Consumer Perceptions of Restaurant Delivery Fees

by Sheryl E. Kimes and Chaoqun Chen

EXECUTIVE SUMMARY

As a substantial number of restaurants have implemented pickup and delivery as a large part of their business, restaurant operators must consider customers' reactions to the structure of pickup and delivery charges. To assist restaurateurs with this matter, the findings of a survey of 329 U.S. residents who placed orders that involved pickup or delivery are presented here. In general, the respondents were willing to pay delivery charges that were considered fair, notably, flat fees and distance-based fees. Hefty minimum-order requirements were not well received, but respondents were willing to pay higher prices for delivery than for pickup, provided that the lower pickup charges were framed as a discount (rather than seeing delivery as a premium cost). One intriguing outcome was that respondents who were reminded that delivery was expensive for the restaurant were more willing to use the restaurant's delivery system, rather than have the restaurant use a delivery service provider (with its attendant commission charges).

ABOUT THE AUTHORS

Sheryl E. Kimes, Ph.D., is professor emerita of operations management at the Cornell University School of Hotel Administration, Cornell SC Johnson College of Business, and a visiting professor of analytics and operations at the Business School at the National University of Singapore (sk@ sherrikimes.com; sek6@cornell.edu). Her area of specialization is revenue management. She has been teaching, conducting research, and providing consulting services in this area for over 25 years. She has published over 100 articles and book chapters and has received multiple awards for her research including the Lifetime Achievement Award by the College of Service Operations of the Production and Operations Management Society and the Industry Relevance Award by the Cornell University Center for Hospitality Research in 2010, 2012, and 2014. In 2017, she was given the Hotel Sales and Marketing International Association Vanguard Award for Lifetime Achievement in Revenue Management. She was the third recipient of this award.

Chaoqun Chen, Ph.D., is assistant professor, Cox School of Business, Southern Methodist University (chaoqunc@mail.smu.edu). As an empirical modeler, Chen combines economic theories with statistical tools to study questions in pricing, retailing, and new product development. Before joining SMU Cox, she earned her PhD and MS in marketing from the Kellogg School of Management of Northwestern University. She also earned her MS in economics and MS in statistics from Georgia Institute of Technology, and her BA in marketing from Harbin Institute of Technology.

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With the rising concerns about the novel coronavirus, off-premises dining, whether via pickup or delivery, has become an essential feature of many restaurant operations. Even before the virus was discovered, delivery was growing in popularity, and is expected to become even more popular in the future (Singh 2019). Delivery (as well as pickup) has expanded from its long-time base of pizza and Chinese food (Hirschberg *et al*. 2016), and consumers can now order food from a wide variety of restaurants. Delivery service providers (DSPs) such as UberEats, Grubhub, and Doordash offer consumers a wide choice of restaurants. Those firms have grown in popularity and now account for over half of all restaurant delivery orders (Lock 2020; Klein 2020). DSPs provide not only order-taking capability, but also handle the delivery logistics. They typically charge restaurants a commission of 20 to 30 percent of the customer order. While consumers love the convenience of delivery, restaurant operators do not like the additional costs associated with it, given their tight margins.

Exhibit 1

The economics of delivery

Consider a restaurant that does $1 million per year in revenue. The cost of food is approximately 30 percent; labor, 30 percent; and occupancy costs and overhead, 30 percent. Absent delivery charges, the restaurant records a contribution margin of 100 thousand dollars per year.

If this restaurant decides to offer delivery, the only real increase in significant costs that it would incur would be the delivery commission, since its other costs would essentially stay the same. Say that 10 percent ($100K) of a restaurant's business involves delivery, and further that the delivery business is not incremental. If the restaurant paid a commission of 30 percent, its delivery costs would be $30K (30% * $100K) and its net contribution would drop to $70,000 ($100K - $30K).

Assuming no change in turnover, consider what happens if the percentage of business from delivery increases to 50 percent (or $500K per year). In this case, the restaurant's commission cost would increase to $150,000 (30%*$500K). Assuming that its cost structure remains the same, its net contribution would now be negative, that is: $100K - $150K = -$50K. Clearly, operating at a net loss is not a viable long-term option.

Restaurant operators have grumbled about the added costs, but as long as delivery wasn't a large portion of their business, they were willing to tolerate it (Popper 2020). The situation changed, however, when the coronavirus pandemic resulted in the widespread closure of dine-in business at restaurants throughout the world. Restaurants in many locations were allowed to offer only delivery and takeout options. Since many customers couldn't go out at all—even for meals—they opted for delivery in increasing numbers (Lock 2020; Klein 2020). The DSPs reported a significant increase in sales during April and May of 2020 (Yeo 2020).

While this provided much needed revenue for the restaurant operators, it came at a steep price, since they needed to cover essentially the same costs (e.g., food, labor, overhead) as they did before, but with the additional expense of a 20- to 30-percent commission. When delivery is only a small portion of revenue, the economics are manageable, but when delivery gets to a higher percentage, as it did during the closure of dine-in business, it becomes a drain on profitability (as demonstrated in Exhibit 1).

Given the addition of commissions and other associated delivery costs (notably, packaging), restaurants needed some way to address those costs, either by reducing them or developing ways to increase revenue. To reduce costs, some restaurants sought to do the delivery themselves, while others found a lower-cost DSP. Subject to what the traffic could bear, additional revenue could be generated by charging higher menu prices for delivery, by charging a delivery fee, or establishing a minimum order size (for delivery). Any of those adjustments, however, could incur a negative impact on purchase behavior and customer satisfaction. The impact of delivery price and policy manipulation on consumer perception and attitudes is the focus of our study.

With the costs of delivery in mind, we conducted a survey of U.S. consumers on their use of restaurant delivery and their views on various delivery-pricing approaches. Since many restaurants were closed to dine-in business for at least some of spring 2020, we also wanted to see whether customers had increased their use of delivery during that time.

We will first provide a brief review of our study followed by the summary results. Subsequently, we will analyze the key findings and provide practical guidelines for restaurant operators. In addition, we will discuss the limitations of this research and present possible avenues for future research. In sum, we found that each pricing or policy change involved a critical point past which consumers were not keen to venture.

In order to put this issue into context, we looked at the relevant research on delivery fees and on customers' reaction to variable pricing.

The Puzzle of Delivery Fees

Online retailers that offer delivery have long faced a dilemma that now confronts restaurateurs: devising a way to address the costs of delivery. Two common choices are either to add a stated fee to the customer's shopping cart, or else to pay the fees and offer "free" shipping. Research on delivery fees includes that of Chen and Ngwe 2018, Lewis 2006, Lewis *et al*. 2006, Yao and Zhang 2012, and Yang *et al*. 2005. Firms typically adopt one of two approaches to free delivery: **(1)** offer free delivery regardless of order size, or **(2)** establish a minimum order size to qualify for free delivery (referred to as a contingent free-shipping threshold). Some companies use contingent shipping thresholds in which the amount of the delivery fee depends on the order size (referred to as a contingent fee).

The literature has documented that consumers faced with a contingent shipping policy are likely to spend more to reach the free shipping threshold. Consumers place a significant value on things that are free and believe that they are obtaining a greater value with free shipping (Frischmann *et al*. 2012, Shampanier *et al*. 2007). Offering free shipping increases demand, but dents profit margins. As a result, companies may need to increase their prices to maintain their profit levels. But increased prices may raise the concern that some consumers may perceive higher prices as unfair (or seek another purveyor with lower nominal prices).

Regardless of the delivery fee policy, the question becomes one of how much to charge and how to structure the fee. In a study of Amazon.com transactions, Yang *et al*. (2005) found that customers spent $17 more and purchased 1.82 more items with a $40 contingent free shipping threshold than they did with a $25 threshold. Xu (2016) studied the implications of various contingent shipping fee thresholds and found that reducing the contingent fee threshold by two-thirds led to increased sales. However, the increased order volume was not enough to offset the loss in profit.

Pricing

The theory of dual entitlement, proposed by Kahneman *et al*. (1986), holds that consumers believe that firms are entitled to a fair profit and that consumers are entitled to a fair price. Perceived fairness has been studied widely (e.g., Kahneman *et al*. 1986; Urbany 1989; Campbell 1999; Xia *et al*. 2004). Perceived fairness has been found to be related to customer satisfaction and intent to use the business again in the future (Kahneman *et al*. 1986; Urbany 1989; Campbell 1999; Xia *et al*. 2004).

The theory of dual entitlement stems from prospect theory, which holds that price differences framed as a customer gain (i.e., discounts) are considered to be more fair than those framed as a customer loss (i.e., premiums or surcharges), even if the resulting transactions are economically equivalent (Chen *et* al., 1998; Kahneman and Tversky, 1979; Thaler, 1985). Research has shown that customers view prices presented as a discount as being fairer than those presented as a surcharge (Kimes and Wirtz, 2003; Wirtz and Kimes, 2007).

Consumers view price increases as fair if provider costs also have increased (Kahneman *et al*. 1986; Urbany 1989). This finding is further supported by Campbell (1999), who studied the role of inferred motive on perceived fairness. A negative inferred motive implies that consumers view the increased price as "bad," and that the firm intends to take advantage of customers, while a positive inferred motive indicates that consumers view the increased price as "good," and that the firm has good intentions for charging the increased price.

While considerable research has been conducted on delivery fees, limited research has been done on the perceived fairness of such fees. Jones *et al*. (2019), in their study on the impact of shipping charge fairness, found that perceived fairness of shipping charges had a positive impact on customer satisfaction, repeat-purchase intention, and intention to recommend to others.

The Study

The survey described here was conducted in late May and early June 2020. We engaged a survey panel company to solicit a sample of U.S. residents over the age of 18, a methodology that resulted in a total of 329 completed responses. The gender mix was relatively even, and a bit more than half (52%) of the respondents were under 45 years of age.[1] Most U.S. restaurants were closed to dine-in business during April 2020, and many offset that closure by implementing pickup and delivery. Some states started allowing controlled reopening for dine-in service in May 2020, but many restaurants continued to offer pickup and delivery.

Delivery Ordering Behavior

Given the lack of dine-in business during the lockdown associated with the pandemic, we specifically wanted to study customers' delivery behavior during

[1] Survey demographics were as follows: 18 – 24, 15%; 25 – 34, 17%; 35 – 44, 20%; 45 – 54, 14%; 55 – 64, 18%; and 65+, 15%.

Exhibit 2

Attributes and levels

Attribute	*Level*
Delivery fee	$4
	$7
	$10
Minimum order amount	$0
	$20
	$30
	$40
Coupon amount	$0
	$3
	$6
Delivery service provider	Delivery company
	Restaurant

Exhibit 3

Example pair of choices

Attribute	*Choice 1*	*Choice 2*
Minimum order amount	$30	$0
Delivery fee	$4	$7
Coupon	$3	$0
Delivery provider	Delivery company (e.g., Doordash Grubhub, UberEats)	Restaurant

April and May 2020, in part to see how it compared to past delivery patterns. About 41 percent of respondents were frequent delivery users and had ordered delivery at least once a week. Infrequent delivery users (34 percent of respondents) ordered less than once a week, and one-quarter of respondents had never ordered delivery. Order frequency did not vary significantly by gender, but did vary by age, with younger respondents ordering delivery more frequently.

We also asked respondents whether their ordering frequency had changed from December 2019 (six months before the time of the survey). Many respondents (41.5%) were ordering delivery more frequently, a slightly lower percentage (41.1%) indicated that their order frequency was about the same, and the remaining 17.4 percent were ordering less frequently.[2]

[2] We included only respondents who had ordered delivery at least once during the previous two months.

Perceptions of Delivery Pricing

We wanted to study customers' reactions to the various ways that restaurant operators might be able to address at least some of the added costs associated with delivery. Survey questions involved fee types, the tradeoffs between delivery fee and minimum order size, coupon amounts, and which firm delivered the food (restaurant or DSP). We also assessed attitudes toward different price points for delivery and takeout.

Types of Delivery Fee

Restaurants can charge a flat delivery fee, base the fee on travel distance, or establish a contingent fee based on the order amount. As a starting point, we wanted to discern how familiar respondents were with the various types of delivery fee.

Respondents were significantly more familiar with distance-based and contingent delivery fees than with flat fees (distance-based, 2.95 out of 5; contingent, 2.94; flat, 2.42). Familiarity varied by age, gender, and order frequency. Younger respondents were significantly more likely to be familiar with distance-based and contingent delivery fees, and female respondents were more likely to be familiar with contingent delivery fees.

We also wanted to assess the perceived fairness of these delivery fee structures. Flat delivery fees and distance-based fees were considered to be significantly fairer than contingent fees (flat, 3.54 out of 5; distance, 3.51; contingent, 3.05). Perceived fairness did not vary by gender, age, or order frequency.

The Contingent-Delivery-Fee Tradeoff

When faced with a contingent fee, customers face a tradeoff between paying the delivery fee or achieving the minimum order amount. In addition, factors such as the provision of coupons or even information on who will be delivering the order may have an impact on their decision. We decided to study this tradeoff using conjoint analysis.

Respondents were asked to assess the tradeoff among four attributes: delivery fee, minimum order amount, coupon amount, and the delivery service provider. Each attribute had two, three, or four different levels (as shown in Exhibit 2). As shown in Exhibit 3, respondents were then presented with six pairs of ran-

Exhibit 4

Attribute weights

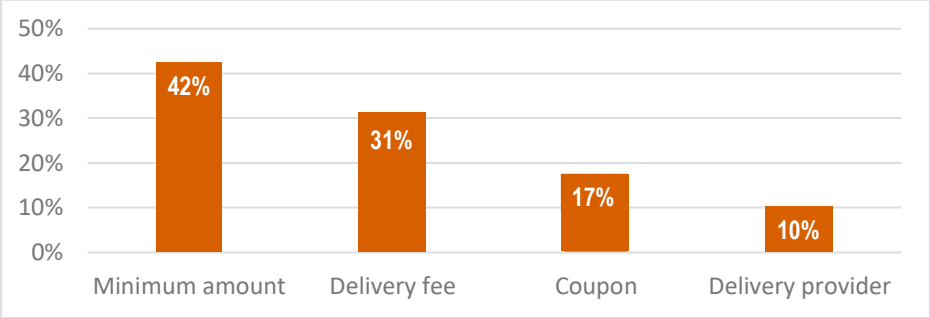


Exhibit 5

Utility values

Attribute	*Importance*	*Level*	*Utility value*
Minimum order amount	42%	$0	0.54
		$20	0.26
		$30	-0.15
		$40	-0.66
Delivery fee	31%	$4	0.45
		$7	0
		$10	-0.45
Coupon for future use	17%	No coupon offered	-0.27
		$3	0.05
		$6	0.22
Delivery provider	10%	Delivery company (Doordash, Grubhub, UberEats)	-0.14
		Restaurant	0.14

domly generated choices and asked to indicate which of the two presented choices they preferred.

Conjoint analysis was used to determine the relative weight that respondents placed on each of the attributes when choosing between alternatives (Exhibit 4). Respondents considered the minimum order amount and the delivery fee to be the most important attributes (minimum order amount, 42%; delivery fee, 31%). While the coupon amount and delivery service provider mattered, they were not considered nearly as important (coupon amount, 17%; delivery service provider, 10%).

Conjoint analysis also calculates the relative utility of each of the attribute levels, a value that shows how much an attribute level influences the customer's decision to select it. A positive value means that, on average, respondents derive value from that level, while a negative value indicates that that level detracts from the overall experience (Exhibit 5).

Our utility findings were as follows:

- **Minimum order amounts**: Minimum order amounts of $0 and $20 have positive utility values (0.54 and 0.26, respectively), while the higher minimum order amounts of $30 and $40 have a negative utility value. This indicates that respondents derive more utility from a less restrictive minimum.
- **Delivery fees**: A similar pattern was found with delivery fees. Respondents derive the most utility

Exhibit 6

Top 10 combinations

#	*Minimum order amount*	*Delivery fee*	*Coupon for future use*	*Delivery provider*	*Total Part-Worth*
1	$0	$4	$6	Restaurant	1.349594
2	$0	$4	$3	Restaurant	1.186113
3	$20	$4	$6	Restaurant	1.069149
4	$0	$4	$6	Delivery company	1.065129
5	$20	$4	$3	Restaurant	0.905668
6	$0	$7	$6	Restaurant	0.903871
7	$0	$4	$3	Delivery company	0.901648
8	$0	$4	No coupon offered	Restaurant	0.865727
9	$20	$4	$6	Delivery company	0.784684
10	$0	$7	$3	Restaurant	0.740390

Exhibit 7

Sample tradeoff scenario

You'd like to have dinner and decide to order delivery. You find a restaurant that you've ordered from before. You liked their food and have decided to order delivery from them. *Most restaurants that offer delivery have to pay a fee of 20 to 30% to delivery providers. Some restaurants choose to handle delivery on their own*.

On average, it costs about $15 for a main course, about $5 for a side dish, about $5 for a dessert, and about $5 for a beverage.

The restaurant has a minimum order size and charges a delivery fee. They also sometimes offer coupons that can be redeemed for credit on future orders.

Note: Respondents were randomly assigned to one of two treatments. Approximately half of the respondents saw a scenario that mentioned the cost to the restaurant (the portion in italics) and the other respondents did not see any mention of cost.

from the $4 delivery fee (0.45), receive a neutral utility from the $6 delivery fee, and view the $10 fee negatively (utility value of -0.45).

- **Coupon value**: The higher the coupon value, the higher the customer utility.
- **Delivery service provider**: Respondents seem to prefer having delivery from the restaurant (as indicated by the positive utility value of 0.14) rather than a delivery service provider (utility value of -0.14). This is an interesting finding and one that merits additional study.

Conjoint analysis also derives the value of each combination of the four attributes (in this case, the combination of minimum order amount, delivery fee, coupon amount, and delivery service provider) by summing the utility values of each of the included attribute levels (Exhibit 6).

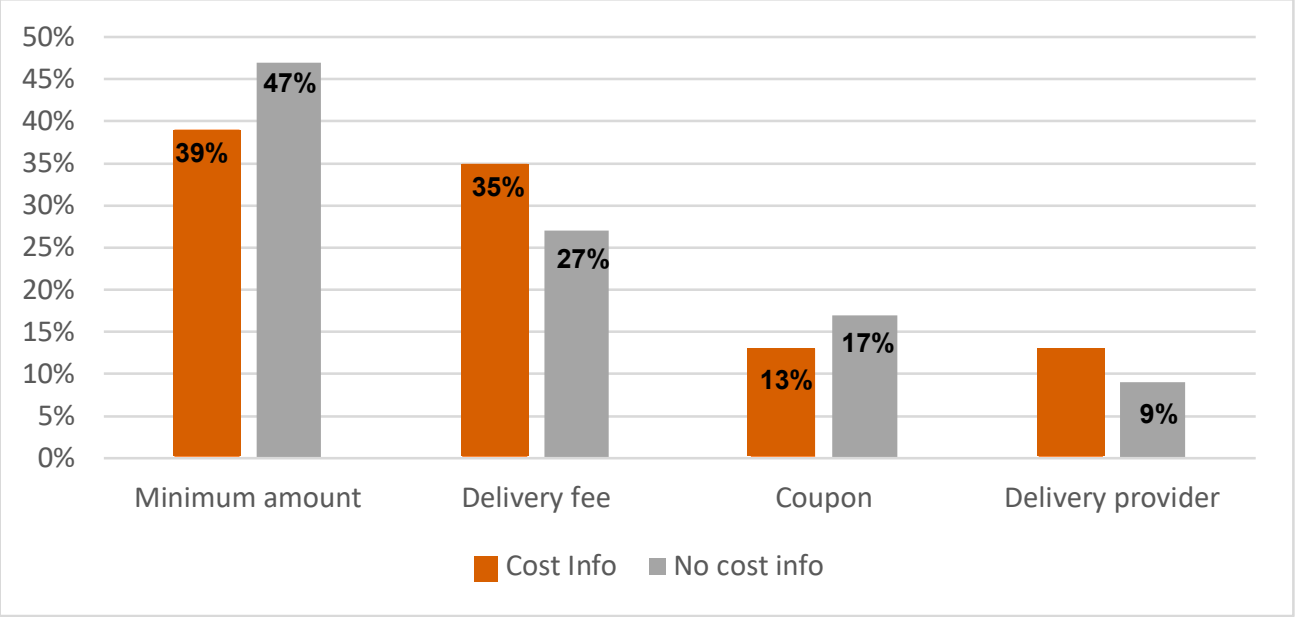
Two of the top four profiles (#1 and #4) bring little to no profit to the restaurant, given that there is no order minimum and the coupon value is higher than the delivery fee. Conversely, the remaining profiles presented provide a positive value to the customer (as seen by the utility part-worth value) and profit potential to the restaurant.

Effects of Two Information Scenarios

The survey presented respondents with one of two scenarios that provided basic information on their order amount and composition (as shown in Exhibit 7). Approximately half of the respondents saw a scenario that included a reminder of the cost to the restaurant

EXHIBIT 8

Attribute weights by scenario



of delivery (shown in italics in Exhibit 7), and the other respondents did not see any mention of delivery cost.

We first developed the attribute weights for the cost-provided and no-cost-provided scenarios. As shown in Exhibit 8, respondents shown the cost-provided scenario placed significantly less weight on the minimum order amount (39% vs. 47%), significantly more on the delivery fee (35% vs 27%), less weight on the coupon value (13% vs. 17%), and significantly more weight on the delivery provider (13% vs. 9%).

Further examination of the part-worth utilities and preferred profiles indicated that respondents shown the cost-provided scenario were more likely to prefer having the restaurant deliver their order. This will be further explored in future research.

Variable Pricing

Another way that restaurants can try to cover the DSP's commission is by charging higher menu prices for delivery business than for takeout or dine-in business. We wanted to study whether customers found this pricing practice to be fair, acceptable, and reasonable. The results and nuances are discussed below.

Fairness. A fair pricing policy is one that is generally accepted by customers and perceived as justified for social or economic reasons (Kahneman *et al.*; Thaler 1985). Creating and sustaining positive perceptions of price fairness can lead to improved customer satisfaction and profitability (Kahneman *et al*. 1986; Thaler 1985).

Fairness was measured on a one-through-five scale, with one being extremely fair and five being extremely unfair. About half (53%) found such a practice to be extremely fair (13%) or fair (40%), while 22 percent found it to be neither fair or unfair. The remaining 25 percent found it to be either unfair (18%) or extremely unfair (7%). The mean perceived fairness was 2.67 on the 5-point scale. There was no significant difference by gender, age, or order frequency.

Acceptability. Even if customers find a business practice to be justifiable, they may not find it acceptable if the practice leads to an unequal balance between the customer's bargaining power and the firm's pricing power (Kahneman *et al*. 1986). If company profits increase without a corresponding increase in customer value or customer value decreases without a matching decrease in price, business practices may be seen as unacceptable. Unacceptable practices include raising prices with no justification, providing inadequate information about the transaction, and failing

Exhibit 9

Fairness, acceptability and reasonableness by framing condition

Variable	*Premium*	*Discount*
Fairness	2.91	2.46
Acceptability	2.77	2.31
Reasonableness	2.85	2.36

Note: Findings are significant at $p < 0.01$.

to deliver the service as promised (Seiders and Berry 1998; Kahneman *et al*. 1986).

Acceptability was measured on a one-through-five scale, with one being extremely acceptable and five being extremely unacceptable. Sixty percent of respondents found such a practice to be extremely acceptable (17%) or acceptable (40%), while 22 percent found it to be neither acceptable or unacceptable. The remaining 25 percent found it to be either unacceptable (18%) or extremely unacceptable (7%). The mean perceived acceptableness was 2.53 on the 5-point scale. There was no significant difference by gender, age, or order frequency.

Reasonableness. The usual gauge that customers use to judge fair and reasonable practices is that the practices do not significantly diverge from standard business practices (Kahneman, Knetsch, and Thaler 1986). Companies that use unreasonable practices have a poor reputation among potential customers.

Reasonableness was measured on a one-through-five scale, with one being extremely reasonable and five being extremely unreasonable. About half (56%) found such a practice to be extremely reasonable (15%) or reasonable (41%), while 20 percent found it to be neither reasonable or unreasonable. The remaining 24 percent found it to be either unreasonable (17%) or extremely unreasonable (7%). The mean perceived reasonableness was 2.57 on the 5-point scale. There was no significant difference by gender, age, or order frequency.

We also wanted to see whether the framing of the price differential policy made a difference. Respondents were randomly assigned to either premium framing or discount framing groups. Respondents in the premium treatment were told that menu prices for delivery were 20-percent higher than takeout prices, while respondents in the discount treatment saw that menu prices for takeout were 20-percent lower than menu prices for delivery.

As predicted by prospect theory (Kahneman 1976) and confirmed in other studies (e.g., Kimes and Wirtz 2003; Wirtz and Kimes 2007), respondents in the discount framing treatment rated the perceived fairness, acceptability, and reasonableness as significantly better than those in the premium framing treatment, even though the actual prices were exactly the same (Exhibit 9). This implies that restaurants should frame their takeout prices as being lower than their delivery prices (rather than framing delivery as an add-on charge).

Key Findings

Restaurants that offer delivery need to find some way to address the costs associated with delivery. In order to do this, they can either develop ways to increase revenue or find ways to reduce their costs. Additional revenue can be generated by charging higher menu item prices for delivery, by charging a delivery fee, or by having a minimum order size for delivery orders. Since these practices may have a negative impact on purchase behavior and customer satisfaction, this study focused on how customers react to strategies for cost amelioration.

Charging higher prices for delivery. One way that restaurants can recover some of the delivery-related costs is by charging higher prices for menu items on their delivery menu than on their takeout menu. We found that respondents found this practice to be fair, reasonable, and acceptable, particularly if the prices on the takeout menu were framed as a discount from the delivery menu prices. This implies that restaurant operators should **(1)** feel comfortable charging higher prices for delivery, and **(2)** that they should promote their takeout menu as offering a discount from delivery prices.

Type of delivery fee. Another way to help recover the costs is to charge a delivery fee. The question becomes one of how best to structure that fee. As we outlined above, a delivery charge can be a flat fee, be based on distance, or be contingent upon the order amount. Respondents were more familiar with distance-based and minimum-order-amount fees, but they found distance-based and flat fees to be fairer than establishing a minimum order. This implies that restaurant operators should consider charging either a flat fee or one based on the distance traveled.

Delivery-fee tradeoff. We asked respondents a series of questions on delivery fees, minimum order amount, coupon value, and delivery provider. We found that respondents placed the most weight (42%) on the minimum order amount, followed by delivery fee (31%). Given that respondents placed the greatest weight on the minimum order amount, restaurants should be careful implementing such a fee, or perhaps even avoid contingent shipping fees that require a minimum order amount, as consumers reacted quite strongly to it. Interestingly, respondents preferred having their delivery come from the restaurant rather than from a delivery service provider. We will explore this finding more in future research.

Providing cost information. We were intrigued at the outcome of our scenario manipulation. We found that having the information that using a delivery provider cost the restaurants money heightened the customers' preference for delivery from the restaurant, rather than the delivery service provider. This, too, will be studied in more detail in future research.

Research Limitations

As with most research, this study has certain limitations. Being survey-based, it may not be indicative of actual consumer beliefs and behavior. In addition, it was limited to U.S. respondents who had ordered delivery during the previous six months (including the disruptions caused by the novel corona virus). Because of this, the findings might not be generalizable to all consumers. Another limitation is that we only included one menu price scenario and delivery fee structure in the tradeoff analysis we conducted. Because of this, the findings might not be generalizable.

Future Research

This preliminary research raises a number of questions that lend themselves to future research. For example, to address the limitation that this study was survey-based, one could conduct a series of experiments in which consumers are placed into more realistic situations. This might provide additional insights into consumer preferences and behavioral intentions.

The finding that respondents seemed to prefer delivery from the restaurant rather than from a delivery service provider would be a rich area for study. A particularly interesting avenue for research would be to delve into the rationale for this preference.

Finally, the impact of providing delivery cost information is a matter of considerable interest. Future research on this topic could extend our interesting preliminary results.

Conclusion

Given that customers' use of restaurant delivery is predicted to increase, it is essential for restaurant operators to understand ways in which they can make delivery more profitable (or less costly). In this study, we showed that operators should consider customers' preferences with regard to pricing options and delivery mechanisms. In particular, restaurateurs need to establish appropriate framing for the extra costs of delivery. ■

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