



CHALLENGES WITH MEASURING THE INTERNET OF THINGS IN THE CARIBBEAN

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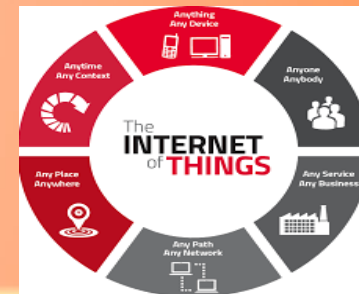
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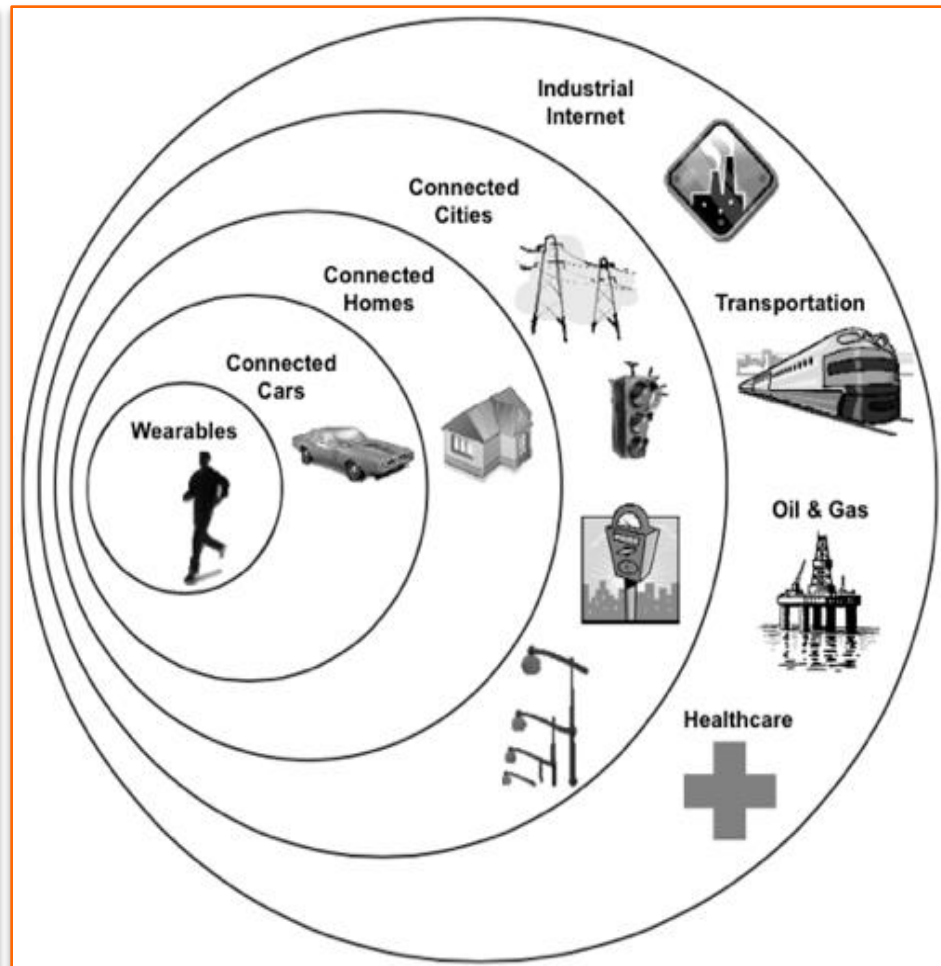
OUTLINE OF PRESENTATION

- The Internet of Things
- Potential barriers to consumer IoT adoption
- Can there be a virtuous cycle with IoTs and broadband adoption
- Measuring consumer IoT adoption
- Challenges with measuring IoT adoption and impact in the Caribbean.
- Conclusion



THE INTERNET OF THINGS

- Internet of things can be viewed as the digitization of physical things.
- IoTs provide opportunities for truly connected living:
 - Wearable devices – fitbit
 - Connected cars
 - Connected homes -TVs security systems, smart meters
 - Connected cities - traffic lights
 - Industrial applications



Source: Goldman Sachs



IOT CONSUMER APPLICATIONS - PERSONAL

○ Health and fitness

- Devices that constantly monitor our lives.
- Particularly helpful for persons with chronic diseases.
Can result in better patient care.

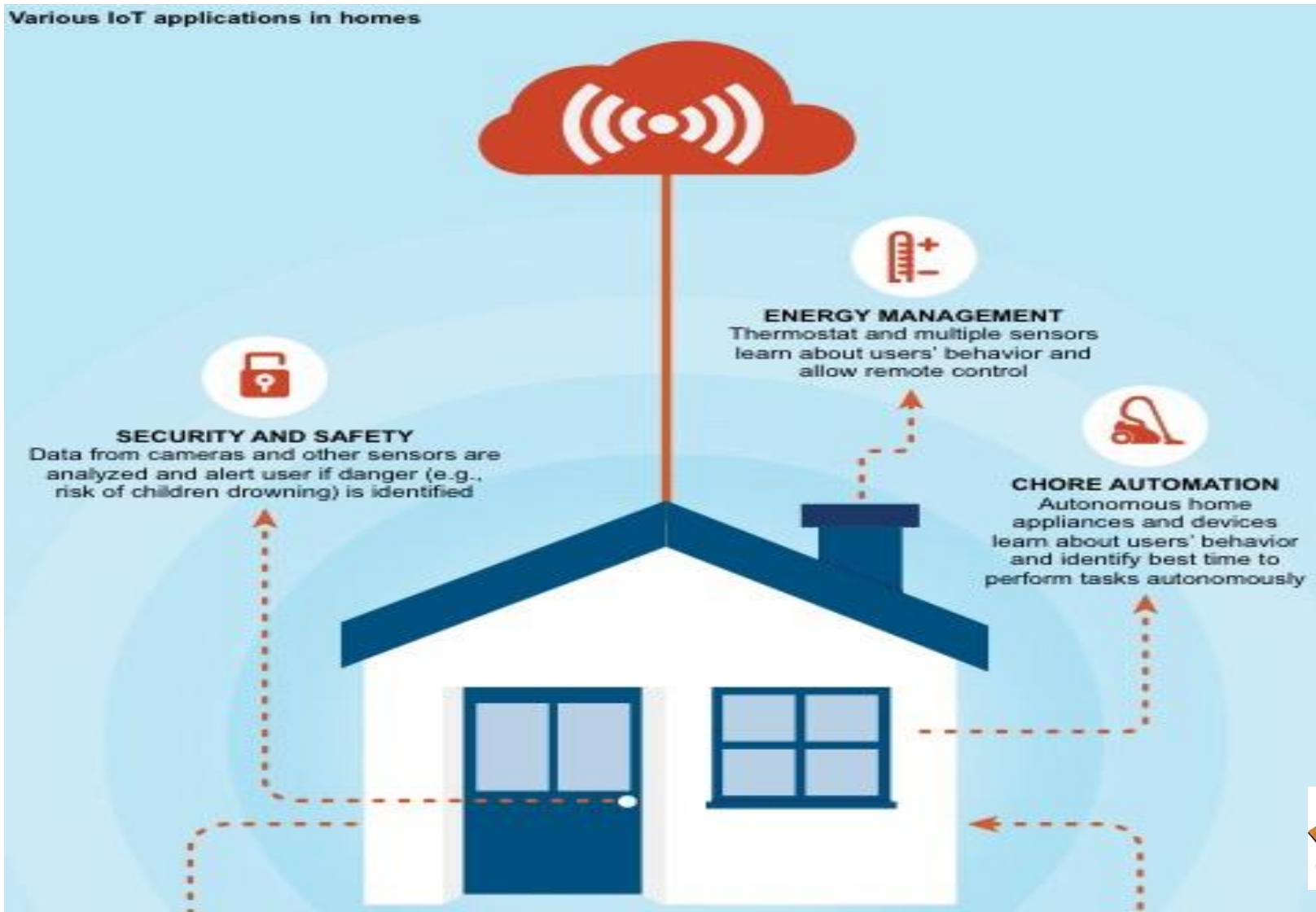


○ Human productivity

- Application that allow persons to be more productive at home and work.
- Application to assist factors workers to be more efficient.
- Applications to keep workers out in the field connected to their home base more effectively.

IOT CONSUMER APPLICATIONS - HOME

Various IoT applications in homes



SOURCE: McKinsey Global Institute analysis



POTENTIAL BARRIERS TO IOT ADOPTION

Barriers to IoT adoption and potential regulatory response



Regulators can create enabling environment for competition to bring down prices



Regulators can develop standards for interoperability



Develop legal framework to address liability and national security



Clear data protection and privacy laws.

IS THERE A VIRTUOUS CYCLE WITH FOR IOTs AND BROADBAND ADOPTION?

Consumer adoption of IoTs

Increase relevance of Broadband

11% of persons don't see need for broadband

Increase broadband demand

More attractive and affordable broadband offerings

Increased broadband adoption

47% of individual do not have access to broadband

Opportunity for providers to upsell to customers



MEASURING IOT ADOPTION

- The Internet of Things is expected to create significant economic value and promote broadband adoption.
- If we believed there is a virtuous cycle then it is very important for regulators to try to measure adoption and impact of the IoT.
- No shortage of global predictions on overall size of IoT market from Cisco, Gartner Inc, IDC, Ericsson, GSMA and others.
- Very limited information on IoT adoption in the Caribbean.

MEASURING CONSUMER IoT ADOPTION

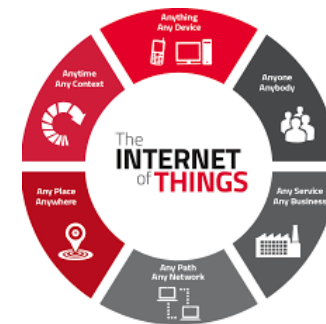
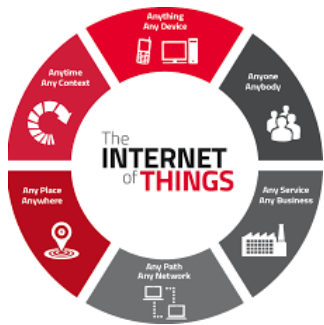
- Some international studies available on IoT adoption at the consumer level:
 - IDC's 2016 Consumer IoT Survey;
 - Accenture: Igniting Growth in Consumer Technology (2016) -28 Countries;
 - GSMA/OAS: High Level Description of IoT/M2M market trends in the Americas - 2015
 - Cellular M2M/IoT connections in LatAm estimated at 0.3M or 2% of all connection in 2015 and projected to rise to 4.5M or 7% by 2020.

CHALLENGES WITH MEASURING IOT ADOPTION AND IMPACT IN THE CARIBBEAN

- Administrative vs survey data
- Resources required for customer surveys can be a significant hurdle. Administrative data is usually more readily available.
- Challenges with administrative data on customer IoT adoption eg. What should be measured?
 - IoT devices vs. subscriptions to service providers.
 - Customer can install devices without service provider.
 - Spend on IoT services vs. savings from use of IoTs.

CONCLUSION

- There is significant potential for IoTs to encourage increased broadband adoption and to contribute to economic development in the Caribbean.
- To harness this potential we will need to tackle the hurdles to IoT adoption and develop robust methods of measuring IoT adoption and impact in the Caribbean.
- I think that Telecom regulators in the Caribbean are equal to this challenge.



THANK YOU!

QUESTIONS/COMMENTS!!

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- 5 Member States
 - Dominica, Grenada, St. Kitts and Nevis, Saint Lucia, St. Vincent and the Grenadines
- 5 National Telecommunications Regulatory Commissions
- Regional Telecommunications Authority (ECTEL)
- Harmonized regulatory framework
 - licensing, price regulation, interconnection, universal service, spectrum management
- ECTEL to promote
 - open entry and competition
 - Increased telecom service penetration



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