



# **The Gigabit Society**

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**The Economic Impact of the  
Next Generation of Communications**

**James Alleman**  
**Columbia Institute for Tele-Information (CITI)**

# Agenda

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- **Forecast for NGN**
- **Universal Service Obligation**
- **Demand for UBB in the USA**
- **Conclusions**

# Forecast for NGN

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- **Cannot be Forecasted!**

# Forecast for NGN

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- **Cannot be Forecasted!**
- **Profound Changes**
- **Internet Analogy**
  - ▶ **Innovations & applications**
  - ▶ **Most unpredicted**

# Forecast for NGN

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- **Cannot be Forecasted!**
- **Profound Changes**
- **Internet Analogy**
  - ▶ Innovations & applications
  - ▶ Most unpredictable
- **Significant Economic Impact**
  - ▶ Improved productivity
  - ▶ Improved growth & development

# Agenda

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- Forecast for NGN
- **Universal Service Obligation**

# UBB Universal Service Obligation

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- **What NOT to do!**
  - ▶ **Below cost prices for subscribers**
  - ▶ **Subsidize companies**

# UBB Universal Service Obligation

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- **What NOT to do!**
  - ▶ **Below cost prices for subscribers**
  - ▶ **Subsidize companies**
- **Subsidies counterproductive**
  - ▶ **Inhibits Competition**
  - ▶ **Inefficient**
  - ▶ **Does NOT meet desired goal**



# UBB Universal Service Obligation

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- **What NOT to do!**
- **Subsidies counterproductive**
- **What to do, if anything:**
  - ▶ **Target marginal subscribers**
  - ▶ **No cross-subsidies**
  - ▶ **Funding by government**

# Agenda

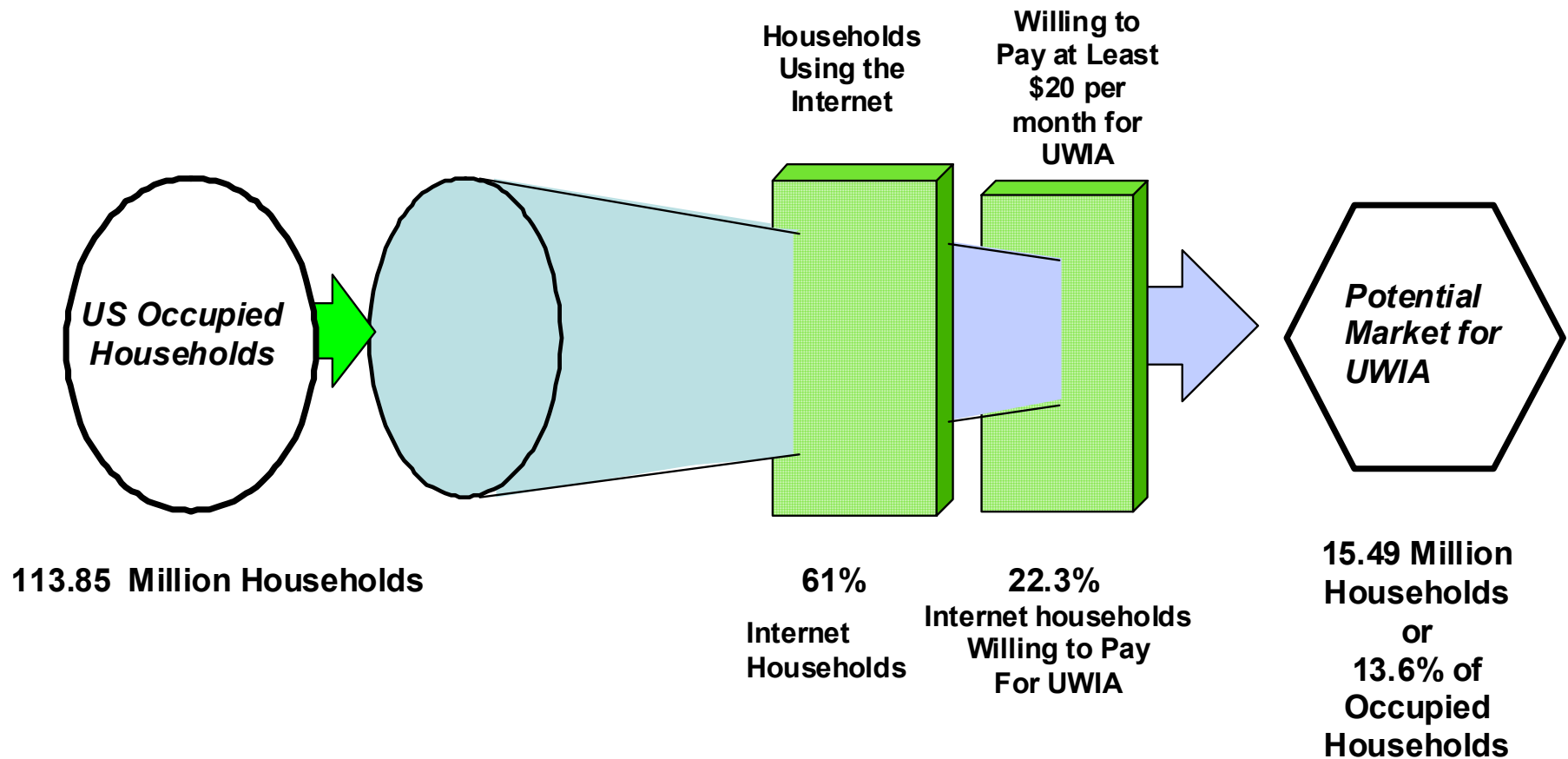
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- Forecast for NGN
- Universal Service Obligation
- **Demand for WBB in the USA**

**Source: Centris data from  
Rappoport, Goodstadt, & Alleman (2008)**

# Households Willing to Pay for WBB

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# Demand for WBB in the USA

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- **BB a Strategic Priority**
- **BB Penetration Increasing**
- **Demand for Ubiquitous WBB**
- **Willingness-to-pay (WTP)**
- **Importance of Speed**

# Demand for WBB in the USA

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- **Future demand for wireless broadband:**
  - ▶ **Devices,**
  - ▶ **Speed, &**
  - ▶ **Applications?**

# Demand for UBB in the USA

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- **Future demand for wireless broadband:**
  - ▶ **Devices,**
  - ▶ **Speed, &**
  - ▶ **Applications?**
- **Willingness-to-pay (WTP)?**
  - ▶ **Is broadband a substitute or a complement?**

# Demand for UBB in the USA

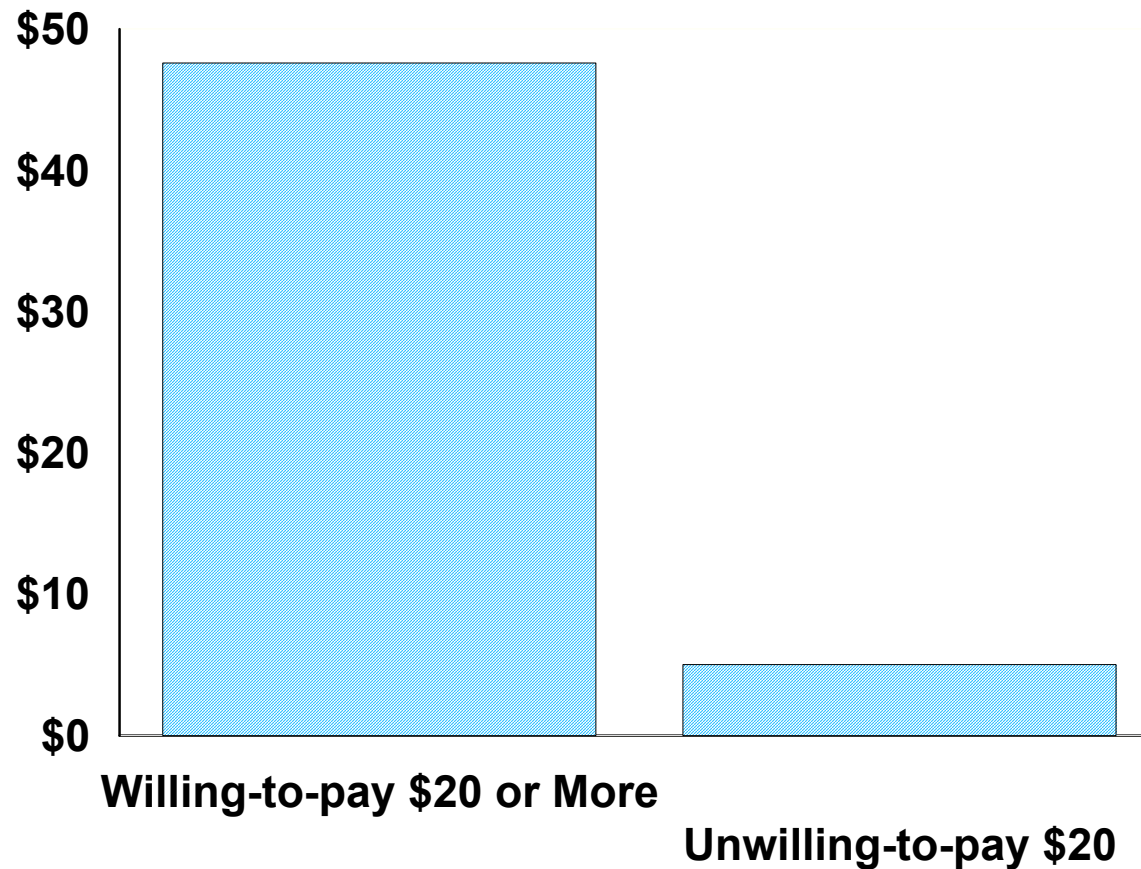
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- **Future demand for wireless broadband:**
- **Willingness-to-pay (WTP)?**
- **Importance of speed**
  - ▶ **What is the WTP for speed?**
  - ▶ **Does WBB change the competitive landscape?**

# Willing to Pay \$20 or More

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## Average Willingness-to-pay





# Households Willing to Pay for UWIA

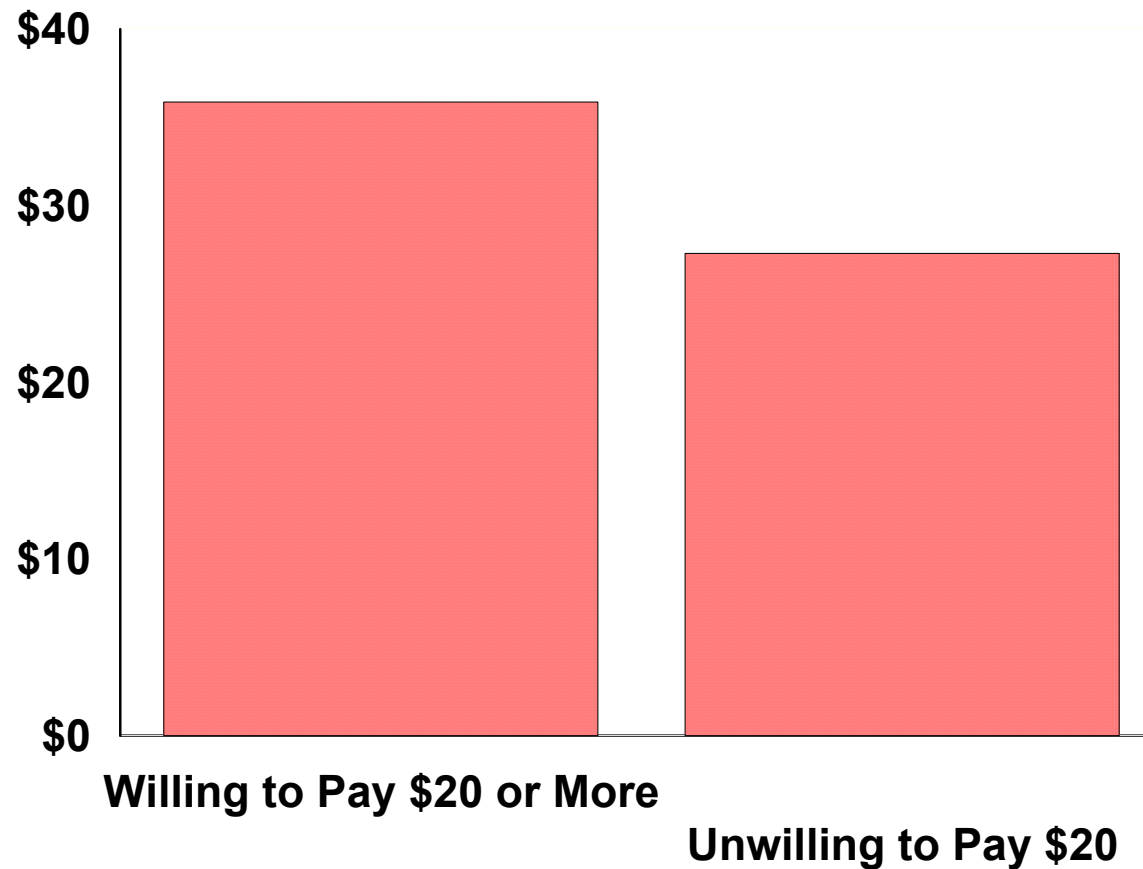
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- **Over 15 million HHs**
  - ▶ **Defined as online-HHs willing to pay at least \$20 per month**
  - ▶ **A significant market**

# Willing to Pay \$20 or More

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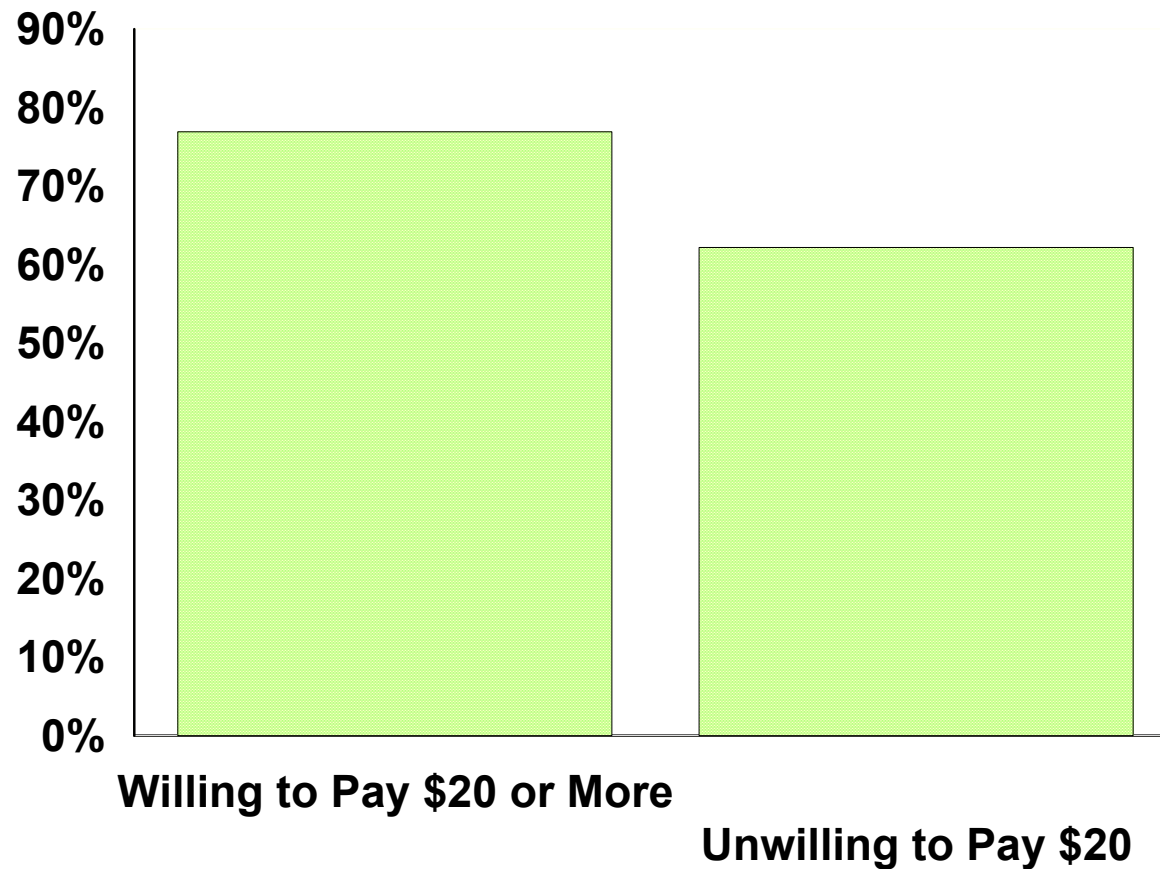
## Average Monthly Internet Bill



# Willing to Pay \$20 or More

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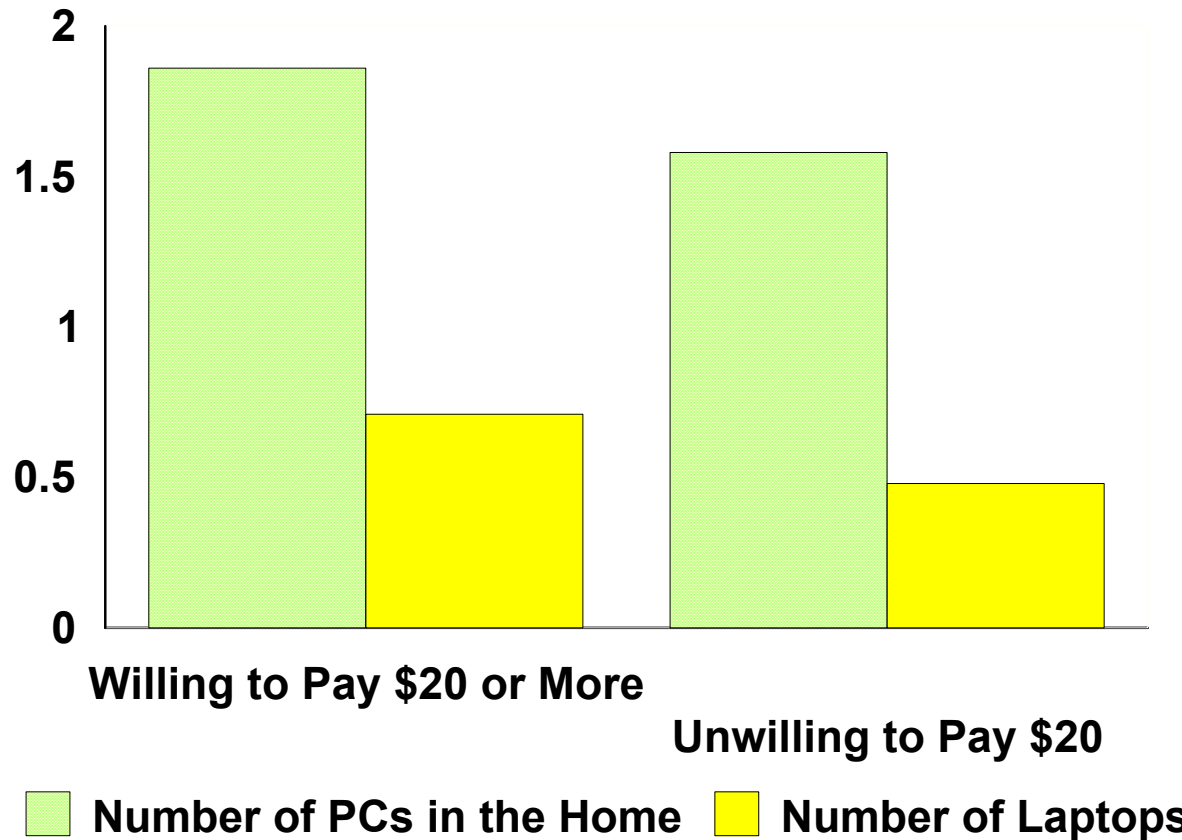
## Broadband in the Home & Willingness-to-pay



# Willing to Pay \$20 or More

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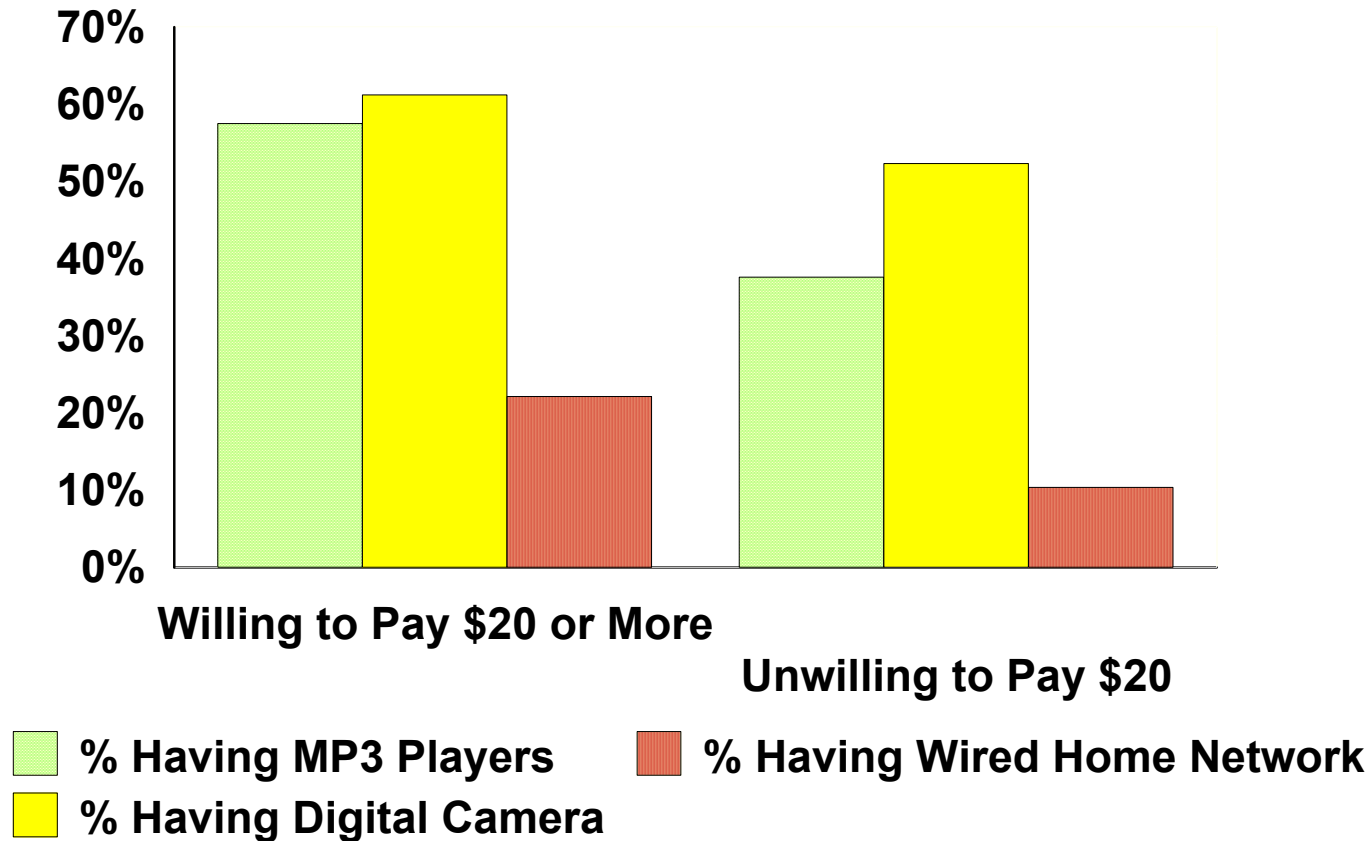
## Number of PCs/Laptops in HH



# Willing to Pay \$20 or More

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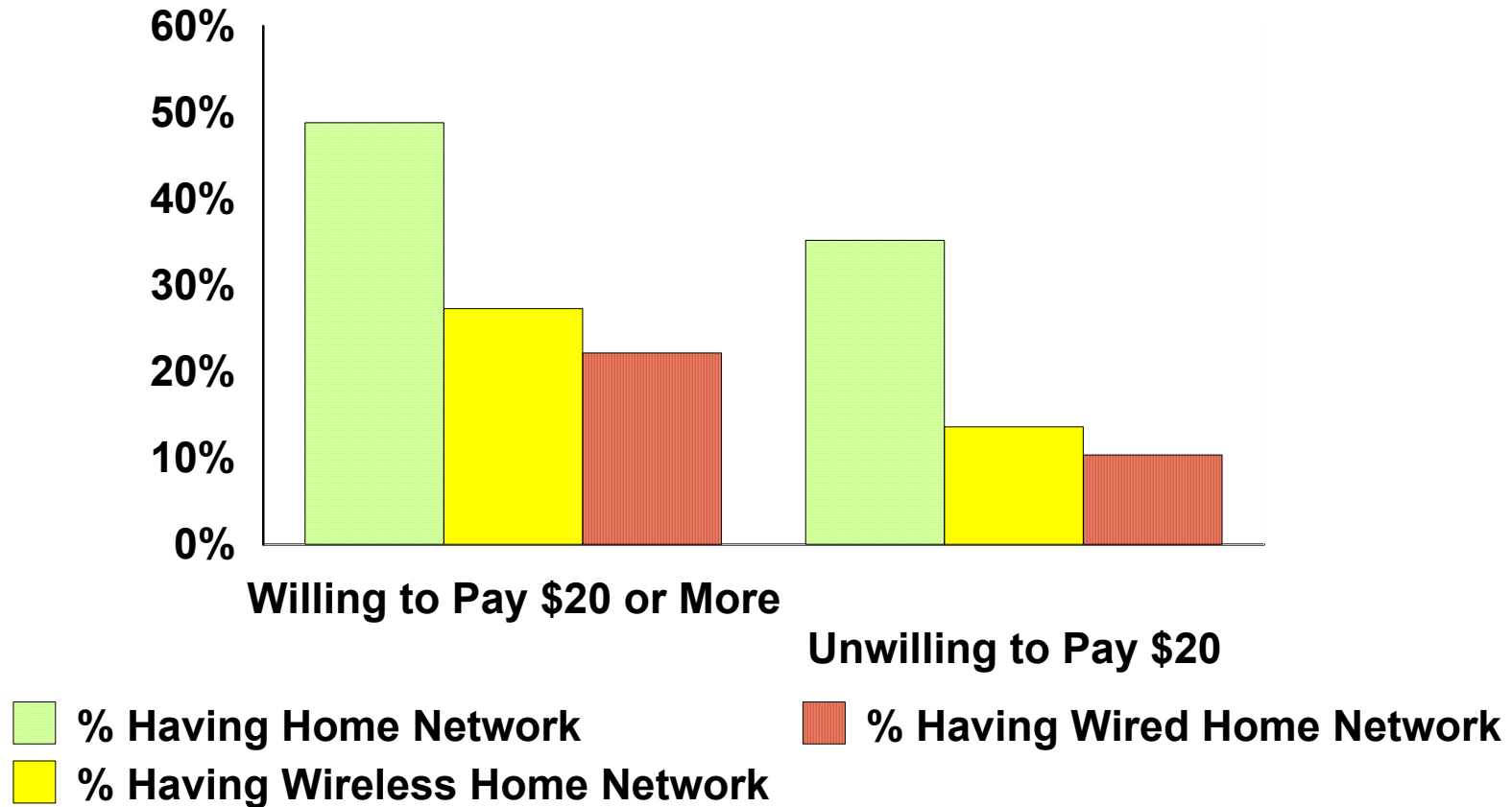
## Acquisition of Digital Products



# Willing to Pay \$20 or More

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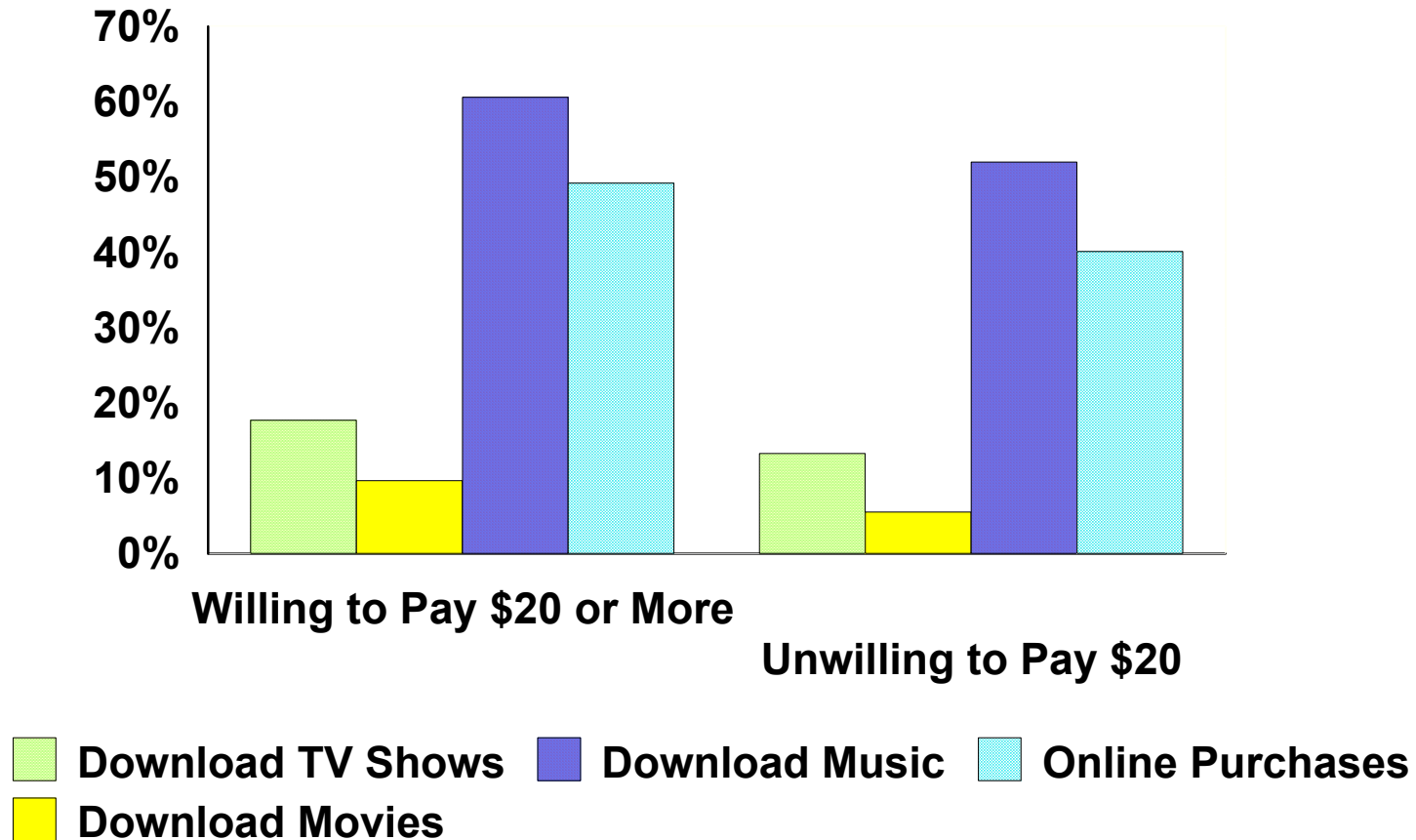
## Home Network



# Willing to Pay \$20 or More

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## Internet Applications



# Agenda

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- **Forecast for NGN**
- **Universal Service Obligation**
- **Demand for UBB in the USA**
- **Conclusions**



# Conclusions

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- **Forecast for NGN**
  - ▶ **Profound changes**
  - ▶ **Unpredictable**
  - ▶ **Significant applications & developments**

# Conclusions

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- **Forecast for NGN**
- **Universal Service Obligation**
  - ▶ **Do it right!**
    - **Target subsidies to marginal subscribers**  
**No subsidies for companies**
    - **No cross-subsidies**
    - **Direct funding by government**

# Conclusions

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- **Forecast for NGN**
- **Universal Service Obligation**
- **Demand for WBB in the USA**

# Conclusions

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- **WBB Valued at \$9.1 B**
- **Penetration: 15 million + HHs**
- **Differences in WTP v. non-WTP Groups**
- **WBB should increase with BB increase**

# Contact Information

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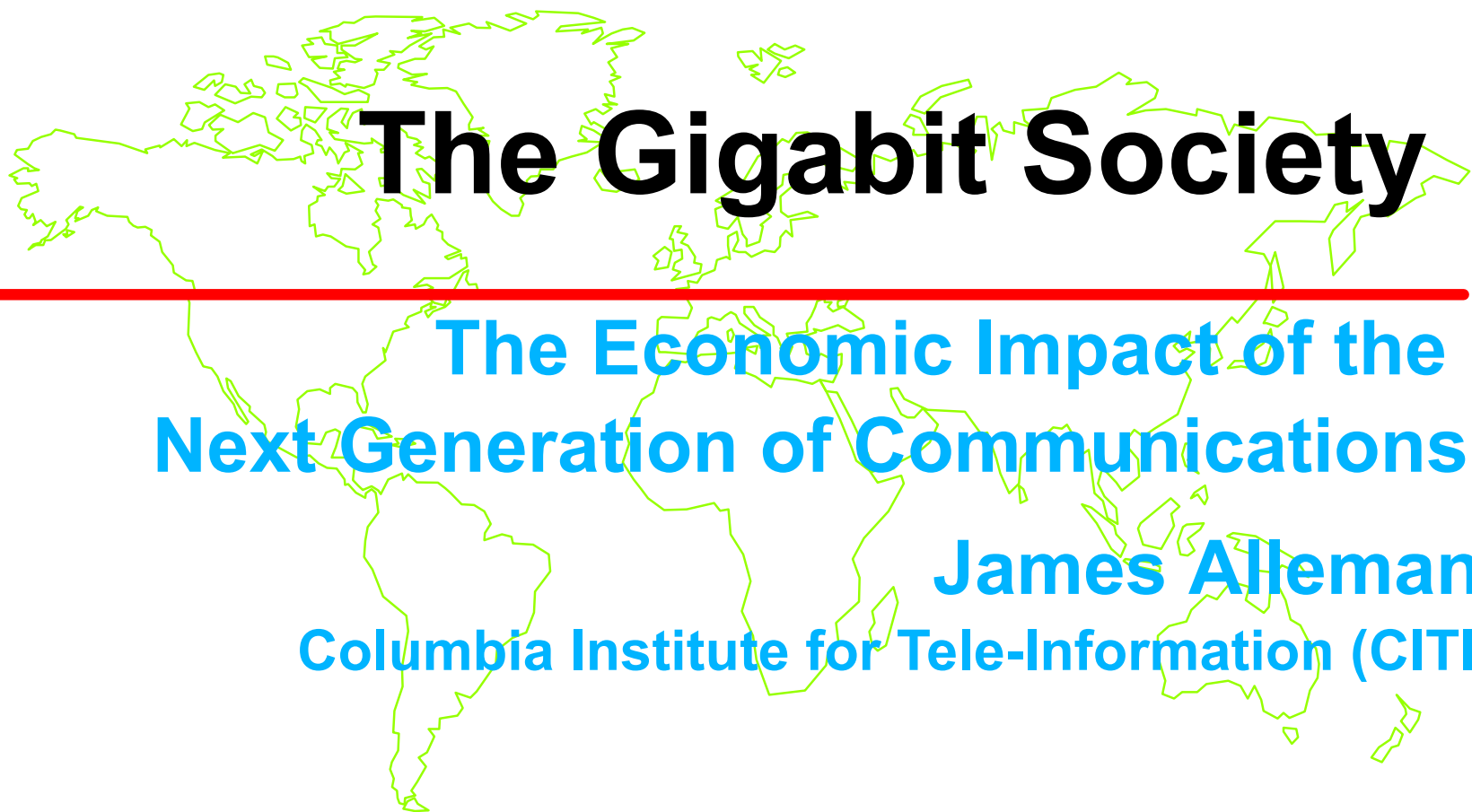
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# Agenda

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- Overview/Background
- **Methodology**

# Methodology

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- **Centris Omnibus Survey**
  - ▶ **Focus on ICT**
  - ▶ **Projectable RDD**
  - ▶ **1,000 surveys/ week, every week**
  - ▶ **Nine years of history and tracking**
  - ▶ **A cross-sectional study**



# Methodology

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- **Centris Omnibus Survey**
- **Ubiquitous Wireless Internet Access (UWIA) Survey**
  - ▶ **Households with access to internet**
  - ▶ **4,714 HH of 7,7078 HH**
  - ▶ **Seven plus week field period**

# Methodology

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- **Centris Omnibus Survey**
- **UWIA Survey**
- **Description of a:**
  - ▶ **"...service for your personal and/or family use that provides wireless internet access in your home or away, for your laptop or other wireless devices"**

# Agenda

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- Overview/Background
- Methodology
- **Results/Comparisons**

# Households Willing to Pay for UWIA

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- **Over 15 million HHs**
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# Conclusions

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- **WTP group members**
  - ▶ **Already making greater investments in internet connectivity**
  - ▶ **Applications are likely drivers: Downloading of TV shows, movies, music & making online purchases.**

# Conclusions

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- **UWIA Valued at \$9.1 B**

# Conclusions

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- **UWIA Valued at \$9.1 B**
- **Penetration: 15 million + HHs**
  - ▶ **WTP group spend \$47.60 per month**
  - ▶ **Not clear if WBB is a substitute or compliment**

# Conclusions

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- **UWIA Valued at \$9.1 B**
- **Penetration: 15 million + HHs**
- **Differences in WTP v. non-WTP**
- **Growth in BB likely to lead to a larger market for WBB**
  - ▶ **As BB penetration increases, interest in WBB should increase**



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# Conclusions

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- **Differences in WTP v. non-WTP (WTP Group is more likely)**
  - **To have broadband services in their HHs**
  - **Are accustomed to paying more services**
  - **To have more PCs & Laptops in HHs**
  - **To have home networks**
  - **To own MP3 players and digital cameras**
  - **To download music, TV shows, videos & use the internet for online purchases**

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