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Vertically Integrated Operations: A Look into goPuff's State College MFC and Company-Wide
Supply Chain and Business Functionality

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ABSTRACT

In a world with a greater demand for accessibility and convenience, in addition to an increasing expectation of fast and reliable deliveries, quickly and easily meeting peoples' wants and needs has never been so essential to business. goPuff, a rapidly expanding on-demand delivery service, has taken these factors into account, and has integrated meeting customer needs into every aspect of business, including its vertically integrated supply chain strategy. This thesis will analyze the impact that goPuff's supply chain and business strategies have on the overall success of the company. The purpose is to seek out the key problems goPuff, as a whole, may be facing now and identify how the company has progressed since its start. This thesis will use the State College, PA warehouse as an example for goPuff's successes and failures.

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Chapter 1

Introduction

goPuff is a business uniquely of its own. While the company has excelled in taking over rapid delivery service throughout the U.S. (and now some large European cities as well), its accelerated growth and expansion can be attributed to an unparalleled business model; one that has set it apart from competitors and has allowed for the creation of an entirely new industry: on-demand delivery.

In 2013, founders Rafael Ilishayev and Yakir Gola, who were Drexel students at the time, recognized the hassle of late-night convenience store trips for things like snacks and smoking products (“About Us - goPuff”, 2021). The students soon formulated a business concept that took advantage of meeting people’s instant wants and needs, an idea that would grow into a \$15 billion dollar company nearly nine years later (“Delivery Startup Gopuff Valued at \$15 Billion after Latest Fundraising”, 2021). At high-demand times of the day, Ilishayev and Gola began delivering typical convenience store items around their campus. Shortly after, they developed an app to accompany their services, where needs could be met at the tap of a button. Soon the concept of goPuff took off. Today the company has revolutionized on-demand delivery and has rewarded users with a product variety that cannot be found elsewhere. Even among delivery service competitors like Grubhub and DoorDash, in addition to brick-and-mortar competitors such as 7-Eleven, goPuff has created a fusion between easily accessing everyday items and having them delivered right to the customer’s doorstep. Because of this, the company dominates seventy percent of the market share for instant needs, and while new entrants have borrowed the model, none have been as successful as goPuff (“Defining the Instant Needs Market – A New Study by Coresight Research”, 2021).

With the rapid expansion of goPuff across the U.S. and now into large European cities like London and Paris, the company is taking active measures to improve its technology in addition to its supply chain and logistics strategies. Unlike traditional food delivery service companies, goPuff has taken advantage of the use of micro fulfillment centers (MFCs) to not only fill warehouses to the brim with products, but to also to maximize efficiency in packing and delivery times. This has proven to be valuable for the company, and vertical integration of their supply chain has also been a booster of their success as it is “key to rapid delivery and long-term sustainability” (“Defining the Instant Needs Market – A New Study by Coresight Research”, 2021). In a goPuff warehouse, product availability is integral, and can be quickly adapted to overall customer trends for a specific location. Because of their small size, MFCs cater more to the individual customer, and frequent deliveries from goPuff’s suppliers allow the warehouse to respond to rapidly changing market conditions. In addition, small-scale changes are made easier with the use of MFCs. This has allowed goPuff to have a heuristic approach to its expansion, and the company has begun to master a trial-and-error technique when it comes to solving large-scale problems. However, because the company is unique in the industry, using this type of approach has had its challenges. Nevertheless, even as a response to the COVID-19 pandemic in the last two years, it has allowed for quick adaption to supply chain disruptions and product availability concerns. In addition to goPuff’s use of MFCs, it has begun to adapt to the need of last mile services, which ensures successful deliveries and solidifies a positive customer relationship. Through its acquisitions of rideOS, Fancy, and DiJa, all fleet management companies that will assist in on-demand dispatch services, goPuff has begun a push to improve delivery service technology while tapping into an international market.

goPuff has strived to be the first place for customers to go when they have an instant need. Because of this, the company has adopted the concept of being “never out of stock” (NOOS) of

any products. This has greatly affected how supply chain representatives make orders to suppliers, often times over-ordering what may be needed in goPuff MFCs. While NOOS has become a concept that goPuff lives by, and has created great success in rarely having to make customer calls for out of stock products, it has initiated inventory management issues and MFCs experiencing excess products in stock with nowhere to store them. This issue is also complicated by unreliable supplier deliveries and a more wasteful supply chain strategy. With that in mind, goPuff has made efforts to reduce its inventory to a leaner management approach, and continues to work on eliminating excess stock from MFCs via donations to Feeding America.

Apart from the company's supply chain successes and failures, the State College MFC has become a staple to driving technological and operational advancements for goPuff as a whole. Because goPuff operates heuristically, it has used State College as a test site when implementing change because of its reliable tenured employees and high order volume. For example, location-based inventory (LBI) has become an integral tactic for packing orders. LBI technology tracks all merchandise items by associating them with specific locations throughout the warehouse ("Last Mile Services Are More Than a Trend.", 2019). The State College MFC was among the first warehouses to test the strategy out, and has continued to do so with other technological improvements. The use of LBI has significantly improved efficiency and decreased human error, and without smaller, more reliable MFCs like State College, its company-wide implementation may have taken a lot longer. While this specific MFC faces its own issues, such as hiring and retaining employees, it is an important look into how the rest of the company operates, and some of the smaller problems goPuff may be facing.

This thesis will focus on goPuff's overall progression in its supply chain and business strategies. It will also map out changes that have been implemented in the State College, PA

warehouse and how they have impacted larger-scale success for the company. Much of the information in this thesis is derived from conversations with a goPuff industry executive among other sources. First, goPuff's use of MFCs and last mile services will be outlined. Then, a summary of goPuff's inventory management and COVID-19 response will be provided in regards to its successes and failures. Then, an analysis of the State College warehouse's progress will be covered according to its technological advances, in addition to the challenges it faces today. This will provide insight into what this specific MFC can improve in the future, and will expose some of the problems the company may be facing on a smaller scale.

Chapter 2

goPuff's Business and Supply Chain Strategies

Heuristic Approach

Because goPuff offers products and services unlike any of its competitors, the company exists solely in its own market. Therefore, it is difficult for goPuff to draw a comparison to others when focusing on its expansion strategy. This is an uncommon situation for goPuff to be in; yes, there are competitors that function similarly, but the company operates in a business sector unique to on-demand delivery of a large, yet matchless product variety. Because of this, goPuff uses a heuristic approach for expansion and implementing change, which is made possible through the use of micro-fulfillment centers (MFCs) and a vertically integrated supply chain.

Smaller warehouses, like in State College, PA, are often testers for large-scale modifications that will go on to serve in cities like Philadelphia and Pittsburgh. Here, the company can try something that involves a change in technology, a push to maximize efficiency in packing and delivering orders, or a new product offering. If it doesn't function properly in a location like State College, then it is discontinued altogether. State College is also useful for tests like this because it is a site that experiences a high volume of orders in shorter periods of time. Compared to an MFC that may be receiving ten orders per day, the State College warehouse can properly test if changes will be beneficial because of its massive number of orders. In addition, this warehouse has many tenured employees, a strong performance in relation to other goPuff MFCs, and the General Manager (GM), Colby Sykes, is well-trusted among his superordinate team because of his site's strong performance. These factors, in addition to being an average sized MFC, makes State College an optimal market to test run strategies for larger sites or company-wide plans.

Competitive Advantage

MFCs function similarly to large fulfillment centers like the ones used in Amazon's network. goPuff buys all inventory at market value and stocks its shelves with up to four thousand products to deliver straight to the customer twenty-four hours a day. Where capital is saved elsewhere using MFCs, customers also save right up front. Compared to other food delivery services, goPuff has one of the lowest base delivery fees at \$2.95 per order, whereas competitors like Door Dash and Grubhub start around \$5.99 for a delivery. goPuff also competes with convenience stores like 7-Eleven, which presented an initial challenge; the company was only offering prices that were comparable (if not the same) to brick-and-mortar stores alike. In addition, goPuff warehouses had a reduced number of Stock Keeping Units (SKUs) and did not sell fresh produce that customers could acquire elsewhere. However, to compete, goPuff made acquiring their products much more convenient. The company made walking down the street or taking a drive to the local convenience store almost not worth it; in the same amount of time, the products would be delivered right to the customer's door. In addition, goPuff created an incredibly easy shopping experience that allows for simple choices over its competitors (Dewez, 2021). Navigating through the app is smooth, and once an order is placed, there is transparency with the customer on when they will receive their order.

Vertical Integration

goPuff's logistics system was born via creating business formats in new and unique ways. Essentially, the company has devised a way to vertically integrate its supply chain rather than use a third party that handles picking, packing, and delivering orders. Daniel Folkman, goPuff SVP of Business, attributes the company's use of vertical integration to its founders. Rather than "building an asset-like marketplace that connected couriers and merchants," Ilishayev and Gola owned the

fulfillment center, bought the inventory, and delivered the products all themselves (Folkman, Daniel, and Deborah Weinswig, 2021).

Still today, goPuff owns its inventory, and the network of its logistics system is entirely built up of MFCs where the products wait to be packed (Cox, 2021). In comparison to a competitor like Instacart, for example, which delivers groceries to customers that are picked up from the store, goPuff owns the entire process of delivering products to customers. This comes with advantages like lower transportation costs and turnaround times, faster delivery, improved profitability, and gaining control over the sale of final products (Hayes, 2021). Coresight Research, a company that specializes in data-driven insights within retail and technology sectors, affirms that goPuff's use of vertical integration has been a "first-party model" of success ("Defining the Instant Needs Market – A New Study by Coresight Research", 2021). In their report on goPuff, these advantages included "fast order prep", "greater visibility into product quality, inventory supply, and pricing; control over the customer experience; and a fast-rotating assortment of diverse goods" (Folkman, Daniel, and Deborah Weinswig, 2021). Vertical integration has also put goPuff in the position to avoid relying on other merchants during its twenty-four-hour days. For companies like Instacart, that can only fulfill orders when grocery stores are open and operating, instant delivery is much harder to achieve. Because goPuff's inventory sits in its own warehouses, the company can fulfill customer orders at any time of the day, and meet needs much faster than competitors. Its fulfillment element also makes delivering orders more efficient and "leverages a single pickup point to make multiple orders at a time" (Folkman, Daniel, and Deborah Weinswig, 2021).

MFCs

In addition to goPuff's customer-focused business strategy, its MFCs are positioned much closer to users due to their small size and relatively inexpensive start-up costs. This also means

shorter delivery times once an order is made. Because of this, the company can promise delivery in fifteen to twenty minutes. Higher delivery reliability may also translate to a more trusting relationship between goPuff and its users and, in addition, leads to “faster shipping, better margins, and cost-savings” (“How Micro-Fulfillment Benefits the Supply Chain”, 2020). This aspect is unique to goPuff because warehouses are stationed in existing real estate rather than building them from scratch. As a result, the population density of goPuff warehouses is much greater. The company can then cater its MFCs with products that trend in certain areas, and can easily change what is offered in each location.

goPuff has product visibility in every MFC that operates throughout the world. Because the company owns a large part of their supply chain, and warehouses receive more frequent shipments from suppliers, the company has easy access to data that helps avoid high amounts of stock-outs (“A Peak Behind The Curtain: Gopuff’s Unique Business Model”, 2021). While goPuff may be limited by constraints in what an MFC has to offer, receiving a huge variety of products in smaller quantities also means more choices for the customer. In addition, its NOOS strategy translates into customers always having the products they need stocked on shelves. Like most warehouses, inventory visibility is augmented by cycle counts done each morning. Warehouse employees are given a list at the start of the day of products that need to be counted on the shelves. This avoids a misalignment between what is offered on the app, and what is available in the warehouse. This again translates into an improved relationship between goPuff and its customers. If frequent users know that products on the app are actually available to be purchased, they will continue to come back. This is the root of goPuff’s customer strategy in relation to its use of MFCs and how it continues to win against competitors.

MFCs also translate into a better access to increased efficiency (“How Micro-Fulfillment Benefits the Supply Chain”, 2020). Because goPuff’s warehouses are relatively small in size, this can lead to much faster packing times. Navigating around the warehouse is relatively easy; each group of snacks, cleaning, smoking products and more are placed together on shelves. When an order is placed, the technology of the scanners makes it easy to move throughout the warehouse and find the correct items to pack. Each product is given an aisle and shelf location via LBI technology, and the smaller warehouse layout allows for easy movement between products. At goPuff, warehouses are forced to use the little space available to maximize efficiency, and while it can be difficult to fit all products in one space, it makes for more effective packing. In addition, “utilizing an MFC allows for the optimization of store space, strategic stacking of goods, and the use of more vertical spaces” and because of this, goPuff’s shelves are always stocked, which keeps customers coming back for more (“How Micro-Fulfillment Benefits the Supply Chain”, 2020).

Last Mile Delivery

Last mile services became a necessity as goPuff continued to expand. Because the company is entirely focused on getting customers’ needs met instantly, last mile services are of the utmost importance in delivering orders in a small amount of time. These services are comprised of the actual last mile traveled in giving the customer what they ordered and is the final step when solidifying a positive customer relationship. Last mile services tend to include things like delivery status updates, route and planning optimization, and overall communication with the customer (“Last Mile Services Are More Than a Trend”, 2019). When a customer makes an order on the goPuff app, they are alerted via text message updates of when it is packed, on its way, nearby, and delivered. Customers also receive a picture of where the order was delivered to ensure full transparency. On top of optimizing route planning for goPuff’s drivers, the company has made

some recent acquisitions of companies that specialize in last mile services. In June 2021, goPuff bought San Francisco's rideOS, a fleet management platform that assists in advanced routing and on-demand dispatch services (Baxter, 2021). Rather than dispatchers creating routes manually, rideOS will maximize fleet efficiency through several different technologies, such as routing and optimization software. rideOS's technology is used to "maximize ETA accuracy" and works to map more efficient routes for drivers by "automatically assign[ing] deliveries to [them by] accounting for real-time traffic" (Bellan, 2021). This frees up dispatchers to focus on managing the fleet via solving problems and ensuring the customer has received their order. rideOS's fleet visualization and vehicle tracking will also give dispatchers visibility of their entire fleet in real-time, which allows for making corrections, like re-assigning tasks, much easier and efficient (Kientzel, 2021). Finally, rideOS plans to work on "ensur[ing] the optimal delivery fleet size for goPuff fulfillment centers," which may help to address its inventory management issues that will be covered later (Bellan, 2021). Because on-demand delivery is the key component of goPuff's competitive advantage, refining delivery operations became integral to improving its customer experience and continuing its growth.

Due to goPuff's mission to begin to expand internationally, the company has also recently acquired Fancy and Dija, two last mile delivery services based in the United Kingdom. In May of 2021, goPuff announced its acquisitions and attested it to "responsible growth" and an "investment in the international market," according to Daniel Folkman, goPuff's SVP of Business ("Gopuff Jumpstarts International Expansion with Acquisition of UK-Based Fancy", 2021). Like goPuff, Fancy is an on-demand delivery solution for groceries and daily essentials, and the company also promises fast deliveries across their six cities in the UK. In addition, Fancy utilizes micro-fulfillment centers, and has vertically integrated their business operations. Not only did goPuff

acquire Fancy to tap into an international market, but also they plan to “expand the UK-based team while working with Fancy to leverage goPuff technology and expertise to further improve the customer experience” (“Gopuff Jumpstarts International Expansion with Acquisition of UK-Based Fancy”, 2021). Fancy’s end-to-end supply chain operations is a part of what makes the company attractive for goPuff. Additionally, Dija’s business operations run in parallel models, infrastructures, and loyal customer bases as goPuff and Fancy. goPuff also plans to use the deep local market knowledge that both companies bring to the table to bring an “unparalleled experience to UK customers” (Lunden, 2021). goPuff’s efforts to maximize its internal and external last mile delivery services goes to show the rapid, yet responsible, growth that it envisions for the future.

Chapter 3

Inventory Management

MFCs work in goPuff's favor when it comes to faster delivery and packing times. Compared to an Amazon warehouse, which stores multiple football fields worth of products in a single location, goPuff MFCs are not even holding a quarter of that. Shipments of products from goPuff's suppliers deliver in smaller quantities and arrive at warehouses regularly. Products are reordered according to a base number of how many are available in the warehouse, called minimum order quantity. The minimum order quantity for many products is based on the demand forecasted for a period of two and a half weeks. With less popular products, shipments are received in bulk less frequently, causing the amount of space it uses to be reserved for longer stretches of time. Colby Sykes, who has been working for State College's MFC for four years now, attributes goPuff's inventory management strategy to having "enough on hand to prevent being out of stock of any product" (Horan, Katie, and Colby Sykes, 2022). This, however, can cause overstocking issues and excess inventory. If a less in demand product is sent to the warehouse in groups of twelve with an eight-count minimum standard and sells four units every three months, a reorder of this product faces a space constraint. In this scenario, a product is reordered at its minimum standard after three months, which now means the MFC has to stock twenty units of the product. However, if the product does not continue to sell at four units every three months, and instead sells less over more time, total inventory will continue to rise (see Figure 1). This is an oversimplified example, and numbers will fluctuate with market demand, however it outlines one of the key inventory management problems that goPuff faces.



Figure 1. Effect of Minimum Order Standard on Total Inventory

goPuff’s inventory strategy however, is a part of its mission in achieving never out of stock. Because the company is an on-demand service, its intent is to be the place customers go for what they need, anytime they need it. The company’s strategy correlates with running as lean as possible, yet still never stocking out of products. Having a minimum standard that puts extra products on the shelves is something goPuff is willing to do if it means keeping loyal customers coming back again. However, some employees argue that “the company hasn’t done enough to monitor items coming into its warehouses,” and suggest a solution involving sending deliveries to a centralized location, then parceling them to MFCs as needed (Dotan, 2021). This may help fix the problem managers have with shipments, which are often full of products that are unneeded, or do not sell as much as outlined above.

Being as the concept of NOOS is important to goPuff’s inventory strategy, MFCs additionally order higher-demanded products that are more likely to stock out, like milk or eggs, from Instacart to then be put on shelf. For example, if on a Saturday night there are only four cartons of eggs available on shelf, goPuff will pay for more eggs to be delivered via Instacart so

they are readily available for Sunday morning, a day in which a product like eggs is usually more highly demanded. In other words, goPuff will occasionally sell at a loss to maintain its image with customers. Especially since the start of the pandemic, where global supply chain issues are the fault of high stock outs for companies, goPuff, as a whole, pays tens of thousands of dollars to have Instacart deliveries buffer its low stock items. According to Insider, goPuff's spending on Instacarted items, which are budgeted into a portion of supply chain spending, makes up one percent of its monthly spending. The company claims that it is more about its "commitment to customer satisfaction than any issues with its supply chain and inventory management". At goPuff, "customers always come first," and in an instance where a high-demand item is not on the shelf, "goPuff will go above and beyond to make sure they get it quickly and reliably" (Dotan, 2021).

Chapter 4

COVID-19 Response

Because goPuff is a vertically integrated company, this means supply chain representatives have control over inventory due to the access to real-time information and a direct relationship with suppliers. This gives the company the ability to easily adjust what it stocks in order to meet customer demands. This meant a company-wide explosion of demands needed to be met amidst the COVID-19 pandemic. Compared to March 2019, the company reported a “90% increase in customers ordering at least once per week, and a 55% increase in order value” (Lujan, 2020). Amidst the pandemic, goPuff saw a sudden change in the mix of their products in an effort to tailor more towards what people needed during its start. Because the company can quickly diversify its products in accordance to market demand, it took an initiative to adapt to new DIY needs in American households, with cooking and beauty products growing at one hundred and twelve percent rates across the nation (Lujan, 2020). Increases in demand for other items like coffee, cleaning products, toilet paper, frozen meals, and medications also became a challenge for goPuff as it tried to meet the rapid upsurge in customer orders of these products. One notable revelation that the company was able to carry out had to do with giving customers easy access to COVID-19 testing kits in December of 2022. In addition, goPuff did very well in obtaining supplies like masks, gloves, sanitizer, and other cleaning products. Soon after, the company was able to offer these products to customers despite a nationwide shortage on these types of items. While some items were not always available, and the global supply chain continues to suffer from the aftermath of COVID-19, goPuff made it a top priority to offer as many high demand items as possible, and continue to do so well after the beginning of the pandemic.

In addition, the company saw an accelerated shift in its customer demographics. As a business model tailored to bringing convenience store items to mostly millennials, who were

“already [more] susceptible than other generations to buy from convenience stores,” the pandemic accelerated a need for essential offerings to a broader base of customers (Dewez, 2021). The company has worked to build an attractive value proposition to its existing customers. Its platform reflects an understanding of millennials through the use of “humorous product descriptions, original merchandise and daily video content” (Blumberg, 2017). However, when the pandemic hit, and no one was leaving their homes for months, goPuff’s business became even more essential, and having shelves stocked was more important than ever. Because goPuff has adapted its supply chain to quick changes, it was easier to adapt and expand its product assortment than its competitors. Consumers who were foreign to the concept of a more digital experience (for example, elderly people) began to take advantage of goPuff’s on-demand delivery, and because of this, the company has continued to keep these loyal customers (Dewez, 2021).

Chapter 5

MFC Problems

Space in Lieu of Rapid Expansion

While goPuff has had major developments over the last nine years, there is no secret that it still faces both large- and small-scale challenges. With goPuff's rampant expansion, especially accelerated throughout the pandemic, warehouses were launched faster than in the past. What may have started as a small site grew exponentially in the number of products offered in a matter of months. For example, goPuff's Harrisburg location opened in March of 2020, amidst the beginning of the pandemic. Colby Sykes, now GM of the State College MFC, was the acting GM from launch day, and oversaw its growth over the first few months it was open. While the site started off at under twenty orders a day, within months more than seventy orders a day was the new normal. Throughout the pandemic, the site continued to grow organically with minimal marketing to over one thousand orders per week. Many goPuff warehouses have similar stories to the one in Harrisburg. However, because internal expansion is limited by the constraints of what an MFC has to offer, storing the huge variety of products that goPuff sells can be extremely challenging when working with existing real estate.

One advantage to goPuff's expansion has to do with picking warehouse locations from pre-existing real estate. However, within the goPuff MFC, everything is housed "without structure". This means that staff have the responsibility of filling the shape of the warehouse to store the products. However, fitting everything in the warehouse and finding space for products can sometimes feel near impossible. Coming from the perspective of someone who has worked in a goPuff MFC for over a year, shelves, refrigerators, and freezers are constantly stocked to the brim. While housing items has recently improved in the State College MFC with the use of

compartmentalization, it can still be a hassle to finish putting away a shipment. In the State College MFC, the use of things like storage containers better systematize shelves and allow for products to be displayed neatly. While it sounds like a small change, it has helped fit more products throughout the warehouse, and has added structure to miscellaneous shelves that hold things like medicine or makeup products. However, the problem of space has not fully gone away since the change, and items sometimes need to be shoved where any shelving is available. This can lead to disorganization on the shelves despite measures being taken to avoid it. While the misconception may be that having more products on the shelves could create more sales, and it is one reason that makes goPuff unique, it is not as attainable a goal with space being the ultimate constraint in its MFCs. Regardless, measures are constantly taken to face the MFC constraint and free up any space that can be used to store product. For example, Sykes recently saw an opportunity to condense the layout of the SC warehouse and store all drink products in the same aisle, rather than house them in two separate places. What sounds like an easy fix took warehouse floor planning, but with significant effort all drinks were put in one section. This change not only made it easier to pack orders with multiple drinks, but freed up space for new products to be stored. Small changes like these are frequently being made in each goPuff MFC, and goes to show that managers have to have control over dealing with this constraint.

Hiring and Retaining Workers

goPuff drivers and operations associates are a key factor in upholding the promise of quick deliveries at any point in the day. The operations associates pack the orders, receive shipments, stock shelves, and assign orders to drivers. The drivers then take the orders, and deliver them right to the customer's door. Without either of the two, the company would not function as efficiently as it does today. However, hiring and retaining employees has become a prevalent barrier in

goPuff's expansion. In previous years, any driver or operations associate that wanted to come work for a specific site would talk directly with that site's GM. This made it easy for the GM to gauge if the employee would fit in with the company's culture, and also if they would be right for the site. However, in more recent years, teams within the company's headquarters control hiring all drivers and operations associates, which has made it more difficult for GMs to integrate workers into warehouses. Because goPuff has had such rapid growth since its start, the company decided that hiring employees would be more efficient this way. goPuff also now uses this method because GMs have become so swamped with upkeeping MFCs that time becomes a constraint to interviewing and hiring more employees. However, because all interviewing and hiring procedures are completed without much input from the site's GM, miscommunications have arisen because of it. Sykes states that this has had "a large impact on overall cost/profitability in the site and when unnecessary hires are brought in without GM approval, it creates staffing issues or a loss of average hours, which can yield a high turnover rate in many markets". In addition, most hires are temporarily brought in for peak season, but Sykes attributes high turnover rates to overall culture and pay issues (Horan, Katie, and Colby Sykes, 2022).

In addition to lack of transparency in hiring procedures, the company has been facing a high turnover rate with drivers. With sudden layoffs at the beginning of the pandemic, functioning in a gig economy became a foothold for hiring drivers. However, as the economy slowly begins to recover from the global shock that the pandemic created, the labor pool is predicted to continue to tighten. To the shock of drivers, who work as independent contractors for the company, goPuff has made few adjustments in retention efforts when compared to competitors like Uber, who recently said it was "creating a \$250 million fund to offer bonuses and lure more drivers" (Weinberg, 2021). In addition, goPuff recently made the choice to get rid of minimum hourly pay

rates (subsidies) for drivers and reduced bonuses for delivering a higher number of orders, despite raising billions from investors and beginning its expansion into Europe. According to a company spokesperson, drivers earn \$18 to \$25 an hour on average, “which is among the highest in the industry” (Hetrick, 2021). However, because drivers are paid through a combination of commissions, tips, and other subsidies, goPuff may have to adjust its driver compensation based on demand in the market. Drivers want goPuff to reinstate their hourly subsidy to a more guaranteed rate, and are also asking for a definite minimum number of hours to work during each week, rather than taking shifts on a first-come, first-serve basis. Because drivers are independent contractors for goPuff, they do not receive benefits that permanent employees receive (e.g., healthcare, paid time off). It also means that drivers use their own resources like vehicles and cellular devices for transporting and delivering orders. Demands like those listed above come amidst a national conversation about labor rights when working as an independent contractor. While goPuff is not the first company to face scrutiny from its drivers, the company has responded by rolling out a partnership “meant to enroll drivers in Affordable Care Act health-care plans.” goPuff is also working on “offering discounts for fuel, phone, and vehicle maintenance,” which will hopefully have a positive effect on its driver retention and hiring rates (Hetrick, 2021). Another barrier to goPuff’s driver retention has to do with its fluctuating technology issues. Compared to competitors like Uber and DoorDash, goPuff drivers have to navigate through three different apps to make deliveries. Routing can be difficult between dispatching deliveries and making them because of technology bugs, meaning that sometimes drivers have to manually type in addresses to find each delivery. There have been surveys that say drivers find these issues cumbersome when trying to make deliveries (Hetrick, 2021). While this problem seems small to

goPuff now, the company has to work to find ways to fix its technological bugs to better compete and retain drivers compared to competitors.

For the State College site, Sykes attributes his high retention rate to employee training focused on specific job requirements. He states, “most of this is manageable due to tenured leadership in the building creating a sustainable platform to build a team on,” meaning that company culture has a huge effect on goPuff’s ability to retain employees (Horan, Katie, and Colby Sykes, 2022). While not every site is as successful as State College, Sykes prides himself on the way he runs his MFC despite fluctuating company culture in others.

Fluctuating Company Culture

As such a rapidly developing company, goPuff has to open up MFCs in order to keep up with demand and expansion goals. This means that there is constantly a need for new GMs and workers at each new site. In opening new sites, leadership is a key factor that tends to fluctuate among warehouses. Especially since the start of the pandemic, leadership has to learn how to operate through computer training, and while there are usually GMs from other sites to offer help, the rest is left up to new leadership once they leave. While goPuff cares about culture and instilling it into new employees during their tenure, Sykes states that “the largest issue with new sites obtaining that culture is the leadership not being privy to it prior to their start” (Horan, Katie, and Colby Sykes, 2022). In an ideal world, expansion would involve creating copies of sites where company culture remains parallel to the next MFC. However, goPuff MFCs are created from “scratch,” and not every site develops into what the company had hoped. Because culture is one of the hardest things to clone throughout an entire company, some sites misalign what they do with others, and in turn, growth can be somewhat of a blessing and a curse. The further the company grows, the less it becomes of what it originally was. While this means that goPuff is meeting its

expansion goals, it also means that every warehouse is different, and each MFC operates how that specific GM sees fit. To attempt to offset these challenges, GM training is provided to bring outside hires into goPuff's culture before they even arrive to their site to start.

Difficult Operations

Lack of communication between GMs and supply chain representatives has been a prevalent problem for goPuff when it comes to inventory management. Different departments struggle to know about the small difficulties that each goPuff MFC faces, which are often left to be solved by each MFC's management personnel. Orders for products are made by supply chain representatives for each site, rather than the GM. Supply chain associates will order every week, basing their orders off of specific quantities in stock, and all products purchasable will be reviewed to see if stock is needed. In an interview with Sykes, he acknowledges the lack of transparency between supply chain associates and GMs:

“It is very difficult to operate an inventory that someone else orders, but the levels from supply chain, like most things in our company, are driven off of total budget. Supply chain will order all the items it believes a site needs based on recent order volume as well as expected upcoming order volume. Different departments forecast total orders which can create discrepancies when the volume is not accurately predicted. There is less of the miscommunication and more of a lack of overall communication” (Horan, Katie, and Colby Sykes).

This can create a misalignment in product needs because representatives are not present in each warehouse and are not as accustomed to what GMs are experiencing with deliveries from suppliers. This, in turn, creates an appreciable amount of waste when warehouses are left with excess products and eventually have to throw them away. This will be covered more in the next chapter.

Not only does the lack of communication between supply chain associates and GMs affect inventory among other things, but also vendors themselves also have order minimums, meaning some products are received additionally to cover the gap even if there is enough stock already on hand. Not only this, but communication about shipments is done between vendors and supply chain contacts; when there are issues about shipments, it does not always get relayed and vendors end up delivering when they can. According to a former goPuff GM, “The vendors just show up and say, 'Here's your pallets, I'm out of here,'” (Dotan, 2021). Perhaps efforts to improve communication between GMs and vendors may offset problems with less reliable supplier delivery times. While goPuff executives have assured GMs that this issue is on its way to being fixed, no actual changes have been made, and “some worry that as the company branches into other products like fresh produce the problem will get worse” (Dotan, 2021).

Chapter 6

Timeline of Technology Developments

As goPuff has been on a trek of rapid expansion, the company has slowly implemented technology changes to coincide with faster picking times and more organized MFCs. While technology developments have been relatively gradual, “packing mode” has changed exponentially since the company’s start.

Basic Packing Mode

Up until late 2018, packing mode was at its most basic form. The webpage that operations associates (OAs) used included a view of items needed to be packed with corresponding quantities and photos. During this time, OAs searched the warehouse to find items, and had to rely heavily on their own product location knowledge. Frequent issues arose with this type of packing mode, including OAs forgetting about items that had already been packed and missing items all together, leading to a high number of mispicks. In addition, packing orders was extremely inefficient and time consuming.

Checkmark Box

In late 2018 into early 2019, changes were made in packing technology to include a checkmark box to track products that had already been packed within an order. While high numbers of mispicks were still occurring, and packing still remained inefficient, this addition assisted OAs seeing what they had already packed. At this point, the number of products in goPuff warehouses (SKUs) was increasing at a quick rate, and continuing with old packing modes was getting to be exceedingly difficult and error-prone. Handling a higher number of SKUs with high human error continued to be a problem for goPuff until its first implementation of location-based inventory technology (LBI) throughout 2019.

Location-Based Inventory (LBI)

LBI technology gave OAs a way to know the exact aisle and shelf location of every product, and made managing inventory as it left the warehouse much easier to track. Throughout 2019 and 2020, goPuff began full implementation of LBI technology, which now included shelf-specific codes. Orders are now packed by scanning the universal product code (UPC) of the item, in addition to the given shelf location. If an incorrect shelf or UPC is scanned, OAs are notified. This way, only matching shelf locations and UPCs are scanned and correct products and quantities are in bags. From 2021, to the way goPuff packing technology currently operates, developments of multiple LBI factors have made mispicks an uncommon occurrence. Scanners now utilize expiration checks to notify when products in the warehouse are expired, confirmation counts on any changed quantity on shelves, location searches for storing products, tracking of future shipments, and removing damaged items from shelves. All of these modifications ensure that mispicks only happen by true human error, and not because technology cannot support an efficient packing mode.

Even with all of goPuff's major technological developments, mispicks are obviously still going to occur. One way in which this still arises has to do with incorrect quantities in packed orders. OAs are supposed to utilize one-by-one scans, meaning shelf location, then each UPC of each product. However, it has become more common to use shotgun scanning, or scanning the shelf location and one item's UPC continuously, then adding the correct quantity into the bag. For example, if an order contains four cartons of eggs, some OAs will scan the shelf and UPC of one carton. They will continue to use that same carton to scan, moving from the shelf barcode to the singular carton until four have been checked off. Then, they will add all four cartons into the bag to be packed. While it can be easier for OAs to utilize shotgun scanning, and makes for faster

packing times, it is one reason as to why mispacks still occur. According to Sykes, other ways mispacks can occur have to do with “items scanned and left on the shelf, poor dispatching, and poor attention to detail from drivers, but most mispacks are now when there is an issue *after* packing”. Prior to any technological advancements on goPuff’s part, packing was one hundred percent on OA accuracy to ensure a bag was correct. Sykes affirms that “wrong sizes and flavors were incredibly common which led to audit processes in poor performing sites”. Today, goPuff has fewer mispacks and human errors. All of this goes to show that the implementation of LBI technology has vastly improved OA’s performance when packing orders, and goPuff continues to make changes to maximize packing efficiency and decrease mispacks (Horan, Katie, and Colby Sykes, 2022). A timeline of goPuff’s technology developments can be seen in Figure 2.

Autobin System

As opposed to measures that have been taken to reduce OA error, more recent changes ensure drivers are gathering the correct bags to be delivered. The State College MFC has recently begun using an autobin system, which tells OAs to place orders in bins that correspond to certain delivery locations. Drivers are then assigned a bin, take all orders placed in it, and deliver them. On top of that, a “bin meister” will check that drivers are collecting all items that pertain to an order (larger items like soda cases are placed below corresponding bins). While this is a more recent development, and has only been implemented at the State College warehouse within the last couple of weeks, it adds an extra layer to ensure goPuff’s customers are happy.

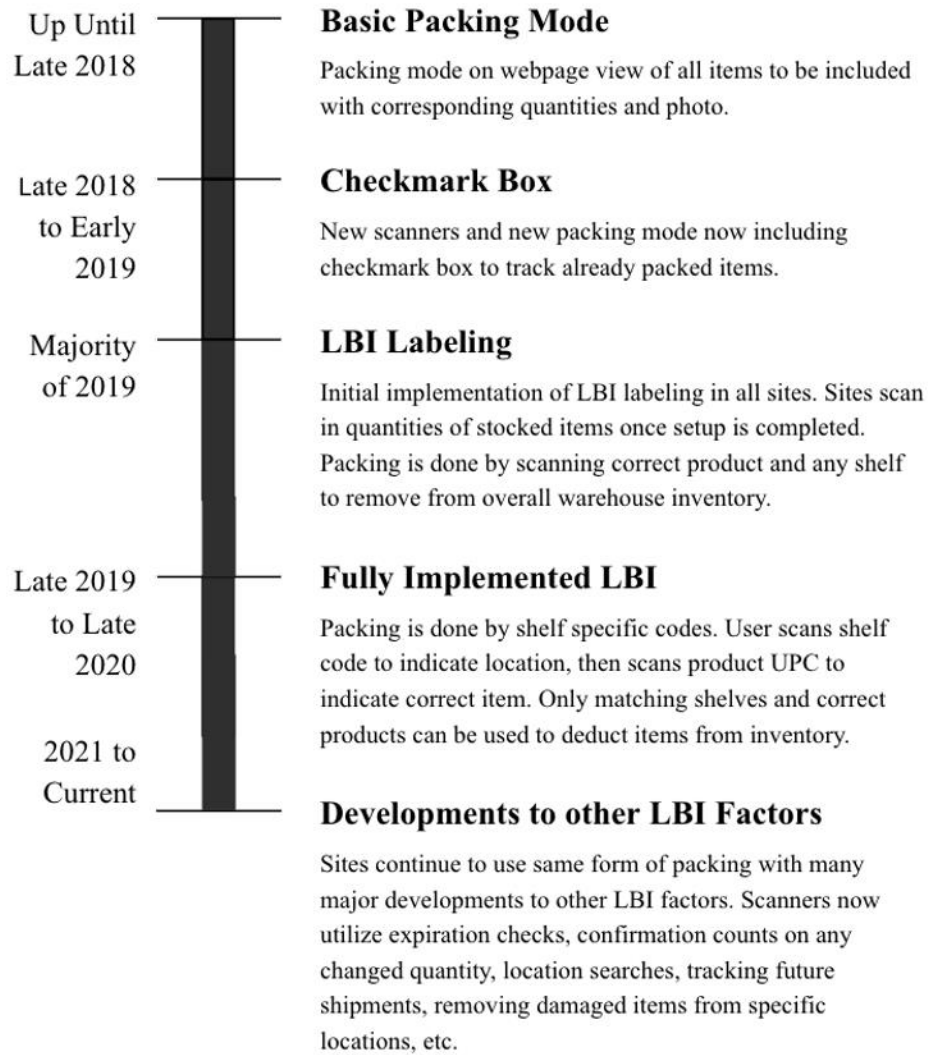


Figure 2. Timeline of goPuff's Major Technology Developments in Packing Orders

Chapter 7

Supply Chain Waste

In today's world, avoiding waste within a supply chain has become a much more common issue for businesses. Whether it be materials, inventory, or environmental, waste is the ultimate enemy of efficiency and effectiveness within a supply chain. Especially since the start of the pandemic, which sent ripples through the global supply chain, producers, retailers, and consumers have become much more aware of the need to address wasteful practices. In industries like the U.S. food supply, up to forty percent of waste occurs within supply chains, due to unnecessarily large orders, poor storage and care during transportation, and other issues (Houghton, 2021). For goPuff, addressing the need to reduce waste has become something that not only employees are looking for, but also consumers. However, the company still suffers from wasteful practices that cause losses of tens of thousands of dollars weekly. While goPuff is expanding quickly, and it clings to its attempts to run lean warehouses, its inventory management problems are the root of most of its supply chain issues. According to Business Insider, goPuff's rapid growth has created a "downward spiral into chaos" and has instilled a culture of "unsolved inventories," leading managers to discard of at least "\$10,000 worth of food a week". Many are quick to blame the company's supply chain, which seems moderately "incapable of ordering accurate inventory" as outlined earlier ("Gopuff's Rampant Growth Has Created 'a Downward Spiral into Chaos'", 2021). John Neal, a warehouse manager who joined the company during the summer of 2020, revealed some insight into the issues goPuff faces with leaving perishable goods out to go waste. When he joined the company, he noticed that perishable goods were often left outside on pallets for hours without being stocked into refrigerators and freezers, and that as a result, he was forced to discard the food. Over his nine months of working for goPuff, "he regularly threw pallets of food including cases of milk, pizzas, chicken, and ice cream" ("Gopuff's Rampant Growth Has

Created ‘a Downward Spiral into Chaos’”, 2021). This issue was not at the fault of goPuff employees, nor any lack of motivation to stock the items, but instead could be attested to suppliers sending too much food. goPuff employees have revealed that “thousands of dollars’ worth of products are routinely tossed after arriving from...delivery trucks,” and that warehouses continue to receive more items despite being at full capacity (“Gopuff’s Rampant Growth Has Created ‘a Downward Spiral into Chaos’”, 2021). Others blame the company’s supply chains for not having a thorough grasp on the right number of products needed in each MFC. Some even look towards warehouses as being understaffed and not being able to process all shipments that come in in addition to not having space for them (Dotan, 2021). Despite complaints from employees about goPuff’s issues, representatives of the company claim that waste from MFCs “is not only much lower than the 6-27% industry norm, but continues to decline”. However, according to Business Insider, “warehouse managers and those at higher levels at the company say the level of waste at goPuff is unusually high” (“Gopuff’s Rampant Growth Has Created ‘a Downward Spiral into Chaos’”, 2021). Colby Sykes, State College GM, speaks about how most of goPuff’s elimination comes through donation. goPuff is partnered with Feeding America, a hunger-relieving organization in the U.S., and provides them with excess items that are not damaged/expired. At the State College MFC, the site has “minimal opportunity to donate as our closest donation center is in Harrisburg and typically needs a week or so to pick up locally,” says Sykes. It is because of this that his site has issues with many items being discarded or intentionally delayed from being put onto shelves (Horan, Katie, and Colby Sykes, 2022). It seems as though many other goPuff MFCs are also experiencing the same, with employees saying donation pick-ups take far too much time and throwing products away is seen as the easier route. Above all else, the issues that goPuff faces regarding waste may expose the underlying problem of its “growth-above-all” mindset, an

approach that prioritizes “increasing the amount of food goPuff delivers and expanding to new regions over operational efficiency” (Dotan, 2021).

Chapter 8

The Future of goPuff

goPuff Kitchen (GPK)

While goPuff has become the number one convenience store competitor, the company has also begun to tap into delivering freshly made foods via a new initiative titled goPuff Kitchen (GPK). The new phase for the company marks its evolving last mile delivery, and yet again exudes a competitive advantage over others like DoorDash and Instacart. While still a relatively new addition to the company, being as the first GPK opened July of 2021, the initiative is entirely made possible through goPuff's unique business model, with GPKs stationed adjacent to MFCs. Now, in addition to goPuff owning its network of MFCs, it also owns its own kitchens, which are set to include pizza, chicken tenders, salads, coffee, matcha, breakfast sandwiches, and more. Just like an MFC's ability to modify inventory based on market needs, kitchens have "modular designs that allow for interchangeable menus and equipment depending on the market," and represents "a new way of thinking about the Instant Needs economy... [by redefining] consumer expectations," says goPuff's SVP of business, Daniel Folkman. GPK was entirely made possible by goPuff's acquisition of Bandit, a delivery-only coffee service based out of Florida, which prepared goPuff for the fresh food business. As of now, twenty-five GPKs exist in goPuff's network, but the company plans to expand the initiative to all of its MFCs in the future (Guszkowski, 2021).

goPuff Pharmacy

In late 2021, and in select areas around the company's home base in Philadelphia, prescription deliveries have become a pilot program as a test for the future of goPuff, including birth-control, acne, and erectile dysfunction medications. The service, dubbed goPuff Pharmacy, allows users to visit with medical professionals via a digital health startup company called Wheel,

which helps hospitals and pharmacies setup telehealth services, and proceed to order their prescription medications via the goPuff app. If its initiative is successful in the coming years, goPuff will have to compete with already established businesses such as CVS, but its unique instant delivery services have thus far proven to be successful (Luna, 2021).

Basically, Brand

After catering to customers' instant wants and needs since 2013, goPuff has recently launched a new private label, 'Basically,' which includes product lines curated specifically to goPuff customers. 'Basically,' is an essentials brand that offers products like cleaning, food storage, batteries, bottled water, and snacks. As the company continues to grow, goPuff plans to expand what 'Basically,' offers by "using the company's insights on consumer behavior," and flexibility derived from its vertically integrated business model. goPuff SVP of business, Daniel Folkman, believes this is yet another way goPuff is "uniquely positioned to show up for customers," in addition to fulfilling ever-changing needs easily (Mulloy, 2022).

State College

For the State College MFC, Sykes plans to implement a GPK in the coming years, as well as "other subsidiaries that add to volume" (Horan, Katie, and Colby Sykes, 2022). He also hopes to drastically increase the number of products available in the beer store, and plans to begin more package deal offerings. Aside from State College being a strong performing site, Sykes continues to test different layouts within the warehouse to best fit the high volume of products. The GM states that he does not have much control over the mismatch in what is needed and what actually arrives from suppliers, but hopes for better communication among department heads when these issues arise.

Chapter 9

Conclusion

goPuff took advantage of on-demand delivery at a time when meeting customers' instant needs was on the rise. Now that consumers expect incredibly fast deliveries, as well as products that are accessible and easy to acquire, an industry niche exists that goPuff fills almost completely. In addition to the company being the first to have a value proposition that meets peoples' instant needs, goPuff has used vertical integration of its supply chain to bolster its success, and has grown faster than any other company in its industry.

While goPuff has been incredibly successful in maintaining its competitive advantage and catering exactly to what customers want, the company faces large challenges when it comes to its inventory management. Being "never out of stock" is a part of what makes goPuff so successful. However, its "lean" inventory management style overwhelms warehouses with an incredible number of products and very limited shelf space. In addition, it also accounts for large quantities of products being thrown away, and if continued in the future, could contribute to an even larger amount of food waste throughout the U.S. If goPuff wants to expand throughout the world, it must find a way to reduce its waste and truly lean down inventory.

In the State College MFC, challenges, such as difficult operations and low employee retention rates, are a look into what the rest of goPuff MFCs face on a daily basis. Despite being an incredibly successful site, this MFC experiences change (whether good or bad) on a daily basis, and accounts for larger developments that have been implemented company-wide.

As goPuff continues its expansion, the company must take into account its unusual structure; at the corporate level, expectations of big growth must be met with even larger investments. At the warehouse level, the company operates in retail. And at the delivery level, it is a gig economy company that contracts drivers to deliver orders quickly (Dotan, 2021). While

goPuff understands its customers incredibly well, the company may want to focus more on its small-scale problems, at the warehouse and delivery levels. This may have an overall positive impact on reducing inventory and waste, yet keeping its customers coming back each week.

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