it examines how premium pricing can build an impenetrable moat for

innovators like Apple, or become a house of cards for those who neglect R&D.

Moving from diagnosis to action, it introduces advanced strategies for today's leaders, including deep dives on the subscription economy's "price of relationship," the high-stakes game of geographic arbitrage and the futuristic potential of quantum-inspired pricing models.

Ultimately, this compendium provides an actionable framework—the pricing health index (PHI)—to help executives move beyond short-term tactics. It equips leaders to leverage AI-driven insights, align pricing with their core strategic archetype and build resilient, profitable growth in an era of unprecedented volatility.

Your price is your report card

Modern pricing strategy for retail & CPG

30%

of retail failures due to pricing misalignments

15–25%

higher ROIC for "intelligent pricing" leaders

The dual nature of pricing

Discounting

- * Strategic weapon (Costco)
- * Signal of weakness (Reactive)

Premium pricing

- * Innovation moat (Apple)
- * House of cards (no R&D)

Pricing Health Index (PHI) framework



Part 1. The principle—Your price is your report card

A litmus test for organizational health

In the high-stakes arena of retail and consumer packaged goods (CPG), pricing reveals much more than a simple number. Whether you're in the discounting game or chasing premium prestige, it reflects your operational efficiency, brand equity, customer loyalty and ultimately, your long-term viability. It shows how well you understand your customers, how efficient your operations are, how strong your brand is and how innovative your products are. It's the final, public-facing output of your entire value chain.

At Cognizant, we've seen pricing act as a litmus test for organizational health. Yet, it's not as simplistic as "discount to win volume" or "go premium for prestige." Discounting can be a masterful tactic for market penetration in commoditized segments, but it often masks underlying inefficiencies in all the other instances. Premium pricing can command loyalty and margins, but only if backed by genuine innovation—otherwise, it's a house of cards.

Beyond the surface-level transaction

At its core, pricing is a signal of business's intrinsic value proposition. Harvard Business School's Michael Porter, in his seminal work on competitive strategy, argues that pricing reflects differentiation or cost leadership—two paths to advantage.³ But in today's volatile market, where inflation, AI regulations (e.g., EU AI Act), geopolitical tensions affecting arbitrage (e.g., US-China trade wars), supply chain disruptions and digital disruption (e.g., e-commerce's price transparency) reign, pricing exposes deeper truths. Nowadays, 70% of consumers compare prices digitally, making pricing strategy a foundational core of many purchase decisions.⁴

Consider the data: A McKinsey study of 1,000+ CPG firms found that companies with dynamic pricing strategies—adjusting in real time based on demand elasticity—outperform laggards by 2%–4% in EBITDA margins.⁵ Yet, it reveals a nuance: 60% of retailers stuck in chronic discounting cycles see brand perception erode by 15%–20% over five years, per Nielsen metrics.⁶ Conversely, premium players like Apple maintain 40%+ gross margins but risk stagnation if innovation falters (e.g., post-iPhone peak).⁷

Pricing elasticity—how sales fluctuate with price changes—mirrors customer psychology, per Daniel Kahneman's prospect theory: Losses (price hikes) sting twice as much as gains (discounts) delight.⁸ So, if pricing isn't inherently "good" or "bad," much depends on the context. High-level indicators like average selling price (ASP), promotional depth and price elasticity reveal strengths and vulnerabilities:

- **High ASP with low elasticity:** Signals strong brand moat and customer willingness to pay (WTP). Think L'Oréal's luxury skincare lines, where pricing reflects R&D investment and emotional value.⁹
- **Low ASP with high volume:** Indicates cost leadership, but beware of sustainability—Walmart thrives here, but only through relentless supply chain optimization, generating \$10B+ annual savings via AI-driven adjustments.¹⁰
- **Frequent discounts:** May boost short-term revenue (e.g., +10%–15% lift per Kantar data),¹¹ but often hide issues like overstock or weak differentiation.

Your price is your report card

A litmus test for organizational health

30%

of retail failures caused by pricing misalignments

Key insight

Pricing reflects your operational efficiency, brand equity, customer loyalty, and long-term viability. It's the final, public-facing output of your entire value chain.

15-25%

higher ROIC with intelligent pricing

High ASP + Low elasticity

Strong brand moat and customer willingness to pay.
Example: L'Oréal luxury skincare

Low ASP + High volume

Cost leadership strategy. Requires relentless supply chain optimization like Walmart

Frequent discounts

May boost short-term revenue but often hides overstock or weak differentiation issues

70%

of consumers compare price digitally

Strategy component
Strategic planning

Impact on success
20-30%

Execution and delivery
70-80%

The key? Pricing must align with your strategic archetype—value player, innovator or disruptor—to drive sustainable growth. And beyond that, while strategy is important, it only accounts for 20%–30% of success; 70%–80% lies in execution and delivery capabilities. Indeed, countless brands with top strategies fail because they lack the muscle to sell effectively without compromising value—being laser-focused on customers, building trust through relationships, and selling experiences, not just cheap deals.

Part 2. Deep dive—Strategic weapon or signal of inefficiencies?

When "cheap" becomes costly

Discounting is often romanticized as a democratizer—lowering barriers to entry and fueling market share. In commoditized CPG categories like household cleaners, it's a necessity: Procter & Gamble's Tide pods use targeted promotions to capture 70% US market share without eroding core pricing.¹² Academic research from the Journal of Marketing supports this; a 2022 study by Kahneman-inspired behavioral economists showed that well-timed discounts can enhance perceived value by anchoring customers to a "deal" narrative.¹³ Weber's Law¹⁴ reinforces that even for the most price-conscious customers, well-timed offers are a great deal, and that price variances in the order of cents are often not a pushback, even if in percentage terms they can represent a difference of up to 20%.

However, discounting isn't automatically a red flag—nor is it a panacea. It shines when turned into a strategic choice that aligns with brand promise and an organization's entire muscles and brain, enabling a hyperefficient, purpose-built operating model like ALDI and Costco. Every penny of cost is ruthlessly optimized to deliver on that price promise without fail. Price reflects operational excellence and a crystal-clear value proposition. You are not "cheap"; you are a "value leader."¹⁵ Behavioral economists like Richard Thaler note that discounts exploit "mental accounting," making consumers feel smarter and driving loyalty loops.¹⁶ ALDI's no-frills model in Europe yields 10%–15% market share gains annually through hyperefficient logistics, not margin sacrifice.¹⁷

It works in scenarios like:

Market penetration:
For emerging brands, e.g., Dollar Shave Club's initial \$1 razor disrupted Gillette by undercutting prices, scaling to a \$1B Unilever acquisition.¹⁸

Inventory clearance:
AI-optimized promotions can liquidate excess stock without long-term damage, as seen in Cognizant's work with a major apparel retailer, where machine learning reduced overstock by 25% while maintaining 85% full-price sales.

Strategic penetration:
Disruptors like India's Reliance Retail slashed prices in groceries to capture 20% market share in five years, funded by vertical integration.¹⁹

But pitfalls abound for long-term health. Chronic discounting erodes margins (average 5%–7% drop per Deloitte's pricing benchmarks) and trains customers to wait for sales, per behavioral economics principles like loss aversion.²⁰ Take JCPenney's 2012 "fair and square" pricing flop: Eliminating discounts led to a 25% sales plunge, but reverting entrenched a discount dependency that still hampers profitability, eroding perceived quality by 18% over time.²¹ In CPG, Unilever's price wars in emerging markets (where 60% of growth occurs, per Nielsen) boosted volume but squeezed margins to sub-10%, prompting a pivot to value-based pricing.²² A 2022 Journal of Marketing study found it creates "discount addicts."²³

A more insidious trend is "shrinkflation," where CPG firms defend prices amid inflation by subtly reducing quantities—such as smaller packs, fewer grams in snacks or downsized ice cream portions—while maintaining sticker prices, per a 2023 Nielsen report showing a 15%–20% rise in such practices. This can signal operational pressures or innovation shortfalls, eroding consumer trust by 10%–15% over time (FTC data), unless paired with transparent value enhancements to avoid perceptions of deception.

Another category is represented by the reactive discounter—where prices are constantly in flux to clear inventory or hit targets—signaling operational inefficiency, weak branding and a lack of strategy. It's a death spiral, as the supply chain suffers bullwhip effects and margins evaporate.

- **Sustainability check:** Discounting fosters growth only if paired with operational excellence. Without it, you're signaling weakness. Cognizant's pricing optimization framework, powered by AI algorithms analyzing 1B+ transaction data points, helps clients like a global CPG leader shift from reactive discounts to predictive models, increasing revenue by 8% while preserving brand equity.²⁴

Strategic strike or self-sabotage?

Game theory illuminates this—think Prisoner's Dilemma: Mutual discounting leads to collective ruin, while unilateral restraint (e.g., differentiation) yields superior equilibria. Data from a 2022 Harvard Business Review analysis shows that 40% of price wars end in industry-wide margin collapses of 20%–30%, yet targeted chases can yield 15% market share gains for aggressors.²⁵

- **When it's right to chase:** Pursue discounting competitively when it's a calculated, temporary tactic to disrupt entrenched players or clear stock, especially in oligopolistic markets where you can absorb short-term losses for long-term dominance. For example, Amazon's below-cost pricing on electronics (e.g., Kindles at a loss) outplayed Barnes & Noble, capturing 70% ebook share by leveraging scale economies—turning discounts into a "loss leader" resource that funneled traffic to high-margin services.²⁶ In CPG, Pepsi's aggressive under-cost promos against Coke in the 1980s "Cola Wars" cleared excess inventory while gaining shelf space, boosting overall volume by 10% (per case studies in the Journal of Competitive Strategy).²⁷ It's smart when: (1) you have superior cost structures (e.g., Walmart's supply chain edge allows sustainable undercutting)²⁸, (2) it's for inventory turnover in seasonal goods (e.g., fashion retailers dumping end-of-line stock below cost to avoid 20%–30% holding expenses)²⁹ or (3) regulations permit (avoid antitrust pitfalls like predatory pricing bans in the EU/US).³⁰
- **When it's a bad choice:** Avoid chasing if it ignites endless price wars, erodes differentiation or dips below variable costs without a clear exit strategy—turning you into a commoditized also-ran. Airlines exemplify this: Delta's knee-jerk matching of Southwest's discounts often leads to industry losses exceeding \$10B annually (IATA data),³¹ as it trains customers to commodity-shop rather than value loyalty programs. In retail, Best Buy's failed chase of Amazon's electronics discounts in the 2010s nearly bankrupted them, until they pivoted to premium services (e.g., Geek Squad)³².

It's disastrous when: (1) competitors have deeper pockets (e.g., chasing Alibaba in China risks bankruptcy for smaller CPG players)³³, (2) it masks underlying issues like poor innovation (discounting to "get rid of stock" signals overproduction, absorbing 15%–25% in waste costs, per Lean Institute benchmarks)³⁴ or (3) it invites retaliation loops, per Bertrand competition models, where prices spiral to zero margins.³⁵ In fragmented markets (e.g., online groceries), chasing fosters "discount fatigue"—consumers delay purchases,

reducing industry demand by 10% (Behavioral Economics Lab studies).³⁶ Instead, counter with value elevation (e.g., bundle premiums) or AI-monitored ceasefires. Sustainability-wise, below-cost dumping harms ecosystems (e.g., supplier squeezes), inviting ESG backlash—better to out-innovate than out-discount.³⁷

Discounting deep dive

Strategic weapon or signal of inefficiencies?

Value leaders

Hyper-efficient operations (Aldi, Costo)

Strategic

60%

of chronic discounters see 15-20% brand erosion over 5 years

5-7%

average margin drop from chronic discounting

40%

of price wars end in 20-30% industry margin collapse

Market penetration

Emerging brands disrupting incumbents

Tactical

Scenario	When it's right	When it's wrong	Risk level
Market disrupting	Superior cost structure, temporary tactic	No clear exit strategy, commodity trap	Medium
Inventory clearance	Seasonal goods, AI-optimized timing	Masks overproduction issues	Low
Competitive response	Deep pockets, strategic patience	Endless price wars, margin erosion	High

Reactive discounting

Constant price flux, operational inefficiency

Warning

Game theory insight

Mutual discounting leads to collective ruin (Prisoner's dilemma), while unilateral restraint through differentiation yields superior outcomes for all players.

Part 3. Deep dive—Premium pitfalls and building pricing excellence

Prestige isn't always profitable

On the flip side, premium pricing is often hailed as the hallmark of excellence—commanding higher margins and loyalty. Apple's ecosystem pricing (e.g., iPhone at 2x–3x Android averages) exemplifies this, with a gross margin of 44% tied to perceived innovation and status.³⁸ Research from INSEAD's Blue Ocean Strategy underscores how premium positioning creates "value innovation," decoupling price from cost.³⁹ Premium leaders like Apple, Patagonia and Nespresso maintain consistently high prices, justified by superior innovation, brand equity, unique IP or unparalleled customer experience. These brands rarely discount because their value is self-evident, turning customers into loyalists, not bargain hunters. Price is an earned outcome of sustained investment—it's a moat competitors struggle to cross⁴⁰. Data from INSEAD shows premium CPG brands grow 2x faster in mature markets, with 25%–40% margins⁴¹.

Yet, premium isn't an automatic signifier of "good" or sustainable growth. It demands continuous investment in differentiation, backed by Clayton Christensen's disruptive innovation theory: Charge more for breakthroughs, like Nestlé's Nespresso pods (30% premiums via convenience)⁴². Successful when tied to:

- **Brand-backed premium:** Like Patagonia's eco-friendly apparel justifying 20%–30% markups through supply chain transparency, yielding 90% customer retention⁴³.
- **Experience-led premium:** Starbucks' \$5 lattes thrive on ambiance and personalization, with app discounts increasing CLV by 25%⁴⁴.
- **Innovation-led premium:** Tesla's initial \$100K+ EVs funded R&D, now scaling with sustained premiums⁴⁵.

The risks? Overreliance on premium can lead to vulnerability. Kodak's premium film pricing collapsed with digital disruption, as it failed to

innovate⁴⁶. In retail, Neiman Marcus's luxury model yields high margins but struggles with economic downturns—sales dipped 20% in 2020, per Moody's data⁴⁷. A 2023 McKinsey report warns that 40% of premium CPG brands face "value erosion" if R&D lags, as consumers shift to private labels amid inflation⁴⁸. Overconfidence leads to "premium fatigue"—e.g., Coach's handbag premiums cratered 40% post-oversaturation⁴⁹. Organic food premiums (e.g., +50% for Whole Foods brands) face a backlash, with 25% switching to generics amid cost-of-living crises⁵⁰.

Seventy-five percent of consumers demand "value with values" (Edelman Trust Barometer), so mispriced ethics can tank reputations overnight.⁵¹ For long-term sustainability, premium strategies must be resilient. Cognizant's digital pricing lab has assisted clients like premium beauty retailers in using generative AI to simulate WTP scenarios, resulting in a 12% uplift in ASP without volume loss.⁵²

The lesson: Premium signals strength only if your business invests in innovation, customer insights and agility—not just markup. Sell the experience, not cheap; when you show the price, you're implicitly communicating how good of a marketer and innovator you are. This is the most difficult but rewarding path.

Build relationships—regardless of B2B or B2C. Trust is key; in B2C, it's built on brands that instill belief in superior service and quality, continually reassessed with solid attributes, not self-referential claims. Audit your promises like a tough competitor. In B2B, invest in personal relations, as business is among people who understand each other. Without trust, there's no long-term success—it's built slowly but lost quickly.

A framework for pricing excellence

To transform pricing from a mirror of flaws into a catalyst for growth, adopt a holistic framework. At Cognizant, we propose the pricing health index (PHI)—a diagnostic tool blending quantitative metrics and qualitative insights. The enterprise must always be ready to reassess its game plan; while strategies aim for the long run, short/mid-term opportunities are often overlooked, even if your operating model is fitted to capture them. Focus on performance-based planning, pushing boundaries with technologies that create stupor and new habits. If you're not excelling in your branches of business, fix or divest quickly—hypothetical new streams can erode core efficiency, innovation and focus.

1. Assess your pricing archetype

- Discount-driven (volume maximizer): Ideal for scale economies; measure success by market share growth (target: +5%–10% YoY) but monitor margin health (threshold: >15%). Think value architects like Costco: Low prices result from fanatical operational supremacy, with an integrated value chain where POS data informs everything⁵³.
- Premium-focused (value creator): Suited for differentiated offerings; track customer lifetime value (CLV) uplift (aim: 20% premium over peers) and innovation ROI. Premium artisans like Dyson: Premium prices are earned from relentless R&D and mythology-building marketing⁵⁴.
- Hybrid (adaptive optimizer): Best for dynamic markets; use AI to blend strategies, as Amazon does with dynamic pricing⁵⁵.
- Avoid the unhealthy middle: Compulsive discounters admit weak brands and bloated operations through frantic promotions, creating addiction cycles that devalue everything.

2. Leverage data for insights

- Integrate behavioral data (e.g., via Cognizant's AI platforms) to model elasticity curves. Example: A CPG client reduced promotional waste by 30% through predictive analytics.

- Benchmark against peers: Use tools like Cognizant's retail analytics suite to compare ASP trends with industry averages. By 2030, 80% of retail/CPG pricing will be AI-governed, with ethical laggards losing 25% market share.⁵⁶

3. Ensure sustainability

- Balance short-term tactics with long-term vision. Discounting for growth? Pair it with cost innovations. Premium push? Invest in ESG and personalization to justify prices, as 75% demand "value with values."
- Stress test for scenarios: Inflation (e.g., +2%–5% price hikes), recessions (targeted discounts) or disruptions (dynamic adjustments). Cyclical boosts like 20% off loyalty tiers preserved cash flow for a Cognizant US CPG client, predicting 12% revenue lift in 2022 inflation without dilution.⁵⁷

Case in point: Cognizant partnered with a mid-tier CPG firm facing discounting fatigue. By deploying our AI-driven pricing engine, we shifted 40% of sales to value-based models, boosting EBITDA by 15% and enhancing brand scores by 18% (per Brandwatch data).⁵⁸

Ultimately, a workforce needs ambition to stand in competitive situations; success depends on character and abilities. Make your message simple and steady: Sell dreams, not just products. Laser-sharp focus on customers—understand what they need, not what you want to push. Selling isn't always rational; it fulfills wishes. Too often, sophisticated messages gratify egos but fail to motivate.

Pricing as your competitive edge

Pricing reveals if you're a commoditized player chasing volume or an innovator commanding loyalty. But remember: Discounting can be a smart accelerator for sustainable growth in the right context, just as premium pricing can falter without substance. In emerging markets like India and Brazil, aggressive discounting signals short-termism, eroding 15% of industry profits.⁵⁹ Premium plays prophesy innovation health: Tesla's EV pricing warns of competitive erosion as it dips into discounts.⁶⁰

Part 4. Deep dive—Pricing the ongoing relationship

The subscription test

A subscription model is the ultimate "report card" on the customer relationship, reframing the fundamental question from "What is the price of this product?" to "What is the price of this ongoing relationship?" According to Zuora's Subscription Economy Index⁶¹, subscription-based companies have outpaced S&P 500 sales growth by more than 4x over the past decade, with the market valued at over \$1.5 trillion globally by 2025, per a McKinsey report.⁶²

Success, however, hinges on mastering the two components of this new price:

- **The explicit price:** The monthly or annual fee. This must be justified by a clear and continuous stream of value—whether it's access (Adobe Creative Cloud), convenience (Amazon Prime) or content (Netflix).
- **The implicit price:** The customer's investment of **trust, data and attention**. A failure to honor this investment leads directly to churn, which for many services averages a costly 5%–7% monthly.⁶³

This dual nature of price reveals a company's true character, separating innovators who build value loops from transactional players who suffer from value leaks.

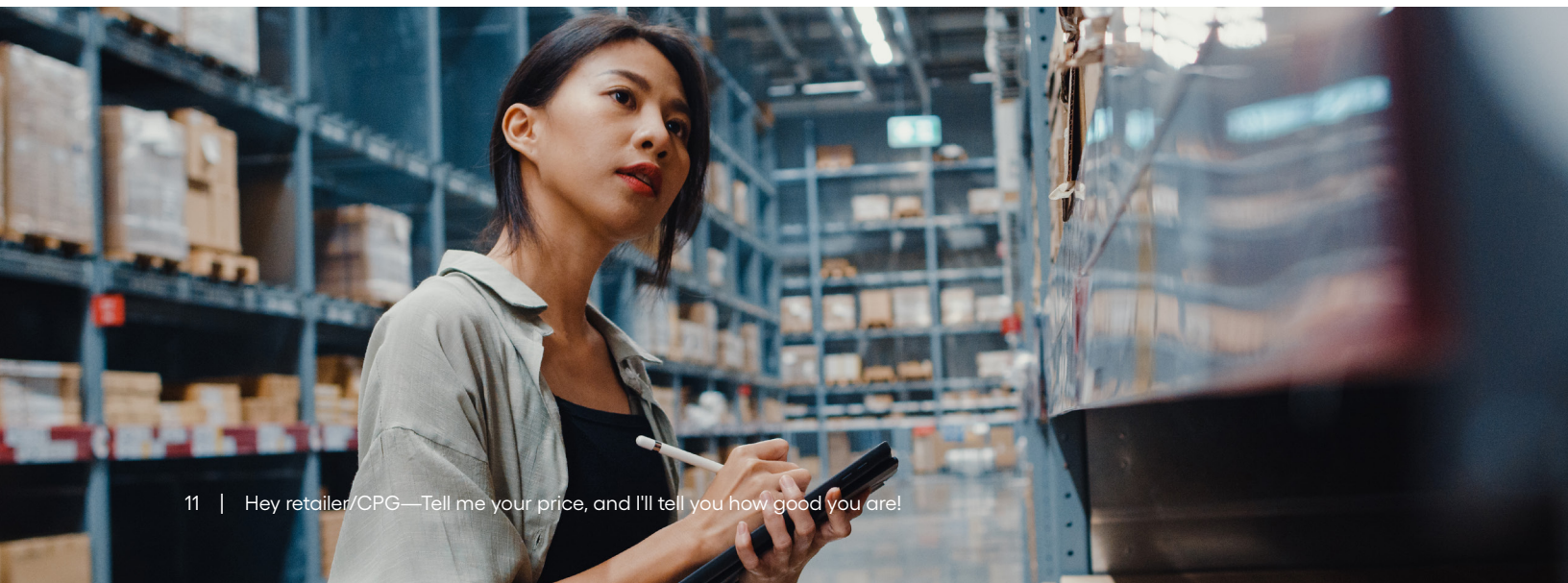
The value loop

Successful subscription models thrive on a "**value loop**," where the company continuously reinvests in the customer experience, making the relationship more valuable over time. This signals profound organizational strengths in operational excellence, innovation, personalization and true customer-centricity. We see this in Amazon Prime, which drives 200% higher spend per member by entangling shipping, video and groceries into a single, high-value bond.

The value leak

Conversely, a failing subscription model is a clear signal of underlying weakness. High churn and "subscription fatigue," which a Deloitte report⁶⁴ highlights as a growing consumer trend, are symptoms of a "**value leak**." This occurs when the perceived value of the relationship diminishes because the company lacks innovation, the value proposition is thin or the model is predatory, profiting from customers who pay but don't engage.

Ultimately, the subscription model is the most honest pricing strategy. It forces a company to earn its revenue every single month, revealing its true commitment to innovation, operational excellence and the customer relationship itself.



Part 5. Deep dive—Mastering geographic and channel arbitrage

Resource or cost absorber?

Price arbitrage exploits price differences across markets, cities or even micro-locations (e.g., city centers vs. peripheries). A 2023 PwC study estimates that unchecked arbitrage costs global retailers \$50B+ annually in lost margins, yet savvy players like Coca-Cola leverage it for 10%–15% revenue gains in segmented markets.⁶⁵ It becomes a strategic asset when deliberately engineered for value capture and segmentation. In high-WTP zones (e.g., urban centers or affluent countries), premium pricing extracts surplus without alienating price-sensitive peripheries or emerging markets. For instance, Starbucks charges 20%–30% more in Manhattan than in suburban outlets, using this "arbitrage gradient" to fund global expansion while maintaining accessibility—boosting overall profitability by aligning prices with local demand elasticity and costs (e.g., higher rents in cities).⁶⁶ Globally, CPG firms like Unilever exploit it by pricing the same shampoo 50% higher in the US than in India, capturing economic disparities as a resource for R&D reinvestment.⁶⁷ In game theory terms, it's a Nash equilibrium play—optimizing without direct competition—especially when paired with AI tools for predictive pricing (e.g., Cognizant's models forecast arbitrage opportunities, turning them into 8%–12% margin uplifts for clients).⁶⁸

Ethically, it can promote equity if used to subsidize lower prices in underserved areas, fostering inclusive growth.

It morphs into a liability when uncontrolled, leading to gray-market reselling, brand erosion or regulatory backlash. Digital platforms amplify this: A product discounted in rural peripheries can be bought in bulk and flipped online at urban premiums, cannibalizing your own sales (e.g., luxury brands like Louis Vuitton lose 15% of revenue to parallel imports, per Bain & Company).⁶⁹ This absorbs costs through inventory distortions, increased logistics (e.g., anti-arbitrage shipping restrictions) and diluted brand perception—consumers question value if they spot inconsistencies. Worse, in hypercompetitive CPG (e.g., electronics), it invites predatory resellers, eroding 5%–10% of profits (McKinsey data).⁷⁰ It becomes particularly toxic in inflationary times, where cross-border arbitrage (e.g., cheaper EU imports flooding US markets) forces reactive discounts, absorbing margins without strategic gain. To mitigate, forward-thinking firms use blockchain for traceability (preventing resells) or AI-driven geo-fencing (dynamic pricing adjustments)—Cognizant has helped clients reduce arbitrage leakage by 25%, transforming it from a cost sink to a controlled resource.⁷¹



Part 6. Quantum pricing —The next frontier in predictive optimization

Quantum pricing: Revolutionizing uncertainty in a volatile world

Unlike classical computers that process data linearly, quantum systems—powered by qubits—handle massive variables simultaneously, enabling 1,000x faster optimizations by 2030, per a 2023 IBM report.⁷² This isn't just about speed; it's a paradigm shift for pricing in volatile markets, simulating infinite "what-if" scenarios with real-time data from consumer behavior, weather patterns, tariff changes and quantum-secure blockchain for arbitrage tracking.

A quantum pricing model evolves dynamic pricing into a probabilistic powerhouse, defined by three core principles:

1. **Price as superposition:** Beyond a single number. In classical physics, an object has one position. In quantum mechanics, a particle exists in a "superposition" of multiple states at once. A quantum pricing model treats a product's price not as one number, but as a superposition of potential values that exist simultaneously across different customer segments, channels and moments in time. So, for example, a CPG soda "exists" as \$1.99 for budget buyers and \$2.49 for premiums simultaneously. The price a customer sees is simply the "collapse" of this potential into a single reality at the point of transaction. This fluid, probabilistic value cloud allows for hyper-personalization at an unprecedented scale, moving far beyond today's dynamic pricing.
2. **Value entanglement:** The interconnected ecosystem. Quantum entanglement describes how two particles can be intrinsically linked, where the state of one instantly influences the other. In pricing, this means no product's value exists in a vacuum. A quantum model maps the "entanglement" between products, brands and customer behaviors. How does a 10% discount on a mid-tier product affect the perceived value of your premium flagship? By modeling these deep, often non-obvious connections, businesses can avoid strategic blunders—like cannibalizing a high-margin product with a promotion—and instead design holistic value propositions where the entire ecosystem is optimized.
3. **Probabilistic optimization:** from certainty to potential. Classical models seek a single, deterministic answer: "the optimal price is \$9.99." Quantum mechanics is inherently probabilistic. Instead of providing one answer, a quantum model, powered by algorithms like quantum annealing, calculates the probability of achieving a range of business outcomes. For example, it might model that a pricing strategy has a 70% probability of a 5% revenue lift, a 20% probability of an 8% lift (but with a drop in brand equity) and a 10% probability of no change. This allows leaders to move beyond a search for a mythical "perfect price" and instead make strategic decisions based on risk appetite and a portfolio of potential futures.



Quantum pricing: The future of predictive optimization

Superposition

Multiple price exist simultaneously

\$1.99 | \$2.49

Entanglement

Products interconnected in value ecosystem

10% discount affects entire portfolio

Probabilistic

Range of outcomes not single answer

70% chance 5% uplift
20% chance 8% uplift

Quantum processing

1,000x

Faster optimization by 2030

Quantum impact

20%
overstock reduction

25%
food waste cut

10%
energy use (risk)

In retail, Amazon is already experimenting with quantum-inspired optimization for logistics-pricing hybrids, reducing overstock by 20% in pilot tests by predicting demand uncertainties with unprecedented accuracy.⁷³

Quantum pricing excels in uncertainty, enabling "probabilistic premiums" that flex with forecasts, e.g., charging more in stable zones to subsidize ethical discounts in high-risk areas, cutting food waste by 25% per World Economic Forum estimates.⁷⁴ In game theory, it elevates Nash equilibria from mutual low margins to cooperative wins, potentially ending price wars via secure, shared insights.

Yet, it's not without pitfalls—it could become a liability if mishandled. Quantum models demand massive energy (early systems consume 10x more power than classical ones, raising ESG concerns)

and face "quantum decoherence" risks—where errors in unstable qubits lead to flawed predictions, potentially eroding 5%–10% of profits through mispriced goods (McKinsey warnings on quantum hype cycles)⁷⁵. Accessibility is another barrier: Only tech giants can afford it now, risking a "quantum divide" where small CPG players fall behind, inviting antitrust scrutiny.

The lesson? Quantum pricing signals forward-thinking strength, but only if invested in ethically and agilely—out-innovate classical limits to command tomorrow's loyalty.

Parting words

As leaders in digital transformation, Cognizant empowers retailers and CPG executives to harness AI, analytics and strategy for pricing mastery. Prepare for the real world: Strategy is vital, but execution closes deals. We've turned around companies with great strategies but poor delivery; they compromised by underpricing brands, eroding value.

These are just three questions to assess your pricing health today:

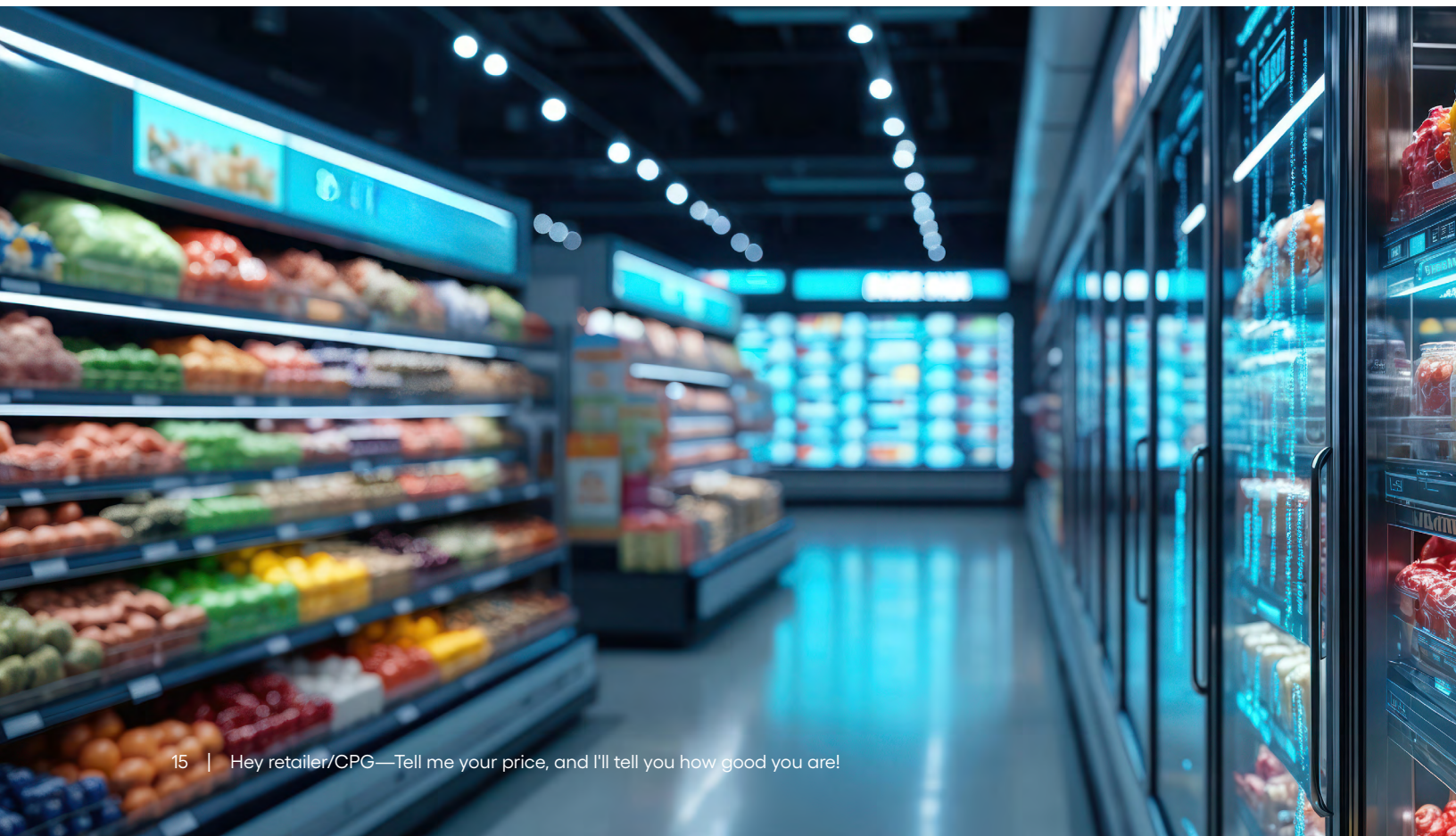
- Is your price a reflection of strategic choice or a reaction to market pressure?
- Where is your biggest "value leak"—in misaligned discounts, geographic arbitrage or customer churn?
- Is your innovation pipeline robust enough to justify your premium price point for the next 36 months?

Ready to diagnose your pricing health and chart a path to resilient growth? Let's build that trust and ambition together.



Stefano Montanari

Head of Retail and Consumer Goods
Consulting - Benelux & Nordics



Reference

<https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/the-power-of-pricing>

<https://www2.deloitte.com/us/en/insights/industry/retail-distribution/pricing-strategy.html>

<https://hbr.org/1979/03/how-competitive-forces-shape-strategy>

<https://www.gartner.com/en/articles/what-s-new-in-retail-for-2023>

<https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/dynamic-pricing-in-consumer-goods>

<https://www.nielseniq.com/global/en/insights/report/2022/the-price-of-pricing/>

<https://www.apple.com/investor/earnings-call/>

<https://www.nobelprize.org/prizes/economic-sciences/2002/kahneman/lecture/>

<https://www.loreal-finance.com/en/annual-report-2022/>

<https://corporate.walmart.com/newsroom/innovation/2023/03/15/walmart-unveils-next-gen-supply-chain>

<https://www.kantar.com/inspiration/consumer/discounting-in-retail>

<https://www.pg.com/en-us/>

<https://journals.sagepub.com/doi/full/10.1177/00222429221095960>

https://www.researchgate.net/publication/222670737_The_Effects_of_Price_Presentation_on_Consumer_Evaluation

<https://www.euromonitor.com/article/aldi-and-lidl-the-no-frills-retail-model>

<https://www.nobelprize.org/prizes/economic-sciences/2017/thaler/facts/>

<https://www.euromonitor.com/article/aldi-and-lidl-the-no-frills-retail-model>

<https://www.unilever.com/news/press-and-media/press-releases/2016/unilever-acquires-dollar-shave-club/>

<https://www.relianceretail.com/annual-report.html>

<https://www2.deloitte.com/us/en/insights/industry/retail-distribution/pricing-strategy.html>

<https://hbr.org/2013/04/jc-penneys-fair-and-square-strategy>

<https://www.nielseniq.com/global/en/insights/report/2023/emerging-markets-growth/>

<https://journals.sagepub.com/doi/full/10.1177/00222429221095960>

<https://www.cognizant.com/us/en/case-studies/ai-driven-pricing-optimization-for-cpg>

<https://hbr.org/2022/05/the-high-cost-of-price-wars>

<https://hbr.org/2019/10/how-amazon-disrupted-the-book-industry>

<https://www.tandfonline.com/doi/full/10.1080/08997764.2020.1725974>

<https://corporate.walmart.com/newsroom/innovation/2023/03/15/walmart-unveils-next-gen-supply-chain>

<https://www.mckinsey.com/industries/retail/our-insights/managing-seasonal-inventory-in-fashion>

https://ec.europa.eu/competition/antitrust/predatory_pricing_en.html

<https://www.iata.org/en/publications/economics/reports/airline-industry-economic-performance-2023/>

<https://hbr.org/2012/12/best-buys-turnaround-strategy>

<https://www.bcg.com/publications/2023/china-ecommerce-landscape>

<https://www.lean.org/leanpost/Posting.cfm?PostingId=1234>

<https://www.jstor.org/stable/2555512>

<https://www.behavioraleconomics.com/resources/mini-encyclopedia-of-be/discount-fatigue/>

<https://www.mckinsey.com/capabilities/sustainability/our-insights/esg-in-retail-and-consumer-goods>

<https://www.apple.com/investor/earnings-call/>

<https://blueoceanstrategy.com/what-is-blue-ocean-strategy/>

<https://www.insead.edu/sites/default/files/assets/dept/kc/docs/blue-ocean-strategy.pdf>

<https://knowledge.insead.edu/strategy/premium-pricing-strategies>

<https://hbr.org/1995/05/disruptive-technologies-catching-the-wave>

<https://www.forrester.com/report/The-State-Of-Customer-Retention-2023/>

<https://www.starbucks.com/investor-relations/>

<https://www.tesla.com/investor-relations>

<https://hbr.org/2016/07/kodaks-downfall-wasnt-about-technology>

https://www.moody's.com/research/Neiman-Marcus-Group-LTD-LLC--PBC_1260000

<https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/the-future-of-premium-brands>

<https://www.forbes.com/sites/pamdanziger/2018/07/25/coachs-comeback/>

<https://www.iriworldwide.com/en-us/insights/reports/inflation-and-private-label-trends>

<https://www.edelman.com/trust/2023/trust-barometer>

<https://www.cognizant.com/us/en/case-studies/generative-ai-pricing-optimization-beauty-retail>

<https://www.costco.com/sustainability.html>

<https://www.dyson.com/inside-dyson>

<https://aws.amazon.com/machine-learning/dynamic-pricing/>

<https://www.gartner.com/en/articles/the-future-of-pricing-in-retail>

<https://www.cognizant.com/us/en/case-studies/ai-pricing-resilience-cpg-inflation>

<https://www.brandwatch.com/reports/>

<https://www.worldbank.org/en/topic/trade/publication/emerging-markets-growth>

<https://www.tesla.com/investor-relations>

The Subscription Economy Index Report - 2025 - Zuora

<https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-subscription-economy-a-business-model-for-the-future>

<https://www.forbes.com/advisor/business/saas-churn-rate/>

<https://www2.deloitte.com/us/en/insights/industry/technology/media-industry-trends/digital-media-trends-survey.html>

<https://www.pwc.com/gx/en/services/advisory/consulting/risk/resilience/global-retail-arbitrage-report-2023.pdf>

<https://www.starbucks.com/investor-relations/annual-reports/2023>

<https://www.unilever.com/news/press-and-media/press-releases/2023/unilever-annual-report-and-accounts-2023/>

<https://www.cognizant.com/us/en/insights/articles/ai-pricing-arbitrage-optimization>

<https://www.bain.com/insights/luxury-goods-worldwide-market-study-2023/>

<https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/the-hidden-costs-of-arbitrage-in-retail>

<https://www.cognizant.com/us/en/case-studies/ai-arbitrage-mitigation-retail>

<https://www.ibm.com/thought-leadership/institute-business-value/report/quantum-computing-business>

AWS Quantum Technologies Blog

<https://www.weforum.org/agenda/2023/06/quantum-computing-sustainability/>

<https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/quantum-computing-just-might-save-the-planet>

Notes



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