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The Restaurant Industry Is Evolving—Your Key Performance Benchmarks Need to, Too

Consumer Observer

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Developing a New Playbook for Restaurant Investors as the Industry Evolves

In our view, "evolve or die" is the theme that best captures the restaurant industry in 2018. By now, it's clear that the restaurant space isn't immune to the digital disruption that we've seen across the retail industry the past two decades, and with 2018 continuing to be a transformational year for online grocery, restaurant operators will encounter several challenges in the years to come. In fact, we believe restaurant operators must take the time to reinvent themselves with respect to menu innovations, restaurant designs, operational technologies, and channel diversification strategies to accommodate consumers' evolving preferences and survive over a longer horizon.

With the restaurant industry rapidly changing, investors' approach to looking at the industry must also evolve. Certain metrics like average unit volumes, same-restaurant sales, and return on invested capital are still relevant, but with changes in consumer eating habits, the advent of new front- and back-of-house technologies, the blurring of lines between on-premises and off-premises sales, and supply chain innovations, investors must also update the metrics they use to benchmark both public and private restaurant operators.

Building off our 2015 and 2016 Observer pieces, we spent time with several public and private restaurant operators and restaurant technology leaders the past 12 months to develop a broader set of key performance indicators that investors should be using to benchmark restaurant companies. Although we see potentially turbulent times ahead for much of the restaurant industry, we believe these metrics can help investors to better identify potential economic moats in the industry while separating longer-term winners and losers. With our counterparts from PitchBook, we've also taken a closer look at how restaurant and restaurant technology transactions are changing and how that may continue to evolve in the years to come.

Public Companies Mentioned

Name/Ticker	Economic Moat	Moat Trend	Fair Value Estimate	Current Price	Uncertainty Rating	Morningstar Rating	Year 2 P/E	Year 2 EV/EBITDA	Market Cap (Bil)
Amazon AMZN	Wide	Stable	2,200	2,013	High	★★★	NM	29.5	981.8
Alibaba BABA	Wide	Stable	240	166	High	★★★★	29.9	22.6	427.8
Chipotle Mexican Grill CMG	Narrow	Negative	400	465	High	★★	39.5	19.4	12.9
Darden Restaurants DRI	None	Stable	105	111	Medium	★★★	18.2	11.4	13.8
Dunkin Brands DNKN	Narrow	Stable	68	74	High	★★★	23.8	16.2	6.2
GrubHub GRUB	None	Stable	81	139	Very High	★	NM	18.3	12.5
McDonald's MCD	Wide	Negative	190	167	Medium	★★★★	20.2	15.0	129.2
Restaurant Brands Int'l QSR	Narrow	Negative	66	59	High	★★★★	20.2	10.2	14.8
Starbucks SBUX	Wide	Positive	64	57	Medium	★★★★	22.0	12.9	77.4
Yum Brands YUM	Wide	Negative	86	90	Medium	★★★	23.5	17.1	28.7
Yum China YUMC	Wide	Negative	44	35	High	★★★★	19.3	9.0	13.4
Restaurant Industry Average							**21.1**	**13.9**	

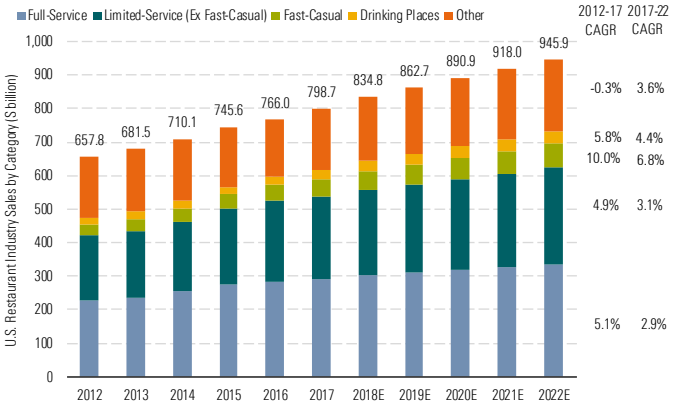
Report Contents

10 Predictions for the Restaurant Industry

- **The ripple effect from online grocery will become more pronounced for restaurants.** Amazon grabbed a lot of headlines when it announced that it was acquiring Whole Foods in June 2017. To this point, we really haven't seen a meaningful impact on restaurants due to online grocery, as industry traffic was already weak before the announcement (and has only modestly improved since then). However, with Amazon finding ways to bring Prime memberships into its physical stores through discounts at Whole Foods locations (including Prime Day promotions) and other tactics that grocery stores and mass merchants will likely deploy as countermeasures, we expect restaurants guest traffic across all tiers will remain uneven over the back half of 2018 and into 2019.
- **Expect additional restaurant closures and decelerating industry growth…**With restaurant operators already dealing with stagnant guest traffic trends and likely to face labor, rent, and food cost inflation in the years to come, Starbucks and Chipotle won't likely be the last operators to announce restaurant closure plans in 2018. We expect restaurant unit counts to decrease by 0.6% the next five years in the U.S. with casual dining and smaller quick-service restaurant (QSR) chains being the hardest hit. This will result in average industry sales growth slowing from 4.0% from 2012-17 to 3.4% from 2017-22.
- **…but there is room to grow for concepts that have adapted to evolving consumer preferences.** While we expect slowing industry growth trends the next five years, we don't see an outright restaurant recession and see growth opportunities for those chains that continue to adjust to evolving consumer preferences. The blueprint to remaining relevant will differ for each restaurant operator, but we believe the most successful restaurant concepts will be those that identify what consumer need they are satisfying—often boiling down to convenience versus experience—and then structuring their menu, operations, and technologies to best address these demands. With the rise digital technologies, increasing demand for off-premises restaurant substitutes, and changing consumer attitudes regarding health/wellness and food sourcing, we believe restaurant layouts will look very different five years from now, with transactions per square foot being one of the best benchmarks operators and investors can use to monitor a concept's ability to make necessary changes.
- **The recent pullback in restaurant industry valuations has created buying opportunities.** After peaking in 2017, restaurant industry valuations have contracted the past two years as refranchising activity has subsided and restaurants reinvent themselves amid rapidly changing consumer preferences. While the industry strikes us as fairly valued at current levels, we believe there are a handful of restaurant concepts that screen well using our new benchmarks that haven't received enough credit from public or private market investors.
- **Starbucks' recovery will be volatile, but there is still a long-term investment case to be made.** Of any restaurant name on our coverage list, we believe Starbucks will likely garner the most investor scrutiny over the near future with still-sluggish U.S. sales trends, new sources of competition in in China, its recent consumer packaged goods (CPG) partnership with Nestle, questions about the current executive team, and the potential headline risks associated with Howard Schultz's political aspirations. While each of these risks brings its own set of executional challenges and there is the possibility of management changes in the near future, we believe the company is positioned for a comeback through restaurant layout changes (emphasizing convenience at some stores, experience at others) and new menu innovations focusing on health/wellness and authenticity.

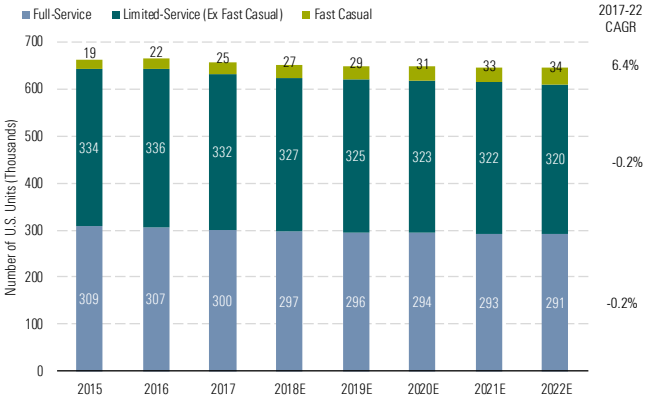
Exhibit 1 Investing in Public and Private Restaurants Requires a New Set of Benchmarks

Our Projections Assume Several Industry Changes the Next Several Years



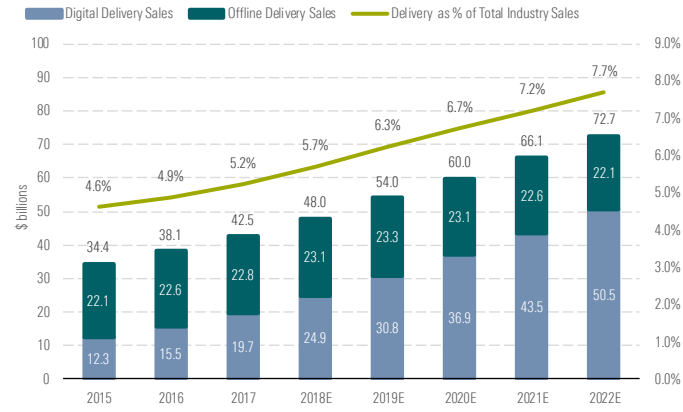
Source: National Restaurant Association, U.S. Census Bureau, Technomic, Morningstar estimates

We Forecast Declining Industry Unit Counts the Next Five Years



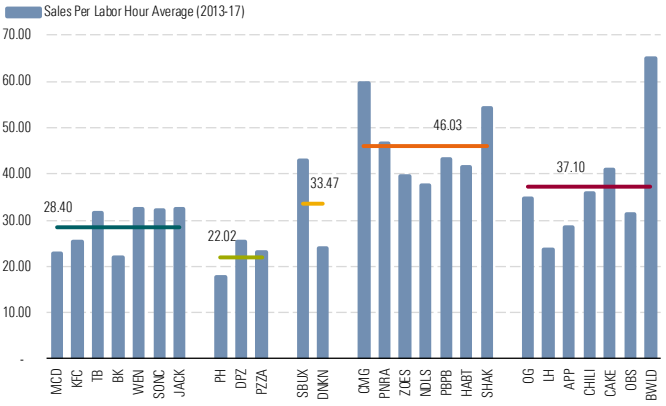
Source: NPD Group ReCount, National Restaurant Association, NRN, Technomic, Morningstar

Increased Demand for Off-Premises Solutions Reshaping Restaurants…



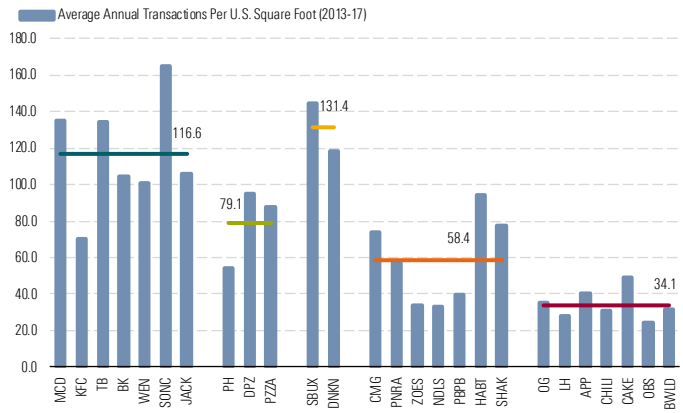
Source: NPD Group, eMarketer, National Restaurant Association, Morningstar estimates

…And Balancing Sales With Labor Costs Is Critical



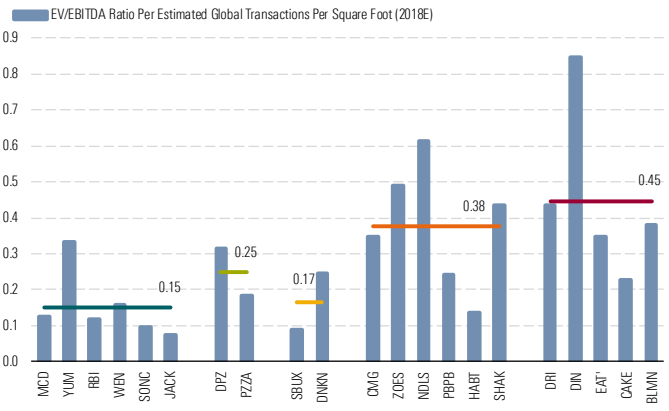
Source: Morningstar estimates, company filings

Transactions Per Square Foot Accounts for Many Industry Trends…



Source: Company filings, Nation's Restaurant News. eMarketer, Morningstar estimates

…and EV/EBITDA to Transactions/Sq. Ft. Offers New Valuation Approach



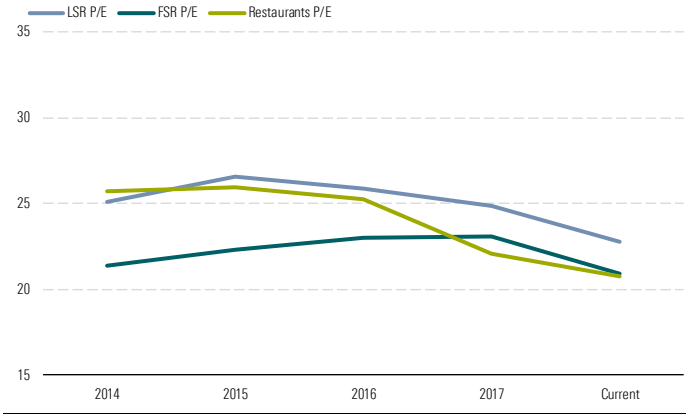
Source: Morningstar estimates, company filings

10 Predictions for the Restaurant Industry (Continued)

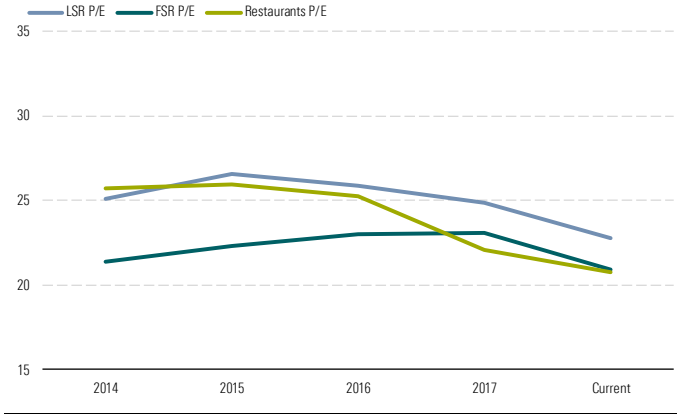
- **Early technology adopters will start to see sustained guest traffic improvements…in 2019.** There have been several developments on the restaurant technology front the past several years, including new point-of-sale systems, mobile ordering/delivery capabilities, mobile-enhanced loyalty programs, back-of-house solutions (including labor staffing and inventory management), and automation for food preparation processes. Outside of mobile ordering and delivery, these moves haven't had a material impact on sales and profitability thus far, but we anticipate more pronounced contribution in 2019 for those restaurant operators who understand their specific value proposition and have invested in appropriate front- and back-of-house technologies.
- **Delivery and to-go orders will become even more meaningful to restaurants in the years to come.** When all is said in done, we believe the rise in delivery/off-premises solutions will go down as one of the most meaningful restaurant industry developments over the past two decades. Each restaurant's approach to delivery and to-go orders will depend on cuisine type, geography, and daypart capabilities, but we believe the incremental transaction per square foot and average ticket increase opportunities make this a worthwhile area of investment. Finding the right partner is key—especially with restaurant delivery aggregators likely to consolidate in the years to come—but we believe those restaurants that have integrated off-premises solutions into their operations will outperform in the years to come.
- **The restaurant tech boom will continue over the next several years.** As restaurant valuations have come in and operators increasingly embrace technology to mitigate costs, it's not surprising that we now find ourselves in the early stages of a restaurant technology boom. We're seeing funding for technology solutions across virtually every restaurant function, including discovery, ordering, guest experience, payments, business management and kitchen operations. We've worked with our counterparts at PitchBook to develop a Restaurant Technology Market Map (which we've presented in Exhibit 4) to give restaurant operators and investors a better idea of the different technologies that are being incubated across the broader landscape.
- **Restaurant M&A activity will accelerate, and we may still see a large strategic deal done before the year is up.** With interest rates rising, fewer refranchising opportunities, and restaurant balance sheets already highly leveraged, we saw restaurant M&A activity slow in the first half of 2018. However, with valuations coming down across the space, we've seen restaurant transactions start to reaccelerate the past few months, including First Watch, Bravo Brio, Modern Market, Costa, Zoe's Kitchen, and Sonic. Based on expectations of sluggish traffic and increased cost pressures, we wouldn't be surprised to see additional small- to mid-cap restaurant chains escape public scrutiny and explore potential go private transactions. We also believe conditions are favorable for a strategic or financial brand consolidator looking to add a new franchised concept.
- **Who will be the next restaurant tech IPO?** We're not expecting any significant restaurant industry IPOs to be announced this year or 2019—fast-casual pizza chains Blaze or MOD are likely next in the pipeline, but not until 2020 at best—but with restaurant technology firms starting to gain adoption and consolidate, we're probably not too far from another restaurant technology IPO. Some private companies are likely to sit tight until Uber's (and by extension UberEats) rumored IPO in the second half of 2019, but don't be surprised to see IPO speculation for other restaurant technology firms like Toast (which completed a $115 million Series D transaction in July), Olo, or HotSchedules as we approach 2019.

Exhibit 2 An Evolving Restaurant Industry Landscape Has Influenced Industry Valuations and M&A Activity

P/E and EV/EBITDA Multiples Have Corrected the Past Two Years as Refranchising Wanes and Other Industry Structural Changes Come Into Focus

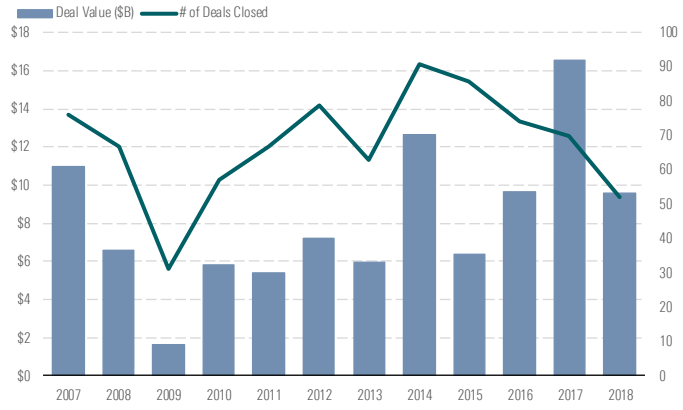


Source: Capital IQ, Morningstar estimates



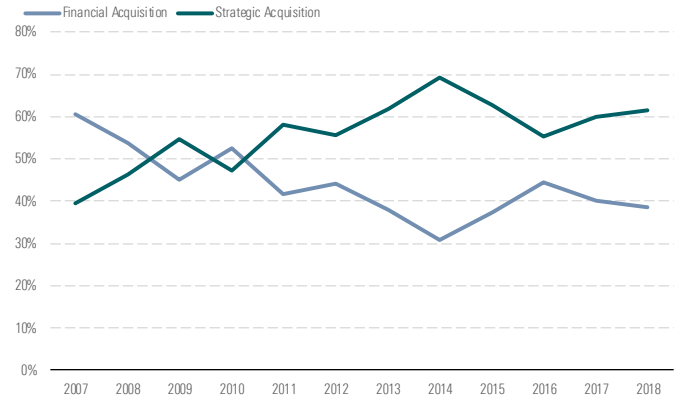
Source: Capital IQ, Morningstar estimates

Industry M&A Has Slowed, but Market Remains Conducive to Deals



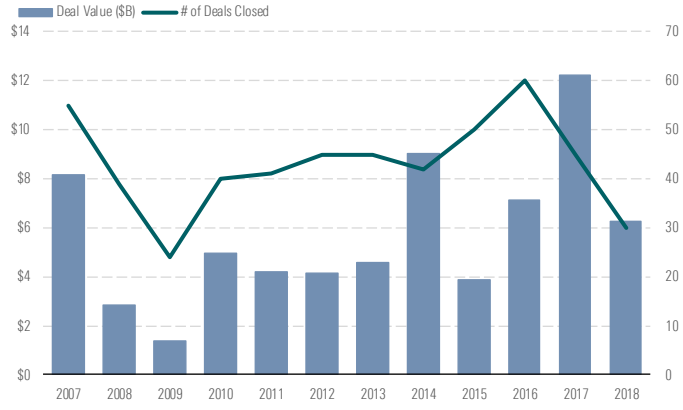
Source: PitchBook

Strategic Deals Have Outpaced Financial Deals, but Lines Are Blurring



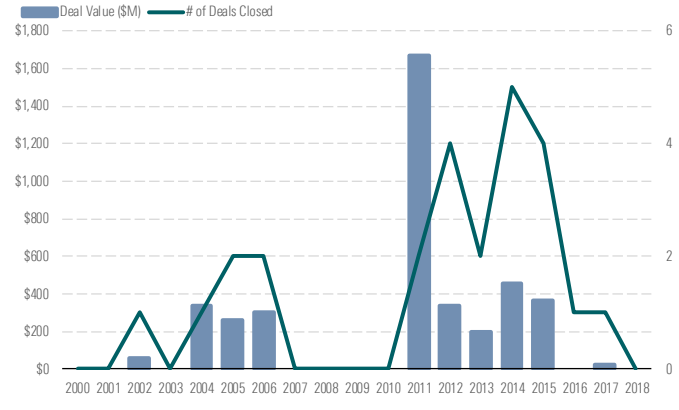
Source: PitchBook

Restaurants Continue To Be an Active Industry for PE Transactions



Source: PitchBook

No Appetite for Restaurant IPOs but We Expect Adjacent Tech Offerings



Source: PitchBook

Previewing Next Generation Benchmarks for the Restaurant Industry

With restaurants looking at many of the same structural industry trends that retailers faced the past decade in wake of digital commerce, the purpose of this report was to develop a new playbook for restaurant operators and investors to use to analyze the industry. Our research started with conversations with executives behind some of the most innovative and disruptive restaurant concepts today to identify the most important trends reshaping the industry. Based on these discussions, we developed a checklist of the 10 most important topics investors should be discussing with the management teams they work with to better understand what changes they plan to make to better address evolving consumer views regarding menus, convenience, and restaurant experience:

- Does the Restaurant Offer Consumers a Value Proposition That Spans More Than Just Price?
- How Does the Restaurant Deal With Consumer Fatigue?
- How Has the Restaurant Adapted to Evolving Views on Authentic and Healthy Eating?
- Is the Restaurant's Digital Ordering Platform Seamless and Intuitive?
- How Does the Restaurant Connect With Consumers Beyond Its Four Walls?
- How Does the Restaurant Embrace the Convergence of On-Premises and Off-Premises Food Sales?
- Does the Operator Manage Labor Costs With Automation and Other Emergent Restaurant Technologies?
- How Does the Restaurant Address Market Expansion?
- How Do Buildout Costs and Lease Expenses Compare With Other Industry Players?
- Has the Restaurant Scaled Its Supply Chain Appropriately?

From here, we used publicly available data to develop new benchmarks that operators and investors can use for their analysis the over next several years. We've provided category averages for several of these metrics in Exhibit 3 with more detailed commentary on why these metrics are important from an economic moat standpoint and which restaurant chains are best positioned later in this report.

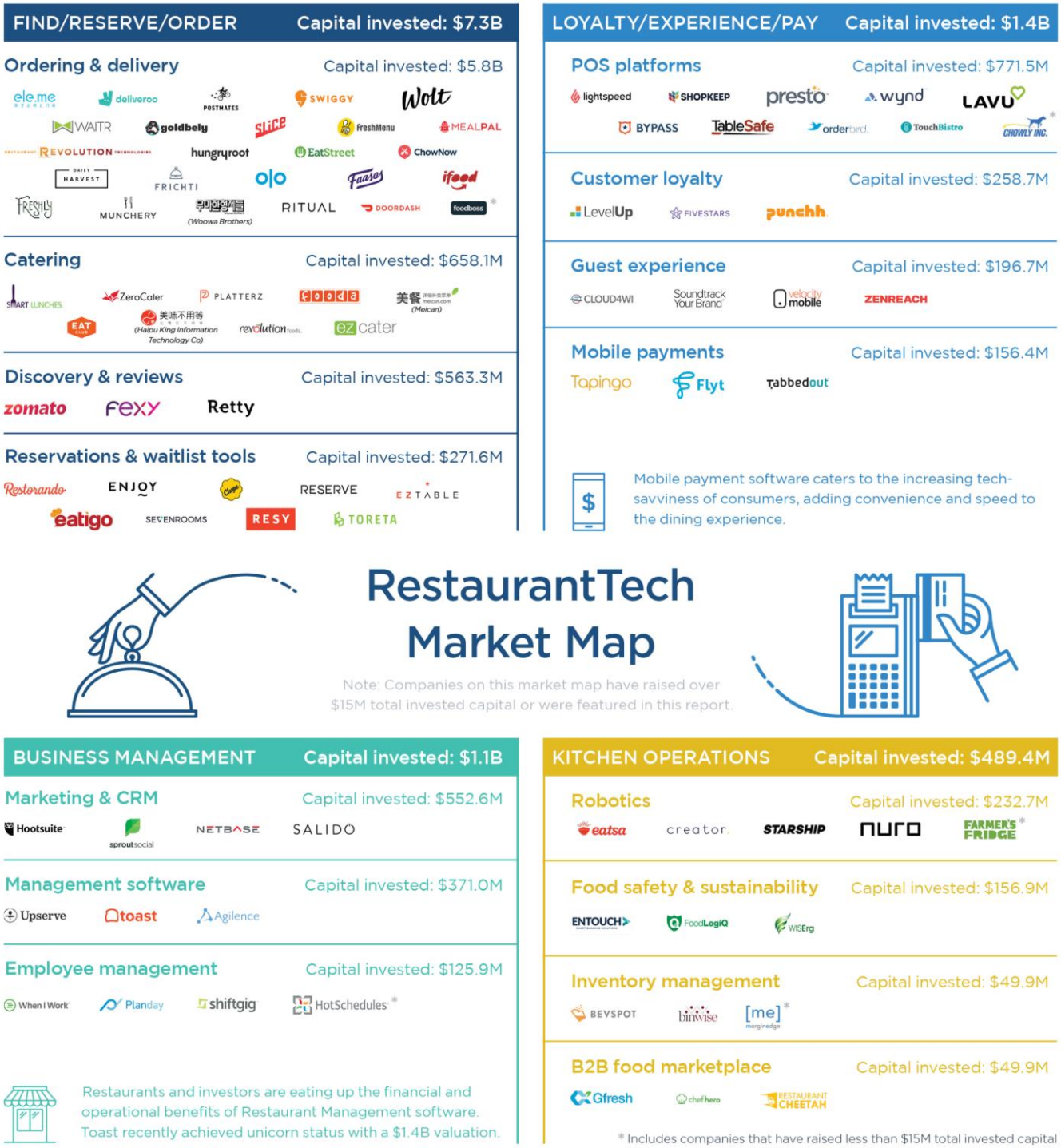
Exhibit 3 The Next Generation Benchmarks That Investors Need to Evaluate as the Restaurant Industry Evolves

Data Represents 2013-17 Averages Unless Otherwise Noted	Sales Per Square Foot	Transaction Per Square Foot	Transaction Per Square Foot Growth	Advertising Cost Per Transaction	Calorie Per Item (2017)	Delivery as % of Global Sales (2017)	Sales Per Labor Hour	Annual Transactions Per Hourly Emploiyee	Average Buildout Cost Per Square Foot	U.S. Rent Per Square Foot	Rent Per Transaction	Restaurant-Level Profit Per Square Foot
QSR	$596	117	1.1%	$0.21	375	2.0%	$28.40	8,143	$392	$33.32	$0.33	$109
Pizza	$588	79	11.3%	$0.30	279	61.7%	$22.02	4,392	$337	$45.26	$0.49	$108
Snack & Beverage	$656	131	9.3%	$0.14	270	NA	$33.47	9,894	$540	$48.64	$0.37	$137
Fast Casual	$644	58	-2.7%	$0.11	466	2.3%	$46.03	6,223	$330	$48.48	$0.89	$139
Casual Dining	$582	34	-5.0%	$0.51	520	12.1%	$37.10	3,288	$396	$29.66	$0.86	$104

Source: Morningstar estimates

Of course, many industry changes are the result of emergent restaurant technologies. Our colleagues at PitchBook developed a market map to orient investors with privately held restaurant tech companies reshaping the industry, segmented into four categories: outside restaurant, inside restaurant, kitchen operations, and business management. We've presented PitchBook's RestaurantTech market map in Exhibit 4 and provided greater details about the different technologies and category funding trends starting on page 127.

Exhibit 4 PitchBook RestaurantTech Market Map



Note: RestaurantTech Market Map Overview and Definitions can be found on page 127
Source: PitchBook, Morningstar

Top Public-Company Restaurant Investment Ideas

While we encountered several intriguing private restaurant chains in our due diligence for this report, we acknowledge that active investment in these names isn't available for many investors. However, based on the benchmarks we've developed for this piece, we've highlighted two investment ideas for public-equity investors below:

McDonald's (MCD)			★★★★
Moat: Wide		Moat Trend: Negative	
Mkt Cap: 129.2B		Uncertainty: Medium	
Mkt Price: 166.53		Fair Value: 190.00	
	2017A	**2018E**	**2019E**
Earnings/Share	6.68	7.64	8.25
Price/Earnings	24.9x	21.8x	20.2x
EBITDA	10,916	10,287	10,430
EV/EBITDA	14.4x	15.2x	15.0x

- **Top One-Three Year Horizon Investment Idea: McDonald's.** McDonald's continues to regain lost consumers through new approaches to value (McPick 2 and $1 beverages in the U.S. and similar promotions internationally) or experience (new décor, ordering technologies, and training improving speed of service and customer satisfaction metrics), and it remains poised to continue these trends in 2018. Admittedly, aggressive QSR promotional activity is a risk, but we believe the combination of McDonald's new $1-$2-$3 dollar menu, delivery (called out as a "meaningful contributor" in several markets with average checks 1.5-2.0 times in-store orders), mobile order and pay availability at 20,000 locations (14,000 U.S. and 6,000 U.K./Canada), the national launch of fresh beef in the U.S. in May/June, and menu price increases in the 2%-3% range (to offset value initiatives) should keep comps in the 4% range for the foreseeable future. Tax reform also gives McDonald's the chance to accelerate aspects of its U.S. velocity growth plan, with plans to invest $6 billion over the next two years (including capital expenditures of $2.4 billion in 2018) in its Experience of the Future restaurant format (which was implemented in 3,000 locations in the U.S. at year's end and expected at another 4,000 in 2018). While these and other technology and labor investments will weigh on near-term margins, we still see a clear path to mid-40s operating margins by 2019-20 through recent refranchising efforts and operating leverage from its various top-line drivers.

Starbucks (SBUX)			★★★★
Moat: Wide		Moat Trend: Positive	
Mkt Cap: 77.4B		Uncertainty: Medium	
Mkt Price: 57.34		Fair Value: 64.00	
	2017A	**2018E**	**2019E**
Earnings/Share	2.03	2.42	2.61
Price/Earnings	28.2x	23.7x	22.0x
EBITDA	5,355	5,422	6,131
EV/EBITDA	14.7x	14.5x	12.9x

- **Top Three-Five Year Horizon Investment Idea: Starbucks.** Starbucks is just starting to scratch the surface of its longer-term channel development, brand diversification, and geographic expansion opportunities, and we remain intrigued about the potential mobile, digital, and loyalty program synergies among its different businesses. We remain comfortable calling for 4% global comparable sales (3%-4% U.S.) the next five years, driven by beverage innovations and a revamped food platform, expanded peak hour capacity, and My Starbucks Rewards usage. Although we expect traffic issues to linger near-term as the company streamlines its operations—likely keeping fiscal 2018 comparable sales growth in the 2%-3% range—we believe that the Starbucks brand remains strong. Simultaneously, the company's profitability remains healthy, with recent margin gains chalked up to the leverage inherent in the business model and a clear path to operating margins of 21% the next five years (versus 19.6% in fiscal 2017). We continue to see a number of positive long-term catalysts, including strong returns from international restaurant openings (including China becoming a standalone growth engine), increased emerging-market consumer packaged goods distribution, and greater consumer awareness of Starbucks' remodeled store locations (each of which should better insulate the company if we continue to see a moderation in consumer restaurant spending trends in the U.S.).

State of the Restaurant Industry: Reinvention or Recession? Or Both?

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Online Grocery Continues to Change the Playing Field and Whispers of a Recession Persist, but We Encourage Investors to Prioritize Restaurant Reinvention Stories

While online grocery may be grabbing the headlines this year as the Amazon/Whole Foods integration continues, 2018 may be an equally transformative year for restaurant operators, as those that have taken steps to keep up with the industry's evolution make critical investments that allow them to participate in future industry growth while others fall back to the pack. Before developing a playbook and new set of performance indicators to identify the next generation of success stories in the restaurant industry, we believe it's worth revisiting current industry trends. In this section of the report, we offer an update on our state of the industry from our previous Observer reports, including a look at industry segmentation, unit growth/store saturation, per capita spending, food at home/food away from home inflation, and channel diversification strategies. We also examine what this means for industry valuations, before moving to our next section where we introduce next generation metrics that analysts should be using to benchmark restaurant investments in today's environment.

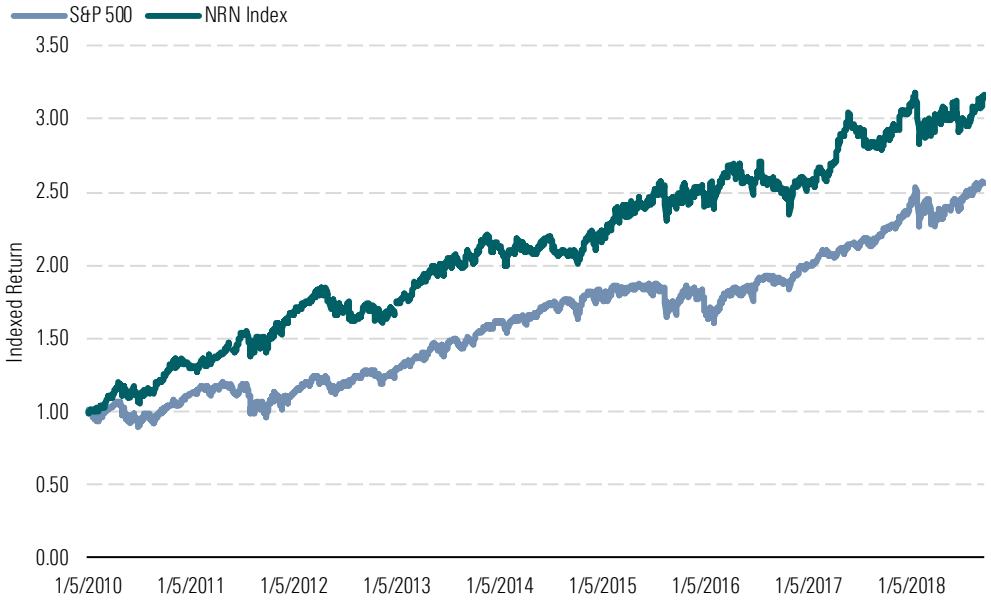
Key Takeaways

- In many ways, restaurants find themselves in a similar position that retailers did a decade ago, with Amazon's integration of Whole Foods and other physical retail initiatives likely triggering a ripple effect across the grocery industry, mobile technologies evolving consumer views on convenience and experience, and delivery and other off-premises solutions gaining widespread consumer adoption. Like the retail industry, we don't expect all industry participants to survive, but for those operators who recognize these trends and are making necessary operational and technology changes, it can lead to a multiyear period of market share gains and premium valuations.
- We've heard the argument that the industry is overstored for several years, and to some extent this is true. Some private equity sponsors aggressively pushed operators to expand without focusing on in-restaurant measures designed to improve convenience or in-store experience. As these in-store operational and technology improvements take center stage the next few years and off-premises opportunities become more accessible, we expect restaurant unit counts to contract. However, we still see meaningful unit growth opportunities for those chains that understand their consumer's priorities and adjusted their business models and restaurant layouts accordingly.
- Restaurant industry valuations have come in after reaching peak multiples in 2017. While some of the contraction was warranted given the end of the refranchising trade and expectations of a turbulent environment as online grocery begins to gain mainstream adoption, we believe there is still a place in investors' portfolios for those restaurant companies that understand where technology is heading make necessary changes to address evolving consumer expectations regarding restaurants.

Putting Recent Industry Valuation Movements in Context

Restaurants have been one of the strongest performing categories in the consumer sector since the Great Recession in 2008-09. The Nation's Restaurant News Index—a portfolio of almost 40 publicly traded restaurant companies—posted a cumulative return of 217% from 2010 to 2018 year-to-date (Exhibit 5), well ahead of the 156% return generated by the S&P 500 over the same period. We believe several reasons explain this outperformance, including a rotation out of retailer stocks and into restaurants due to the longer-term unit growth potential, the perceived lack of disruption from Amazon, and company-specific refranchising activity (where many chains sold company-owned locations to franchisees, took on incremental leverage, and initiated large share buyback programs or dividend increases).

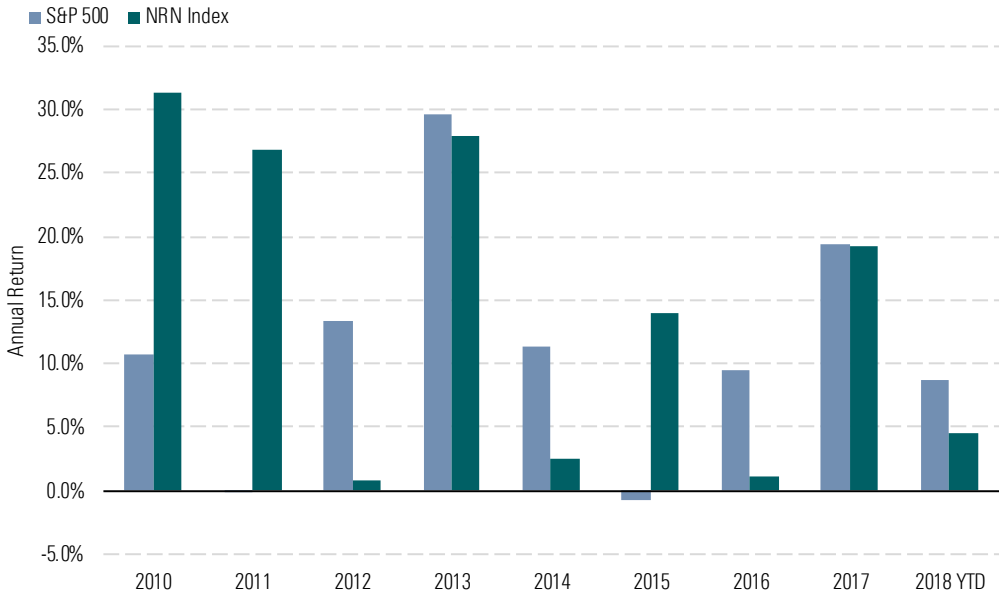
Exhibit 5 The Restaurant Industry Has Outpaced the Broader Market Since the Beginning of 2010…



Source: Nation's Restaurant News, Morningstar

However, restaurant stocks have been much more inconsistent in more recent years, with the NRN Index outperforming the S&P 500 just one of the past five years (Exhibit 6). While there are certainly some company-specific factors behind these trends—most notably food safety issues at Yum Brands' China segment in 2014 and Chipotle in late 2015—we attribute this weakness to three primary factors: (1) the effective end of the industry refranchising activity; (2) fears of a broader recession; and (3) questions about restaurant operator's ability and the investments required to compete in a rapidly changing industry.

Exhibit 6 …But Returns Have Been Much More Inconsistent Market Returns the Past Several Years

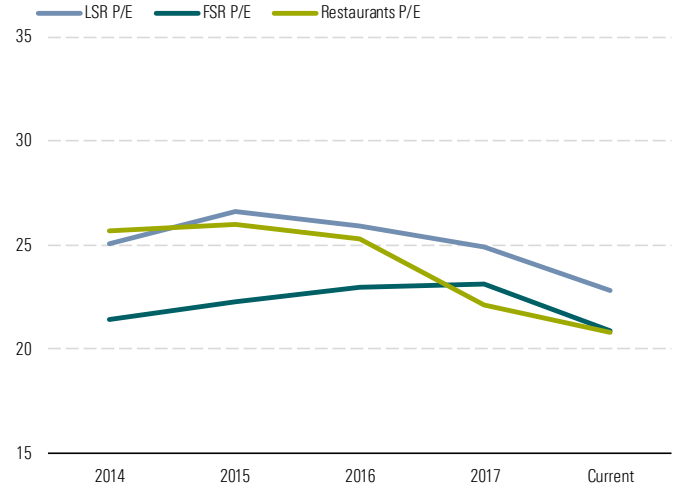


Source: Nation's Restaurant News, Morningstar

In many ways, restaurant industry valuations have essentially been a three-act play the past decade. The first act (2010-13) was the post-recessionary years, where we saw price/earnings (P/E) multiples expand from the high-teens to low-20s and enterprise value/EBITDA (EV/EBITDA) multiples move from the low- to mid-teens due in large part to a rotation away from retailers and other consumer cyclical names and into restaurant name due to perceived higher-growth prospects due to a lack of direct competition with Amazon. The second act was the refranchising period (2014-17), where large restaurant operators sold off company-owned locations to franchisees, took on additional debt, and returned cash to shareholders through expanded share buyback and dividend programs, prompting P/E multiples to rerate to the mid-20s and EV/EBITDA multiples move above 15 times (Exhibit 7). We now find ourselves in the third act, where valuations have come in as operators face questions about their ability to reinvent themselves amid rapidly changing consumer preferences regarding menu composition, restaurant experience, and technologies. Valuations strike us as more realistic at current levels, with the broader restaurant category now trading at a forward P/E multiple of 21 times and a forward EV/EBITDA multiple of 13 times. However, separating values from value traps requires careful understanding of which concepts are making the changes necessary to compete in today's environment.

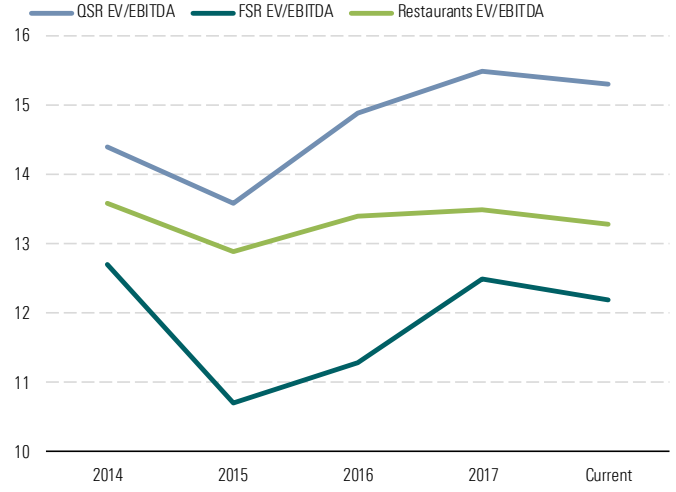
Exhibit 7 Restaurant Industry Valuation Multiples Started to Correct in 2017

Restaurant Industry P/E Multiples (2014-Present)



Source: Capital IQ, Morningstar estimates

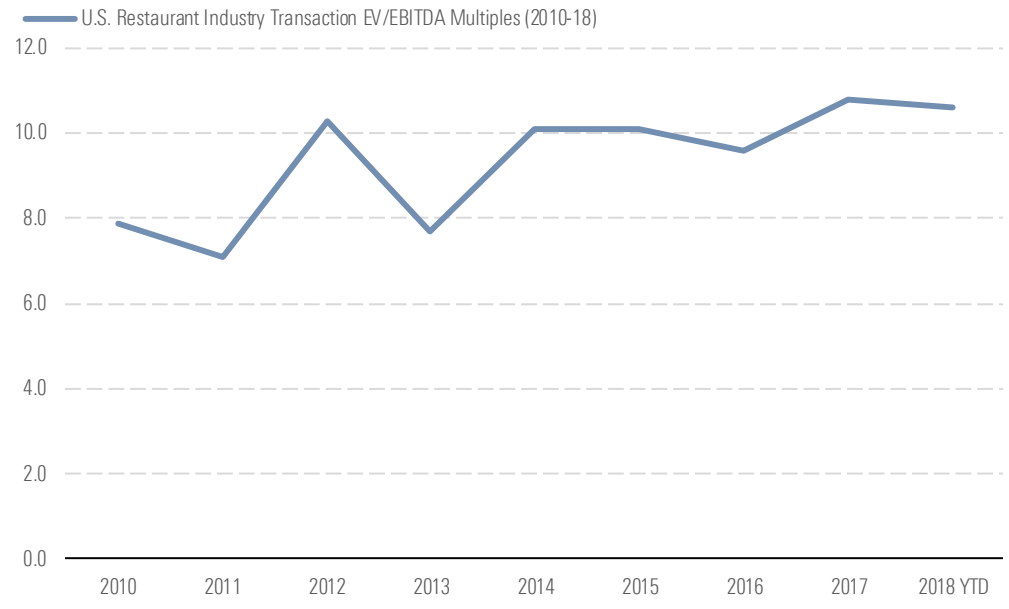
Restaurant Industry EV/EBITDA Multiples (2014-Present)



Source: Capital IQ, Morningstar estimates

Despite the pullback in valuation multiples for publicly-traded restaurant companies, transaction multiples have remained relatively steady with the average EV/EBITDA multiple for restaurant industry transactions coming in at 10.6 times year-to-date in 2018 versus 10.8 times (Exhibit 8). We discuss industry M&A activity in greater detail beginning on page 119 using additional data points from PitchBook, but, we generally attribute the resiliency of M&A transaction multiples to a flight to quality. Using data from PitchBook, we've seen a decline in year-to-date M&A and private equity (PE) activity for the restaurant category, which we attribute in large part to a decline in refranchising activity, but also new investment opportunities in the restaurant technology and CPG space. However, we believe there are financial sponsors who are seeking higher-quality brands to round out holes in their portfolios and restaurant management teams that realize that they may be better served to making changes to their business models under the cover of private markets. In fact, several investors told us that they would not be surprised to see additional publicly-traded restaurant chains--especially those with largely company-operated restaurants and market capitalizations under $10 billion--explore go-private transactions similar to Buffalo Wild Wings, Fogo de Chao, Zoe's Kitchen, and Sonic over the remainder of 2018 and into 2019.

Exhibit 8 Restaurant Industry Transaction Multiples Have Remained Relatively Healthy



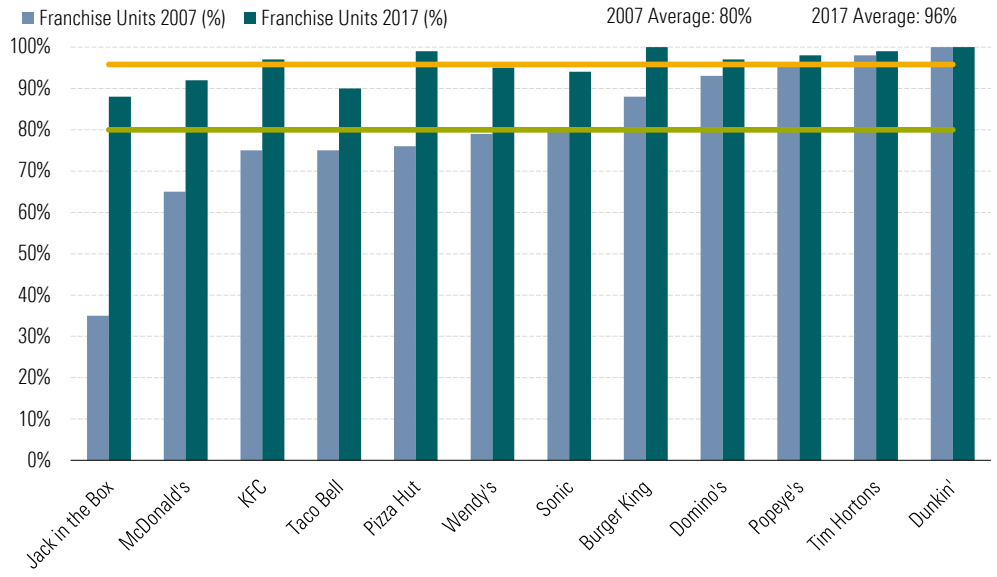
Source: Capital IQ, PitchBook

Our previous Observer reports in 2015 and 2016 suggested that the market had gotten ahead of itself, meaning that some of the recent valuation compression was warranted. We now see the sector as modestly undervalued, with our restaurant coverage universe now trading at an average market price/fair value (P/FV)—the current market value compared with our DCF-derived intrinsic value—of 0.98 times, suggesting that the group is fairly valued. This compares to a P/FV ratio of approximately 0.94 times in 2016 and 0.99 times in 2015. However, to defend our company-specific valuation assumptions, we believe it's critical to examine each of the three reasons that we identified for the recent industry valuation pullback, which we cover over the next several pages.

The End of the Refranchising Trade

While many investors see it as simply financial statement engineering, refranchising has had a clear impact on industry results and valuations the past several years, particularly among QSR firms but also a handful of full-service restaurant (FSR) chains like Dine Brands Global. Over the past 10 years, we've seen average franchise ownership in the QSR category move from 80% in 2007 to 96% at the end of 2017 (Exhibit 9).

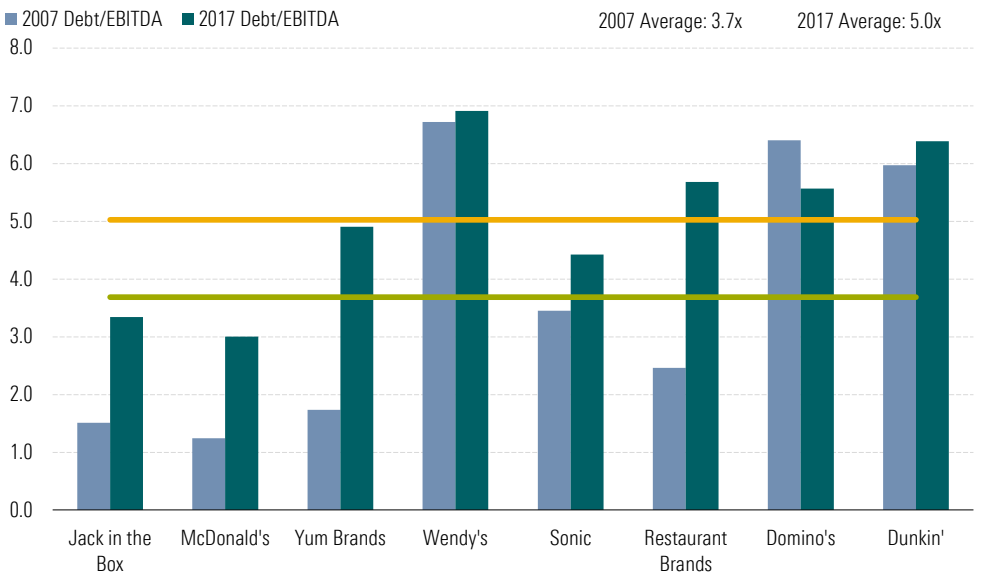
Exhibit 9 Refranchising Has Been a Key Theme Across the QSR Category the Past 10 Years…



Source: Company filings, Restaurant Finance Monitor, Morningstar

By making revenue more dependent on franchise fees and royalties and shifting capital responsibilities to franchisees, many QSR franchisors took the opportunity to increase their financial leverage the past several years. Many franchisors we spoke to in preparing this report were more comfortable taking on additional debt obligations because of the larger incoming royalty streams they would receive and mitigating some of the risks with a more leveraged balance sheet. As such, the average debt/EBITDA ratio among the most prominent QSR re-franchisors moved from 3.7 times in 2007 to roughly 5.0 times at the end of 2017 (Exhibit 10). From a credit perspective, some players like Yum Brands move to a high-yield corporate credit rating (BB/Ba3) in the process, while others like McDonald's remained investment grade because franchisee lending packages through Bank of America and Wells Fargo are tied to its corporate credit rating.

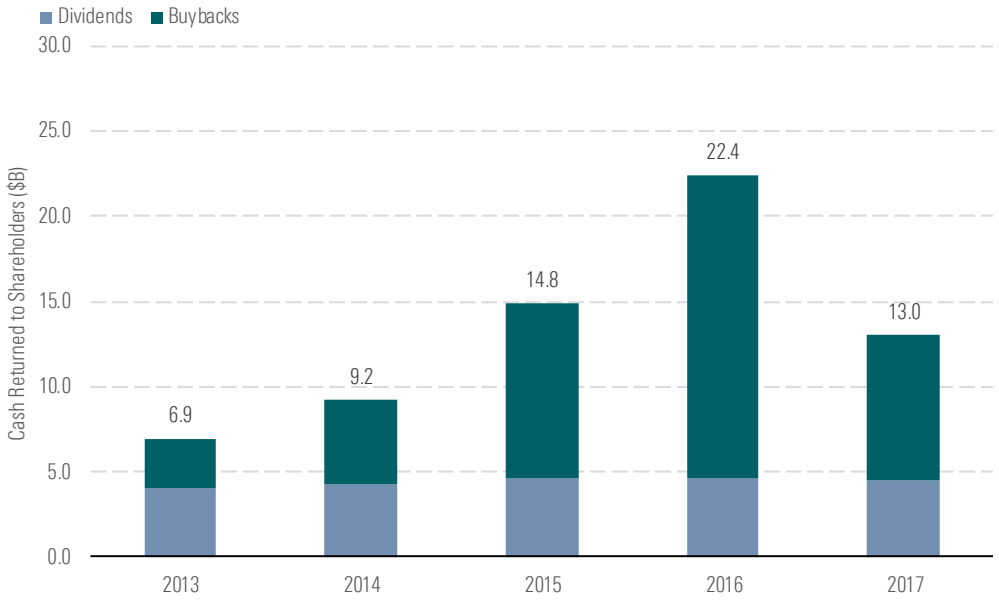
Exhibit 10 …Resulting in an Increase in Leverage for Prominent QSR Re-Franchisors…



Source: Company filings, Restaurant Finance Monitor, Morningstar

With the additional debt proceeds and increased cash flow consistency stemming from a more heavily franchised ownership structure, most QSR operators also engaged in more aggressive share buyback programs or dividend increases the past several years. Consistent with the shift to a more franchised ownership structure, we saw dividends and buybacks among key QSR re-franchisors grow from $6.9 billion in 2013 to $22.4 billion in 2016 before retreating to $13.0 billion in 2017 (Exhibit 11).

Exhibit 11 …And Accelerated Buybacks and Dividends



Note: Represents dividends and share repurchases for Domino's Pizza, Dunkin' Brands, Jack in the Box, McDonald's, Restaurant Brands International, Sonic, Wendy's, Yum Brands.
Source: Company filings, Morningstar

We believe refranchising holds less appeal to investors in 2018 for a few reasons. The most obvious is that there are fewer locations remaining for chains to refranchise, implying reduced abilities to take on debt and limiting opportunities to return cash to shareholders. In our view, concerns over rising interest rates also explain some of the recent pullback in restaurant industry valuations. Some restaurant operators have the ability to take on additional leverage but doing so during a period of rising interest rates is inherently risky in our opinion given current leverage positions (especially for those companies more exposed to floating rate debt positions). Additionally, rising interest rates could also impact individual franchisee balance sheets, particularly those who may have overleveraged after acquiring company-owned locations, financing restaurant upgrades, or investing in new restaurant equipment.

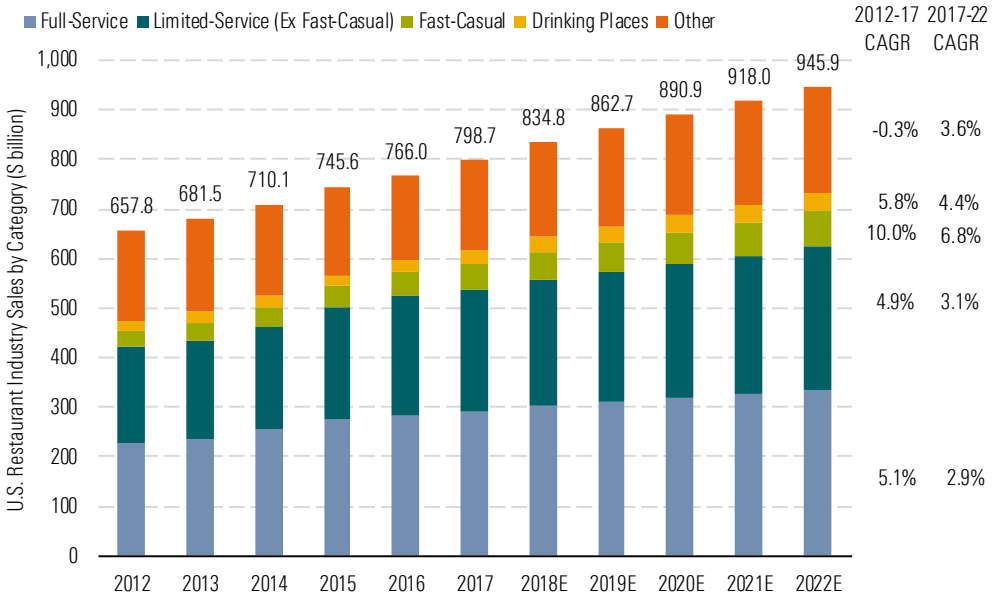
Are We in a Restaurant Recession? And if So, What Is the Exit Strategy?

In our September 2016 Consumer Observer, "Lessons From the Next Generation of Moats in the Fast-Casual Restaurant Industry," we spent time discussing the possibility of a restaurant recession. Ultimately, we concluded that restaurant traffic was likely to face pressure from reduced discretionary spending due to rent and healthcare inflation, but that a full-blown recession was unlikely because of the inflation spread between food at home (grocery stores) and food away from home (restaurants and other foodservice outlets) was likely to normalize. Ultimately, we believe that is more or less what transpired the past two years, with restaurant industry guest traffic growth remaining elusive and the consumer price index spread between food at home and food away from home starting to normalize.

However, with Amazon starting to figure out what they have in Whole Foods—the integration process has certainly had its ups and downs, but we believe bringing Prime memberships into the physical world through the Whole Foods app will result in competitive countermeasures across much the traditional grocer and mass merchant space—we believe it's worth revisiting the key macro assumptions underpinning our industry outlook over the next several years, as several of the concerns that prompted the discussion of a restaurant recession are likely to resurface over the next 12-18 months.

Based on a combination of estimates from the National Restaurant Association, U.S. Census Bureau, and Technomic, restaurant industry sales were $798.7 billion in 2017 with a five-year industry sales CAGR of 4.0% (Exhibit 12). Over the next five years, we expect average annual U.S. restaurant industry sales growth to moderate to 3.4%, due in large part to increased competition from other foodservice channels, including grocers (both physical and online), warehouse clubs, convenience stores, and prepared meal/meal kit offerings. We expect sales deceleration across most restaurant category, including full-service restaurants (where we expect 2.9% growth the next five years, compared with 5.1% the previous five-year period, limited-service restaurants excluding fast-casual (3.1% from 4.9%), and fast-casual (6.8% from 10.0%). The one exception to this projection is the "other" category, which includes managed services, lodging, noncommercial restaurant services, and military restaurant services. With the rise in non-traditional restaurant venues and services (a topic we explore later in this report), we expect this category to accelerate to 3.6% growth over the next five years compared with a 0.3% decline the previous five years.

Exhibit 12 The Evolving Restaurant Landscape Can Be Seen in Category Growth Rate Changes the Next Five Years



Note: Other category includes managed services, lodging, noncommercial restaurant services, and military restaurant services.
Source: National Restaurant Association, U.S. Census Bureau, Technomic, Morningstar estimates

Despite decelerating growth trends, we don't believe we're in a "restaurant recession" but instead reaching an inflection point where reinvention and omnichannel strategies are more important for those concepts that will participate in future industry growth. Over the next several pages, we'll revisit several pressures facing the restaurant industry from a macroeconomic perspective to set the stage for how the industry is evolving, and more important, give us a foundation as to why restaurant operators and investors need a new set of benchmarking tools.

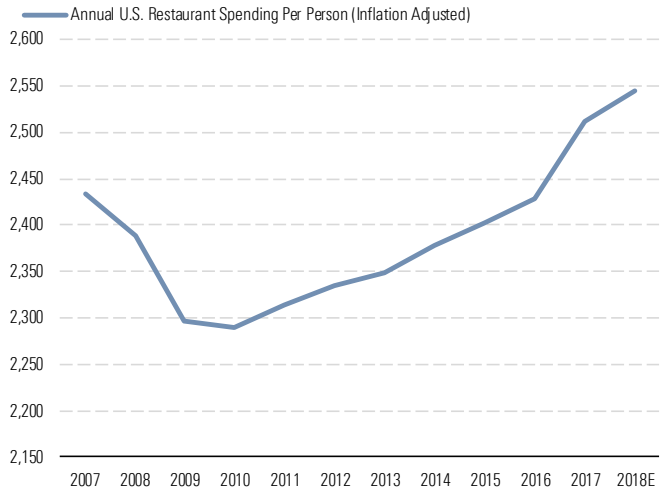
Per Capita Restaurant Spending and Unit Counts Suggest There Is Still Room for Innovative Restaurant Concepts

One of the more debated topics from our 2016 restaurant Observer was the idea of restaurant saturation. In the previous piece, we used inflation-adjusted per capita restaurant spending and per capita restaurant units to argue that the restaurant space is not overstored at this point, but instead crowded by too many restaurant concepts that have been unable or unwilling to adjust to evolving consumer preferences regarding menu composition, mobile technologies, and off-premises offerings as well as new supply chain advances. We still believe this conclusion is valid, but we'll concede that there is still room for discussion in the rapidly evolving restaurant industry and that operators (and their investors) may need to take a more granular approach when evaluating restaurant saturation levels.

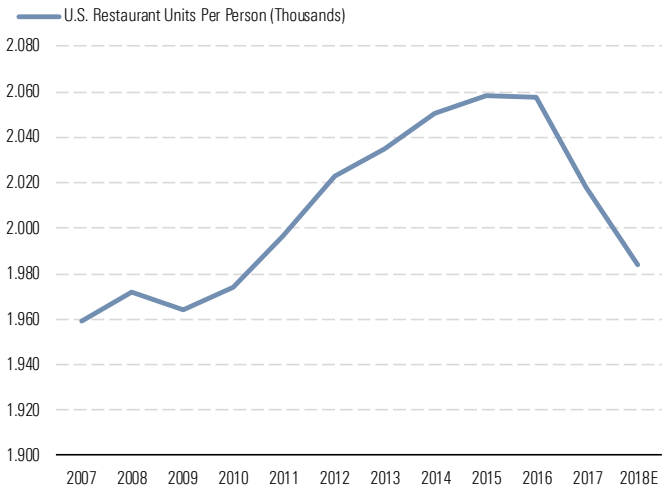
Let's start our analysis by revisiting our per capita restaurant spending and unit analysis from our 2016 report. Based on National Restaurant Association sales figures and U.S. Census Bureau data, we estimate that inflation-adjusted annual per capita restaurant spending is close to $2,550 per person year-to-date during 2018, which keeps us ahead of 2007 pre-recession peak levels of $2,450 (Exhibit 13).

Exhibit 13 Consumer Demand for Restaurants Remains Strong, but Changing Expectations Are Forcing Unit Closures

Inflation-Adjusted Per Capita Restaurant Spending Levels Are Above Prerecession Levels……



…While Per Capita Restaurant Units Have Fallen to Almost 10-Year Lows



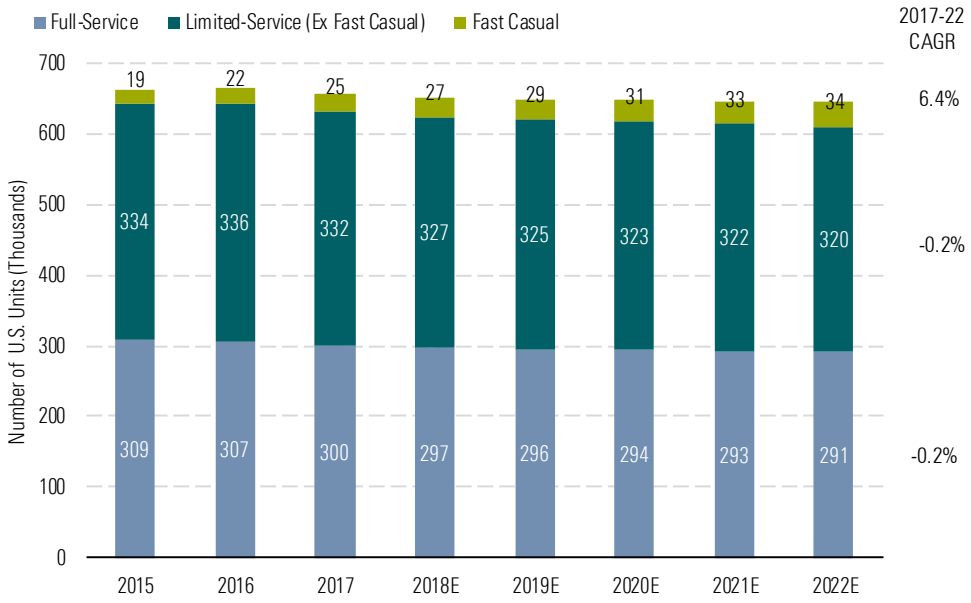
Source: NPD Group ReCount, National Restaurant Association, U.S. Census Bureau, Nation's Restaurant News, Technomic, Morningstar estimates

From a supply standpoint, we've adjusted our restaurant units per person calculations based on an updated blended average unit data from NPD ReCount, the National Restaurant Association, and the U.S. Census Bureau. Halfway through 2018, we estimate there were just about 1.98 restaurants per thousand individuals in the United States, down from a peak of 2.06 in 2015. This puts current restaurant units per person close to their 10-year low of 1.96 in 2007. We attribute the decline in per capita restaurant units to the reduction in the number of earlier-stage and independent restaurants over the past several years, although we've certainly seen most larger chains slow their unit growth plans if not outright closing locations.

On the surface, these results are intuitive, as concepts that have adapted to modern expectations drive continued guest traffic and sales and those that haven't ultimately exit the market (which is obviously the topic we most directly want to address in this piece). However, we believe there are other factors driving these results. For example, we believe private equity restaurant ownership has increased in recent years, which is a topic we'll examine in greater detail when we assess how restaurant industry transactions are changing later in this report. Driven by low borrowing costs and limited alternatives to drive growth, several operators told us that private equity firms are encouraging aggressive unit growth to meet internal rate of return (IRR) targets and exits. This, coupled with high valuations in 2016, has led to management turnover and sometimes to decisions that undermine the long-term viability of restaurant concepts, which has been partly to blame for restaurant closures. On top of private equity's influence, we believe the other obvious factor leading to restaurant closures is the rapidly changing restaurant formats itself, with the rise of delivery and other off-premises solutions forcing operators to revisit their existing real estate portfolios.

Where does this leave us on the topic of restaurant saturation? Ultimately, we believe there is still a tremendous amount of pent-up demand for eating out but that competition with grocery stores, private-equity's appetite for growth, the rise of off-premises solutions, and the stubbornness and amount of investment required from restaurant operators to adapt to consumer changes leaves us in a situation where we're overstored with undifferentiated restaurant concepts. We don't believe Starbucks and Chipotle will be the last restaurant companies to announce a series of unit closures. Over the next five years, we expect the number of restaurant units to decline modestly, with QSR and FSR chains accounting for most of the closures (Exhibit 14). That said, we still believe there is sufficient consumer demand to drive mid-single-digit unit growth in the fast-casual category over the next five years, suggesting almost 34,000 fast-casual restaurants by 2022.

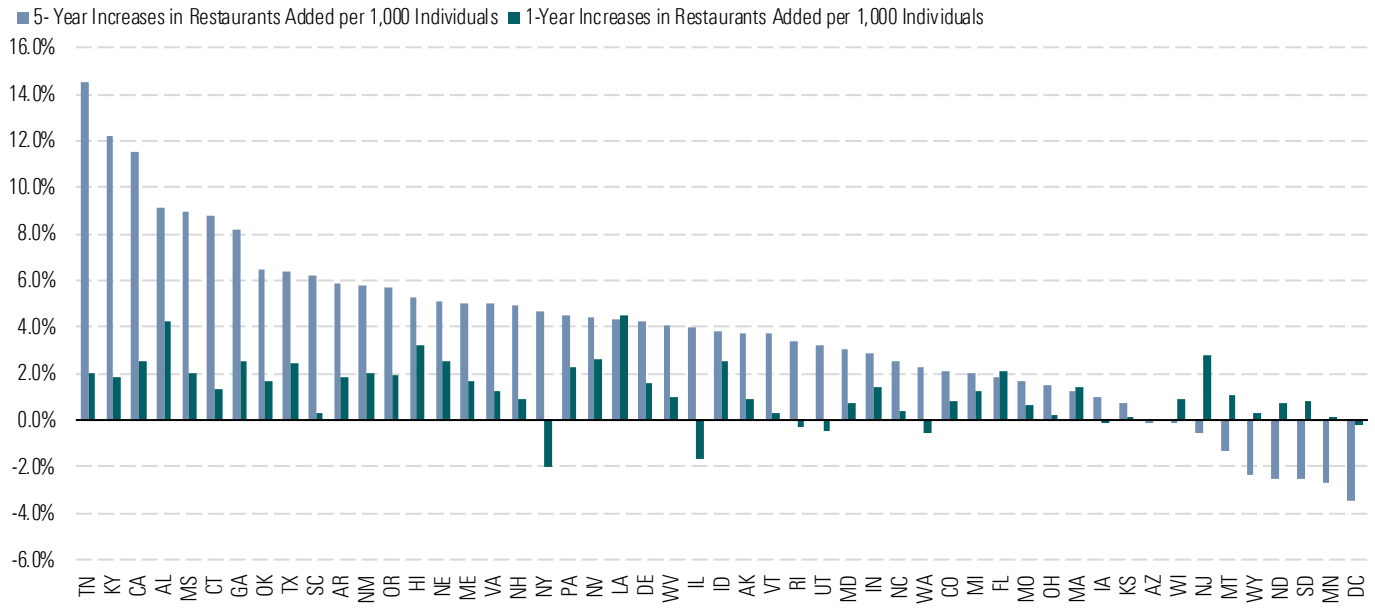
Exhibit 14 We Forecast Declining Industry Unit Counts the Next Five Years, but With Fast-Casual Growing in the Mid-Single-Digit Range



Source: NPD Group ReCount, National Restaurant Association, Nation's Restaurant News, Technomic, Morningstar estimates

Despite our projections calling for restaurant closures, we still see room for unit expansion in the United States. In Exhibit 15, we've included an analysis from a January 2018 presentation by Red Robin Gourmet Burgers that sows a state-by-state look at the number of restaurants per 1,000 individuals added over the past five and one years (based on information from the Bureau of Labor Statistics that we've also independently verified).

Exhibit 15 Unit Supply has Outpaced Population Growth, but Certain Regions Still Offer Opportunities for Expansion



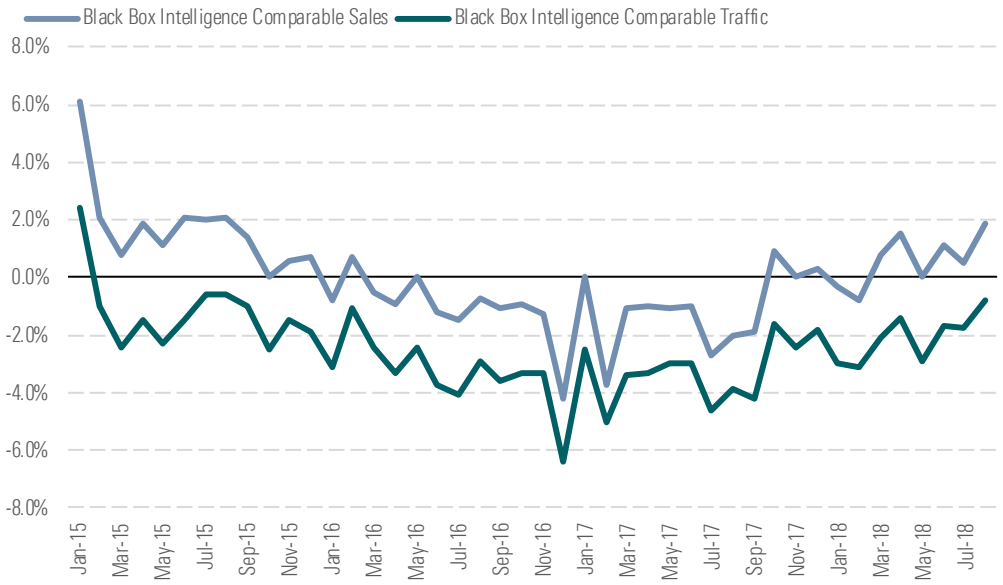
Source: Bureau of Labor Statistics, U.S. Census, Red Robin Investor Presentation (January 2018).

While states like Tennessee, Kentucky, and California appear to be overstored based on recent store opening trends and population movements, some regions still strike us as ripe for growth, particularly in several Midwestern states. Of course, this analysis isn't granular enough to make sweeping conclusions, and we believe that operators need to carefully weigh unit expansion plans against the specific markets where they have a presence and those they have targeted for growth. We also discuss in greater detail how industry changes are forcing operators to rethink their unit expansion plans and how they develop their physical restaurant locations in the next generation performance metrics section of this report.

Price Sensitivity, Food at Home Pricing Forcing Restaurant Concepts to Invest More on Experience

Restaurant traffic remained the key story during second-quarter earnings season, with almost every chain across all categories reporting flat to declining traffic trends, as evidenced by Black Box Intelligence/TDn2K monthly restaurant industry same-store sales data (Exhibit 16). According to the most recent Black Box data, restaurant traffic has been in negative territory since early 2015, including a little more than a 2% decline year to date. Looking to the back half of the year, we acknowledge that comparable restaurant sales and traffic have been trending upward. However, we anticipate traffic trends will remain uneven for the balance of the year for much of the industry because of increased competition with grocery stores, which will take on even more significance as labor costs continue to ramp up and we start to lap easy food-cost comparisons.

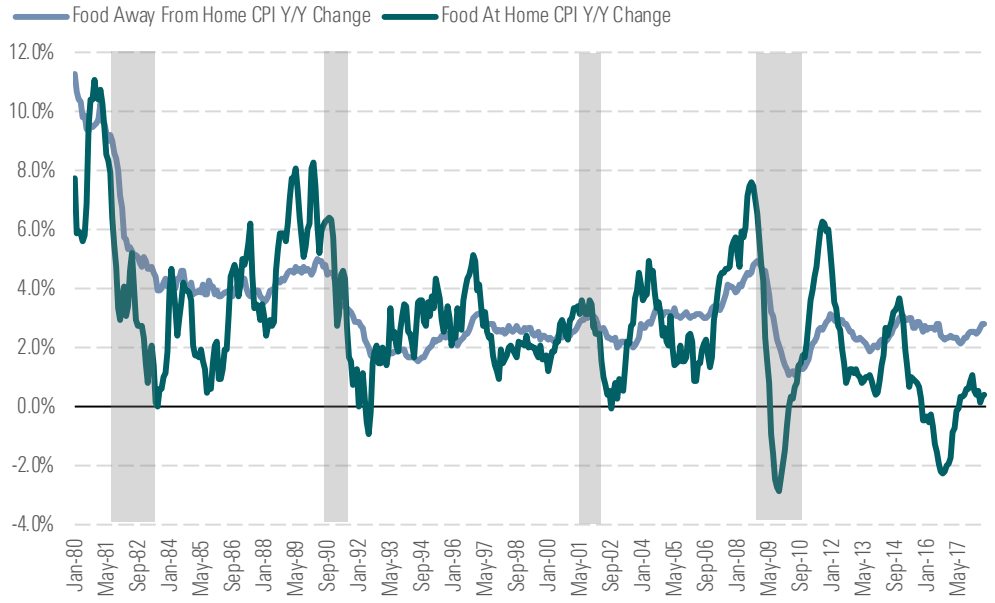
Exhibit 16 Comparable Traffic Continues to Weigh on Industry Same-Store Sales Trends



Source: BlackBox Intelligence/ TDn2K, Nation's Restaurant News, company filings, Morningstar

Complicating matters is the imbalance between food at home (grocery) consumer price index (CPI) and food away from home (restaurants) CPI, especially as Amazon further integrates Whole Foods in its push into online grocery that has left competitors scrambling. In the most recently reported data for July 2018, the restaurant CPI was up 2.6% year over year, while grocery-store prices were up 0.5% (Exhibit 17). While this isn't as wide of spread as we saw between the food at home and food away from home spread in 2016—which was the widest gap in these metrics since 1983—the roughly 2-point gap still makes for a challenging environment for restaurant operators and limit menu price increases in the restaurant space during the back half of the year. More concerning is that we're starting to see restaurant prices come in—the second-quarter food at home CPI was 0.3% versus 0.7% in the first-quarter—and we wouldn't be surprised to see deflationary food at home CPI trends in the back half of the year. This suggests that the heavy promotional activity we've seen across most restaurant categories thus far in 2018 will continue into the back half of the year, forcing operators to focus on innovation to drive growth.

Exhibit 17 Spread Between Food Away From Home and Food at Home Has Narrowed, but Still Creating Channel Imbalance and Limiting Pricing Opportunities



Note: Shaded area denotes recession.
Source: Bureau of Labor Statistics, Morningstar

With increased price competition and the time required to make operational changes at the restaurant level, it paints a troubling picture for restaurants when factoring in rising labor costs. In fact, tighter labor markets and coping with an inflationary wage environment were the top concerns among many restaurant executives we spoke to for this for this report. In Exhibit 18, we've included projected minimum wages for each of the 50 U.S. states, which suggests that labor expense headwinds are likely to become more of an issue in the years to come. On top of these pressures, several restaurant operators told us that low unemployment has resulted in tight labor markets, and increased competition for hourly and manager employees.

Exhibit 18 Wage Pressures Are Likely to Weigh on Profitability for Restaurant Operators in the Years to Come

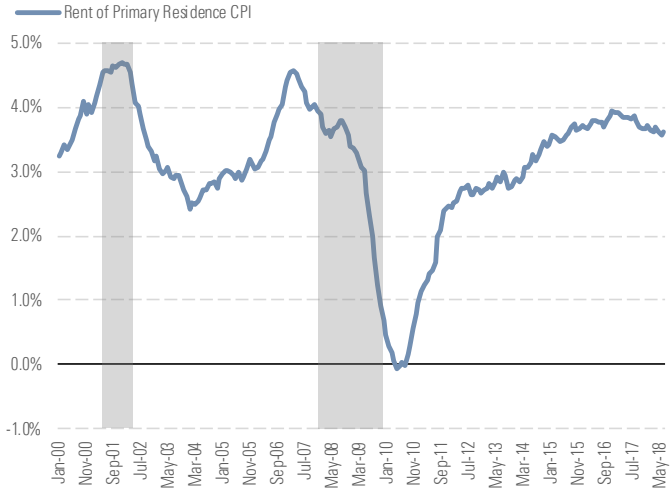
	Minimum Wage	
	Current (November 2016)	Planned 2020
Alabama	7.25	NA
Alaska	9.75	Indexed with inflation
Arizona	8.05	12.00
Arkansas	8.00	8.50
California	10.00	13.00
Colorado	8.30	12.00
Connecticut	9.60	Indexed with inflation
Delaware	8.25	8.25
District of Columbia	11.50	15.00
Florida	8.05	Indexed with inflation
Georgia	7.25	NA
Hawaii	8.50	10.10
Idaho	7.25	NA
Illinois	8.25	8.25
Indiana	7.25	NA
Iowa	7.25	NA
Kansas	7.25	NA
Kentucky	7.25	NA
Louisiana	7.25	NA
Maine	7.50	12.00
Maryland	8.75	10.10
Massachusetts	10.00	Indexed with inflation
Michigan	8.50	Indexed with inflation
Minnesota	9.50	Indexed with inflation
Mississippi	7.25	NA
Missouri	7.65	Indexed with inflation
Montana	8.05	NA
Nebraska	9.00	9.00
Nevada	8.25	Indexed with inflation
New Hampshire	7.50	NA
New Jersey	8.40	Indexed with inflation
New Mexico	7.50	7.50
New York	9.00	12.00
North Carolina	7.25	NA
North Dakota	7.25	NA
Ohio	8.10	Indexed with inflation
Oklahoma	7.25	NA
Oregon	9.75	12.00
Pennsylvania	7.25	NA
Rhode Island	9.60	9.60
South Carolina	7.25	NA
South Dakota	8.55	Indexed with inflation
Tennessee	7.25	NA
Texas	7.25	NA
Utah	7.25	NA
Vermont	9.60	10.50
Virginia	7.25	NA
Washington	9.50	13.50
West Virginia	8.75	8.75
Wisconsin	7.25	NA
Wyoming	7.25	NA
Median	**8.05**	**10.30**

Source: Economic Policy Institute, Red Robin Investor Presentation (January 2018), Morningstar

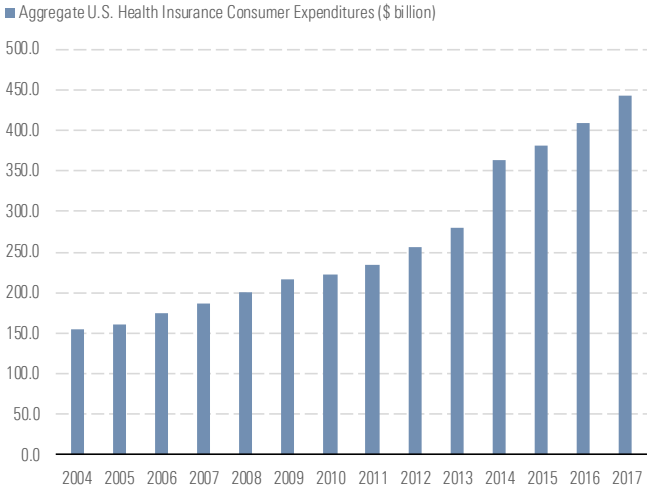
However, as we discussed in our 2016 Observer, consumer views regarding value proposition are undergoing changes, and we believe restaurant operators will find ways to offset these cost pressures if they can adjust their model to drive greater transaction growth, particularly during peak hours. In the next section of this report on page 81, we take a closer look the ways restaurant operators are striking a balance additional labor investments to improve the customer experience and implementing technology to make operations more efficient.

Our discussion about restaurant industry conditions wouldn't be complete without examining other discretionary spending headwinds, including rent and healthcare expense inflation. In Exhibit 19, we lay out year-over-year changes in primary residence rent expense and annual increases in consumer spending in on health insurance. Rent inflation has been running north of 3% since mid-2014, peaking around 4% and remaining between 3.5%-4.0% for the better part of 2018. Consumer expenditures on health insurance skyrocketed in 2014 and 2015—following the Affordable Care Act legislation—and have remained elevated since. In our view, both factors have weighed on restaurant spending and disrupted the traditional correlation between lower gas prices and increased spending at limited-service restaurant chains.

Exhibit 19 Elevated Rent and Health Insurance Cost Pressures Have Offset Lower Gas Prices and Weighed on Restaurant Spending



Note: Shaded area denotes recession.
Source: Bureau of Labor Statistics, Morningstar



Source: Bureau of Labor Statistics, Morningstar

We believe recent tax reform has had a positive impact on restaurants. While not as pronounced as the 2001 Bush tax cut bill (where consumers received a rebate check between $300-$600 in the mail that led to an immediate increase in spending), we believe the summer 2018 rebound in restaurant spending is at least in part the result of 2017 Tax Cuts and Jobs Act and its impact on consumer paychecks thus far in 2018. While this tailwind will allow consumers to absorb food away from home price increase and keep industry comparable restaurant sales in positive territory for the balance of the year, we don't think it will be enough to drive positive comparable restaurant transactions over the next several months. However, several operators told us that tax reform has helped to accelerate restaurant modernization efforts. While most restaurant executives have focused tax savings on labor investments and shareholder returns, several executives have also said that incremental cash from tax reform will offer greater flexibility for restaurant remodel activity and technology upgrades (likely resulting in a continuation of the restaurant technology boom the industry is currently experiencing, which we'll discuss later in this report). We believe investments that restaurant operators make in 2018 and 2019 will be critical for adjusting to shifting consumer attitudes toward restaurants and may ultimately play a key role in separating the industry's future winners and losers.

Assessing a Restaurant Operator's Ability to Compete in a Rapidly Changing Industry

2018 is quickly becoming the year of reinvention in the foodservice industry. While digital ordering, off-premises solutions, and an evolving logistics infrastructure have been altering the retail landscape for the past decade, a number of developments—most notably Amazon's 2017 purchase of Whole Foods—have set in motion several changes that have long-term implications for the broader foodservice industry, including the restaurants, grocery stores, meal kits, and consumer packaged goods manufacturers (a topic we explored in greater detail in our November 2017 piece, "Breaking Down the Year of Amazon: How Its 2017 Moves Set the Stage for the Next Evolution of Its Longer-Term Cash Flow Story"). Some restaurant operators have already put considerable effort into rethinking menu construction, operations, staffing, and technologies the past several years. However, we've seen varying degrees of success with these initiatives, which we ultimately trace back to how well a restaurant understands the consumer need it is best positioned to satisfy.

As a starting point for evaluating the restaurant industry's future success stories, let's examine the factors that consumers are looking for when making restaurant purchase decisions. We highlighted Deloitte's "Second helpings: Building consumer loyalty in the fast service and casual dining restaurant sector" survey in our 2016 Observer, but we believe many of the takeaways regarding what consumers are looking for in their restaurant experience across different restaurant categories and what prompted repeat visits are worth revisiting (Exhibit 20). Not surprisingly, food taste was the top purchase consideration for consumers' restaurant experience, as well as the top consideration for repeat visits across all cohort groups—both of which we believe still hold today. It's also not shocking that attributes like staff responsiveness/friendliness and decor scored higher for casual dining patrons, while fast-casual and quick-service restaurant patrons are more focused on order accuracy, service speed, and convenience. In our view, however, we believe these survey results also reinforce the realities of today's restaurant industry—consumers have vastly different expectations for visiting a restaurant, and those reasons can differ depending on concept, cosine type, geography, and daypart.

Exhibit 20 Ranking Consumers' Most Important Restaurant Attributes and Factors Inducing Repeat Visits

Nominal Ranking of Importance of Restaurant Experience Attributes by Cohort Group

Restaurant Attributes	Total	Casual Dining	Fast Casual	Quick Service
Food Taste	1	1	1	1
Food Safety	2	2	3	4
Order Accuracy	3	3	2	2
Price	4	7	5	3
Responsiveness of Staff	5	4	8	9
Location	6	9	4	5
Menu Variety	7	6	9	8
Friendliness of Staff	8	5	12	11
Wait Time	9	11	6	7
Reputation	10	8	11	12
Food Quality	11	10	10	10
Service Speed	12	12	7	6
Nutritious Food	13	13	13	13
Ease of Parking	14	14	15	15
Ambiance/Décor	15	15	19	18
Payment Options	16	17	17	17
Availability of Takeout	17	20	14	14
Customization for Dietary/Taste Preferences	18	16	16	19
Loyalty Program	19	19	20	20
Availability of Drive Thru	20	22	18	16
Availability of Alcoholic Beverages	21	18	23	23
Availability of Free Wi-Fi	22	21	21	21
In-Restaurant Tech/Electronic Ordering	23	23	22	22

Source: Deloitte Proprietary Survey Research, Deloitte analysis

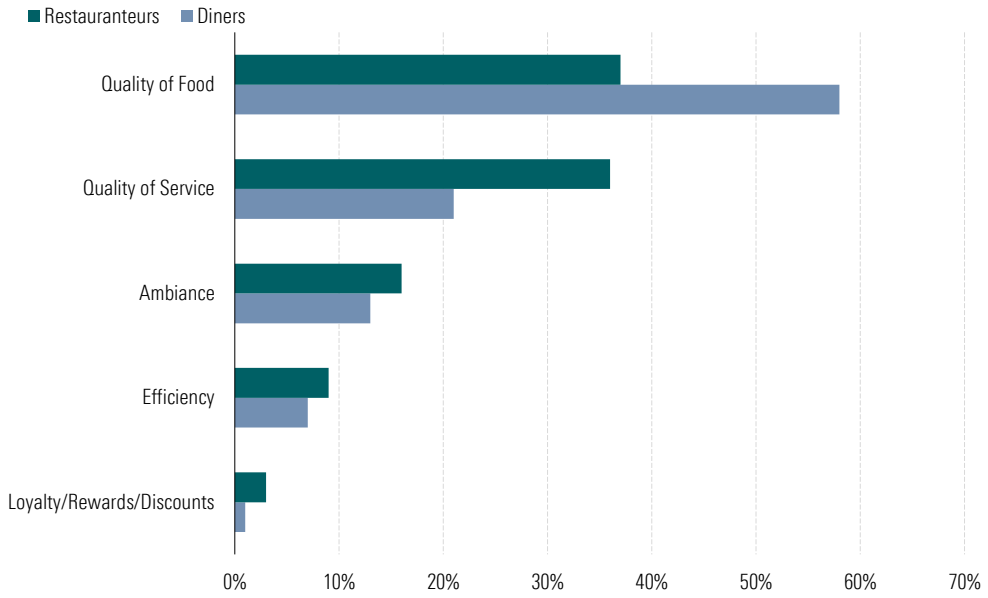
Ranking of Factors by Their Influence in Inducing Revisit to the Most Frequented Restaurants

Restaurant Factors	Total	Casual Dining	Fast Casual	Quick Service
Food Taste	1	1	1	1
Prior Experience	2	2	2	4
Location	3	5	3	2
Value of Money	4	4	4	3
Menu Variety	5	3	11	8
Food Quantity	6	7	6	7
Service Speed	7	11	5	5
Food Safety	8	9	9	10
Reputation	9	10	8	9
Friendliness of Staff	10	6	14	14
Responsiveness of Staff	11	8	12	13
Out of Habit	12	14	13	12
Nutritious Food	13	12	10	18
Preference of Family/Friends	14	13	16	17
Spur of the Moment Decision	15	16	15	15
Availability of Takeout	16	21	7	6
Group Consensus	17	15	19	19
Coupons	18	18	18	16
Promotions	19	17	20	22
Payment Options	20	19	17	20
Advertisements	21	20	21	21
Availability of Drive Thru	22	28	23	11
Kid Friendliness	23	23	26	23
Loyalty Program	24	22	22	26
Influence of Children's Opinion	25	25	28	24
Popularity of Restaurant on Social Media	26	24	25	28
Availability of Free Wi-Fi	27	27	24	25
In-Restaurant Tech/Electronic Ordering	28	26	27	27

Source: Deloitte Proprietary Survey Research, Deloitte analysis

Much like we saw with retailers the past decade, we're starting to see some discrepancies between what restaurant operators and diners prioritize, illustrated by a dining experience survey from Toast's "Restaurant Technology in 2017" report from October 2017 (Exhibit 21). When Amazon's disruption became more pronounced in the years following the 2008-09 recession, many retail executive teams assumed it was because of Amazon's lower prices and took subsequent measures to become more price competitive. However, we believe many retailers underestimated the importance of convenience (namely next-day shipping speed), product specialization, and in-store experience in driving consumers to their stores. In many ways, we're seeing similar situations across the restaurant space, where operators often misinterpret their customers' top priorities or underinvest in customer experience, labor, operations, and technology functions in lieu of unit expansion plans.

Exhibit 21 Restauranteurs and Diners Can Have Different Views Regarding Restaurant Experience



Note: Represents the percentage of restaurateurs and diner responses to the question "Which of the following do you believe to be most important for a positive restaurant experience?"
Source: Toast "Restaurant Technology in 2017" Industry Report (October 2017)

The Restaurant Industry Is Taking Cues From Fast-Casual 3.0, but Should It?

We've anchored much of our research in recent years on the emergence, evolution, and maturation of the fast-casual space, because we believe these trends are so important from an economic moat perspective. Early fast-casual leaders like Chipotle started to build national scale in the late 90s and early 2000s with higher quality ingredients and command greater pricing power than traditional quick-service chains but they were also more cost-effective to operate than casual-dining restaurants due to smaller formats but higher throughput locations lacking a traditional waitstaff. Following the Great Recession, we started to see a new class of fast-casual players emerge—often dubbed fast-casual 2.0—which were often led by chef-inspired menus and segmentation. More recently, we've started to see the emergence of fast-casual players that fully embrace new technologies and blur the line between on-premises and off-premises sales, dubbed fast-casual 3.0 by many industry participants.

We've seen many quick-service and casual-dining restaurants adopt many of the same practices as fast-casual 3.0 chains. However, this may not be the appropriate strategy for all restaurant operators, and we believe this trend warrants greater examination. As a starting point, let's revisit the four-pillar framework that we introduced in our 2016 for those chains that have adapted to today's evolving consumer environment. Specifically, we believe that today's most successful concepts have some combination of the following four qualities:

- Fostering a comprehensive consumer value proposition that spans more than just price, including convenience, flexibility, employee training, and restaurant design.

- Adapting to evolving views on healthier eating by establishing authenticity to accommodate a better-educated consumer, developing a menu that is flexible enough to accommodate multiple dietary preferences, and finding ways to balance healthiness with convenience and profitability.
- Maintaining a scalable supply chain.
- Finding ways to connect with consumers beyond the four walls of the restaurant, such as embracing technology to foster brand loyalty, using innovative approaches to marketing, expanding delivery and catering options, and migrating brand intangible assets to new channels.

We believe these qualities are still valid, but our conversations with several public and private restaurant operators the past year also suggests that this framework may need to be updated to account for restaurant consumers' evolving priorities. There are several reasons that a consumer will visit a restaurant (as we pointed out in Exhibits 20 and 21), which obviously starts with food quality. However, we're effectively seeing two seemingly contradictory consumer priorities emerge above all beyond the food itself: convenience and experience. Historically, these priorities were largely delineated by restaurant concepts, with quick-service and fast-casual players catering to consumers prioritizing convenience and full-service restaurants placating consumers looking for a differentiated experience. With the rise of new restaurant technologies and off-premises solutions, we've seen a blurring of the lines between convenience and experience within various restaurant categories with many operators trying to satisfy too many consumer needs simultaneously, resulting in operational complexities or subpar guest experiences. In some respects, this partly explains Starbucks' current struggles, where we believe it has been difficult for a company that built its brand on experience to now pivot its focus on convenience through mobile ordering and other technologies. However, when we spoke with Jason Morgan, who is the CEO of Original ChopShop and bellagreen, it became clear that the top operators understand that certain restaurant locations are better suited to satisfy convenience while others are more appropriate to offer consumers an upscale experience.

While we believe a restaurant can certainly find a balance convenience and experience, we often see these terms used interchangeably when investors and operators explain a restaurant's strategic vision. We believe this is a mistake, as the most successful operators we spoke to in preparing this report best understood whether their consumers' prioritized convenience or experience and have tailored their restaurant operations and technology platforms to best satisfy these needs. As such, we've adjusted our previous four-pillar framework to account for these different priorities (Exhibit 22).

Exhibit 22 We've Refined Our Four-Pillar Framework for a Successful Restaurant Based on Consumers' Emphasis on Convenience Versus Experience

Convenience	Experience
Comprehensive Value Proposition	**Comprehensive Value Proposition**
■ POS linked to mobile device and kiosk ordering platforms ■ Balance customization capabilities with pre-set flavor profiles ■ Simplified preparation processes and intuitive restaurant design ■ Less customization options with value items to improve service speed	■ Easy to navigate, streamlined menu ■ Balance customization capabilities with unique menu items ■ Upscale, modern restaurant designs while using technologies to manage wait times ■ Consumers still willing to pay premium prices for superior in-restaurant experience
Connecting with Consumers Outside the Restaurant	**Connecting with Consumers**
■ Mobile-based loyalty programs to minimize operational disruption ■ Increased non-paid and mobile marketing to accentuate convenience ■ Integrating delivery solutions into operations ■ New sales channels that accentuate speed (i.e., at-home coffee)	■ Loyalty programs offer unique perks and exclusive food items ■ Embrace new marketing channels with traditional experienced-focused approaches (TV) ■ Seamless, holistic approach to delivery and carryout platforms ■ New sales channels that accentuate experience (i.e. specialty menu items)
Scalable Supply Chain	**Scalable Supply Chain**
■ Reducing supply chain delivery times as consumers demand less additives ■ Next generation food tracking technologies to minimize food safety issues	■ Getting "closer" to suppliers ■ Utilizing new inventory management technology platforms
Adapting to Evolving Views Regarding Authentic Eating	**Adapting to Evolving Views Regarding Authentic Eating**
■ Authenticity important, but not at the expense of fast preparation ■ Calorie counts and other health factors secondary to speed of service	■ Unique, "Instagram"-worthy menu items ■ Incorporating specialty food items/preparation techniques encourages brand loyalty

Source: Morningstar

There have been several media stories about the death of the fast-casual category the past year, but we don't necessarily think all fast-casual players should receive hospice care at this point. Although the category continues to grow on an absolute basis, we have seen an increase in the number of fast-casual restaurant unit closures with some chains outright exiting the market the past 12 months. While competition and saturation levels have been cited for these closures—and we believe these factors certainly played a part—we think many of the closures also come down to trying to satisfy too many consumer needs at once, thus diluting the consumer value proposition (whether they are prioritizing convenience or experience). However, we came across several success stories across the fast-casual category as we were preparing this report and have used their stories to develop a set of metrics that restaurant operators and investors can use to benchmark themselves in the rapidly evolving restaurant industry. Over the next several pages, we will discuss the most important topics that restaurant operators need to monitor in today's environment, how to measure success when evaluating these trends, and best practices we've learned from several concepts that may be on their way to building an economic moat in the years to come.

Next Generation Benchmarks for Those Restaurants Best Positioned to Withstand Evolving Industry Conditions

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As Traditional Metrics Become Less Relevant, Restaurant Investors Need a New Playbook

Our 2016 restaurant Observer looked at the qualities that separated the winners from the losers among public and private restaurant concepts amid a rapidly evolving consumer environment. We continue to believe the most successful concepts share four characteristics: (1) a value proposition that spans beyond competitive pricing and includes convenience, authenticity, and innovation; (2) accommodation of consumers' shift toward authentic and better-for-you menu items; (3) maintaining a dynamic and transparent supply chain that can keep up with system unit growth; and (4) finding ways to connect with consumers outside the four walls of their restaurants. As further validation of these qualities, we believe that three of the chains we highlighted in our 2016 piece (Blaze Pizza, sweetgreen, and Mendocino Farms) continue to gain market share in their respective categories while our top public-company pick heading into the year (Panera) was acquired by JAB Holdings.

However, given the rapid evolution we continue to see across the industry, we believe it's worth revisiting these characteristics, with a particular focus on what a consumer prioritizes when it visits a restaurant—convenience or experience—and how operators are changing to meet consumers on their own terms. We spent much of 2017 and 2018 getting to know several restaurant concepts that we'd consider to be the next generation of moatworthy concepts in the restaurant industry. During our conversations, it became clear that the ways restaurants satisfy consumer demand are changing, but the ways we measure restaurant concepts also continue to evolve. While traditional metrics such as comparable-restaurant sales, average unit volumes, restaurant margins, and cash-on-cash returns remain important performance metrics, we've developed a playbook of new performance indicators that restaurant investors—both public and private—can use during their investment due diligence process to better assess which concepts are adapting to the rapidly evolving consumer environment.

Key Takeaways

- Going forward, we believe transactions per square foot will be the most relevant statistic for restaurant investors to monitor, as it effectively captures an operator's ability to generate consumer demand, expand utilization through daypart expansion efforts, adopt more efficient operations and technologies that satisfy their consumer's key priorities, and integrate off-premises solutions. Transactions per square foot benchmarks will differ by category, but we've provided five-year historical averages on page 43.
- Traditional metrics like average unit volumes, same-restaurant sales, restaurant-level margins, and cash-on-cash returns still have a place in today's restaurant analysis toolkit. However, investors must recognize and understand how the variables behind each of these metrics are changing as consumer preferences change and restaurant formats evolve.

A New Blueprint Needed to Identify Winners and Losers in the Restaurant Industry

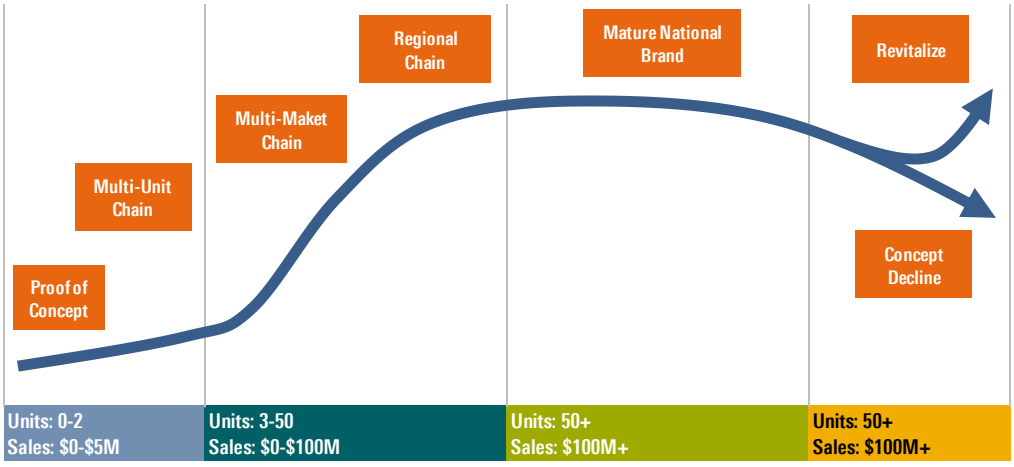
From an investors' standpoint, we believe a new set of metrics are needed to evaluate restaurant investments—both public and private. As mentioned in the previous section of this report, we see the restaurant industry as still very much a winners and losers situation, but separating the two has become a much more arduous process during a period of rapidly evolving consumer expectations, declining retail sales, the rise of off-premises alternatives, and rising wage rates.

Similar to our previous restaurant Observer research pieces, our analysis started with conversations with executives at many future leaders to identify ways the industry is evolving and what successful concepts are doing to stay ahead of the changes. However, instead of just identifying the characteristics behind today's most successful concepts as we did in our 2016 report, we've used the feedback from these executives to develop quantifiable restaurant industry benchmarks using data from our public restaurant company coverage list and several of their closest competitors. From there, we circled back with many restaurant industry executives and investors to fine tune our data set. The end results were several unique data points that we believe encapsulates the evolving restaurant industry landscape.

The Path to Restaurant Scalability Has Changed

As a starting point, we've presented the traditional restaurant lifecycle that investors have likely become accustomed to in sell-side marketing decks and other industry presentations, where a restaurant starts as an individual location before expanding to a multiunit operator, multimarket operator, regional chain, or even national chain. Obviously, failure can still happen at any point in this curve, but we believe the path to national expansion/revitalization is rapidly changing as consumer expectations evolve.

Exhibit 23 The Typical Restaurant Life Cycle



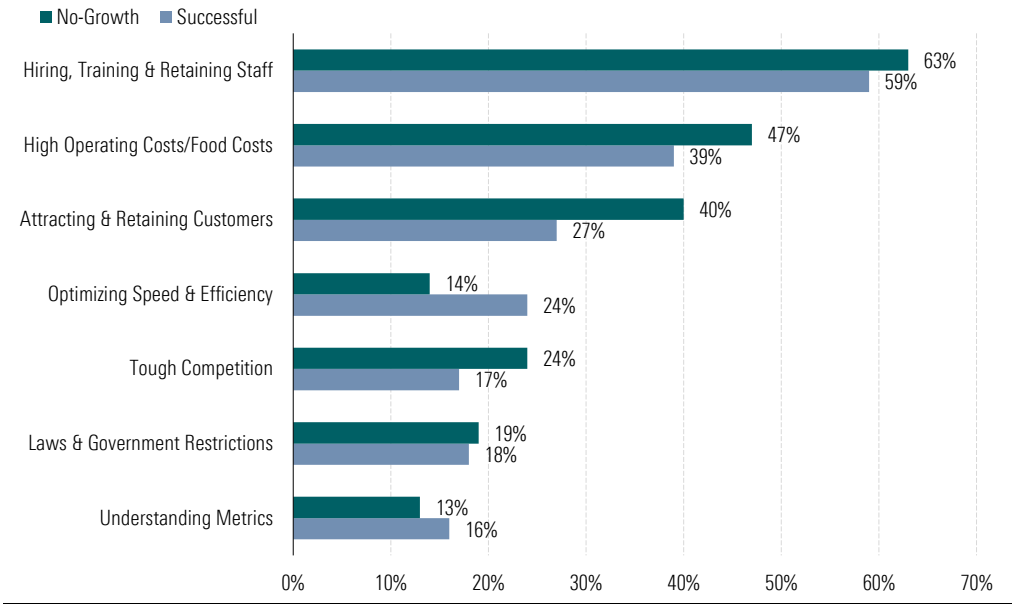
Source: Morningstar

In many ways, we believe the entire industry finds itself at the maturity stage of the previous lifecycle diagram and now must find ways to reinvent itself. Of course, there is no set blueprint for thriving in the restaurant industry. What works for a QSR chain focused on maximizing convenience will not necessarily be the right move for a full-service restaurant that requires a differentiated experience to succeed. Even within restaurant sectors, there are meaningful differences in best practices when it comes to cuisine types, target customers, restaurant formats, ordering technologies, marketing strategies, off-premises solutions, and supply chains. That said, we are starting to see some common threads behind the winners and losers in the industry and believe that a new set of metrics can help restaurant operators and investors better identify areas of strength as well as potential deficiencies.

Macro Pressures Are Prompting the Restaurant Industry to Innovate

As we discussed in the previous section of this report, there is no shortage of macro pressures facing restaurant operators in today's environment. Retail traffic remains sluggish because of the rise of online commerce and insufficient countermeasures from many traditional retailers, resulting in increased competition for customers between existing restaurant chains and new sources of competition from grocery stores/online/meal kits. With fewer restaurant customers, restaurants see less operating leverage and operating costs such as labor, food, rent, and utilities become magnified. In fact, according to a June 2018 survey of restaurant professionals by Toast—a leading restaurant management technology platform—expense categories like labor and operating costs were highlighted as the most significant challenges currently facing the industry (Exhibit 24).

Exhibit 24 In the Eyes of Restaurant Professionals, Rising Operating Costs Are the Most Significant Challenges Facing the Industry



Source: Toast "Restaurant Success in 2018" Report (June 2018)

The aforementioned Toast survey also sums up restaurant operators' battle for increased transactions nicely:

> *"The only way one restaurant can make another restaurant less successful is by attracting more customers to their business. The only way that happens sustainably is by creating a more efficient, delightful experience for guests. Marketing may help bring in a new customer, but if the guest does not enjoy their experience, they probably won't be back any time soon."*

These challenges were consistent with discussions we had with several executives across the industry. Today's most successful restaurant operators—and success is a relative term, though we were able to estimate some revenue and profitability metrics for several private chains we spoke to—were generally more aware of how consumers interacted with their brands and the specific needs they satisfied (convenience versus experience), while slower-growth chains were more focused on cost reduction and optimization.

The goal of this report was to give operators and investors a new set of tools to benchmark various restaurant chains to better understand the necessary steps to adapting to today's evolving consumer environment. However, with technological advances across almost every restaurant function in recent years, several executives also told us they are receiving more data than ever, but often don't what data points are important in making menu, throughput, experience, marketing, operational, and financial decisions. As such, we've also attempted to distill those metrics that are important from those that are not to improve the speed and quality of decision making for investors and operators.

Identifying Next Generation Concepts Best Positioned to Thrive in Today's Restaurant Industry

Most restaurant and restaurant technology executives we spoke to in preparing this report agreed with the four pillars of a successful restaurant concept that we outlined in the previous section, but we wanted to take this analysis several steps further and introduce advanced metrics that investors could use to determine which restaurant chains were best aligned with current consumer expectations. Given our discussions with several early stage restaurant concepts, we also wanted to isolate and develop metrics that could help to assess more practical elements of scaling a restaurant chain, including looking at store growth/market expansion in an uneven consumer spending environment and the introduction/integration of new technologies.

There are standard metrics that investors and operators—regardless of where they are in their lifecycle—should use as a benchmark, including as average unit volumes, same-store sales trends, and unit-level cash-on-cash returns. However, we believe that today's restaurant investors need a more advanced playbook of advanced metrics to better identify future winners and losers in the restaurant industry. While we're seeing a rise in data providers specializing in next generation performance metrics for the restaurant industry, we also tried to steer clear of developing benchmarks that relied on hard-to-obtain third-party data but instead easy-to-access public company or government data. In our view, this should make our performance metrics more applicable across varying restaurant concepts.

To maximize the effectiveness of the measures we developed across different consumer demands, we used a sample group of twenty concepts spread across five restaurant subsectors: (1) quick-service; (2) quick-service pizza; (3) beverage-snack; (4) fast-casual; and (5) full-service restaurants. We've included data from our entire U.S.-based coverage universe (including McDonald's, Yum Brands, Restaurant Brands International, Starbucks, Dunkin' Brands, Chipotle, Darden) and added several of their key competitors (such as Domino's Pizza, Papa John's, Jack in the Box, Wendy's, Sonic, Applebee's, Chili's, The Cheesecake Factory, and Outback Steakhouse). We also incorporated data from concepts that were at varying stages of development—including still-growing concepts (Shake Shack, The Habit), turnaround stories (Noodles & Company, Potbelly), and recent acquisition targets (Panera, Buffalo Wild Wings, Zoe's Kitchen)—to capture as wide of range of performance conditions as possible.

To further streamline the process, we've laid out the data in the form of a discussion topic checklist that operators and investors can use in their analysis and benchmarking process. We will explore each of these topics in greater detail over the next several pages but believe the following 10 topics are the areas that restaurant teams should be the most focused on in today's rapidly evolving industry. Where possible, we've also included commentary from restaurant industry executives for some real-world examples and best practices. For easier navigation, we've presented links to each of the 10 topics that we think restaurant operators and investors should be most closely monitoring during this critical time in the restaurant industry's evolution, as well as a conclusion section where we summarize each of the benchmarks we've developed.

The 10 Most Important Discussion Topics for Restaurant Operators and Investors

Question: Does the Restaurant Offer Consumers a Value Proposition That Spans More Than Just Price?

Key Metric: Average Transactions Per Square Foot

In our previous restaurant Observers, we made the argument that consumers' perception of a restaurant's "value proposition" has evolved beyond competitive pricing and now encompasses additional factors such as digital technologies, customization capabilities, employee training, and restaurant design. While food taste generally remains the top consideration for restaurant consumers, most restaurant executives we spoke to in preparing this report agreed that the best path to long-term financial returns—and by extension, developing an economic moat—is by striking a balance between these various factors. We're seeing the greatest success stories with those concepts that understand and accept whether their consumers prioritize convenience or experience as part of this value proposition. Obviously, restaurants can balance both convenience and experience at their locations, but by understanding what consumers most look for from a restaurant are best prepared to make the tough decisions that position their businesses for the highest probability of success in what will likely continue to be a challenging environment for restaurant operators.

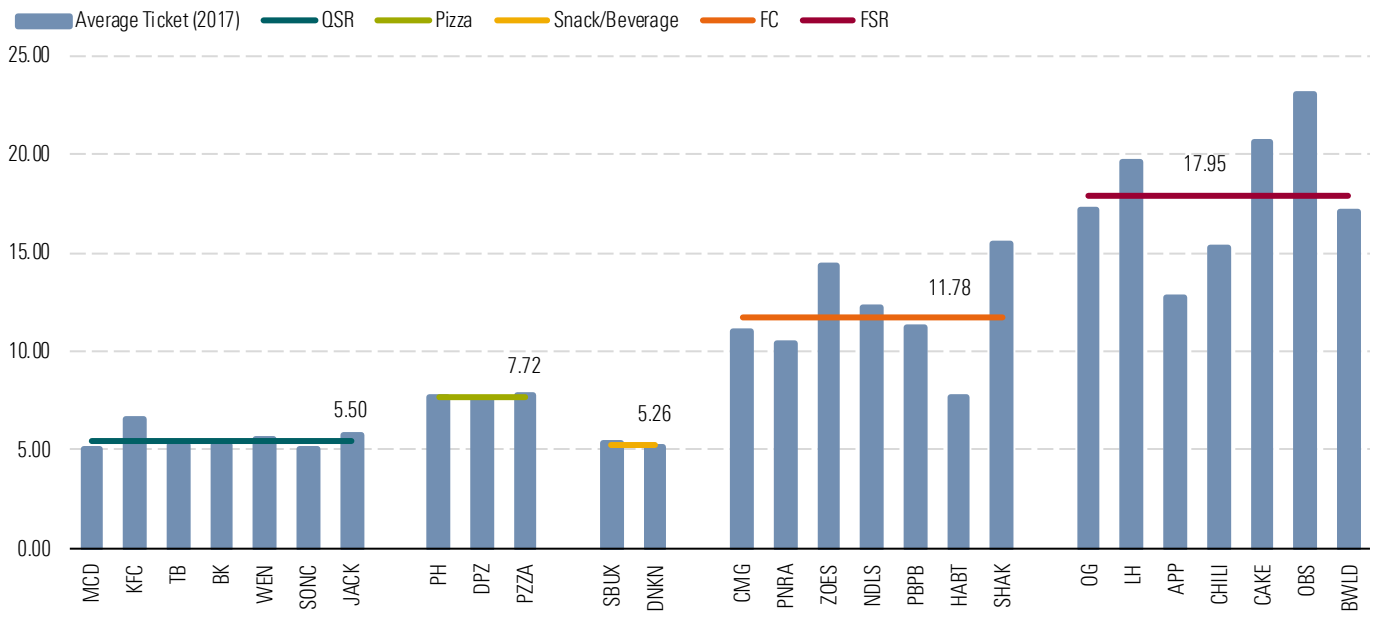
In our 2016 Observer, we discussed correlation between those fast-casual chains that had optimized throughput capacity (roughly defined as those concepts that process 160 transactions during peak hours) and the ability to maintain an average price point north of $10. While we continue to believe peak hour throughput is one of the clearest indicators of the future sustainability of a restaurant's business model—regardless of whether their consumers seek convenience or experience—and its future profitability, we'll concede that a better performance indicator may be needed to evaluate the way restaurants are accommodating today's consumers just because peak hour throughput statistics may not be readily available for most investors. We also recognize that there are also third-party industry surveys that attempt to measure a brand's value proposition but we wanted to remove as much subjectivity as we could from the analysis and develop a more quantifiable measure that could be universally applied across the industry and over the course of a restaurant's lifecycle.

A restaurant brand's ability to pass on enough pricing power to offset food, labor, and other operating cost inflation is one of the most important characteristics that we look at for all restaurant concepts, as we've outlined in our restaurant industry moat framework. If the restaurant operator can maintain restaurant guest counts and operating margins after raising prices, the brand may possess enough pricing power to suggest an economic moat. However, anyone who has placed an order through a mobile device or a third-party delivery service knows that the path to transaction growth is rapidly changing and that the calculus behind this moat source calculation requires a fresh look.

Average Ticket Size Can Reveal Several Things About a Restaurant's Competitive Position and Operating Strategies

As we took a closer look at ways to quantify a restaurant's value proposition in today's environment, we revisited something Mario Del Pero from Mendocino Farms told us while we were preparing our previous report: "We use the same ingredients as a $14 sandwich place, price it at $10, and make up the difference in throughput." This was not an uncommon strategy among the other operators we spoke with for this piece, but it's admittedly a difficult tradeoff to capture in a quantifiable metric. The two variables at play—average transaction size and guest traffic—are key components in comparable-restaurant sales and generally available to investors, but we wanted to determine which chains were best at maintaining pricing power while stimulating transaction growth. By doing so, we can also see which firms may have become overly dependent on aggressive discounting or gotten ahead of themselves with respect to pricing. We believe the average price point is telling for several reasons, as it can indicate price power of the brand but also identifies cases where a concept has taken on a heavier expense burden than it can handle. We've included average ticket estimates over the past five years for our restaurant coverage universe and the other members of our restaurant sample group in Exhibit 25.

Exhibit 25 Restaurant Average Tickets Can Indicate Pricing Power but Also Attempts to Offset Cost Burdens



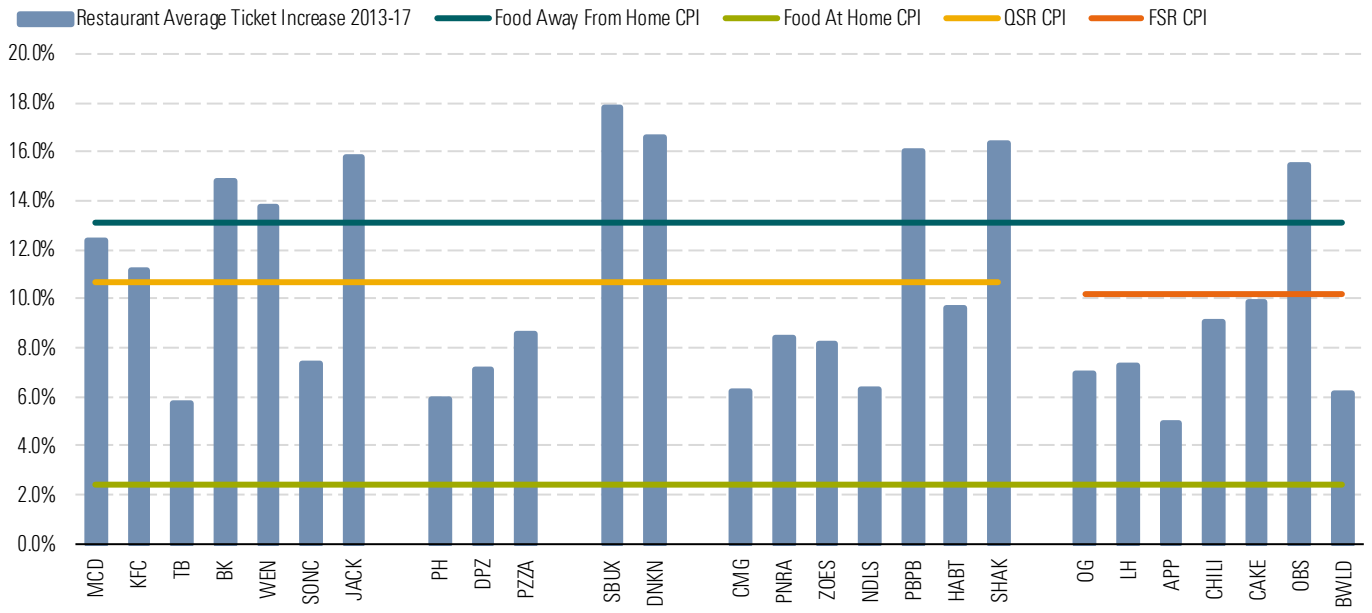
Source: Company filings, franchise disclosure documents, Nation's Restaurant News. Morningstar estimates

In attempt to extract meaningful takeaways from these variables, we first started by looking at a restaurant concept's average ticket relative to average pricing in its industry category over the past several years. Using company filings, franchise disclosure documents (FDD), and data from Nation's Restaurant News, eMarketer, and GE Capital Franchise Finance, we've calculated average tickets across each category in our sample group, arriving at $5.50 for the QSR category, $7.72 for QSR Pizza, $5.26 for

snack/beverage, $11.78 for fast-casual, and $17.95 for full-service restaurants (which essentially equates to casual-dining concepts among our sample group).

However, we believe that average transaction size only tells part of the story, and we wanted to also incorporate pricing volatility relative to food away from home consumer price index data. In Exhibit 26, we've compared each the average ticket increase from 2013-17 for each company in our sample group with the food away from home consumer price index (i.e., what consumers are paying at restaurants and other foodservice outlets), the food at home consumer price index (what consumers are paying at grocery stores) as well as consumer price index data for their respective categories (quick-service restaurant or full-service restaurant) using data from third-party restaurant data firm Restaurant Research.

Exhibit 26 Restaurant CPI Versus Food Away From Home, Food at Home, QSR CPI, and FSR CPI (% Change, 2013-17)



Source: Company filings, Bureau of Labor Statistics, Restaurant Research, Nation's Restaurant News. eMarketer, Morningstar estimates

We find a few key takeaways for investors from this analysis:

- **The ability to price above inflation may indicate the presence of a brand intangible asset…** We believe that looking at average check size offers a more complete picture about a the competitive strength of particular restaurant concept, as we've found those chains that have lasting power tend to have relatively stable pricing increases (indicating brand strength) or can maintain pricing below the food away from home CPI trends (suggesting a chain has reached a point of sufficient scale or operational best practices to remain price competitive despite industry promotional activity). However, we believe investors should be cautious of situations where a concept is already pricing ahead of its

category average and also exhibits significant pricing inflation. In our view, this could indicate situations where a company is looking to offset rising costs/operating deleverage with excessive price increases.

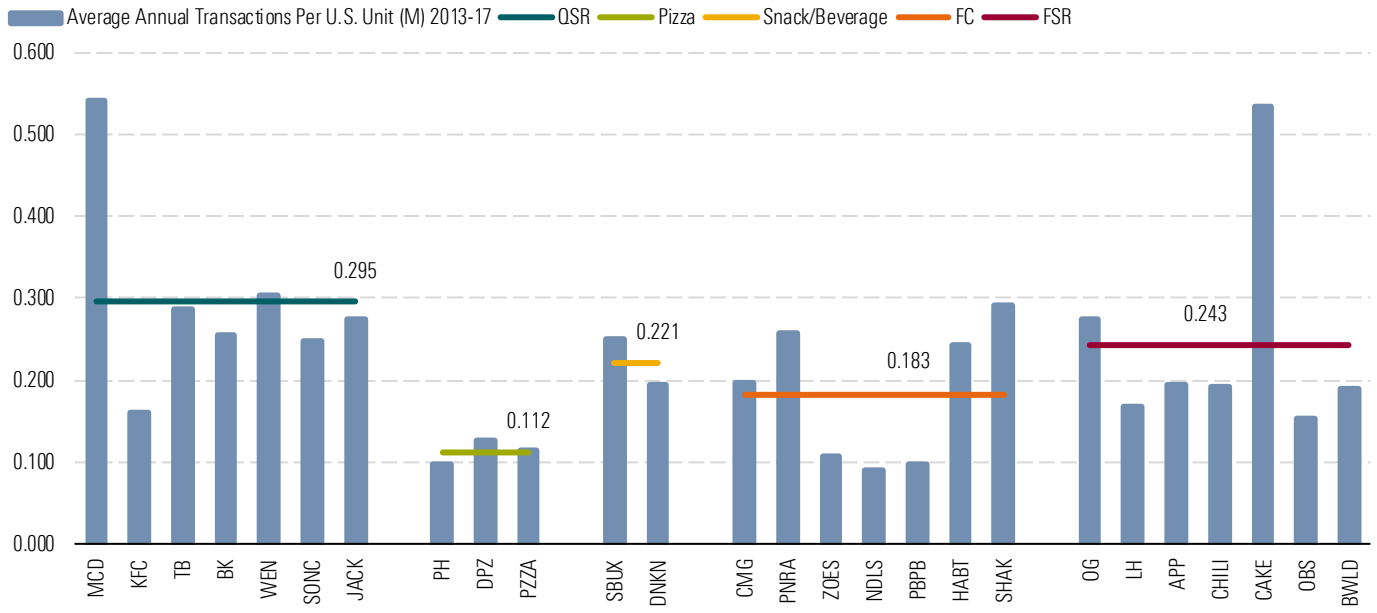
- **…but investors need to be aware of other factors at play.** That said, average ticket sizes can also be the result of other factors, including menu composition changes, promotional/bundling activity (such as family or large group meals), and off-premises solutions such as catering or delivery (which tend to have higher guest checks, as we'll discuss later in this section of the report). For instance, much of Starbucks' average transaction size increase the past five years can be attributed to the increase in food in its revenue mix (and now accounts for more than 20% of total sales). In most cases, we see these factors as part of a restaurant's game plan to adjust to evolving consumer expectations, and we've chosen not to adjust our data. Still, we believe that restaurant operators and investors must also examine the various sources behind average transaction growth to fully understand a restaurants ability to navigate in today's evolving landscape.
- **Pricing opportunities may be hard to come by as online grocery becomes more accepted.** Food away from home has remained well ahead of food at home for a number of reasons. On one hand, labor, food, and operating expenses continue to climb, necessitating price increases. On the other hand, we believe Walmart and other grocers have been keeping prices in check ahead of expected competition from Amazon and deep discounters like Aldi/Lidl. We believe this puts restaurant operators in a position where they have better identify and refine the convenience or experience value proposition they offer to consumers, as we believe this is one of the keys to long-term pricing power in today's restaurant industry.

Transactions Per Square Foot Gives Us a More Complete Picture About a Restaurant's Ability to Navigate a Rapidly Changing Consumer Environment

We believe that a restaurant company's average ticket relative to category inflation tells us something about how consumers see its value proposition, but our analysis on consumers' evolving perception on value wouldn't be complete without trying to quantify a restaurant's ability to satisfy consumer demand for convenience and experience in some form. As such, we also want to take a closer look at transaction data. Since we know how average transaction sizes have trended the past five years, we've divided system sales for each restaurant chain by the average transaction size to come up with an estimate of total transactions over the past several years, which should give us multiple ways to measure how they respond in a rapidly changing consumer environment.

To start our analysis, we looked at average annual transactions per U.S. restaurant, which we've included in Exhibit 27.

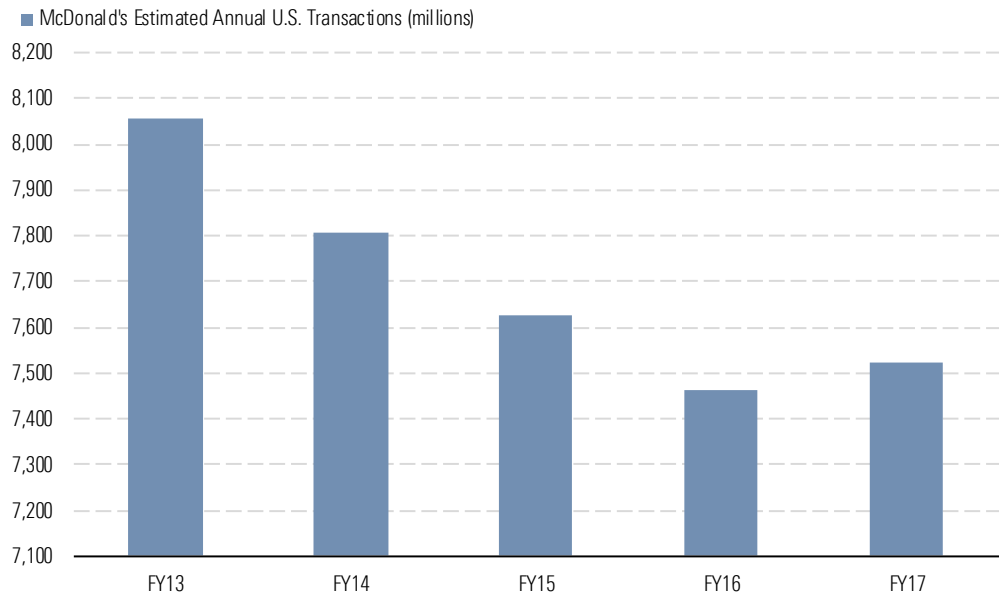
Exhibit 27 Average Annual Transactions Per U.S. Unit (2013-17)



Source: Company filings, Nation's Restaurant News. eMarketer, Morningstar estimates

We believe McDonald's offers us a case study to validate our data. At its March 2017 investor event, McDonald's U.S. President Chris Kempczinski discussed that McDonald's U.S.A. lost over 500 million transactions between 2012 and 2017, with the majority of these going to "close-in competitors." This is consistent with our analysis in Exhibit 28, which shows that McDonald's contracted from approximately 8.0 billion transactions in the U.S. during 2013 to 7.5 billion transactions in 2016 (the last full year ahead of the investor day event).

Exhibit 28 McDonald's Estimated U.S. Transaction Counts Offers a Way to Validate Our Transaction Estimates



Source: Company filings, McDonald's Investor Day Presentation (March 1, 2017), Morningstar estimates

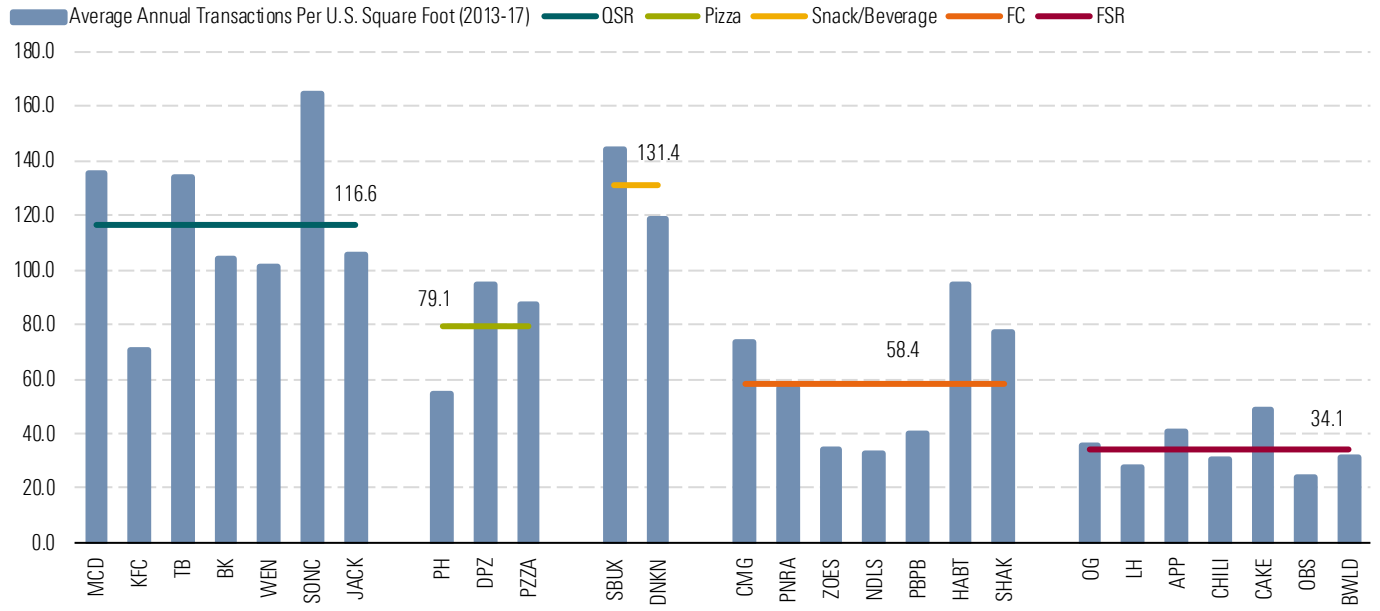
When initially putting together this report, we thought that transactions per restaurant would give us an effective way to capture a restaurant's ability to adapt to consumers' changing views about convenience and experience, but with physical restaurants for operators like McDonald's and The Cheesecake Factory being larger than their most direct peers and recent consumer changes prompting so many changes to restaurant buildings themselves, we don't find annual transactions per restaurant location terribly useful on standalone basis and need to develop other metrics for comparability purposes. As such, we believe that annual transactions per square foot provides us more meaningful data. While this metric won't completely tell us everything about a restaurant's ability to adapt to today's changing consumer environment, we find it appropriate for several reasons:

- **Demand creation.** First, and most obvious, transactions per square foot gives us some indication of consumer demand. Those restaurant chains that generate greater transactions per square foot relative to their direct peers are likely doing something right from a demand creation standpoint, whether it be menu composition, value, or restaurant experience.
- **Daypart expansion.** In a perfect world, we'd be able to track transactions per square foot per day or hour for more direct comparisons, but with most restaurant operators (save for fine dining) looking to maximize volumes through daypart expansion efforts, we believe transactions per square foot effectively captures these changes.
- **Operational efficiency.** Transactions per square foot can offer us some insight as to a restaurant's ability to handle guest traffic. As we've posited in previous reports, peak hour throughput is one of the best predictors of future profitability, especially among those consumers that prioritize convenience.

- **Technology solutions.** We believe transactions per square foot can indicate operational efficiency including a willingness to embrace digital technology.
- **Off-premises.** Lastly, sales per square foot will account for changes to restaurant formats to accommodate off-premises strategies, such as digital order pick-up shelves, delivery orders, and catering.

In Exhibit 29, we've presented transaction per square foot data over the past five years for our sample group.

Exhibit 29 Comparing Transactions Per U.S. Square Foot Will Be a Key Benchmark as the Industry Continues to Evolve

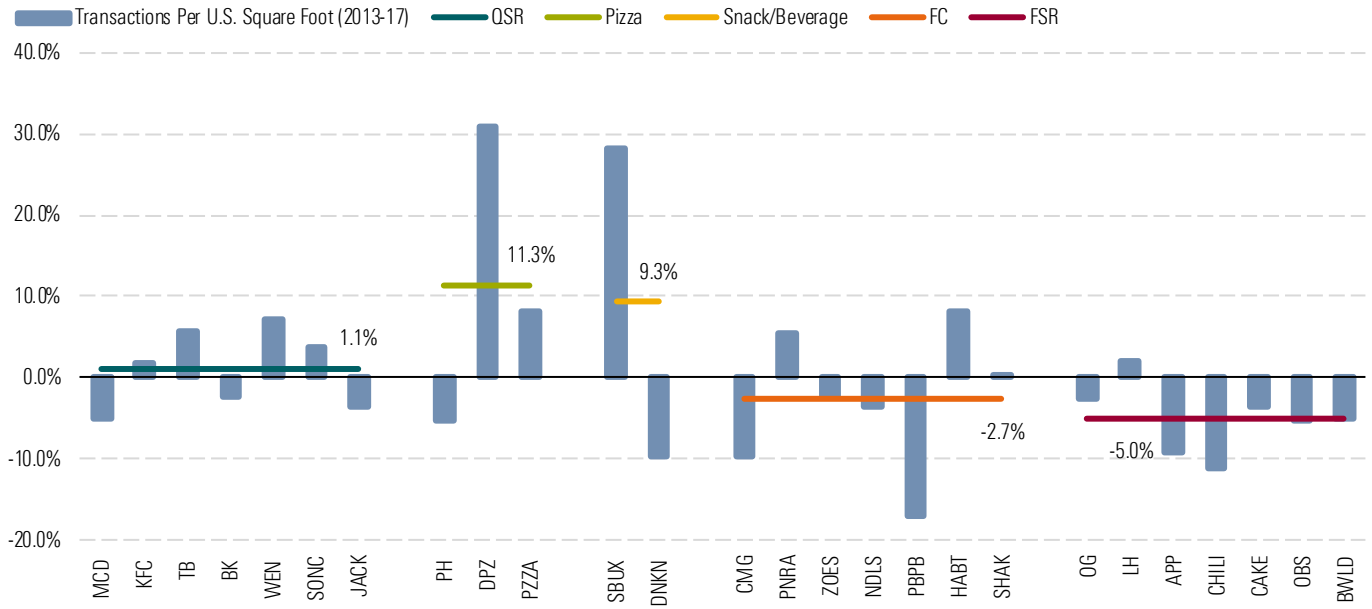


Source: Company filings, Nation's Restaurant News. eMarketer, Morningstar estimates

On the surface, these results look intuitive, with smaller-format, high-frequency concepts like snack/beverage generally outperforming with an average of 131.4 transactions per square foot basis, followed by quick-service restaurants at 116.6 transactions per square foot (highlighted by small format QSR operator Sonic, which posted more than 160 transactions per square foot the past five years). Following the snack/beverage and QSR categories were pizza chains (79.1 transactions per square foot), fast-casual chains (58.4), and full-service dining (34.1), each of which likely suffered due to a greater concentration of transactions at certain dayparts (dinner for pizza and casual dining, lunch for fast causal operators).

However, transactions per square feet only tell part of the story, so we also compared how this metric has trended over the last five years. In Exhibit 30, we've presented transaction growth per U.S. square foot for our sample restaurant group.

Exhibit 30 Average Annual Transactions Per U.S. Square Foot Growth 2013-17



Source: Company filings, Nation's Restaurant News. eMarketer, Morningstar estimates

In a period where restaurant traffic has been elusive—which we explained in the previous section—it's not surprising that most chains saw declining transactions per square foot the past five years, with Starbucks and Domino's standing out as notable exceptions. While this analysis can be helpful in identifying those chains that have taken steps to adapt to today's consumer environment, we also think that simply relying on these figures would be a mistake. In fact, given Starbucks' recent traffic issues and increased competition for the delivery-centric pizza chains, we believe that historical transactions per square foot data must be evaluated in conjunction with other metrics. Still, because it accounts for so many of the changes taking place across the restaurant industry, we see transaction per square feet data as one of the most universally applicable data points to determine a restaurant's ability to adapt to evolving consumer trends and will use this metric as a variable in other correlation analyses throughout the benchmarking section of this report.

Question: How Does the Restaurant Deal With Consumer Fatigue?

Key Metric: Transaction Acquisition Cost

Consumer taste preferences continue to evolve at a rapid clip, leading to shorter product and promotional cycles—and by extension, greater consumer fatigue—than we've seen in the restaurant industry the past several decades. It's difficult to attribute these changes to a single factor; instead, we find a number of variables at play, including the influence of mobile devices and social media, access to a wider variety of food options through digital commerce, greater spending power among minorities, heightened demand for better-for-you offerings, increased television programming devoted to food, and the globalization of restaurant concepts and sharing menu innovations across borders. On top of these trends, a handful of executives we spoke to also spoke of a potential derivative effect of millennials' focus on experiences at their restaurants. In other words, many millennials often look to restaurant concepts to recreate aspects of their travel & other experiences, which is supported by Technomic data indicating that millennials (39%) more than any other generation cohort group would like restaurants to offer more ethnic foods and beverages.

How do restaurant operators deal with consumer fatigue? Admittedly, it's not an easy topic. We've examined how restaurants are addressing the idea of consumer fatigue through a few different lenses. We first looked at how restaurants balance consumers' increased demand for customization, digital ordering, and delivery through menu rationalization trends and limited-time offer (LTO) activity that we've seen across the industry the past several years. Using the transaction data that we developed in our previous discussion topic, we've also attempted to develop a transaction acquisition cost benchmark for each category by looking at the level of advertising and marketing expenses that are required for each transaction.

Restaurants Operators Are Finding a Better Balance Between Rationalization and LTOs

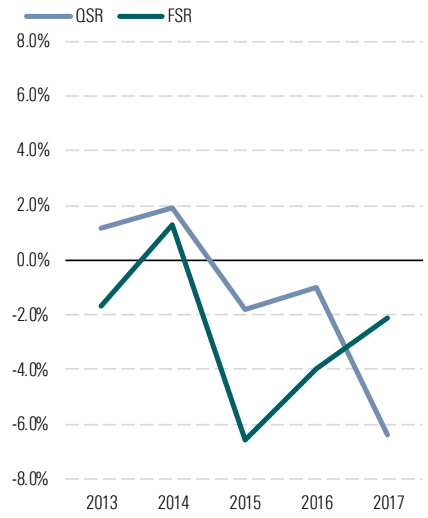
Constantly evolving consumer taste preferences have left restaurants in a difficult place. Operations have become more complex with the emergence of digital ordering and delivery platforms at the same time that consumers want greater customization and increased speed with their meals—reflective of the struggles between convenience and experience we've highlighted throughout this report. Many of the restaurant operators we spoke with were fully aware of these trends and have concluded that menu rationalization was one of the best methods to simplify its operations to better address consumer demand for improved food quality, convenience, and speed. However, we believe that a stripped-down core menu that is devoid of innovation can lead to consumer fatigue, especially for experience-focused consumers. This was a topic that came up often during our conversations across the industry, with many operators saying they prefer to anchor their menu around a group of core products but also bringing in variety in the form of seasonal offerings (often seasonal menu revamps based on local farming production levels) or other LTOs to create excitement among consumers. We also spoke with several operators that discussed lengthening the promotion window for LTOs. These discussions are corroborated by Technomic data that indicates LTO incidence increased approximately16% across all restaurant categories in 2017, driven by consumer interest in "trying new flavors, formats, and exotic ingredients."

At the risk of stating the obvious, measuring menu rationalization and LTO effectiveness isn't an easy process. In a perfect world, we'd be able to use product sales and guest traffic financial data, social media impression metrics, or Google Trends data to assess the efficiency of every product on a restaurant's menu or each promotional campaign. However, the lack of information regarding specific menu items across different restaurant chains and regional menu variations make this approach a nearly impossible task.

While it's difficult to assess the impact of menu rationalization and LTOs at the concept or store level, we believe there is enough data available at the industry level to piece together some takeaways about how restaurants balance increasingly complex operations and the risk of consumer fatigue. To start this analysis, let's look at data from third-party research provider Restaurant Research regarding average menu size and the cadence of new product promotions the past five years in Exhibit 31. We saw menu sizes and new product promotions fall for both QSR and FSR operators between 2014 and 2015, which isn't surprising given most restaurant operators focus on streamlining operations starting around this timeframe. From that point, however, we've seen a divergence between convenience-focused QSR concepts and experience-focused FSR concepts, with QSR operators continuing to trim menu sizes to improve speed of service and order accuracy but FSR operators adding new items to the menu (many of which we believe are add-on items to augment more accessible starting price points). We've also seen a rebound in new product promotions for both categories the past few years, which we believe makes sense given the sluggish guest traffic trends we discussed in the previous section of the report.

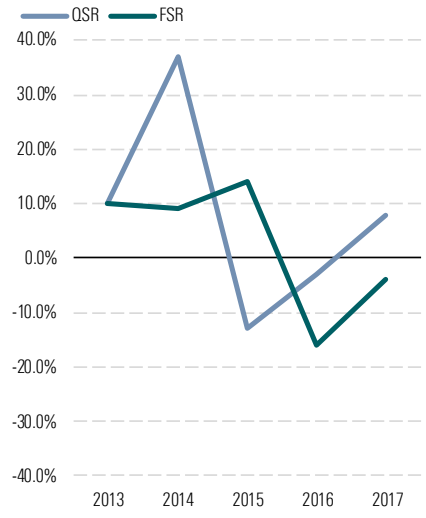
Exhibit 31 Menu Rationalization Has Been Key to Improving Restaurant Convenience and Experience, but Innovation Still Drives Sales

Historical Menu Size Growth (Y/Y)



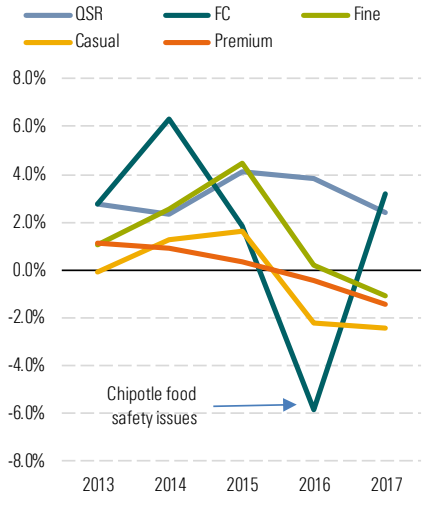
Source: Restaurant Research (April 2018)

New Product Promotions (Y/Y)



Source: Restaurant Research (April 2018)

Category Same-Store Sales Growth Trends



Source: BlackBox Intelligence

Most operators we spoke to discussed said they plan to keep their current menus simple in 2018, corroborating the previous data. We believe menu simplicity can play an important role in streamlining operations and improving order speed and accuracy, but ultimately innovation is still vital in driving

guest traffic. However, just because a new product launch worked once, there is no guarantee that it will work again (as Starbucks has seen more recently with diminishing frappuccino sales trends). Restaurant operators need to continually innovate with new "story" or photogenetic menu offerings but while still adhering to the convenience and experience priorities consumers are seeking.

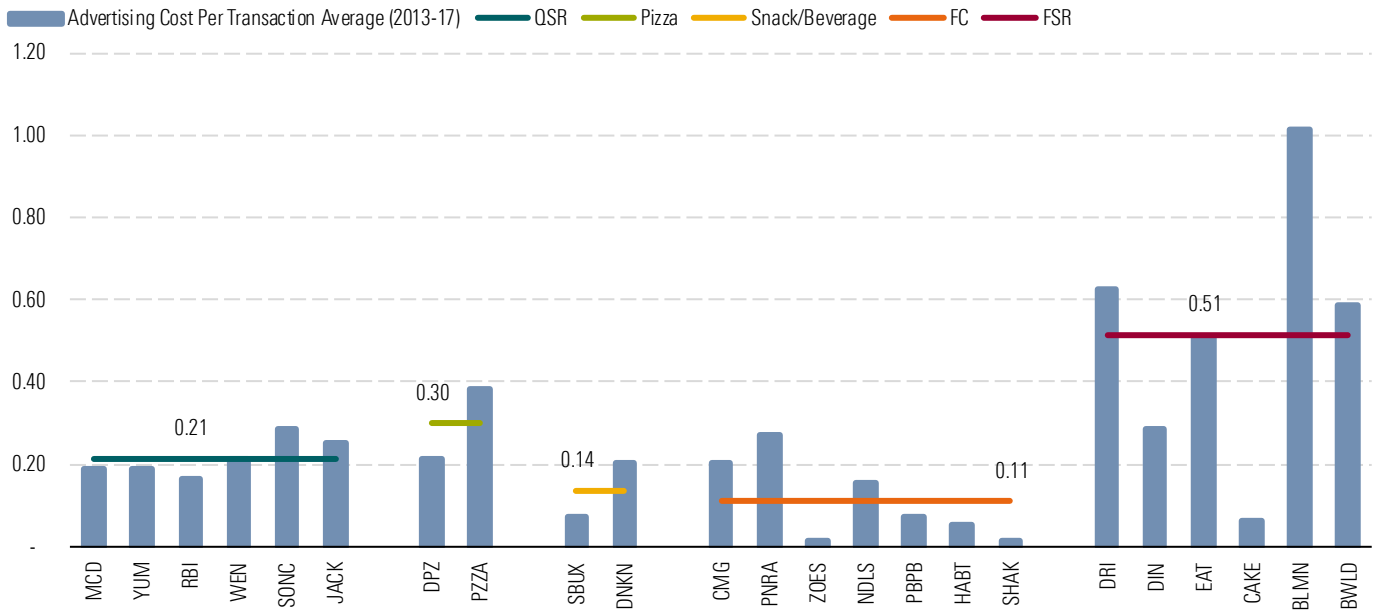
In fact, when evaluating menu simplification strategies, we believe restaurants must not only identify their menu specialty—like we've seen recently with McDonald's and hamburgers and Dunkin' Brands and coffee—but also determine their value proposition specialty between convenience and experience. From here, restaurant operators can determine whether to anchor around a streamlined menu that enables greater speed of service or chase experience-focused consumers with new product innovations. Regardless of value proposition specialization, we find that restaurant operations also need to be operationally flexible to launch new products that adhere to local/regional/emerging taste preferences on a regular basis, thereby reducing the risk of consumer fatigue. We believe this includes simplification across other restaurant functions, including point-of-sale systems, marketing, and supply chain, each of which can reduce the friction that restaurants have historically faced with new product launches in the past.

Restaurant Operators' Transaction Acquisition Cost Equation Is Evolving

We believe there are other ways that investors can measure how restaurants operators are dealing with evolving consumer preferences and potential fatigue. Over the next few pages, we've attempted to develop a transaction acquisition cost benchmark that we can serve as a proxy for measuring how restaurant concepts are responding to evolving taste preferences and how hard they have to work to generate guest traffic.

For purposes of this analysis, we've defined transaction acquisition cost as a company's global advertising costs per transaction. Admittedly, there were some challenges in developing this metric because of the differences in a restaurant's ownership structure and subsequent accounting differences; company-owned restaurant chains will expense advertising and related production costs as ads are run, while franchisees typically contribute to national and/or local advertising cooperatives (which had not been included on a restaurant's income statements until the adoption of accounting standards codification 606—ASC 606—in 2018, which now treats contributions to a restaurant's advertising cooperative as revenue and advertising costs paid from the cooperative as advertising expenses). However, we've been able to estimate system advertising costs across our sample group, which we then applied to the transaction data that we developed in the previous discussion topic (Exhibit 32). Because advertising expenses are typically reported at the corporate level and not the brand level, we've made some adjustments to our sample group and have presented advertising costs per transaction using consolidated company information.

Exhibit 32 Some Restaurants Are More Effective Than Others in Driving Transaction Acquisition Costs Lower



Note: Estimates represent global advertising costs (including advertising fund contributions from company-owned and franchise locations) per global transactions. In cases where advertising expense data wasn't available for individual concepts in our sample group, we used data for the consolidated restaurant company.
Source: Company filings, Nation's Restaurant News. eMarketer, Morningstar estimates

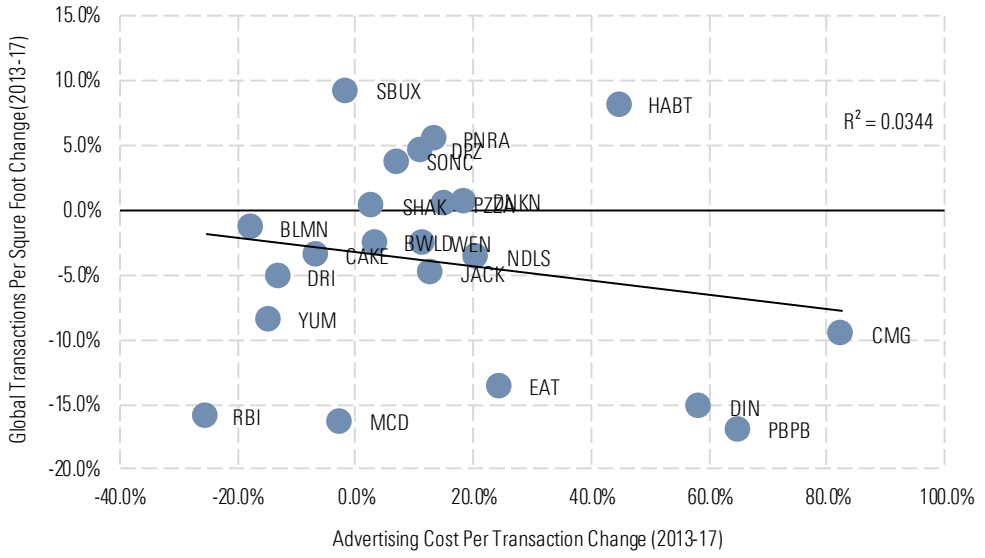
Our transaction acquisition cost analysis yielded some interesting results, with four primary takeaways for operators and investors:

- **Word of mouth is critical for early-stage restaurant companies…**The average advertising cost per transaction was the lowest for our fast-casual group sample group, coming in at $0.11 per transaction compared with $0.14 for snack/beverage chains, $0.22 for quick-service restaurants, $0.30 for QSR pizza chains, an $0.51 for casual-dining chains (which also exhibited the greatest variability in transaction acquisition costs as a group). We don't find this terribly surprising given that these tend to be earlier-stage chains with already thin margins and a limited advertising budget. While a restaurant startup can certainly engage in marketing practices—we'll examine the impact of social media marketing when we discuss consumer engagement later in this section of the report—those chains in the early years of their lifecycle that can drive transaction growth with paid advertising per transaction close to zero have a higher probability of long-term success.
- **…but consumer fatigue, category competition, or other factors will likely require paid marketing at some point.** However, word of mouth and other free sources of advertising are likely to get restaurant chains only so far. By the time a company reaches its second or third market and faces additional sources of competition, the need for more traditional marketing becomes more of a necessity to build awareness and standout from competition. Unique circumstances can also result in a change to a restaurant's approach to marketing. We saw this with Chipotle, which was able to keep advertising per transaction rates well below the industry before recent food safety issues forced the company to pursue more traditional paid advertising routes.

- **Scale matters.** Not surprisingly, our analysis suggests that the largest restaurant chains in our sample group generally have a scale advantage over their smaller counterparts when it comes to generating transaction growth through marketing. Notably, the companies we assign a wide moat to because of cost advantages—including McDonald's, Yum Brands, and Starbucks—were typically able to drive transaction growth more efficiently than their category peers.
- **Return on marketing spend also matters.** That said, scale isn't everything, and our analysis suggests that there is still a fair amount of marketing efficiency variability among restaurant chains. In fact, our analysis reveals a few standouts with respect to marketing efficiency the past five years, notably Restaurant Brands International (not surprising given majority shareholder 3G Capital's reputation for cost efficiency) but also Cheesecake Factory and Dine Brands (Applebee's). Return on marketing spend is something that came up frequently during our discussions with several private restaurant operators, especially those that were either contemplating moves to new markets or in the early stages of exploring national advertising campaigns (something we typically don't see until a chain reaches approximately 100 units).

To examine this last point in greater detail, we've plotted our sample group's advertising cost per transaction growth the past five years versus its transaction per square feet growth over the same period (Exhibit 33). While there wasn't a strong correlation between these two data points, we've seen some success in driving transactions per square foot among fast-casual and pizza chains that have increased advertising costs per transactions the past five years, while larger chains have generally rotated away from paid media to more cost-effective advertising channels.

Exhibit 33 Change in Advertising Costs Per Transaction Versus Change in Transactions Per Square Feet (2013-17)



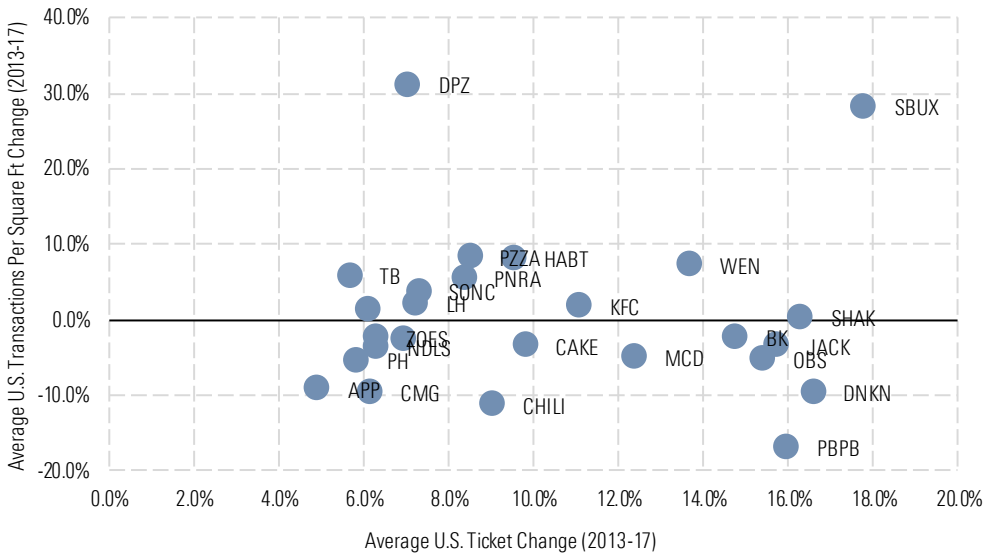
Source: Company filings, Nation's Restaurant News. Morningstar estimates

While our analysis suggests only a loose correlation between advertising costs per transaction and transactions per square foot growth past five years, we acknowledge that this data may not be conclusive because of recent industry guest count woes and that the ability to generate transactions growth may also be more a function of a restaurant's position in its lifecycle and its ability to satisfy its customers' key priorities. Ultimately, we conclude that effective marketing campaigns can play a part in breaking down consumer fatigue and driving guest counts, but only if backed by the appropriate strategies, including streamlined restaurant operations and a menu focused simplicity for convenience-focused restaurants and a menu accentuating authenticity, innovation, and brand-consistent restaurant designs at experience-focused restaurants.

The Evolution of the Industry Is Also Prompting Changes in Promotional Strategy

In our previous transaction discussion, we simplified the analysis by essentially assuming that advertising was the only factor in driving guest traffic, when obviously there are likely several other variables at play, most notably promotional activity and discounting. Since our previous analysis suggested only a modest correlation between advertising costs per transaction growth and transactions per square foot the past five years, we wanted to more directly evaluate how pricing played a role in driving transaction growth, because as we pointed out in the industry overview, we find that those concepts that can raise prices while simultaneously driving guest counts can be a great starting point when looking for economic moats/brand intangible assets. In Exhibit 34, we've laid out transactions per square foot versus the change in average ticket for our sample group for the past five years. To improve comparability, we've confined this exhibit to U.S. data for our sample group companies.

Exhibit 34 Change in Average Transactions Per Square Feet Growth Versus Change in Average Ticket (2013-17)



Source: Company filings, Nation's Restaurant News. eMarketer, Morningstar estimates

Again, we only find a moderate correlation between average transactions per square foot and the change in average ticket the past five years, though we acknowledge our data is likely skewed by declining industrywide transaction counts, strategic initiatives such as daypart expansion and food/beverage mix optimization, and other promotional tactics being deployed across the industry. While we believe this exercise can still help to identify which brands have been most successful in raising prices while also driving positive guest counts, we recognize the importance of value in today's consumer environment. Restaurant concepts still must be smart with respect to promotional activity, balancing everyday value platforms with specific deals and reducing promotional overexposures.

In fact, two quotes from public companies stood out to us to illustrate these points the past several quarters. The first was from McDonald's CFO Kevin Ozan on the company's second-quarter fiscal 2018 update from July 2018:

> *"With a sluggish [informal eating out] market and the introduction of our $1-$2-$3 Dollar Menu at the beginning of the year, we've seen our competitors increase their attention on deals. Therefore, we know that we need to be more aggressive to compete effectively. While our $1-$2-$3 Dollar Menu is driving incremental sales and guest counts with our budget, basic, value customers, we need to do more to attract other customer groups. In addition to the delicious food that customers can get at a low price every day, we know that certain customers are looking for a great deal in the marketplace. We need to better meet the expectations of these deal customers and give them reasons to visit us more frequently. While we will maintain our $1-$2 $3 Dollar Menu as our everyday value platform, we'll also pulse-in deal offers from time to time."*

The second was from Darden CEO Gene Lee, who discussed importance of not overdoing specific promotional campaigns on the company's third-quarter fiscal 2018 update in March 2018:

> *"Buy One Take One is a strong promotional platform for us, and to assure its long-term effectiveness, we do not want to risk overexposure…Buy One Take One is a very, very profitable platform. And it's not heavily discounted because it is a prepared meal that's going home with a consumer, and it goes home without soup, salad and breadsticks…we believe that we're overexposing it. And just like Never Ending Pasta, we only run that once a year. We only need to run Buy One Take One once a year."*

We understand and appreciate that promotional activity can be a delicate subject for restaurant operators, especially at a time of soft transaction growth and rising labor and other operating costs. Still, we believe a well-structured promotional platform can play a role in driving incremental transactions per square foot in the future.

Over the next several pages, some of the next generation performance benchmarks we'll be developing will focus on measuring how restaurants are adapting to various restaurant experience topics, including

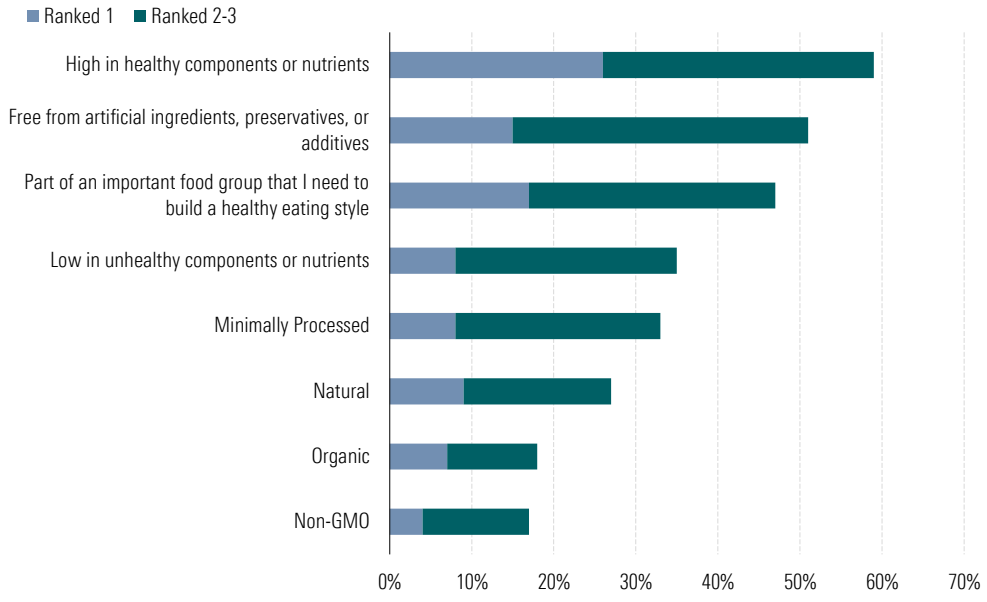
evolving consumer eating trends, reaching consumers outside of the restaurant, preserving the in-restaurant experience while also exploring off-premises opportunities, and adopting new technologies.

Question: How Has the Restaurant Adapted to Evolving Views on Authentic and Healthy Eating?

Key Metrics: Google Trends Keyword Versus Transactions per Square Foot, Average Calorie per Item Versus Transaction per Square Feet

Healthfulness has become an increasingly important decision consideration when consumers are making food and beverage purchases, but the definition of what constitutes healthy is different for each consumer, can change from year to year, and may vary from region to region. According to the 2017 International Food Information Council Food & Health survey, some consumers associate healthy foods with specific dietary styles (low-carb, gluten free, vegan, paleo), some consider foods that are fee from artificial ingredients, and still others prefer natural and organic products (Exhibit 35). With consumers generally more conscious of what they put into their bodies, it means that restaurant operators also have to be more mindful of what they serve to consumers. We've already seen this in the increased number of restaurants establishing relationships with local farms and embracing new approaches to marketing that help to educate consumers about the food they are eating, which we've touched on in previous reports. In addition to shifting consumer preferences, several executives discussed the obvious difficulties in making healthy food appeal to a mass audience.

Exhibit 35 The Definition of Healthy Eating Means Different Things to Different Consumers



Note: Represents the percentage of restauranteur responses to the question, "How do you define a healthy food?" (n=1,002)
Source: International Food Information Council Foundation 2017 Food & Health Survey

Because of the wide range and subjective nature of consumer definitions for healthy eating, it's inherently difficult to develop next generation performance statistics that captures a restaurant's ability to respond to evolving consumer preferences. However, we still believe there are some data points that can be compiled to help operators and investors better understand which brands are viewed as more authentic and healthier, which could in turn strengthen its brand intangible asset.

In our 2016 restaurant piece, we used Google Trends to evaluate the rise in diet-specific Internet searches as a way to analyze consumers' evolving definition of healthy eating. As a starting point for this analysis, we again utilized Google Trends web search data to compare our sample group with several keywords that came up often in the International Food Information Council and other healthy eating restaurant surveys. More specifically, we examined how often each of the brands in our sample group came up in searches for the following keywords: healthy, authentic, real, good for you, clean, organic, natural, and simple. For purposes of this analysis, we also limited the search data to the past five years within the United States and only included searches within Google's food & drink category (Exhibit 36).

Exhibit 36 Google Trends Correlation Analysis Suggests That Authenticity Has the Greatest Correlation With Transactions Per Square Foot the Past Five Years

Search Term Correlation	Healthy	Authentic	Real	Good for You	Clean	Organic	Natural	Simple	Five-Year Transaction Per Square Foot Growth
QSR									
McDonald's	0.242	0.374	0.300	0.505	0.314	0.563	0.413	-0.142	-0.050
Burger King	0.219	0.669	0.282	0.507	0.315	0.546	0.523	-0.214	0.017
KFC	0.227	0.673	0.299	0.469	0.305	0.590	0.502	-0.249	0.058
Taco Bell	0.258	0.656	0.284	0.553	0.341	0.646	0.544	-0.234	-0.024
Wendy's	0.282	**0.787**	0.296	0.559	0.316	0.684	0.514	-0.272	**0.072**
Sonic Drive-In	0.134	0.392	0.174	0.360	0.192	0.409	0.497	-0.261	0.037
Jack in the Box	0.104	0.724	0.373	0.352	0.342	0.408	0.440	0.024	-0.036
Category Average	**0.210**	**0.611**	**0.287**	**0.472**	**0.304**	**0.550**	**0.490**	**-0.193**	**0.011**
Pizza									
Pizza Hut	0.050	0.129	0.262	0.022	0.259	-0.026	0.160	0.397	-0.054
Domino's Pizza	0.196	**0.393**	0.300	0.426	0.318	0.498	0.377	-0.128	**0.310**
Papa John's Pizza	0.058	-0.020	0.153	-0.138	0.232	-0.070	0.025	0.366	0.082
Category Average	**0.101**	**0.167**	**0.238**	**0.104**	**0.270**	**0.134**	**0.187**	**0.212**	**0.113**
Snack & Beverage									
Starbucks	-0.089	**0.609**	0.249	0.211	0.080	0.290	0.069	0.032	**0.282**
Dunkin' Donuts	-0.078	0.434	0.181	0.192	0.101	0.270	0.321	-0.107	-0.097
Category Average	**-0.084**	**0.521**	**0.215**	**0.201**	**0.091**	**0.280**	**0.195**	**-0.038**	**0.093**
Fast Casual									
Chipotle Mexican Grill	0.032	-0.037	-0.043	-0.007	0.043	0.069	0.063	-0.159	-0.097
Panera Bread	0.261	**0.739**	0.230	0.602	0.233	0.661	0.415	-0.300	**0.054**
Zoe's Kitchen	0.320	0.576	0.256	0.643	0.254	0.682	0.561	-0.425	-0.025
Noodles & Company	0.113	0.332	-0.044	0.215	-0.017	0.370	0.209	-0.383	-0.037
Potbelly Sandwich Works	0.251	0.489	0.119	0.462	0.165	0.555	0.303	-0.409	-0.170
The Habit Burger Grill	0.144	0.684	0.166	0.551	0.192	0.574	0.278	-0.185	0.081
Shake Shack	0.243	0.642	0.226	0.512	0.280	0.572	0.447	-0.243	0.002
Category Average	**0.195**	**0.489**	**0.130**	**0.426**	**0.164**	**0.498**	**0.325**	**-0.301**	**-0.027**
Casual Dining									
Olive Garden	0.352	0.467	0.227	0.401	0.371	0.257	0.234	0.034	-0.026
LongHorn Steakhouse	0.362	0.387	0.219	0.383	0.351	0.314	0.220	0.083	0.021
Applebee's International	0.311	0.646	0.267	0.502	0.395	0.558	0.435	-0.122	-0.093
Chili's	0.337	0.773	0.291	0.547	0.346	0.718	0.450	-0.257	-0.113
Cheescake Factory	0.155	0.459	0.391	0.221	0.378	0.236	0.290	0.258	-0.036
Outback Steakhouse	0.350	0.300	0.245	0.283	0.399	0.183	0.275	0.189	-0.054
Buffalo Wild Wings	0.207	0.530	0.255	0.269	0.311	0.330	0.278	0.034	-0.050
Category Average	**0.311**	**0.505**	**0.273**	**0.390**	**0.373**	**0.377**	**0.317**	**0.031**	**-0.050**

Note: Data represents the correlation between the specific restaurant brand and our chosen keyword sample group over the past five years within food and beverage searches on Google
Source: Google Trends, Morningstar

Although we were intrigued by the idea of using Google search data to measure brand perception because of its potential objectivity, we were skeptical that we'd find meaningful statistical correlation between the individual restaurants and the search keywords because of seasonality (specialty coffee searches have historically spiked ahead of holiday gift card season whereas consumers tend to search for healthy food options early in the new year, resulting in negative correlation for the keyword "healthy") and spurious correlation (for example, the search term "simple" tends to increase during the Thanksgiving season—likely as consumers search for easy recipes—leading to negative correlation for much of our sample group). That suspicion more or less played out as expected, with the different restaurant brands in our sample group and our selected keywords generally having low correlation (with a correlation coefficient between 0.25 and 0.35).

That said, we still found some interesting observations for investors from our Google Trends correlation data set. Most notably, those restaurant chains that had a high correlation with the search term "authentic" generally were among the top performers with respect to our previous transaction per square foot growth analysis. In fact, for every restaurant category evaluated except casual dining, the chain that had the highest correlation coefficient with the search term "authentic"—Wendy's for quick-service restaurants, Domino's in QSR pizza, Starbucks in snack/beverage, and Panera in fast-casual—was also the number-one player with respect to transaction per square foot growth the past five years. This corroborates many of the conversations we had with private restaurant operators in preparing this report and lends credibility to our thoughts about perceived authenticity is ultimately what drives guest traffic and one of the best ways to accommodate consumers looking to eat healthy.

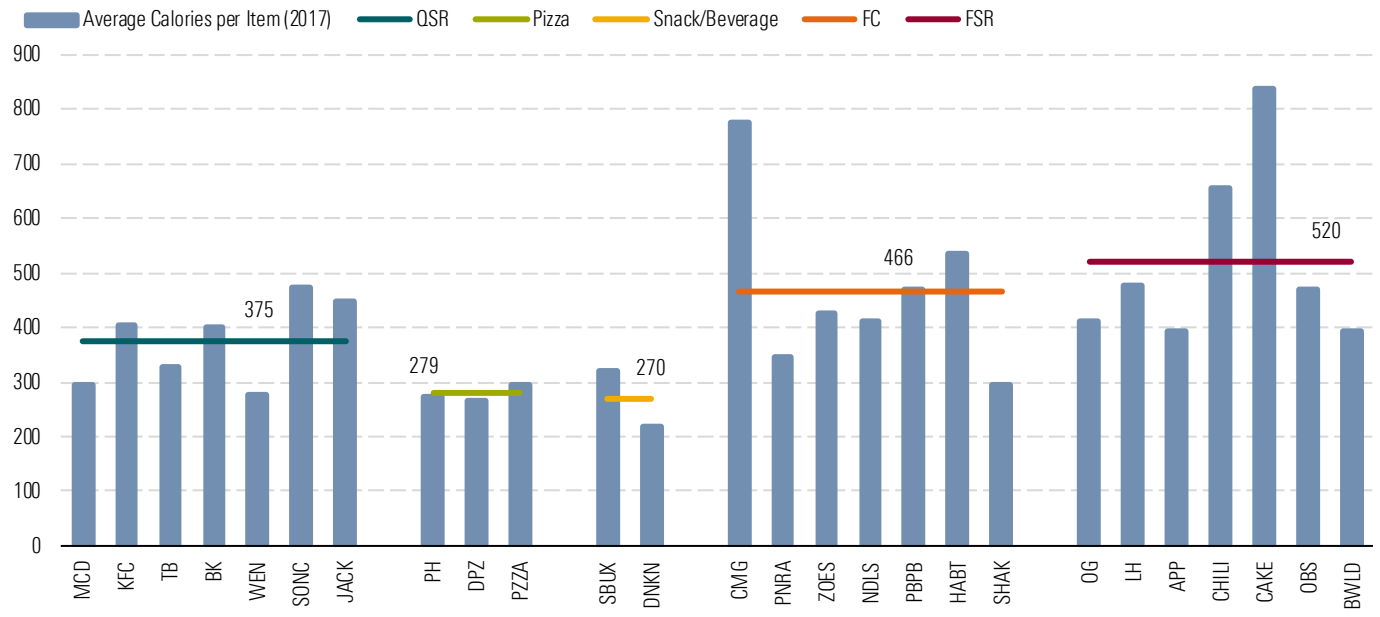
However, when we asked operators about these results, it's evident that operators have many different approaches to authenticity. Some stressed the importance of making everything in house and from scratch discussion. Others mentioned the importance of not chasing trends but maintaining a core menu that allows for authenticity but that also has the flexibility to accommodate multiple dietary preferences. For this reason, we acknowledge that there are potential pitfalls of our Google Trends correlation analysis and wanted to take our analysis on authenticity and healthy eating a few steps further by comparing our transaction per square foot data with quantifiable information about the menu itself.

Is There a Strong Relationship Between Transactions Per Square Foot and Calorie Counts?

Our next step in evaluating our sample group's ability to cater to consumer's evolving views on healthy and authentic eating was to narrow the focus from our broader Google Trends keyword correlation analysis. More specifically, we wanted to see if quantifiable nutritional information such as calorie counts had an impact on transaction growth. In the past, we've seen data from the Hudson Institute and others that suggested lower calorie count led to an increase in guest counts and same-restaurant sales trend, but we wanted to corroborate this data on our own.

As a starting point, we analyzed current calories per item from the nutritional information sections of our sample group websites, Nation's Restaurant News, and third-party research group CalorieLab to come up with average calories per item on each company's current menu (excluding LTOs), which we've presented in Exhibit 37. For purposes of this analysis, we've excluded condiments and other menu item add-in ingredients. However, we've included appetizers and add-on products, normalized the data for certain product modifications (for example, we've averaged the calorie content among milk/creamer options among the various coffee companies in our sample group), and made certain assumptions for customizable assembly-line concepts like Chipotle (based on nutritional values for each potential menu ingredient).

Exhibit 37 Average Calorie Per Item (2017)



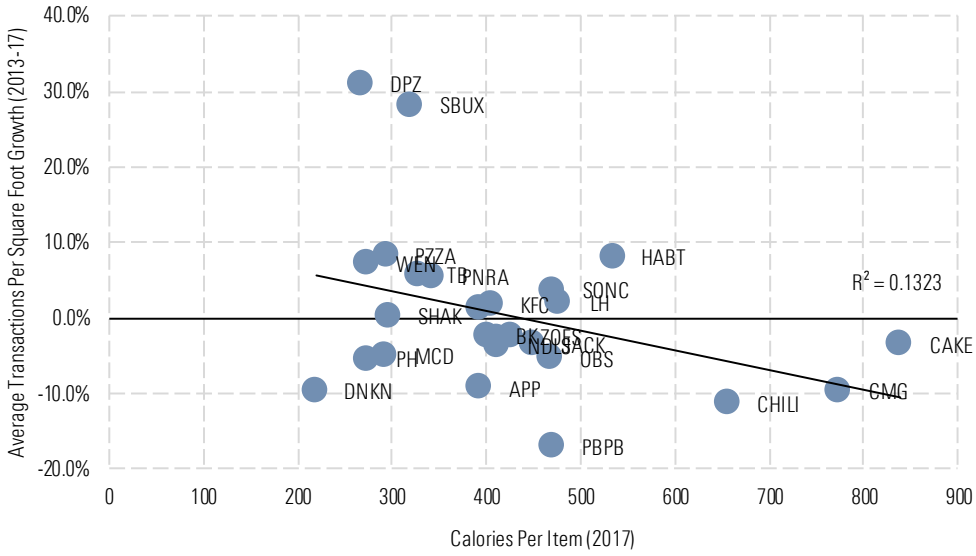
Note: Data set excludes catering orders, condiments and other ingredient items. Menu counts have been adjusted for size options, using medium size as default for per calorie calculations.
Source: Company websites, Nation's Restaurant News. CalorieLab, Morningstar estimates

In a perfect world, we'd want to track calorie per item trends over the past five years, because most public and private restaurant companies we spoke to in preparing this report emphasized the importance of reducing the number of items on their menus (as we mentioned in our consumer fatigue discussion)

as well as simplifying the recipes of the products on their menus (though we note that calorie counts rarely came up during our conversations with executives). However, we found that reliable historical menu information was difficult to obtain, so we've focused our analysis on the most recent calorie per item information available.

After initially seeing the average calorie counts per items across our different sample group subsectors, we were skeptical that we'd find a strong correlation. We feared there would be too much variability in menu cuisine types, entrée and appetizer sizes, and food/beverage sales mix to come up with any meaningful conclusions. This ended up being the case, as we found a nominal correlation between calories per item and transactions per square foot (Exhibit 38).

Exhibit 38 Calorie Per Item (2017) Versus Average Transactions Per Square Foot (2013-17)



Source: Company filings, Nation's Restaurant News. Morningstar estimates

We also screened our transaction per square feet data against other quantifiable per item nutrition statistics such as serving size, protein, carbohydrates, sodium, and fat, and saw similarly low correlation results. This is not to say that consumers don't care about eating healthy—there is ample survey data from the National Restaurant Association and other third-party research providers that suggests consumers are looking for healthier alternatives—but with consumers having such diverse definitions of healthy eating, there is not one clear strategy for every restaurant chain to satisfy this demand. This also doesn't mean that we won't see greater correlation in the future, especially as calorie counts are increasingly added to menu boards as the results of local legislature efforts.

Ultimately, we believe the key takeaway for investors here is that it's not enough for a restaurant chain to strictly prioritize authentic and healthy eating. Yes, there is sufficient evidence to suggest that

consumers are increasingly adopting healthier practices when it comes to restaurant dining. However, we've seen several examples in recent years where restaurant operators accommodate consumer preferences regarding authentic and healthy eating but ultimately forget many of the other qualities we highlight in this report, including understanding whether their consumers prioritize convenience or experience.

We believe this is true for one of the concepts we highlighted in our 2016 Observer piece, Chicago-based Protein Bar & Kitchen. Restaurants that have built their brands based on healthiness have always faced extra challenges, namely the struggle to develop a menu that matches the taste preferences of a mass audience. However, we also believe Protein Bar consumers generally favor convenience over experience, and by adding new menu items to address a wider audience, we believe the company may have added undue complexities to its operating procedures, decreasing speed of service, and alienating those consumers focused on convenience. More recently, under the leadership of CEO Jeff Drake (who joined the company in January 2017), we've seen a more streamlined menu and subtle restaurant changes such as mobile pick to stations to better address these customer's needs. While we believe that some customers appreciate experience—making other recent changes such as a name change to "Protein Bar & Kitchen" and in-restaurant remodeling activity—we ultimately belief that simplified operations (and by extension, improved convenience) and a focus on authenticity have been the keys to driving improved sales trends the past two years (as reported by Crain's Chicago Business). When screening for new concepts attempting to capitalize on healthier eating trends, we believe investors need to pay closer attention to the operational benchmarks we've highlighted throughout this piece to gauge how well the concept is addressing the full range of its customer's needs.

Question: Is the Restaurant's Digital Ordering Platform Seamless and Intuitive?

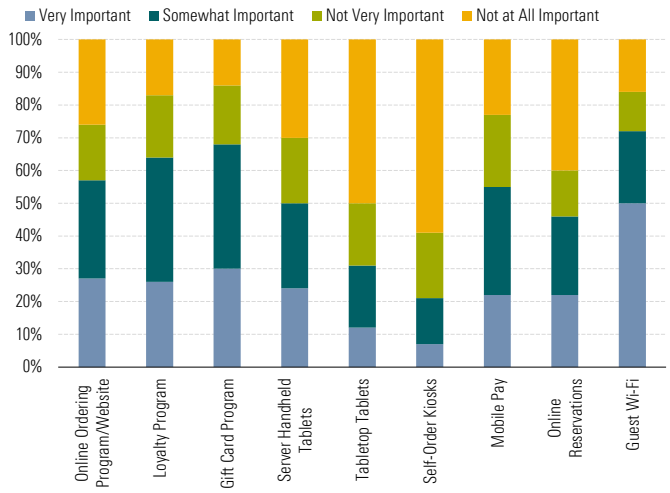
Key Metric: Digital Order-Ahead Adoption, Digital-Order Customer Retention, Average Digital Order Check

While restaurants were once considered to be a category somewhat immune from Amazon's disruptive reach, we believe the past several years have demonstrated that digital commerce and other technologies are also reshaping how consumers interact with restaurant concepts. As we've pointed out throughout this report, restaurant operators are struggling to find the balance between two customer segments: one that wants fast service, and one that cares about experience. While there is inherently some delineation between faster service and customer service between QSR and FSR chains, we believe consumers' expectations regarding restaurant convenience and restaurant experience are being blurred by mobile technologies and all their various applications (as we called out in our earlier talking points about fast-casual 3.0).

Perhaps not surprising, several of our next generation restaurant industry performance benchmarks involve technology. As a starting point for our look at digital technologies, we've highlighted an October 2017 survey from Toast about which technology features are important to restaurant operators and which are important to guests (Exhibit 39). Not surprising, both groups ranked online ordering and loyalty programs as very or somewhat important, validating some of our previous research conclusions about the potential pricing power of a convenient guest transaction. We'll spend time evaluating mobile ordering over the next few pages, then examine the importance of loyalty programs in our next operator/investor discussion topic.

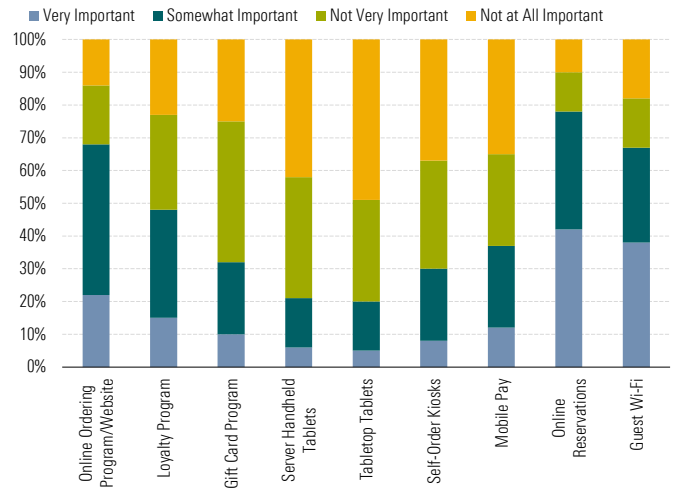
Exhibit 39 Online Ordering and Loyalty Programs Are Favored by Both Restaurant Operators and Diners

Restauranteurs



Source: Toast "Restaurant Technology in 2017" Industry Report (October 2017)

Diners

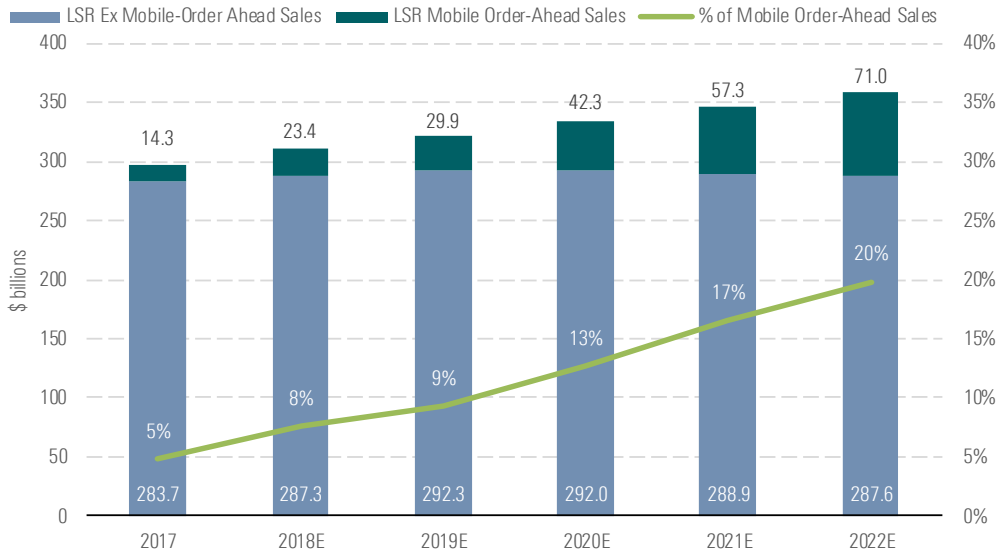


Source: Toast "Restaurant Technology in 2017" Industry Report (October 2017)

We believe ease of order, and by extension, a unified, integrated POS system is one of the most crucial factors for a restaurant operator in today's environment—particularly those that cater to consumers seeking convenience—as it can unlock future transaction growth opportunities such as third-party delivery, mobile ordering, digital gift cards, and reward redemption. We've already seen several examples of this in the industry—most notable being Panera and 2.0 technology investments (mobile ordering, software upgrades that better manage cafe throughput levels and assist with inventory replenishment functions and enhanced mobile marketing capabilities) and Starbucks (namely its Mobile Order & Pay, or MOP, platform). Nearly every executive we spoke to in preparing this report had a digital ordering roadmap, though not surprisingly, there was quite a bit of variability between specific plans.

Mobile orders presently represent a small percentage—roughly 5% of total industry sales, based on previous estimates from Business Insider Intelligence's 2016 Mobile Order-Ahead Report and our own projections—but are also quickly gaining traction among consumers (Exhibit 40). We estimate that almost half of sweetgreen's orders already take place through its mobile app (with some locations boasting 60%-70% of orders coming from mobile devices), while approximately 30% of Panera orders were placed ahead of time through a mobile device. Starbucks, which continues to work out the congestion issues that held back its MOP platform, still sees 13% of the transactions at its company-owned locations in the U.S. derived from a digital device and almost 4,000 locations seeing more than 20% of transactions coming from mobile devices during peak hours. Based on our discussions with operators across the industry and the changes they plan to make within restaurants to accommodate mobile ordering, mobile ordering adoption curves for the most successful operators, and the explosive growth in delivery orders (which we believe builds trust placing orders electronically), we expect mobile orders will grow to almost 20% of total industry transactions over the next five years.

Exhibit 40 We Expect Mobile Orders to Increase as a Percentage of LSR Transactions

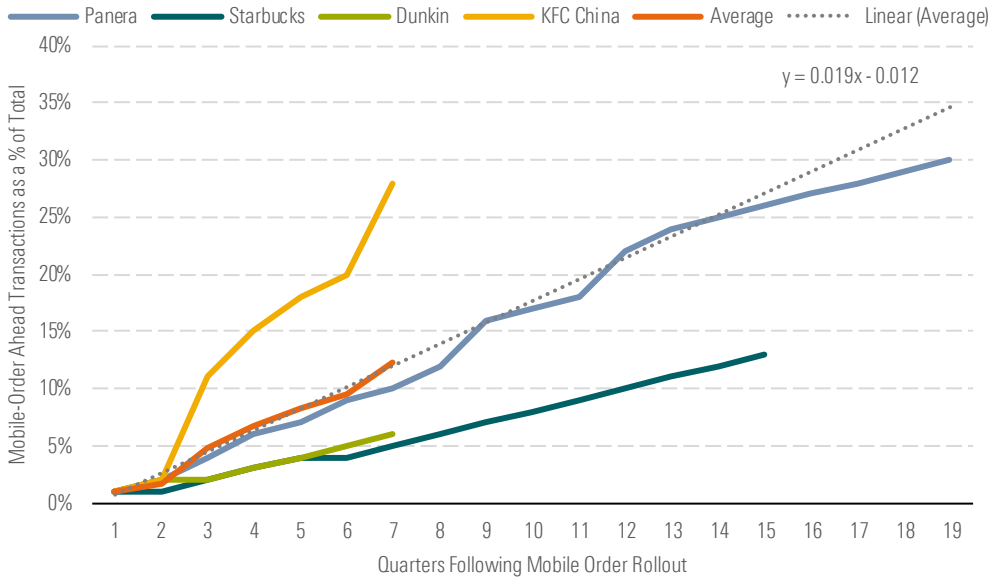


Source: National Restaurant Association, U.S. Census Bureau, Technomic, Business Insider Intelligence 2016 Mobile Order-Ahead Report, company filings, Morningstar estimates

Although mobile ordering and payments are still relatively early from a consumer adoption standpoint, we believe that convenience-focused players who have taken the time to invest in their mobile ordering and payment platforms while integrating them with in-restaurant POS systems and operations are most likely to outperform industry transaction per square foot trends over the next several years. As such, we want to look at both mobile and other digital ordering capabilities in greater detail, as we believe they are crucial to a modern restaurant experience. To measure a restaurant's ordering platform, let's revisit the transaction data from our earlier analysis, Obviously, a digital ordering platform will not work for every restaurant—and will be more important for operators catering to convenience-focused consumers—but a few chains have provided us enough information to piece together how effective their traditional ordering platforms works versus newer digital ordering technologies.

We've started by looking at the number transactions for some of the most successful mobile order-ahead platforms in the restaurant space today, including Panera, Starbucks, Dunkin' Brands, and Yum China. In Exhibit 41, we've broken out mobile-order ahead incidence rates for each chain from the quarter mobile order capabilities were introduced through the most recently reported quarter (in most cases, the second quarter of 2018).

Exhibit 41 Mobile-Order Ahead Adoption Rates by Quarter Following Rollout



Source: Company filings, Morningstar estimates

We recognize that adoption rates will vary by concept based on the execution of the mobile technology rollout, geography (mobile order adoption in China is ahead of the U.S. so it's not surprising to see KFC China have faster adoption rates than the U.S. concepts in this analysis), order frequency (those chains that generate higher transactions per square foot statistics tend to have lower adoption rates, which we attribute to the operational complexities in balancing mobile and in-restaurant orders), and product mix.

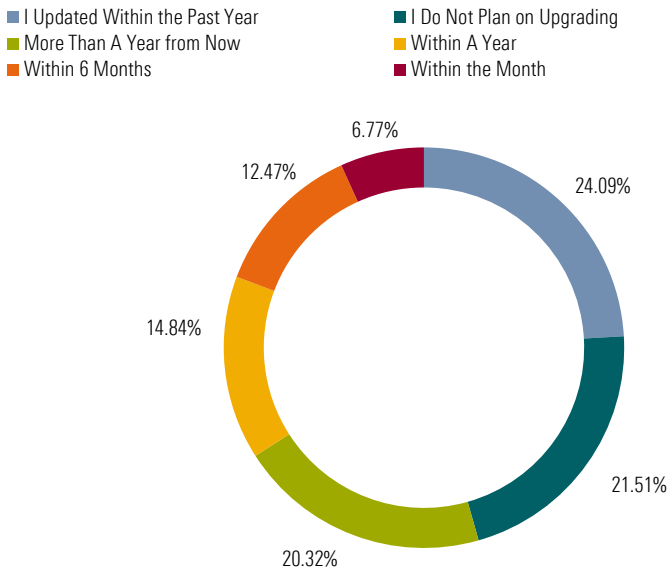
That said, using the average mobile-order ahead transactions as a percentage of total transactions for the restaurant concepts we've included in our sample group, we can start to develop takeaways for operators and investors to use when evaluating mobile-order ahead platforms. While the data is more limited than some of the other metrics in our analysis, it appears as if mobile-order ahead adoption is largely a linear function for most restaurant chains, growing a little less than 1% per quarter following the introduction of mobile-order ahead capabilities. Of course, this analysis is a work-in-progress and consumer adoption rates will likely accelerate as mobile ordering becomes more widespread and early adopters reach natural capacity thresholds, Still, we believe this analysis offers four takeaways:

- **Customer frequency.** While it's difficult to fully measure customer retention/repeat visits with publicly reported restaurant operator data, several operators told us that an their digital ordering systems has led to improved customer stickiness and repeat visits. We believe there are numerous reasons for this, including mobile platforms leading to faster and more convenient transactions, the ability to constantly communicate with best customers, and improved marketing return-on-investment (which we touched on during our earlier discussion about transaction acquisition costs). Our data suggests that mobile ordering leads to 10%-20% incremental transaction frequency for those restaurants that have fully invested in a mobile ordering platform compared with those that have not, though the profit contribution can vary depending on mobile ordering platform investment needs and additional labor requirements.
- **Customer retention/loyalty programs.** We also believe mobile-order ahead capabilities will play an important role in customer retention, especially for those platforms that have been fully integrated with loyalty programs. We'll discuss the importance of loyalty programs and their role in connecting with consumers outside of the restaurant in our next discussion topic, but we find that consumers enrolled in the most successful restaurant loyalty programs tend to visit a given restaurant chain almost three times as often as non-loyalty members.
- **Average order size.** While the impact for each chain ultimately depends on concept, menu innovation, promotions, marketing strategies, and execution, our analysis suggests that mobile/digital ordering lifts a restaurant's average transaction by 5%-15%. This is consistent with our conversations with several industry operators, and aligns with Toast studies suggesting that the restaurants that adopt kiosk ordering see a 5%-10% increase in dine-in ticket sizes.
- **Operational efficiency.** It is often overlooked, but we believe mobile ordering offers several operational benefits for those concepts catering to convenience-focused customers, including improved order speed, greater order accuracy (especially when dealing with increased demand for customization and multiple dietary preferences), and increased employee efficiency. Our research suggests improved restaurant throughput by effectively eliminating point-of-sale pain points while also freeing up employees to process 10%-15% more transactions per hour.

Mobile ordering has already gained mainstream acceptance at chains like Starbucks, Panera, and sweetgreen, 2018 and 2019 are setting up to be pivotal years on this front. McDonald's Experience of the Future restaurant format was implemented in 3,000 locations in the U.S. at year's end and is expected at another 4,000 in both 2018 and 2019. While these and other technology and labor investments will weigh on near-term margins for many restaurant operators, we still believe the aforementioned top-line contributors outweigh any near-term margin hit.

Toast's "Restaurant Technology in 2017" study from October 2017 also lends support to the changes to come from an ordering platform standpoint. According to the 927 restaurant managers, owners, or other leadership executives surveyed, 58% said that they had either upgraded their POS systems in the past year or planned to do so in the year ahead (Exhibit 42). We believe these updates will be instrumental in accelerating one-to-one marketing, off-premises, and other emergent growth opportunities.

Exhibit 42 More Than Half of Restaurant Executives Surveyed Have or Plan to Upgrade Point-of-Sales Systems



Note: Represents the percentage of restauranteur responses to the question, "When do you plan on upgrading your restaurant point of sale system?
Source: Toast "Restaurant Technology in 2017" (October 2017)

Of course, mobile ordering and POS upgrades could be just the start of more widespread changes in how consumers place restaurant orders. With the adoption of smart home assistants, many restaurant operators and restaurant technology executives told us that voice ordering and predictive ordering would likely become a more important topic in the years to come. That said, we believe most restaurants still have several technology and operations action items to sort out with respect to their point-of-sale systems and mobile order-ahead platforms and would not expect to see mainstream adoption of voice or predictive ordering until 2020 at the earliest.

Question: How Does the Restaurant Connect With Consumers Beyond Its Four Walls?

Key Metrics: Loyalty Program Versus Non-Loyalty Program Transactions, Social Media Impressions Versus Transactions Per Square Foot

Today's most successful restaurant concepts have found ways to connect beyond the four walls of their restaurants. While our conversations with several industry executives reinforced our views that the best way to reach consumers outside of a restaurant ultimately depends on a number of factors such as concept, cuisine, brand, and geography, we ultimately believe it encapsulates a combination of: (1) embracing technology to foster brand loyalty; (2) innovative (and often non-traditional) approaches to marketing; and (3) migrating brand intangible assets to new off-premises distribution channels. Of the qualities we've identified among today's most successful restaurant chains, we view the ability to reach consumers outside of the restaurant as one of the most difficult goals to achieve, given that it often falls so far outside a restaurateur's core competency (namely, running a restaurant). Nevertheless, it's clear that many of today's most successful concepts are succeeding on this front, bolstering their brand intangible assets in the process and giving consumers fewer reasons to visit competing restaurants. In fact, it's no surprise that the restaurant operators that have found ways to connect with their consumers are often the ones to which we've assigned positive moat trend ratings.

We covered some of the ways that restaurant operators are refining marketing strategies in our discussion on how restaurant operators overcome consumer fatigue and transaction acquisition costs, which is obviously a critical avenue for reaching consumers outside of restaurants. However, following up on our previous discussion about mobile ordering and POS platform integration, we want to focus more on how restaurants are using technology to foster brand loyalty and unlock new delivery/off-premises growth avenues. We'll cover loyalty programs and the impact of social media during this discussion topic and cover off-premises opportunities beginning on page 69.

Loyalty Program Engagement Reveals Strength of a Restaurant's Brand

Let's start by looking at restaurant loyalty programs, which have had limited historical success outside of more frequent/small-ticket categories like specialty coffee or more technology-leveraged categories like pizza to this point. However, we're starting to see loyalty programs increasingly rolled out across the QSR (including McDonald's), fast-casual (Chipotle), and CDR (Darden, Red Robin) categories. As we discussed in our 2016 restaurant Observer piece, restaurant loyalty programs have reached mainstream levels—particularly among higher-income consumers earning more than $75,000 in average household income—but participation drops off quickly after the first few loyalty programs joined.

Data on restaurant loyalty is somewhat sparse given that most operators are in the early stages of adopting and scaling these programs. Still, we believe we can learn some things from some of the more successful operators in the space. For the purposes of this analysis, we've chosen to look at five of the more established loyalty programs across the globe: Starbucks, Dunkin' Brands, Panera Breads (using company-reported data from before it was acquired by JAB Holdings in July 2017 and our estimates following the transaction), KFC China, and Pizza Hut China (the latter two of which are owned by Yum China).

Considering that Panera, Starbucks U.S., and Dunkin Brands U.S. each have the highest percentage of mobile orders among companies in our restaurant coverage universe, it's not necessarily a surprise that these concepts also have the highest loyalty-program participation rates with an estimated 28.5 million, 14.2 million, and 7.3 million registered loyalty-program members, respectively, in fiscal 2017 (average members, not year-end members). While we recognize several geographic discrepancies, we've also included KFC China and Pizza Hut China in this analysis because of the size of their loyalty programs (an average of 91.0 million and 35.0 million members respectively in 2017) and the readily available data.

In our view, the most important metric when evaluating loyalty programs is order frequency compared with non-loyalty customers. Using our earlier calculations for average transactions from earlier and the percentage of transactions attributed to loyalty program members (data that most chains provide), we can back into the number of transactions for loyalty members and non-loyalty members, which we've presented in Exhibit 43. While it's a relatively straightforward process to come up with transactions per year for loyalty members, it's more difficult to arrive at the transactions per non-loyalty members. However, using company filings and presentations, restaurants per capita statistics for the U.S.-based chains, and our discussions with Yum China executives, we believe we've come up with reasonably reliable estimates for the number of non-loyalty program members for each chain.

Exhibit 43 If Executed Properly, a Loyalty Program Can Be an Effective Tool to Drive More Consistent and More Frequent Traffic

	Panera	Starbucks U.S.	Dunkin' U.S.	KFC China	Pizza Hut China
FY17 U.S./China Systemwide Sales (USD million)	5,538	18,995	8,459	6,520	2,115
FY17 Average Transaction Size (USD)	10.46	5.34	5.18	4.15	5.66
Estimated Annual Transactions (million)	530	3,556	1,634	1,571	374
Loyalty Member Statistics					
Average U.S. Loyalty Members (million)	28.5	14.2	7.3	91.0	35.0
Percentage of Loyalty Member Transactions	54%	36%	15%	30%	25%
Total Loyalty Members Transactions (million)	286	1,280	245	471	92
Average Annual Transactions Per Loyalty Member	**10.0**	**90.1**	**33.8**	**5.2**	**2.6**
Non-Loyalty Customer Statistics					
Estimated U.S. Non-Loyalty Customers (million)	96.0	71.7	83.3	404.4	196.4
Total Non-Loyalty Customer Transactions (million)	244	2,276	1,389	1,100	282
Average Annual Transactions Per Non-Loyalty Customer	**2.5**	**31.7**	**16.7**	**2.7**	**1.4**
Loyalty to Non-Loyalty Transaction Ratio	**4.0**	**2.8**	**2.0**	**1.9**	**1.8**

Source: Company filings, Nation's Restaurant News, Morningstar estimates.

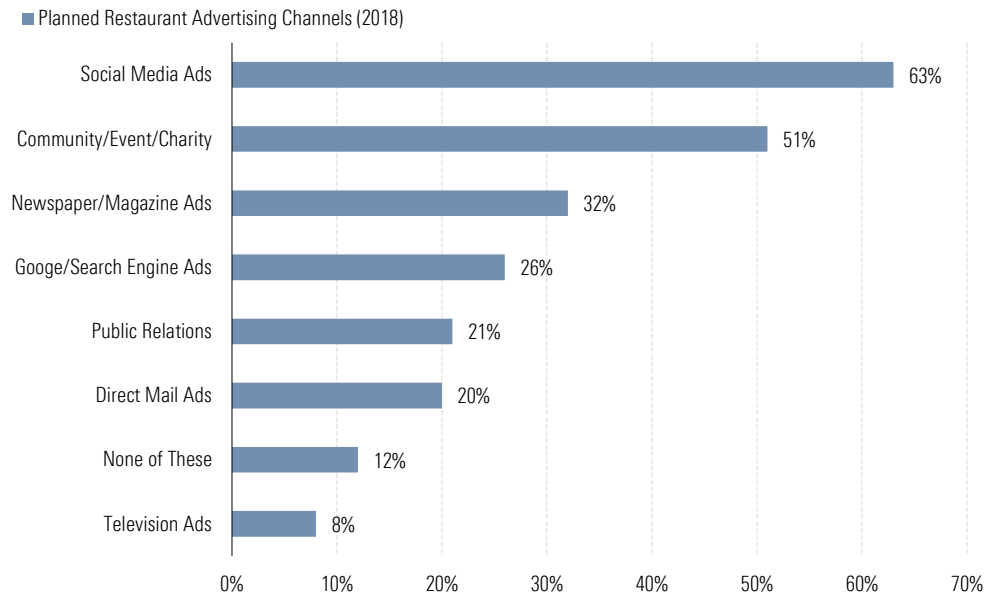
While we'll acknowledge that will likely be some variation differ from category to category, we believe a successful loyalty program will, on average, see members visit twice as many visits as non-members, with top performers pushing four times. We estimate that Panera loyalty program members make 10.0 purchases per year and non-loyalty members make 2.5 purchases per year, representing a loyalty- to non-loyalty transaction ratio of 4.0 times. In some respects, this exercise reminds us of the lifetime value (LTV)/customer acquisition costs that many investors use to evaluate subscription-based consumer services, where a ratio of 3 times is generally viewed as the threshold for a viable business longer term.

While low transaction acquisition costs for some chains (a statistic we introduced in Exhibit 32), prevents us from replicating a similar analysis here, we still believe loyalty member to non-loyalty transactions is an important ratio for operators and investors to monitor, as it suggests that effective loyalty programs can drive more consistent traffic (especially when we're potentially looking at period of flat to declining industry traffic over the next few quarters) and could add a mild form of switching costs to a restaurant's potential competitive advantages. Not surprising, we're seeing many restaurant chains step-up value incentives to encourage loyalty program participation—Chili's and T.G.I. Friday's now offer free apps/soft drinks with every visit, while Starbucks attempts to incorporate greater exclusivity into its loyalty program with "invite only" happy hour specials.

Social Media Metrics Have Limited Correlation With Transaction Per Square Foot Growth

We've already examined advertising and transaction acquisition metrics earlier in this report, but we also wanted to look at whether social media is an effective tool by which to reach consumers outside of restaurant and drive guest traffic. Most operators use social media in some form, as it can be a low-cost way to reach your consumers outside of the restaurant. In fact, according to the Toast Restaurant Success in 2018 Report, 63% of restaurants surveyed planned to use social media during 2018 (Exhibit 44), making it the most popular planned advertising channel for restaurants in 2018.

Exhibit 44 Social Media Is Still a Preferred Advertising Channel for Restaurants



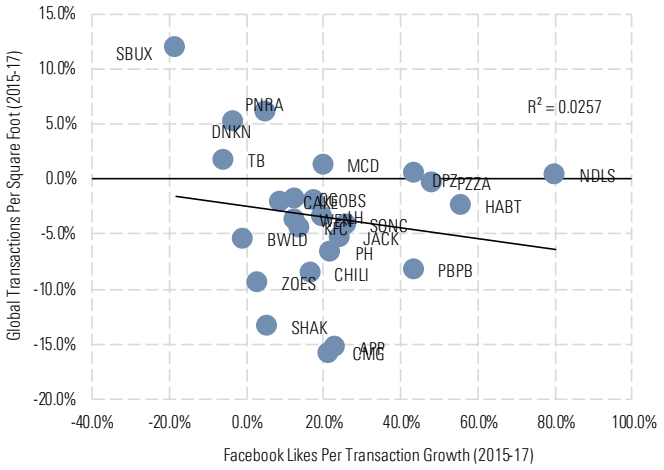
Source: Toast "Restaurant Success in 2018" Report (June 2018)

It's not surprising that social media figures heavily into restaurant's marketing plans in 2018—it is a free source of advertising after all—but we wanted to examine whether this was an effective method to connect with consumers outside the restaurant and drive transaction growth. Using data from PitchBook, we also looked at Facebook Likes per transaction and Twitter Followers per transaction

compared with transaction per square foot growth from 2015 to 2017 (Exhibit 45). Admittedly, the analysis may have been skewed by the timeframe we selected—years when social media was gaining further adoption (aided by the 2016 U.S. presidential election) but also flat to declining restaurant transaction growth—and the medium selected—many restaurant operators told us that Instagram was their preferred social media platform, and while there does appear to be a stronger correlation between transactions per square foot and a brand's Instagram followers, we didn't have sufficient historical data prior to 2018 to further validate this hypothesis. However, our analysis shows that there is almost no correlation between a restaurant chain's Facebook Likes and Twitter Followers and the transactions it generates on a per square foot basis.

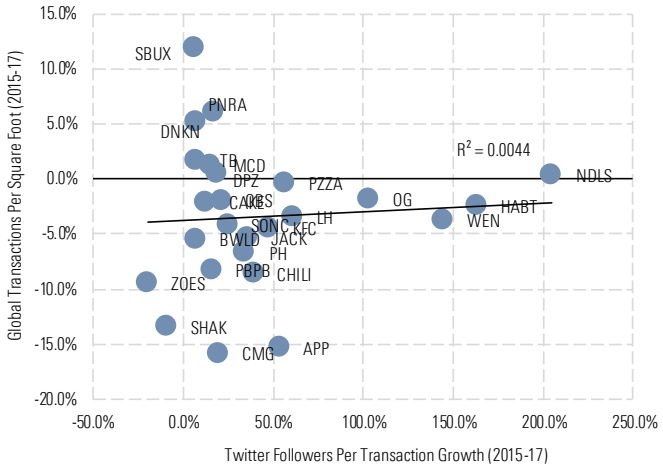
Exhibit 45 Facebook Likes and Twitter Followers Have Minimal Correlation With Transaction Per Square Foot Growth

Facebook Likes Per Transaction Growth Versus Transaction Per Square Foot Growth (2015-17)



Source: PitchBook, Facebook, Morningstar estimates

Twitter Followers Per Transaction Growth Versus Transaction Per Square Foot Growth (2015-17)



Source: PitchBook, Twitter, Morningstar estimates

While the lack of correlation between the social media metrics we examined and transaction per square foot growth makes it difficult to develop credible restaurant industry benchmarks for investors, we do find a few takeaways from the data:

- **Declining social media impressions per transaction can show efficiency.** In situations where transactions per square foot are outpacing social media impressions—Panera, Starbucks, and Taco Bell, for example—it will lead to a decline in social media impressions per transaction. As such, we believe those brands that are on the left-hand side of the above exhibits may be the most effective in driving transaction per square foot growth via social media. Not surprisingly, many of these brands also have the successful mobile ordering platforms, which we outlined in the previous section.
- **Social media can be a useful tool for expansion, particularly Asia.** While we don't find strong correlation between social media impressions per transaction and transactions per square foot growth the past several years, we believe that a restaurant's use of social media will be situational. For example,

KFC and Pizza Hut each have a huge global social media reach with nearly 52 million and 32 million Facebook likes, respectively, as of July 2018, which can obviously be an important way for restaurants to reach consumers and build brand awareness, especially for those expanding to new markets.

- **External events can skew social media statistics.** Social media impressions may not directly correlate with positive developments at the restaurant. While reviewing Pitchbook's social media statistics for this report, Chipotle's social media statistics accelerated during 2016 (the year after its well-publicized E. Coli outbreak), while we've seen Starbucks social media impressions rise during its racial bias training earlier this year. There are many cases in the restaurant industry where the "any publicity is good publicity" adage may not necessarily apply, and a wide range of reasons can drive social media impression growth.
- **Late social media adopters may see very little transaction benefit.** We'll concede that our data may also be skewed by the timing of certain restaurant operators' social media rollout. A few of the restaurant chains in our sample group are relatively new to the social media game, which inflated their social media per transaction growth statistics and distorted this analysis. In fact, in most cases where we saw a brand ramped up its social media platform over the past three years, it did not directly lead to an increase in transactions per square foot.

Concluding our discussion on social media effectiveness, we believe the most important takeaway for investors is that the most successful chains recognize when certain advertising channels aren't working. One of the most interesting takeaways from the 2018 Toast Restaurant Success study was that, relative to its 2017 report, operators noted that they are spending less on paid promotion and other traditional advertising approaches. This is not surprising given technology disintermediation and target demographic shifts, but we find that those restaurants that can drive traffic without marketing are much more likely to succeed over a longer horizon.

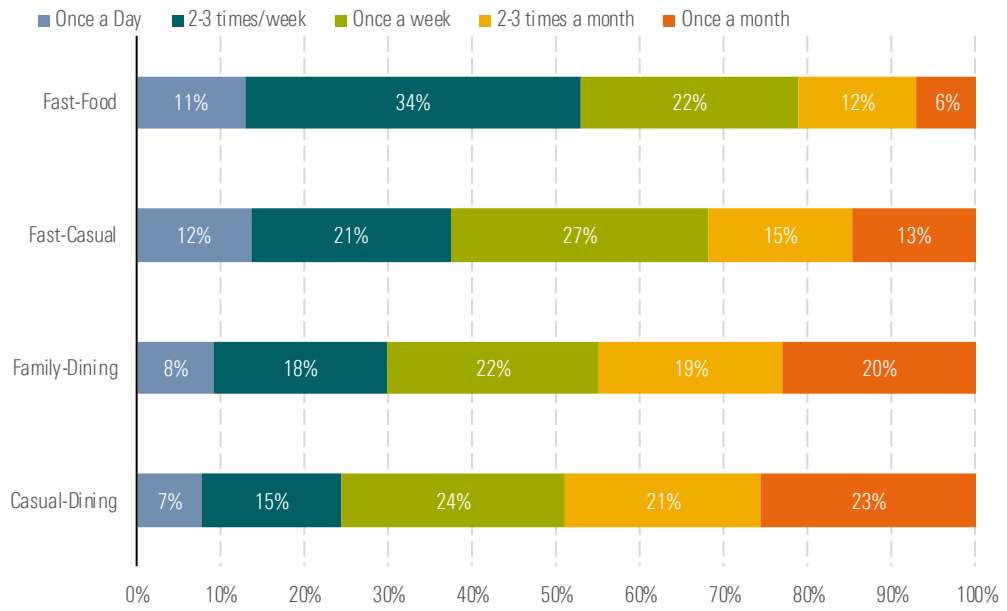
Question: How Does the Restaurant Embrace the Convergence of On-Premises and Off-Premises Transactions?

Key Metric: Off-Premises Transaction Growth

Perhaps no restaurant industry change has the potential to reshape the restaurant industry in the coming years as off-premises sales, which spans a wide variety of transactions such as to-go orders, delivery, carry-out, catering, and consumer packaged goods. Not only is this one of the most consumer-facing changes that the industry has undergone in several decades, it impacts all aspects of restaurant operations such as ordering systems, promotions, sourcing, supply chain, staffing, and technology. Coupled with the rise of online grocery and other transformative moves across the grocery industry, it's not surprising that one of the most popular trends we've seen thus far in 2018 is restaurant chains chasing new off-premises opportunities to drive revenue growth, build brand awareness, acquire customer data, and develop new menu innovations. Over the next several pages, we'll take a look at metrics and other key takeaways that investors should be aware of as restaurants pursue new avenues of off-premises growth, which we believe has implications for convenience and experience-focused consumers.

Quick-service and fast-casual chains already rank high among all restaurant categories for off-premises purchases, including pickup, takeout, drive-thru, and delivery, according to a 2016 study from Technomic regarding on-demand restaurant delivery (Exhibit 46). However, with the rapid explosion in restaurant delivery aggregators such as GrubHub, DoorDash, UberEats, Delivery.com, Postmates, and Amazon Restaurants, we're seeing restaurants across all categories explore delivery, catering, and other off-premises options as ways to connect with consumers outside of their restaurants.

Exhibit 46 Not Surprising, Off-Premises Frequency Is Highest Among Fast Food and Fast-Casual Customers



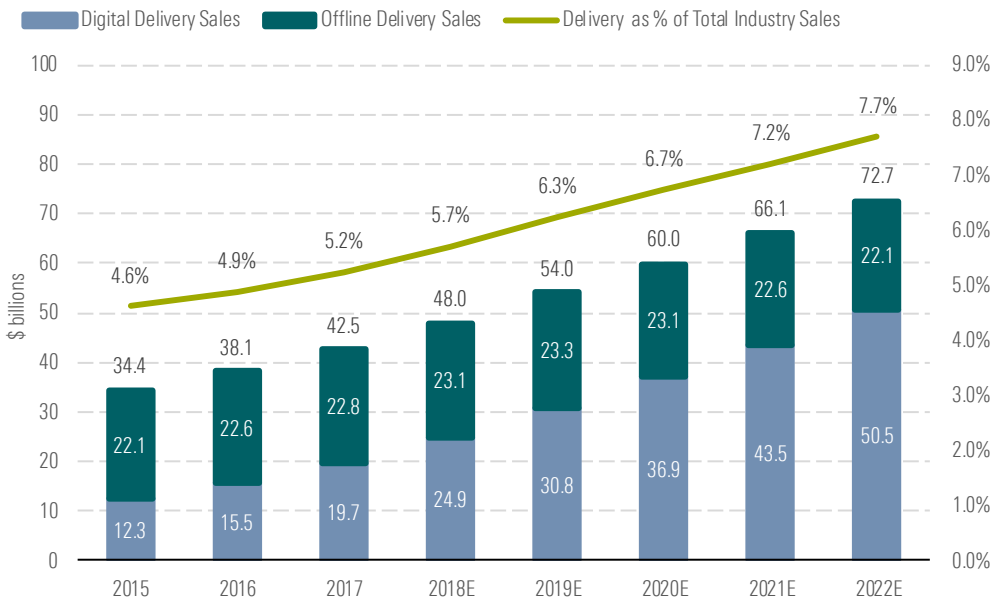
Note: Represents the percentage of consumer responses to the question, "Thinking of the past 30 days, how often have you ordered for "to-go" (including pickup, takeout, drive-thru, or delivery) from the following restaurants or eating places?"
Source: Technomic, Morningstar

We touched on the convergence of on-premises and off-premises transactions in the introduction section of the report, but we want to dive deeper into these trends and find benchmarks for operators and investors to measure restaurant off-premises platforms. While we've included some takeaways from the executives at various restaurant technology firms making the off-premises sales channel more of a reality, we also encourage investors to also look at Morningstar analyst Ali Mogharabi's July 2018 piece—"Uber May Pick Up Investors, Along With Riders, in Its IPO"—for additional analysis on the restaurant delivery space and Uber's growth aspirations for UberEats.

Many Restaurant Operators and Investors Have Not Fully Assessed Delivery's Ripple Effect

Based on information from NPD Group, restaurant deliveries generated $42.5 billion in sales during 2017 (Exhibit 47), with $22.8 billion in deliveries coming from offline sources (largely phone orders) and $19.7 billion derived from digital orders (both in-house restaurant delivery operations and from third-party aggregators). This rapid growth shows no signs of slowing down, with NPD forecasting delivery sales to effectively double the next five years to $72.7 billion (implying a five-year CAGR of 11%). Not surprising, digital orders are expected to represent the bulk of this growth, growing to $55.3 billion (a 20.7% five-year CAGR) while offline deliveries contract modestly to $22.1 billion.

Exhibit 47 Restaurant Delivery Represents 6% of Total Industry Sales, With Digital Becoming the Preferred Channel

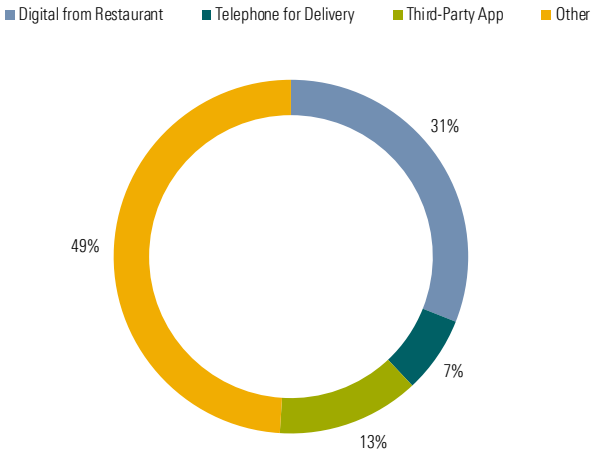


Source: NPD Group, eMarketer, National Restaurant Association, Morningstar estimates

An August 2018 NPD Group report estimated that delivery represents 3% of all restaurant orders, which strikes us as directionally accurate based on conversations with several restaurant operators and restaurant technology executives who noted that the average delivery transaction size is almost twice that of dine-in orders (implying that delivery sales will account for almost 6% of industry sales in 2018). This isn't surprising given that most delivery transactions are placed digitally (reinforcing the average ticket metrics we introduced in the mobile ordering/integrated POS discussion topic) and take place in the evening daypart (which tend to carry greater average check sizes due to the order size and group/family transactions). In Exhibit 48, we've included estimates from the NPD Group and Technomic regarding restaurant delivery order method and daypart mix.

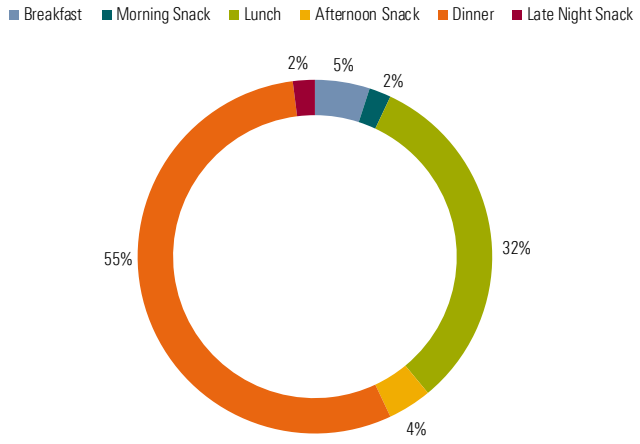
Exhibit 48 New Technologies are Opening Up New Daypart Expansion Opportunities

Delivery Traffic by Order Method



Source: The NPD Group/CREST (October/November 2017), Nation's Restaurant News

Delivery Traffic by Daypart



Source: Technomic "Fast-casual Industry Trends" Presentation (May 2016)

Despite its undeniable growth potential, delivery remains one of the more controversial topics in the restaurant industry. Noah Glass, the CEO of digital ordering platform Olo, made a convincing case that "food delivery is not some cute fad" and instead a "fundamental shift" at the ICR Xchange conference in January 2018 and several subsequent speaking engagements this year. With Amazon fundamentally changing how consumers shop and third-party delivery aggregators generally reaching a point of consistent reliability and convenience, we agree with Glass and others that delivery represents a structural shift for the industry with many positive benefits for restaurant operators. The most obvious benefit is increased revenue and incremental transactions—thus far in 2018, McDonald's says 70% of its delivery orders are incremental—but there are other motivations such as reducing advertising per transaction costs, building brand awareness (particularly before entering a new market), daypart expansion, and acquiring customer data (topics we've touched on throughout this report).

However, with any potential source of opportunity/disruption, delivery's impact on the restaurant industry ultimately depends on changes in consumer behavior. We believe certain industry participants are better equipped for success. For example, certain cuisine types—including pizza, sandwiches, pasta, and rice dishes—generally lend themselves better to delivery, although our conversations with several executives in the meal delivery space suggests that consumers are adjusting expectations and becoming more accepting of a wider range of foods when placing delivery orders. Like any delivery business, route density is a concern and those nationwide concepts like McDonald's—where 75% of the population in its top-five revenue markets (U.S., U.K., France, Germany, and Canada) lives within a three-mile radius of one of its restaurants—are also at an advantage relative to individual restaurant operators or small chains.

That said, not every restaurant is fully on board with delivery, with some critics citing the failure of previous delivery aggregators like Takeout Taxi in the 1990s. Admittedly, today is a much different environment for digital technologies with several operators telling us the cost of processing an order online or through a mobile phone compared with processing it on the telephone is between one tenth and one fourth of the cost. However, restaurants also face other challenges when it comes to delivery. The most common concern that came up during our conversations with restaurant executives were the costs involved, especially in what is already a relatively low-margin business, Delivery fees and commissions can reach 15%-30% of a delivery order depending on third-party delivery platform and how the relationship with the restaurant operator is structured, posing a potentially significant headwind on margins. On top of fees, there is the risk of cannibalization of in-store sales, particularly among higher-margin beverage and alcohol sales. Additionally, delivery opens up a host of operational challenges, including potential preparation delays and disruptions for in-restaurant orders, the presentation of the food when it is delivered to consumers, and who controls the customer data. While we believe that consumer demand for delivery will force all restaurants (with the exception of fine-dining establishments) to embrace off-premises opportunities in some fashion, we appreciate that the best delivery strategies will differ by concept and geography.

In many ways, we see restaurant delivery evolving similar to online travel sites, where we continue to see consolidation among the larger and well-capitalized players (GrubHub, UberEats, DoorDash, Postmates, and Amazon Restaurants) but also a rise in secondary market specialists like EatStreet and adjacent delivery functionality companies such as FoodBoss, which offers a Trivago-like platform where consumers can access real-time data on which delivery platform offers the lowest delivery fees and fastest delivery times. We also expect restaurants will continue to evaluate whether or not to bring delivery functions in house; all things being equal, for an average delivery order of $25—an estimate we derived based on a discussion we had with Sterling Douglass from Chowly—derived in a discussion we estimate that an in-house delivery service would generate roughly $6.00 per transaction in contribution profit (representing 21% contribution margin) compared with $4.00 per transaction in contribution profit by using a third-party aggregator (Exhibit 49). However, we acknowledge that this is a simplified analysis and that third-party delivery aggregators may offer other technology implementation and marketing advantages, making them a more logical partner for most restaurant operators in the earliest stages of their delivery programs. However, because of the potential margin opportunities associated with large group transactions/catering orders, we believe that most restaurant operators need to start developing their own capabilities.

Exhibit 49 All Things Equal, In-House Delivery Services Are More Profitable for Restaurant Operators

	In-House Delivery	Delivery Aggregator
Average Order Size	25.00	25.00
Delivery Fee	3.00	4.00
Tip (15%)	3.75	3.75
Total Customer Transaction Size	**31.75**	**32.75**
Aggregator Commission Rate	0%	20%
Commission Paid to Delivery Aggregator	0.00	5.00
Revenue Generated by Restaurant (excluding Tip)	28.00	29.00
Delivery Cost Per Order (Assumes $5.00 per Transaction plus Aggegator Delivery Fees	5.00	10.00
Food, Labor, and Utilities Costs (60% of Average Order)	15.00	15.00
Other Costs Including Technology and Discounts (8% of Average Order)	2.00	0.00
Contribution Profit Per Delivery	6.00	4.00
Contribution Profit Margin	**21%**	**14%**

Source: Company filings, Morningstar estimates

Assessing a Restaurant's Ability to Accommodate Deliveries

So what is the best way for investors to measure the success of delivery platforms at the restaurants they follow? Admittedly, this isn't an easy task given the relatively nascent stage of delivery adoption among non-pizza chains and the industry changes we just outlined. In a perfect world with unlimited time and resources, we'd perform a density analysis for each individual market that a restaurant operates to identify a potential addressable market and a cost/benefit analysis to examine whether it would be more beneficial for a restaurant operator to deploy in-house delivery offerings or use a third-party aggregator. However, because delivery is in its infancy for most operators and its delivery partners and capabilities continue to evolve, we think that investors should look for two items from a restaurant's delivery platform the next several years: (1) consumer adoption, and by extension, incremental transactions; and (2) increase in average transaction size.

We've examined management's comments from recent quarterly conference calls and other investor presentations, franchise disclosure documents, and conversations with executives at several leading delivery aggregator services to piece together estimates on key delivery performance metrics for each chain in our sample group, which we've included in Exhibit 50. For purposes of this analysis, we've limited the discussion to the QSR, pizza, and fast-casual operators in our sample group. We've chosen to exclude snack/beverage due to the comparatively early stage of delivery offerings and will discuss casual dining delivery in the broader context of carryout orders later in this section of the report.

Exhibit 50 Estimated Delivery Key Performance Indicators for QSR, Pizza, and Fast-Casual Operators

Delivery Key Performance Indicators		Delivery Stores	Delivery Stores as % of Global Units	Estimated Global Delivery Sales ($M)	Delivery as % of Global System Sales	Delivery Average Ticket	Estimated Delivery Transactions (M)	Delivery Transactions as % of Total
QSR								
McDonald's	2017	5,000	13.4%	1,035	2.8%	10.00	103	0.6%
	2018E	13,000	34.2%	1,938	5.0%	10.17	191	1.0%
Burger King	2017	600	3.6%	70	0.4%	8.97	8	0.2%
	2018E	1,500	8.6%	330	1.5%	10.82	30	0.8%
KFC	2017	6,000	27.9%	981	4.0%	13.21	74	2.0%
	2018E	7,500	33.3%	1,470	5.5%	13.61	108	2.8%
Taco Bell	2017	1,500	21.9%	152	1.5%	7.86	19	1.0%
	2018E	5,000	70.6%	319	3.0%	9.31	34	1.7%
Wendy's	2017	1,500	26.0%	154	1.5%	11.10	14	0.8%
	2018E	2,000	34.5%	210	2.0%	11.39	18	1.0%
Jack in the Box	2017	1,300	57.8%	100	2.0%	11.58	9	1.0%
	2018E	1,500	66.4%	138	2.8%	11.96	12	1.4%
Category Average	**2017**	**2,650**	**25.1%**	**415**	**2.0%**	**10.46**	**38**	**0.9%**
	2018E	**5,083**	**41.3%**	**734**	**3.3%**	**11.21**	**66**	**1.4%**
Pizza								
Pizza Hut	2017	13,048	77.9%	6,378	53.0%	8.88	718	46.1%
	2018E	13,284	77.5%	7,154	58.0%	9.42	759	48.3%
Domino's Pizza	2017	14,856	100.0%	8,089	66.0%	9.19	881	54.8%
	2018E	15,696	100.0%	8,833	66.0%	9.22	958	55.5%
Papa John's Pizza	2017	5,097	100.0%	2,428	66.0%	9.16	265	55.0%
	2018E	5,199	100.0%	2,557	66.0%	9.51	269	54.1%
Category Average	**2017**	**11,000**	**92.6%**	**5,632**	**61.7%**	**9.08**	**621**	**52.0%**
	2018E	**11,393**	**92.5%**	**6,182**	**63.3%**	**9.38**	**662**	**52.6%**
Fast-Casual								
Chipotle Mexican Grill	2017	1,000	41.5%	45	1.0%	15.99	3	0.7%
	2018E	1,700	68.6%	145	3.0%	18.08	8	1.9%
Panera Bread	2017	797	40.0%	343	6.2%	25.10	14	2.6%
	2018E	2,100	100.0%	654	11.2%	26.60	25	4.5%
Zoe's Kitchen	2017	100	41.2%	12	3.8%	21.85	1	2.5%
	2018E	200	79.4%	18	5.0%	23.63	1	3.1%
Noodles & Company	2017	72	15.0%	6	1.1%	21.85	0	0.7%
	2018E	115	25.0%	11	2.0%	22.29	1	1.3%
Potbelly Sandwich Works	2017	190	39.9%	7	1.5%	22.80	0	0.8%
	2018E	250	50.0%	12	2.5%	23.20	0	1.3%
The Habit Burger Grill	2017	20	9.7%	2	0.5%	13.58	0	0.3%
	2018E	150	61.5%	10	2.5%	13.87	1	1.4%
Shake Shack	2017	50	50.0%	7	2.0%	25.60	0	1.3%
	2018E	113	75.0%	20	4.0%	27.79	1	2.4%
Category Average	**2017**	**318**	**33.9%**	**60**	**2.3%**	**20.97**	**3**	**1.2%**
	2018E	**661**	**65.6%**	**124**	**4.3%**	**22.21**	**5**	**2.3%**

Source: Company filings, Morningstar.

Based on our estimates, it's clear that very few restaurant chains outside of the pizza category have separated themselves with respect to delivery. Even for a chain with well-established off-premises capabilities like Panera, we believe delivery and catering represents a low-double-digit percentage of overall sales with most QSR and fast-casual operators currently running in the low-to-mid single-digits. Determining which delivery transactions are incremental is a difficult task for even restaurant operators, but based on our conversations, we estimate that a little more than half of delivery transactions are incremental (i.e., the consumer would have not dined at the restaurant in lieu of delivery), which gives us a reasonable starting point benchmark when looking at delivery programs. From an average ticket standpoint, our analysis and discussions with restaurant technology industry executives suggests that most delivery transactions have an average ticket that is 1.2 to 2.0 times in-restaurant transactions, with QSR, fast-casual, and pizza chains averaging 2.0 times, 1.8 times, and 1.2 times, respectively. While this metric may evolve as delivery becomes more adopted, we believe it offers a reasonable delivery average benchmark for LSR concepts.

In summary, we believe that delivery offers restaurant chains a potentially lucrative revenue stream, but execution is critical. In addition to the incremental transaction and average ticket benchmarks we identified, we've laid out several restaurant delivery considerations that came up most often in our discussions with restaurant executives and delivery platform executives in preparing this report:

- **Determining the best delivery partners.** Several operators we spoke to expressed concern over choosing the most appropriate delivery partner. We believe this is a valid concern, especially with restaurant delivery industry likely to undergo consolidation in the years to come (and exposing restaurants to potential disruptions in their delivery operations if delivery partners cease operations). In addition to finding the best delivery partner—which often comes down to who has the most scale in a restaurant's given market—there are other practical considerations such as who controls/has access to customer data and the length of the relationship with aggregators. Most operators we spoke to have chosen to use multiple delivery partners to maximize regional coverage, negotiated access to customer data for future marketing purposes, and have generally avoided long-term commitments.
- **Expanding the target audience.** We discussed incrementality when we developed our restaurant delivery program benchmarks, but it's worth stressing again that a delivery program is only worthwhile if it can expand a restaurants target audience and create new transaction occasions. Over the next several years, we see this capability as being an important part of how restaurants develop brand intangible assets, and by extension, economic moats.
- **Delivery fee price sensitivity.** While consumers have shown a clear willingness to pay premiums for convenience, we believe there are natural limits when it comes to delivery fees According to a 2016 survey from Technomic, the median price that consumers are willing to pay for delivery is $6 per order, but it can exceed $25 in certain cases. This data is consistent with the delivery fees from those chains that facilitate deliveries internally, including Panera, which charges a $3 delivery fee for small orders (with a $5 minimum order size) and a $15 delivery fee for catering orders. As such, many of the other strategies we've identified throughout this report regarding authenticity and menu construction also come into play, with those restaurants bringing consumers innovation being the most likely to be able to

raise average order sizes, whether directly (delivery fee increases) or through additional items ordered per transaction.

- **Understanding the impact on restaurant operations.** We've spoken several times about restaurant operators understanding whether their customers prioritize convenience or experience, but we believe delivery operations can't potentially disrupt restaurants catering to both groups. Delivery can introduce new complexities to a restaurant's operations, including the potential for additional staff needed for prepared delivery orders (especially during peak hours), changes to a restaurant's procurement and supply chain processes, technology integration issues, and adapting to new approaches to marketing. As such, most operators we spoke to adhered to a more measured approach to delivery where operational issues can be ironed out in a handful of test markets before nationwide/systemwide rollout.
- **POS integration.** As we discussed earlier in this report, a centralized, integrated POS is essential in today's restaurant industry, and nowhere is this truer than with delivery platforms. Based on conversations with delivery company executives, we believe a universal app interface that allows all the delivery programs to communicate with a restaurant's POS is critical, especially for those using multiple aggregators.

Full-Service Operators Face Additional Challenges but Also New Opportunities Through Carryout

While delivery is a topic that all restaurant operators have had to adjust to the past several years—either directly or indirectly—full-service and casual-dining chains have been steadily building out their carryout or to-go businesses the past decade or so. However, we believe the increase in consumer demand for delivery has also reignited demand for to-go orders from these companies, forcing these players to reexamine existing to-go platforms for operational and technology upgrades while also determining how to simultaneously accommodate delivery. In Exhibit 51, we've presented estimated off-premises sales for the full-service restaurant chains in our sample group, including both carryout/to-go and delivery orders.

Exhibit 51 Full-Service Operators and Investors Need to Account for Carryout When Evaluating Off-Premises Platforms

Delivery Key Performance Indicators		Estimated Global To-Go Sales ($M)	To-Go Sales as % of Global System Sales	To-Go Average Ticket	Estimated To-Go Transactions (M)	To-Go Transactions as % of Total
Casual Dining						
Olive Garden	2017	492	12.5%	56.83	9	3.8%
	2018E	612	15.0%	58.08	11	4.5%
Applebee's	2017	329	8.0%	34.38	10	3.0%
	2018E	404	10.0%	33.77	12	3.8%
Chili's	2017	399	10.0%	38.15	10	4.0%
	2018E	465	12.0%	39.10	12	4.8%
The Cheesecake Factory	2017	246	12.0%	50.56	5	4.9%
	2018E	262	12.5%	52.62	5	5.0%
Outback Steakhouse	2017	285	11.0%	64.65	4	3.9%
	2018E	316	12.0%	65.75	5	4.3%
Buffalo Wild Wings	2017	713	19.0%	37.60	19	8.6%
	2018E	825	21.0%	41.72	20	8.8%
Category Average	**2017**	**411**	**12.1%**	**47.03**	**9**	**4.7%**
	2018E	**481**	**13.8%**	**48.51**	**11**	**5.2%**

Source: Company filings, Morningstar estimates

Off-premises transactions currently make up a low- to midteens percentage of system sales and mid-single-digit percentage of total transactions after adjusting for average transaction sizes. We estimate that off-premises transactions are roughly 2.5 times the size as in-restaurant transactions, which is a bit ahead of the 1.8-2.0 times we saw with fast-casual and QSR chains due to a higher percentage of large group/catering orders in the sales mix (though this has also become an area of focus for many of the fast-casual operators in our sample group). We see these as reasonable benchmarks for full-service restaurants, though we expect off-premises sales to grow at a mid- to high-teens clip the next five years and implying around 20% of total sales coming from off-premises sales by 2022.

In our view, full-service restaurant operators and investors need to evaluate to-go and delivery platforms in conjunction with one another. Several operators told us that the rapid increase in delivery options for consumers has negatively impacted carryout operations the past several years, particularly those located in densely populated urban centers. While we believe it's a worthwhile endeavor for full-service operators to examine how to integrate delivery into their current off-premises arsenal, it's also important to revisit and optimize how to make to-go orders more appealing for consumers, including mobile/digital ordering and preparation time tracking, new approaches to packaging, and potential changes to the restaurant itself (including separate back-of-the-kitchen assembly stations, digital pick-up order screens, separate to-go pick-up locations, and reserved parking spaces).

New Drive-Thru Innovations May Represent the Next Derivative of Off-Premises Capabilities

Expanded delivery and carryout options are two of the more notable changes for restaurant consumers in 2018, but we believe 2018 and 2019 will go down as pivotal innovation years for drive-thrus. We believe this plays directly into a number of themes we address in this report, including catering to consumers that prioritize convenience, utilizing technology to streamline operations, and optimizing restaurant square footage. Perhaps no development best captures the future of drive-thrus than Dunkin' Brands' "next generation" store format that features two separate drive-thru lanes, one exclusively dedicated to DD Perks loyalty members, but we're also seeing expanded curbside pickup tests at McDonald's, Burger King, and others while also seeing non-QSR operators like Starbucks and Chipotle more aggressively evaluate drive-thru formats.

Like delivery and carryout, creating "frictionless" mobile-order exclusive drive-thru lanes and curbside pickup offerings for convenience-focused consumers also require significant operational and physical restaurant investments, technology upgrades, employee training, and packaging changes. Still, if implemented correctly—and based on our discussions with franchisees, Dunkin' and McDonald's have both started to see traction with some of their recent drive-thru changes—we believe this is a worthwhile endeavor, especially since it can be a viable way to offer consumers convenience while bypassing delivery fees (implying higher-margin transactions than other off-premises substitutes). While we believe it's too early to develop next generation performance metrics for new drive-thru innovations, Dunkin' management has noted that adding a drive-thru to an existing location typically lifts comparable-restaurant sales by 40%-50% with McDonald's reporting a similar amount. If these new innovations exceed these historical benchmarks, we would not be surprised to see other operators—especially with suburban-focused unit expansion plans—more aggressively pursue new approaches to drive-thrus.

CPG Opportunities Remain a Possibility for Innovative Restaurant Operators

For those brands that have successfully reached consumers through one-to-one or other innovative approaches to traditional marketing, loyalty programs, and delivery/catering strategies, we believe the next logical step may be expanding beyond their traditional retail roots and exploring additional sales channels, including store-within-a-store restaurant locations or licensed products on the shelves of grocery stores, warehouse clubs, or other alternative points of distribution. Obviously, these strategies carry risks, including the possibility of diluting the consumer experience, the threat of cannibalization additional costs to build out supply-chain and distribution infrastructure or partnerships, and increased marketing costs. However, if executed properly, channel-diversification efforts can strengthen a restaurant company's competitive position, driving longer-term excess economic returns in the process.

We're already starting to see several emergent fast-casual leaders leverage their brand intangible assets into new channel diversification opportunities. One of the more interesting discussions we had on the future of restaurant players participating in the CPG space was with Brett Schulman, CEO of CAVA Group (which recently made a $300 million bid for Zoe's Kitchen). CAVA currently distributes hummus, dips, and sauces to Whole Foods and other specialty grocers across the Northeast, Mid-Atlantic, Midwest U.S. and Southern California. Unlike many other restaurant chains that simply view CPG as a way to boost sales, CAVA sees its CPG platform as an extension of the in-restaurant experience. In fact, CAVA's CPG business predates its fast-casual operations, so many of the lessons the company learned while building out this channel became key priorities while refining operational best practices at its restaurant locations. Also, because CAVA uses simple recipes free of artificial additives or preservatives and does not co-pack/outsource its CPG products, it invokes our earlier discussion about authenticity being central to a consumer's decision process. For those concepts that can translate their in-restaurant quality measures to their CPG platforms have an opportunity to develop a powerful way to connect with consumers outside their restaurants.

However, we also believe that chains must recognize their limitations when it comes to channel diversification, and we recall a discussion we had with sweetgreen executives about the company's decision to drop its sweetpress cold-pressed bottled juices a prudent decision. According to management, it was never fully committed to its juice offering and went against its seasonal approach to menu management; some juices would require year-round supply of certain fruits, which wouldn't be possible with a strategy of using local farms as suppliers. While we believe that sweetgreen and other restaurant operators players we've highlighted in this report will have opportunities to diversify their sales mix beyond their restaurants over time, we're also comforted that the management behind each of these chains remains dedicated to the core competencies that made them so successful in the first place.

Question: Does the Operator Manage Labor Costs With Automation and Other Emergent Restaurant Technologies?

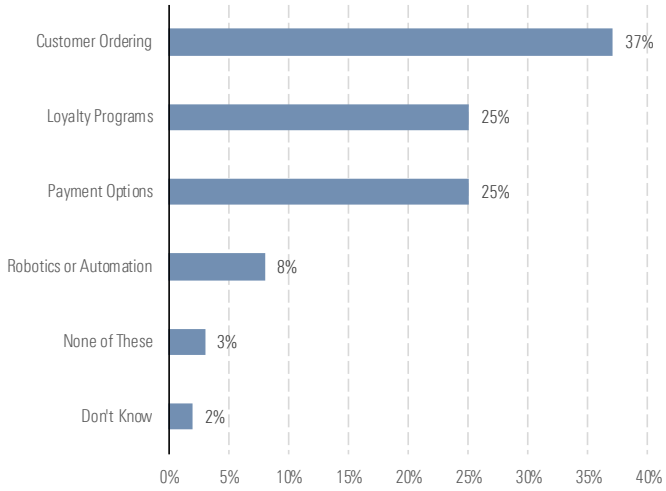
Key Metrics: Sales Per Labor Hour Versus Transactions Per Square Foot, Transactions Per Employee

We've covered several changes to consumer-facing technologies in this report, but we also believe we're also in the early stages of an industrywide investment cycle for back-of-the-kitchen and administrative technological solutions, which is evident in the PitchBook RestaurantTech Market Map we presented earlier on page 8 and provide a broader discussion for on page 127. It was evident from our discussions with industry executives and their financial backers that top restaurant operators don't just want to adopt new technologies; they want to pioneer new technologies across all restaurant functions. However, we believe the management teams that are best positioned to withstand the structural changes taking place across the restaurant industry are the ones that realize that "new technologies are only worthwhile if they enhance the customer experience," including improved food quality and transparency, more convenient technologies, and seamless employee onboarding (something that Leo and Oliver Kremer from New York Mexican fast-casual chain Dos Toros emphasized to us).

Consumer-facing technologies are currently getting the most attention from restaurant operators today, with a 2016 survey from the National Restaurant Association suggesting that consumer-facing technologies such as mobile/online ordering and loyalty programs—themes we've already discussed in this report—were likely to be the most important technological developments in the restaurant industry the next several years. However, based on more current survey data from Toast and our conversations with restaurant executive teams, non-consumer facing technologies are also starting to gain traction. We believe that many of the perceived barriers to adding more technology—including the cost of implementation and lack of infrastructure—are starting to change because of the pressures we've outlined in this report and operators' need to optimize cost structures to survive over a longer horizon (Exhibit 52).

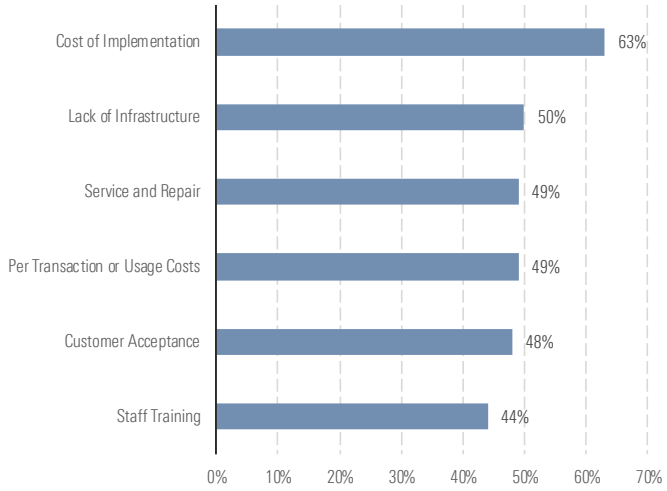
Exhibit 52 Restaurant Operators Expect Ordering, Loyalty Programs, and Payments To Be the Most Implemented Technologies Over the Next Five Years, but We Also Anticipate Greater Adoption of Back-of-House Solutions

Most Important Areas of Technology Development the Next Five Years



Source: National Restaurant Association Restaurant Technology Survey 2016

Barriers to Adding More Technology



Source: Toast "Restaurant Technology in 2017"

While some restaurant executives may try to spin it differently, we believe that non-consumer restaurant industry technology implementation is ultimately about managing costs, particularly labor (which typically accounts for 30%-35% of a restaurant's cost of goods sold). Not surprising, the idea of automation for back-of-the-house functions came up much more frequently during our management discussions in preparing this report than our 2015 and 2016 editions. Starbucks CEO Kevin Johnson also touched on this idea during the company's June 2018 update call:

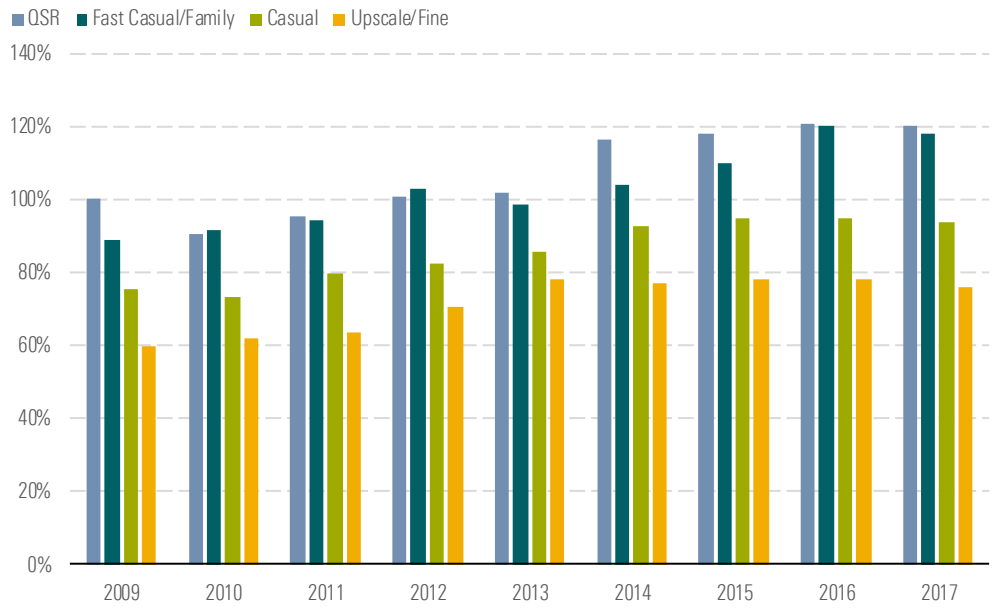
> *"The technology to run some of our back-office processes and things is just not in place. We've under-invested in some things, and I think one big unlock is to utilize technology to help make our partners more effective, more efficient and help improve [the customer] experience at Starbucks as well."*

Over the next several pages, we'll look at the balance of restaurant labor and functions where operators may have an opportunity to use technology to streamline the process. However, operators must strike a balance with technology, because if implemented incorrectly, we believe it can have a dilutive impact on those consumers seeking both convenience and experience.

Examining the Labor/Technology Dilemma

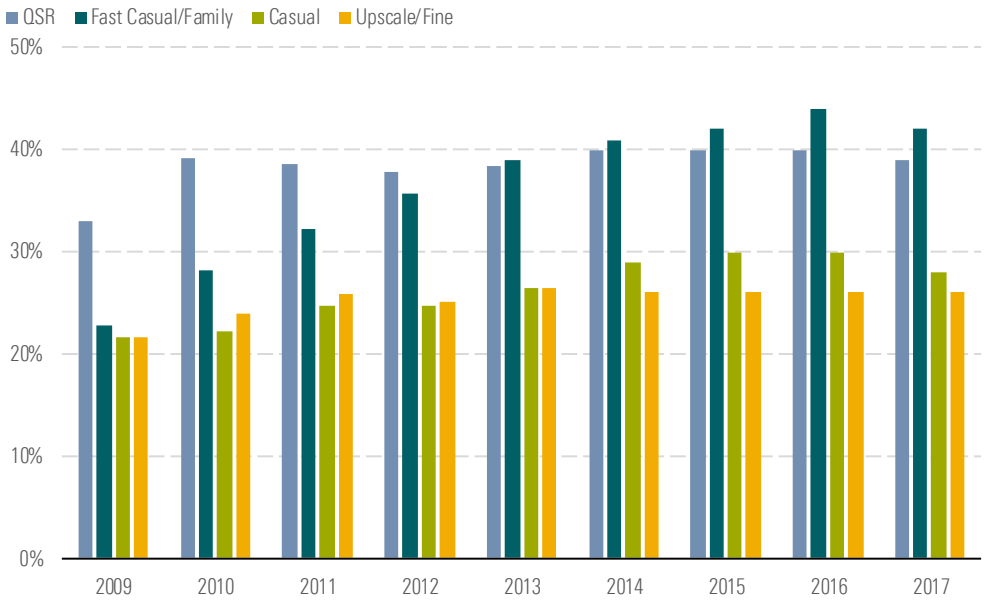
Labor presents a unique challenge for restaurant operators, as a well-trained crew can make a great first impression and drive a lifetime of guest traffic but can also have an outsized impact on margins (especially during period of cyclical downturns). These pressures don't appear to be subsiding, with minimum wage set to accelerate across many parts of the country (as we pointed out in Exhibit 18 in the introduction section of this report). With U.S. unemployment rates remaining under 4% for mush of 2018, labor markets for restaurants remain tight and employee retention is clearly an area of focus for most restaurant operators we spoke with. Based on data from BlackBox Intelligence/ TDn2K and our own estimates, turnover rates for both hourly and management employees remain at post-recession highs levels with few signs of dissipating over the near future. (Exhibits 53 and 54)

Exhibit 53 Hourly Employee Labor Turnover (2009-17)



Source: BlackBox Intelligence/ TDn2K, GE Capital Franchise Finance, Nation's Restaurant News, company filings, Morningstar estimates

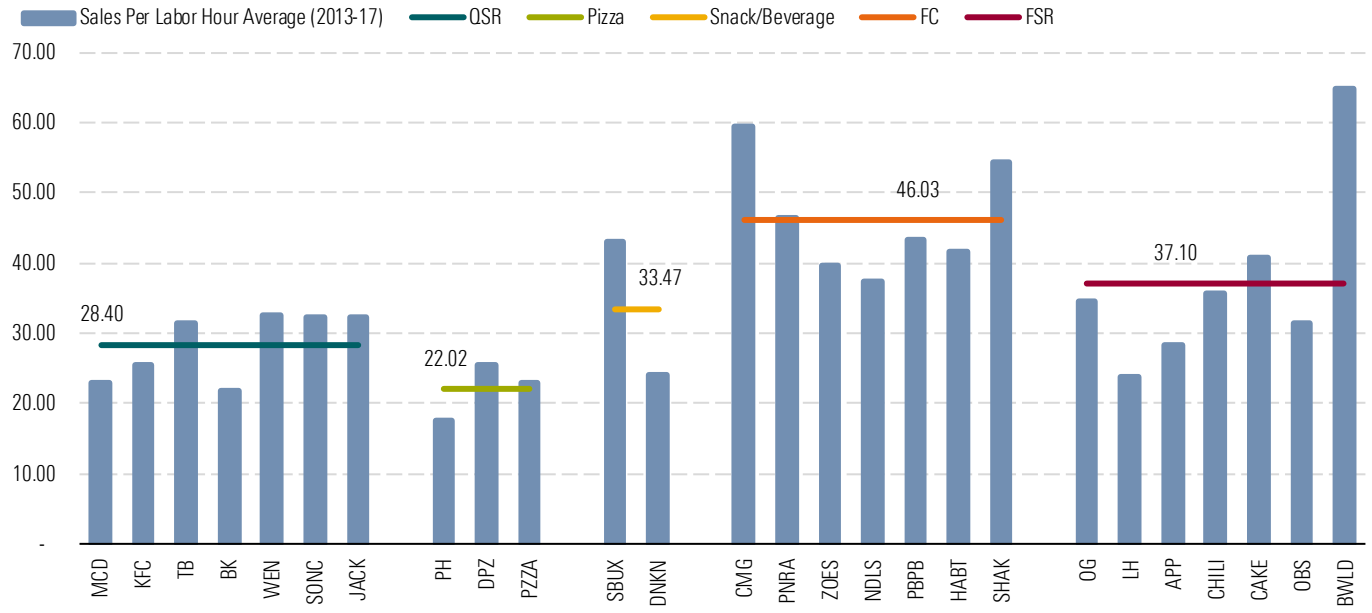
Exhibit 54 Management Employee Labor Turnover (2009-17)



Source: BlackBox Intelligence/ TDn2K, GE Capital Franchise Finance, Nation's Restaurant News, company filings, Morningstar estimates

When discussing labor costs and the possibility of using technology to automate aspects of restaurant operators, sales per labor hour was a performance metric that came up frequently in our discussions with management teams. Data from the National Restaurant Association and FastCasual.com suggests that the median total sales per full-time equivalent employee is $45.33 per hour (the equivalent of $68,571 per year using roughly 1,500 labor hours as a baseline for most employees) across all restaurant categories. However, using public filings, franchise disclosure documents, and discussions with public and private restaurant managers, we've developed sales per labor hour benchmarks for each restaurant subsector in our sample group as a starting point for our discussion for labor cost management. We've presented sales per hourly worker (excluding store managers and other executives) for our sample group over the past five years in Exhibit 55.

Exhibit 55 Despite Recent Headwinds, Fast-Casual Remains the King of Sales Per Labor Hour



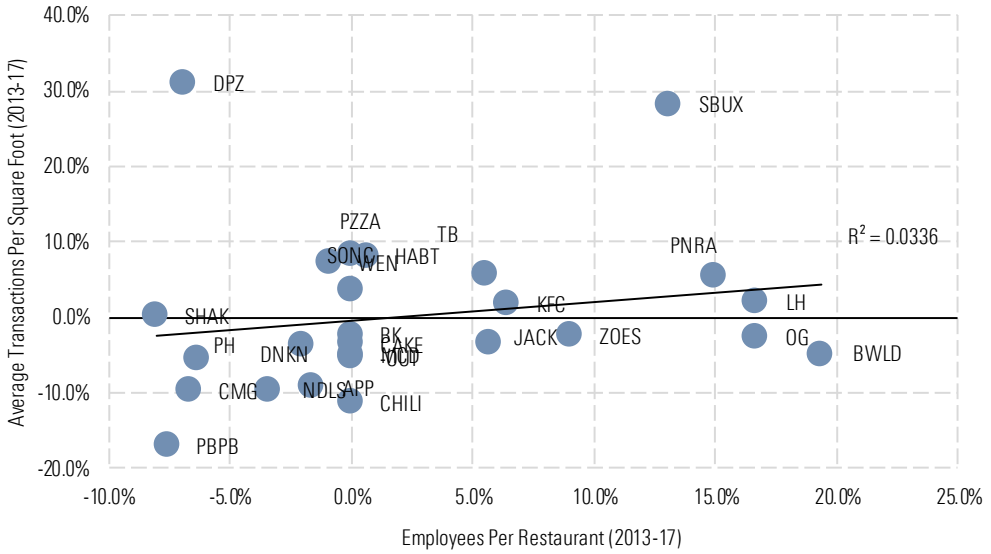
Source: Company filings, Nation's Restaurant News. Morningstar estimates

Given the generally higher price points compared with quick-service operators but smaller employee per restaurant counts relative to full-service restaurants, it's not surprising that fast-casual concepts generally scored ahead of the rest of our sample group with respect to sales per labor hour coming in at $46.03 per labor hour (with Chipotle and Shake Shack as standouts). FSR ($37.10 per labor hour), snack/beverage ($33.47), and QSR ($28.40) followed the fast-casual category, though there were a few standouts like Starbucks and The Cheesecake Factory among these categories. Lagging the group was the QSR pizza companies with average sales per hour of $22.02, which appears reasonable based on the human capital requirements for a delivery service and relatively low price points on a per transaction basis.

While we find it an interesting performance metric, we don't think sales per labor hour tells the complete story of how consumer expectations about restaurant experience are reshaping the industry. Several executives, including Jim Mizes from Blaze Pizza and Brett Schulman from CAVA, also told us that they believed that cutting labor negatively impacted a customer's experience in the restaurant, and by extension, weighed on top-line results. Jeremy Klaben from Chicago-based stir-fry concept Brightwok Kitchen also emphasized that employee retention was one of the keys to unlocking speed of service. Crews that have worked together for several months are able to deliver consistent prep times, which we believe is an underappreciated consumer purchase consideration. In other words, a consumer that prioritizes convenience is willing to wait in a long line if they know the crew can accommodate heavy volume at peak hours.

To test this hypothesis further, we analyzed the correlation between employees per restaurant (hourly crew plus salaried managers) and transactions per square foot trends the past five years (Exhibit 56).

Exhibit 56 Change in Employees Per Restaurant Versus Change in Average Transactions Per Square Foot (2013-17)

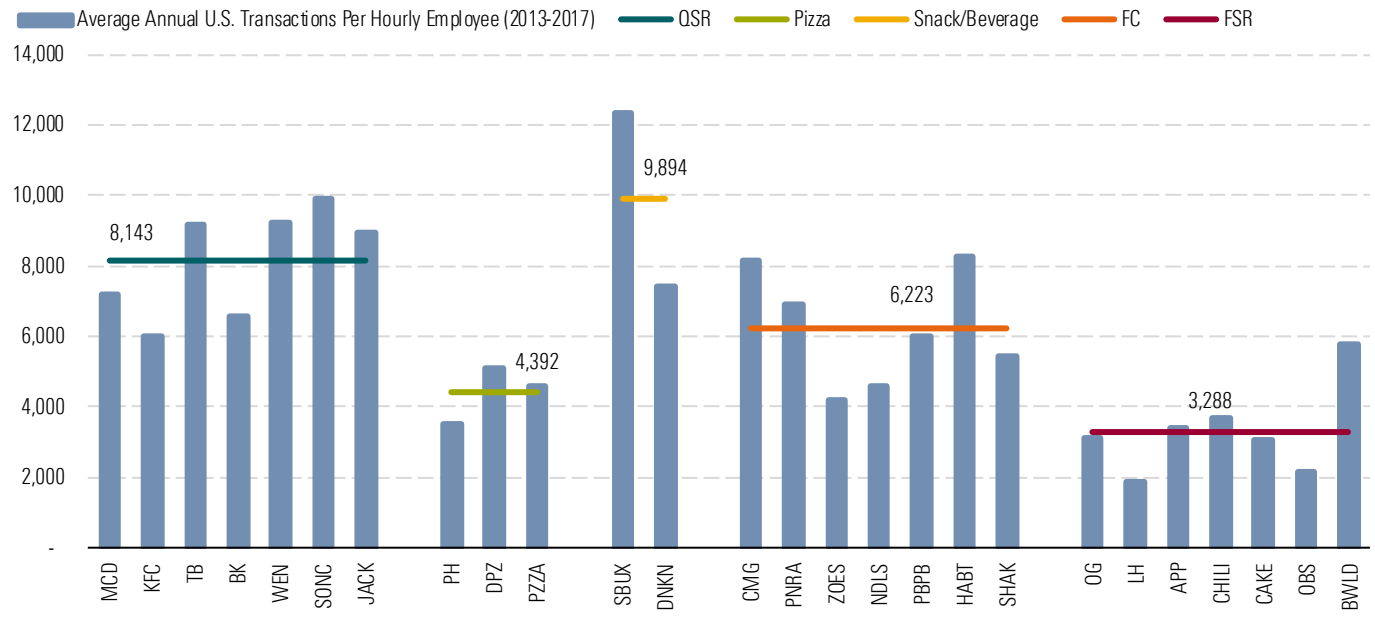


Source: Company filings, Nation's Restaurant News. Morningstar estimates

We didn't find a strong correlation when we plotted these variables against one another (R-squared of 0.03). However, after closer examination of the data, we believe that the correlation between staffing and guest traffic is still holds but has been skewed in large part by the pizza category, where off-premises technology advances have allowed for a fewer employees per restaurant the past several years. For restaurant concepts that generate the majority of their transactions in-restaurant—particularly in cases where experience is favored over convenience—we do see a more positive correlation between transactions per square foot and employees per restaurant, with Starbucks, Panera, and LongHorn Steakhouse as notable standouts.

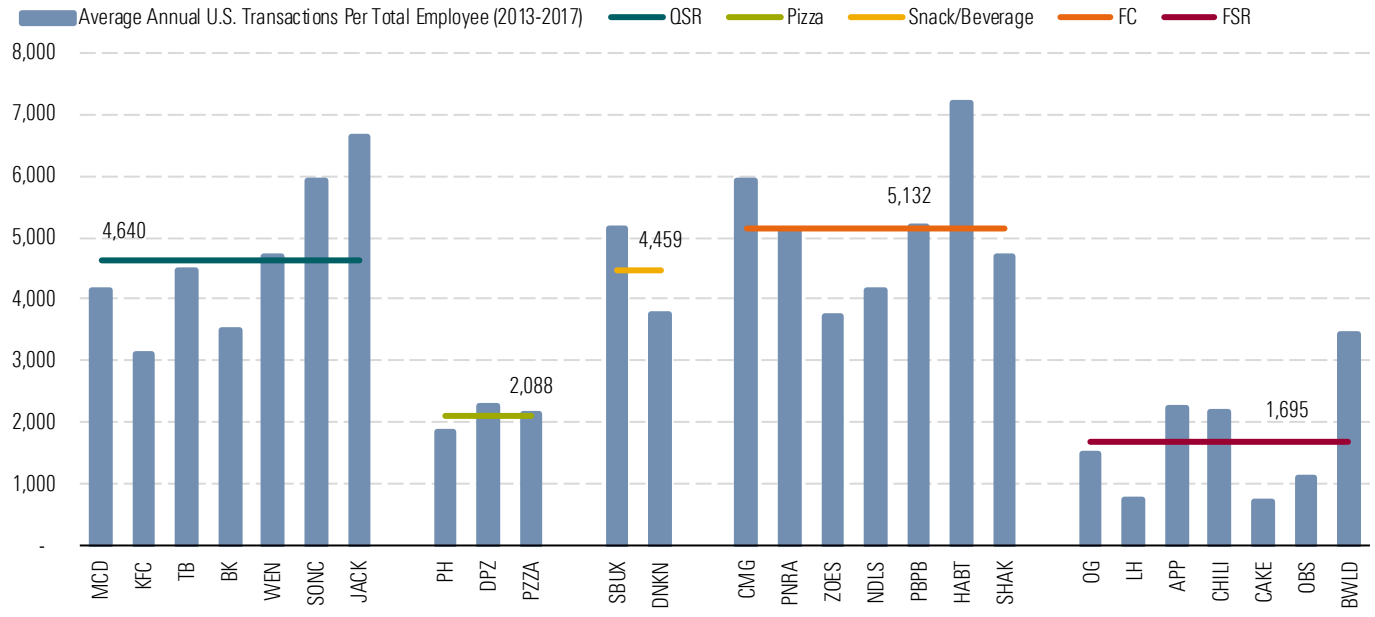
To examine this topic in greater detail, we calculated transactions per hourly and total transactions in Exhibits 57 and 58.

Exhibit 57 Annual U.S. Transactions Per U.S. System Hourly Employee (2013-17)



Source: Company filings, eMarketer. Morningstar estimates

Exhibit 58 Annual Transactions Per U.S. System Total Employee (2013-17)



Source: Company filings, eMarketer. Morningstar estimates

Our annual transaction per employee data was like the previous analysis, where the heavier human capital subsectors like pizza (which employ in-house delivery drivers) and FSR lagged those categories that emphasized speed and convenience like QSR, snack/beverage, and fast-casual. While we believe these data points offer relevant benchmarks for investors, we expect these figures to increase for almost all categories over the next several years as restaurant operators increasingly embrace technology to streamline business operations.

Do Your Customers Prioritize Convenience or Experience?

We're already starting to see several examples where technology is being deployed to streamline operations and reduce operating costs across the restaurant industry. We touched on this in our regression analysis between transactions per square foot and employees per restaurant, but we believe the level of technology deployed ultimately depends on the restaurant location itself, with those emphasizing convenience and speed likely being the most successful with transformational technology upgrades and those that prioritize customer experience requiring a balance between technology and labor investments. In many ways, this situation reminds us of the issues currently facing Starbucks, which partly built its brand intangible asset by offering an enjoyable "third place" consumer experience away from home and the office but is now working to better accommodate mobile order customers who often prioritize speed of service over experience. We believe there are several inherent challenges in trying to satisfy two customer segments that have vastly different expectations and that can change based on their given specific circumstances.

For this reason, we believe that restaurant operators essentially must determine what consumer need—convenience or experience—they are most trying to satisfy with each location. We believe it is possible to satisfy both consumer groups under one restaurant roof—Panera's "2.0" guest experience investments, including expanded peak-hour throughput capacity, more accessible menu price points, new marketing tactics, and digital ordering capabilities is a great example—and we're seeing similar operational adjustments across the broader QSR and fast-casual restaurant categories. However, we think that by determining which consumer demand each restaurant is best positioned to satisfy, it can lead to better decisions about what restaurant operations can be automated and what types of technology are suitable to accomplish these goals.

One of the most interesting examples of this we came upon during our due diligence was Chicago-based Wow Bao, a bao and rice bowl concept that has developed an automated concept without any front-of-house staff. Utilizing eatsa's ordering, preparation, and pickup platform, customers place orders through in-restaurant kiosks or mobile devices then retrieve completed orders in one of 12 "cubbies" that display the customer's name (Exhibit 59). We spoke with Wow Bao president Geoff Alexander about the concept, who told us that eatsa-enabled stores typically staff 1-2 employees per shift compared with 3-6 employees per shift at legacy restaurant locations (thus greatly improving the sales per labor hour metric we just presented). Depending on transaction volume, one employee can rotate between the front-of-house to assist customers and back-of-house food preparation.

Exhibit 59 Using eatsa's Technology, Wow Bao Has Developed a Concept for Customers Prioritizing Convenience Over Experience

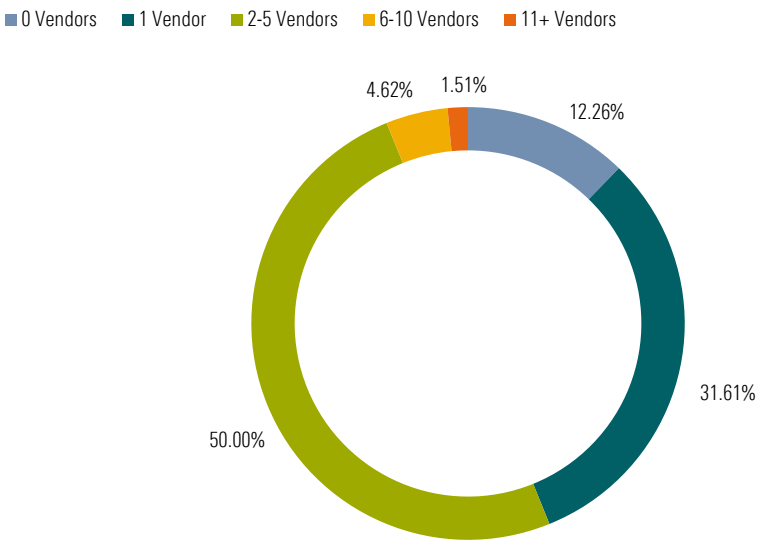
Source: Wow Bao, Morningstar

The eatsa-enabled Wow Bao locations are clearly designed to satisfy a consumer that prioritizes convenience over in-restaurant experience, evidenced by average prep time between 2-3 minutes and limited counter seating for patrons. However, while convenience is at the forefront of these Wow Bao locations, we like that management hasn't sacrificed on other topics we've discussed in this report regarding menu innovation and authenticity (in fact, during our conversations, Alexander appeared to be just as excited as new menu developments like cauliflower rice as he was with Wow Bao's technology advances). We believe that technologies like eatsa, 3D printing, and robotics machine will increasingly be incorporated into future openings for convenience-focused restaurants—for example, Chipotle showed a restaurant prototype similar to Wow Bao's eatsa layout in CEO Brian Niccol's strategic vision presentation in June 2018—as part of longer-term efforts to manage labor costs and improve sales per labor hour.

However, technology can also play a key role in those locations that cater to more experience-focused consumers. One of the best examples we found was Mediterranean fast-casual concept CAVA, which has deployed motion sensors in its restaurants to improve throughput, staffing, and inventory management. CAVA CEO Brett Schulman told us how these sensors can detect where consumers congregate and how long they stay, why as well as noise levels, temperature, and lighting. In turn, this data has led to changes in restaurant design and equipment placement in more recent store openings. We believe this ties back to our earlier discussion about evolving value proposition and transactions per location that we discussed in first question.

However, we believe restaurant operators must be aware of technology limitations and costs, as restaurant technology fees can add up quickly (invoking our previous discussion about fees for delivery aggregators). Several restaurant executives told us that they've tried to limit the number of technology vendors they work with to avoid "unnecessary and overwhelming" fees. According to Toast's Restaurant Technology in 2017 report, most restaurants use between 2-5 vendors for their various technology solutions, including point of sale, employee scheduling software, inventory management, and online ordering integration (Exhibit 60). This strikes us an appropriate number, as fewer than two vendors likely indicates that a restaurant operator hasn't invested sufficiently in its technology platforms (regardless of whether its focus is on convenience or experience) and more than five vendors could be a sign of paying excessive software or other subscription fees.

Exhibit 60 Too Many Restaurant Technology Partners Can Lead to Excessive Fees



Note: Represents the percentage of restauranteur responses to the question, "How many different technology vendors (point of sale, employee scheduling software, online ordering integration, etc.) does your restaurant currently pay for?
Source: Toast "Restaurant Technology in 2017"

Admittedly, finding the appropriate technology partners is not an easy task—just look at the sheer number of technology providers and capital they've raised on PitchBook's RestaurantTech Market Map on page 8 for evidence as to how crowded this field has gotten in a relatively short amount of time. However, we believe that a restaurant's first step in identifying the appropriate technology partners is understanding the specific consumer need that they're satisfying, then selecting the best partners who specialize in streamlining those restaurant functions.

Question: How Does the Restaurant Address Market Expansion?

Key Metric: AUV in Markets Beyond Home Market

Now that we've developed a few benchmarks for assessing a restaurant's ability to adapt to changes in customer convenience and experience, menu innovation, technology, and off-premises substitutes, we want to expand our discussion of next generation performance metrics with an examination of some more practical, operational metrics. Even if a restaurant has developed and sufficiently addressed consumer's evolving preferences, restaurant operators must also address questions about market expansion, scalability, and supply chain operations, which we touched on during the introduction section to this report on page 10 but wanted to evaluate in greater detail.

How to Benchmark Unit Expansion Given Physical Changes to Restaurant?

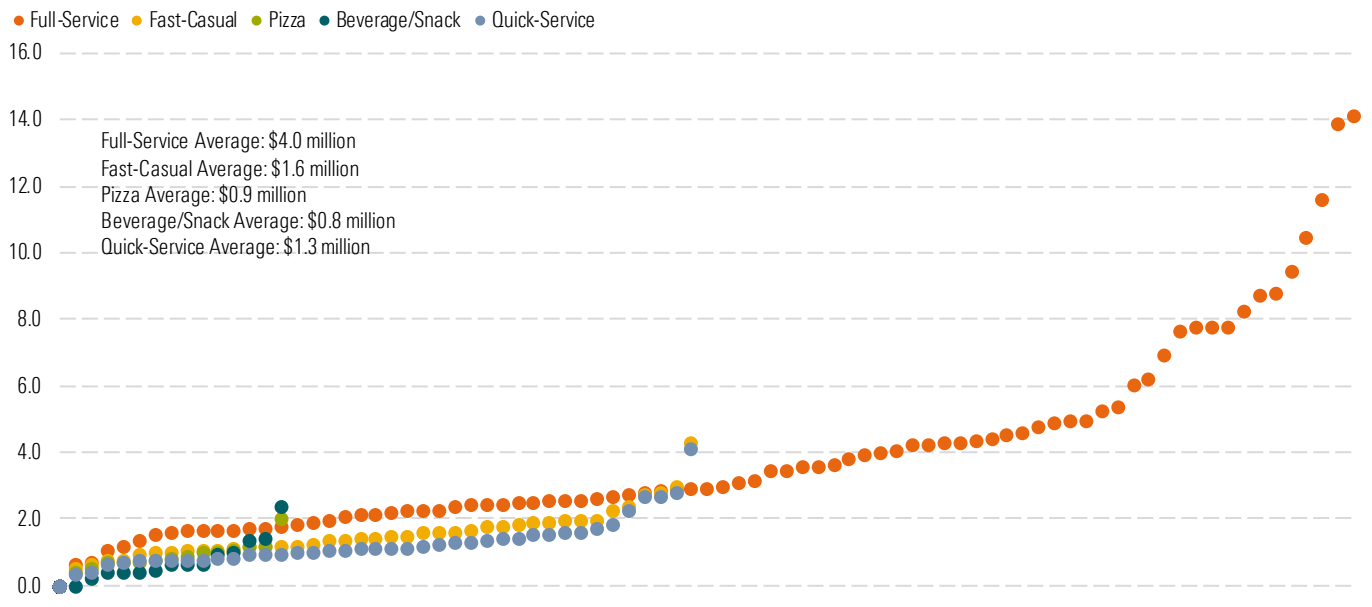
In our 2016 Observer, we argued that the ultimate U.S. unit count for a restaurant concept can be estimated by taking a restaurant's penetration in its initial metropolitan statistical area (MSA) as well as five of their most mature MSAs after 10-15 years of operation (with market penetration statistics not becoming meaningful until a concept has reached at least 25 units and at least 3-5 markets). We believed that by simply taking the number of restaurants that a chain has in its most deeply penetrated market and extrapolating this figure to the rest of the United States—a common way that analysts have historically come up with ultimate restaurant count estimates—may ignore increased competitive pressures as the firm expands beyond its home market as well as other structural changes taking place in the restaurant industry, thereby overstating a chain's longer-term unit potential. As such, we concluded that an average of the number of restaurants per person in its initial market and its other mature markets gave us a more accurate depiction of potential market penetration. From there, we've looked at a chain's restaurant unit per person estimate and apply it to U.S. metro areas with a population greater than 150,000 (roughly the market size needed to achieve scale, in our view) to arrive at an ultimate store base estimate for each chain.

However, like many topics involving the restaurant industry, our views on market expansion are also evolving. Although many of the executives we spoke to in preparing this report now oversee multi-market operations, several spoke about the difficulties of optimizing menu development, staffing, restaurant design, and equipment to maintain operational consistency as a chain moves from one to multiple units. According to multiple studies, approximately 60% of new restaurants fail within the first year—often before a chain can open a second location—and nearly 80% new units close within their first five years of operation. We don't find this surprising, as there are so many variables that a restaurant operator must get right before even thinking about expanding. Zach Friedlander, former CEO of Aloha Poke, explained that: "With so many new concepts coming to market, you first need to have store layout, buildout, and labor model in place before thinking about expansion."

Let's start our analysis on market expansion by looking at average unit volume (AUV), which is a metric that any investor—public or private—should evaluate. We revisited the AUV analysis by restaurant category we utilized as benchmarks in our September 2016 piece. Starting with the Nation's Restaurant News Top 200 list published in June 2018, which ranks U.S. public and private restaurant chains based

on systemwide sales for the most recent fiscal year, we sorted each restaurant chain into one of five categories based on our sample group classifications: (1) full-service; (2) fast-casual; (3) pizza; (4) beverage/snack; and (5) quick-service. Full-service restaurant chain AUV came in at $4.0 million (range: $700,000-$14.1 million), while the fast-casual AUV was $1.6 million (range: $0.5 million-$4.3 million). The average quick-service restaurant AUV was $1.3 million (range: $400,000-$4.2 million), the average pizza chain AUV was $900,000, and the average beverage/snack AUV was $800,000 (Exhibit 61).

Exhibit 61 AUV for the Nation's Restaurant News Top 200 U.S. Restaurant Chains (Measured by Most Recent Reported Year Systemwide Sales)



Note: Represents most recent fiscal year where available.
Source: Nation's Restaurant News, company filings, Morningstar estimates

While AUV statistics offer investors decent sales benchmarks for concepts that reach scale, we acknowledge that this list is made up of largely established players and we need to develop better metrics for more nascent concepts. Given that we still expect fast-casual chains to post the highest unit growth over the next five years—6.4% annually as we pointed out in Exhibit 18—we believe this category offers a good case study for examining market expansion. Based on fast-casual chains' compelling unit economics and the relative scarcity of reliable growth companies across other consumer cyclical categories, it's not surprising that this category was generally rewarded with premium valuations the past five years. That said, the success of fast-casual operators did not go unnoticed, spawning multiple rivals with aggressive growth aspirations. On top of the increased competition, we've seen existing QSR and FSR operators adopt many of fast-casual's best practices when it comes to satisfying consumers' evolving views on convenience and experience, forcing operators to increasingly compete with each other for market share through menu innovations, aggressive pricing, and limited-time offers (not dissimilar to the maturation of the quick-service restaurant industry in the U.S. during the 1990s and 2000s). Additionally, with retail landlords looking for tenants to fill unoccupied real estate

and restaurant operators finding themselves with easier access to capital, we saw an increase in new fast-casual restaurant concepts enter the market that weren't prepared to scale their operations.

While the unit growth of larger fast-casual chains like Chipotle, Panera, Potbelly's, Noodles & Company, Zoe's Kitchen and others contributed to strong unit growth trends in the fast-casual category from 2012-17, we believe smaller fast-casual chains also played a role (as we pointed out in our discussion about private equity's influence on the industry). However, given the increases in bankruptcies among the fast-casual category that we've saw in 2017 and 2018, it's clear that many of these chains weren't ready to scale. As such, we believe restaurant investors need better benchmarks when evaluating a given restaurant's expansion plans.

In Exhibit 62, we've put together average AUV and expense benchmarks for restaurants as they expand from a standalone location to a multi-unit operator in a single market, then to a multi-marketed clustered chain, and even an established regional or national chain. Although variability in these statistics can fluctuate greatly from chain to chain and are subject to several company- and industry-specific variables, we believe that a restaurant generally reaches peak volumes within 1-2 years. With respect to margins, we believe that an average operator will see restaurant-level margins—or restaurant sales less prime costs (food, labor, occupancy, and other operating costs—grow from roughly 10% to 21% from a standalone location to an established, mature operator. From an operating margin perspective, we believe it's common for a restaurant operator to expand from the low single digits to the midteens from inception to maturity. In this exercise, we've assumed the restaurant chain is completely company-owned and not franchised, which can distort general and administrative expenses and depreciation and amortization expenses.

Exhibit 62 Benchmarking Average AUV and Margins as a Restaurant Expands

	Standalone Unit	Initial Market Expansion	Multi-Market Expansion	National Expansion
Number of Units	1	5	25	100
Number of Markets	1	1	2-3	3-8
New Store Productivity				
Year 1 New Store Contribution (% of Initial Store AUV)	NA	75%	85%	95%
Year 2 New Store Contribution (% of Initial Store AUV)		90%	95%	100%+
Margin Analysis				
Food, Beverage and Packaging	40%	40%	38%	36%
Labor	28%	27%	26%	25%
Occupancy	10%	10%	9%	8%
Other Operating Costs	12%	11%	11%	10%
Total Restaurant Operating Costs	90%	88%	84%	79%
Restaurant-Level Operating Margin	**10%**	**12%**	**16%**	**21%**
General and Administrative	8%	7%	7%	6%
Depreciation and Amortization	3%	3%	3%	3%
Operating Margin	**2%**	**5%**	**9%**	**15%**

Source: Company filings, Morningstar estimates

Of course, our AUV and restaurant profitability benchmarks are broad averages, and these metrics may we swayed by other factors, which we touch on briefly below:

- **Ownership structure.** Ownership structure—especially as the industry's recent refranchising activity winds down—will likely have a ripple effect on market expansion plans across the industry over the next several years, most of which will be positive from an AUV perspective. First, in conjunction with refranchising activity, we saw most large franchisors close underperforming franchise locations or decelerate unit growth plans the past several years. With fewer locations in operation and other guest experience/convenience initiatives in play, we expect AUVs for most franchised chains to improve. Second, most of the company-owned locations sold to franchisees went to well-capitalized developmental licensing partners or some of the best-run conventional franchisees, which should also aid in current convenience/experience transformation efforts. Third, based on our recent industry discussions, we believe there are several franchisees groups that were active in recent refranchising activities that are now looking for additional brands to add to their portfolios. As such, we expect many multi-market restaurant chains will look to franchising as a way to accelerate market expansion efforts in the years to come.
- **Suburban/Urban Markets.** Consistent with our ongoing analysis about consumers' evolving views on convenience versus experience, we're seeing many restaurant operators reevaluate store configurations for suburban and urban markets in recent years. Not surprisingly, those operators that have identified convenience as their consumer's greatest priority have been more focused on market expansion in urban areas, while those operators focused on experience tend to overindex to suburban markers. However, many of the top operators we spoke to for this report have developed restaurant layouts for both urban and suburban markets.
- **Secondary/Tertiary Markets.** Earlier in this report, we projected that restaurant industry unit counts will decline modestly over the next several years. In part, this forecast is based on the idea that the restaurant industry overstored with concepts that haven't fully adapted to changes in consumer preferences. Additionally, several executives agreed with our views about saturation in urban markets, but also noted that they were seeing healthier AUVs and restaurant-level margins in in secondary and tertiary markets. Though difficult to quantify with company or industry statistics, several restaurant operators told us that restaurant level returns in secondary/tertiary markets—loosely defined as populations under 400,000 people—have been higher than urban markets the past several years. While we don't think this is the case for every restaurant concept, we do see some merit in these claims, as certain international cuisines have benefited from a lack of competition/first mover advantages in "middle America." Additionally, some operators told us that certain smaller markets—especially those that have vibrant craft beer or spirits scenes—have been "exceptionally" conducive to higher AUVs and restaurant level margins in recent years.

Over the next several pages, we'll go deeper with the discussion on market expansion by developing benchmarks to evaluate buildout and lease costs.

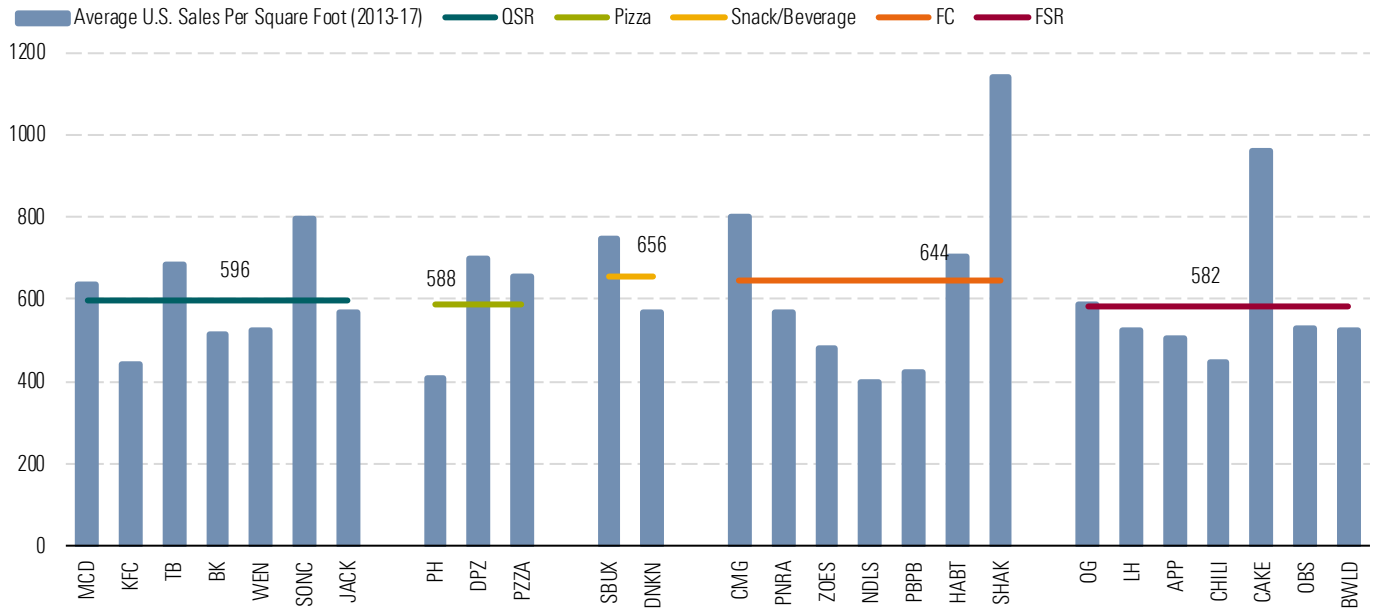
Question: How Do Buildout/Lease Costs and Restaurant Utilization Compare With Other Industry Players?

Key Metrics: Buildout/Rent Cost Per Square Foot

In addition to AUV, one of the more obvious metrics that restaurant investors look for is cash-on-cash returns, or pre-tax cash proceeds from operations divided by upfront investments. We believe cash-on-cash returns are still an important metric for public and private investors to monitor, but between consumers shifting expectations regarding value proposition, increased demand for off-premises offerings, food and labor inflation, and changes in buildout and restaurant design costs, there are more considerations than ever when analyzing the cash-on-cash equation for restaurants. In today's restaurant environment, operators have to re-engineer their restaurants, with a focus on satisfying consumer's evolving views on convenience and experience while keeping costs—and to some extent—overall square footage in check.

To frame the discussion about how restaurant operators are optimizing their real estate, we find it helpful to look at sales on a per square foot basis across the different restaurant categories. Interestingly, we find that there isn't much variability across the different restaurant categories, with most categories averaging around $600 annually the past five years and ranging from $582 per square foot for casual dining chains to $656 per square foot for snack/beverage operators (Exhibit 63).

Exhibit 63 Average U.S. Sales Per Square Foot (2013-17)



Source: Company filings, Franchise Disclosure Documents, Nation's Restaurant News, CoStar Group, eMarketer, Net Lease Advisor, GE Capital Franchise Finance, Morningstar estimates,

Buildout Cost Requirements Are Changing Industrywide

However, to fully examine how the cash-on-cash return equation is changing in today's restaurant environment, we must analyze restaurant buildout costs across the industry. Using 10 years of company filings, franchise disclosure documents, data from CoStar Group, eMarketer, Net Lease Advisor, and GE Capital Franchise Finance, we've pieced together current estimates cost of the land, building, leasehold improvements (upgrades made to a leased building), equipment costs, and soft costs (including engineering, financing, and legal fees, and other pre- and post-opening expenses) for our sample group or restaurants (Exhibit 64).

Exhibit 64 Evaluating Buildout Costs Across Different Restaurant Categories

QSR	Land Cost	Building Cost	Leasehold Improvements (Including TI Allowances)	Equipment Cost	Soft/Pre-Opening Costs	Total Buildout Cost	Leasehold, Equipment, and Soft Buildout Costs	Leasehold, Equipment, and Soft Buildout Costs Per Square Feet
McDonald's	$1,181	$851	$0	$891	$284	$3,206	$1,175	$294
Burger King	$826	$521	$700	$218	$207	$1,773	$1,125	$459
KFC	$720	$606	$175	$291	$48	$1,665	$514	$180
Taco Bell	$826	$606	$250	$359	$181	$1,972	$790	$277
Wendy's	$944	$574	$250	$359	$242	$2,119	$851	$315
Sonic	$874	$319	$693	$160	$368	$1,721	$1,221	$814
Jack in the Box	$590	$489	$229	$378	$326	$1,783	$932	$405
Category Average	**$852**	**$567**	**$328**	**$379**	**$237**	**$2,034**	**$944**	**$392**
Pizza								
Pizza Hut	$1,299	$298	$465	$275	$112	$1,983	$852	$608
Domino's	$342	$298	$88	$104	$76	$819	$267	$190
Papa John's	$425	$277	$120	$76	$83	$860	$278	$214
Category Average	**$689**	**$291**	**$224**	**$151**	**$90**	**$1,221**	**$465**	**$337**
Snack & Beverage								
Starbucks	$887	$428	$597	$396	$100	$1,811	$1,093	$625
Dunkin'	$1,003	$468	$523	$405	$75	$1,952	$1,003	$456
Category Average	**$945**	**$448**	**$560**	**$401**	**$88**	**$1,881**	**$1,048**	**$540**
Fast Casual								
Chipotle	$848	$585	$460	$275	$72	$1,780	$807	$323
Panera	$1,414	$1,042	$750	$288	$427	$3,171	$1,465	$329
Zoe's Kitchen	$933	$644	$525	$225	$75	$1,877	$825	$300
Noodles	$832	$573	$500	$200	$75	$1,680	$775	$316
Potbelly	$781	$538	$500	$250	$100	$1,669	$850	$370
The Habit	$781	$538	$467	$233	$80	$1,632	$780	$339
Shake Shack	$1,103	$761	$1,377	$823	$159	$2,845	$2,359	$726
Category Average	**$956**	**$669**	**$654**	**$328**	**$141**	**$2,093**	**$1,123**	**$386**
Casual Dining								
Olive Garden	$1,454	$1,481	$1,750	$1,000	$1,200	$5,135	$3,950	$513
LongHorn	$1,058	$1,077	$1,000	$760	$1,000	$3,895	$2,760	$493
Applebee's	$1,048	$1,067	$231	$670	$932	$3,718	$1,833	$330
Chili's	$1,185	$904	$408	$440	$796	$3,325	$1,644	$350
Cheesecake Factory	$2,059	$2,096	$3,000	$1,000	$1,600	$6,755	$5,600	$514
Outback Steakhouse	$1,193	$1,215	$427	$567	$811	$3,786	$1,805	$286
Buffalo Wild Wings	$1,573	$1,357	$1,000	$460	$493	$3,883	$1,953	$337
Category Average	**$1,367**	**$1,314**	**$1,117**	**$700**	**$976**	**$4,357**	**$2,792**	**$403**

Note: McDonald's owns 45%-50% of the land and 70%-75% of the buildings for restaurants in its consolidated markets at year-end 2017, which explains why there aren't typically leasehold improvement costs for franchisees.

Source: Company filings, franchise disclosure documents, CoStar Group, eMarketer, Net Lease Advisor, GE Capital Franchise Finance, Morningstar estimates,

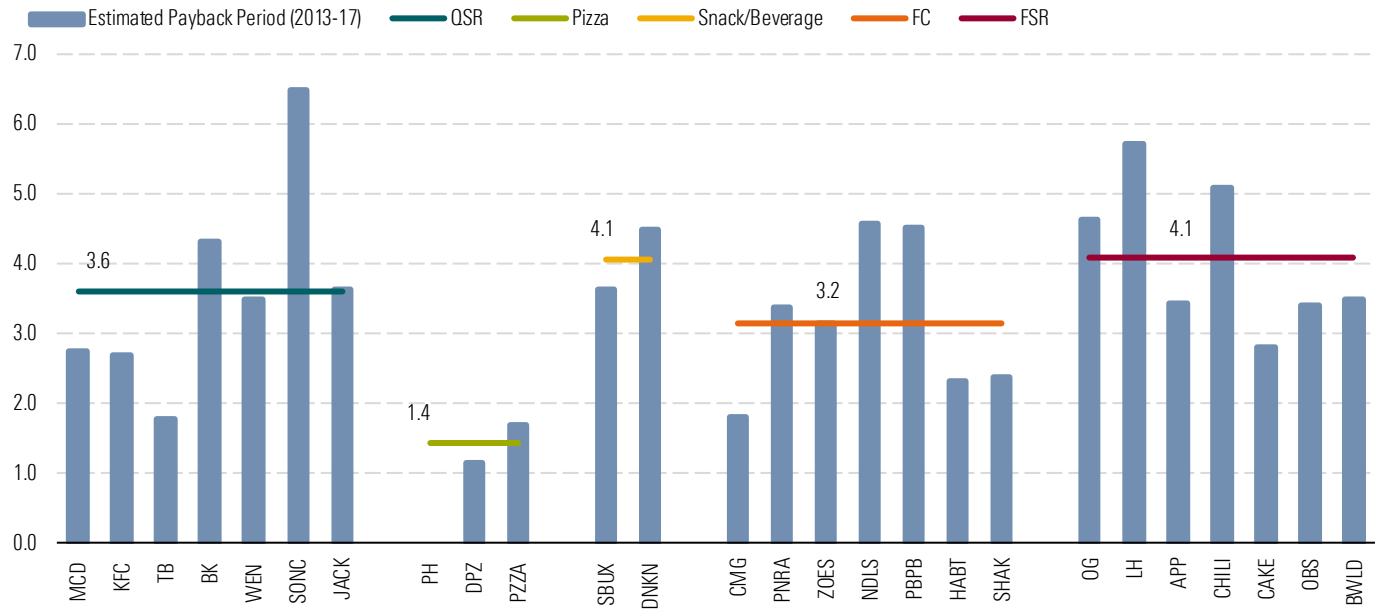
From a historical comparison standpoint, we found a handful of takeaways for investors while looking at the past five years of data:

- **Emphasis on delivery and carryout orders is influencing average building sizes.** It isn't happening overnight, but consumer demand for delivery and other off-premises options is beginning to impact the average building size for many restaurant concepts. For those restaurant categories that more naturally lend themselves to delivery operations and other convenience solutions, we're starting to see a modest reduction in the average restaurant building size. The average size of our QSR, pizza, and fast-casual ample group was down about 2% over the past five years, though this was admittedly influenced by Pizza Hut's deemphasis on sit-down "red-roof" locations and the impact of Chipotle's smaller concept "A Model" locations). On the other hand, the average restaurant size that emphasize to-go ordering and catering such as snack/beverage and casual dining were starting to trend upward, with management teams using new square footage or reallocating square footage in recent years for order-ahead transactions. We believe these trends mirror something we are also seeing across our retail coverage universe, where we've seen store closures and a reduction in average store sizes because of the rise of digital commerce, but also increases in digital-order specific fulfillment center capacity.
- **Leasehold improvement costs, equipment, and other soft costs are creeping up.** Given the evolution taking place across the restaurant industry, we're not terribly surprised that we're also seeing leasehold improvement, equipment costs, and other soft costs starting to creep up across most categories. On leasehold improvements and equipment, we attribute some of the increases to new restaurant features like pick-up windows and equipment like digital menu boards and higher-speed ovens. We've also seen soft costs go up to implement more technology-leveraged solutions like POS integration and delivery. While these features are more expensive, the cost may be justified if it unlocks greater peak hour capacity and unlocks new off-premises growth alternatives.
- **Alternatives to higher buildout costs are also starting to emerge.** However, we're not seeing leasehold improvement and equipment costs increase across the board, with some concepts implementing creative ways to reduce buildout costs (often because of space constraints or zoning issues that prevent traditional canopy hoods). Our discussions with restaurant operators and vendors who have presented at the National Restaurant Association show in recent years revealed several new ventless/alternative venting solutions are available for many concepts, which have helped to keep buildout costs more manageable.

Obviously, there are several factors that determine a restaurant company's optimal buildout costs, including the concept itself, the markets it operates in (and whether it’s an urban or suburban concept), the size of the chain itself (larger chains have negotiating leverage with contractors and other construction companies), ownership structure (company-owned versus franchised) and off-premises strategies. However, we’ve found that concepts that keep buildout costs (which we've defined as leasehold improvements, equipment, and soft costs) under $400 per square foot have a higher probability of longer-term success. For franchisors, we also believe keeping buildout costs accessible is critical for attracting future franchisees.

Payback ratios are obviously closely watched metrics when looking at buildout costs, with three years being the typical payback period benchmark of a viable long-term restaurant brand (which aligns the AUV and profitability figures we showed in Exhibit 62 in our market expansion discussion). We've presented payback period analysis for our sample group companies in Exhibit 65 below—with most restaurant operators having a payback period of between 1.5 and 4.5 years—but believe that investors need to carefully monitor this statistic, as we've seen a few instances in recent public restaurant company presentations where payback period figures are coming down because of smaller restaurant formats and more efficient equipment and not because of transaction growth or other efficiency gains.

Exhibit 65 Payback Period Varies Across Different Restaurant Categories



Note: Pizza Hut removed from this analysis due to distortions stemming from the closure of larger-format "red roof" locations
Source: Company filings, Nation's Restaurant News. eMarketer, franchise disclosure documents, CoStar Group, eMarketer, Net Lease Advisor, GE Capital Franchise Finance Morningstar estimates

We also believe that buildout costs can serve as an effective valuation floor when evaluating new restaurant investments. Though rare, we have seen a few recent instances where restaurant concepts trade near the cost to replace systemwide leasehold improvements, equipment, and oft buildout costs—including Zoe's Kitchen before proposed acquisition by the CAVA Group—which could make them attractive takeover targets.

Rent Cost Increases Explain in Part Why We're Seeing Physical Restaurant Changes

Restaurant buildout costs are crucial for earlier stage companies—if a company is overspending on building its restaurants, it'll never survive over a longer horizon—but as a concept matures and refines its restaurant layout and operational strategies, we believe rent expense becomes more critical. While not escalating as fast as labor inflation, many of the operators we spoke to put rent inflation as a top concern with respect to costs. With some private equity firms also pushing restaurants for aggressive unit growth, we've also see some instances where restaurant operators from west/east coast chains have expanded inward and disrupted rent costs in certain markets by paying above-market rates and constraining growth plans for local competitors. One of the more interesting discussions we had in preparing this report was with Modern Market co-founder Rob McColgan, who stressed the importance of being patient with restaurant selection and not jumping into oversaturated markets with above-market rent rates (something we highlighted in Exhibit 15).

Rent costs per square feet tended to be one of the variables that the top management teams (and their financial sponsors) that we spoke to in putting this report were acutely aware of, so it's a topic we wanted to explore in greater detail as consumer preferences continue to evolve. We've presented some basic assumptions about rent costs per square foot in Exhibit 66. This data comes from a survey that Restaurantowner.com conducted among more than 550 restaurant owners across the country asking how much they were paying for base rent (the minimum rent due to landlords each month). percentage rent (rent paid in addition to base rent based upon a percentage of the tenant's gross sales, with or without a breakpoint), and triple net charges (additional property taxes, insurance, and maintenance charges).

Exhibit 66 Comparing Base Rent, Percentage Rent, and Triple Net Charges Across Restaurant Quartiles

Base Rent	Lower Quartile	Median	Upper Quartile	Average	Respondents
Monthly Base Rent	$3,000	$5,000	$8,750	$6,914	496
Square Footage of Restaurant	2,100	3,500	5,000	4,180	496
Base Rent Per Square Foot--Monthly	$1.00	$1.50	$2.22	$1.95	496
Base Rent Per Square Foot--Annual	$12.00	$18.00	$26.24	$23.39	496

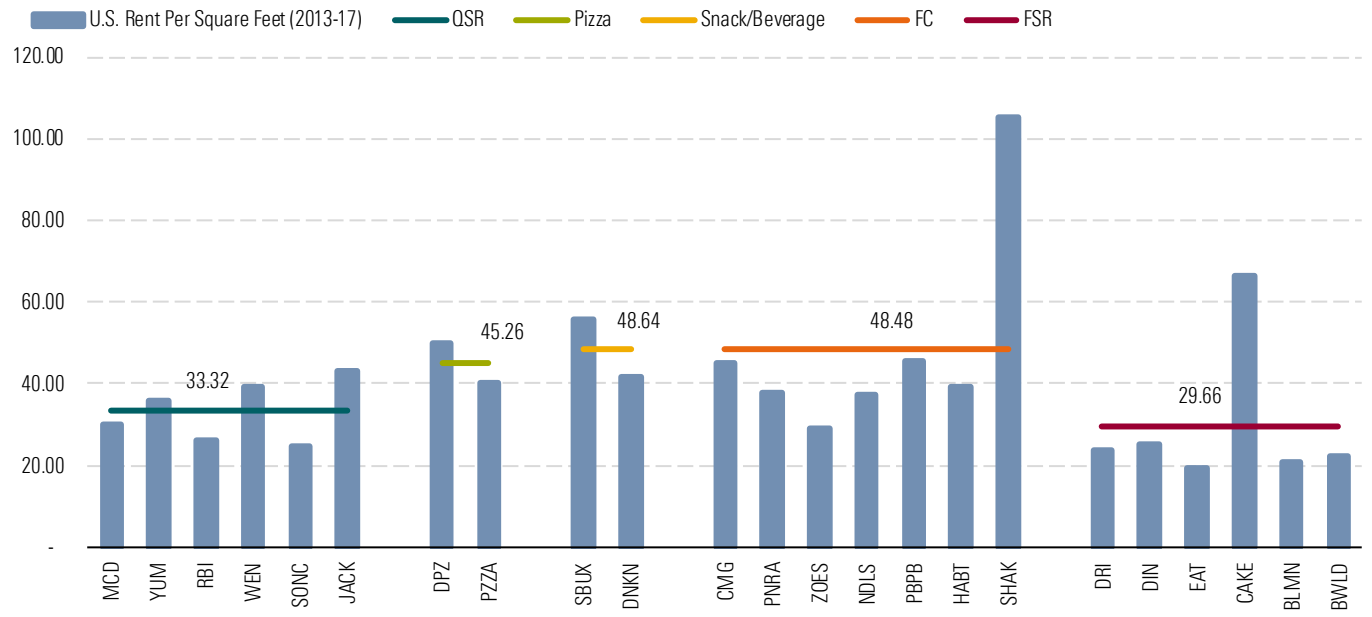
Pecentage Rent Paid				% of Respondents	Respondents
1%-4% of Sales				6.9%	35
5% of Sales				4.6%	23
6% of Sales				4.4%	22
7% of Sales				3.8%	19
8% of Sales				2.6%	13
9% of Sales				2.0%	10
10% of Sales				2.4%	12
More Than 10% of Sales				3.0%	15
Do Not Pay Percentage Rent				70.4%	355

Triple Net Charges	Lower Quartile	Median	Upper Quartile	Average	Respondents
Per Square Foot--Monthly	$0.10	$0.26	$0.50	$0.44	360
Per Square Foot--Annual	$1.21	$3.08	$5.95	$5.28	360
Total Annual Expense	$4,000	$10,000	$25,000	$19,167	360

Source: RestaurantOwner.com Member Survey

The Restaurantowner.com rent data generally ties with our discussions with industry operators and other publicly available data, we believe better comparisons can be made by benchmarking a concept's rent with its most direct peers. We reviewed financial statements, franchise disclosure documents, ground lease agreements, and other sources for each of our sample group companies to develop total U.S. rent benchmarks for each category (including base rent, percentage rent, and triple net charges). On the surface, the results weren't terribly surprising, with urban-concentrated categories like snack/beverage ($49 per square foot) and fast-casual ($48) on the higher end of the spectrum, full-service suburban concepts at the low end ($30) and quick-service and pizza chains in between ($45 and $34, respectively).

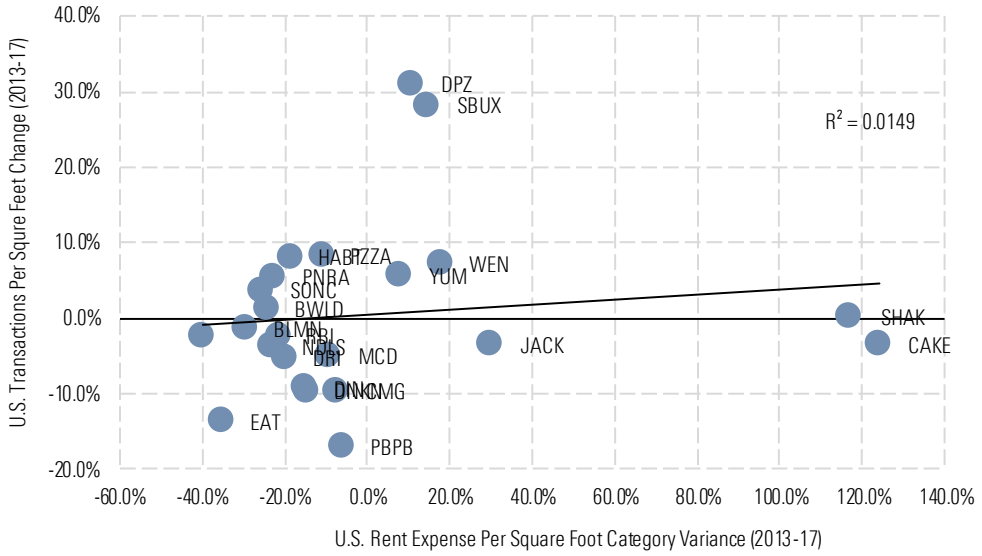
Exhibit 67 U.S. Rent Per Square Foot (2013-17)



Source: Company filings, Franchise Disclosure Documents, CoStar Group, eMarketer, Net Lease Advisor, GE Capital Franchise Finance, Morningstar estimates,

However, looking at the rent per square foot data in greater details, we can start to piece together some other takeaways. Most notably, restaurant chains that pay higher rent per square foot tend to outperform their peers. Several private restaurant operators we spoke to in putting together this piece echoed this sentiment—including Zach Weprin from Ohio-based fast-casual sushi concept FUSIAN—saying that their highest rent locations were often their best performing locations from a sales per square foot perspective. To examine this hypothesis in greater detail, we plotted transactions per square foot growth from 2013-17 for each of our sample group companies against their rent per square foot versus their respective category averages in Exhibit 68.

Exhibit 68 Change in U.S. Transactions Per Square Foot Versus Change in Rent Cost Per Square Foot (2013-17)



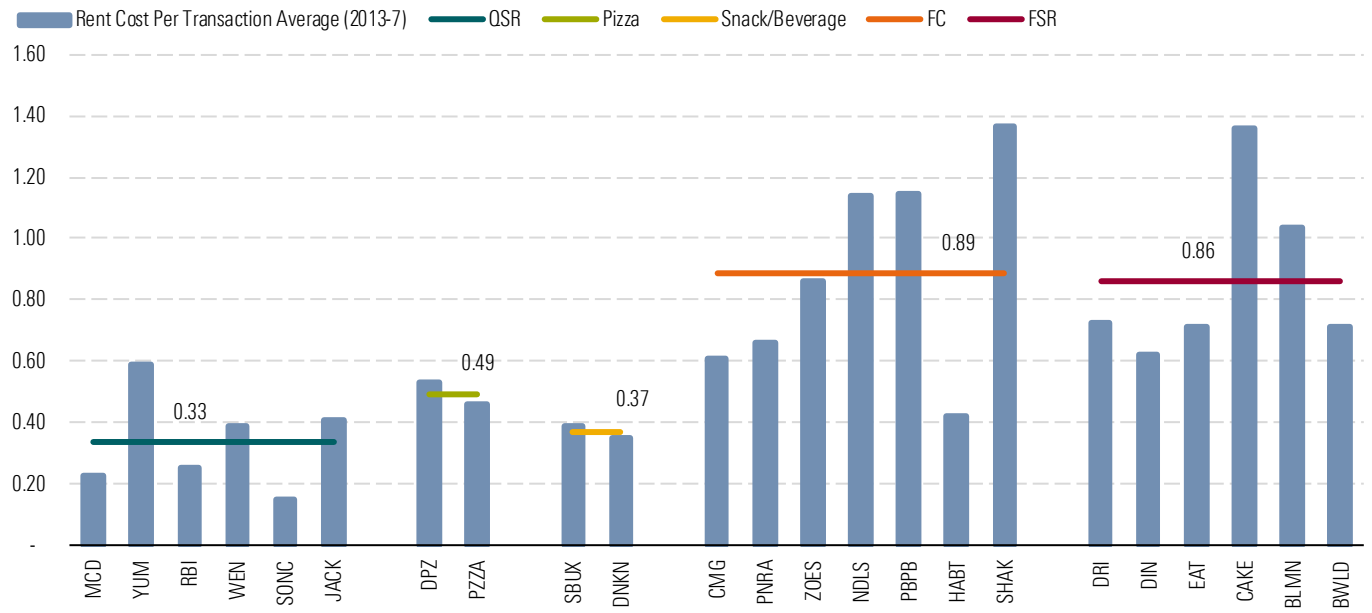
Source: RestautanOwner.com, Morningstar

Our analysis suggests that there is some correlation between those restaurant chains that have been the most effective in driving transactions growth and higher rents, including Domino's, Starbucks, and Wendy's (each of which led their respective categories in transactions per square foot growth the past five years and were among the highest rents per square foot for their respective categories). To some extent, we believe this trend is intuitive, as it's expected that the higher rent locations are situated in the highest traffic potential areas. However, we do see a few examples like Panera and The Habit that have exceeded their peers with respect to transactions per square foot while also keeping rent costs relatively low. We don't think it's possible to attribute these success stories to any one attribute, but instead a combination of the factors we've discussed throughout this section of the report, including marketing efficiency, commitment to menu authenticity, and refining store locations to maximize off-premises opportunities.

So what's the best way for investors to evaluate a restaurant's approach to rent costs? There isn't a hard and fast answer, but based on our conversations with several operators and their financial sponsors, we've found that those chains that keep their combined base and percentage rent expense between 5% and 7% of sales (per Justin Rosenberg from honeygrow) and keep full triple net lease costs (including rent, maintenance/upkeep, insurance, and taxes (real estate, personal property, and municipal) between 6% and 8% of sales have a stronger probability of long-term success. While it may sound attractive for a restaurant operator who says it pays less than 5% of sales in rent, it may also mean that it's in subpar locations that will be difficult to drive long-term traffic. Conversely, a concept that is paying more than 10% in total rent expense should be a red flag for investors.

Given the changes we're seeing across the restaurant space with respect to off-premises opportunities, we believe that rent cost per transaction may become a more appropriate way to look at the industry during the years to come. In Exhibit 69, we've introduced rent per transaction data for our sample group a next generation benchmark for investors and operators.

Exhibit 69 Average Rent Cost Per Transaction (2013-17)



Source: Company filings, Bureau of Labor Statistics, Restaurant Research, Nation's Restaurant News. Morningstar estimates

We found that rent per transaction data was relatively similar between QSR, pizza, and snack/beverage operators—each between $0.35 and $0.50 per transaction—which isn't terribly surprising given that these were the top three categories with respect to transactions per square foot that we presented in Exhibit 29 on page 43. We attribute these results in part to greater daypart utilization and higher peak hour throughput levels for these restaurant categories. On the other end of the spectrum, fast-casual and FSR chains tend to have higher rent per transaction—typically between $0.60 and $1.40 per transaction, which we chalk up to limited daypart opportunities (fast-casual chains tend to be over-indexed to the lunch daypart, while FSR locations skew toward dinner), larger physical locations (particularly for FSR chains), and other restaurant features. There are some outliers—a few fast-casual players like The Habit, Chipotle, and Panera are directionally aligned with the rent per transaction statistics of QSR, pizza, and sack and beverage trains—but we believe these metrics offer new ways for restaurant operators and their investors to benchmark rent costs.

Non-Traditional Restaurant Alternatives

Almost every management team we've spoken to in preparing this report was aware of rising buildout and rent costs. While we've spent time discussing ways that restaurants plan to increase transaction counts at their existing locations—accentuating higher-turnover and authentic products, off-premises opportunities (including improved mobile order capabilities, and square footage devoted to carryout and to-go orders), or using more efficient cooking equipment or technologies to improve productivity metrics—but several executives also discussed ways they are attempting to optimize rent and buildout costs. Admittedly, these plans varied widely depending on concept, menu, and geography, but we've highlighted a few examples of ways that restaurant operators are deploying over the next few pages.

Smaller Format Restaurant Locations

One of the more frequent methods restaurant operators used to manage rent costs was smaller-footprint locations. This isn't exactly groundbreaking news given that some concepts have already seen success with smaller-format locations, namely Chipotle's "A Model" layout. What is surprising, however, is that we're seeing many restaurants adjust and adopt smaller format locations in their early stages of growth.

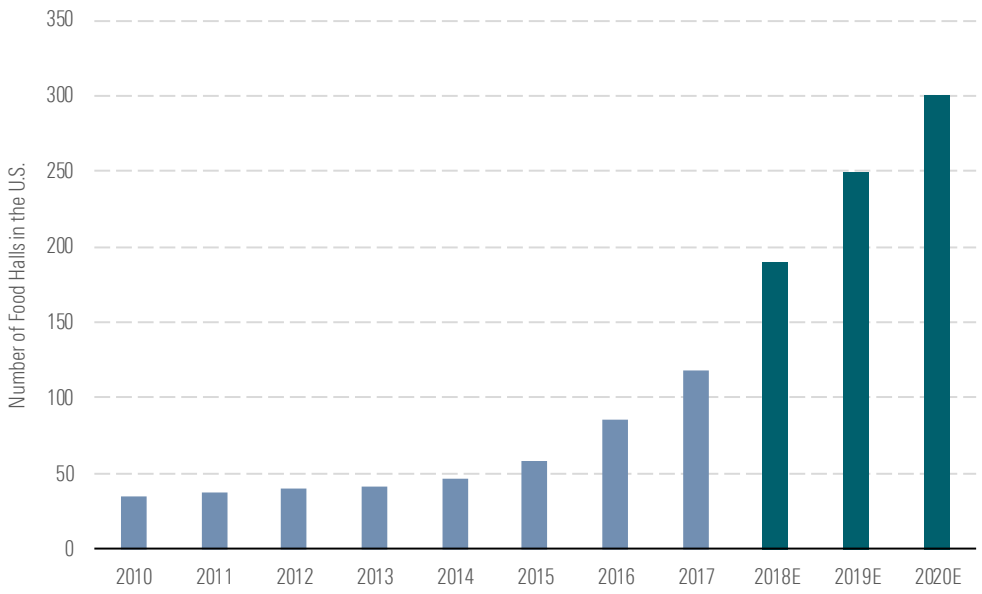
On average, we're seeing restaurants that have developed a smaller format layout reduce their square footage by anywhere between 20%-40% relative to existing locations. This includes honerygrow's smaller, secondary concept called minigrow, which utilizes an assembly line ordering process as opposed to the kiosk ordering at its legacy locations. We believe there are some risks associated with smaller-format stores, including potential throughput issues and confined space leading to congestion and diluting the customer experience. However, we believe there can be several reasons for restaurant operators to explore smaller formats—especially those that exceed 60%-70% for carryout orders during peak hours. In our view, those restaurants skew more toward the convenience side of our convenience versus experience qualities in Exhibit 22 and may have opportunities to reduce square footage.

Although five- or 10-year lease term commitments often make it difficult for existing concepts to adopt smaller footprint restaurants—which partly explains why we've only just started to see square footage trends decline for many of the publicly traded restaurant concepts—we believe this will be one of the key developments to monitor across the restaurant industry over next several years.

Food Halls

Of course, some players are finding ways to shrink their square footage with not just smaller locations, but non-traditional real estate opportunities. One example is food halls, which have become an attractive way for earlier-stage operators to test and refine restaurant concepts. According to data from Cushman & Wakefield, food halls average between 10,000 and 50,000 square feet where a food hall operator initially leases and builds out the space and then subleases to vendors on a plug-and-play basis (typically allocating between 100-500 square feet per vendor "stall"). Food halls typically offer shorter-term leases (one-to-five years with subtenants), but month-to-month lease options are also common. Food hall leases often include common area maintenance charges for communal dining, preparation space, freezer/cooler equipment, and office space. Cushman & Wakefield expects the number of food halls in the U.S. to grow from 118 at the end of 2017 to almost 300 by the end of 2020 (Exhibit 70).

Exhibit 70 Food Halls Are Becoming a Viable Real Estate Alternative in the U.S.



Source: Cushman & Wakefield "Food Halls of North America" 2018 Edition Report

The benefits of food halls are obvious. Although rent per square foot rates tend to be higher than the data we presented in Exhibit 67—Cushman & Wakefield estimates that annual food hall rent range between $15 and $200 per square foot, with urban markets like New York and San Francisco ranging from $50 to $200 per square foot—the cost to restaurant operators is still less than a full-sized restaurant due to the smaller square footage requirements. The variety of cuisine types at food halls typically results in healthy guest counts—thus reducing a restaurant's transaction acquisition costs—and several operators told us that food halls' smaller locations makes it easier to experiment new products or employee operating procedures.

Of course, there are some obvious drawbacks to food halls. Several operators—typically among more established brands—expressed concerns about the ability to incubate a brand in a food hall setting because of the crowded spaces, overwhelming number of choices, and inability to offer a full menu in a small setting. Ultimately, we believe food halls will continue to grow and will become a viable solution for earlier-stage brands or established chains looking to test new concepts or brand extensions. For this reason, we see food halls as a supplement to a restaurant's longer-term real estate strategy, not the foundation.

Delivery Hubs and Ghost Restaurants

Another non-traditional approach to real estate is "ghost restaurants" (delivery-only restaurants or delivery hubs with dedicated store square footage, either attached to existing stores or a standalone location, dedicated to delivery or large-group/catering orders). Based on our discussions, these locations can utilize anywhere between 10%-50% the square footage, require 15%-50% of the labor (largely depending on how order fulfillment and delivery programs are structured), and generate 75%-100% of the transactions of a traditional restaurant operating in the same category. Often, these delivery hubs or ghost restaurants share kitchen space with existing restaurants, utilizing off-peak times for food preparation. Because these restaurants don't rely on physical stores—meaning that consumers don't have preconceived expectations regarding their particular brands—they often have greater flexibility when it comes to menu construction and introducing limited-time offers.

While the idea of paying a fraction of the rent and labor costs sounds attractive, we believe there are some obvious challenges to delivery-only restaurants. As we touched on during our discussion regarding convenience and experience locations, ghost restaurants and delivery hubs only work if the convenience aspect—i.e., the delivery process—is seamless. For those delivery-only restaurants that rely on third-party delivery aggregators for fulfillment—a large percentage of these type of restaurant formats based on our analysis—the risks associated with delivery such as late deliveries, inaccurate orders, surge pricing fees, and cold food are amplified. In other words, we find it extremely difficult for delivery-only restaurants to incubate a brand intangible asset of their own, as their brand becomes largely synonymous with its delivery partners not the food itself (not unlike our previous discussion on food halls).

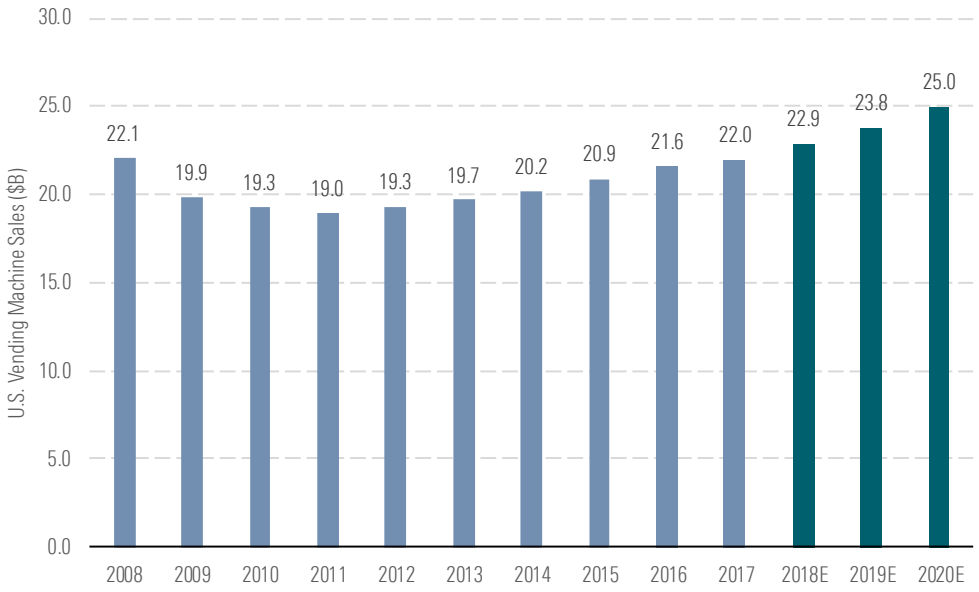
For this reason, we don't expect many ghost restaurants to survive over a longer horizon. However, we're much more optimistic about delivery hubs, especially if they're tied to an existing brand that already has an established delivery customer base. For example, we remain optimistic about Panera's catering/large order delivery hubs, as we believe they have been a key catalyst behind the company's impressive delivery growth stats that we highlighted in Exhibit 50. Despite the attractive economics, we ultimately see delivery-only locations being an extension of a brand's physical stores, not supplanting them. We believe that delivery hubs may be a viable strategy for those chains that have over-index to delivery orders and have their own delivery capabilities or have well-structured relationships with the larger third-party delivery aggregators, as it can help to bolster transaction per square foot trends.

Interestingly, this discussion topic also invokes the recent issues Starbucks is facing in China, where a 525-unit chain Luckin Coffee has disrupted the global specialty coffee leader with a mobile-dependent, delivery-focused concept. Here, we believe a delivery-focused concept like Luckin works because it still has physical stores for brand building purposes and has positioned itself as the convenience leader given Starbucks' late developing delivery capabilities, though we expect this to normalize over the next year with Starbucks delivery partnership with Alibaba and the potential to develop creative in-store experiences at Alibaba's Hema concept.

Vending

Another non-traditional restaurant layout that we expect to gain favor in the coming years is vending machines. Vending machines sit at the intersection of mobile technology adoption and automation—two of the themes we've discussed throughout this report—and in many ways, represents natural evolution of the convenience end of the convenience-experience value proposition discussion we introduced earlier. While vending machines have not garnered the same popularity in the U.S. as they have in Japan—according a March 2018 article from Digital Trends, the United States has one vending machine for every 45 individuals (implying 7.1 million vending machines) while Japan has one for every 23 (suggesting 5.5 million vending machines)—vending machines have been undergoing a resurgence in the U.S. as machines increasingly allow mobile orders and accept multiple payment options (including mobile devices and credit cards). Based on data from Automatic Merchandiser, vending machine sales bottomed out at $19.0 billion in 2011 before inflecting and grew at a low-single-digit clip the next few years (Exhibit 71). More recently, we've seen vending machine industry sales accelerate to the midsingle digits, which we believe are reasonable annual growth projections over for the next several years (suggesting $25 billion in industry sales by 2020).

Exhibit 71 Vending Is Making a Comeback in the U.S., in Part Due to New Fresh Food Alternatives



Source: Automatic Merchandiser 2018 State of the Industry Report, Morningstar estimates

Vending won't work for every restaurant concept, but we're seeing examples where vending is starting to work as a restaurant alternative. As part of our due diligence for this piece, we had a chance to chat with Luke Saunders, the founder and CEO of Farmer's Fridge, which according to its PitchBook profile, operates "micro-restaurants" in 12-square-foot automated fridges stocked with sustainably sourced and made-from-scratch nutritious meals and snacks. The company's fridges leverage proprietary Internet of Things technology to communicate with customers and to provide real-time demand visibility based on

data collected daily. There are approximately 150 Farmer's Fridge units operating today, and with plans to expand to additional cities beyond Chicago and Milwaukee this year, we expect the company will end the year with close to 250 units. We've included an example of one of a Farmer's Fridge units in Exhibit 72.

Exhibit 72 Example of Farmer's Fridge Unit

Source: Farmer's Fridge, Morningstar

It's easy to see why this concept could work, as it covers many of the ideas we covered in this report. From a consumer's perspective, the fridges feature a compelling assortment of portable menu items across multiple dayparts (including yogurt and granola in the morning and salads, grain bowls, and sandwiches for the afternoon and evening, and a wide range of beverage options) with convenient ordering options (including mobile devices and an easy-to-use interface) and measures to prevent consumers from products that have not been purchased by a certain date (reducing the chances of spoiled products). From the operator's perspective, the units require minimal square footage and obviously don't require any direct labor, most units are located in urban settings (offering route density

advantages for restocking purposes), and real-time purchase data allows the company to optimize its menu while reducing food waste.

In our due diligence, Farmer's Fridge was one of the best examples of a "restaurant" that understood the value proposition it addressed for consumers (in this case convenience), and then built a business plan around ways to satisfy this need state. While we believe it will take time for Farmer's Fridge and other similar solutions to break down the stigma about buying fresh food from a vending machine, we believe this understanding of what they are and what they aren't offers lessons for many of the established and emergent restaurant concepts we've highlighted in this report.

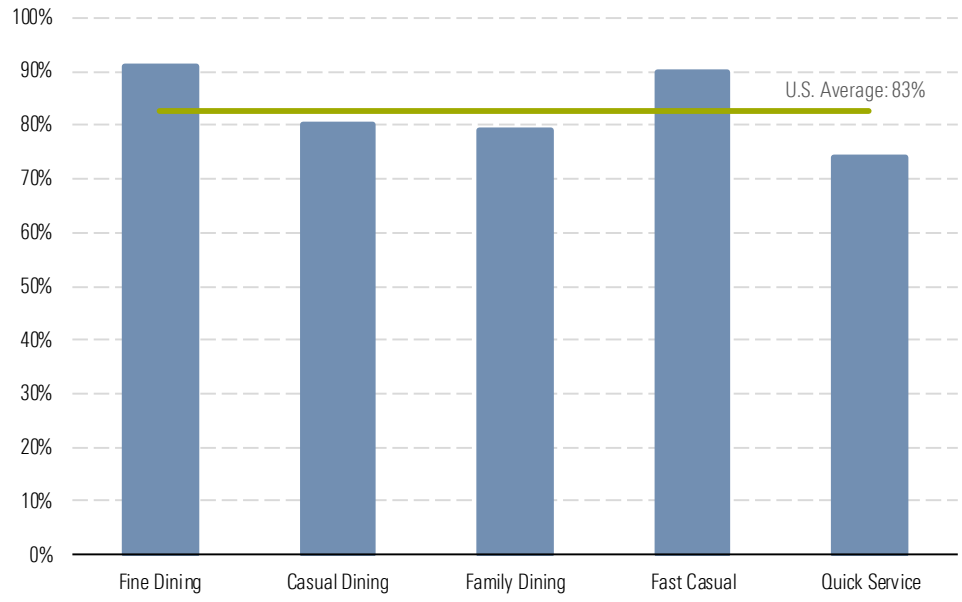
Question: Has the Restaurant Scaled Its Supply Chain Appropriately?

Key Metric: Supply Chain Benchmarks for Small, Mid-Tier, and Large Chains

One of the foundations behind the brand intangible asset source of our restaurant industry economic moat framework is the ability to replicate and scale a brand. As restaurant chains move past their initial high-growth stage and as their offerings become more mainstream, business realities that have been masked by the phase of rapid growth begin to surface. Off-premises opportunities such as delivery and other attempts to drive transaction growth only compound the issue.

We highlighted this topic in our 2016 Observer, but we can't emphasize it enough. A 2016 survey by the National Restaurant Association reinforces this data, with 83% of restaurant operators saying that their customers pay more attention to food sourcing and production than they did two years ago (Exhibit 73).

Exhibit 73 Food Sourcing Has Become Increasingly Important to Consumers



Note: Represents the percentage of restaurant operators who say their guests pay more attention to food sourcing and production than they did two years ago.
Source: National Restaurant Association (May 2016), Morningstar

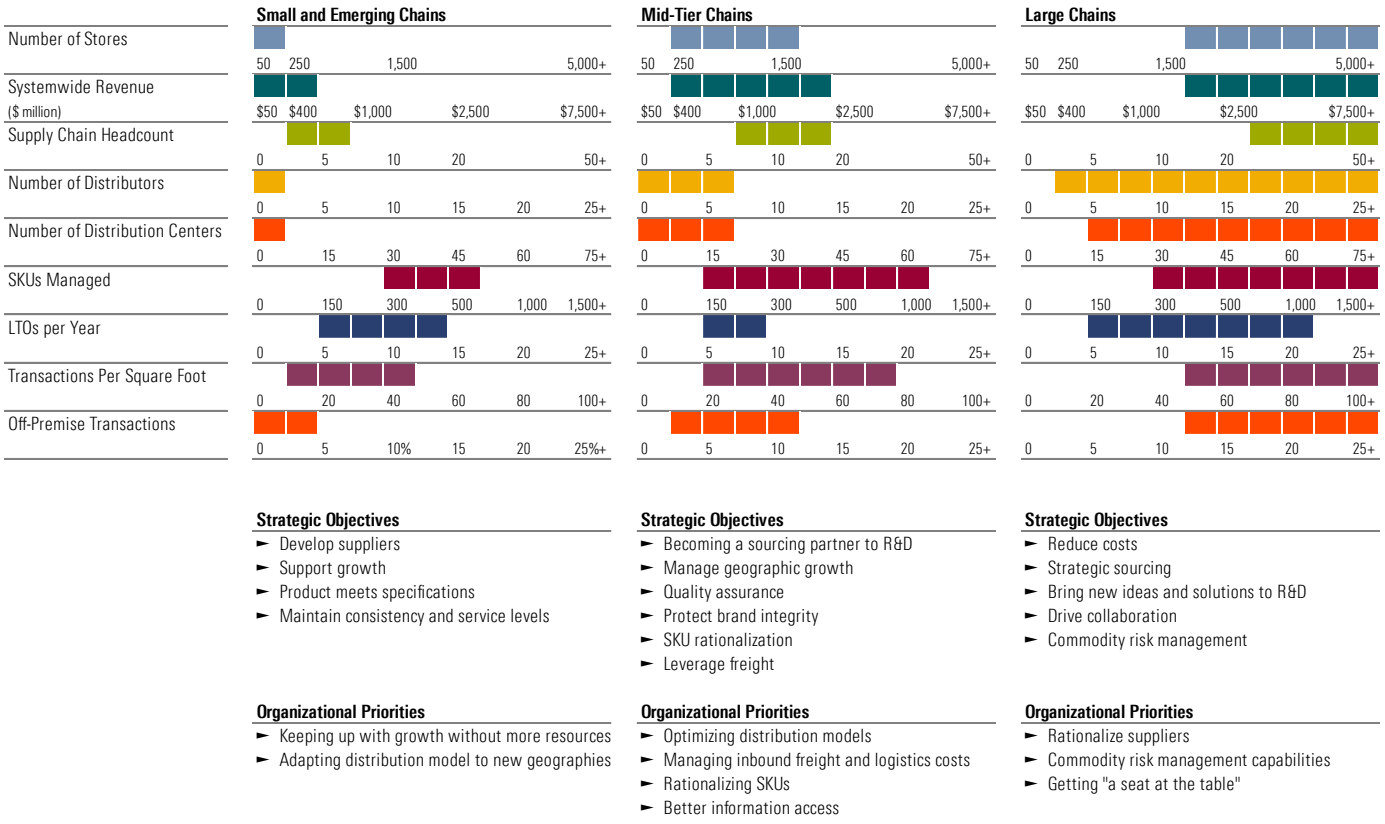
As we noted in the introduction to this report, the fast-casual restaurant category has been the fastest-growing category within the broader restaurant industry over the past decade. However, with rapid unit growth—often a byproduct of private-equity investors looking for a favorable exit—we've also seen examples where chains outgrew their supply chains, especially as they tried to move beyond their initial markets of operation. Earlier stage chains, many of them in the fast-casual sector, are growing fast despite lesser supply-chain capabilities, simply because consumer demand for their offerings is so strong. Easier access to capital and strong franchisee interest allow these chains to capitalize on shifting

demand patterns, entering new markets and adding units without necessarily having to put all the supply-chain pieces together.

How can restaurant operators benchmark their supply chains with competitors? We looked at several metrics, including inventory per transaction, inventory write-downs, and transactions per supply chain square foot, but ultimately ran into difficulties with each of these metrics due to differences in menu composition and hedging strategies that can expose restaurant operators to varying degrees of commodity cost swings, ownership structures (heavily franchised restaurant operators generate the bulk of their revenue and operating profits from royalty fees, that are collected from a franchisee's sales before the impact of food costs), geographic mix, accounting differences (food costs are often lumped in with packaging and other in-restaurant operating costs, and supply-chain accounting can be inconsistent from company to company), and supply chain structures (chains that operate internal supply chain operations and distribute products to franchises can skew data). Additionally, many restaurant suppliers are privately held companies, limiting our ability to develop reliable benchmarks. However, we do believe that there are some resources investors can utilize to monitor whether a restaurant operator's supply chain is scaling at appropriate levels.

As a starting point, we've revisited our analysis from our 2016 piece, where we used a 2012 study from food industry data company Technomic, "State of the Restaurant Supply Chain," to look at what a restaurant chain's supply chain should look like at each stage of its development. This includes benchmarks for system supply chain headcount, distributor, distribution centers, SKU managed, and LTOs per year benchmarks, but we've added transactions per square foot and off-premises transactions to offer benchmarks covering some of the other discussion topics we've introduced in this piece (Exhibit 74). While each restaurant's supply chain needs to be analyzed with respect to an operator's specific circumstances, we continue to find the Technomic framework to be generally consistent with our research on the appropriate size and shape of a given restaurant's supply chains as it matures.

Exhibit 74 Supply Chain Benchmarks for Small, Mid-Tier, and Large Chains



Source: Technomic State of the Restaurant Supply Chain presentation (October 2012), Morningstar estimates

We believe that supply-chain maturity contributes to greater performance for chains that are past their initial phase of development. Faster-growing restaurant concepts tend to report higher inventory write-offs and also express greater concern with inventory obsolescence compared with more mature chains. Over time, as growth rates level off, we believe an efficient supply chain is critical in adapting to the various structural changes across the industry, including menu rationalization, utilization of authentic products, digital ordering, off-premises solutions, and streamlined back-of-house operations.

In fact, we believe supply chain is an area where we've already started to see several enhancements in recent years:

- **Better supply chain monitoring.** With consumers increasingly focused on where their food is sourced from—regardless of whether they prioritize convenience or experience—it's not surprising we've seen more rigorous yet standardized quality-assurance practices across a restaurant's supply chain, with new systems to monitor food from vendors, through a distributor, and to the restaurant. In our view, one of the key reasons that consumers were less than forgiving to Chipotle following its food safety issues was that the company never fully identified and communicated the source of its E. Coli outbreaks. While it's impossible to outright eliminate food safety issues, standardized quality assurance systems can help to

identify the source when problems do arise, which is crucial to a restaurant consumer who is increasingly putting a premium on transparency. Not surprising, we're also seeing a rise in blockchain-based supply-chain technologies. Many of these solutions provided records for every food input as it travels from farm to table, which gives vendors, distributors, restaurant operators and consumers greater visibility about where their food comes from, how it was processed, and advanced tracking capabilities along the supply chain.

- **Distributor relationships are key for scale and in-restaurant convenience…**Second, it helps to have supply chain and distribution partners that has established relationships with farmers on a regional or national basis, whether it be a traditional partner, such as Produce Alliance for Blaze, or a nontraditional partner, such as Whole Foods for Mendocino Farms. With many fast-casual players having to create multiple supply chains as they look to expand on a regional or national level, a large, well-connected partner can make this task more palatable. Because the shelf life for "authentic" food inputs—including sustainable and naturally raised proteins, dairy products from pasture-raised cattle, cage-free eggs, and organic produce—is limited, it is critical for restaurant chains to find distribution partners with enough capacity, next generation packaging techniques, and other logistics technologies.
- **…and vendor partnerships are often the key to differentiated experience.** Many of the top restaurant executive teams we spoke to view their local farming suppliers as two-way partners—the restaurant operators help local farmers invest in and adopt the latest farming technologies and develop distributor relationships, while the vendors help restaurants develop more "authentic" menu offerings while providing greater information about the proteins and produce they are securing to better educate consumers.
- **Inventory management technologies are seeing wider adoption.** In addition to increased supply chain traceability, we're also seeing an increased in inventory management technologies, including HotSchedules' Clarifi Inventory, Orderly, CrunchTime, and MarginEdge. While inventory management solutions have existed in the retail space for some time, adoption of these solutions have been slower to reach the restaurant category for a number of reasons (as we pointed out in Exhibit 52). However, that appears to be changing, with several back-of-house solutions gaining traction with restaurants the past year. Roughly two thirds of the restaurant operators we spoke to for this report (and all chains over 10 units) said they were either using a technology-based inventory management solution, including the aforementioned platforms or in-house solutions. As we see inflation in other restaurant inputs including labor and occupancy costs, we expect to greater adoption of these technology-based solutions.

Tying It All Together: Which Restaurants Are Positioned to Outperform Using Our Next Generation Industry Benchmarks?

Now that we've broken down several of the most important topics facing restaurant operators today, we want to use our next generation benchmarks to assess which operators are best position to weather expected structural changes in the restaurant industry the next several years. We acknowledge that some of the metrics we've developed will have different applications based on the different consumer priorities they address—as we addressed throughout this report—but we believe Exhibit 75 offers a comprehensive picture of the various metrics that investors must actively monitor in the years to come.

Exhibit 75 Summarizing Our Next Generation Restaurant Operator/Investor Benchmarks

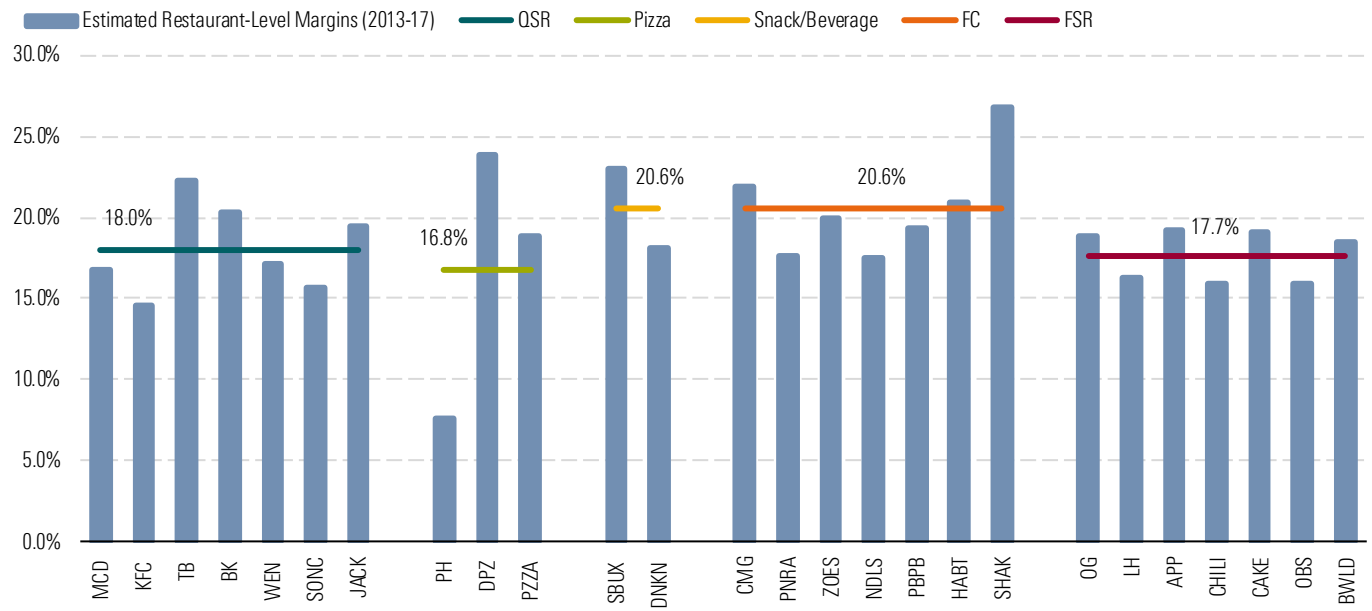
Data Represents 2013-17 Averages Unless Otherwise Noted	Sales Per Square Foot	Transaction Per Square Foot	Transaction Per Square Foot Growth	Advertising Cost Per Transaction	Calorie Per Item (2017)	Delivery as % of Global Sales (2017)	Sales Per Labor Hour	Annual Transactions Per Hourly Emploiyee	Average Buildout Cost Per Square Foot	U.S. Rent Per Square Foot	Rent Per Transaction	Restaurant-Level Profit Per Square Foot
QSR												
McDonald's	$637	135	-5.0%	$0.19	294	2.8%	$22.92	7,217	$294	$30.26	$0.22	$107
KFC	$442	70	1.7%		406	4.0%	$25.40	6,006	$180			$67
Taco Bell	$685	134	5.8%		329	1.5%	$31.48	9,155	$277			$157
Yum Brands				$0.19						$35.99	$0.59	
Burger King	$516	104	-2.4%		401	0.4%	$21.84	6,548	$459			$106
Restaurant Brands				$0.17						$26.19	$0.25	
Wendy's	$526	101	7.2%	$0.21	275	1.5%	$32.44	9,249	$315	$39.29	$0.39	$90
Sonic Drive-In	$798	165	3.7%	$0.28	472	2.0%	$32.27	9,892	$814	$24.83	$0.15	$126
Jack in the Box	$570	106	-3.6%	$0.25	449	NA	$32.41	8,936	$405	$43.35	$0.41	$111
Category Average	**$596**	**117**	**1.1%**	**$0.21**	**375**	**2.0%**	**$28.40**	**8,143**	**$392**	**$33.32**	**$0.33**	**$109**
Pizza												
Pizza Hut	$409	55	-5.4%		274	53.0%	$17.67	3,496	$608			$32
Domino's Pizza	$700	95	31.0%	$0.22	267	66.0%	$25.41	5,119	$190	$50.17	$0.53	$167
Papa John's Pizza	$655	88	8.2%	$0.38	295	66.0%	$22.97	4,562	$214	$40.36	$0.46	$127
Category Average	**$588**	**79**	**11.3%**	**$0.30**	**279**	**61.7%**	**$22.02**	**4,392**	**$337**	**$45.26**	**$0.49**	**$108**
Snack & Beverage												
Starbucks	$746	144	28.2%	$0.07	320	NA	$42.99	12,363	$625	$55.77	$0.39	$173
Dunkin' Donuts	$566	118	-9.7%	$0.20	220	NA	$23.95	7,424	$456	$41.51	$0.35	$102
Category Average	**$656**	**131**	**9.3%**	**$0.14**	**270**	**NA**	**$33.47**	**9,894**	**$540**	**$48.64**	**$0.37**	**$137**
Fast Casual												
Chipotle Mexican Grill	$799	74	-9.7%	$0.20	774	1.0%	$59.52	8,128	$323	$44.95	$0.61	$179
Panera Bread	$568	57	5.4%	$0.27	344	6.2%	$46.48	6,909	$329	$37.58	$0.66	$98
Zoe's Kitchen	$478	34	-2.5%	$0.01	427	3.8%	$39.62	4,166	$337	$29.15	$0.86	$95
Noodles & Company	$396	33	-3.7%	$0.15	412	1.1%	$37.50	4,600	$300	$37.36	$1.14	$69
Potbelly Sandwich Works	$423	40	-17.0%	$0.07	471	1.5%	$43.23	6,016	$316	$45.53	$1.14	$82
The Habit Burger Grill	$702	94	8.1%	$0.05	535	0.5%	$41.53	8,288	$370	$39.50	$0.42	$147
Shake Shack	$1,140	77	0.2%	$0.01	296	2.0%	$54.31	5,457	$339	$105.30	$1.36	$306
Category Average	**$644**	**58**	**-2.7%**	**$0.11**	**466**	**2.3%**	**$46.03**	**6,223**	**$330**	**$48.48**	**$0.89**	**$139**
Casual Dining						**To-Go Transactions**						
Olive Garden	$585	35	-2.6%		412	12.5%	$34.68	3,099	$513			$111
LongHorn Steakhouse	$523	28	2.1%		478	NA	$23.64	1,861	$493			$86
Darden				$0.62						$23.78	$0.72	
Applebee's International	$504	41	-9.3%		393	8.0%	$28.45	3,396	$330			$96
Dine Brands				$0.29						$25.21	$0.62	
Chili's	$444	31	-11.3%		657	10.0%	$35.77	3,650	$350			$69
Brinker				$0.51						$19.19	$0.71	
Cheescake Factory	$964	49	-3.6%	$0.06	839	12.0%	$40.90	3,080	$514	$66.42	$1.36	$184
Outback Steakhouse	$529	24	-5.4%		469	11.0%	$31.35	2,131	$286			$84
Bloomin' Brands				$1.02						$20.92	$1.03	
Buffalo Wild Wings	$524	32	-5.0%	$0.59	393	19.0%	$64.90	5,798	$286	$22.44	$0.71	$97
Category Average	**$582**	**34**	**-5.0%**	**$0.51**	**520**	**12.1%**	**$37.10**	**3,288**	**$396**	**$29.66**	**$0.86**	**$104**

Source: Company filings, franchise disclosure documents, Nation's Restaurant News. Morningstar estimates

Triangulating Our Benchmarks with Restaurant-Level Margins and Cash-on-Cash Returns

Given the sheer number of metrics we've introduced in this report, we also wanted to present conventional industry benchmarks to examine how the top performers with respect to our next generation metrics stacked up. We started with restaurant-level operating margins for each company in our sample group, which we've defined as restaurant sales less restaurant costs, including cost of goods sold (food, beverage, and packaging), labor, occupancy, and other operating costs in Exhibit 76. Our results may not precisely line up with reported results, as we've attempted to capture restaurant-level margins for both company-owned and franchised locations for each of the chains in our sample group. Looking at restaurant-level margins from the various restaurant categories, there wasn't much separation between the different groups, but the brands that performed well using our next generation metrics—including Taco Bell, Domino's Pizza, Starbucks, Shake Shack, and Darden—all generally outperformed with respect to restaurant-level margins.

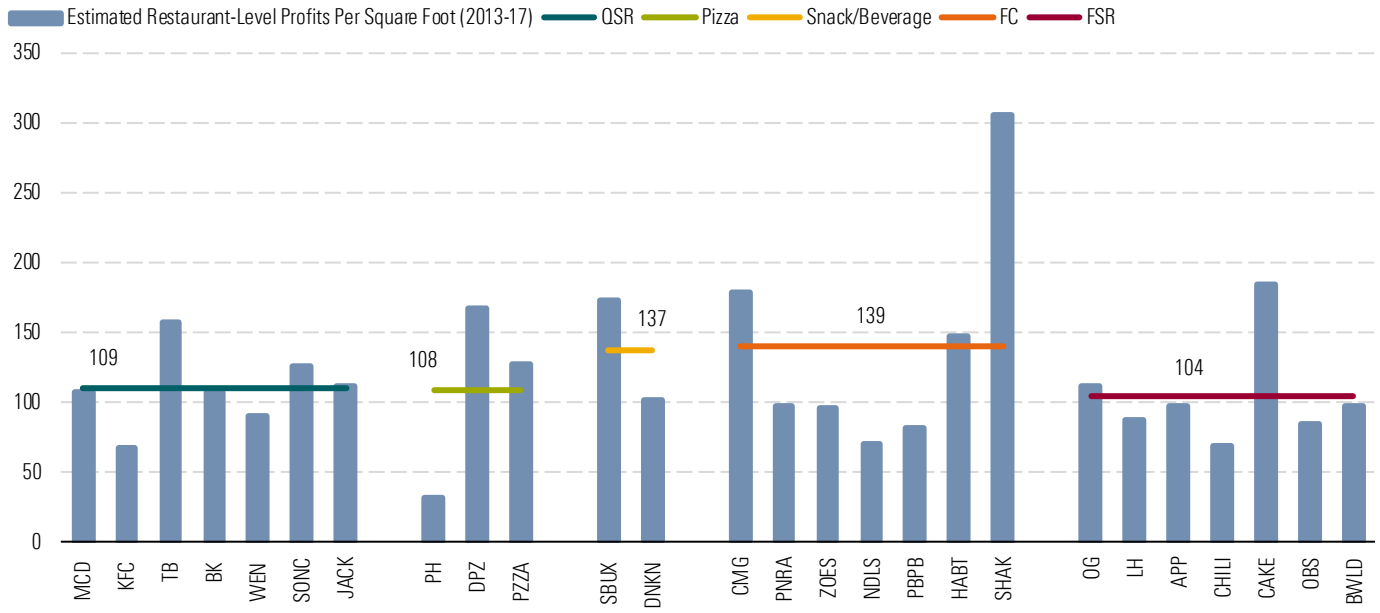
Exhibit 76 Restaurant-Level Margins Help to Identify Restaurant Industry Standouts…



Note: Represents estimated company-owned and franchise restaurant-level margins
Source: Company filings, franchise disclosure documents. Morningstar estimates

However, as we've done with other benchmarks in this piece, we also wanted to evaluate restaurant-level profits on a per square foot basis to normalize for the various store layout, technology, automation, and off-premises changes taking place across the industry. We've presented this data in Exhibit 77, and while the chains that outperformed were consistent with our previous exhibit, we believe this may be a more comprehensive way for restaurant operators and investors to compare themselves with industry peers in the years to come.

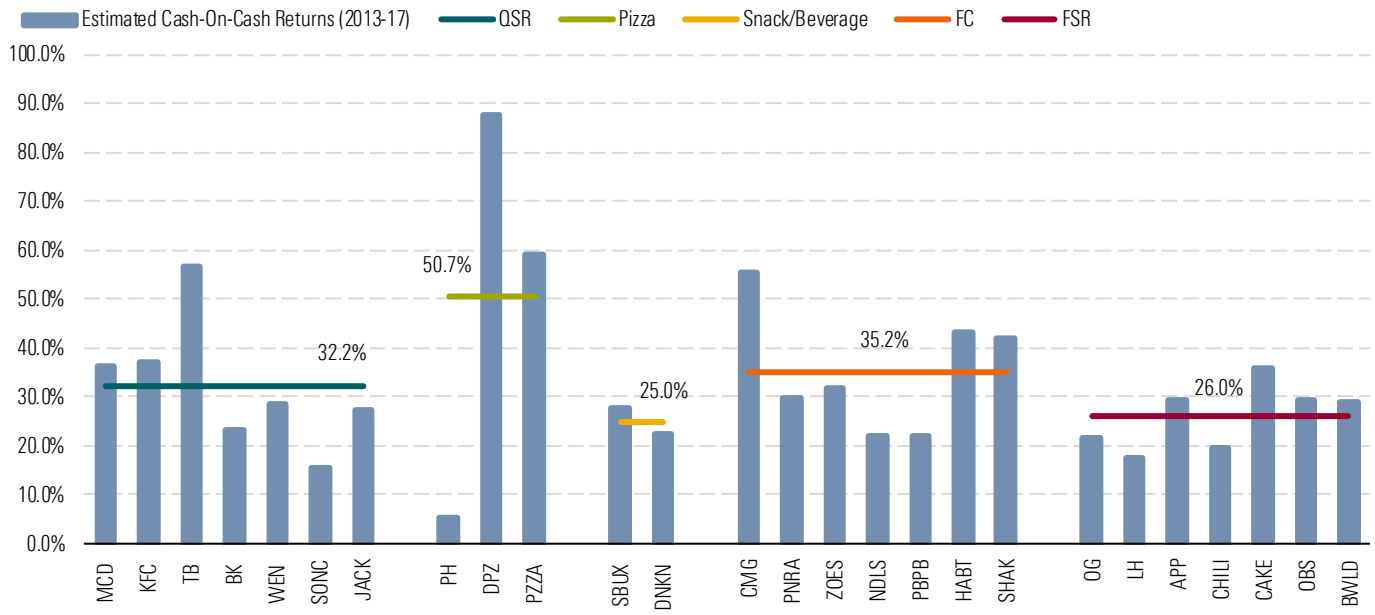
Exhibit 77 . . . But Restaurant-Level Profits Per Square Foot May Become More Relevant in the Years to Come



Source: Company filings, Nation's Restaurant News. eMarketer, franchise disclosure documents. Morningstar estimates

Lastly, since it is a widely followed metric among public and private investors, we also examined cash-on-cash returns—or pretax restaurant-level profits divided by restaurant buildout costs per square foot—for our sample restaurant group in Exhibit 78. While we've seen cash-on-cash returns calculated in many ways, for purposes of this exercise, we've defined the metric as restaurant-level profit per square foot that we presented in Exhibit 77 divided by the restaurant buildout cost per square foot figures we laid out in Exhibit 64. Historically, we've viewed those operators that deliver cash-on-cash returns above 25% as being successful operators and those pushing 50% representing some of the top performers. We believe these metrics are still generally valid, though we acknowledge that with operators shifting to smaller-format locations and getting greater utilization out of restaurant locations due to new technology solutions and off-premises solutions, investors may need to adjust their various cash-on-cash return benchmarks higher with 25%-30% returns becoming the new measure of success across many restaurant categories.

Exhibit 78 With Changes to Restaurant Layouts Brought on by Technology and Other Consumer Preferences, Cash-on-Cash Returns Are Trending Upward



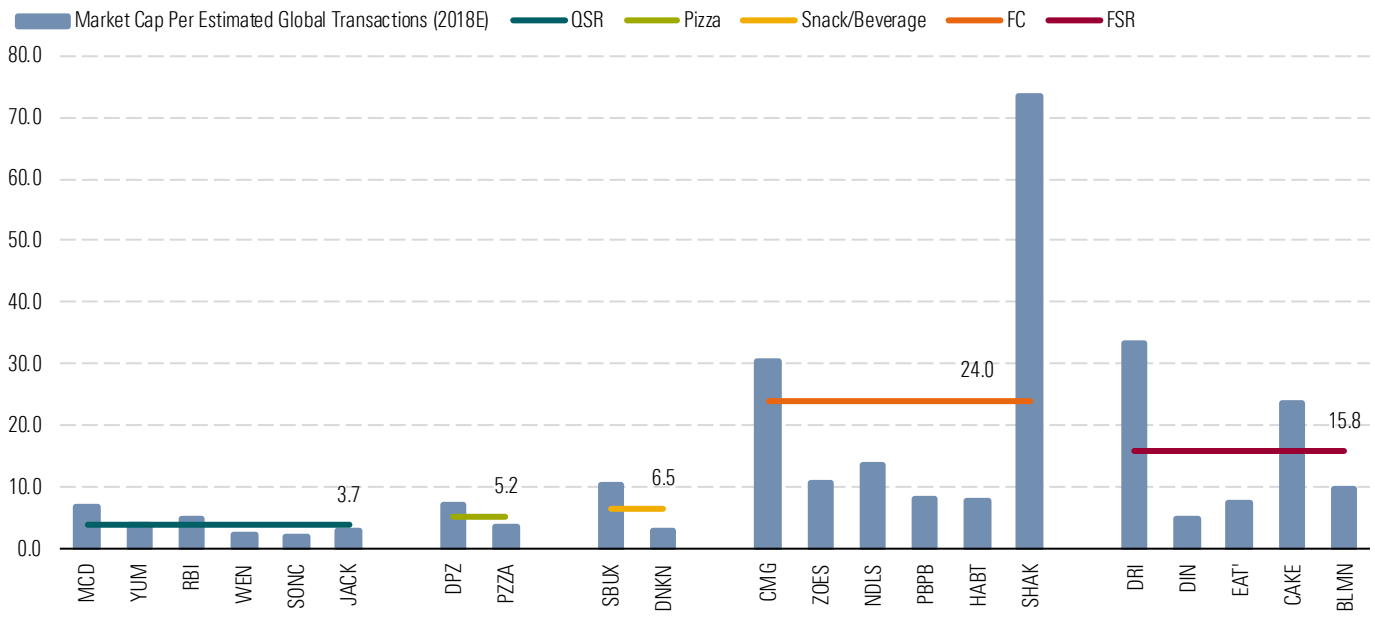
Source: Company filings, Nation's Restaurant News. eMarketer, franchise disclosure documents, CoStar Group, eMarketer, Net Lease Advisor, GE Capital Franchise Finance Morningstar estimates

In many ways, we view these next generation metrics as a more comprehensive version of the emerging restaurant leaders matrix that we developed in our September 2016 Observer piece. In that analysis, we identified chains with more than 10 units that had exceeded AUVs for their respective categories, restaurant margins exceeding 15%, and cash-on-cash returns above 30% as having the highest probability of long-term success and could be on the way to developing an economic moat. We believe the previous exhibits also support this idea, as many of the restaurant companies we've assigned wide or narrow moats to meet these thresholds. While many of the private restaurant companies we spoke to in developing this piece preferred not to disclose their full financial results, we also believe that many also meet these rigorous thresholds and could be developing compelling long-term growth stories of their own.

Using Our Industry Benchmarks to Develop New Approaches to Valuation

Finally, we wanted to examine whether investors were giving enough credit to those restaurant operators that have made changes to their business models to address consumers' changing needs and other structural changes in the restaurant industry. While there are many approaches to capture this in today's restaurant environment, we started by looking at market capitalization per expected transactions in 2018 (Exhibit 79). In other words, this metric will show us what are investors willing to pay for each future transaction. Admittedly, this approach won't capture the sustainability of transaction growth, and it may be prudent to pay a premium for a company that will be able to generate transaction growth over a longer horizon in certain circumstances. However, we also wanted to incorporate the transaction per square foot benchmark we introduced earlier in this report, which effectively captures an operator's ability to generate consumer demand, expand utilization through daypart expansion efforts, adopt more efficient operations and technologies that satisfy their consumer's key priorities, and integrate off-premises solutions.

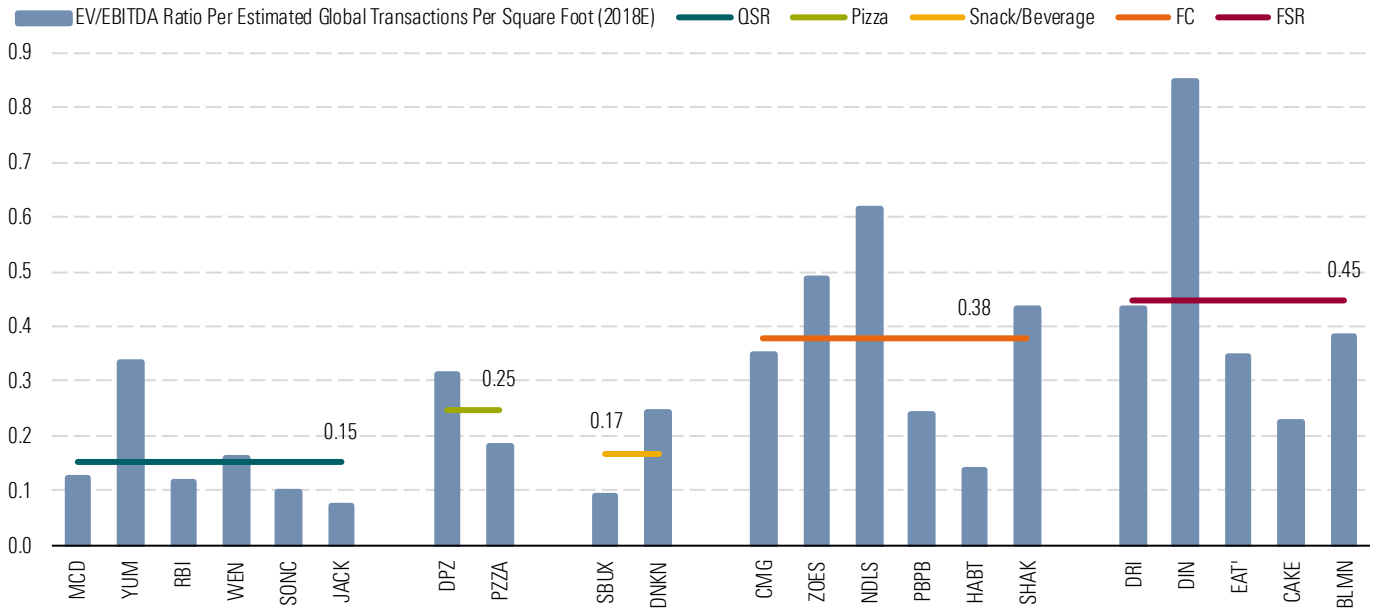
Exhibit 79 Market Capitalization Per Estimated Global Transactions



Source: Company filings, Nation's Restaurant News. eMarketer, Morningstar estimates

To incorporate average transactions per square foot into a valuation approach, we compared 2018 market EV/EBITDA ratios for our sample group with expected 2018 transactions per square foot (Exhibit 80). We chose EV/EBITDA over P/E ratios because many of the non-franchisor restaurant companies in the sample group are making strategic changes in 2018 that are weighing on earnings per share results and to make the results more comparable for private restaurant company investors. Using this approach, we see that our top public company investment ideas—McDonald's and Starbucks—have not been given enough credit by the market.

Exhibit 80 We See EV/EBITDA Relative to Estimated Global Transactions Per Square Foot as a Useful Way to Assess Whether the Market Is Giving Restaurant Operators Sufficient Credit for Operational and Technology Enhancements



Source: Company filings, Nation's Restaurant News. eMarketer, Capital IQ, Morningstar estimates

Of course, valuation per transactions per square foot can also be applied to private restaurant companies based on their most recent fundraising rounds. While we don't have access to transactional data for each of the private companies we've highlighted in this report, we believe many of them also compare favorably with our public company valuation to transaction per square foot benchmarks.

Like the Industry Itself, Transactions Involving Restaurants Are Rapidly Evolving

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In Today's Environment, Should Any Restaurant Companies Be Publicly Traded?

Throughout this report, we've highlighted a long list of challenges facing the restaurant industry and several operational and technology measures that operators must take to adapt to evolving consumer preferences to survive over a longer-horizon. With all that operators will face in the years to come, we believe it's reasonable to ask whether restaurant companies should be publicly traded or whether operators should move to the private markets to escape investor scrutiny as they incorporate these changes. Several of the executives we spoke to for the report—many of which have made the move from public to private markets—admitted that it has been easier to make necessary changes to their respective business models with the help of private equity or other financial sponsors.

Using data from PitchBook, we've seen a decline in year-to-date M&A and private equity (PE) activity for the restaurant category, which we attribute in large part to a decline in refranchising activity, but also new deals in the restaurant technology and CPG space. However, we believe many restaurant executives are being drawn to the benefits of being private—and we would not be surprised to see additional go private deals over the next several months. Over the next several pages, we'll discuss how the themes we discussed earlier in this report are reshaping restaurant industry transactions and provide an outlook for the next few years.

Key Takeaways

- With interest rates rising, fewer refranchising opportunities, and restaurant balance sheets already highly leveraged, we've seen restaurant M&A activity slow in the first half of 2018. However, with valuations coming down across the space, we've seen restaurant transactions start to reaccelerate the past few months, including First Watch, Bravo Brio, Fogo de Chao, Modern Market, Costa, Cava/Zoe's Kitchen, and Sonic/Inspire Brands. Based on expectations of sluggish traffic and increased cost pressures, we wouldn't be surprised to see additional small- to mid-cap restaurant chains explore go private transactions, led by both strategic and financial suitors. We also believe conditions are favorable for a strategic or financial brand consolidator looking to add a new franchised concept.
- We're not expecting any significant restaurant industry IPOs to be announced this year or 2019—fast-casual pizza chains Blaze or MOD are likely next in the pipeline, but not until 2020 at earliest—but with restaurant technology firms starting to gain adoption and consolidate, we're probably not too far from another restaurant technology IPO. Some private companies are likely to sit tight until Uber's (and by extension UberEats) rumored IPO in the second half of 2019, but don't be surprised to see IPO speculation for other restaurant technology firms like Toast (which completed a $115 million Series D transaction in July), Olo, or HotSchedules as we approach 2019.

Exhibit 81 Largest Global PE Growth, Buyout, and M&A Deals in Restaurant and Bar Companies, 2017-18

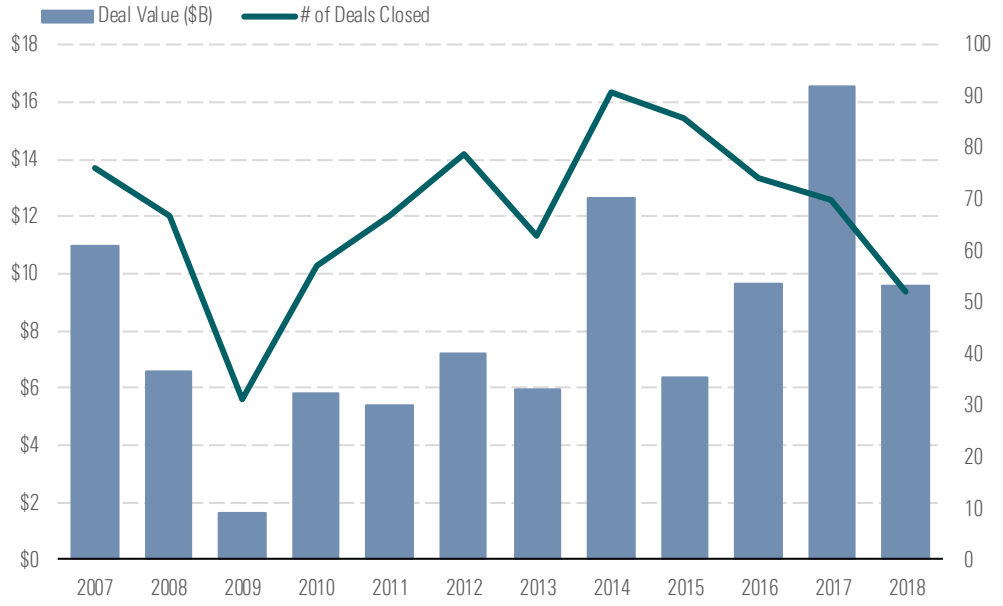
Company Name	Close Date	Deal Status	Deal Size (millions, USD)	Investor(s)	Deal Types	
Panera Bread	7/18/2017	Closed	$7,160.0	JAB Holding Company, BDT Capital Partners	Buyout/LBO	Public to Private
Buffalo Wild Wings	2/5/2018	Closed	$2,500.0	Roark Capital Group, Arby's Restaurant Group, Equicorp	Buyout/LBO	Add-on
Popeyes Louisiana Kitchen	3/27/2017	Closed	$1,800.0	Restaurant Brands International	Merger/Acquisition	
Bob Evans Farms	1/12/2018	Closed	$1,500.0	Post Holdings	Merger/Acquisition	
NPC International	4/25/2018	Closed	$1,000.0	Eldridge Industries	Buyout/LBO	Secondary Buyout
Cheddar's Scratch Kitchen	4/24/2017	Closed	$799.0	Darden Restaurants	Merger/Acquisition	
Guangdong Jiahao Foodstuff Company	4/3/2018	Closed	$600.0	GreenTree Hospitality Group	Merger/Acquisition	
Bob Evans Restaurants	4/28/2017	Closed	$565.0	Golden Gate Capital	Buyout/LBO	Corporate Divestiture
Fogo de Chão	4/5/2018	Closed	$560.0	Rhône Group	Buyout/LBO	Secondary Buyout
Checkers & Rally's	4/25/2017	Closed	$525.0	Oak Hill Capital Partners	Buyout/LBO	Management Buyout
Punch (Pubs)	8/25/2017	Closed	$522.2	Patron Capital Advisers, Heineken UK, May Capital	Buyout/LBO	Secondary Buyout
First Watch Restaurants	8/15/2017	Closed	$400.0	Advent International	Buyout/LBO	Secondary Buyout
Punch Taverns (1,900 Pubs)	8/29/2017	Closed	$395.5	Heineken	Corporate Asset Purchase	Asset Acquisition
Barteca Holdings	6/27/2018	Closed	$325.0	Del Frisco's Restaurant Group	Merger/Acquisition	
Qdoba	3/21/2018	Closed	$305.0	Apollo Global Management, Lunsford Capital	Buyout/LBO	Corporate Divestiture
Imvescor Restaurant Group	3/1/2018	Closed	$249.5	MTY Food Group	Merger/Acquisition	Corporate Divestiture
Tao Group	2/1/2017	Closed	$206.5	The Madison Square Garden Company	Merger/Acquisition	
The Keg	2/22/2018	Closed	$200.0	CARA	Merger/Acquisition	Corporate Divestiture
Ruby Tuesday	12/21/2017	Closed	$146.0	NRD Capital Management	Buyout/LBO	Secondary Buyout
Pizza Hut UK	4/20/2018	Closed	$140.7		Investor Buyout by Management	
69 Wendy's Units(Midwest & Mid Atlantic Sta	5/18/2017	Closed	$111.8	Meritage Hospitality Group	Merger/Acquisition	Corporate Divestiture
PIR	3/8/2017	Closed	$105.0	Restaurant Brands NZ	Merger/Acquisition	
Bravo Brio Restaurant Group	5/24/2018	Closed	$100.0	Spice Private Equity	Buyout/LBO	Secondary Buyout
Smashburger Master	4/17/2018	Closed	$100.0	Jollibee Foods	Merger/Acquisition	
Java House	9/1/2017	Closed	$100.0	The Abraaj Group	Buyout/LBO	Secondary Buyout
MOD Pizza	1/9/2018	Closed	$73.0	Fidelity, PWP Growth Equity, SunTrust, Raymond James	PE Growth/Expansion	
Tastes on the Fly	7/31/2017	Closed	$61.0	H.I.G. Capital	Buyout/LBO	
GameWorks	8/31/2017	Closed	$60.0	Oomba	Merger/Acquisition	
Impresario	12/14/2017	Closed	$58.4	L Catterton	Buyout/LBO	Secondary Buyout
Ignite Restaurant Group	8/29/2017	Closed	$57.0	Landry's	Merger/Acquisition	
Jadran	6/4/2018	Closed	$55.0	Croatia Osiguranje, Erste Plavi	Merger/Acquisition	
Valenti Mid-Atlantic Management (62 Wendy	4/30/2017	Closed	$52.6	NPC International, Olympus Partners	Buyout/LBO	Asset Acquisition
GongCha Korea Company	1/1/2017	Closed	$43.0	Unison Capital	Buyout/LBO	
Beef O' Brady's and The Brass Tap	6/28/2017	Closed	$41.5	CapitalSpring	Buyout/LBO	Secondary Buyout
America Graffiti	11/30/2017	Closed	$41.1	Cigierre, BC Partners	Buyout/LBO	Add-on
Buddy's Pizza	1/3/2018	Closed	$41.0	CapitalSpring	Buyout/LBO	Management Buyout
Desert Island Restaurants	11/3/2017	Closed	$35.5	Ruth's Hospitality Group	Merger/Acquisition	
Leon	5/19/2017	Closed	$32.3	Active Partners, Spice Private Equity	PE Growth/Expansion	
Wear Inns	8/6/2018	Closed	$29.5	Aprirose Real Estate Investment	Merger/Acquisition	
Nordic Service Partners	4/13/2017	Closed	$29.4	LGT Capital Partners, Ventiga Capital Partners	Buyout/LBO	Public to Private
Grupo Larrumba	8/2/2018	Closed	$28.1	Aurica Capital	PE Growth/Expansion	
Bonavie Company	4/27/2017	Closed	$26.6	Daehan Flour Mills	Merger/Acquisition	Corporate Divestiture
Wendy's (15 locations in Florida)	1/14/2018	Closed	$26.5	Gold Coast Holdings Restaurants	Corporate Asset Purchase	Asset Acquisition
The Counter	12/1/2017	Closed	$24.6	MTY Food Group	Merger/Acquisition	
The Herbfarm	4/24/2018	Closed	$24.5	Sound Commercial Investment Holdings	Corporate Asset Purchase	Asset Acquisition
Yum! Restaurants International(7 KFC stores)	10/17/2017	Closed	$21.4	QSR	Corporate Asset Purchase	Asset Acquisition
Bertucci's	6/5/2018	Closed	$20.0	Earl Enterprises	Merger/Acquisition	

Note: Includes transactions exceeding $20.0 billion. Excludes transactions where financial details were not disclosed
Source: PitchBook

Putting Recent Restaurant Industry M&A Activity in Context

M&A activity in the restaurant & bar industry has mirrored that of the broader market in recent years, exhibiting fewer but larger deals. With 70 completed transactions totaling $16.6 billion, 2017 was the largest year ever in terms of deal value. However, nearly half of that value came from the $7.2 billion take-private of Panera Bread by private equity firm JAB holdings, which has become something of a food & beverage juggernaut with holdings including Keurig Green Mountain, Peet's Coffee & Tea, and Dr Pepper Snapple. Although the number of completed deals in the restaurant & bar sector has decreased every year since 2014, activity is still strong on a historical basis. The deal tally in 2017 nearly matched that of 2007 and has grown at a CAGR of 10.7% since 2009.

Exhibit 82 U.S. Restaurant & Bar M&A Has Slowed, but the Market Remains Conducive to Transactions



Source: PitchBook

Some of the decline in deal activity in 2018 can also be attributed to slowing refranchising activity, which we discussed in the introduction section. However, that isn't to say that we won't see additional franchisee transactions in the coming years as traditionally company-owned players explore franchisee or licensing partnerships to accelerate restaurant layout or technology investments or expand internationally. We would also not be surprised to see one of the brand consolidators such as 3G Capital (through Restaurant Brands International), JAB, or Roark Capital make an additional deal or two before the year is out.

Financial Sponsors Are Taking More Active Roles in Their Restaurant Investments

Restaurant deal activity has been driven by demand from both strategic and private equity buyers, the latter of which have begun to resemble strategic acquirers themselves, often combining two or more businesses through a series of add-on transactions. The cost savings following a successful consolidation, as well as the longer investment periods that have become common in the industry due to structural changes, allow financial sponsors to factor in synergies and cost savings like strategic acquirers. As a result, private equity firms are able to better compete in bidding processes. Recent examples of this financial-strategic hybrid approach include Roark Capital's acquisition of Buffalo Wild Wings (via its Arby's platform) and JAB Holdings' acquisition of Au Bon Pain (via the aforementioned Panera Bread).

Another recent development in the restaurant industry has been the proliferation of growth equity investing. Growth equity, which can be viewed as a hybrid between venture capital and traditional private equity, tends to involve minority stakes of companies in return for development, or "growth," capital. Growth equity accounted for 38% of all PE transactions in the restaurant & bar industry in 2017. Notable recipients of growth equity include MOD Pizza, Tender Greens, El Pollo Loco, and Veggie Grill.

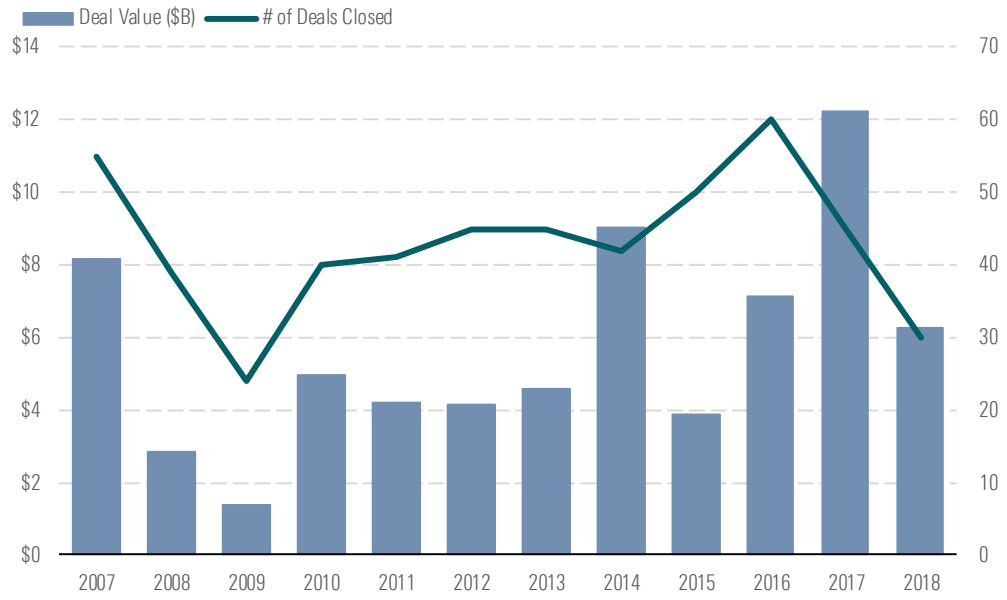
Exhibit 83 Notable Growth Equity Financings in the Restaurant Industry

Company	Financing Date (Most Recent Transaction Only)	Deal Size (USD)	Current Backing Status
MOD Pizza	January 2018	$73 million	PE-backed
Veggie Grill	October 2016	$22 million	PE-backed
Tender Greens	July 2015	$50 million	PE-backed
El Pollo Loco	August 2008	$45 million	Public (NASDAQ: LOCO)

Source: PitchBook

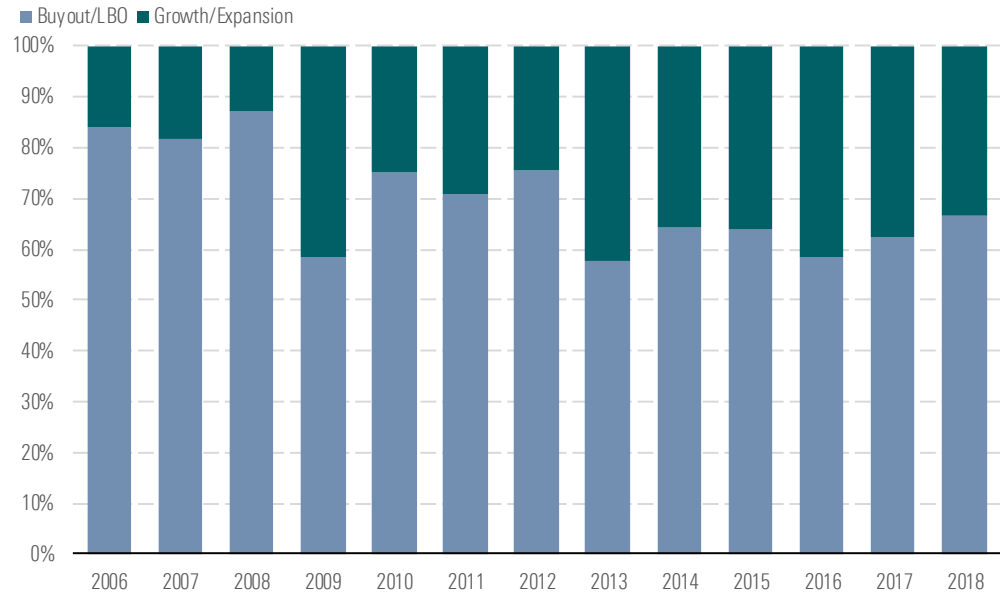
One reason why financial sponsors are pursuing new deal structures is the surfeit of capital that needs to be put to work. U.S. PE fundraising totaled $242.4 billion in 2017—the second highest year on record. Uncalled capital commitments, or "dry powder," have grown to $621.8 billion (as of June 30, 2017). Roark Capital, one of the most prolific private equity investors in the space, has already deployed $2 billion of a $2.5-billion fund raised in late 2014 and is currently in the market targeting another $5 billion for a new vehicle. This fund, along with various other competitors, should fuel deal flow for the foreseeable future.

Exhibit 84 Restaurants Continue To Be an Active Industry for PE Transactions



Source: PitchBook

Exhibit 85 Growth Equity Gains a Larger Share of Private Equity Deal Flow

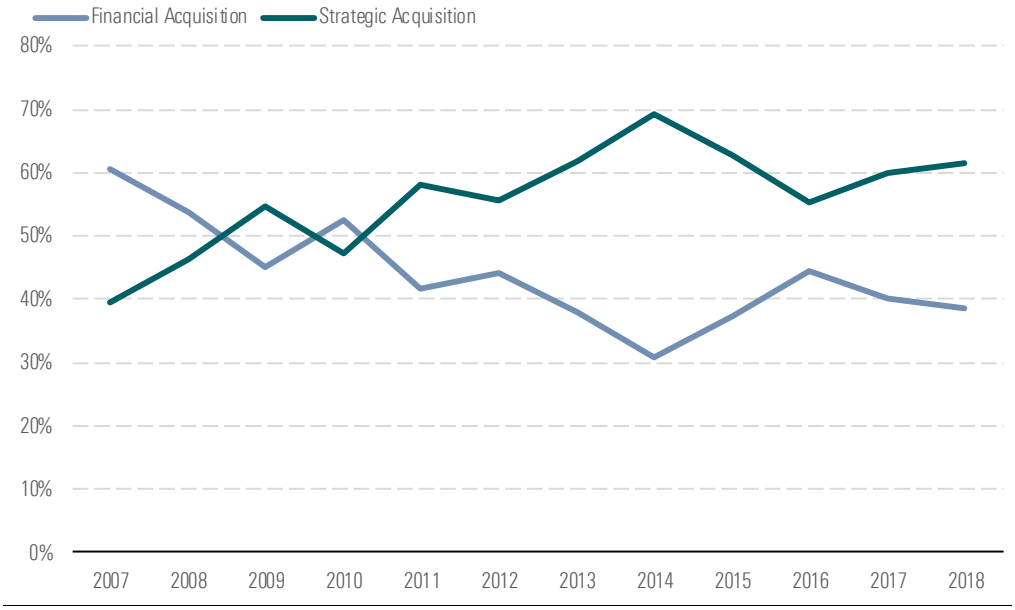


Source: PitchBook

Industry Trends Have Prompted an Increase in Strategic Acquisitions in Recent Years, but the Lines Between Financial and Strategic Deals Are Blurring

Though PE firms have become more active in the space, strategic acquirers constitute a larger portion of the M&A landscape, accounting for 61% of all restaurant & bar transactions year to date through Sept. 24. Strategics have felt the pressures of changing consumer preferences, such as a penchant for better-for-you foods, the rapid growth of the fast-casual segment, and various emerging technologies, such as meal and grocery delivery apps. Rather than create their own brands to compete with each of these threats, it is often more efficient for strategics to acquire them. Additionally, late-cycle characteristics including slow organic growth and relatively high cash balances have led restaurant holding companies to be more aggressive in their corporate development operations.

Exhibit 86 Percentage of Restaurant M&A Activity by Acquirer Type



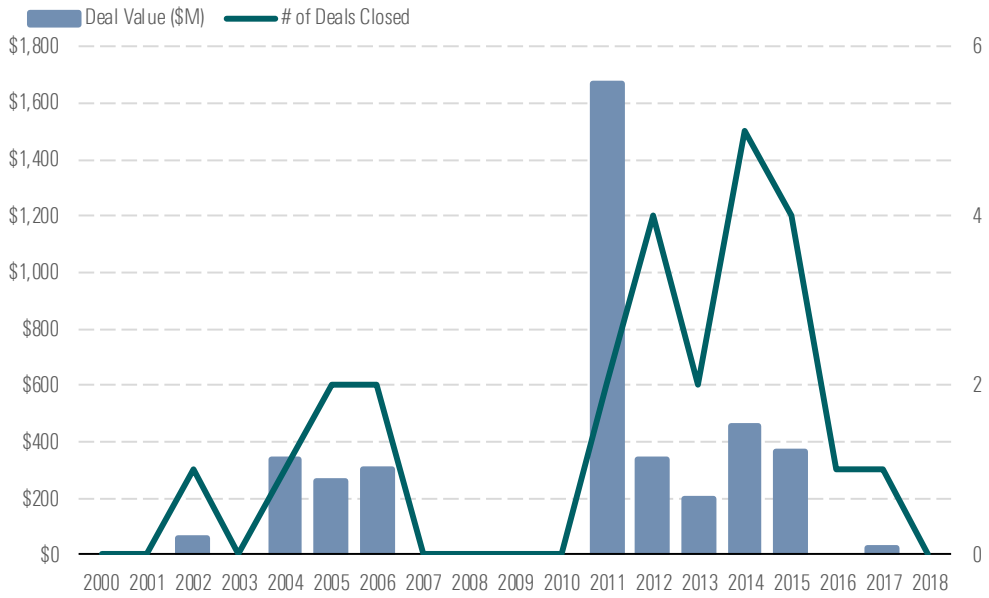
Source: PitchBook

Again, some of the rise in strategic acquisitions can be attributed to activity among franchisees, including franchisees buying company-owned locations as well as consolidation among large franchise groups or franchise groups buying additional brands. Future franchisee activity will depend on the health of the restaurant industry but also credit markets, as many franchisees' balance sheets are more highly leveraged as a result of recent deal activity.

Don't Expect Much Restaurant IPO Activity in the Near Future

Following robust activity in 2014 and 2015, there have been just two initial offerings by a restaurant or restaurant holding company on U.S. exchanges in the last two and a half years. A confluence of factors has contributed to the slowdown in restaurant IPOs. First among them is the plethora of capital, in the form of growth equity and buyout funds, available to later-stage VC-backed companies and other emergent restaurant concepts. This allows companies to stay private for longer, if not indefinitely, and gives liquidity to founders, employees, and early-stage investors without having to tap the public markets—a well-documented trend that affects nearly all industries.

Exhibit 87 Little Appetite for Restaurant IPOs, but We Expect Adjacent Tech Offerings Over the Next Few Years



Note: Includes listings of restaurants & bars on Nasdaq and NYSE
Source: PitchBook

We're not expecting any significant restaurant industry IPOs to be announced this year or the first half of 2019—heavily franchised fast-casual pizza chains Blaze or MOD strike us as the most logical candidates in the pipeline, but not until 2020 at earliest—but with restaurant technology firms starting to gain adoption and consolidate, we're probably not too far from another restaurant technology IPO. We don't find this surprising given that restaurant technology platforms need capital to satisfy the tremendous demand we're seeing from restaurant operators. Some private companies are likely to sit tight until Uber's (and by extension UberEats) rumored IPO in the second half of 2019, but don't be surprised to see IPO speculation for other restaurant technology firms like Toast (which completed a $115 million Series D transaction in July), Olo, or HotSchedules as we approach 2019.

Capital Structure and Tax Considerations

The proportion of debt to equity used in the restaurant industry depends largely on the ownership structure. By effectively matching franchisee royalties with debt obligations, franchise models allow for greater leverage than owner-operator structures. In a similar fashion, refranchising deals—in which the franchisor outright sells individual locations to franchisees—can free up cash and reduce future capital expenditures requirements, while also reducing operating exposure. Wendy's, Famous Dave's, and McDonald's are just a few of the chains to take advantage of refranchising transactions in recent years. These deals can be useful to public boards that may be under pressure to free up capital or improve performance, as well as to PE sponsors looking to return cash to LPs via recapitalization. Though carveouts and corporate divestitures (including refranchising transactions) have already become more common lately, we believe that recent tax legislation in the U.S. will lead to an additional increase in these deals. The Tax Cuts and Jobs Act of 2017 decreased the corporate tax rate from 35% to 21%, thereby increasing the after-tax proceeds from a refranchising transaction by 21.5%.

Spotlight: Buffalo Wild Wings

In November 2017, Roark Capital acquired Buffalo Wild Wings for $2.5 billion, which translates to $157 per share, or a 34% premium from the announcement of the deal. As previously mentioned, the deal is an add-on acquisition for Roark's Arby's platform, a company which—similar to Buffalo Wild Wings—had struggled for some time prior to its acquisition. The deal represents a growing opportunity for private equity firms: turning around performance at restaurant chains that have struggled to adapt to recent changes in consumption or distribution methods. In the case of Buffalo Wild Wings, consumers had moved away from sit-down dining concepts, while the price of chicken wings—an obviously crucial input—had increased precipitously. While not a traditional add-on (in the sense of integration of brand, operations, etc.), the platform provides opportunity for the two companies to increase bargaining power with suppliers, create greater scale with distribution, and share best practices across the platform. We expect to see more of these types of deals in the future, particularly as generalist investors take notice of more specialized firms.

RestaurantTech Market Map Overview and Definitions

Alex Frederick
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Making Sense of Today's Restaurant Technology Boom

Over the past decade, diners have changed how they've learned about and interacted with restaurants. According to the Pew Research Center, 91% of adults have cellphones, and at least 70% occasionally use their phones to coordinate plans. As diners have become increasingly reliant on their phones for daily tasks, restaurants and technology firms have identified opportunities to offer diners services that raise awareness, provide convenience, and add value. Shifts in diner preference, increased competition, and rising costs have pushed restaurants to evolve. No longer do diners learn about restaurants solely by reading reviews in the local newspaper. Nor can customers be expected to seek out restaurant phone numbers in the yellow pages for reservations or delivery. We see increasingly tech-savvy diners as a major catalyst in driving technological innovation in the restaurant industry. Grocery and meal ordering have been the most common type of restaurant tech business launched, but we see this shifting as category leaders emerge and consolidation of smaller players increases. We have noticed an upward trend in 2018 toward funding of restaurant management software and delivery robotics companies. We expect this trend to continue as innovators and investors pursue whitespace for business models solving operational issues in the restaurant industry that the retail industry has faced, such as business management and last-mile delivery.

Over the past decade, we have seen a rapid increase in the development of restaurant technologies. Customers have moved to digital, and restaurants have followed suit. The restaurant industry has historically been a narrow-margin business due to aggressive competition as well as a largely unchanged business model. Until recently, the industry has been slow to incorporate new technologies due to low margins. This has changed over the past decade as margins have improved and as restauranteurs have observed the benefits of implementing technologies. Reasons for rising profit margins include trends toward organic, local, and high-end goods that allow greater markup, technology-backed operational efficiencies, and improved economic conditions. Restaurants, bolstered by widening profit margins, have adopted technologies at a faster pace. Likewise, investors, sensing a changing tide on a financially neglected industry, have seized the opportunity.

Rising diner expectations, along with a need to differentiate, have driven restaurants to incorporate new technologies to gain an advantage. Similarly, rising costs for labor and ingredients have forced restaurants to implement technologies to preserve and increase profit margins. Companies such as the restaurant management platform Toast have achieved unicorn status by helping restaurants manage staff and front-end guest services and by provide customer relationships management (CRM) tools to better serve customers.

Since 2014, venture capitalists (VCs) have invested $11.2 billion across 944 deals in the restaurant tech space. The goal of this map is to orient the reader to the 90 privately held restaurant tech companies that have received the most venture funding, segmented into four categories: outside restaurant, inside restaurant, kitchen operations, and business management. Each segment is then subcategorized to provide greater detail into the use cases for these innovative firms. For startups that span multiple segments, categorizations are based on our understanding of their primary use case. We hope this map will prove useful to you in your practice and shed some light on this vertical of emerging technology.

Since 2014, venture capitalists (VCs) have invested $11.2 billion across 944 deals in the restaurant tech space. The goal of this map is to orient the reader to the 90 privately held restaurant tech companies that have received the most venture funding, segmented into four categories: outside restaurant, inside restaurant, kitchen operations, and business management. Each segment is then subcategorized to provide greater detail into the use cases for these innovative firms. For startups that span multiple segments, categorizations are based on our understanding of their primary use case. We hope this map will prove useful to you in your practice and shed some light on this vertical of emerging technology.

Definitions

Restaurant technology is defined as innovative technologies that improve the restaurant business for customers and/or restaurant businesses. Review websites (e.g. Yelp), payment software (e.g. Square), and corporate catering businesses (e.g. Fooda) are prime examples of restaurant technology.

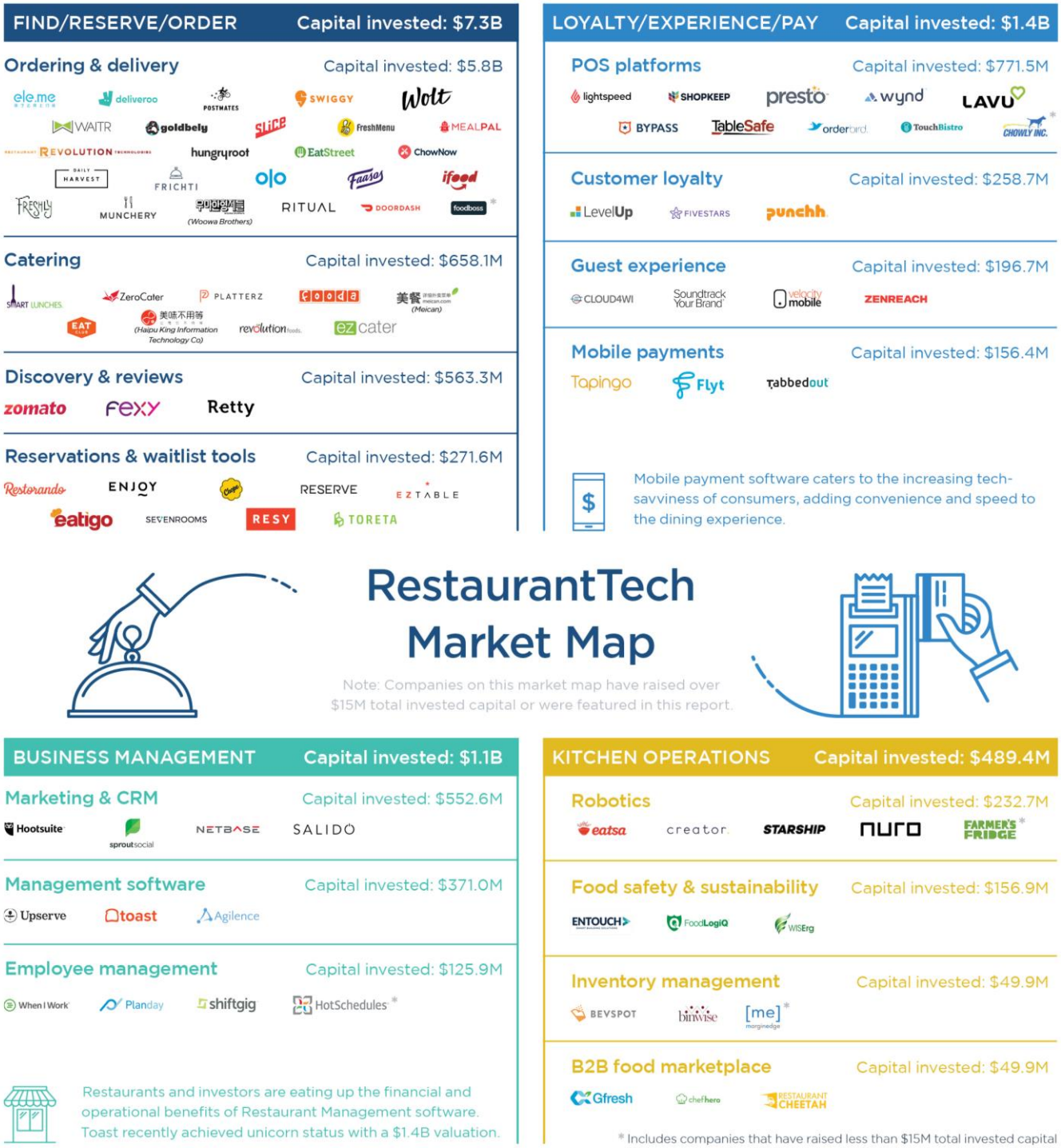
- **Inside restaurant (host/experience/pay).** Startups in the inside restaurant category involve the customer experience inside the restaurant. The main goal with these companies is making the customer experience more enjoyable and/or more convenient. For example, startups that facilitate mobile payment and modern point-of-sale (POS) platforms can speed up the dining and takeaway processes considerably. Customer loyalty startups provide incentive for repeat visits and help restaurants learn more about the customers they serve. Lastly, guest experience startups provide services that help restaurants differentiate from competitors and provide a more enjoyable occasion for diners.
    - **POS platforms.** POS is the event in the shopping experience when a customer pays a merchant for goods or services rendered. POS platforms are hardware and software POS technologies innovating how restaurants process sales.
    - **Mobile payments.** Similar to POS platforms, the mobile payments category contains companies that facilitate restaurant payments. Mobile payments software allows diners to pay for restaurant meals from a mobile device.
    - **Customer loyalty.** Customer loyalty companies are third-party software vendors that perform two essential functions. First, they collect and analyze customer data that helps restaurants optimize operations and better serve customers. Second, loyalty programs incentivize customers to increase visit frequency.
    - **Guest experience.** The guest experience category includes the amenities and services that restaurants can provide to customers to improve the customer experience such as wi-fi and music.

- **Outside restaurant (find/reserve/order).** Customers use technology to interact with restaurants without stepping in the door. The most common example of this is ordering food for takeout or delivery. The standard used to be that a customer would obtain a takeout menu from a previous visit to the restaurant. He or she would call the restaurant to place an order and pay by credit on the phone or cash upon delivery. Today, diners can find menus, place orders, and pay all from a desktop or mobile device. Other restaurant technology companies have replaced yellow pages and other information sources to help diners discover new restaurants. Lastly, this category covers companies that develop software to help diners find and secure reservations or to help restaurants manage waitlists.
    - **Ordering & delivery.** Ordering & delivery is the largest segment by far (in terms of total invested capital). Firms in this sector typically operate as marketplaces that facilitate the purchase and pickup/delivery of prepared meals between restaurants and customers.
    - **Catering.** The catering category includes businesses whose primary business model involves utilizing technology to connect restaurants with caterers who provide catering services to schools, offices, etc.
    - **Discovery & reviews.** This category describes technologies that help users to find new restaurants and to share their dining experiences with others.
    - **Reservation & waitlist tools.** Companies in this category develop software that allows diners to make reservations and/or helps restaurants manage their reservations and waitlists.

- **Business Management.** Companies in the business management category are focused on managing or optimizing core restaurant business functions. Some companies in this category focus on enhancing HR responsibilities such as hiring and scheduling. Others offer do-it-all capabilities to manage nearly every aspect of running a restaurant business. The common factor among these businesses is that the core revenue driver involves managing the business side of restaurant operations.
    - **Marketing management & CRM.** Marketing management & CRM companies provide software and services that empower restaurants to manage digital presence, engage with customers, and manage customer data.
    - **Management software.** Restaurant management software provides managers with tools to analyze, automate, and optimize restaurant management and operations.
    - **Employee management.** This category includes human resource (HR) management software that assists restaurants in employee scheduling and other HR activities.

- **Kitchen Operations.** This category includes startups focused on activities in the kitchen. Inventory management, which might normally be considered more of an operational topic, is included because it concerns managing the ingredients used in the kitchen. Another catch-all subsegment is robotics. This category primarily concerns hardware that automates kitchen activities, but also includes self-driving robots that perform restaurant deliveries and high-tech vending machines that prepare and/or sell fresh meals.
    - **Robotics.** Companies in the robotics category employ autonomous robot hardware to automate specific restaurant functions such as meal preparation and delivery.
    - **Food safety & sustainability.** Companies in the food waste category track and reduce food waste by either optimizing inventory and consumption or by creating markets for otherwise unsold restaurant food.
    - **Inventory management.** Inventory management companies develop products and services that track, analyze, and manage restaurant inventory, providing operators with actionable insights and tools to reduce costs and improve profit margins.
    - **B2B food marketplace.** This category contains companies that develop digital marketplaces that connect restaurant buyers with food suppliers.

Exhibit 88 PitchBook RestaurantTech Market Map



Source: PitchBook, Morningstar

Appendix: PitchBook Profiles for Noteworthy Private Restaurant and Restaurant Technology Companies

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Highlighted Companies

Using PitchBook to Identify and Analyze the Next Disruptors in the Restaurant Industry

Over the next several pages, we've included PitchBook profiles on several leading private restaurant and restaurant technology companies we've highlighted in this report where data was available. PitchBook is a subscription-based, comprehensive venture capital, private equity and M&A database that tracks every aspect of the private markets, including 900,000 companies, 690,000 private market transactions, 200,000 investors and 37,000 funds. PitchBook data is collected through an extensive research process that includes a combination of web crawlers, natural language processing and machine learning, and a primary research team, which also confirms in-depth details.

For additional details regarding PitchBook's processes, please refer to PitchBook's Report Methodologies site. For contact:

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Exhibit 89 bellagreen Company Profile

bellagreen

Company Description

Operator of a fast-fine eco-friendly restaurant chain. The company's menu is chef driven with a variety of appetizers, soups, salads, burgers, pizzas and desserts that include multiple gluten free, vegan and vegetarian options. Recipes incorporate sustainably sourced and organic ingredients that can be customized to meet special dietary needs of consumers.

Company Status

The company was acquired by Hargett Hunter Capital Partners through an LBO on September 30, 2016 for an undisclosed sum.

General Information	
Year Founded	2008
Employees	250
Locations	6

Key Executives	
Jason Morgan	Chief Executive Officer
Will Evans	Chief Financial Officer
Kyle Frederick	Chief Operations Officer

Active Investors	Investor Since
Hargett Hunter Capital Partners	Oct 16

Source: PitchBook, Morningstar

Exhibit 90 Blaze Pizza Company Profile

Blaze Pizza

Company Description

Operator of a gourmet pizza chain. The company's gourmet pizza chain offers pepperoni, crumbled meatballs, red onion, mozzarella and red sauce pizzas and also delivers it online, enabling consumers to get fast-casual artisan pizza.

Company Status

The company received an undisclosed amount of development capital from Brentwood Associates, Alliance Consumer Growth and Greg Dollarhyde on July 13, 2017, putting the company's valuation at $250 million.

General Information	
Year Founded	2011
Employees	60 (Blaze Franchisor), 8,000 (System)
Locations	295

Key Executives	
Jim Mizes	President & Chief Executive Officer
Mandy Shaw	Chief Financial Officer
Carolyne Canady	Chief Development Officer
Shivram Vaideeswaran	Chief Marketing Officer
Elise Wetzel	Co-Founder

Active Investors	Investor Since
Levy Family Partners	Jan 12
Thomas Werner	Jan 12
Maria Shriver	Jan 12
LeBron James	Jan 12
Matthew Pritzker Company	Mar 12

Active Investors (Continued)	Investor Since
Greg Dollarhyde	Jul 17
Brentwood Associates	Jul 17
Alliance Consumer Growth	Jul 17

Source: PitchBook, Morningstar

Exhibit 91 CAVA Company Profile

CAVA

Company Description

Operator of a chain of casual restaurants designed to offer the flavors of traditional Greek and Mediterranean cooking in a casual modern setting. The company's chain of casual restaurants provides modern, authentic and vibrant Mediterranean food to a national audience in both fast casual and grocery channels through their restaurants and website, enabling customers to experience and order Greek and Mediterranean food through their mobile application.

Company Status

The company raised an estimated $35 million Series D venture funding in a deal led by Act III Holdings on August 17, 2018, putting the pre-money valuation at $245 million. SWaN & Legend Venture Partners, Invus Group and Revolution also participated in the round.

General Information	
Year Founded	2006
Employees	442
Locations	70

Key Executives	
Brett Schulman	Founder, CEO, President & Board Member
Dan Jones	Chief Operating Officer
Jonathan Clark	Chief Financial Officer
Sarah Saxe	SVP Strategy
Chef Dimitri Moshovitis	Head of Culinary & Co- Founder

Active Investors	Investor Since
SWaN & Legend Venture Partners	Nov 10
Stephen Case	Sep 15
Revolution	Sep 15
Invus Group	Sep 15
Act III Holdings	Aug 18

Source: PitchBook, Morningstar

Exhibit 92 Chowly Company Profile

Chowly

Company Description

Developer of an order-processing platform designed to connect restaurant point of sale platforms with a third-party online ordering services. The company's order-processing platform automatically transfers orders to the restaurant's POS system, rather than using employee time to manually transfer the orders, enabling restaurants to save time, reduce staffing costs, errors and improve controls.

Company Status

The company raised $5.8 million of Series A venture funding in a deal led by Math Venture Partners on July 12, 2018, putting the company's pre-money valuation at $9 million. Valor Equity Partners, M25, Chicago Ventures, Hyde Park Venture Partners and Bluestein & Associates also participated in the round. The funds will be used predominantly for hiring more sales reps, operations team members and developers as well as to fuel mass market expansion in the US.

General Information	
Year Founded	2015
Employees	30

Key Executives	
Sterling Douglass	Co-Founder, Chief Executive Officer
Justin McNally	Co-Founder, Chief Executive Officer
Brian Duncan	Co-Founder
Joseph Lawton	Vice President, Operations

Active Investors	Investor Since
Sandalphon Capital	May 17
Bluestein & Associates	May 17
Chicago Ventures	May 17
Domenick Montanile	May 17

Active Investors	Investor Since
Hyde Park Venture Partners	May 17
M25	May 17
Math Venture Partners	May 17
Valor Equity Partners	Jul 18

Source: PitchBook, Morningstar

Exhibit 93 Dos Toros Company Profile

Dos Toros

Company Description

Operator of a Mexican restaurants in New York City and Chicago. The company operates restaurants in 18 locations in NYC and Chicago, offering fast-casual dining and catering, with a menu that includes burritos, salads, quesadillas and tacos.

Company Status

The company received an undisclosed amount of debt financing in the form of three separate liens from Spring Bank, Texas Capital Bank and Access Leasing Corporation on August 04, 2017, August 24, 2017, and August 28, 2017, respectively.

General Information	
Year Founded	2009
Employees	480
Locations	18

Key Executives	
Oliver Kremer	Co-Founder, Co-Owner, Co-Chief Executive Officer & Director
Leo Kremer	Co-Owner, Co-Founder, Co-Chief Executive Officer & Executive Director
Aleta Maxwell	Chief Human Resources Officer

Active Investors	Investor Since
Strand Equity	Sep 16
GrowthPoint Partners	Sep 16

Source: PitchBook, Morningstar

Exhibit 94 EatStreet Company Profile

EatStreet

Company Description

Developer of an online food-ordering platform. The company provides a comprehensive listing of all restaurants partnered with the service and a central hub where users can order online from every restaurant in their area.

Company Status

The company raised $11 million of Series C1 venture funding from undisclosed investors on October 13, 2016, putting the pre-money valuation at $60.05 million. It will use the funding in expanding its national footprint. The company till date has raised more than $40 million. Previously, the company raised $15 million of Series C venture funding from lead investors 4490 Ventures and Lumia Capital on September 30, 2016, putting the pre-money valuation at $30 million.

General Information	
Year Founded	2010
Employees	NA

Key Executives	
Matt Howard	Co-Founder, Chief Executive Officer
Alex Wyler	Chief Technology Officer & Co-Founder
Eric Martell	Chief Information Officer & Co-Founder

Active Investors	Investor Since
gener8tor	Jun 12
Independence Equity Management	Jan 13
Great Oaks Venture Capital	Jan 13
Cornerstone Angels	Jan 13
4490 Ventures	Apr 14
CSA Partners	Apr 14
Silicon Valley Bank	Apr 14
State of Wisconsin Investment Board	Apr 14
Fog City Capital	Sep 16
Lumia Capital	Sep 16
Luxor Capital Group	Sep 16
Math Venture Partners	Sep 16
Prime Ventures	Sep 16
Wisconsin Economic Development Corporation	Oct 16

Source: PitchBook, Morningstar

Exhibit 95 Farmer's Fridge Company Profile

Farmer's Fridge

Company Description

Operator of "micro-restaurants" in 12 square foot automated fridges stocked with sustainably-sourced and made-from-scratch nutritious meals and snacks. The company's fridges leverage proprietary IoT technology to communicate with customers, and to provide real-time demand visibility based on data collected daily.

Company Status

The company raised $30 million of Series C venture funding in a deal led by Innovation Endeavors on September 5, 2018. Cleveland Avenue, Hyde Park Angels, DNS Capital, GreatPoint Ventures, DOM Capital Group, Finistere Ventures and Danone Manifesto Ventures also participated in the round. The financing will help the company beef up its Chicago workforce, while adding 400 to 500 more fridges in other Midwestern cities such as Detroit, Indianapolis, Cincinnati and St. Louis by the end of next year.

General Information	
Year Founded	2013
Employees	70
Locations	150

Key Executives	
Luke Saunders	Founder, Chief Executive Officer and Board Member
Shayna Harris	Chief Operating Officer
Rajesh Karmani Ph.D	Chief Technology Officer
Jess Martin	Vice President, Operations

Active Investors	Investor Since
Spiral Sun Ventures	May 15
Powerplant Ventures	Mar 17
Maywic Select Investments	Mar 17
Danone Manifesto Ventures	Mar 17
Cleveland Avenue	Mar 17
Innovation Endeavors	Sep 18

Active Investors (Continued)	Investor Since
Hyde Park Angels	Sep 18
GreatPoint Ventures	Sep 18
Finistere Ventures	Sep 18
DOM Capital Group	Sep 18
DNS Capital	Sep 18

Source: PitchBook, Morningstar

Exhibit 96 FoodBoss Company Profile

FoodBoss (Bootler)

Company Description

Provider of an online food and alcohol delivery search engine. The company offers a platform that allows users to compare menu items, prices, delivery times and fees and order food across variety of restaurants.

Company Status

The company raised $2 million of angel funding from undisclosed investors in December 2015. Friends and family also participated in this round.

General Information	
Year Founded	2015
Employees	NA

Key Executives	
Michael DiBenedetto	Co-Founder & Chief Executive Officer
Liam Hession	Co-Founder & Chief Technology Officer

Source: PitchBook, Morningstar

Exhibit 97 Honeygrow Company Profile

Honeygrow

honeygrow

Company Description

Operator of a chain of fast-casual restaurants designed to bring people together over the highest quality, wholesome, simple foods. The company's restaurants offer menus based on specialized in stir-fries, smoothies, salads and honey bar treats, enabling consumers to enjoy delicious, high quality, wholesome food and eating honestly.

Company Status

The company raised $2 million of convertible debt financing from undisclosed investors on August 9, 2018. Earlier, the company raised $18 million of Series E venture funding in a deal led by Miller Investment Management on December 6, 2017. Other undisclosed investors also participated in the round.

General Information	
Year Founded	2012
Employees	350
Locations	35

Key Executives	
Justin Rosenburg	Co-Founder, Chief Executive Officer & Board Member
David Robkin	Co-Founder, Chief Financial Officer, President & Board Member
Laura Kim	Director of Implementation
Jen Denis	Chief Brand Officer
Suzanne Toner	Vice President, Human Resources

Active Investors	Investor Since
Miller Investment Management	May 14
Brook Lenfest	May 14

Source: PitchBook, Morningstar

Exhibit 98 Lou Malnati's Company Profile

Lou Malnati's Pizza

Lou Malnati's PIZZERIA

Company Description

Owner and operator of a chain of restaurants. The company specializes in pizzas, appetizers, soups and salads, pasta, sandwiches and related food products in the United States.

Company Status

The company received an undisclosed amount of development capital from BDT Capital Partners on September 22, 2016.

General Information	
Year Founded	1971
Employees	NA
Locations	56

Key Executives	
Marc Malnati	Chief Executive Officer & Owner
Mark Agnew	President
Jim D'Angelo	Chief Operating Officer

Active Investors	Investor Since
BDT Capital Partners	Sep 16

Source: PitchBook, Morningstar

Exhibit 99 MarginEdge Company Profile

MarginEdge

Company Description

Developer of a restaurant management software designed to change the way restaurants operate. The company's software helps to track real-time plate costs and move from paper invoices to actionable information in real time, enabling restaurants to increase profit.

Company Status

The company raised $3.49 million of venture funding from Center for Innovative Technology Gap Funds, IrishAngels Ventures and other undisclosed investors on May 9, 2018.

General Information	
Year Founded	2015
Employees	12

Key Executives	
Bo Davis	Co-Founder & Chief Executive Officer
Michael Spitalney	Co-Founder & Chief Operating Officer
Sam Leiber	Co-Founder & Chief Technology Officer
Roy Phillips	Co-Founder, Client Services

Active Investors	Investor Since
Center for Innovative Technology Gap Funds	May 18
IrishAngels Ventures	May 18

Source: PitchBook, Morningstar

Exhibit 100 Mendocino Farms Profile

Mendocino Farms

Company Description

Operator of a chain of restaurants. The company's restaurants offers local wines and chef-driven sandwiches and farm-to-table menu that brings fine dining ingredients and techniques to the sandwich and salad level, which are served with elevated hospitality.

Company Status

The company was acquired by TPG Growth through an LBO on November 13, 2017 for an undisclosed sum. As part of the transaction, Harald Herrmann will join Mendocino Farms as CEO and Mario Del Pero and Ellen Chen will remain the largest individual shareholders in Mendocino Farms.

General Information	
Year Founded	2005
Employees	201
Locations	17

Key Executives	
Harald Herrmann	Chief Executive Officer
Ellen Chen	Co-Founder, President & Chief Financial Officer
Steven Mintzer	Chief Operation Officer
Mario Del Pero	Co-Founder

Former Investors	Investor Since
GrowthPoint Partners	Jan 09
Everwatch Capital	Jan 09
Rick Heitzmann	Jun 12
L Catterton	Jun 12
Whole Foods Market	Oct 15

Active Investors	Investor Since
TPG Growth	Nov 17

Source: PitchBook, Morningstar

Exhibit 101 Modern Market Company Profile

Modern Market

MODERN market
FARM FRESH EATERY

Company Description

Operator of a restaurant chain. The company offers multi-cuisine fresh food and beverages with an option of gluten and fat free and vegetarian food through its chain of restaurants.

Company Status

The company was acquired by Butterfly Equity through an LBO on February 27, 2018 for an undisclosed sum.

General Information	
Year Founded	2009
Employees	178
Locations	30

Key Executives	
Anthony Pigliacampo	Co-Founder, Co-Chief Executive Officer & Board Member
Robert McColgan	Co-Founder, Co-Chief Executive Officer & Board Member

Active Investors	Investor Since
Butterfly Equity	Feb 18
Leykar Investments	Feb 18

Source: PitchBook, Morningstar

Exhibit 102 Original ChopShop Company Profile

Original ChopShop

Company Description

Operator of a fast-casual restaurant chain. The better-for-you menu includes a variety of protein bowls, salads, sandwiches, parfaits, superfruit bowls, and breakfast options along with fresh juices, protein shakes, lemonades and teas.

Company Status

The company was acquired by Hargett Hunter Capital Partners through an LBO on July 22, 2016 for an undisclosed sum.

General Information	
Year Founded	2013
Employees	300
Locations	9

Key Executives	
Jason Morgan	Chief Executive Officer
Will Evans	Chief Financial Officer
Kyle Frederick	Chief Operations Officer

Active Investors	Investor Since
Hargett Hunter Capital Partners	Jul 16

Source: PitchBook, Morningstar

Exhibit 103 Protein Bar & Kitchen Company Profile

Protein Bar & Kitchen

Company Description

Operator of a chain of restaurants. The company operates a chain of restaurants across the Chicago, Washington D.C., and Denver markets that offer flavor-forward options conducive to an active lifestyle. Offerings include protein-packed bowls, salads, wraps, breakfast, and a made-to-order beverage/shake program serving all dietary needs.

Company Status

The company received $1.99 million of financing from an undisclosed investor on March 25, 2016.

General Information	
Year Founded	2009
Employees	350
Locations	19

Key Executives	
Jeff Drake	Chief Executive Officer
Jared Cohen	Chief Operating Officer

Active Investors	Investor Since
L Catterton	Oct 13
Mark Friedgan	Oct 13
Thomas Ryan	Oct 13

Source: PitchBook, Morningstar

Exhibit 104 Sweetgreen Company Profile

Sweetgreen

Company Description

Operator of a chain of restaurants designed to offer organic fast-food. The company's restaurants focus on farm-to-table concept and offers simple, seasonal and healthy food, enabling consumers to enjoy healthy and tasty food.

Company Status

The company raised an estimated $40 million of Series G venture funding from T. Rowe Price, CNF Investments and Revolution in February, 2018, putting the pre-money valuation at $473 million. David Barber, Almanac Investments, Breakaway Innovation Group, Hanaco Venture Capital and other undisclosed investors also participated in this round.

General Information	
Year Founded	2007
Employees	3,500
Locations	75

Key Executives	
Jonathan Neman	Co-Chief Executive Officer and Co-Founder
Nathaniel Ru	Co-Chief Executive Officer and Co-Founder
Nicolas Jammet	Co-Chief Executive Officer and Co-Founder

Active Investors	Investor Since
Kel Vepuri	Oct 10
Vast Ventures, Andrew Koven	Mar 11
Steve Martocci, Revolution, Jared Hecht	Dec 13
Signatures Capital, Emil Michael	Dec 13
Haroon Mokhtarzada, Donn Davis	Dec 13
Scott Belsky, Danny Meyer, Daniel Boulud	Nov 14
Collaborative Fund, Babak Yazdani	Nov 14
Warren Capital Group, T. Rowe Price	Jun 15
Theodore Leonsis, Stephen Case	Jun 15
Corstone Capital	Jun 15
Almanac Insights	Feb 18
Alrai Capital	Feb 18
Breakaway Innovation Group	Feb 18
CNF Investments	Feb 18
David Barber	Feb 18
Hanaco Venture Capital	Feb 18

Source: PitchBook, Morningstar

Appendix: Morningstar's Restaurant Industry Coverage List

Exhibit 105 Morningstar's Restaurant and Restaurant Technology Coverage List

Company	Ticker	Moat	Moat Trend	Market Cap (Bil)	Price	Fair Value	Star Rating	Price/ Fair Value	Analyst
Restaurants									
Chipotle Mexican Grill Inc (CMG)	CMG	Narrow	Negative	12.9	465.40	400.00	★★	1.16	R.J. Hottovy
Darden Restaurants Inc (DRI)	DRI	None	Stable	13.8	111.28	105.00	★★★	1.06	R.J. Hottovy
Dunkin' Brands Group Inc (DNKN)	DNKN	Narrow	Stable	6.2	73.89	68.00	★★★	1.09	R.J. Hottovy
McDonald's Corp (MCD)	MCD	Wide	Negative	129.2	166.53	190.00	★★★★	0.88	R.J. Hottovy
Restaurant Brands International Inc (QSR)	QSR	Narrow	Negative	14.8	59.12	66.00	★★★★	0.90	R.J. Hottovy
Starbucks Corp (SBUX)	SBUX	Wide	Positive	77.4	57.34	64.00	★★★★	0.90	R.J. Hottovy
Yum Brands Inc (YUM)	YUM	Wide	Negative	28.7	90.32	86.00	★★★	1.05	R.J. Hottovy
Yum China Holdings Inc (YUMC)	YUMC	Wide	Negative	13.4	34.94	44.00	★★★★	0.79	R.J. Hottovy
Restaurant Technology Companies									
Amazon.com Inc (AMZN)	AMZN	Wide	Stable	981.8	2,012.98	2,200.00	★★★	0.91	R.J. Hottovy
Alibaba Group Holding Ltd (BABA)	BABA	Wide	Stable	427.8	166.32	240.00	★★★★	0.69	R.J. Hottovy
GrubHub Inc (GRUB)	GRUB	None	Stable	12.6	139.79	81.00	★★	1.73	Ali Mogharabi
McDonald's Corp (MCD)	MCD	Wide	Negative	129.2	166.53	190.00	★★★★	0.88	R.J. Hottovy

Source: Morningstar

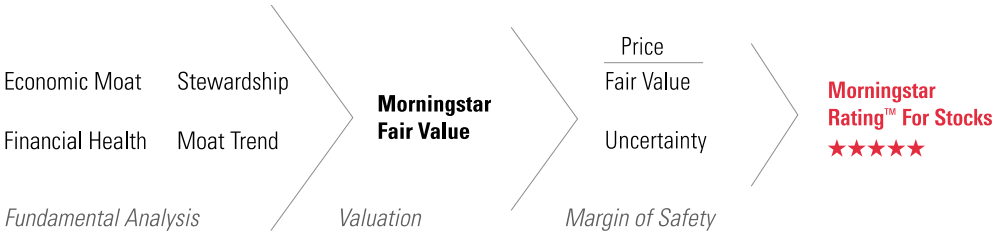
Research Methodology for Valuing Companies

Overview

At the heart of our valuation system is a detailed projection of a company's future cash flows, resulting from our analysts' research. Analysts create custom industry and company assumptions to feed income statement, balance sheet, and capital investment assumptions into our globally standardized, proprietary discounted cash flow, or DCF, modeling templates. We use scenario analysis, in-depth competitive advantage analysis, and a variety of other analytical tools to augment this process. Moreover, we think analyzing valuation through discounted cash flows presents a better lens for viewing cyclical companies, high-growth firms, businesses with finite lives (e.g., mines), or companies expected to generate negative earnings over the next few years. That said, we don't dismiss multiples altogether but rather use them as supporting cross-checks for our DCF-based fair value estimates. We also acknowledge that DCF models offer their own challenges (including a potential proliferation of estimated inputs and the possibility that the method may miss short-term market price movements), but we believe these negatives are mitigated by deep analysis and our long-term approach.

Morningstar's equity research group ("we," "our") believes that a company's intrinsic worth results from the future cash flows it can generate. The Morningstar Rating for stocks identifies stocks trading at a discount or premium to their intrinsic worth—or fair value estimate, in Morningstar terminology. Five-star stocks sell for the biggest risk-adjusted discount to their fair values, whereas 1-star stocks trade at premiums to their intrinsic worth.

Morningstar Research Methodology



Source: Morningstar.

Four key components drive the Morningstar rating: (1) our assessment of the firm's economic moat, (2) our estimate of the stock's fair value, (3) our uncertainty around that fair value estimate, and (4) the current market price. This process ultimately culminates in our single-point star rating.

Economic Moat

The concept of an economic moat plays a vital role not only in our qualitative assessment of a firm's long-term investment potential, but also in the actual calculation of our fair value estimates. An economic moat is a structural feature that allows a firm to sustain excess profits over a long period of time. We define economic profits as returns on invested capital (ROIC) over and above our estimate of a firm's cost of capital, or weighted average cost of capital (WACC). Without a moat, profits are more susceptible to competition. We have identified five sources of economic moats: intangible assets, switching costs, network effect, cost advantage, and efficient scale.

Companies with a narrow moat are those we believe are more likely than not to achieve normalized excess returns for at least the next 10 years. Wide-moat companies are those in which we have very high confidence that excess returns will remain for 10 years, with excess returns more likely than not to remain for at least 20 years. The longer a firm generates economic profits, the higher its intrinsic value. We believe low-quality, no-moat companies will see their normalized returns gravitate toward their cost of capital more quickly than companies with moats.

To assess the sustainability of excess profits, analysts perform ongoing assessments of the moat trend. A firm's moat trend is positive in cases where we think its sources of competitive advantage are growing stronger, stable where we don't anticipate changes to competitive advantages over the next several years, or negative where we see signs of deterioration.

Estimated Fair Value

Combining our analysts' financial forecasts with the firm's economic moat helps us assess how long returns on invested capital are likely to exceed the firm's cost of capital. Returns of firms with a wide economic moat rating are assumed to fade to the perpetuity period over a longer period of time than the returns of narrow-moat firms, and both will fade slower than no-moat firms, increasing our estimate of their intrinsic value.

Our model is divided into three distinct stages:

Stage I: Explicit Forecast

In this stage, which can last 5 to 10 years, analysts make full financial statement forecasts, including items such as revenue, profit margins, tax rates, changes in working capital accounts, and capital spending. Based on these projections, we calculate earnings before interest, after taxes (EBI) and net new investment (NNI) to derive our annual free cash flow forecast.

Stage II: Fade

The second stage of our model is the period it will take the company's return on new invested capital—the return on capital of the next dollar invested (RONIC)—to decline (or rise) to its cost of capital. During the Stage II period, we use a formula to approximate cash flows in lieu of explicitly modeling the income statement, balance sheet, and cash flow statement as we do in Stage I. The length of the second stage depends on the strength of the company's economic moat. We forecast this period to last anywhere from one year (for companies with no economic moat) to 10–15 years or more (for wide-moat companies). During this period, cash flows are forecast using four assumptions: an average growth rate for EBI over the period, a normalized investment rate, average return on new invested capital (RONIC), and the number of years until perpetuity, when excess returns cease. The investment rate and return on new invested capital decline until a perpetuity value is calculated. In the case of firms that do not earn their cost of capital, we assume marginal ROICs rise to the firm's cost of capital (usually attributable to less reinvestment), and we may truncate the second stage.

Stage III: Perpetuity

Once a company's marginal ROIC hits its cost of capital, we calculate a continuing value, using a standard perpetuity formula. At perpetuity, we assume that any growth or decline or investment in the business neither creates nor destroys value and that any new investment provides a return in line with estimated WACC.

Because a dollar earned today is worth more than a dollar earned tomorrow, we discount our projections of cash flows in stages I, II, and III to arrive at a total present value of expected future cash flows. Because we are modeling free cash flow to the firm—representing cash available to provide a return to all capital providers—we discount future cash flows using the WACC, which is a weighted average of the costs of equity, debt, and preferred stock (and any other funding sources), using expected future proportionate long-term, market value weights.

Uncertainty Around That Fair Value Estimate

Morningstar's uncertainty rating captures a range of likely potential intrinsic values for a company and uses it to assign the margin of safety required before investing, which in turn explicitly drives our stock star rating system. The uncertainty rating represents the analysts' ability to bound the estimated value of the shares in a company around the fair value estimate, based on the characteristics of the business underlying the stock, including operating and financial leverage, sales sensitivity to the overall economy, product concentration, pricing power, and other company-specific factors.

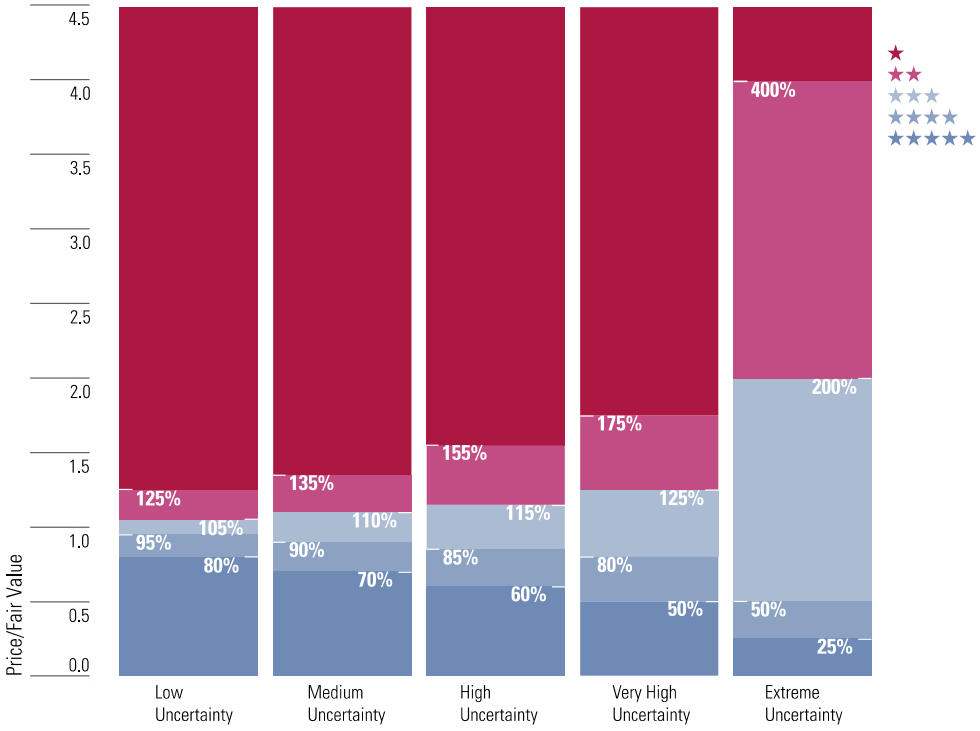
Analysts consider at least two scenarios in addition to their base case: a bull case and a bear case. Assumptions are chosen such that the analyst believes there is a 25% probability that the company will perform better than the bull case and a 25% probability that the company will perform worse than the bear case. The distance between the bull and bear cases is an important indicator of the uncertainty underlying the fair value estimate.

Our recommended margin of safety widens as our uncertainty regarding the estimated value of the equity increases. The more uncertain we are about the estimated value of the equity, the greater the discount we require relative to our estimate of the value of the firm before we would recommend the purchase of the shares. In addition, the uncertainty rating provides guidance in portfolio construction based on risk tolerance.

Our uncertainty ratings for our qualitative analysis are low, medium, high, very high, and extreme.

- Low: Margin of safety for 5-star rating is a 20% discount and for 1-star rating is a 25% premium.
- Medium: Margin of safety for 5-star rating is a 30% discount and for 1-star rating is a 35% premium.
- High: Margin of safety for 5-star rating is a 40% discount and for 1-star rating is a 55% premium.
- Very high: Margin of safety for 5-star rating is a 50% discount and for 1-star rating is a 75% premium.
- Extreme: Margin of safety for 5-star rating is a 75% discount and for 1-star rating is a 300% premium.

Morningstar Equity Research Star Rating Methodology



Market Price

The market prices used in this analysis and noted in the report come from the exchange on which the stock is listed, which we believe is a reliable source.

For more details about our methodology, please go to https://shareholders.morningstar.com.

Morningstar Star Rating for Stocks

Once we determine the fair value estimate of a stock, we compare it with the stock's current market price on a daily basis, and the star rating is automatically recalculated at the market close on every day the market on which the stock is listed is open. Our analysts keep close tabs on the companies they follow and, based on thorough and ongoing analysis, raise or lower their fair value estimates as warranted.

Please note, there is no predefined distribution of stars. That is, the percentage of stocks that earn 5 stars can fluctuate daily, so the star ratings, in the aggregate, can serve as a gauge of the broader market's valuation. When there are many 5-star stocks, the stock market as a whole is more undervalued, in our opinion, than when very few companies garner our highest rating.

We expect that if our base-case assumptions are true, the market price will converge on our fair value estimate over time, generally within three years (although it is impossible to predict the exact time frame in which market prices may adjust).

Our star ratings are guideposts to a broad audience, and individuals must consider their own specific investment goals, risk tolerance, tax situation, time horizon, income needs, and complete investment portfolio, among other factors.

The Morningstar Star Ratings for stocks are defined below:

★★★★★ We believe appreciation beyond a fair risk-adjusted return is highly likely over a multiyear time frame. Scenario analysis developed by our analysts indicates that the current market price represents an excessively pessimistic outlook, limiting downside risk and maximizing upside potential.

★★★★ We believe appreciation beyond a fair risk-adjusted return is likely.

★★★ Indicates our belief that investors are likely to receive a fair risk-adjusted return (approximately cost of equity).

★★ We believe investors are likely to receive a less than fair risk-adjusted return.

★ Indicates a high probability of undesirable risk-adjusted returns from the current market price over a multiyear time frame, based on our analysis. Scenario analysis by our analysts indicates that the market is pricing in an excessively optimistic outlook, limiting upside potential and leaving the investor exposed to capital loss.

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