Approach

create a code book

basic manual data cleaning of file: "Residential Consumer Survey Response (copy).xlsx"

drop id 208 because response indicates respondent is deceased

In analysis, convert Likert-type categories to numerical values

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survey on demand-side levy

hhids with existin

- interested in creating user personas based on tech of use on these datasets

- potentially, cluster analysis

possibly classify like this:

austere resource poor

normal

overuse/resource rich users

gmail

difficult to push policy agenda based on just qual data

what most people have not been able to do is to create user personas

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Aunty,

I have a few requests on the Excel file.

1. I need objective(s) to conduct the data analysis. Are there specific questions you want me to address with the data? I'm guessing there are.

2. I need to understand how to interprete values in Excel cells BC2:BJ2. For the questions asked on these columns, the values are "Adult1", "Adult2"... "Adult4". If you're alble to share the questionnaire that generated all responses, that might help. Similarly, I need to understand the values in the excel cells CK2 and CL2

Finally, when are you hoping to get the analysis/results? It's likely I'll be able to start paying full attention to the data from June 23rd.

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COOLING & HEATING LOAD

Number of Fans in your house including ceiling fans and/or portable fans How many coolers (i.e. portable plug cooling appliances) do you own at your home ? No. of air heaters (i.e. portable plug heating appliances) do you own at your home? If an air heater is owned approximately how many months of the year is this used for (choose one)? what month of the year do you typically Start using air heater home heating (choose one)? what month of the year do you typically stop using air heater for home heating (choose one)? Number of Air Conditioners Type of AC Do you have the ability to control your air conditioning system (i.e. change the temperature)?If so what best describes how this is used? If you use cooling, what temperature setting do you use during Summer months? If you use heating, what temperature setting do you use during Winter months? If any air cooling (i.e. portable air cooler/air conditioning) is used at your residence, what month of the year do you typically start using home cooling (choose one)?

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LIGHTING LOAD

If any air cooling (i.e. portable air cooler/air conditioning) is used at your residence, what month of the year do you typically stop using home cooling (choose one)? Approximately how many light bulbs are installed in your residence? Include light bulbs and tube lights in ceiling fixtures, fans, table and floor lamps as well as those used less often such as in hallways, closets, garages and cupboards. For fixtures with multiple bulbs please count each bulb separately. Out of all light bulbs installed approximately how many are incandescent or halogen light bulbs? (see picture below for an example) Out of all light bulbs installed approximately how many are CFL light bulbs? (see picture below for an example) Out of all light bulbs installed approximately how many are LED light bulbs? (see picture below for an example)

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KITCHEN APPLIANCES

Out of those light bulbs approximately how many are tube lights? (see picture below for an example) Which of the following cooking appliances do you use from most to least [Electric Heater Cooker] Which of the following cooking appliances do you use from most to least [Induction Cooker] Which of the following cooking appliances do you use from most to least [Electric Cooker] Which of the following cooking appliances do you use from most to least [Microwave Oven] Which of the following cooking appliances do you use from most to least [Electric Oven] Which of the following cooking appliances do you use from most to least [Electric Kettle] Which of the following appliances do you have at your residence and how many of each? [Number of Refrigerators (<300litres)] Which of the following appliances do you have at your residence and how many of each? [Number of Refrigerators (>300 Litres)] Which of the following appliances do you have at your residence and how many of each? [No.of Washing Machines] Which of the following appliances do you have at your residence and how many of each? [No.of Dish Washers] Which of the following appliances do you have at your residence and how many of each? [No. of Washer Dryer/Tumble Dryers] Which of the following appliances do you have at your residence and how many of each? [No.of Water Pumps] Which of the following appliances do you have at your residence and how many of each? [No. of Solar Water Heaters] Electric Water Heater (Geyser) How much time Geyser(s) will be in service when it is turned ON

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Electrical Appliances

What is the preferred time of usage of Geyser Which of the following appliances do you have at your residence and how many of each? [Number of Voltage Regulators] Which of the following appliances do you have at your residence and how many of each? [Number of Uninterruptible Power Supplies (UPS)] Which of the following appliances do you have at your residence and how many of each? [Number of Hair Dryers] Which of the following appliances do you have at your residence and how many of each? [Number of Electric Toasters] Which of the following appliances do you have at your residence and how many of each? [Number of Coffee Makers] Which of the following appliances do you have at your residence and how many of each? [Number of Laptops] Which of the following appliances do you have at your residence and how many of each? [Number of Televisions] Which of the following appliances do you have at your residence and how many of each? [Number of Wi-Fi Routers] Which of the following appliances do you have at your residence and how many of each? [Number of Electric Clothing Irons] Which of the following appliances do you have at your residence and how many of each? [Number of Battery Systems]

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Occupancy Pattern Before Pandemic

Size of Battery Systems in kWh Adult 1 Adult 2 Adult 3

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Occupancy Pattern After Pandemic

Adult 4 Adult 1 Adult 2 Adult 3

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Roof Top Solar System

Adult 4 Do you have a rooftop solar photovoltaic system on your roof (i.e. rooftop electricity generation from sun power), if so how is owned? If you own a rooftop solar photovoltaic system (i.e. rooftop electricity generation from sun power), if so approximately what capacity is this system? How likely do you think you are to get rooftop solar photovoltaic system in the next 5 years?

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Electric Vehicle

How likely do you think you are to get rooftop solar photovoltaic system in the next 10 years? Do any of the occupants of this residence own an electric vehicle?

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How strongly do you agree or disagree with the following statements?

If one or more of the occupants of this residence own an electric vehicle how is it primarily charged? How likely are you to buy an electric vehicle as your next car? I think reducing energy consumption is important to protect the environment I think I should be more active in reducing my energy consumption and using energy efficient appliances I think that green energy (e.g. solar and wind) are important to help protect the environment I think that green energy (e.g. solar and wind) are important to help reduce air pollution

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Changing your electricity patterns can help the environment and reduce costs. If the electricity utility was willing to pay you to change your electricity consumption patterns how likely would you be willing to make the following changes?

I think that by reducing my energy consumption and using more green energy I can help reduce air pollution I am interested in using less electricity consumption to reduce my bill and save money Increase my AC temperature settings during Summer evenings to consume less energy Turn off my AC during Summer evenings Turn off my water heater during winter mornings Stop doing laundry during evening hours Change to energy efficient lightbulbs

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If you had the opportunity to have a 40% lower electricity price during off peak hours how likely would you be to move energy consumption of the following appliance categories?

Change to energy efficient air conditioning systems Cook later or earlier (in case of electric cooking) than usual in the evenings Heating Load during off peak hours in winter (Between 00:00 hrsto 04:00 hrs during November to March)

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If the electricity price during peak hours (in between 14:00hrs -17:00 hrs and in between22:00hrs-01:00hrs) was 40% more expensive than other hours how likely you would be interested to reduce or move your electricity consumption of the following appliance categories during these peak hours?

Cooling Load during off peak hours in Summer(Between 04:00 hrsto 12:00 hrs during May to September) Electric Cooking(After 10:00 AM during November to March and 00:00 hrs to12:00 hrs and 18:00hrs to 21: 00 hrs from May to September) Cooling Load Electric Cooking Heating Load during Winter peak hours (Between 04:00 hrs to 12:00 hrs during November to March)

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