

Candy Q-ty
The Hershey Company

Team 5

Mia Bernstein bernstein.mia@northeastern.edu
Paxton Downs downs.pax@northeastern.edu
Krisha Jain jain.krisha@northeastern.edu
Bharath Vittal vittal.b@northeastern.edu

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I. Executive Summary

- **Company:** The Hershey Company will launch Candy Q-ty, and it's a smart candy dispenser that uses voice activation to help parents monitor their kids' candy consumption while giving those same kids an interactive, fun experience. The device has a screen on it that displays a message. Once this message is stated, the candy is dispensed. Parents can control the amount of candy dispensed by utilizing the companion app.
- **Target Customer:** The target customers for Candy Q-ty will be middle-class suburban households with children aged 3-11 and parents within the range of 30 to 45 years old. This age group for adults is typically the most popular when it comes to purchasing home electronics.
- **Product:** Candy Q-ty is a smart dispenser that uses voice activation and other features.
 - **Positioning Statement:** For kids and parents looking to make treat time more fun and interactive, Candy Q-ty, is the most engaging and unique product among smart devices because it allows parents to monitor candy consumption while providing children a safe and interactive experience.
- **Price:** The Hershey Company will price Candy Q-ty at a retail price of \$149.99.
- **Promotion:** The Hershey Company will utilize an ARG type promotion as well as ads.
- **Place:** Hershey will utilize McLane Company, Inc. for distribution of the product.
- **Total Marketing Budget:** The total marketing budget will be \$18,897,355. This is the sum of all the marketing campaigns that Hershey will partake in during the launch of Candy Q-ty. The cost of our ARG campaign will be \$50,789 and the YouTube ads will cost \$104,000. Also, the influencer marketing will cost \$92,500. The seasonal commercials will cost \$130,000. Finally, our Always on YouTube Awareness campaign will cost \$18,520,066.
- **Breakeven:** Our required breakeven units for the launch of this product will be 293,974 units. We found this by dividing the total fixed costs (\$19,108,355) by the contribution margin (\$65).
- **Market Potential:** We expect our total sales for year one of Candy Q-ty to range from 200,000 to 250,000 units.

II. Introduction

Candy Q-ty is a candy dispenser designed to interact with children ages 3-11 that utilizes voice activation technology. Candy Q-ty can dispense treats by using voice activation to dispense a pre-set quantity of candy by a child's parent(s). The device includes a screen that will prompt the "magic words" the child must say to activate the dispenser; once they say the "magic word" and hold their hand to catch their incoming treat, it will be dispensed. The product's "magic word," volume, quantity dispensed per activation, and times activated are controlled, updated and monitored using a companion app for parents.

The product will be launched by The Hershey Company; one of the most recognized companies in the confectionary industry in the United States (Statista, 2025), holding multiple widely recognized brands such as Hershey's, Reese's, and Almond Joys (Statista 2025). This will be The Hershey Company's first tech product, which will present challenges; primarily entering an unfamiliar market with an unfamiliar product and having to obtain research on IoT development. However, the company's high brand recognition, as well as their relationship with McLane Company, Inc., will smooth their way in distributing and selling this product.

In this document, we will break down the different stages of our marketing plan for Candy Q-ty. This includes the situation analysis that we've conducted as well as the marketing strategy. Finally, we will showcase our quantitative analysis where we will explain our total marketing budget, breakeven calculations, and our total market potential.

III. Situation Analysis

A. Macro Environmental Factors

The economic situation in the U.S is a mixed opportunity in Candy Q-ty. The 0.3% increase in the Consumer Price Index for September 2025 (U.S. Bureau of Labor Statistics, 2025) reflects ongoing inflationary pressure that may adversely impact disposable income. Nevertheless, they have shown weak growth in disposable personal income, with growth rates of 0.1 and 0.2 percent in August and July 2025, respectively (BEA, 2025) and this indicates that households can still spend money on non-essential products such as Candy Q-ty in a stable economy (DataInsightsMarket, 2025).

The political and legal environment is also changing, with the U.S Department of Health and Human Services suggesting new regulations that limit some food dyes in April 2025, forcing the large confectionary businesses to start changing their products (FDA, 2025). Hershey has committed to removing these dyes by the end of 2027, which impacts popular products including Jolly Ranchers and Kit Kats and is part of an industrywide trend towards safer dyes.

The value proposition of Candy Q-ty is also favored by social trends, with parents worrying about the deteriorating health of children more (Mostafavi, 2025). According to Eric Lindberg, sugar is still a part of American celebrations, and they are attempting to bring up children capable of learning to regulate themselves (Lindberg, 2021). Candy Q-ty adopts this mission by providing a controlled and clean method through which the children would handle their candy consumption.

U.S. consumers are also growing technologically more comfortable; according to a study, approximately 60 percent of the participants increased their technological literacy during the

pandemic (National Library of Medicine, 2022), which increases the chances of a technology-enabled product to be adopted positively.

In terms of demographics, Candy Q-ty focuses on middle- and upper-middle-income households with children between 3 and 11 years old but the trend of the American middle-class is declining, having fallen to 51% in 2023, indicating a long-term reorganization of the purchasing power (Kochhar, 2024). These demographic shifts are crucial factors that need to be understood because they can affect market size, pricing policy, and long-term demand of innovative family-based products.

B. Industry Factors

Candy Q-ty will be launched within the home electronics industry, which had a market size of 127.80 billion in 2024, and is projected to increase to \$537.27 billion in 2030 (Grand View Research, 2025). This data emphasizes the popularity of this market.

There have been major evolutionary advancements, including IoT technology, that has lead to many new offerings, including AI products, such as Miele's product that helps homeowners with their cooking. This will further boost technological literacy amongst consumers for complex home electronics (Miele, 2022), and therefore increase the demand for items like Candy Q-ty.

The home electronics industry has become a viable market to enter due to its profitability, and current offerings have driven consumer demand. In an article titled, "Consumers make their homes smarter, with a focus on security", the authors stated that "77% of consumers who have embraced smart home devices believe that these technologies improve their overall quality of life." (Arbanas, Silverglate, Hupfer, Loucks, Raman, Steinhart, 2023). For this reason, Candy Q-ty will be designed and marketed to emphasize its data safety compared to other IoT products.

C. Customer Factors

The Hershey Company will be targeting middle-class suburban families for the marketing of Candy Q-ty. These families will have children ages 3-11 and tech-savvy parents. Parents of these families look for products that keep their children safe, especially with electronics, and consider both data privacy and physical safety (Sun, Zou, Radesky, Brooks, Schaub, 2021). Parents are also highly encouraged by their children when making purchases, especially when it comes to tech products (Nguyen, 2023). A 2020 study examined the buying behaviors of parents, when purchasing a toy for their 0 to 12-year-old child, and found that parents prioritize online research and look at alternative products before purchasing (Richard, Putnick, Bornstein, 2020).

To better understand our target customer, we interviewed Amy Landenwich, a consumer expert for home electronics and smart toys. She is a busy working parent of a three-year-old, making her a good fit for Candy Q-ty's customer demographic. We asked her multiple questions about her purchasing behavior and what she looks for in toys/smart toys (see exhibits 1 & 2). According to Amy, her child influences many of her purchases, and that safety and volume are significant factors when purchasing any toy/electronic device.

D. Competitive Factors

Hershey's most significant competitor is Mars Incorporated, best known for their candy brands M&M's and Snickers (Statista, 2025). While Mars Incorporated is a private company, we believe they have positive expectations for the next few years. They recently invested in a new facility they plan to use for R&D testing in New Jersey (Big Joe Henry, 2025). This suggests that Mars Incorporated plans to develop products explicitly appealing to the U.S. market. The Hershey Company has more brand recognition than Mars Incorporated in the U.S (Statista, 2025), but Mars Incorporated has not yet ventured into the tech industry. The Hershey Company will have the first mover advantage, with Mars Incorporated taking the role of a market follower, should Candy Q-

ty prove successful. As Mars tries to gain a larger foothold in grocery and convenience stores, Candy Q-ty will move Hershey's into homes across the United States.

While no other company has developed a product that is like Candy Q-ty, it's important to highlight that Google, Amazon, and Apple have already made a sizeable impact within the home electronics industry with recognizable and viable names. Amazon's Echo Dot is a home assistant with parental controls integrated (Amazon, 2025). These companies have faced data collection concerns from consumers as privacy becomes a significant concern (Fazlioglu, 2023)

Candy Q-ty is not nearly as complex as these home assistant electronics and will not collect data in the same ways. Like the Echo Dot, children will enjoy using this product due to the interactivity features. As Candy Q-ty is so different from products offered by Google, Amazon and Apple, we do not expect much initial difficulties from these companies as the Candy-Q-ty is launched. Instead, we anticipate that, once the Candy Q-ty is established in this market, a partnership with a company's home-assistant product could prove valuable to consumers who value efficiency over privacy concerns.

E. Company Factors

The Hershey Company itself has become an essential business within the United States confectionary industry, generating around 9 billion USD a year in confectionary sales in North America (Market.us, 2025) with extensive distribution channels and retail partnerships. 27% of Hershey's distribution is through McLane Company, giving them access to Walmarts, Sam's Clubs, Exxon Mobiles and 7-Eleven's in the U.S. Southeast (Hays, 2003), in addition to their own distribution channels for the rest of the country. Hershey products are also strongly embedded in Holiday traditions, creating spikes in sales during Halloween and Christmas.

The Hershey Company still faces challenges, including the rise in cocoa prices impacting all chocolate-based confectionary companies. The impacts of climate change have caused a major

shortage of cocoa beans, especially in African countries where most of their supply is sourced (Reid, 2025). This has caused companies to start and develop new strategies where they can try and limit their usage of cocoa beans (Fountain, 2025).

However, there has been a rapid increase in smart home device adoption (Market.us, 2025), with consumers demanding touch-free products (Nicolaus, 2020). Additionally, this product will come pre-programmed with settings best for Halloween and birthday parties, playing to their strengths during those times of year.

We anticipate only a few difficulties during the Candy Q-ty launch. Being the first product of its kind, consumers will need to be educated about the functionality of the product, which will be shown in advertisements and instructional videos online. Less tech savvy consumers may also have difficulty using the companion app and the Bluetooth features. Also, due to the retail markup structure, the cost of goods sold must be tightly managed to ensure the product remains appealing to consumers.

IV. Marketing Strategy

F. Marketing Objectives

The marketing goals of Candy Q-ty will be based on Hershey's current strengths in seasonal confectionary, the increase in the smart-home and smart-toy market, and our financial analysis. Since we are introducing a new product with national visibility and retail distribution, our objective is to drive strong household awareness, early adoption and a clear path to breakeven during the first full marketing cycle. This foundation will support wider penetration and repeat seasonal sales in future years.

1. Sales Volume

Our objective for Year 1 is to achieve **200,000 to 250,000 units** of Candy Q-ty sold in the U.S. This reflects the scale of the national launch, the size of our target segment and the expected impact of our integrated marketing campaign.

Based on our quantitative analysis (see Quantitative Analysis Exhibits, Table 7), the total fixed expense to launch is approximately \$19M, with the contribution margin at an MSRP of 149.99 (with COGS of 37.50), is approximately 112 per unit. With a breakeven requirement of approximately **294,000 units**, Year 1 sales will cover the majority of this target, with the remainder expected during the next Halloween cycle, when seasonal demand naturally spikes.

2. Early Market Share / Penetration

Selling 200,000 to 250,000 units in Year 1 corresponds to **1.4-1.8% penetration** of our 14.3 million target households. Across the first 12 to 18 months, including the following Halloween season, we expect to surpass **2% penetration**, which aligns closely with our breakeven target. By Year 3, with repeat seasonal campaigns, broader word-of-mouth and increased retail presence, our goal is to reach **4-5% penetration**, or roughly **715,000 cumulative units**. This would generate over 100 million dollars in revenue, supported by recurring candy sales to refill the device. These goals are ambitious but realistic given Hershey's brand strength, first-mover advantage and the fast growth of smart-home and smart-toy markets.

G. Target Markets

3. Basis of Marketing Segmentation

While The Hershey Company generally takes a full-market coverage strategy, Candy Q-ty will be targeted at middle and upper-middle-income families with children between 4 and 10-year-old, and parents who are aged between 30 and 45-years-old, which covers approximately 14.3 million households of the U.S. (U.S. Census Bureau, 2024). Such families usually value

convenience, safety and, now more than ever, hygenic solutions (USD Analytics, 2025). They also demand more interactive, educative, and tech-integrated products that can make parenting more straightforward (Fleming, 2024). The psychographic profile underlines the parents who value products that bring technology and tradition together, and the geographic segment of Candy Qt-ty targets suburban areas across the U.S.

4. Target Market Choice in Terms of Attractiveness

Beyond the appeal of Candy Q-ty to this audience; The Hershey Company's barrier to entry is minimal due to their 93% brand recognition (Statista, 2024), predisposing them towards considering their new offerings from them. These segments deliver long-term clients, as families remain in the 4-10 age group for more than six years and the 27% annual growth rate of the smart-home market is only helped as consumers become more tech savvy (Grand View Research, 2024).

H. Positioning Strategy

To position our product effectively, we've created a positioning statement:

For kids and parents looking to make treat time more fun and interactive, Candy Q-ty, is the most engaging and unique product among smart devices because it allows parents to monitor candy consumption while providing children a safe and interactive experience.

This positioning statement helps convey the value delivered to the consumer. This statement highlights the benefits for adults and children; parents will be enticed by the monitoring and safety features, while children will have fun with the interactive features it offers. This positioning statement also gives The Hershey Company an advantage over other companies in the home electronics industry; Candy Q-ty is poised to become the most unique home electronics products on the market, and clear communication about its uses and benefits will be essential.

I. Marketing Mix Strategy

5. Product

Candy Q-ty will be positioned as the first-ever smart candy dispenser that uses voice activation to dispense treats and provide children and adults with a unique, interactive experience. The device's screen will display an image created by the parent in the Candy Q-ty companion app; when the child speaks this "magic phrase" the device will dispense the set amount of candy. Other features include portion-control; parents will be able to control how much candy is dispensed at each activation and per day, and if the maximum has been dispensed the child will be denied. These mechanisms can be altered using the Birthday or Halloween modes, which allows a larger portion of candy to be dispensed during events.

Candy Q-ty will also detect specific voices so it can differentiate between people; the app will give parents the ability to record their kid's voice, allowing the device to later detect who is speaking the "the magic phrase." Parents will be able to delete or change this recording at any time. Hershey's messaging to parents will repeat that the Candy Q-ty does not store data; only listens and discards the audio collected at each activation.

6. Price

Candy Q-ty's pricing uses cost-based models common in CPG and consumer electronics. The objective is to set a retail price that reflects the product's premium, family-focused value while ensuring healthy margins for Hershey and its retail partners. This approach fits the needs of dual-income suburban families with young children, a group that already engages with smart-home technology (Horowitz Research, 2025).

Industry benchmarks show that IoT BOM costs typically range from **\$10–\$50** (AGS Devices, 2024), PCB assemblies cost **\$7–\$10** at scale (ALLPCB, 2024), and injection-moulded

housings follow predictable cost curves (SWCPU, 2024). Assembly and logistics commonly add **\$8–\$12** (AEICM, 2024). Based on these ranges, CandyQ-ty's **COGS of \$35–\$40** is realistic. Applying the traditional CPG markup rule **2× COGS wholesale and 4× COGS retail**—supports channel profitability (CGN Global, 2023). Additionally, the McLane Company, who The Hershey Company does 27% of their distribution through, states that the likely price of a good at locations they supply is four times the COGS (McLane Company, 2021).

The resulting MSRP of **\$149.99** fits psychologically below \$150 and aligns with smart-toy and smart-home devices typically priced **\$129–\$199** (Mordor Intelligence, 2025; Future Market Insights, 2025). Year 1 uses **market skimming** to recover development costs. As scale improves, Hershey can adopt **light penetration pricing**, offering **\$129.99** seasonal promotions and long-term promotional ranges of **\$119–\$139**.

7. Promotion

The first promotion strategy The Hershey Company will initiate will be an Alternate Reality Game (ARG) to catch the attention of parents and children on Halloween. One candy in every Hershey assortment candy bag will include a candy with a QR code on the back that, when scanned, will direct the consumer to a countdown timer (counting down to 10 am on November 1st). Additionally, six-second unskippable YouTube ads featuring this QR code and the character of Q-ty, the Hershey's kiss, will run a week before Halloween.

Once the countdown ends, viewers will be redirected to the app store to download the Candy Q-ty companion app where children and adults can participate in a daily activity (word searches, crosswords, etc.) in which the answers reveal a new detail about the product or about Q-ty. Consumers will be notified to come back the next day to complete another daily challenge.

Hershey will also hire micro-influencers to help promote this new ARG and inform potential customers on how to download the app.

After the week-long ARG campaign is complete, The Hershey Company will hold press conferences to introduce their new product. The countdown website will transform into a page all about the Candy Q-ty, with instructional videos for parents, games for kids to “play with Q-ty” and instructions on when to buy a Candy Q-ty upon their release on Black Friday. Additional ads will premiere next year primarily on Youtube to catch kid’s interest: one in the winter, one in the spring, and one in the summer. These advertisements will use the tagline: “What’s Your Magic Phrase?” With this method, we believe consumers will find themselves interested in knowing more about Candy Q-ty, and will already have the app on their phone as the product is released.

8. Place

The Hershey Company’s distribution strategies are one of the most significant competitive advantages Candy Q-ty will have when entering the home electronics market. The Hershey Company will utilize it’s own distribution centers across the U.S. and with McLane Company in the Southeast. These preexisting distribution relationships will help to ensure a mass-market reach.

The Hershey Company will also be offering this new product through various e-commerce channels. The Hershey Company’s own website, Hershey.com, will be a significant channel for the company, offering direct-to-consumer sales, customization, and early access options for consumers. Amazon.com will also serve as a strong channel for the Candy Q-ty, as Amazon is one of the top players in smart home electronics purchases (Future Market Insights, 2025). All these distribution channels will be most effective for accessing the smart electronics market and reaching the desired consumer.

J. Budget and Quantitative Analysis

9. Budget

The total cost of the one-year integrated marketing campaign for CandyQt-y is **\$18,897,355** (Refer Table A), which represents **3.61 percent** of Hershey's 2024 advertising budget. This includes the Golden Ticket ARG, influencer partnerships, five seasonal commercials, and a large-scale year-long YouTube campaign reaching children and parents weekly. The budget is proportionate to Hershey's marketing scale and is designed to maximize national awareness during Halloween and the holiday season.

10. Quantitative Analysis

Candy Qt-y's financial feasibility was evaluated using updated cost benchmarks for IoT devices, injection-molded plastics, and consumer electronics manufacturing. Based on industry estimates, the product's COGS is projected to fall within the **\$35-\$40** range (Refer Table 1), which is consistent with similar smart-home and smart-toy hardware. Fixed development costs are estimated at **\$211,000** (Refer Table 2), in line with full-stack IoT product development norms.

To determine a realistic revenue model, we incorporated standard 2023–2025 channel margins (Refer Table 4). Big-box retailers typically take **30-40%**, distributors take **8-12%**, and Amazon retains **23-28%** through referral and fulfillment fees, while direct-to-consumer sales incur minimal overhead. Using a weighted distribution mix that reflects Hershey's expected retail footprint - **60% retail, 30% Amazon, 5% direct-to-consumer, and 5% seasonal stores** (Refer Table 5). Hershey's **average realized revenue per unit** is approximately **\$102** (Refer Table 6&7), not the full MSRP of \$149.99 (Refer Table 3).

After subtracting the COGS midpoint, the realistic **contribution margin is approximately \$65 per unit** (Refer Calculation 1). With total fixed development and marketing expenditures estimated at **\$19 million**, the breakeven volume is roughly **294,000 units** (Refer Calculation 2). Given the size of the innovator segment within our target market (over 350,000

households), and Hershey's strong retail placement during peak seasonal periods, this breakeven threshold is attainable within the product's second year of launch.

5. Market Potential Analysis

The U.S. market for Candy Q-ty is large and very attractive. About 14.3 million suburban, dual-income households with children between three and eleven years old fit our target profile (U.S. Census Bureau, 2024). Around 62 percent of these families already own at least one smart-home device (Horowitz Research, 2025), and the global smart-toy market is expected to exceed 21 billion dollars in 2025 (Mordor Intelligence, 2025). These trends show that families are open to interactive, tech-enabled products that combine fun, safety and convenience.

Within this market, the Innovator segment accounts for roughly 357,500 households. However, because Candy Q-ty is supported by a national marketing plan, strong retail distribution and annual seasonal visibility, we expect adoption to extend beyond Innovators. Our campaign allows us to reach both Early Adopters and the early part of the Early Majority during the first year.

Based on this broader reach, our realistic Year-1 sales expectation is between 200,000 and 250,000 units. The remaining volume needed to reach breakeven is expected to occur during early Year 2 around Halloween, when demand naturally spikes. This forecast aligns with our updated breakeven requirement of about 294,000 units and fits the purchasing behavior of families who actively buy smart, convenient and hygienic products for children.

Target Market Size Estimate:

- Approx. 14.3 million U.S. households fit the profile
- Innovators (2.5%) = **357,500 households**

Market Potential Summary

| Metric | Value |
|--------------------------------|-----------------------------------|
| Total U.S. Target Households | ~14.3 million |
| Innovator Segment (2.5%) | 357,500 |
| Required Breakeven Units | ~294,000 |
| Realistic Year-1 Adoption | 200,000 – 250,000 units |
| Expected Early Year-2 Adoption | Additional 80,000 - 100,000 units |
| Achieved Breakeven | Early Year 2 |
| Year-3 Penetration Potential | 4% - 5% (~715,000 units) |

V. Exhibits

K. Primary Research

11. Industry Expert and Interview Protocol Exhibit

Interview Protocol

1. When considering purchasing a new home electronic, what aspects do you consider (brand trustworthiness, advertising, your level of need for the product)?
2. Do you have any partially memorable experiences after purchasing a newly released home electronic device? If so, what made it so memorable?
3. Do you look at safety reviews or certifications when purchasing products your child would interact with? If so, what are your trusted sources of information on this topic?
4. What have you noticed influences children to ask for new toys from their parents (peer discussions, advertisements, etc.)?
5. Does your child ever weigh in on deciding to purchase something? Or, if they are too young to do so, how much weight would you give their opinion if they were in middle school? What about high school?
6. Do you believe you, or any member of your household, is prone to impulse purchases? If so, what price point/price range do those purchases sit in? Is that price point/price range different when making an impulse purchase related to your child?
7. As a teacher, what have been the most influential/widespread new products among elementary aged children? Why do you think they caught on?
8. If a home electronic was designed primarily for your child to interact with, what would induce you to purchase this product? What features/controls would you want to access as a parent?

Industry Expert Information

Name: Amy Landenwich

Title: Consumer Expert

Company Information: William Penn Elementary School, District 5, and Union of Federated Teachers

Contact Information: amyparker1@gmail.com

Amy Landenwich has agreed to answer our questions via email

Amy is part of our target demographic, as a busy working parent of a young child (3 years old). She is a consumer in the toy industry, having made purchases for her child and household from this category. Additionally, Amy is a teacher and will be able to offer opinions on which families would find this useful, and who would be hesitant to invest in a Candy Q-ty for their household. Amy is also a leader in her local teachers' union; she is aware of the safety standards for children and more general concerns about their wellbeing.

12. Interview Summary Exhibit

When considering purchasing a new toy, what aspects do you consider?

Our main consideration is interest. If Marlow is excited about something, we try to follow that.

We also consider if something is developmentally appropriate and safe.

Do you have any particularly memorable experiences after purchasing a newly released toy? Are they good experiences or bad experiences, and why?

We don't buy a lot of toys. Although one experience sticks out when Marlow and I were at a store and she saw a little hand held fan with Moana on it. She was so excited about both the fan and the Moana aspect. I ended up getting it for her even though I hadn't planned on it.

Do you look at safety reviews or certifications when purchasing products your child will interact with? If so, what are your trusted sources of information on this topic?

The PIRGs release a toy safety report each year. We also generally trust certain materials (wood) and brands (Melissa and Doug).

What factors have you noticed influences children to ask for new toys?

Seeing something at a friends house or at a store is when Marlow will ask for something. She often forgets after we leave.

Does your child give any input on deciding to purchase any toys?

She does. If there is something she is asking for again and again we put it in a list and tell her we are adding it to her holiday wish list. But we don't add things that we don't want for her.

What price point/price range do your toy purchases sit in?

Again we don't purchase a ton of toys, but when we do they are usually 30-50.

How important is it for you to know of a brand when purchasing their new product?

Somewhat important because I want to trust that it is safe.

How quickly/soon are you to adopt a new product from a company launching a secondary product line?

I'd be open to that but we don't buy a ton of new items in general.

What aspects of a toy would you want control on, if your child was primarily interacting with it?

Volume!!!

Are you aware of anybody working in the toy industry we could contact as resources for our research?

I'm not. Sorry!

13. Marketing Budget Exhibit

Table A: CandyQt-y Marketing Budget Breakdown (1-Year Campaign)

| Category | Description | Cost (USD) | Source |
|--|--|---------------------|---|
| 1. Golden Ticket ARG + App Integration | Development of interactive kid-friendly ARG inside companion app (puzzles, countdown timer, virtual candy collection). | \$50,789 | EasyIoT, 2024; YouTube ads CPM data |
| 2. YouTube Bumper Ads (ARG Launch) | Unskippable 6-second ads targeted at trick-or-treat age groups (\$4 CPM). | \$104,000 | Quimby Digital 2025 guide |
| 3. Influencer Marketing | Two micro-influencers per state (100 total) on TikTok & Instagram. | \$92,500 | Based on influencer rate norms (average rates, consistent with creator market). |
| 4. Seasonal Commercials (5 total) | 3 live-action ads + 2 animated ads (one is an updated version of “Christmas Bells”). | \$130,000 | Live-action & animated ad cost benchmarks |
| 5. Always-On YouTube Awareness Campaign | Weekly CPV ads reaching ~25M kids for one year. 80% skip rate accounted for. | \$18,520,066 | YouTube CPV benchmarks & skip-rate data |
| TOTAL MARKETING BUDGET | 1-year full IMC program. | \$18,897,355 | Summation shown in file |

14. Quantitative Analysis Exhibits

Table 1: Estimated Cost of Goods Sold (COGS) at 100,000 units

| Cost Component | Estimated Cost |
|---|---------------------------|
| Electronics (MCU, PCB, motion sensor, mic, LEDs, servo motor, wiring) | \$8.00–\$12.00 |
| Mechanical components (ABS shell, hopper, dispensing wheel) | \$6.00–\$8.00 |
| Power & safety components (USB-C module, regulator, fuses) | \$1.50–\$2.00 |
| Assembly & QA | \$3.50–\$5.00 |
| Packaging | \$1.50–\$2.00 |
| Freight & logistics | \$3.00–\$4.00 |
| Overhead allocation (5–8%) | \$2.00–\$3.00 |
| Total Estimated COGS | \$35–\$40 per unit |

Table 2: Industry benchmarks

| Cost Category | Estimated Cost (USD) | Notes |
|--------------------------------------|----------------------|--|
| Project Management | \$20,000 | Required to oversee hardware, app integration and certification. |
| System Design | \$10,000 | Defines system architecture for dispenser + app communication. |
| Industrial Design | \$15,000 | Physical design of the device, ergonomics and aesthetics. |
| Mechanical Design | \$15,000 | Internal structure, dispensing mechanism, and motion handling. |
| Hardware Design | \$30,000 | PCB, sensors, microphone, speaker, motor control. High-impact cost area. |
| Firmware Design | \$15,000 | Enables listening for voice cues, motor actuation and communication. |
| Prototyping | \$8,000 | Multiple prototypes required for mechanical + electronic validation. |
| Mobile App Development | \$50,000 | Largest cost driver. Smartphone integration adds complexity. |
| Validation Testing | \$10,000 | Reliability, safety and performance testing. |
| Injection Molding (Tooling) | \$5,000 | Basic tooling due to simple shell design. |
| Certification & Approvals | \$30,000 | Child safety, electronics compliance, FCC/CE standards. |
| Total | \$208,000 | |

Table 3: Pricing Logic Based on COGS and CPG Markup Norms

| Pricing Level | Industry Rule | Calculation (Using COGS = \$37.50) | Estimated Price |
|--------------------------------|---|------------------------------------|----------------------------|
| Retail Price (MSRP) | Retail $\approx 4 \times$ COGS | 4×37.50 | \$149.99 |
| Industry Norm Reference | Mass-market CPG rule of \$1 cost \rightarrow \$4 retail | CGN Global Distribution Norms | Supports 4 \times markup |

Table 4: Industry Standard Margins by Channel

| Channel Type | Industry Margin Range | Used in Model |
|---|--|-------------------------|
| Big-Box Retailers (Target, Walmart, Costco, Best Buy) | 30–40% retailer margin | 30% |
| Distributors / Wholesalers (McLane, Ingram Micro, Tech Data) | 8–12% margin | 10% |
| Amazon – Seller Central (3P seller) | 15% referral + 8–12% FBA \rightarrow 23–28% margin | 25% |
| Amazon – Vendor Central (Amazon buys wholesale) | \sim 30% margin | 30% |
| Direct-to-Consumer (Hershey.com) | 3–8% fulfillment/processing costs \rightarrow 92–97% net retention | 8% cost / 92% retention |
| Seasonal Retailers (Spirit Halloween, Party City) | 30–40% retailer margin | 30% |

Table 5: Distribution Mix for CandyQ-ty

Based on typical CE/CPG launches:

| Channel | % of Unit Sales | Rationale |
|---|-----------------|---|
| Brick-and-Mortar Retail (Target, Walmart, Costco, CVS) | 60% | Hershey's distribution and partnership with McLane; seasonal retail dominance |
| Amazon + online marketplaces | 30% | Smart devices heavily purchased online |
| Hershey.com (Direct-to-Consumer) | 5% | Small but high-margin |
| Other specialty seasonal stores (Spirit Halloween, Party City) | 5% | Seasonal spikes |

Table 6: Revenue Received by Hershey Per Unit (By Channel)*(Assuming MSRP \$149.99 and COGS midpoint \$37.50)*

| Channel | Hershey Revenue Per Unit | Margin Logic |
|---|--------------------------|---|
| Big Box Retail (60% of units) | \$94.49 | Retailer keeps 30% → Hershey/distributor get 70% (= \$104.99) → Distributor keeps 10% → Hershey gets \$94.49 |
| Amazon (30% of units) | \$112.49 | Amazon keeps 25% → Hershey receives 75% of MSRP = \$112.49 |
| Direct-to-Consumer (5% of units) | \$137.99 | Hershey retains 92% after D2C fees → \$149.99 × 0.92 = \$137.99 |
| Seasonal Retailers (5% of units) | \$94.49 | Same structure as big-box retail (30% retailer + 10% distributor margin) |

Table 7: Weighted Average Revenue Per Unit (WARPU)*(Already calculated earlier, table added here for completeness)*

| Channel | % of Sales | Hershey Revenue Per Unit | Weighted Revenue |
|------------------------------|-------------|--------------------------|------------------|
| Big Box Retail | 60% | \$94.49 | \$56.69 |
| Amazon | 30% | \$112.49 | \$33.75 |
| Direct-to-Consumer | 5% | \$137.99 | \$6.90 |
| Seasonal Retailers | 5% | \$94.49 | \$4.72 |
| Weighted Avg. Revenue | 100% | | \$102.06 |

Calculation 1: Contribution Margin Per Unit

Formula:

Contribution Margin = Hershey Revenue Per Unit – COGS

Inputs:

Average Hershey revenue per unit: **\$102.06**

COGS (midpoint estimate): **\$37.50**

$$102.06 - 37.50 = \mathbf{\$64.56}$$

Contribution Margin ≈ \\$65 per unit

Calculation 2: Breakeven Analysis

Total Fixed Costs:

Development cost: **\\$211,000**

Marketing budget: **\\$18,897,355**

Total Fixed Cost = \\$19,108,355

Formula:

Breakeven Units = Total Fixed Cost ÷ Contribution Margin per Unit

$$19,108,355 \div 65 = \mathbf{293,974 \text{ units}}$$

Breakeven Volume ≈ 294,000 units

15. Use of GenAI

The product concept image for CandyQt-y was generated using Sora AI, OpenAI's text-to-video image model (2025).

L. References

Arbanas, Jana, et al. "Consumers Make Their Homes Smarter, with a Focus on Security."

Deloitte Insights, Deloitte, 11 June 2025,

www.deloitte.com/us/en/insights/industry/telecommunications/connectivity-mobile-trends-survey/2023/smart-home-industry-adoption-trend.html.

Astute Analytica. (2025). Global confectionery market to hit \$453.64 billion by 2033.

<https://www.globenewswire.com/news-release/2025/01/15/3010291/0/en/Global-Confectionery-Market-to-Hit-Valuation-of-US-453-64-Billion-By-2033-Astute-Analytica.html>

Bigjoehenry. "The Candy Market Is Inflation Proof, Sales Continue to Grow." New Jersey 101.5,

17 Oct. 2025, nj1015.com/hackettstown-candy-market-growth/.

ConnectSafely. "Set Parental Controls with the Amazon Kids Parent Dashboard." About

Amazon, US About Amazon, 4 Feb. 2022, www.aboutamazon.com/news/devices/set-parental-controls-using-amazon-parent-dashboard.

"CONSUMER PRICE INDEX – SEPTEMBER 2025." U.S. Bureau of Labor Statistics, U.S.

Bureau of Labor Statistics, 24 Oct. 2025, <https://www.bls.gov/news.release/pdf/cpi.pdf>

"Consumer Electronics Market Size & Share Report, 2025 – 2034." Global Market Insights Inc.,

www.gminsights.com/industry-analysis/consumer-electronics-market. Accessed 1 Dec. 2025.

“Disposable Personal Income.” Disposable Personal Income | U.S. Bureau of Economic Analysis (BEA), www.bea.gov/data/income-saving/disposable-personal-income. Accessed 30 Nov. 2025.

Fazlioglu, Müge. “Privacy and Consumer Trust Report.” Privacy and Consumer Trust Report, iapp.org/resources/article/privacy-and-consumer-trust-summary/. Accessed 1 Dec. 2025. Fortune Business Insights. (2025). Global consumer electronics market forecast.

<https://www.fortunebusinessinsights.com/press-release/global-consumer-electronics-market-10478>

Fountain, Luke. “Chocolate’s Reign over Halloween Is under Threat from Inflation, Tariffs and High Cocoa Prices.” *CNBC*, CNBC, 31 Oct. 2025, www.cnbc.com/2025/10/31/chocolate-prices-halloween-tariffs-inflation-candy.html.

“Global IOT Connections Forecast to Rise above 40 Billion in 2034.” Transforma Insights, 10 June 2025, transformainsights.com/news/global-iot-connections-forecast-above-40-billion-2034.

Grand View Research. (2024). Smart homes industry analysis.

<https://www.grandviewresearch.com/industry-analysis/smart-homes-industry>

Hays, Constance. “Wal-Mart Agrees to Sell Food Supplier (Published 2003).” *Nytimes.Com*, www.nytimes.com/2003/05/03/business/wal-mart-agrees-to-sell-food-supplier.html. Accessed 3 Dec. 2025.

“The Hershey Company Statistics and Facts.” Market.Us, 18 Nov. 2025, market.us/statistics/food-and-beverage-companies/the-hershey-company/.

The Hershey Company. (2025, May 6). *Notice of 2025 Annual Meeting and Proxy Statement*

2024 Annual Report. Hershey Investors. <https://hershey.gcs-web.com/static-files/b7a1de67-59c7-4057-a3ae-69abd1a7cdd3>

Kochhar, Rakesh. "The State of the American Middle Class." Pew Research Center, Pew Research Center, 31 May 2024, www.pewresearch.org/race-and-ethnicity/2024/05/31/the-state-of-the-american-middle-class/.

Lindberg, Eric. "You Know Sugar Is Bad for Your Kids. Here's What You Can Do." Newsroom, 15 May 2024, keck.usc.edu/news/you-know-sugar-is-bad-for-your-kids-heres-what-you-can-do/.

McLane Company. (2021, June 14). *How to get product distributed by McLane* ". Mr. CheckoutTM | Grocery Distributors, Pharmacy Distributors & Convenience Distributors. <https://mrcheckout.net/get-product-distributed-mclane/>

MH;, Richards MN;Putnick DL;Bornstein. "Toy Buying Today: Considerations, Information Seeking, and Thoughts about Manufacturer Suggested Age." Journal of Applied Developmental Psychology, U.S. National Library of Medicine, pubmed.ncbi.nlm.nih.gov/32405125/. Accessed 2 Dec. 2025.

Mostafavi, Beata. "Majority of Parents Believe Children's Physical and Mental Health Is Getting Worse | Michigan Medicine." *Michiganmedicine.Org*, www.michiganmedicine.org/health-lab/majority-parents-believe-childrens-physical-and-mental-health-getting-worse. Accessed 2 Dec. 2025.

National Retail Federation. (2024). Halloween spending to reach record \$12.2 billion [Press release]. <https://nrf.com/media-center/press-releases/halloween-spending-reach-record-122-billion-participation-exceeds-pre>

Nguyen, Hoang. "US: Measuring Kids' Influence on Parents' Purchase Decisions." YouGov, [yougov.com/en-us/articles/46632-us-measuring-kids-influence-on-parents-purchase-decisions-poll](https://www.yougov.com/en-us/articles/46632-us-measuring-kids-influence-on-parents-purchase-decisions-poll). Accessed 2 Dec. 2025.

Nicolaus, Fred. "Will a Boom in Hands-Free Products Outlast COVID?" Business of Home, businessofhome.com/articles/kohler-is-betting-big-on-touchless-products. Accessed 1 Dec. 2025.

"Notice of 2025 Annual Meeting and Proxy Statement." The Hershey Company, 6 May 2025.

Ozbun, T. "Chocolate Consumption by Brand KPI Ranking U.S. 2025." Statista, 28 Nov. 2025, www.statista.com/statistics/1400460/reach-of-consumption-or-penetration-of-chocolate-brands-by-consumers-eating-them-in-the-united-states/.

Pawlicka, Aleksandra, et al. "Has the Pandemic Made Us More Digitally Literate?" Journal of Ambient Intelligence and Humanized Computing, U.S. National Library of Medicine, 11 Aug. 2022, pmc.ncbi.nlm.nih.gov/articles/PMC9366816/.

"Press Releases." Artificial Intelligence Used by Miele to Bring Greater Diversity of Taste and Creativity to the Kitchen, www.miele.de/en/m/artificial-intelligence-used-by-miele-to-bring-greater-diversity-of-taste-and-creativity-to-the-kitchen-6138.htm. Accessed 1 Dec. 2025.

Program, Human Foods. "Organizations Removing Petroleum Based Food Dyes from Their Products." *U.S. Food and Drug Administration*, FDA, www.fda.gov/food/color-additives-information-consumers/tracking-food-industry-pledges-remove-petroleum-based-food-dyes. Accessed 2 Dec. 2025.

Reid, Jenni. "Chocolate Lovers, Brace Yourselves: Prices Are Rising, but Not Forever." *CNBC*, CNBC, 22 Aug. 2025, www.cnbc.com/2025/08/22/chocolate-set-to-get-more-expensive-but-2026-outlook-looks-sweeter.html.

"Rising Disposable Income: Trends & Impacts." DataInsightsMarket, DComprehensive Market Research & Forecast Analysis, www.datainsightsmarket.com/news/article/view-all-by-rising-disposable-income-10120. Accessed 30 Nov. 2025.

"Smart Home Market Size and Share | Industry Report, 2030." Grand View Research, www.grandviewresearch.com/industry-analysis/smart-homes-industry. Accessed 30 Nov. 2025.

"Smart Home Devices Market." Market.Us, 23 Sept. 2025, <http://market.us/report/smart-home-devices-market/>

Statista. (2024). Most well-known chocolate brands in the U.S. <https://www.statista.com/statistics/1345438/most-well-known-chocolate-brands-in-the-united-states/>

Sun, Kaiwen, et al. "Child Safety in the Smart Home: Parents' Perceptions, Needs, and Mitigation Strategies." University of Michigan, Oct. 2021.

"Top Health Concerns for 2025." National Poll on Children's Health, mottpoll.org/reports/top-health-concerns-2025. Accessed 30 Nov. 2025.

U.S. Candy Market Size and Share | Industry Report, 2030, www.grandviewresearch.com/industry-analysis/us-candy-market. Accessed 1 Dec. 2025.

U.S. Census Bureau. (2024). America's Families and Living Arrangements: 2022 (P20-587). <https://www.census.gov/library/publications/2024/demo/p20-587.html>

USD Analytics. (2025). Smart toys market. <https://www.usdanalytics.com/industry-reports/smart-toys-market>