

The Research and Survey of Use Case for WoT

Tomoaki Mizushima
Internet Research Institute, Inc.
Tokyo, Japan
sasami@iri.co.jp

My Profile

- Name Tomoaki Mizushima
- Company Internet Research Institute, Inc.
- Country Japan
- My interests
 - Social Psychology (Social Research)
 - Statistics
 - Internet Technology (Internet of Things)

Motivation

- WoT WG has published documentations of WoT Technology. There are many functions that are included in them. These are important to make WoT devices and WoT services. But it is difficult to understand how to use them. A few people use them. Therefore WoT WG should discuss how the customer uses them.
- There are many sectors that use IoT. Each sectors have different usage of IoT. So there are many use cases in the world. Therefore WoT WG should research use cases, and discuss functions that the customer needs.

Motivation

- There are two ways of thinking. One is what the manufacturer wants to make. And the other is how customer use. But it is most important to discuss how the customer uses. If the manufacturer makes products that the customer doesn't seek, the customer doesn't buy or use them.
- I made behavior and attitude research of IoT usage of condominium residents last year. So I will present the results.

About Attitude Survey of IoT

- Date Late February 2018
- Place Aichi Prefecture in Japan
- Target Condominium residents (n=56)
 - Main age of residents is 20 to 40 years old.
 - Ratio of men and women is 60% to 40%.
 - Ratio of engineer or not is 35% to 65%.
- Objective
 - Knowledge of IoT
 - Attitude of usage of IoT in several kind of situations.

Results of Survey

Have you heard of IoT?	n	Freq. (%)
No	19	33.9
Yes	37	66.1
Total	56	100.0

Can you explain IoT?	n	Freq. (%)
Can not	34	60.7
Can	22	39.3
Total	56	100.0

- The research result indicates that they have heard of IoT”, but they can’t explain IoT.
- The word “IoT” has been used in commercials. But customers haven’t used IoT appliances yet. The Japanese government want to start to use it by 2020. So they become familiar with the word ”IoT”. There is the gap in recognition.

Results of Survey

	Appliance	To control form inside house (%)	To operate from outside house (%)	To operate with voice (%)
Bedroom	Light	67.9	33.9	66.1
	Air Conditioner	69.6	55.4	60.7
	Curtain (Blind)	46.4	30.4	46.4
	Shutter	37.5	32.1	39.3
	Window	39.3	26.8	42.9
	Lock of Window	44.6	28.6	41.1
Kitchen	Light	44.6	26.8	55.4
	Air Conditioner	50.0	37.5	55.4
	Curtain (Blind)	26.8	21.4	42.9
	Shutter	25.0	21.4	39.3
	Window	21.4	19.6	37.5
	Lock of Window	23.2	23.2	39.3
	Ventilation Fan	37.5	32.1	46.4
	Refrigerator	37.5	30.4	46.4
	Range	42.9	26.8	50.0
	Gas Stove	30.4	23.2	42.9
Water Heater	44.6	28.6	48.2	

	Appliance	To control form inside house (%)	To operate from outside house (%)	To operate with voice (%)
Living Room	Light	67.9	42.9	62.5
	Air Conditioner	66.1	58.9	64.3
	Curtain (Blind)	50.0	30.4	46.4
	Shutter	37.5	26.8	41.1
	Window	33.9	19.6	42.9
	Lock of Window	37.5	32.1	42.9
	Television	66.1	41.8	60.7
	Digital Recorder	62.5	48.2	60.7
Entrance	Light	66.1	51.8	55.4
	Air Conditioner	44.6	33.9	53.6
	Curtain (Blind)	26.8	19.6	42.9
	Shutter	26.8	21.4	39.3
	Window	25.0	21.4	37.5
	Lock of Window	26.8	25.0	37.5
	Lock of Door	58.9	51.8	50.0

Result of Survey

- There are not many residents who want to operate appliances using IoT. They don't have much knowledge of IoT. So They can't imagine how to use it.
- However They operate Television, Digital Recorder using IoT without realizing. And They know about a light and air conditioner that senses human behavior and voice from commercials. So they can imagine how to operate them using IoT.
- This shows that if they can't imagine how to operate appliances using IoT they don't want to use them.

Conclusion

- There are two ways to discuss functions of WoT technology. One is what the manufacturer make the product of IoT. One is customer use. It is important to survey and discuss use cases of the manufacturer and the customer.
- But the customer can't imagine how to use IoT. So WoT WG should help the customer to bridge the gap between understanding and use of IoT.