Welcome and consent

Q1.

Thank you for responding to our previous surveys. The information learned was invaluable and was developed into reports and suggested actions for businesses like yours and the institutions that serve them. We understand that the COVID-19 pandemic may still be disrupting your business and your larger community. Your continued participation in this study is invaluable for the development of guidance on how businesses like yours are adapting to the current circumstances.

Please spend a few minutes filling out this follow-up short survey and Concept Mapping Activity. In addition to the survey, there is a concept mapping activity that will allow you to provide more detailed information about your experiences. Participation in both activities is optional. We ask for no sensitive information and we will not identify you or your business. If your business has more than one location, please answer for only one location. We'd like to learn about practices taken that have helped reduce the impact of COVID-19 and factors that increased the impacts, especially in the face of future hazard events. You may skip any questions or exit the survey at any time.

Your time is valuable and you will be compensated for your participating. **Please select**

- ○ I opt to participate in the short survey and concept mapping activity (about 45 Minutes) for $30 Gift Card
- ○ I opt to participate in only the short survey (about 15 Minutes) for $5 Gift Card
- ○ I decline to participate

Q2.

You will receive an Amazon gift card for your time. Please enter a valid email address below in order to receive the gift card.

Email

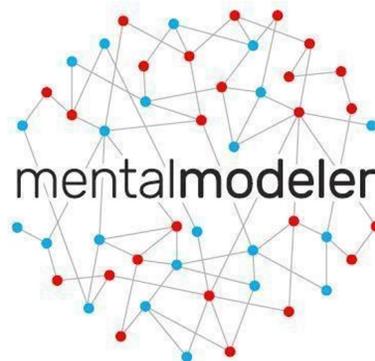First Name

ZIP Code of your business' primary location

Q3.
We'd like to follow-up with you on your responses and send a report of the findings for this wave of data collection and request your participation in future data collections. You may opt to receive aggregate results of this activity (at the end). Both your perspective and time are exceptionally precious, especially during these uncertain times.

Thank you for your time and participation.

The research team at NIST and NOAA
SMEResearch@nist.gov

Model Business Interruptions from COVID-19 (MM Task)

Q4.

Concept Mapping Activity
OMB Control # 0693-0078 Expiration 07/31/2022

The purpose of this activity is for you to create a graphical concept map <u>about business interruptions from COVID-19</u> that represents your experience as a business operator. You're going to use the free online concept mapping app "Mental Modeler" (www.mentalmodeler.org), developed by researchers at Michigan State University.

How to make your Concept Map

The Mental Modeler app allows you to use a simple drawing tool to create a graphical concept map where you can define components ("concepts") and the relationships between them using boxes and arrows. This concept map represents your personal viewpoint and understanding of the problem by defining three things:

1. **Components or concepts, which are added as "boxes"**

2. **Relationships between the components, which are added as "arrows." These can be positive or negative relationships between the components**

3. **Degree of influence/impact that one component has on another, which are added using weightings. (e.g., -1=Very strong negative; +1=Very strong positive on a sliding scale)**
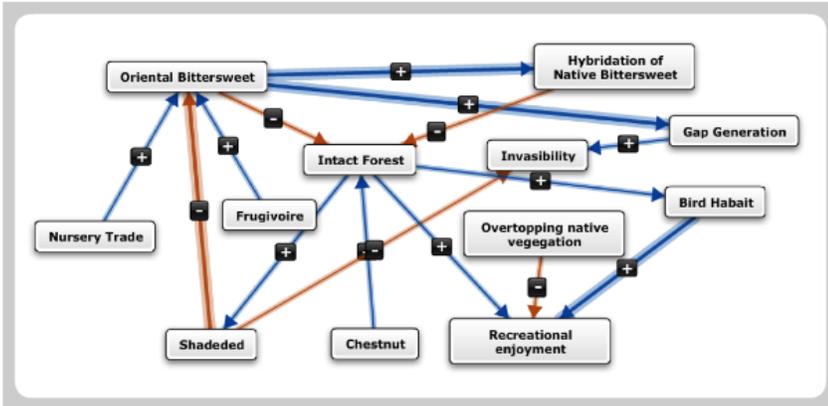
Access Mental Modeler by clicking on this link: www.mentalmodeler.org
(If clicking doesn't work please open another tab or window and navigate to www.mentalmodeler.org) You will toggle between these two windows.

Mental Modeler works best on either *Google Chrome* or *Firefox*. If you have trouble at any point in this exercise, please STOP and contact us at SMEResearch@nist.gov. We will connect with you for troubleshooting the next business day.

Q5. Please click on the "Software" tab at the top of the Mental Modeler page.

| 01 HOME | 02 SOFTWARE | 03 WHAT IS FCM? | 04 RESOURCES | 05 ABOUT |

01 HOME

What is *Mental Modeler*?

Mental Modeler is modeling software that helps individuals and communities capture their knowledge in a standardized format that can be used for scenario analysis.

Based in Fuzzy-logic Cognitive Mapping (FCM), users can easily develop semi-quantitative models of environmental issues, social concerns or social-ecological systems in *Mental Modeler* by:

❯ Defining the important components of a system

❯ Defining the relationships between these components

❯ Running "what if" scenarios to determine how the system might react under a range of possible changes.

Q6. Now click on the "Use the Online Mental Modeler Suite" link.

02 SOFTWARE

How do I get started?

Mental Modeler can be accessed as an online tool, with which you can create, upload, and revise models, assign and assess preferred state, view component and model metrics, and run scenarios on models.

Links and Passwords

☑ Use the online *Mental Modeler* Suite, including the Scenario tool (password required)

To request a password, please submit the following information:
The email which contains the password may get filtered to your spam/junk folder. Please check your spam/junk folder if you have not received the email. You may also contact *Steven Gray* directly to obtain a password.

Name:

Institution: Choose...

Reason for Use: Choose...

Area of Study:

Phone:

Address:

Email:

SUBMIT REQUEST FOR PASSWORD

Q7.

Once you have access, you will then build your model (concept map) by defining and adding the following elements:

1- Add components that are relevant to the system (boxes):

Click on **⊕ ADD COMPONENT** and **Enter the text** to label the components.

2- Add the directional relationships between these components (arrows): Move the mouse
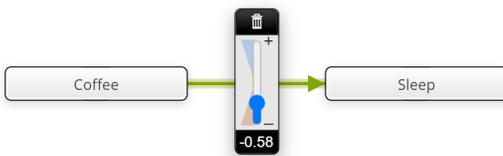
cursor on a box, the arrow icon will appear

3- To link a box to another box, **Drag-&-Drop the arrow** between them.

4-Use the slider bar to define the degree of positive or negative influence that one component has on another.

Q8.

Before you start to build your model (Optional):

Please watch the below videos. These videos provide a basic example to show you how to use the Mental Modeler software.

Video 1 (How to access Mental Modeler)

How to use Mental Modeler online tool

Video 2 (How to make your model)

How to use Mental Modeler online tool

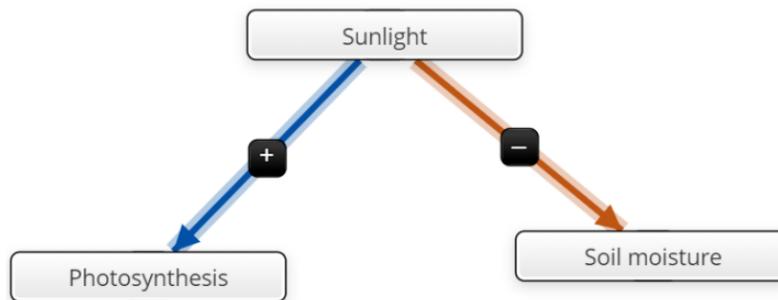**There are a few things to remember when you make your model:**

Tip #1: "Defining Components"
Components (Boxes) need to include things that can increase or decrease in quality or quantity. For example, components may include things like local economy, public health, and business revenue. It is important that you define components that can increase or decrease in level or quantity. The components should not be things like "policy" since "policy" does not increase or decrease. You can add as many components as you think is necessary to represent the problem, by clicking on the "add component" button at the top

of the modeling screen.

Tip #2: "Defining Relationships"
Arrows between components can either be positive or negative. For example, as the amount of sunlight increases, the process of photosynthesis may also increase. Therefore, you might draw a **positive arrow** from the component "sunlight" to the component "photosynthesis". On the other hand, as the amount of "sunlight" increases, the surface "soil moisture" may decrease. Therefore, you might draw a **negative arrow** from the component "sunlight" to the component "soil moisture".

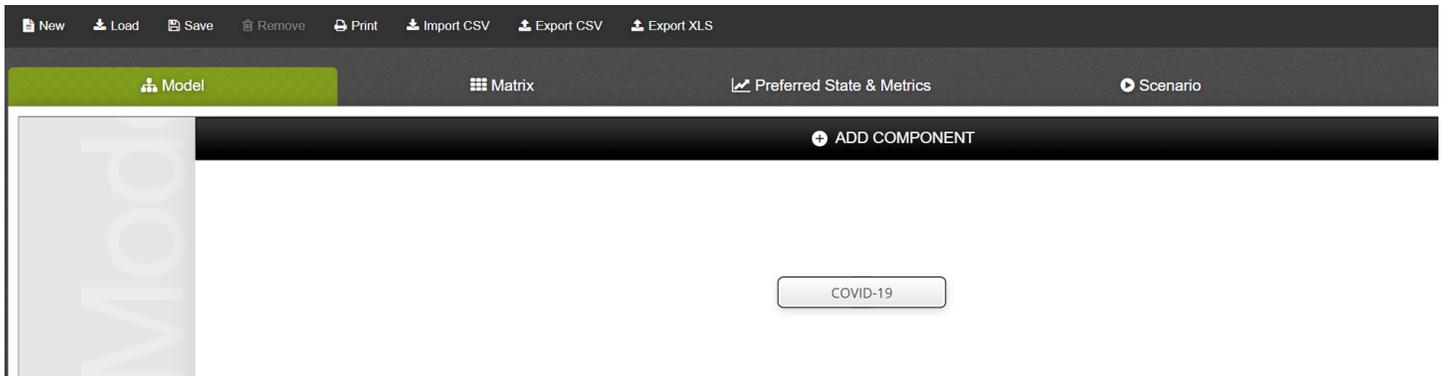**Tip #3: "Defining Degree of Influence"**
The relative weightings you give to the positive or negative relationships is a numeric number between -1 and +1 that you define between components and represent the degree of influence. For example, a rain-storm may increase the amount of flooding slightly (represented by a small positive relationship defined between these two components), but a hurricane may increase the amount of flooding a great deal (represented by a high positive relationship defined between these two components).

Q9.

Model business interruptions from COVID-19

Please begin by thinking about how the COVID-19 pandemic impacted the operation of a business like yours. **Please go to your model page** and click on "ADD COMPONENT" button at the top of the modeler window. Enter 'COVID-19" to label the box. **When done, come back and click on "NEXT"**

Q10.

Go to your model page and do the following task:

Now, add new components that represent the impacts from COVID-19 on a business like yours. Please enter text to label the boxes. You can drag a box to reposition it. Although the components you add in your model will be up to you based on your **experiences as a business operator**, for your convenience, we have created an optional list you can choose from. Feel free to add your own components and/or choose from the following list. **(Minimum 2 and maximum 5 new components must be added in this step)**

- **Revenue,**
- **Customers,**
- **Stopped operation (Business closure),**
- **Problems with supply chain,**
- **Delivery issues,**
- **Workforce safety,**
- **Others that you self-define**

Continue building your model by defining the relationships between the components you added. When done, come back and click on "NEXT"

Q11.

Go to your model page and do the following task:

Please add new components that represent **socioeconomic conditions that could amplify/reduce the impacts of COVID-19 on a business like yours.** For your convenience, we have created an **optional** list of components that you can choose from for this step. These include pre-existing economic and social factors such as:

- **Access to funds,**
- **Mandatory stay-at-home and business closure,**
- **Local economy changes,**
- **Market vulnerability,**
- **Racial inequalities,**
- **Disability (in)equities,**
- **Social capital,**
- **Familial and household responsibilities,**
- **Stress in home life,**
- **Others that you self-define**

You can choose from this list and/or define your own components. **(Minimum 2 and maximum 5 new components must be added in this step).**
When you add a new component, consider the relationships it may have to all other components. Define these relationships by adding arrows between them.
When done, come back and click on "NEXT"

Q12.
Go to your model page and do the following task:

Please add new components that represent things a business like yours can do to offset (i.e., reduce) the impacts from COVID-19, namely "coping or adaptation." For your convenience, we have created an **optional** list of components that you can choose from for this step:

- **Laying off some of the workforce**
- **Salary changes**
- **Employee training changes**
- **Selling some of the business' assets**
- **Debt spending**

- **Borrowing**
- **Government assistance**
- **E-commerce**
- **Remote and Teleworking**
- **Limited number of people allowed within the business space**
- **Others that you self-define**

You can choose from this list and/or define your own components. **(Minimum 2 and maximum 5 new components must be added in this step).**

When you add a new component, consider the relationships it may have to all other components. Define these relationships by adding arrows between them.

When done, come back and click on "NEXT"

Q13.

Since the start of the COVID-19 pandemic (March 13, 2020) has your business REQUESTED and/or RECEIVED government financial assistance?

○ NOT Requested
○ Requested and Received
○ Requested but NOT Received
○ Unsure
○ N/A

Q14.

Go to your model page and do the following task:

If not already done, and regardless of your response to the previous question, please add to your model "**Government assistance**" as a new component.

Please also think about its relationships to the operation of a business like yours, the supply chains, and all other relevant components, and define them accordingly by adding arrows between them.

When done, come back and click on "NEXT"

Q15. **Please read the following paragraph and answer the questions that follow:**

"In 2020, there were 22 natural disasters with losses exceeding $1 billion each in the U.S. (NOAA NCEI, 2021). As COVID-19 conditions persist, the chances are high that populations around the US and the world already have and will continue to experience natural disasters (e.g., heat waves, floods, hurricanes, fire, and drought) during the period of virus transmission and into the period of recovery."

Q16. What natural hazard(s) is/are of the greatest concern for your business' location? (Select all that apply) (These did not have to occur in 2020)

- ☐ Coastal storms
- ☐ Drought/water scarcity
- ☐ Earthquake
- ☐ Extreme cold
- ☐ Extreme heat/heat waves
- ☐ Flooding
- ☐ Hurricane

- ☐ Storm surge
- ☐ Space weather
- ☐ Tornado
- ☐ Tsunami
- ☐ Wildfire and Smoke
- ☐ Winter storms (snow, frozen rain)
- ☐ Other (please specify)
  [   ]

Q17. Please selected one of the following options to add to your model:

- ○ » Coastal storms
- ○ » Drought/water scarcity
- ○ » Earthquake
- ○ » Extreme cold
- ○ » Extreme heat/heat waves
- ○ » Flooding
- ○ » Hurricane
- ○ » Storm surge
- ○ » Space weather
- ○ » Tornado
- ○ » Tsunami
- ○ » Wildfire and Smoke
- ○ » Winter storms (snow, frozen rain)
- ○ » Other (please specify)

Q18. **Go to your model page and do the following task:**

You have selected ***${q://QID22/ChoiceGroup/SelectedChoices}*** to use in your model. Please add new component and enter the text "***${q://QID22/ChoiceGroup/SelectedChoices}***" to label it. You also need to think about how this natural disaster (when co-occurring with COVID-19) would or did impact your business. Please add new components to your model (or use the existing ones) and define the relationships between them to represent the impacts from the compound event of COVID-19 and **${q://QID22/ChoiceGroup/SelectedChoices}** on a business like yours, should they happen concurrently.

When done, come back and click on "NEXT"

Q19. **Go to your model page and do the following task:**

You have selected ***${q://QID21/ChoiceGroup/SelectedChoicesTextEntry}***. We ask you to use it in your model. Please add new component and enter the text "***${q://QID21/ChoiceGroup/SelectedChoicesTextEntry}***" to label it. You also need to think about how this natural disaster (when co-occurring with COVID-19) would or did impact your business. Please add new components to your model (or use the existing ones) and define the relationships between them to represent the impacts from the compound event of COVID-19 and **${q://QID21/ChoiceGroup/SelectedChoicesTextEntry}** on a business like yours, should they happen concurrently.

When done, come back and click on "NEXT"

Q20.
Go to your model page and do the following task:

Think about actions a business like yours could have taken before COVID-19 and in preparation for any potential natural hazards. These so called "mitigation planning actions" include:

1. General mitigation activities that are applicable across hazard types (e.g., purchase disaster insurance, back-up all important documents, etc.),

2. Emergency management planning (e.g., develop a written emergency plan/checklist, keep an emergency fund, etc.),
3. And Physical mitigation (e.g., waterproof building using flood gates, back-up power generation, etc.).

You must add a minimum of 3 and a maximum of 6 new components to your model that represent mitigation planning/ actions, specifically in preparation for potential natural hazards. Please make sure that you think about how these components could also increase/decrease the impacts of COVID-19 or the compound impacts of COVID-19 and natural disasters, should they happen concurrently, and how they influence other components. Please define these relationships graphically by adding arrows between the components.
When done, come back and click on "NEXT"

Q21.
Check your model (Optional)

Once you feel comfortable with the components you have included and how they interact with each other, please consider adding (additional) components from the following list, if they are not already included in your model.
If added, please remember to define relationships between newly added components and the others.

- ☐ Previous natural disaster or extreme weather event experience
- ☐ Access to knowledge and information about disaster preparedness
- ☐ Capacity of the business to withstand future disasters
- ☐ Social networks and partnerships
- ☐ Vulnerability of the market
- ☐ Implementation challenges in disaster planning and action
- ☐ Eligibility and success rates for government assistance
- ☐ Time open (business duration)
- ☐ Distance to urban center
- ☐ Consumer diversity

Q22.

SAVE Your Model (Required*)

While on Mental Modeler page, please click on the "*save*" button.

In some cases, a file may be automatically saved to your computer's "download" folder as "project.mmp" and in other cases it may ask you where you want to save it. Please email the *mmp* file back to **SMEResearch@nist.gov**.

For more instructions about how to save your model, please watch the below video.

How to use Mental Modeler online tool

▶

If you are having problems with saving your model, please take a screenshot or photo of the model and email it to us.

Q59.

	Yes	No
I confirm that I've emailed my model to SMEResearch@nist.gov	○	○

Q23. Congratulations! You've completed the Concept Mapping Activity. You will receive a confirmation email within a week including how to activate your Amazon Gift Card.

Q24.

Please indicate your level of agreement with the following statements

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
I found Mental Modeler activity useful in organizing my thoughts	○	○	○	○	○	○	○
I would use this activity for future planning	○	○	○	○	○	○	○
I would suggest this activity to other business operators	○	○	○	○	○	○	○

Short Survey

Q25.

Dept. of Commerce Small- and Medium-Sized Business Complex Event COVID-19 Recovery Survey
OMB Control # 0693-0078 Expiration 07/31/2022

Q26. Does this business own or rent the building?

○ Own

○ Rent

○ Business is run from a residential location

○ I don't know

○ [   ] Other (Please explain)

Q27. What is the current status of the business?

○ Fully open with the same products and services as pre-COVID-19

○ Open, but with fewer or different products or services as pre-COVID-19

○ Temporarily closed, but plan to reopen

○ Permanently closed

○ [   ] Other (Please explain)

Q28.
How would you assess whether your business is FULLY RECOVERED after an interruption (e.g., from natural disaster impacts and/or COVID-19)? **Select all that apply**

- ☐ Expected gross revenues achieved
- ☐ Adequate number of employees achieved
- ☐ Producing/selling at the same level as before the disruption
- ☐ Full repair of property damages
- ☐ Full building functionality achieved
- ☐ Other (Please explain)

[text box]

Q29.

Based on how you would assess a FULL RECOVERY after COVID-19, how much time do you think will pass from TODAY until your business returns to its pre-COVID-19 conditions?

- ○ [text box] Already there (Confirm when, an estimate date is OK)
- ○ 1 month or less
- ○ 2-3 months
- ○ 4-6 months
- ○ 6-12 months
- ○ 12-18 months
- ○ more than 18 months
- ○ unlikely to resume operations at that level
- ○ unlikely to resume operations at all
- ○ Unsure
- ○ [text box] Other (please explain)

Q30. Since MARCH 1, 2021 has any natural hazard or extreme weather event occurred at your location?

- ○ Yes, with severe negative impacts
- ○ Yes, with minor negative impacts
- ○ Yes, with no negative impacts
- ○ No
- ○ Unsure
- ○ Does not apply

Q31. Was your business' response to this event impacted by COVID-19?

○ Yes

○ No

○ Unsure

○ Does not apply to my business (Please provide details)

Q32. How did this natural hazard impact your business compared to similar events before COVID-19?

○ Greater impact than in the past

○ Similar impact than in the past

○ Less impact than in the past

○ First time such an event impacted my business

○ Does not apply to my business

Q33. Was the impact greater than in the past because of the COVID-19?

○ Yes, COVID-19 increased the impact

○ No, the nature (strength) of the natural hazard increased the impact

○ Unsure

Q34. Is any of the following a concern to your organization as you plan for the future? **Select all that apply**

☐ Natural hazards and extreme weather events

☐ Subsequent wave of COVID-19

☐ Business, financial, and market volatility (e.g., supply chain disruption, operational issues)

☐ Other public health issues

☐ Workforce issues (e.g., workforce safety, workforce reduction, absenteeism, retaining/rehiring staff)

☐ Consumer-side issues (e.g., preferences for online shopping, reductions in foot traffic, low holiday season sales)

Q35. Please drag-&-drop to rank the following concerns, **1 being the greatest concern to your business**.

» Natural hazards and extreme weather events

» Subsequent wave of COVID-19

» Business, financial, and market volatility (e.g., supply chain disruption, operational issues)

» Other public health issues

» Workforce issues (e.g., workforce safety, workforce reduction, absenteeism, retaining/rehiring staff)

» Consumer-side issues (e.g., preferences for online shopping, reductions in foot traffic, low holiday season sales)

Q36. **Please indicate your level of agreement with the following statements.**

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
COVID-19 posed the greatest risk yet to my organization's survival	○	○	○	○	○	○	○

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
The impacts of COVID-19 will leave my organization unable to cope with a natural disaster, should one occur, in the next year	○	○	○	○	○	○	○

Q37. Would you be willing to divert a reasonable portion of your budget to certainly safeguard your business against an event like COVID-19? (**Assume that the chance of having such an event next year is 1/100**)

○ Yes

○ No

Q38. **From which categories you would be willing to divert budget/resources to cover this expense?**

	Definitely not	Probably not	Might or might not	Probably yes	Definitely yes	Not Applicable
Natural hazards/extreme weather preparation						☐
Advertising						☐
Non-disaster insurance						☐
"Green" sustainability efforts						☐
Personal Savings						☐
Payroll						☐
Inventory						☐
Other (Please explain)						☐

Q39. **Instead, would you be willing to put this portion of your budget/resources to the following categories?**

	Definitely not	Probably not	Might or might not	Probably yes	Definitely yes	Not Applicable
Advertising						☐

	Definitely not	Probably not	Might or might not	Probably yes	Definitely yes	Not Applicable
Natural hazards/extreme weather preparation	●					☐
Non-disaster insurance	●					☐
Inventory	●					☐
Payroll	●					☐
"Green" sustainability efforts	●					☐
Personal Savings	●					☐
Other (Please explain) [_____]	●					☐

Q40.

What type of support have you received for your business during COVID-19? **Select all that apply**

- ☐ Sharing resources/supply chain
- ☐ In kind donations related to COVID-19 (e.g. PPE, signage, etc.)
- ☐ Regulation changes
- ☐ Environmental cleaning discounts/resources
- ☐ Postponement in payment (rent, utilities, mortgage, etc.)
- ☐ Maintaining memberships
- ☐ Technical support (e.g. establishing new remote working requirements, etc.)
- ☐ Information
- ☐ Other In kind donations (e.g. food, etc.)
- ☐ Loans/financing
- ☐ Local shopping opportunities (e.g. gift card purchases, shop local website, etc.)
- ☐ None of these apply
- ☐ Other (please explain)

Q41. Who provided this support for your business during COVID-19? **Select all that apply**

☐ Non-local businesses

☐ Faith-based organizations

☐ Federal government

☐ Customers

☐ Local government

☐ Banks

☐ Family and friends

☐ Non-profit organizations

☐ State government

☐ Landlord(s)

☐ Local businesses

☐ Business associations/Chamber of Commerce

☐ [   ] Other (Please specify)

☐ None of the above

Q42.

Who has your business supported/donated to during COVID-19? **Select all that apply**

☐ Senior citizens (e.g., special hours/accommodations)

☐ Healthcare workers/Essential workers

☐ Non-local businesses

☐ Employees

☐ Non-local charities/Nonprofit Organizations (NGOs)

☐ Local government (e.g. response efforts, making masks, providing feedback, etc.)

☐ Local businesses

☐ Your families

☐ Customers (e.g., financial relief, delayed payments, etc.)

☐ Students (e.g., support for virtual learning, desks, etc.)

☐ Local charities/Nonprofit Organizations (NGOs)

☐ None of the above

☐ Other (Please explain)

[text box]

Q43. **Please indicate your level of agreement with the following statements**

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
My business serves more customers from inside our geographic community than outside of our geographic community	○	○	○	○	○	○	○

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
During hard times, members of my community and other businesses can count on my business to help them out	○	○	○	○	○	○	○

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
During hard times, my business can count on members of my community and other local businesses to help them out	○	○	○	○	○	○	○

Q44. Do you feel your COVID-19 experience has provided you with an increased flexibility to quickly adjust your capacities and actions and adapt to changing conditions?

○ Definitely yes

○ Probably yes

○ Might or might not

○ Probably not

○ Definitely not

○ [   ] Unsure (Please explain)

Q45.

Do you feel your COVID-19 experience has provided lessons for the future of your business?

○ Yes, these lessons will impact the actions our business takes

○ Yes, these lessons will impact the practices, norms, and policies of my business

○ Yes, these lessons will impact overall organizational rationale and context for planning

○ No, these lessons are worthwhile, but we do not have the resources

○ No, there were no worthwhile lessons

○ [   ] Unsure (Please explain)

Q46. Please indicate your level of agreement with the following statements

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
In my business endeavors, I can obtain outcomes that are important to the success of the business.	○	○	○	○	○	○	○

	Strongly agree	Agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Disagree	Strongly disagree
When my business is faced with difficult or uncertain tasks, I am certain that I can work to overcome them.	○	○	○	○	○	○	○

Q49. What is the highest level of education you have completed?

- ○ Less than high school
- ○ High school graduate
- ○ Some college
- ○ 2 year degree
- ○ 4 year degree
- ○ Professional degree
- ○ Doctorate
- ○ Prefer not to say

Q50. Please indicate your ethnicity **(You may skip this question if you prefer not to answer):**

- ○ Hispanic or Latino
- ○ Not Hispanic or Latino

Q51. Please indicate your race **(Choose one or more)**

- ○ Black or African American
- ○ American Indian or Alaska Native
- ○ Asian
- ○ Native Hawaiian or Pacific Islander
- ○ White

Q52.

Is there anything else you would like to share at this time?

You can explain about the role of big businesses in your region in the survival and recovery of small and medium businesses like yours, or

how you can improve your business' resilience (your capacity to absorb, withstand, and recover from disasters in general).

Q54.

THANK YOU FOR YOR TIME & VALUABLE RESPONSES

If there is anything you would like us to know, please feel free to follow-up with us at SMEResearch@nist.gov