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## Introduction

The first questions ask for basic information about the nature of your business.

O1. What is your role with the organization? (Check all that apply)
Owner
☐ Manager
Assistant manager
Senior employee with 5+ years at the business
☐ Employee

I do not have a formal role
Other [please specify]:
Q2-Q3
O2. Which sector best describes your business? What is/was your primary line of business?
<ul> <li>Construction</li> <li>Manufacturing</li> <li>Retail trade</li> <li>Accommodation and Food Services</li> <li>Wholesale trade</li> <li>Services / Information</li> <li>Transportation and Warehousing</li> </ul>
O2a. Where does/did this business fall within the supply chain for this industry? Does this business supply?
<ul><li>Raw materials, raw goods, or part supplies</li><li>Processing, component or system supplier</li><li>Final assembly</li></ul>
O3a. Was this business establishment operating when Hurricane Maria occurred?  Yes  No
O3b. Is your business location today the same as it was at the time of Hurricane Maria?
<ul><li>Yes</li><li>No (the business has moved to a new location after Hurricane Maria)</li></ul>

O4. In what year was this business establishe	ed at the current location?
~	
O5. How many locations did your business ha	ave at the time of Hurricane Maria?
a. In PR?	# 0
b. In the USA, outside of PR?	# 0
c. Outside of the US?	# 0
Total	# 0
O6. Is this business establishment still in oper	ration?
Yes, it is still in operation No, not in operation	
O6a. What is the reason why your business is one.)	s no longer in operation? (Please select
No longer in business mainly because of Hurrio	cane Irma
<ul> <li>No longer in business mainly because of Hurrio</li> <li>No longer in business mainly because of Hurrio</li> </ul>	
No longer in business mainly because of the earliest main	
No longer in business mainly because of COVI	
No longer in business because of other reason	is, explain:
Q6b When did the business stop operation? A	An estimate is fine.
Month	Year
~	•
O7. Are the other Puerto Rico business locati	ons still in operation?
All other locations are in operation	

<ul><li>Some of the other locations are in operation</li><li>None of the other locations is in operation</li></ul>
O8. Did this business own or rent the building at the time of Hurricane Maria?  Own
Rent
Other (please specify)
O9a. Which describes your business? Remember that the business doesn't have to be officially federally registered as such. (Select all that apply.)
☐ Woman-owned business
☐ Minority-owned
☐ Veteran-owned
☐ Family-owned
☐ Immigrant-owned
Other (please specify)
O9b. How would you describe your business' ownership structure? (Select ALL that apply.)
☐ Single owner
Partnership
☐ Corporation
☐ Franchise
☐ Cooperative
☐ Multi-location
☐ For-profit
☐ Non-profit

Other (please specify)					
		<u></u>			
O10. What is the appro	oximate squa	ire footage o	f the main build	ing? (SQ. I	FT.)
O11. What is the type	of structure o	of the main bu	uilding?		
Metal Building System Steel frame Concrete Wood Other, please describe  A: Impacts from Ever  Section A. Impacts fr We want to know about business' recovery.	nts and Reco	and Recove	_	uptive ever	nts and this
A1. Did this business of the following events		•	•	rations as o	consequence
	No impacts	Some Impacts	Significant impacts	N/A	Don't know
COVID-19 in 2020?	0	0	0	0	0
Earthquakes of January 2020?	0	0	0	0	0
Hurricane Dorian in 2019?	0	0	0	0	0
Hurricane Maria in September 2017?	0	0	0	0	0

	No impacts	Some Impacts	Significant impacts		N/A		Don kno	
Hurricane Irma, in September 2017?	0	0	0		0		0	)
A1a. Rank the followin	•	•	ess their impo	ortand	ce to t	he fu	ll reco	overy
				1	2	3	4	5
Full repair of property	damages			0	0	0	0	0
Expected gross sales	revenues achi	eved		0	0	0	0	0
Full building functional	ity achieved			0	0	0	0	0
Adequate number of e	mployees ach	ieved		0	0	0	0	0
Other, explain:				0	0	0	0	0
A1b. Did this business within a year (by Septe			cover to the p	re-H	urrica	ne Ma	aria le	evel
O Don't know								
What number of month	ns were requi	red?						
A1c. Did this business point in time between \$2020, just before the C	September 20	018 (one yea	ar after Hurric	ane l	Maria	) and	Marc	-
<ul><li>Yes</li><li>No</li><li>Don't know</li></ul>								

·
A1d. Once your business recovered, did you achieve <i>gross sales revenue</i> at the pre-Hurricane Maria level?
Yes, gross sales revenue increased GREATLY compared to pre-Hurricane Maria levels Yes, gross sales revenue increased SOMEWHAT compared to pre-Hurricane Maria levels
<ul> <li>Yes, gross sales revenue was about EQUAL to pre-Hurricane Maria levels</li> <li>No, gross sales revenue DECREASED SOMEWHAT compared to pre-Hurricane Maria levels</li> </ul>
No, gross sales revenue DECREASED GREATLY compared to pre-Hurricane Maria levels
A1e. After Hurricane Maria, was the gross sales revenue of your business impacted by Hurricane Dorian in 2019?
<ul><li>Yes, greatly in a negative direction</li><li>Yes, somewhat in a negative direction</li><li>No</li></ul>
Yes, somewhat in a positive direction Yes, greatly in a positive direction
A1f. After Hurricane Maria, was the gross sales revenue of your business impacted by Earthquakes of January 2020?
<ul><li>Yes, greatly in a negative direction</li><li>Yes, somewhat in a negative direction</li><li>No</li></ul>
Yes, somewhat in a positive direction Yes, greatly in a positive direction
A1g. After Hurricane Maria, was the gross sales revenue of your business impacted by COVID-19 Pandemic?
<ul><li>Yes, greatly in a negative direction</li><li>Yes, somewhat in a negative direction</li><li>No</li></ul>
Yes, somewhat in a positive direction

What number of months were required?

Yes, greatly in a positive direction		
A3-A9		
A3. Did any of the following factors affect the <i>gross sales revenue</i> of thi establishment during the following periods?	s busine	ess
	Yes	No
a. Supply chain issues (e.g., could not obtain products or lack of inventory)		
One year before Hurricane Maria?	0	0
One year after Hurricane Maria?	0	$\circ$
b. Economic Recession		
One year before Hurricane Maria?	0	0
One year after Hurricane Maria?	0	0
c. Another factor other than loss of customers (please describe below)		
One year before Hurricane Maria?	0	0
One year after Hurricane Maria?	0	0
Other factor besides loss of customers:  The following questions ask about what utility services were disrupted a main building/campus during Hurricane Maria? [If your business does n service, please select N/A; if you don't know, please select "Don't know"	ot use a	
Utilities - (Questions A4-A7 repeat for each of the following utilities)  O electric power O water/sewer O land-line telephone O Internet/IT O natural gas		

## A4.\${lm://Field/2}. Did your business lose \${lm://Field/1}? Yes O No O Don't know Not applicable A5.\${lm://Field/2}. About how many days until \$\frac{\left\{lm://Field/1\right\}}{\left\{lm://Field/1\right\}}\] was fully repaired? (days) A6.\${lm://Field/2}. Did your business have backup systems or emergency reserves for \${Im://Field/1}? Yes O No O Don't know Not applicable A7.\${lm://Field/2}. Did your business use backup systems or emergency reserves for \${Im://Field/1}? Yes O No O Don't know Back-up system damaged by Hurricane Maria Not applicable **B: Property Damage**

## Section B. Property Damage:

**Section A: Utilities** 

This section asks about the property damage to this establishment as a result ONLY of Hurricane Maria.

Property damage refers to BOTH structural damage and non-structural damage.

furnishings, inventory/stock.	
B1. Did your business suffer any physical damage due to Hurricane Maria?  Yes  No  Don't know	
B2. Think about the roof that covers your business location.	
About what percent area of all the <u>roof cover</u> was damaged or lost as a result of Hurricane Maria?	
The roof covering is the exterior part of the roof system that protects the building the weather. Common types of roof cover include asphalt shingles, clay tiles, rubb membranes, and built-up asphalt roofs.	
<ul> <li>○ No roof damage</li> <li>○ Less than 25 %</li> <li>○ 25-50 %</li> <li>○ 51-75 %</li> <li>○ 76-100%</li> </ul>	
B3. Think about the roof that covers your business location.	
About what percent area of all the <u>roof decking and/or structure</u> was damaged or as a result of Hurricane Maria?	lost
The roof decking and/or roof structure is the intermediate section of the roof between the internal structural components and the weatherproofing layers. Roof decking and/or structures include roof beams, joists, or girders, the roof structural members that support the decking, also precast planks or single or double T for concrete roof.	rs
<ul> <li>○ No roof damage</li> <li>○ Less than 25 %</li> <li>○ 25-50 %</li> <li>○ 51-75 %</li> <li>○ 76-100 %</li> </ul>	

Structural damage examples include damage to roofs and walls; examples of non-

structural damage include broken windows, fixtures, damage to equipment,

B4. How many of the by Hurricane Maria?	e windows a	ind doors	in the buildin	g do you t	hink were da	maged
<ul><li>None</li><li>A few</li><li>Several</li><li>Most</li><li>All of them</li><li>Don't know</li><li>Not applicable</li></ul>						
B5a. How many exte	erior walls o	f the buildi	ing were dam	naged by I	Hurricane Ma	ıria?
<ul><li>○ None</li><li>○ A few</li><li>○ Several</li><li>○ Most</li><li>○ All of them</li><li>○ Don't know</li><li>○ Not applicable</li></ul>						
B5b. How would you Maria?	describe th	ne damage	e to the exter	ior walls c	aused by Hu	rricane
<ul> <li>Very little or no visib</li> <li>Minor damages like</li> <li>Partial failure of one</li> <li>Failure of one wall</li> <li>Failure of more than</li> <li>Don't know</li> </ul>	marks or de wall	nts that ne	ed paint or pa	atching for	repair	
How would you desc	ribe the dar	mage from	n Hurricane M	laria to:		
	None	Minor	Moderate	Severe	Complete	Don't Know
B6. Interior finishes (e.g., floors, wall, and ceiling surfaces)	0	0	0	0	0	0
B7. Contents (furniture and appliances)	0	0	0	0	0	0

	None	Minor	Moderate	Severe	Complete	Don't Know		
B8. Inventory (raw material, work in process, finished good)	0	0	0	0	0	0		
B9. Machinery and equipment	0	0	0	0	0	0		
B10. How would you describe the extent to which water entered the building during Hurricane Maria (for example, wind-driven rain), in terms of building area, with 0% meaning no water intrusion and 100% meaning complete water intrusion inside the whole building? Slide to select %.								
q	10 20	Percent of	water instrus	ion <del>0 80 9</del>	Don't know			
%								
a. Did flooding from risparking lot or a pathw  Yes  No  Don't know	sing water	occur at t	he building s		kample, withi	n a		
b. Did any floodwater	enter the I	ouilding?						
<ul><li>○ Yes</li><li>○ No</li><li>○ Don't know</li></ul>								
c. About what was the feet.	e maximun	n water he	ight inside th	e building	? Please ans	wer in		
☐ Don't know								

B12. Was roof-mounted equipment damaged or dislodged by Hurricane Maria?
<ul><li>○ Yes</li><li>○ No</li><li>○ Don't know</li></ul>
B13. Did the damage directly affect the establishment's ability to provide goods or services following the hazard event? Damage refers to BOTH structural damage and non-structural damage.
<ul><li>○ Yes</li><li>○ No</li><li>○ Don't know</li></ul>
B14. When thinking about your business establishment, did the damage cause your business to close completely?
<ul><li>○ Yes</li><li>○ No</li><li>○ Don't know</li></ul>
B14a. How long did it take for your business to reopen at any level of service? (days)
C: Essential Products and Services
Section C.Essential Products and Services:  For the following set of questions, think about Resources that you consider(ed) as ESSENTIAL to deliver the main good or service supplied by your business establishment. For the purpose of answering these questions, please EXCLUDE labor and utilities such as water, gas, electricity and telecommunication.
C1. How many suppliers did you count on to provide these essential resources just prior to Hurricane Maria?
<ul><li>1 supplier</li><li>2 suppliers</li></ul>

<ul><li>3-5 suppliers</li><li>6-10 suppliers</li><li>More than 10 suppliers</li></ul>		
C1a. Did your business rely Rico?	on Essential Resource(s)	from suppliers located in Puerto
	Yes	No
One year before Hurricane Maria?	0	0
One year after Hurricane Maria?	Ο	0
C1b. Did your business rely Continental US?	ι on Essential Resource(s)	from suppliers located in the
	Yes	No
One year before Hurricane Maria?	0	0
One year after Hurricane Maria?	0	Ο
C1c. Did your business reli	ed on Essential Resource(	s) from non-US suppliers?
	Yes	No
One year before Hurricane Maria?	0	0
One year after Hurricane Maria?	0	0
C3. During the first year of your business' access to es	, ,	2018), how would you describe
There were MINOR issues There were MINOR issues There were MAJOR issues	in the supply that created a	MINOR disruption in production MAJOR disruption in production MINOR disruption in production

C4. How did Hurricane Mai line?	ria affect <u>customer demano</u>	<u>d</u> for your main service/product
<ul><li>Increased greatly</li><li>Increased some</li><li>Stayed the same</li><li>Decreased some</li><li>Decreased greatly</li></ul>		
C5. Did your business have	e on-site warehousing/stor	age before Hurricane Maria?
Yes, for resources and prod Yes, just for resources Yes, just for final products No	ducts	
C6. Did you have any issue occurrence of Hurricane Ma		s/service in the year prior to the
	Yes	No
a. Transport issues	0	0
b. Accessibility to site issues	0	0
C7. Did you have issue wit Hurricane Maria?	h delivering your products/	services in the year following
	Yes	No
a. Transport issues	0	0
b. Accessibility to site issues	0	0
D: Employees		
Section D. Employees		

D1. Please indicate the total number of <u>full-time</u> AND <u>part-time</u> individuals (including yourself) that your business employed at this location during the following time periods

a. 1 month Before Hurricane Maria			Γ	0
b. Immediately after Hurricane Maria			ſ	0
c. 1 year after Hurricane Maria			ı T	0
•				0
d. After Hurricane Dorian (August 2019)			L	
e. Before COVID-19 was declared a national emerger	icy in March	2020	L	0
Total			L	0
D2. Did your business experience any issues with elements of the purpose of this question consider the recovery			·	?
Hurricane Maria and up until one year after Maria in	• •	•	aitei	
	Yes	No		Don't know
a. Employee(s) could not report to work due to transportation problems	0	0		0
b. Employee(s) could not report to work due to the need to fix house	0	0		0
c. Employee(s) could not report to work because their children not yet back to school	0	0		0
d. Employee(s) could not report to work because their children not yet back to daycare	0	0		0
e. Employee(s) could not report to work because of disaster- related physical health issues	0	0		0
f. Employee(s) could not report to work because of disaster- related mental health issues	0	0		0
E: Resilience Tactics for Hurricane Maria				
Section E. Resilience Tactics for Hurricane Maria The following questions ask about approaches busin resilience.	<u> </u>	employ	to imp	rove
E1. Please tell me which approaches your business RECOVERY following Hurricane Maria.	employed a	ıt any po	oint to I	nelp with
		Yes	No	N/A
Obtained production inputs from new supplier		0	0	0

		Yes	No	N/A
Brought on-line physical assets no	t previously in use	0	0	0
Reduced inputs to production proc	esses	0	0	0
Pool resources or form partnership	s with local businesses	0	0	0
Replaced production input with a s	ubstitute	0	0	0
Sold some of the business' assets		0	0	0
Moved to temporary or permanent	new location	0	0	0
Laid off some of the workforce		0	0	0
Renegotiate inputs with key supplied	ers	0	0	0
Reduced salaries		0	0	0
Teleworked		0	0	0
Employed inventories or emergence	sy stockpiles	0	0	0
Improvise production/service proce	ess	0	0	0
Exchange or resource share with o	other businesses (locally)	0	0	0
•	was available to your business	•		g
materials?	o cope with any shortage of es	ssentiai resour	ces or	
) Yes ) No ) Don't know				
E3. Which of the following of inventory available? (Select	options influenced your decision types or No for each item.)	on to not use/h	ave gre	ater
	Yes	N	0	
The Inventory Tax (Municipal Property Tax Act of 1991) limits cost- effectiveness of holding inventory	0	C	)	

	Yes	Γ	NO
My historical data or models did not forecast correctly to increase the level of inventories	0	(	Э
Supply chain issues	0	(	C
Financial Constraints	0	(	)
Other, please describe:			
F: Mitigation			
Section F. Mitigation: The following questions ask business did before Maria hi		rage and other actio	ns your
F1. Did you have insurance  Yes  No  Don't know	before Hurricane Maria	a hit?	
F2. Did you adopt any of the	e following insurance be	efore Hurricane Mar	ia hit?
		Adop	ted?
		Yes	No
Business income interruption insura	ance	0	0
Business property insurance on cor	ntents	0	0
Flood insurance on contents		0	0
Business liability insurance		0	0
Other insurance (specify):			

F3. Did you file a claim on the following insurances	following Hurricana	Maria?
13. Did you life a claim on the following insurances	iollowing Flurricane	viai ia :
	Filed cla	im?
	Yes	No
Business property insurance on contents	0	0
Flood insurance on contents	0	0
Business income interruption insurance	0	0
Business liability insurance	0	0
Other insurance: \${q://QID261/ChoiceTextEntryValue}	0	0
F4. Did you receive the money by September 2020	)?	
	Received	d money?
	Yes	No
Business property insurance on contents	0	0
Flood insurance on contents	0	0
Business income interruption insurance	0	0
Business liability insurance	0	0
Other insurance: \${q://QID261/ChoiceTextEntryValue}	0	0
F5. Did you apply for any recovery assistance after	Hurricane Maria hit?	,
Yes		
O No		
O Don't know		
F6. Which recovery assistance did you apply or as	k for after Hurricane I	√laria?
	Yes	No
Crowdoourning or near landing	) les	
Crowdsourcing or peer lending	0	0
Non-Government Organizations (NGO)	0	0
FEMA financial assistance	$\cup$	$\cup$

		Yes	No
Private/bank loans		$\circ$	0
SBA (Small Business Administration) loan		$\circ$	0
Local government funds		0	0
Financial assistance from any faith-based or religious organiz	zation	0	0
Other federal or state funds (specify):			
Other assistance (specify):			
F7. Did you receive your funding from any of the period?	Yes		No
FEMA financial assistance	∩ nes		$\bigcap$
SBA (Small Business Administration) loan	$\circ$		0
Local government funds	0		0
Financial assistance from any faith-based or religious organization	0		0
Non-Government Organizations (NGO)	0		0
Private/bank loans	0		0
Crowdsourcing or peer lending	0		0
Other federal or state funds: \${q://QID263/ChoiceTextEntryValue}	0		0
Other assistance (specify): \${q://QID265/ChoiceTextEntryValue}	0		0
F8. Did this business establishment adopt any of Hurricane Maria? Select one response per item	_	actions <u>Befo</u>	<u>re</u>
	Yes	No	N/A
Had building structurally assessed by engineer	$\circ$	$\circ$	$\bigcirc$

	Yes	No	N/A
Develop a disaster recovery plan, business continuity plan	0	0	0
Developed a written emergency action plan or checklist	$\circ$	$\circ$	0
Developed telework readiness plan	0	0	0
Having backup systems or emergency reserves for utility services (e.g., electric power, water, etc.)	0	0	0
Boarded up windows, brace shelves	0	0	0
Lifted inventory and other supplies off the ground	0	0	0
Made plans for a temporary location	0	0	0
Backed up all important documents	0	0	0
Performed risk assessment to identify business vulnerability to disasters	0	0	0
Attended Meetings, trainings (in person/online)	0	0	0
Received disaster related information	0	0	0
Adopted strategies to stay informed of weather watches and warnings	0	0	0
Performed emergency management drills regularly	0	0	0
Assigned disaster responsibilities to specific employees	0	0	0
Increased inventory	0	0	0
Another activity not included in this list. Please specify:  F9. In your opinion, how prepared is your business to de	eal with a l	nurricane l	ike
Hurricane Maria today?	oa. mara .	rarriodiro i	
<ul><li>Very well</li><li>Well</li><li>Somewhat well</li><li>Poor</li><li>Very poor</li><li>Don't know</li></ul>			
F10. You indicated that your business establishment is Please select all that apply.	not well pro	epared. W	hy is that?
Lack of money/resources			

Lack of time
☐ Lack of workers
Lack of information on how to mitigate and prepare for hurricanes
Other (SPECIFY):
G: Owner/Manager Demographics
Section G. Owner/Manager Demographics
G1. How many years have you worked as a business owner/manager? (years)
G2. Indicate type of diploma or degree:
O Some high school
○ High School
Associate degree / some college
O Bachelors
Masters or higher degree
G3. Which category best describes your sex? You may skip this question if you prefer not to answer.
Male     Mal
Female
G4. How many severe disruptive events like Hurricane Maria have you experienced in your life? (Please include at your place of business and at your residence) (Number)

G5. Regarding the <u>recovery of the entire Commonwealth of Puerto Rico,</u> since Hurricane Maria, would you say it is:

Fully recovered
O Partially recovered
Still in survival/response mode
○ Will never recover
G6. Regarding the <u>recovery of the municipios your business serves</u> , since Hurricane
Maria would you say the municipios are:
Fully recovered
O Partially recovered
Still in survival/response mode
Will never recover
Last question
What is the ZIP code of the main facility for your business?
What is the Zir code of the main facility for your business!
If you would like to be contested with outcomes from this received places provide
If you would like to be contacted with outcomes from this research, please provide
your email address:

If you encounter any issues in completing this survey, please feel free to contact the survey helpdesk at <a href="mailto:EstudioHMhelp@erg.com">EstudioHMhelp@erg.com</a> or 787-510-6478.

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