The Impact of COVID-19 on Restaurants and Bars in Michigan

Presented By:

Akash Navneeth, Sasa Lin, & Tejas Turakhia

MIS 6380.0U1 Group 7

Project Overview & General Introduction

- The primary aim of our was to explore the ramifications of COVID-19 in Michigan, with a specific focus on the performance of the food industry. Through the creation of visualizations, we seek to gain deeper insights into how the pandemic has impacted Michigan's food businesses. To achieve this overarching goal, the following was used for our findings:
 - Number of COVID-19 Cases
 - Number of COVID-19 Deaths
 - Mask Mandate Updates
 - Operational Status of Restaurants and Bars
 - Geographic Locations





In April, t number of (the change i restaurants curb

- In April, the peak increase of total
- number of COVID-19 cases resulted in
- the change in the operational status of
- restaurants in Michigan, limited to only
 - curbside/ delivery only.



Monthly COVID Cases in 2020

Percentage Change in Monthly COVID Cases in 2020

Apr



Monthly Count of Business Status in 2020

Monthly % of Business Status in 2020

Month	County Business Clo						Month	County Business Clo.	
Mar	Curbside/delivery on.			2,656			March	Curbside/delivery on.	
	No restriction found	166						No restriction found.	
Apr	Curbside/delivery on.						April	Curbside/delivery on	
May	Curbside/delivery on.				4	4,506	May	Curbside/delivery on	
	Open with limitation.	. 640						Open with limitation.	
Jun	Curbside/delivery on.						June	Curbside/delivery on	
	Open with limitation.			4	,266			Open with limitation.	
Jul	Open with limitation.						July	Open with limitation.	
Aug	Open with limitation.						August	Open with limitation.	
Sep	Open with limitation.						September	Open with limitation.	
Oct	Authorized to fully r						October	Authorized to fully r.	
	Open with limitation.				4,482			Open with limitation.	
Nov	Authorized to fully r						November	Authorized to fully r.	
	Open with limitation.				4,814			Open with limitation.	
Dec	Open with limitation						December	Open with limitation	
		ОК	5K 1	ОK	15K	20K			0.0
				Value					





Dashboa esis oth

Total Cases

257,110

33M

Monthly COVID Cases in 2020



Apr 540.6%

Monthly Count of Business Status in 2020

Month	County Business Clo						Month
Mar	Curbside/delivery on			2,6	56		March
	No restriction found	166					
Apr	Curbside/delivery on						April
May	Curbside/delivery on					4,506	May
	Open with limitation	640					
Jun	Curbside/delivery on						June
	Open with limitation				4,266		
Jul	Open with limitation						July
Aug	Open with limitation						August
Sep	Open with limitation						Septembe
Oct	Authorized to fully r						October
	Open with limitation				4,482		
Nov	Authorized to fully r						Novembe
	Open with limitation				4,814		
Dec	Open with limitation						December
	(ОK	5K	10K	15K	20K	
				Vali	10		

Monthly % of Business Status in 2020

Month	County Business Clo
March	Curbside/delivery on
	No restriction found
April	Curbside/delivery on
May	Curbside/delivery on
	Open with limitation
June	Curbside/delivery on
	Open with limitation
July	Open with limitation
August	Open with limitation
September	Open with limitation
October	Authorized to fully r
	Open with limitation
November	Authorized to fully r
	Open with limitation
December	Open with limitation

Value





Percentage Change in Monthly COVID Cases in 2020

Total Cases

BO

ashb

S

esi

0

33M

In April, the peak increase of total number of COVID-19 death cases resulted in the change in the operational status of restaurants in Michigan, limited to only curbside/ delivery only.



Monthly COVID Deaths in 2020

Monthly COVID Deaths



Monthly Count of Business Operation Status

Monthly % of Business Status in 2020

Month	County Business Clo						Month	County Business Clo	
March	Curbside/delivery on.			2,65	6		March	Curbside/delivery on	
	No restriction found	166						No restriction found	
April	Curbside/delivery on.						April	Curbside/delivery on	
May	Curbside/delivery on.					4,506	May	Curbside/delivery on	
	Open with limitation.	640						Open with limitation	
June	Curbside/delivery on.						June	Curbside/delivery on	
	Open with limitation.				4,266			Open with limitation	
July	Open with limitation.						July	Open with limitation	
August	Open with limitation.						August	Open with limitation	
September	Open with limitation.						September	Open with limitation	
October	Authorized to fully r						October	Authorized to fully r	
	Open with limitation.				4,482			Open with limitation	
November	Authorized to fully r						November	Authorized to fully r	
	Open with limitation.				4,814			Open with limitation	
December	Open with limitation.						December	Open with limitation	
		ОК	5K	10K	15K	20K		C).(
				Valu					

in 2020	
April 3668%	



Dashboa N ypothesis

Percent Difference

2%

3668%

Monthly COVID Deaths in 2020

Monthly COVID Deaths in 2020



Monthly Count of Business Operation Status

Monthly % of Business Status in 2020

Month	County Business Clo						Month	County Business Clo	
March	Curbside/delivery on			2,65	56		March	Curbside/delivery on.	
	No restriction found	166						No restriction found	
April	Curbside/delivery on						April	Curbside/delivery on.	
May	Curbside/delivery on					4,506	May	Curbside/delivery on.	
	Open with limitation	640						Open with limitation.	
June	Curbside/delivery on						June	Curbside/delivery on.	
	Open with limitation				4,266			Open with limitation.	
July	Open with limitation						July	Open with limitation.	
August	Open with limitation						August	Open with limitation.	
September	Open with limitation						September	Open with limitation.	
October	Authorized to fully r						October	Authorized to fully r	
	Open with limitation				4,482			Open with limitation.	
November	Authorized to fully r						November	Authorized to fully r	
	Open with limitation				4,814			Open with limitation.	
December	Open with limitation						December	Open with limitation.	
		ок	5K	10K	15K	20K			0.0
				Valu	ie				





Percent Difference

2%	3668%

BO ashb N lesis Hypoth



In October, si to a no m restauran status of on

- In October, since 10% of counties shifted
 - to a no mask mandate policy, the
 - restaurants and bars shifted to the
 - status of open with limitations with a
 - 10% increase.

Overview of COVID Cases and COVID Deaths in 2020



Business Operations in 2020

Month	County Business Clo																
Mar	Curbside/delivery on																
	No restriction found		6%														
Apr	Curbside/delivery on																
May	Curbside/delivery on																
	Open with limitation				12%												
Jun	Curbside/delivery on																
	Open with limitation																
Jul	Open with limitation																
Aug	Open with limitation																
Sep	Open with limitation																
Oct	Authorized to fully r																
	Open with limitation																
Nov	Authorized to fully r																
	Open with limitation																
Dec	Open with limitation																
		0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	709	
											Percentage						



% Difference in T... County Business Clo.. Authorized to ful.. Curbside/deliver.. No restriction fo... Open with limita.. Measure Names Mask Mandate No Mask Mandate \mathbf{M} S ashboar ypothesi

Measure Names

% Difference in T...



- The mask mandate policy during May to
 - September resulted in 13% of the
 - restaurants and bars changing in the
 - operational status from "open with
- limitations" to "authorized to full reopen" in October.



Overview of COVID Cases and COVID Death in





In April, due to lower growth rate of total COVID-19 cases in South Michigan, the limitations of business operation are eased in South Michigan than North Michigan in May.









Month Wise & Zone Wise % Increase in Total Covid Cases





Conclusion

Three aspects

- Operational status of business in Michigan
- Mask mandate policy in Michigan
- Geographical variations in Michigan



