

# Group 3: Philly Food Delivery

Authors: Ming Yuen Thomas Cheong,  
Benjamin Jacobson, Christopher Sedayao

DS 4200 Fall 2020 - Prof. Cody Dunne,  
Northeastern University





# Introduction: Food Delivery Landscape

From a restaurant perspective:

- Online delivery increases revenues
- Can utilize idle space better
- Premium Introduced can only cut into top line if order volume surpasses idle capacity

From a Delivery Provider perspective

- offer wide audience
- enable delivery if restaurant doesn't have means
- Charge 30% of basket value
  - ~ 5% for sourcing order
  - ~ 25% for delivering order



# Delivery Order Volume: Expected vs Actual

Scenario:

- Restaurant A has idle capacity in their kitchen
- Anticipate 10 extra order per day (capacity for current staffing)
- They are willing to give up 30% of revenue for delivery as it doesn't cut into top line

Issue:

- Order volume increases to 100 orders a day
- Need to introduce new kitchen staff
- 30% of order now cuts into top line -  
**Delivery is now a losing revenues source!**

Order Value: \$50

Cost for sourcing: \$2.5 or 5%

Cost for delivery: \$12.5 or 25%

**Profit with big-box: \$35**



# Restaurant Owners Do Not Have Time To Curate New Insights

## Scenario:

- Big-box players allow restaurants to deliver their own meals!
- Most restaurants cannot/do not want to hire own drivers

## Our Partner:

- Early stage company
- Purely delivery logistics
- Locationally sound - only deliver within close proximity to keep costs down

Order Value: \$50

Cost for sourcing: \$2.5 or 5%

Cost for partner: \$2.5 or 5%

**Profit with partner: \$45**

# Data

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA				
1	arrived_to	assigned_to	assigned_to	_assign_sugg	assign_sugg	cancelled_at	counter_to	created_at	cuisine_type	daas_type	day_name	customer_or	distance	mil	duration	mi_location	order_id	order_num	order_total	out_of	zone	partner	prep_time	_requested	_retreat_poin	_seller_id	territory	tip	total	delivery	
2	0	MieH4WIBs	14					14.96	2020-09-23	1asian	credit_card	Wednesday	Duplicate	0.77	2.6	Fairmount	e32ac1c0-fdi	7985		f	self		15	2020-09-23	120th & Fairm	6	Philadelphia	0	33.44		
3	3	nZNR8kM5e	6	WRChEmBz	f			7.9	2020-09-03	1asian	credit_card	Thursday	Duplicate	0.83	2.43	Fairmount	4bf64d00-ee	4105		f	self		15	2020-09-03	120th & Fairm	6	Philadelphia	0	29.16		
4	0	ZeeUeKqo7v	8					21.61	2020-04-24	22:39:09.95	c	Friday	Duplicate	1.73	6.58	East Center	69f6f5c20-b6	6150		f	self		12	2020-04-24	7th & Walnut	3	Philadelphia	0	33.58		
5	1	3hdPRLK4h	18					14.91	2020-04-19	1american	online	Sunday	Duplicate	1.91	5.54	West Center	1f6a6d0-82f	5093	54.6	f	grubhub		12	2020-04-19	118th & Walnut	8	Philadelphia	9.1	43.17		
6	9	maNovy53Q	1	mZddZyPGF	f			13.73	2020-06-26	20:22:53.836	online	Friday	Unique	1.73	5.18	East Center	4d0b53bf0-b7	9686		f	self		12	2020-06-26	7th & Walnut	3	Philadelphia	6.14	27.01		
7	1	GeLOYAM7f	4					16.13	2020-09-24	22:41:21.882	online	Thursday	Duplicate	7.68	15.5	East Center	111df2d0-fel	6410		f	self		12	2020-09-24	7th & Walnut	3	Philadelphia	3.4	22.1		
8	13	qHuXw3WV2	7	F1ehh7vnyf	f			18.41	2020-08-26	22:00:28.077	online	Wednesday	Duplicate	1.72	4.8	East Center	8644d0c8-e7	6822		f	self		12	2020-08-26	7th & Walnut	3	Philadelphia	4.36	42.35		
9	4	pU1W1IRdW	7					8.76	2020-08-25	22:24:27.691	online	Tuesday	Duplicate	1.72	4.8	East Center	bef792a0-e7	8389		f	self		12	2020-08-25	7th & Walnut	3	Philadelphia	3.58	23.47		
10	0	KACQK2P5e	7					14.34	2020-08-22	22:20:02.911	online	Thursday	Duplicate	1.82	5.52	East Center	13f6e6a400-03	5327		f	self		12	2020-08-20	7th & Walnut	3	Philadelphia	5.74	23.43		
11	9	HyahVMZdg	27					32.73	2020-08-15	22:30:18.821	online	Saturday	Duplicate	1.78	11.27	East Center	e4f020bed-df	8946		f	self		12	2020-08-15	7th & Walnut	3	Philadelphia	10	73.74		
12	0	2LEOaw49h	20					38.93	2020-08-13	22:54:36.664	online	Thursday	Duplicate	1.78	11.27	East Center	f63a7000-dd	3278		f	self		12	2020-08-13	7th & Walnut	3	Philadelphia	3.3	65.73		
13	0	etdY9Lj7Ap	8					32.77	2020-08-10	22:29:57.531	online	Monday	Duplicate	1.82	6.26	East Center	05674e10-df	5326		f	self		12	2020-08-10	7th & Walnut	3	Philadelphia	5	44.75		
14	0	fasQEAS28ia	2	dABecmPM	f			9.89	2020-05-14	1american	online	Thursday	Duplicate	1.35	5.16	West Center	db652650-9e	4789	50.68	f	grubhub		18	2020-05-14	118th & Walnut	8	Philadelphia	6.61	23.64		
15	1	h88B9yspT	4					16.22	2020-05-18	1american	online	Monday	Duplicate	1.97	4.83	West Center	bf589c00-99	6791	40.07	f	grubhub		12	2020-05-18	118th & Walnut	8	Philadelphia	2.51	40.52		
16	12	2IK6uA0D12	8					11.07	2020-04-14	1american	online	Tuesday	Duplicate	2.02	6.51	West Center	0e698b0-7e	8332	45.79	f	grubhub		12	2020-04-14	118th & Walnut	8	Philadelphia	2.77	38.61		
17	11	cdGFZyuvr	17					13.81	2020-09-12	21:45:42.586	credit_card	Saturday	Unique	3.32	8.38	Santucci's Br	4ea55980-f5	1293		f	self		25	2020-09-12	5 Santucci's Br	9	Philadelphia	10	37.1		
18	11	FUndnAvrgh	1					19.27	2020-10-18	1desserts	online	Sunday	Duplicate	2.61	6.08	East Center	67020c90-11	8370	24.97	f	grubhub		12	2020-10-18	7th & Walnut	7	Philadelphia	5	34.33		
19	3	C7fKeIQIKd	8					38.88	2020-09-13	1desserts	online	Sunday	Duplicate	2.37	7.56	East Center	58759940-f5	1191	24.83	f	grubhub		12	2020-09-13	7th & Walnut	7	Philadelphia	3.24	59		
20	1	vcC9bnV9Lc	12					14.63	2020-09-12	1desserts	online	Saturday	Duplicate	2.28	6.85	East Center	5484b440-f4	4863	40.7	f	grubhub		12	2020-09-12	7th & Walnut	7	Philadelphia	5.31	33.01		
21	15	hLBK9wMs	8	vzqf6tshNn	f			18.04	2020-08-30	17:56:08.98	c	Sunday	Duplicate	1.54	3.91	Santucci's Br	14c3930-ea	2689		f	footec		15	2020-08-30	5 Santucci's Br	9	Philadelphia	6	53.71		
22	13	qHqWYGPQ	17					9.84	2020-08-29	22:46:02.589	online	Saturday	Duplicate	1.54	3.91	Santucci's Br	69f668d0-ea	9614		f	footec		15	2020-08-29	5 Santucci's Br	9	Philadelphia	5	28.15		
23	0	7UD3IAGMf	17					33.27	2020-08-26	19:47:08.035	online	Wednesday	Duplicate	1.54	3.91	Santucci's Br	ebd68910-e7	4539		f	footec		15	2020-08-26	5 Santucci's Br	9	Philadelphia	8.59	111.93		
24	4	5613UuMAQR	6	r6t5MxAS03	f		2020-08-26T	0.31	2020-08-26	19:47:06.381	c	Wednesday	Duplicate	1.54	3.91	Santucci's Br	ee83170-e7	3553		f	footec		15	2020-08-26	5 Santucci's Br	9	Philadelphia	8.59	56.92		
25	3	idnRwu7Wj	25	1tBZCZLh3p	f			8.83	2020-08-13	23:12:54.974	online	Thursday	Duplicate	1.54	6.93	Santucci's Br	83f8f380-dd	7024		f	footec		15	2020-08-13	5 Santucci's Br	9	Philadelphia	3.24	38.04		
26	27	wCZLMWU7r	10					10.74	2020-08-05	1desserts	online	Wednesday	Duplicate	2.91	7.61	East Center	775a9f0-d7	5554	31	f	grubhub		12	2020-08-05	7th & Walnut	7	Philadelphia	5.02	29.34		
27	0	2IK6uA0D12	8					29.59	2020-07-20	1desserts	online	Monday	Duplicate	2.32	6.87	East Center	95694d00-ca	1087	35.39	f	grubhub		12	2020-07-20	7th & Walnut	7	Philadelphia	4.62	50.44		
28	1	gcodmqP6R	10	gcodmqP6R	t			30.54	2020-07-03	1desserts	online	Friday	Duplicate	2.34	7.08	East Center	2be583f0-bc	1819	36.02	f	grubhub		12	2020-07-03	7th & Walnut	7	Philadelphia	2	66.13		
29	0	59qaiQYHf	37					2.57	2020-06-25	23:01:20.48	c	Thursday	Duplicate	1.68	5.03	Santucci's Br	d81adf30-b7	3254		f	footec		15	2020-06-25	5 Santucci's Br	9	Philadelphia	5	40.41		
30	10	YuzikelfaQp	17					22.57	2020-06-07	1vegetarian	online	Sunday	Duplicate	2.53	6.88	East Center	c9773970-a9	1004	30	f	grubhub		12	2020-06-07	7th & Walnut	2	Philadelphia	3.87	46.71		
31	0	sDCq485XGn	17					26.27	2020-06-05	1vegetarian	online	Friday	Duplicate	2.5	5.71	East Center	1c50b6c0-a7	5601	32	f	grubhub		12	2020-06-05	7th & Walnut	2	Philadelphia	4	51.52		
32	1	ApbHhQZyB	18					26.5	2020-05-06	00:42:46.373	online	Wednesday	Duplicate	3.21	8.62	West Center	80671f00-8f	4653	53.56	f	grubhub		12	2020-05-06	118th & Walnut	4	Philadelphia	8.93	38.83		
33	0	oKCAZOSceq	10					4.24	2020-05-05	20:16:39.257	online	Tuesday	Duplicate	1.41	5.53	Santucci's Br	5396cc0-8R	1947		f	footec		12	2020-05-05	5 Santucci's Br	9	Philadelphia	5	42.1		
34	0	86yukn4y0	24					2020-04-19T01:34:09	010	2020-04-19	1american	online	Sunday	Duplicate	2.55	6.13	West Center	b414ed40-81	2717	41	f	grubhub		12	2020-04-19	118th & Walnut	8	Philadelphia	5.33		
35	0	BRPRkGJ3L	5					23.06	2020-04-18	1american	online	Saturday	Duplicate	2.55	6.13	West Center	12b2b080-81	9164		f	self		12	2020-04-18	118th & Walnut	8	Philadelphia	6	31.03		
36	2	3HdPRLK4h	9					15.96	2020-04-08	21:43:48.338	online	Wednesday	Duplicate	2.55	6.45	West Center	0737390-79	9059	25.17	f	grubhub		12	2020-04-08	118th & Walnut	4	Philadelphia	2.29	54.18		
37	9	PoTm5ZJA	5					13.34	2020-04-05	1american	online	Sunday	Duplicate	2.54	6.11	West Center	54d6d8d0-71	4768	78.82	f	grubhub		12	2020-04-05	118th & Walnut	8	Philadelphia	10.28	35.74		
38	9	phcABm1fG	23					34.63	2020-04-06	15:13:00.639	credit_card	Wednesday	Unique	2.81	7.1	East Center	13313400-8f	4376		f	self		30	2020-04-06	17th & Walnut	3	Philadelphia	0	67.46		
39	18	RVQfDfBaw	6					9.08	2020-03-20	21:13:11.081	c	Friday	Duplicate	1.48	9.08	Santucci's Br	9a9bf20-6a	8877		f	self		30	2020-03-20	5 Santucci's Br	9	Philadelphia	3	42.41		
40	0	80yUJ25ap	20					32.63	2020-02-29	22:37:19.383	online	Saturday	Duplicate	1.48	8.86	Santucci's Br	06b036a0-5e	3414		f	self		33	2020-02-29	5 Santucci's Br	9	Philadelphia	5.52	59.88		
41	17	mUBDSxRfG	4					8.89	2020-02-29	22:15:12.547	online	Sunday	Duplicate	1.48	9.03	Santucci's Br	a43671e0-4e	3985		f	self		12	2020-02-29	5 Santucci's Br	9	Philadelphia	4.05	39.39		
42	23	FRAP5yWVR	20					9.31	2020-02-25	01:54:36.894	online	Saturday	Duplicate	1.48	8.67	Santucci's Br	04308e3f-3f	8560		f	self		18	2020-02-25	5 Santucci's Br	9	Philadelphia	4.05	52.9		
43	4	3HdPRLK4h	17	XCOqPKB8R	f			14.66	2020-10-03	00:47:34.571	credit_card	Sunday	Unique	1.48	3.58	Santucci's Br	06d6d380-0f	1328		f	self		18	2020-10-03	5 Santucci's Br	9	Philadelphia	0	54.94		
44	8	axEkt7eP25f	18					14.8	2020-08-25	16:45:20.559	online	Tuesday	Duplicate	1.61	8.28	South Philly	5a854920-ef	9569	57	f	grubhub		12	2020-08-25	1E Passyunk &	8	Philadelphia	5	33.39		
45	0	id7e5f8j0pR	32					23.24	2020-07-16	17:48:24.166	online	Sunday	Duplicate	1.61	8.22	South Philly	ad88ba50-df	8180	36.55	f	grubhub		12	2020-07-16	1E Passyunk &	8	Philadelphia	0	55.48		
46	40	oKCAZOSceq	8	oKCAZOSceq	t			0.16	2020-07-21	21:02:15.033	online	Tuesday	Duplicate	1.91	5.5	South Philly	73ec1380-cb	6236	52	f	grubhub		12	2020-07-21	1E Passyunk &	8	Philadelphia	3.5	58.86		
47	0	oKCAZOSceq	8	oKCAZOSceq	t			14.13	2020-07-14	17:23:00.691	online	Thursday	Duplicate	1.61	4.35	South Philly	4d6f0700-2f	8245	40	f	grubhub		12	2020-07-14	1E Passyunk &	8	Philadelphia	4	43.48		
48	8	nZNR8kM5e	10	nZNR8kM5e	t			19.6	2020-07-02	16:47:56.891	online	Thursday	Duplicate	1.91	4.76	South Philly	c7589370-bc	5242	54.26	f	self		12	2020-07-02	1E Passyunk &	8	Philadelphia	7.08	38.35		
49	7	DxoAoyGBN	18					13.84	2020-03-12	15:23:37.296	online	Thursday	Duplicate	2.02	10.39	South Philly	713b89e0-64</														



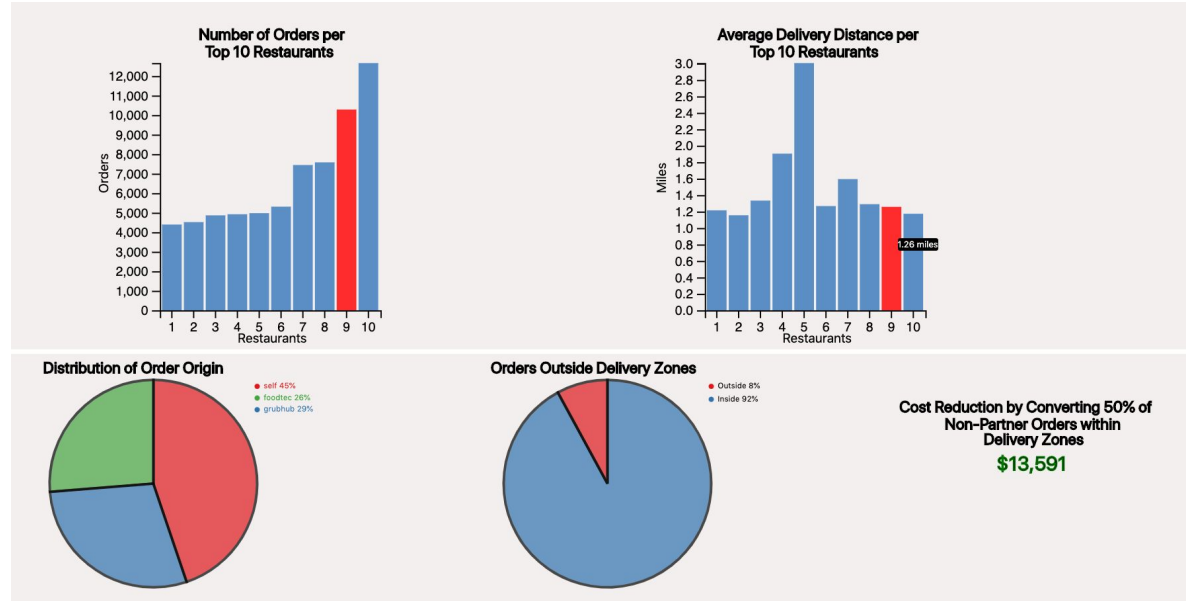
# Scope of Project

1. **Key Question: Why Restaurants are better off joining our partner company rather than their competitors**
2. **How can restaurants better maintain profit margins if they understand their customer demographic**
3. **Impactful information = Show cost savings restaurants could save if they switch to our partner company**
  - a. Cost Savings calculated using 20% premium restaurants pay
4. **Top 10 Restaurants = Top 10 restaurants with highest order volumes in 2020**

# Visualization Design

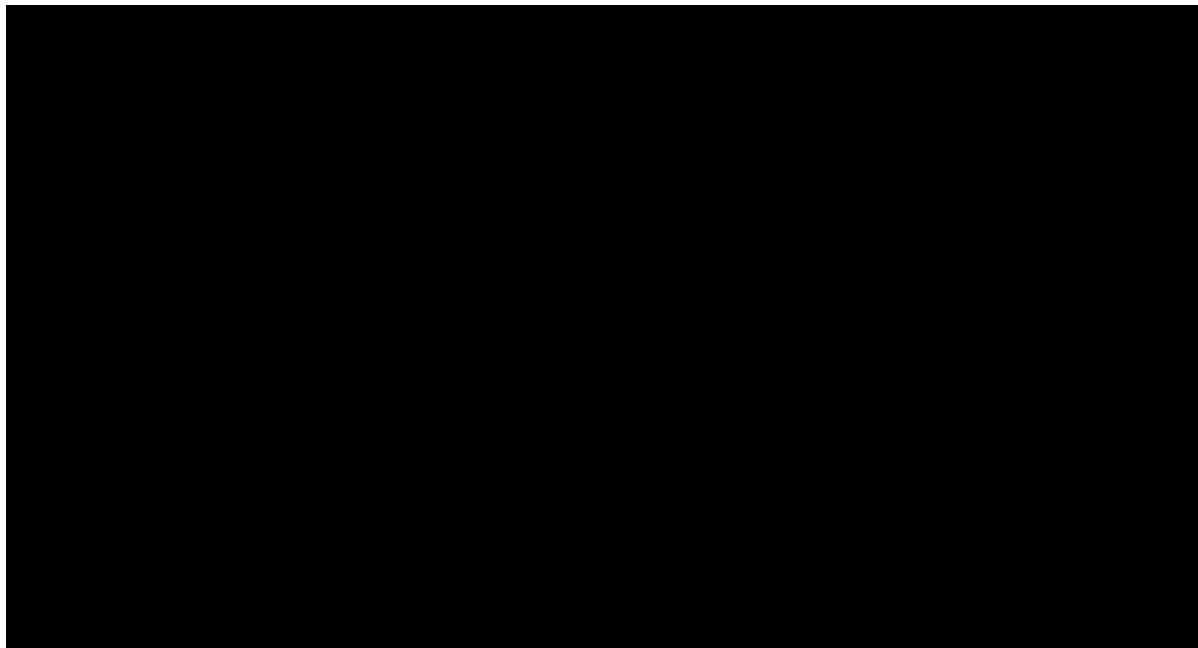


Example of partner delivery zones





## **Video Demo**







# Conclusions & Inferences

1. Restaurants are losing out on significant profit margins due to being misinformed about their customer geography.
2. Restaurant owners do not necessarily have the time or financial literacy to figure out more advanced cost saving techniques.
3. A majority of orders served occur within our partner's delivery zones.
4. Significant margins can be saved by utilizing specialized delivery

# Questions?

Thanks for listening :)

