A person holding a phone and a qr code

AI-generated content may be incorrect.

**Executive Summary**

**Project Name: Smart Checkout – “The future of Retail, One scan away”**

**Name: Akshay Deep Siddam**

**Email: akshaydeep.nyc@gmail.com**

**Location: New York, NY**

**Background in the industry**

I am an MBA candidate at Baruch College (CUNY), specializing in Business Analytics and Product Strategy. With over seven years of experience in business consulting, data analysis, and digital transformation, I help organizations improve decision-making and operational efficiency through data-driven insights and process optimization.

I played a key role in launching India’s first direct-to-consumer genetic screening startup, where I led analytics initiatives, defined KPIs, and collaborated with cross-functional teams to streamline operations and enhance customer engagement. Prior to that, I worked as a business consultant across FMCG, healthcare, and consumer-tech sectors, strengthening my expertise in analytics, workflow design, and stakeholder management.

I’m passionate about leveraging data, technology, and business strategy to solve complex operational challenges. My current MBA journey focuses on bridging analytics with product and business strategy — enabling organizations to drive measurable impact through smarter, evidence-based decisions.

To stay ahead of industry trends, I actively engage with industry leaders and recently attended the 19th Annual Retail & Luxury Goods Club Conference at Columbia University, where I gained insights into the future of retail technology.

**Overview of Business Concept**

Retail checkout delays have always been a frustration—whether during childhood apparel shopping or during the Thanksgiving rush. Long queues, slow barcode scanning, and theft remain persistent retailer challenges.

This led me to work on the idea of Smart Checkout, an RFID-based self-checkout system that eliminates barcode scanning, manual security tag removal, and checkout lines. It integrates QR codes, RFID, and EAS security to create a friction-free shopping experience that is faster, more secure, and more efficient for retailers and customers.

**How It Works**

Each product has a QR code on the price tag, linked to a reusable RFID+EAS security tag. Customers can complete checkout using a simple QR-based process:

1. QR code checkout – Customers scan the QR code on each item using their smartphone.

* If using the store app: The item is instantly added to their cart
* If not using the app: The scan directs them to a web-based checkout, where the item is automatically added
* Customers complete the payment via app or web checkout using their preferred payment method
* Once payment is verified, the RFID+EAS security tag automatically detaches, allowing customers to place it in a collection tray and exit smoothly.

**What Happens After Tags Are Placed in the Tray?**

* RFID+EAS tags are collected by store employees
* Reprogramming device erases old product data, resetting the tag for reuse
* The store system links RFID UID (unique ID) to a new product’s QR code in the inventory system
* The reprogrammed RFID+EAS tag is attached to a new product, ready for sale, reducing costs for retailers

**Why It’s Different**

* No barcode scanning – RFID detects items instantly
* No checkout queues – Customers pay via app or web checkout
* Automated security – RFID+EAS tags unlock only after payment, preventing theft
* Works for all shoppers – Checkout is seamless, with or without the store app
* Reusable RFID+EAS tags – After detachment, are reset and assigned to new products, lowering retailer’s costs
* Cost-effective – Saves on labor costs and checkout inefficiencies

**Vision:** To revolutionize in-store shopping by bridging the gap between e-commerce speed and in-store convenience—creating a fast, secure, and seamless checkout experience that benefits both retailers and customers.

**Target Market**

Smart Checkout is designed for retailers looking to improve checkout efficiency, reduce labor costs, enhance security and elevate customer satisfaction through a seamless shopping experience. The primary target market includes:

1. Apparel & Fashion Retailers

* Fast Fashion – Zara, H&M, Uniqlo
* Luxury Brands – Louis Vuitton, Gucci, Prada
* Department Stores – Macy’s, Nordstrom, Bloomingdale’s

1. Athletic & Sportswear Brands

* Nike, Adidas, Under Armour, Puma

**Why it’s needed**

* The RFID retail market is expected to reach 17.4 billion dollars globally by 2027
* 60% of retailers are already investing in automated checkout solutions
* Retailers use **RFID** for both **inventory tracking** and **faster checkouts, reducing labor dependency**
* Businesses are adopting **frictionless self-checkout** to improve efficiency and customer convenience

**Competitive advantage**

Traditional self-checkout kiosks still rely on:

* Barcode scanning, which is slow and error prone
* Manual security tag removal, requiring staff intervention

Smart Checkout eliminates these pain points by:

* Removing the need for barcode scanning – RFID instantly detects items
* Eliminating checkout queues – customers pay via QR code
* **Enhancing security** with RFID-enabled EAS tags that unlock only after payment

Retailers using Smart Checkout can boost checkout efficiency by 40%, cut labor costs by 30%, and enhance customer satisfaction by 50%.

**Financial Plan**

**Revenue model**

Smart Checkout generates revenue through multiple streams:

* Software Subscription – retailers pay a monthly fee per store for access to the software ($5,000 per store)
* Hardware sales – RFID and EAS security tags sold separately ($2 per reusable tag)
* Transaction fees – 1% fee on each completed checkout transaction

Projected growth (first 3 years)

* Year 1 – pilot launch with 100 stores, generating $2 million in revenue
* Year 2 – expansion to 500 stores, with projected revenue of $7 million
* Year 3 – scaling globally, reaching 1,500 plus stores and $18 million or more in revenue

**Retailer benefits**

* Increase checkout speed by 40%
* Reduce labor costs by 30%
* Improve customer satisfaction, leading to higher retention and increased sales

**Marketing Strategy**

**Retail Partnerships and Pilot Evaluations**

* Collaborating with large retail chains to adopt Smart Checkout.
* Providing free or discounted pilot programs to demonstrate efficiency and security benefits.
* Building case studies with early retail adopters to showcase success.
* Targeting a 70% reduction in checkout time, 40% decrease in labor costs to highlight the operational benefits for retailers.

**Go-To-Market Strategy**

* Phase 1 (3 months) – Partner with 5 retailers for live testing and data collection.
* Phase 2 (6 months) – Expand to 50 stores in major retail hubs such as New York, Los Angeles, and Chicago.
* Phase 3 (1 year) – Nationwide rollout to 500+ retailers, with international expansion into key markets.

**Digital and Industry Outreach**

* Presenting Smart Checkout at industry events such as ICSC Las Vegas, NRF Retail’s Big Show, and Smart Retail Tech Expo to increase retailer awareness.
* Conducting live demonstrations for potential retail clients to showcase the benefits of frictionless checkout.
* Partnering with major brands like Zara, Uniqlo, and H&M to build credibility and drive adoption.

**Online Marketing and Customer Awareness**

* Using SEO, content marketing, and case studies to educate retailers on frictionless checkout solutions.
* Leveraging social media and influencer campaigns to showcase real-time frictionless checkout experiences.
* Hosting webinars and outreach programs to showcase Smart Checkout’s impact on efficiency and seamless checkout.

**Growth Plan**

* Year 1 – Pilot program in the U.S. with select retail partners.
* Year 2 – Expansion into European and Asian markets with early adopters.
* Year 3 – Scaling internationally, targeting leading fashion retailers and department stores.

This marketing strategy helps Smart Checkout gains visibility, builds retailer trust, and scale for widespread adoption.

**Conclusion:** Smart checkout is transforming the retail shopping experience. By eliminating barcode scanning and checkout lines, we are creating a faster, more efficient, and seamless shopping process for both retailers and customers.