Takeoff

How to Win in Online Grocery Part II:

Competitive Dynamics That Shape Consumer Preferences

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Price is the most important driver

In the first installment of this series, How to Win in Online Grocery, we noted that "online grocery offers a significant opportunity, which may favor the incumbents, rather than the world-renowned online leader, Amazon." Our conjoint analysis of over 1,000 Americans who are the primary grocery shoppers for their households documented the expected finding that price is the most important driver for online grocery adoption. The respondents also highlighted that delivery is preferred over curbside or in-store pickup (though the high cost of delivery puts this at odds with achieving low prices). Unexpectedly, we found that expansive variety beyond the traditional grocery store assortment was not valued and that speed was the least important differentiator as long as the groceries were available the same day.

Finding the balance

Trying to find the balance between "cost-to-serve" and "willingness-to-pay," we explored a model that would play to the strengths of the traditional grocery store. Our simulation demonstrated that a curated selection offered for same-day curbside pickup at a 5 percent discount could grab a significant share. But, we also discovered that over a third of our respondents would still prefer to continue going to the store rather than switch to an online model. This whitepaper explores why some shoppers resist the shift to online and remain stuck in their traditional grocery shopping habits. We also consider how competitive dynamics and investment decisions of grocery providers shape shopper habits. We look back at the history of the modern grocery store in the United States, as well as the different trajectories for online groceries in the United States, France, and the United Kingdom.

The third paper in the series will build upon the original report by conducting a new conjoint survey. Conducted in mid-August 2020, the new survey is designed to discern behavior changes adopted during the pandemic since our original survey was conducted in early March—when the US had recorded fewer than 1,000 cases of COVID-19. But before we explore how habits and preferences have changed over the ensuing six months, we prepared this report to share further analysis of the original data and to explore the related issue of how competitive reactions shape the options available to consumers as well as their behaviors (though not necessarily their preferences).

Segmenting by shopper habits

In the original conjoint survey, nearly half of the respondents never shop online, while less than one percent never go to a grocery store. Despite the dramatic growth of online retail over the past 25 years, grocery has remained largely store-based (even during the pandemic). Segmenting shoppers based upon frequency and the mix of online versus traditional store shopping offers insight into the early adopters as well as the potential levers for driving higher and lasting online adoption.

As shown in the graphic below we classified them into six segments which cover two broad categories, traditionalists and online adopters, and excluded a small group of infrequent shoppers as relatively unimportant. The traditionalist group makes up just under 45 percent of shoppers and breaks into two segments based upon the frequency they go to the grocery store. A similar number of shoppers, representing around 46 percent, now actively shop online which we break down into three segments. We isolated the remaining set of shoppers, representing about 9 percent, because they rarely shop online or at the grocery store and accordingly are relatively unimportant in driving overall online sales.

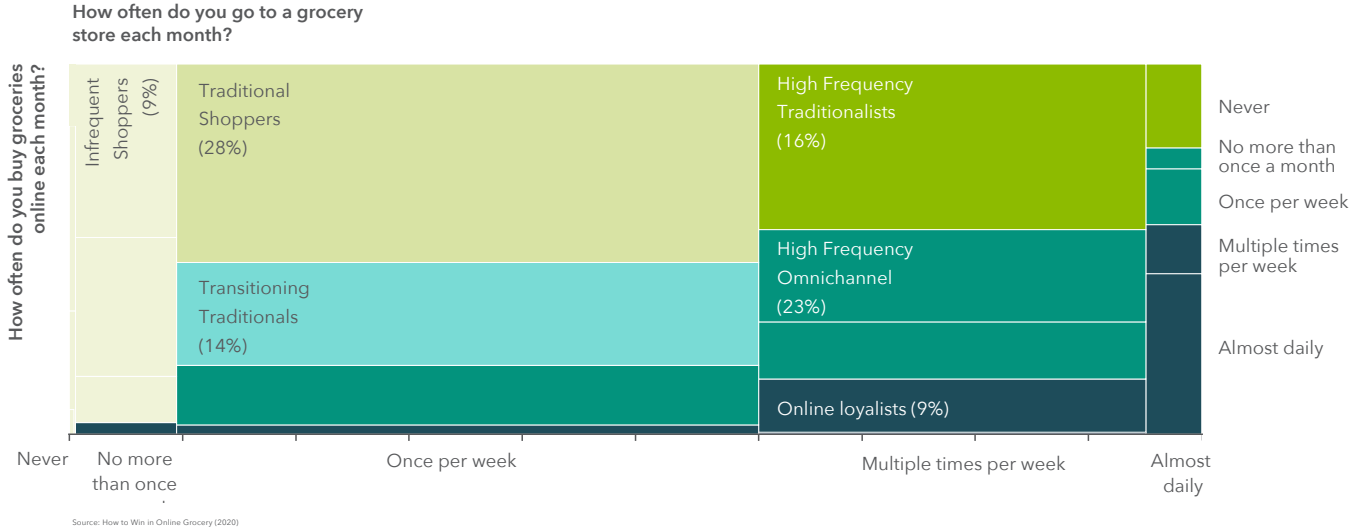
The largest segment in the traditional category at 28 percent of respondents, "Traditional Shoppers", never shop online and go to the supermarket weekly reflecting habits that can be traced back to the origins of the modern supermarket 80 years ago. Another traditional segment, *High Frequency Traditionalists,* go to the grocery store more than once per week but still do not shop online. This segment accounts for 16 percent of primary household shoppers.

Signs of change appear along the boundaries for both of these segments. Some of those weekly grocery store shoppers have begun supplementing their weekly shopping trip with a monthly online order. We call this group, representing 14 percent of those surveyed, *Transitioning Traditionalists.* Similarly, 23 percent of shoppers classify as *High Frequency Omnichannel* because they shop for groceries multiple times per week with a mix of online and store trips. *Online Loyalists,* representing 9 percent of responding shoppers, have developed the new habit of shopping online multiple times per week. Interestingly, this entire group continues to shop in stores as well and the vast majority of them go to the grocery store at least weekly.

A final segment totaling 9 percent, *Infrequent Shoppers,* go to the store no more than once per month and have not achieved the multi-weekly online frequency to qualify as Online Loyalists.

GRAPHIC A

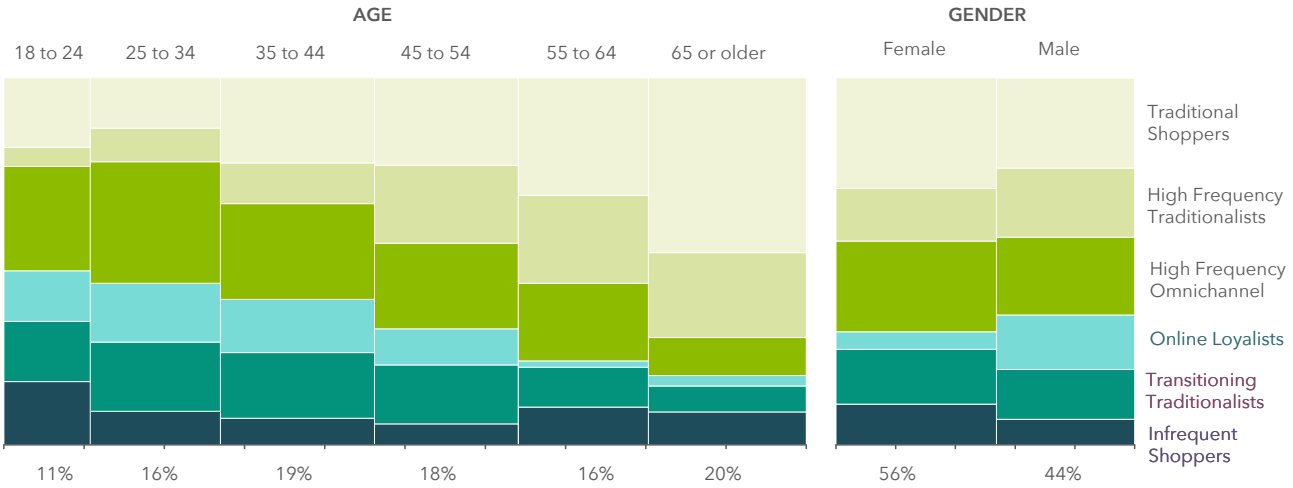
Shopper habit segmentation



Source: How to Win in Online Grocery (2020)

GRAPHIC B

Gender and age by shopper segment

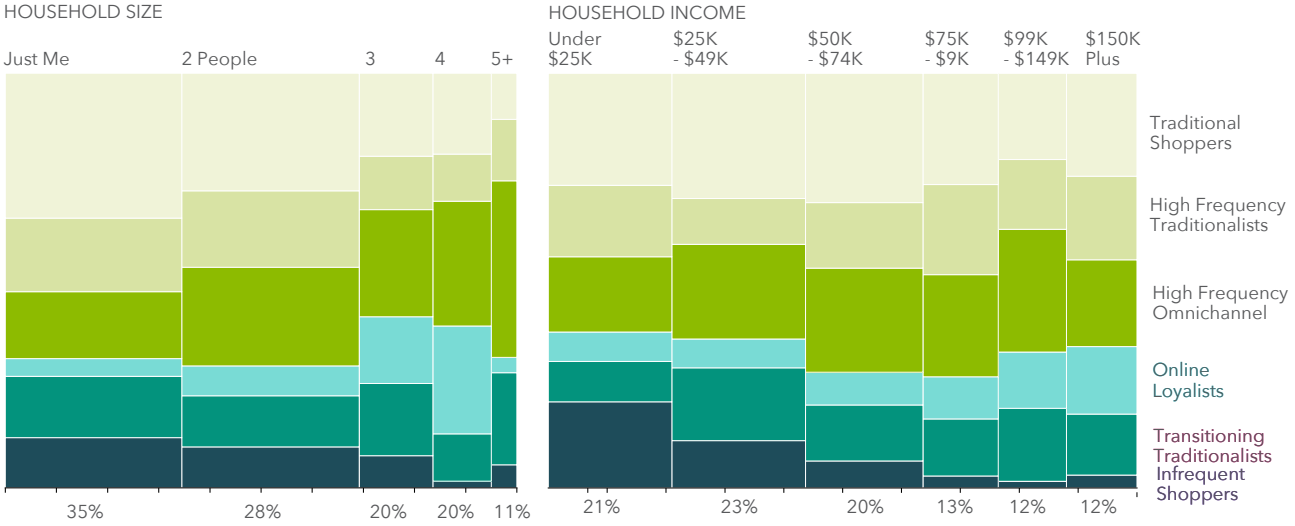


Source: How to Win in Online Grocery (2020)

Comparing the demographics of these six segments, it is unsurprising that Traditional Shoppers tend to be older. However, we did not expect to learn that Online Loyalists tend to be males who are the primary shopper for the household. Considered in combination, it highlights the changing gender roles among American families. While research shows that mothers remain the primary grocery shopper in most married households, a majority of married men and women believe that sharing household chores is very important to a successful marriage[1]. These helpful husbands should be a target for any competitor seeking to expand in online grocery.

GRAPHIC C

Household size and income by shopper segment



Source: How to Win in Online Grocery (2020)

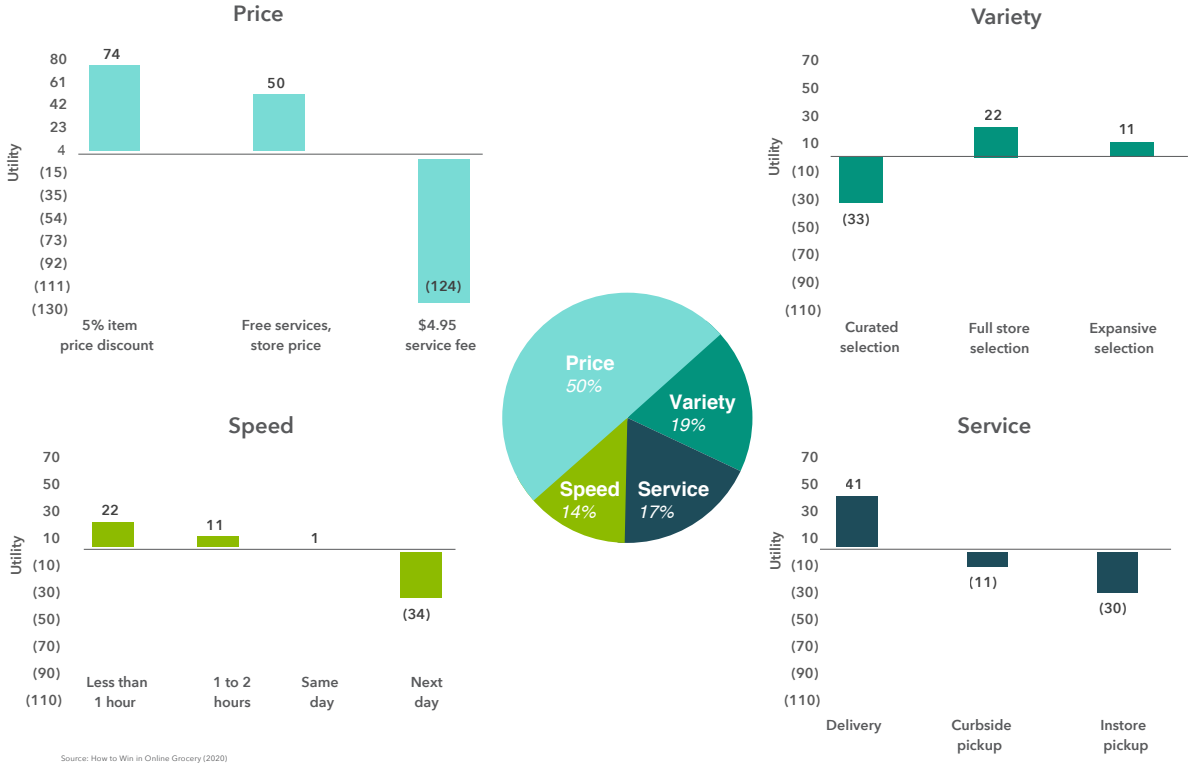
We also discovered that household size is a bigger driver than household income in explaining a tendency to shop online. While infrequent shoppers tend towards lower income and smaller households, the percentage of traditionalists who do not shop online (Traditional Shoppers and High Frequency Traditionalists) generally accounts for around half of the respondents, independent of income. Households of 4 or 5+ people have the highest percentage of online shoppers (68 percent and 71 percent respectively). However, the most common mode is different: 26 percent of four-person households are Online Loyalists and 30 percent of five-person households are High Frequency Omnichannel shoppers. While typical marketing research segments online shoppers by age and income, in the case of online grocery shopping household size would be a more important characteristic in driving penetration.

[1] https://www.pewresearch.org/fact-tank/2019/09/24/among-u-s-couples-women-do-more-cooking-and-grocery-shopping-than-men/

GRAPHIC D

Traditional Shoppers

Attribute weighting & utility scores (N=297)



Source: How to Win in Online Grocery (2020)

GRAPHIC E

Online Loyalists

Attribute weighting & utility scores (N=102)

Source: How to Win in Online Grocery (2020)

While the demographics can help in targeting consumers, the conjoint analysis of the different segments offers further insight into the necessary value proposition that can attract the shopper to buy online. Traditional Shoppers (as well as High Frequency Traditionalists) place a heavy weight on Price (50%), with the lowest weighting on Speed (14%). Not surprisingly, given the fees often associated with online models, the Online Loyalists put far less weight on price (28% versus 50%), and place more weight on speed (24% versus 14%). Both Traditionalists and Online Loyalists show similar preferences for Delivery over Curbside Pick-up. (Online Loyalists have a more negative view of in-store pick-up, consistent with their focus on speed.) It is also notable that the Online Loyalists do not place a significant weight on variety. They like to have the full store selection available and have almost the same dislike for a curated offering as an expansive selection.

The growth to date in online penetration has been driven by shoppers with lower price sensitivity—a great match for the crowd-sourced, home delivery leader, Instacart. The low value placed on an expansive assortment in groceries also helps to explain why Amazon has not dominated groceries as it has in so many other categories. Furthermore, while the Online Loyalists have a strong preference for delivery over curbside pick-up, they put a heavy emphasis on speed with a negative view on next-day delivery. Amazon's shift to next-day from second-day delivery for Prime may have helped in many categories but remains a less-than-competitive offering for groceries.

While the pandemic has accelerated adoption of online retailing, the transition to a dominant omnichannel model demands bold moves by the grocery incumbents. Amazon's purchase of Whole Foods after struggling with the "pure play" model for over a decade and its recent introduction of a Go Grocery store, provide clear signals that the future for grocery will be a blend of brick & mortar and online. Instacart demonstrated its ability to rapidly scale to become the market share leader during the pandemic thanks to the combination of its crowd-sourced labor and ability to leverage the store inventory of its grocery retail partners.

The economic advantages of the micro-fulfillment center model may well offer the final piece of the puzzle. The open question remains, "Who will drive the change and how fast?" A look at the long arc of history might provide some guidance. As Mark Twain said, "History doesn't repeat itself but it does rhyme."

A&P as a history lesson

The history of grocery retailing has demonstrated that when new, superior business models emerge, they come to dominate—that is, until a better model emerges. In the US context, the story of the Great American Tea Company, founded in 1859 to sell tea at a discount via a mail order model, offers the best example of "creative destruction". Over its first half century, the company evolved its business model by expanding its product offering to include a wide range of "dry goods" as it opened retail stores to supplement the original mail order business. In 1912, the company created a low-cost model branded as the "A&P Economy Store" which could be operated by a single man and funded with a mere $3,000.[2] By 1925, A&P operated 14,000 Economy Stores across the US and hit its peak store count of 15,709 in 1930 with sales that ranked it as the world's largest retailer.[3] Thousands of inefficient mom and pop general stores disappeared in its wake.

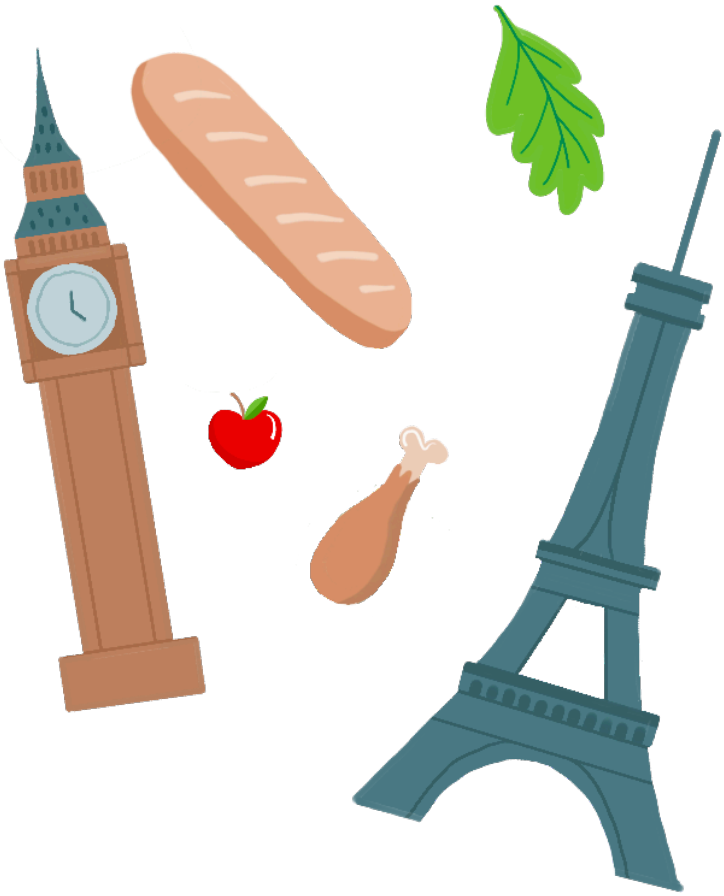
However, two new disruptions were fomenting over that same period that would threaten A&P's small, counter-service business model. In 1916, Piggly-Wiggly introduced the first self-service store, offering a faster experience and lower-labor cost compared to A&P's counter service.[4] The self-service model expanded over time but didn't reach its full potential until 1930 when King Kullen opened the first modern supermarket. The innovative store on Jamaica Avenue in Queens had a mix of self-service dry goods representing 80 percent of sales, combined with full service counters for the remaining 20 percent comprising fresh, perishable goods.[5] This combination merged the traditional dry goods, green grocer, and butcher under a single roof, offering a superior value proposition that became the new industry norm.

A&P—which focused on rolling out its Economy Stores—ignored the innovative offerings until 1937 when it opened its first supermarket. Over the next two years, A&P closed nearly half of its Economy Stores leaving around 8,000 while adding 1,100 new stores using the innovative supermarket design.[6] Though A&P pursued a rapid transition once it recognized the dominance of the supermarket model, the initial delay led to a long, slow decline, further exacerbated by the emergence of the next innovation, the "supercenter" introduced by Walmart, Target, and Meijer in 1962.[7] A&P, the country's largest retailer from 1915 until 1965, filed for bankruptcy in 2010 and again in 2015. At the time of the second filing, it operated fewer than 300 stores (many operated under other brand banners).[8]

Strategic bets and competitive reactions ultimately shape the market landscape. While different segments of customers respond to different offerings, the history of retailing has proven time and again that low-cost business models ultimately dominate.

The conjoint analysis shows that all consumers prefer home delivery, but cost will be the dominant factor in the decision for most shoppers. Accordingly, transitioning more shoppers to the omnichannel model requires lower prices, which demands lower costs. Incumbents with curbside pickup and micro-fulfillment technology can offer a lower cost option for achieving the frictionless commerce of online shopping than Amazon or Instacart. But, incumbents must make the strategic bets to enable it. A more recent history lesson from Europe demonstrates how competitive dynamics among incumbents and grocery start-ups have yielded different results in online grocery shopping patterns.

[2] The t A&P and the Struggle for Small Business in America, by Mark Levinson, Hill and Wang, New York (2011)
[3] https://www.referenceforbusiness.com/history2/0/The-Great-Atlantic-Pacific-Tea-Company-Inc.html
[4] https://www.pigglywiggly.com/about-us
[5] https://www.supermarketnews.com/archive/letter-kroger
[6] https://www.referenceforbusiness.com/history2/0/The-Great-Atlantic-Pacific-Tea-Company-Inc.html
[7] https://corporate.walmart.com/our-story/our-history , https://corporate.target.com/about/purpose-history/Target-through-the-years , https://www.companieshistory.com/meijer/
[8] https://www.reuters.com/article/us-greatatlantic-bankruptcy-idUSKCN0PU08F20150720



A tale of two cities (and countries)

Over one hundred and sixty years ago, Dickens explored life in London and Paris in *A Tale of Two Cities*. Both cities (and their host countries) offer interesting case studies on the importance of competitive dynamics in driving online grocery adoption, especially in contrast to the slow adoption in the United States. As chronicled in *How to Win in Online Grocery* (the first white paper of this series), the US has lagged in the adoption of online grocery, at least in part influenced by the failure of Webvan, a pure-play start-up during the Internet Bubble years. For nearly two decades, the US grocery retailers ignored the opportunity and threat of the online model—much as A&P ignored the shift to self-service a century before.

In 2017, when Amazon acquired Whole Foods, Bezos' brainchild sold $2 billion worth of grocery items and held an 18 percent share of online grocery sales. Some of its grocery revenues came from AmazonFresh, but most revenue was derived from dry goods shipped from fulfilment centers, just like the books and CDs that formed the initial base for the Amazon model. More importantly, online grocery sales represented less than 2 percent of total US grocery sales in 2017. But, Amazon's $14 billion bet on Whole Foods unleashed a competitive response from the incumbents. By the beginning of 2020, the online penetration rate had more than tripled to just north of 6 percent…and the pandemic has accelerated it further.

Unlike the US, in both France and the UK, the incumbents invested aggressively in online grocery, yielding far higher rates of adoption. The market leader, Tesco, feared the loss of high-income consumers to the online world and aggressively invested in omnichannel capabilities with an internet presence starting in 1994 evolving to "Tesco Direct" in 1997 and Tesco.com in April 2000.[9] In 2005, Tesco's annual report proclaimed that Tesco.com could reach 98 percent of the UK population with an omnichannel model operated out of 300 stores (about 17 percent of its UK store base).[10] By comparison, in the US, Walmart didn't open its first curbside pickup until 2013[11] and Kroger waited until 2014 to launch curbside service.[12]

Similar to the US, a pure play grocery start-up sought to shake up the industry. Ocado, founded in April of 2000 promised consumers a superior business model of direct home delivery from a fully automated fulfillment center. It would offset delivery cost by stripping out the excessive labor of traditional supermarkets and increasing inventory turns from a concentrated pool of product in a single facility on the northern outskirts of London. Ironically, Ocado's launch paralleled the beginning of the end for Webvan which had launched in 1996, gone public in 1998 at $15 per share, and peaked around $25 dollars per share—but was trading at a mere $5 per share when Ocado was founded.

[9] http://news.bbc.co.uk/2/hi/business/709005.stm
[10] https://www.tescoplc.com/media/754668/annual_review_2005.pdf

[11] https://corporate.walmart.com/newsroom/2017/09/06/walmart-to-open-1-000th-online-grocery-pickup-location
[12] https://www.tescoplc.com/media/754668/annual_review_2005.pdf
http://ir.kroger.com/CorporateProfile/press-releases/press-release/2017/Kroger-Announces-1000th-ClickList-Store-and-Introduces-Seamless-Digital-Shopping-Experience/default.aspx

The incumbents in France, most prominently the global grocer Carrefour, also invested heavily rather than largely ignoring online grocery like US incumbents. Founded in 1959, four years later Carrefour became the first European retailer to build a "hypermarket" (the European name for the "supercenter" concept launched in the US in 1962). In 2000, Carrefour launched the online offering "Ooshop" with 6,000 products including 1,000 fresh items.

But, a partnership between a pure-play start-up, Chronodrive, and another incumbent supermarket chain, Auchan, in 2002 laid the first stone along the path that French online grocery has ultimately followed. Chronodrive recognized an opening in the high cost of home delivery which charged a 15 percent premium above store prices and tacked on a €12 delivery fee (equal to $17 at the time). Launching its first location in northern France in 2004, Chronodrive offered the convenience of online shopping without the mark-up via a drive-up model.[13]

Despite the questionable timing, Ocado managed to survive and grow through a combination of strategic options not pursued by Webvan. First, it initially concentrated on London which offered a large, dense population base enabling lower cost home delivery, while Webvan built facilities to serve nine US cities, none of which offered the delivery density of London. Ocado also partnered with Waitrose in 2001—a year before opening its automated fulfilment center—giving it access to grocery purchasing scale unavailable to an unknown start-up.

The active investment by Tesco—and other major incumbents such as Sainsbury and Asada—combined with Ocado's home delivery model drove far higher adoption and established a precedent in consumer expectations. As a result, in 2014 (three years before Amazon acquired Whole Foods) over a quarter of UK consumers were already shopping online, and Tesco claimed 39 percent share of online grocery sales followed by Sainsbury at 18 percent, and Asda and Ocado at 13 percent each. As a result, online grocery sales exceeded 7 percent at a point when the US was just getting started. Interestingly, the percentage of online shoppers in the UK peaked at 49 percent in 2016 and appear to have plateaued since. Perhaps the high cost-to-serve has met the limits of willingness-to-pay?

[13] https://www.wsj.com/articles/SB10001424052748703344704574609860611759916

Another smaller incumbent, E.Leclerc, also saw an opportunity and moved even more aggressively by opening up freestanding, drive-up locations in unserved markets rather than building traditional grocery stores as its basis of expansion. Leclerc also offered lower prices than traditional grocery stores. As of the end of 2019, E.Leclerc operated 791 traditional stores in France and 690 drive-up locations yielding market share leadership of 21.6 percent to Carrefour's 19.8 percent.[14]

While the drive-up model lowered online costs, it also forced a tradeoff in variety. The typical drive-up facility carries 7,500 to 10,000 SKUs—an order of magnitude less than a large hypermarket. Nonetheless, as of 2014, France claimed more drive-up locations than supermarkets. As of the beginning of 2020, drive-up locations dominate the online grocery market in France with over 5,000 locations throughout the country capturing 8 of 10 online grocery orders.[15]

Interestingly, despite the dominance of pick-up in France, consumers there still profess a preference for delivery. According to consumer surveys by McKinsey and BCG, 90 percent of UK consumers prefer delivery and only 10 percent prefer a pick-up option. In France, the preference mix is roughly 50 percent delivery and 20 percent pick-up.[16] While consumer preferences matter, competitive dynamics can shape those preferences and adoption patterns, especially given the need to balance cost-to-serve and willingness-to-pay.

The investment in micro-fulfillment centers could be the key to driving US adoption. A free-standing micro-fulfillment center could offer a curated collection at a price discount like the drive-up models that dominate France. Or, if the US grocery chains make the needed investment, a micro-fulfillment center in the back of a remodeled grocery store could reduce the high cost of in-store picking to eliminate the need for fees or price premia.

[14] https://www.statista.com/statistics/535415/grocery-market-share-france/
[15] https://www.ascentialedge.com/insights/ecommerce-blog/grocery/rise-online-grocery-cpgs-learn-from-drives

[16] Interview with European online grocery expert, Marc De Speville, on July 22, 2020.

Looking to the future

McKinsey recently noted that overall eCommerce penetration achieved "10 years' growth in 90 days" by jumping from 16 percent to 34 percent due to the pandemic. Over the prior decade, eCommerce penetration had grown steadily from a base of 5 percent in 2009. It remains to be seen whether the new level of online sales will be sustained once the pandemic subsides, especially in grocery.

Our conjoint analysis highlighted the *current* preferences of different consumer segments defined by their *current* shopping habits. *Undoubtedly, those stated preferences have been shaped by the pandemic as well as the options available to shoppers. But, it is critical to remember that the available options are shaped by the speed and scale of the strategic bets of the competitors.* Our next white paper will revisit those preferences to see how much has changed this year as we document the further evolution of the competitive space.

One thing is certain: *history has demonstrated that the eventual winners will target consumers to shift their behaviors based upon their potential sources of competitive advantages. Winners find the sweet spot between "cost-to-serve" and "willingness-to-pay".* The losers fail because they simply seek to match the offers defined by others.

Methodology

This research white paper features responses from 1,078 US consumers surveyed in early March of 2020 before the pandemic shutdown. The sample is largely representative of the age and household income distribution of the United States with a slight under-representation of 18 to 24 year-olds and households with annual incomes below $25,000. The research screened respondents to ensure that they were at least 18 years of age, and that they were the primary grocery shopper for their household.

A choice-based conjoint research design captured online grocery shopping preferences by presenting a set of three choices along with the option to simply go to the grocery store and shop the traditional way. Each set of three choices reflected different combinations of four attributes: service, variety, speed, and price. The survey prompted the respondent to read the following descriptions carefully to understand the meaning of the different options under each of the four attributes.

SERVICE

Delivery — Delivered to your home or office with advanced notice of arrival time

Curbside Pickup — Groceries placed in your vehicle while you sit inside

In-store Pickup — Your pre-ordered items await you at checkout of any incremental needs

VARIETY

Curated — 15,000 of the most popular, restock items but not the full store selection

Full Store — Every item in the store, typically 45,000 to 50,000 different items

Expansive — Extensive selection with far more brands, flavors, or sizes as carried in the store

See below for examples:

CATEGORY	CURATED	FULL STORE	EXPANSIVE
Peanut Butter	~40 brands & sizes	~50 brands & sizes	~300 brands & sizes
Pickles	~30 brands, shapes & sizes	~50 brands, shapes & sizes	~200 brands, shapes & sizes
Tea in Bags	~100 brands, flavors & count	~250 brands, flavors & count	~650 brands, flavors & count

SPEED

Less than 1 hour: Order ready/delivered at selected location in under an hour

1 to 2 hours: Order ready/delivered at selected location within 2 hours of placement

Same Day: Order ready/delivered same day if received by noon

Next Day: Order ready/delivered at requested time next day if received by midnight

PRICE

Discounted — Prices reduced by 5 percent versus normal store pricing

Free: — No charge for the service with grocery prices same as in-store

$4.95 — Flat fee regardless of order size with no tipping allowed

The choices were constrained to remove infeasible and irrelevant combinations yielding 78 different options. Using statistical analysis the respondent selections yield quantified utility scores offering insight into relative preferences.

Takeoff

Takeoff offers an eGrocery solution that empowers retailers to attain profitable online growth by leveraging automation at a hyperlocal scale. Orders are placed online through established retailers, and Takeoff's automated technology fulfills the order, using robots in Micro Fulfilment Centers. Takeoff has several operational Micro Fulfillment Centers in place, with many to follow in the upcoming years. Takeoff is growing rapidly, with a total capital of $86M raised to date. Takeoff has proudly announced partnerships with Albertsons/Safeway, Ahold Delhaize, Wakefern/Shoprite, Loblaws, Woolworths, Majid Al Futtaim/Carrefour, Associated Wholesale Grocers, Big Y, and Sedano's, with additional domestic and international partners to be disclosed shortly. To learn more, visit www.takeoff.com.

About the Author

Timothy M. Laseter, a Professor of Practice at the Darden Business School at the University of Virginia, prepared this white paper with research support from Takeoff Technologies. Professor Laseter earned a BS in Industrial Management from the Georgia Institute of Technology plus an MBA and PhD from the Darden School. The latest of Laseter's four business books, Internet Retail Operations, published by Francis & Taylor in 2011 was coauthored with Elliot Rabinovich of Arizona State University. Laseter also serves as a contributing editor for strategy+business a quarterly journal which has featured nearly 50 of his articles over the past 25 years. Prior to joining the Darden School faculty in 2002, Laseter was a partner at Booz Allen Hamilton where he served clients for 15 years. He also served as a Managing Director at PwC-Strategy& from 2014 to 2019.

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