From KPI to QoE

Building a Customer Oriented Quality Process

CLARO BRASIL – Acess Network and QoS – Eusebio Costa Nov-2017

Operators are customer complaint champions.

PROCONs make list: Leaders are national giants.

Procons fazem listas das empresas denunciadas e as campeãs são todas gigantes de atuação nacional

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As empresas que encabeçam o ranking de reclamações nos Procons de Belo Horizonte são todas gigantes de atuação nacional.
A pedido do Hoje em Dia, os Procons da Assembleia Legislativa e da Prefeitura de Belo Horizonte compilaram as denúncias feitas por clientes insatisfeitos no ano passado e montaram listas das empresas mais reclamadas. O somatório das duas listas aponta as dez campeãs em desagradar e desrespeitar os direitos dos consumidores na Capital.

No topo estão cinco empresas de telefonia e um banco, duas de prestação de serviços de televisão por assinatura e duas redes varejistas de eletrodomésticos e eletroeletrônicos (veja infográfico).
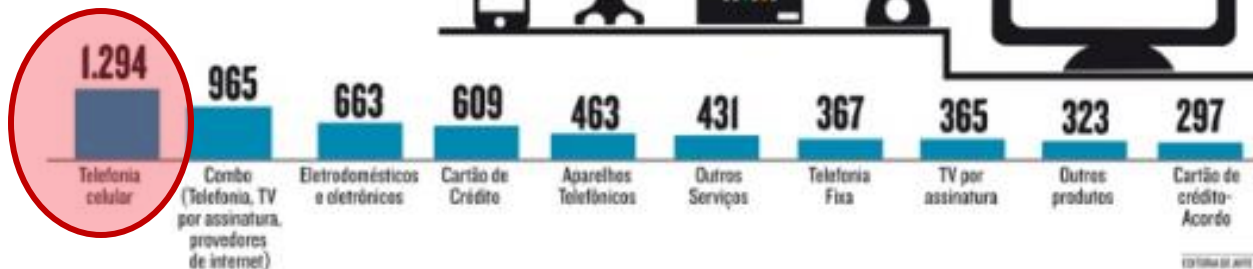
+ PRIMEIRO PLANO

Ex-vice-presidente argentino é detido, acusado de enriquecimento ilícito

Ministra do 'trabalho escravo' diz que está entre ministros que ganham men...

Exportações de frango crescem 16,2% em outubro

Ranking de queixas
CONFIRA A LISTA DOS PROCONS

Reclamações por empresas (PROCON ASSEMBLEIA E PROCON BH)

Empresa	Reclamações
Telemar Norte	2.429
Telefônica (Vivo)	2.219
Oi móvel	2.050
Claro	1.447
CAIXA	1.211
TIM	1.149
Sky Brasil	1.132
Via Varejo (Ponte Frio, Casas Bahia e outros)	1.117
NET	1.057
CNova (Ponte Frio, Casas Bahia e outros – vendas on line)	252

Reclamações por segmento
(PROCON DA ASSEMBLEIA LEGISLATIVA DE MINAS)

Segmento	Reclamações
Telefonia celular	1.294
Combo (Telefonia, TV por assinatura, provedores de internet)	965
Eletrodomésticos e eletrônicos	663
Cartão de Crédito	609
Aparelhos Telefônicos	463
Outros Serviços	431
Telefonia Fixa	367
TV por assinatura	365
Outros produtos	323
Cartão de crédito-Acordo	297

Editoria de Arte /

Complaint Rank:

Procon List
4 Operators

Per Segment
Mobile Operators

Surpresa agradável: telefonia móvel é o serviço telecom com menos queixas na ANATEL

16 de agosto de 2017 6

Great Surprise:

Mobile Telephony is the telecom service with less complaints in ANATEL

ANATEL says complaints against operators decrease

- Serviços de telefonia móvel: 1 reclamação para cada 1.840 linhas
- Serviços de telefonia fixa: 1 reclamação para cada 687 linhas
- Serviços de banda larga fixa: 1 reclamação para cada 659 linhas
- Serviços de TV por assinatura: 1 reclamação para cada 453 linhas
- Telefonia móvel: 242,12 milhões
- Telefonia fixa: 41,19 milhões
- Banda larga fixa: 27,68 milhões
- TV por assinatura: 18,64 milhões

Happiness = Reality - Expectations

Quality = Perception - Reality

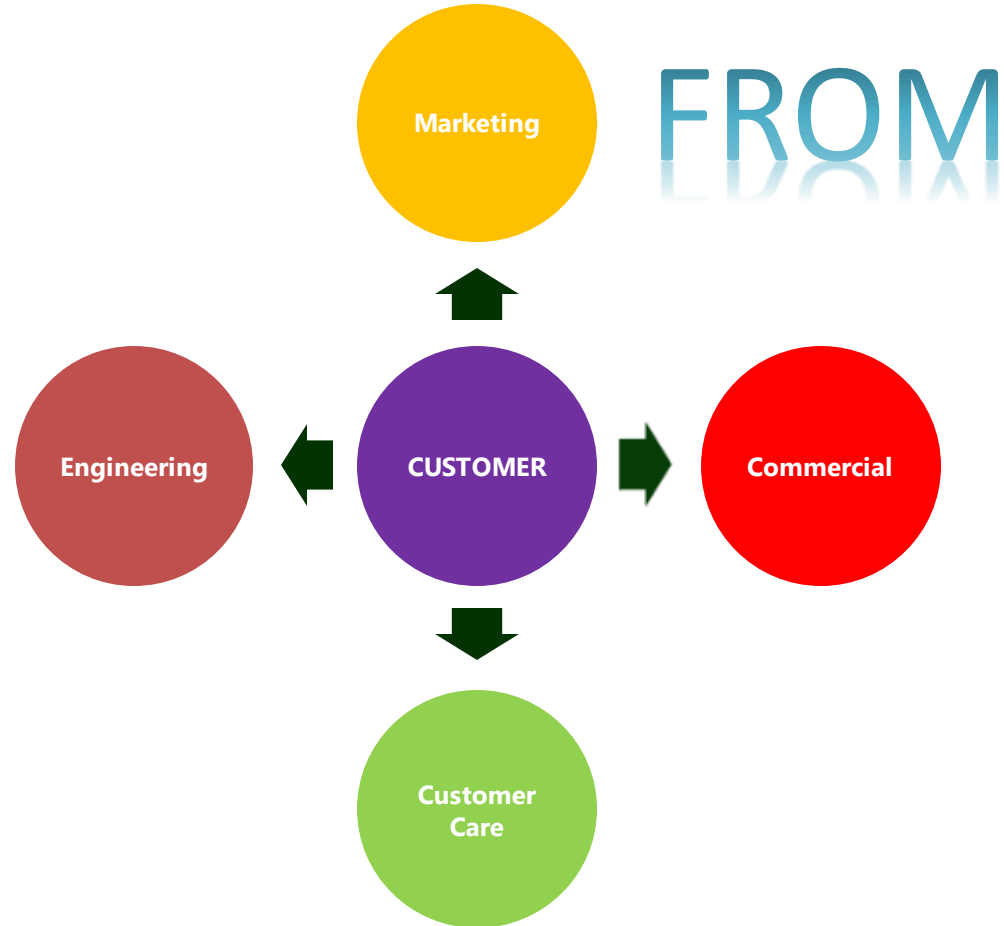Baby Boomer Career Path Reality

Performance Attributes

- Quick **Problem Solving**
- **Billing** transparency
- Prioritization of Customer Needs
- Keep up with the **Promisses**
- Friendly and motivated Staff
- Easiness of **payments**
- Awareness of products and services used by customers
- Relevance and timing of **Communication**
- Frequent introduction of new **products and services**

- ✓ Hear!
- ✓ Listen!
- ✓ Analyze!!
- ✓ Antecipate...
- ✓ Map, diagnose, act!
- ✓ Simplify!

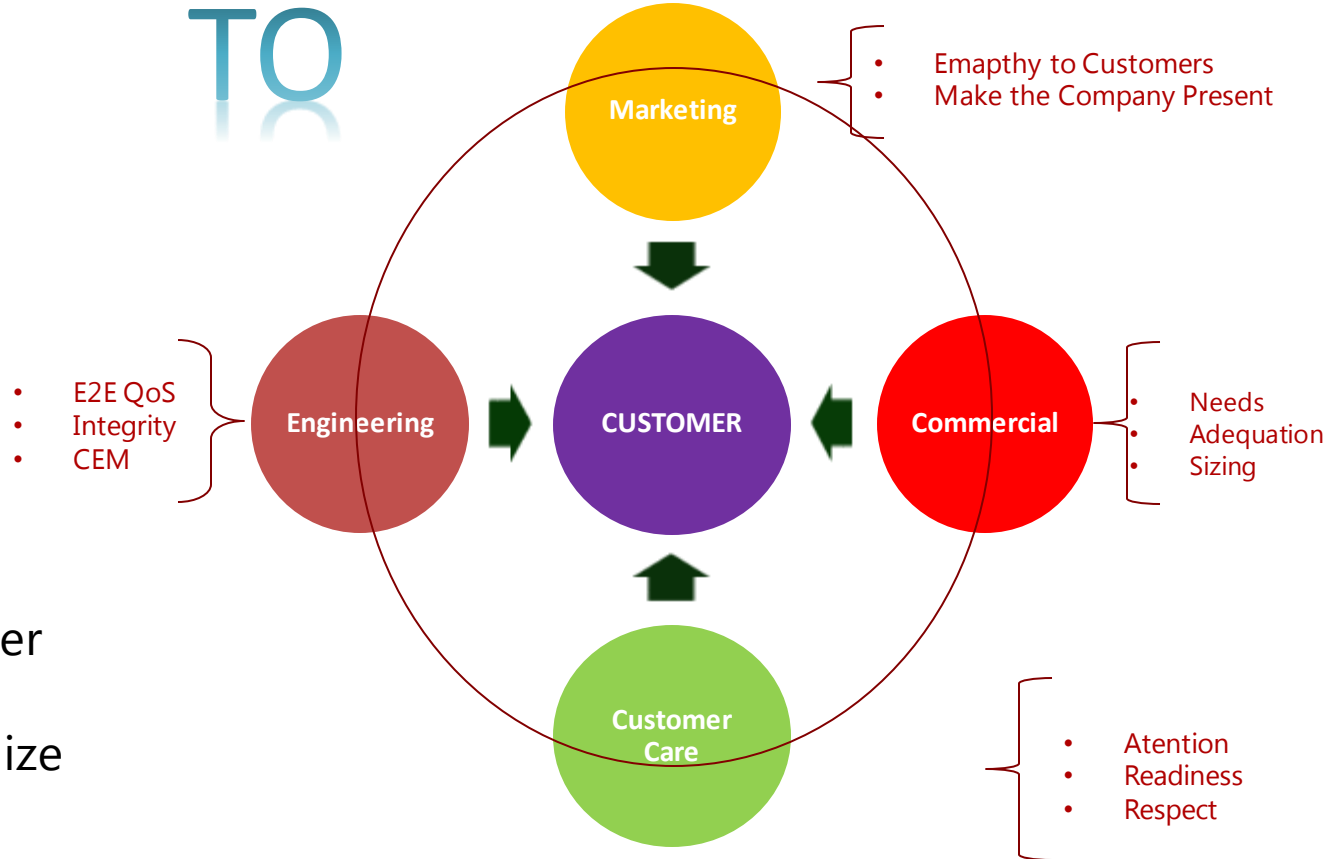- ❑ Processes
- ❑ Capacitate First!
- ❑ Organize, train, learn
- ❑ **V**oice **O**f the **C**ustomer
- ❑ Empathy
- ❑ Automatize x Humanize
- ❑ Big Data – Analytics
- ❑ CEM – 360°

FROM

Marketing

Engineering
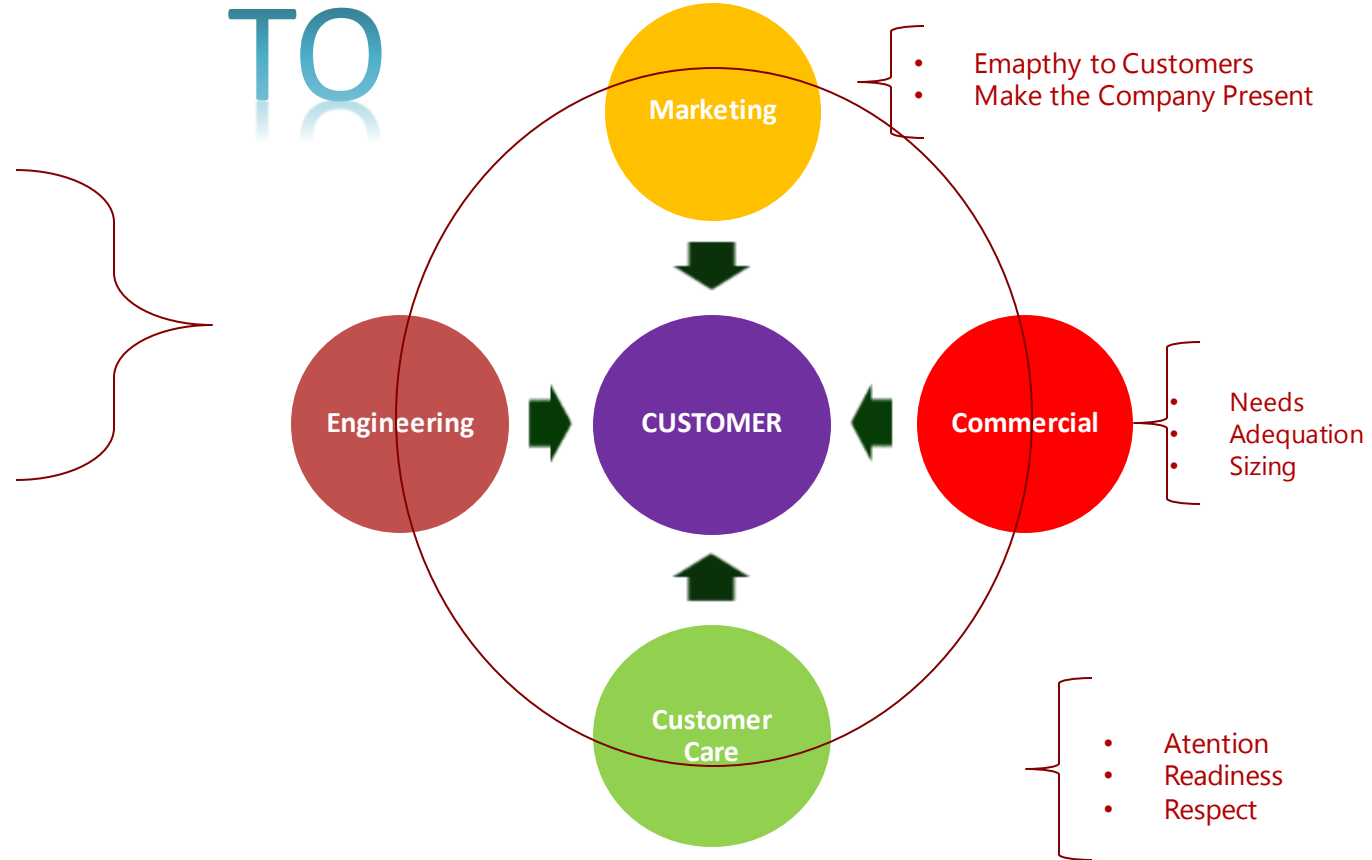
CUSTOMER

Commercial

Customer Care

- ✓ Hear!
- ✓ Listen!
- ✓ Analyze!!
- ✓ Antecipate…
- ✓ Map, diagnose, act!
- ✓ Simplify!

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TO

Marketing

Engineering

CUSTOMER

Commercial

Customer Care

- • Emapthy to Customers
- Make the Company Present

- • E2E QoS
- • Integrity
- • CEM

- • Needs
- • Adequation
- • Sizing

- • Atention
- • Readiness
- • Respect

TO

- **E2E QoS**
- **Integrity**
- **CEM**

Marketing

- Emapthy to Customers
- Make the Company Present

Engineering → CUSTOMER ← Commercial

- Needs
- Adequation
- Sizing

Customer Care

- Atention
- Readiness
- Respect

- **E2E QoS**
- **Integrity**
- **CEM**

QoE: audio, video quality, ease of use

QoA: application performance; endpoint, servers.

QoS: network performance

2021

By the numbers
Projecting the future of digital transformation (2016–2021)

Latin America

By 2021
66%
of the population will be using the Internet
up from 52% in 2016.

By 2021
41 GB
of Internet traffic per month, per user
up from 21 GB in 2016.

2x

By 2021
2.9
networked devices and connections per person
up from 2.1 in 2016.

By 2021
78%
of all Internet traffic will be video
up from 74% in 2016.

By 2021
20.5 Mbps
average broadband speed
up from 9.3 Mbps in 2016.

2x

By 2021
12 Mbps
average mobile speed
up from 3.7 Mbps in 2016.

3x

Mobile growth in 2016

- Indonesia
- France
- China
- India
- Canada
- Australia
- US
- UK
- Japan

Fixed internet growth in 2016

Source: Cisco VNI Global IP Traffic Forecast, 2016–2021.

Source: Cisco VNI Global IP Traffic Forecast, 2016–2021.

10% CAGR 2016–2021

Billions of devices

- Other (1.6%, 1.8%)
- Tablets (3%, 3%)
- PCs (8%, 5%)
- TVs (12%, 12%)
- Non-Smartphones (19%, 6%)
- Smartphones (21%, 23%)
- M2M (34%, 51%)
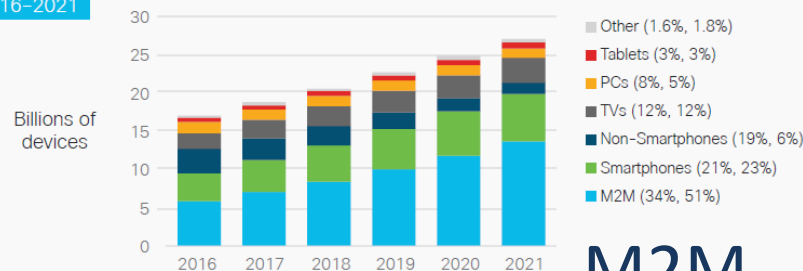
Figures (n) refer to 2016, 2021 device share.
Source: Cisco VNI Global IP Traffic Forecast, 2016–2021.

M2M

24% CAGR 2016–2021

Exabytes per month

- Gaming (1%, 4%)
- File Sharing (8%, 3%)
- Web/Data (18%, 11%)
- IP VOD (22%, 14.5%)
- Internet Video (51%, 67.4%)
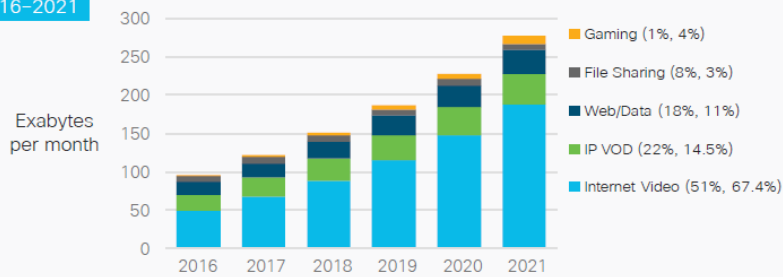
Figures (n) refer to 2016, 2021 traffic shares.
Source: Cisco VNI Global IP Traffic Forecast, 2016–2021.

Internet Video

Millions

- Online Video (5.8% CAGR)
- Digital TV HH (4.2% CAGR)
- Mobile Video (14.8% CAGR)
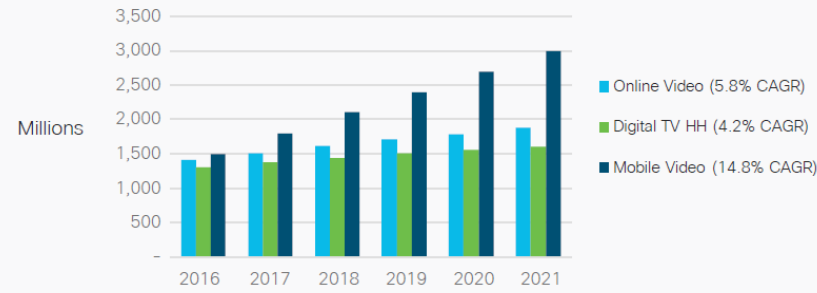
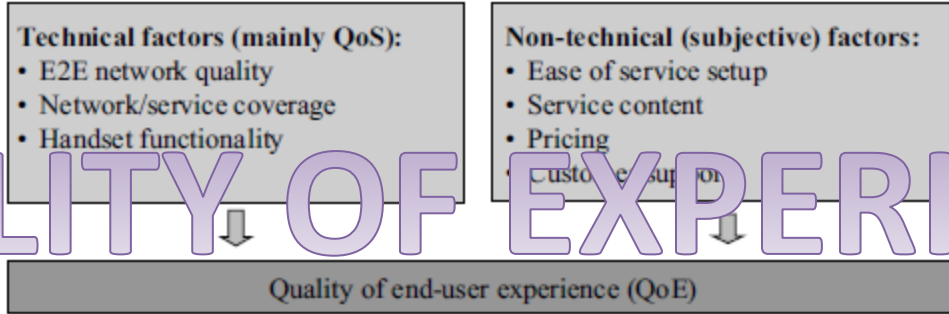Source: Cisco VNI Global IP Traffic Forecast, 2016–2021.

Mobile Video

Technical factors (mainly QoS):
- E2E network quality
- Network/service coverage
- Handset functionality

Non-technical (subjective) factors:
- Ease of service setup
- Service content
- Pricing
- Customer support

Quality of end-user experience (QoE)

End-user device and application software

Enable the end-user to experience the content

Service and network providers

Provide infrastructure and enable content transport from content providers to mobile users

Mobile content providers and contents

Mobile content providers and originators, websites, WAP sites, games, video, audio, portals, etc.

Network vendors and system integrators

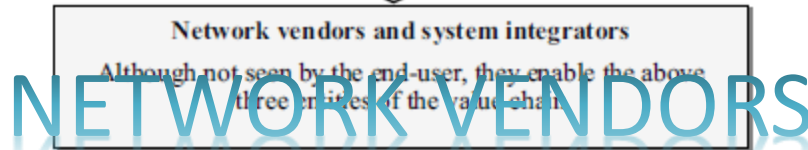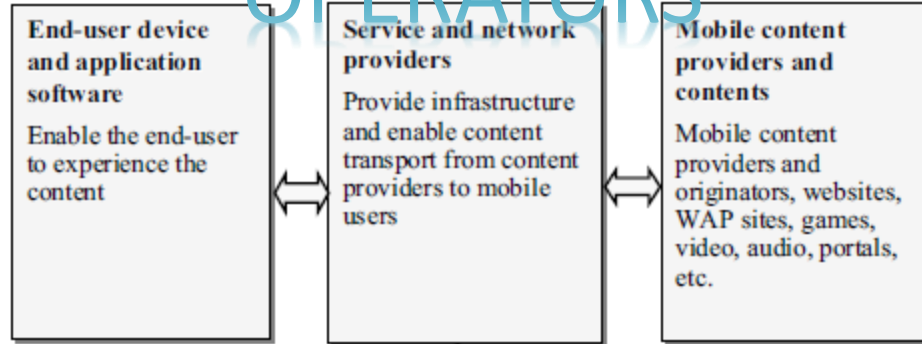Although not seen by the end-user, they enable the above three entities of the value chain

QUALITY OF EXPERIENCE

OPERATORS

DEVICES

CONTENT PROVIDERS
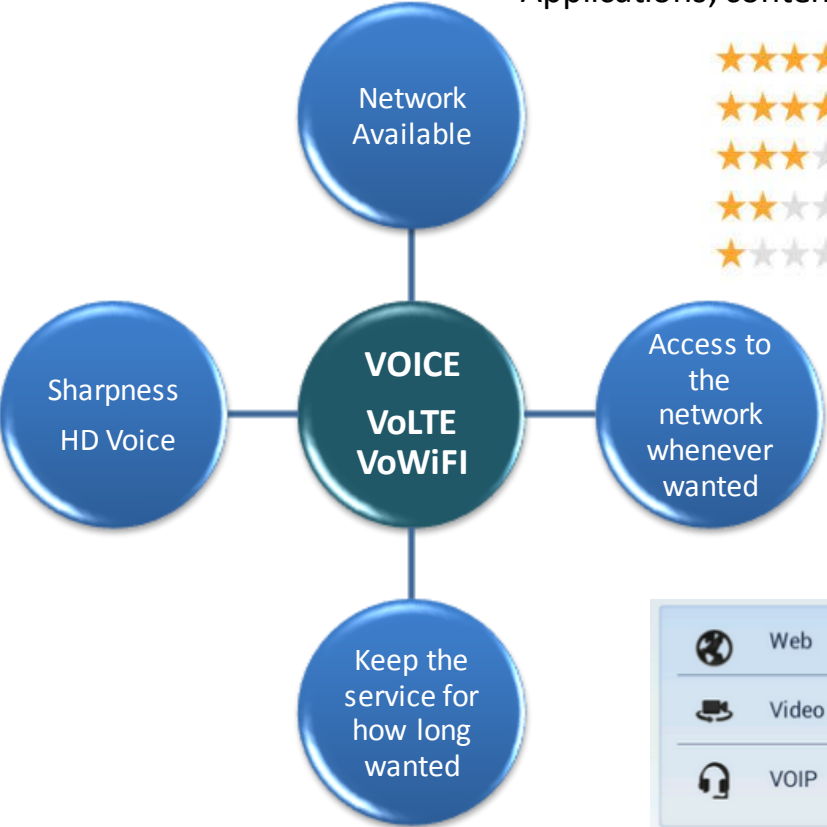
NETWORK VENDORS

What does our subscriber expect?
What must we do to surprise him?

Voice
- Network Available
- Keep the service for how long desired
- Access whenever wanted

Data
- Network Available
- Low latency
- Access whenever wanted
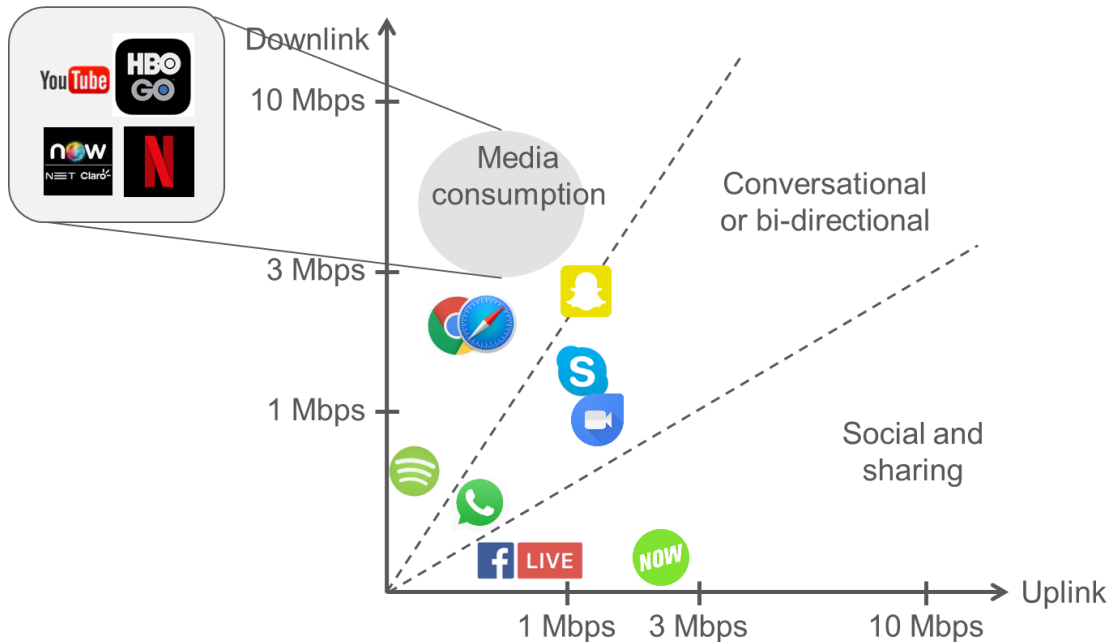- High Throughput (up/down)
- Keep the service for how long wanted
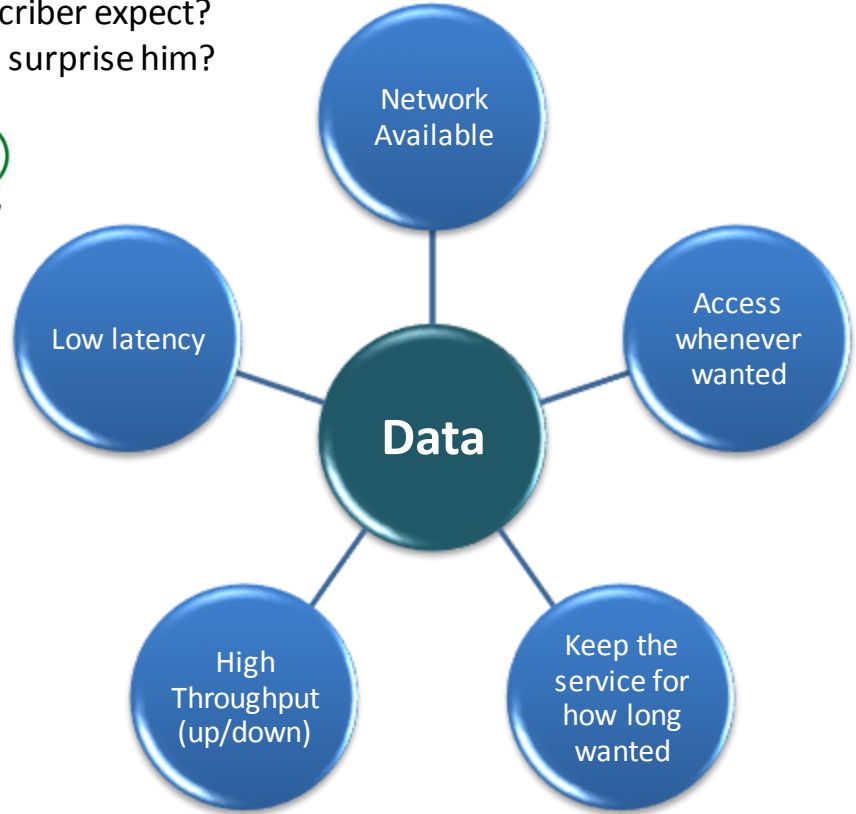
How to fulfill individual needs?
Applications, content and experience, instead of network only.

★★★★★ Loved it
★★★★☆ Liked it
★★★☆☆ It was ok
★★☆☆☆ Disliked it
★☆☆☆☆ Hated it

VOICE VoLTE VoWiFI

- Network Available
- Sharpness HD Voice
- Access to the network whenever wanted
- Keep the service for how long wanted

CONTENT Video

- HD, Full HD, 4K
- Network Available
- Access to the network whenever wanted
- No Stalls
- Keep the service for how long wanted
- Fast Download Time
- Low Latency
- High Throughput (Up/Down)

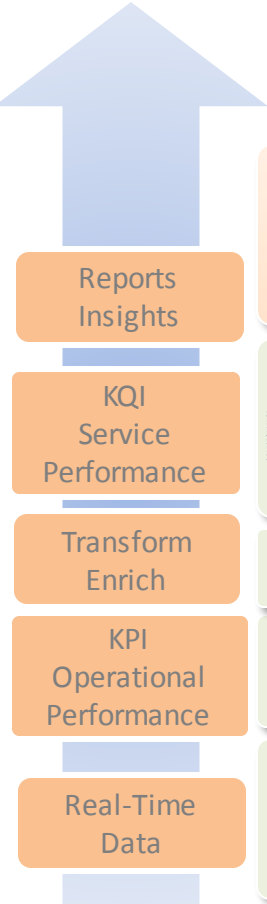|			
🌐	Web	★★★	
🎥	Video	★★★	
🎧	VOIP	★★★	

Referência: Ericsson Smartphone Lab (2016-12)

- Aplicativos de *mobile vídeo* demandam velocidades de download superiores a 3Mbps para carga de imagens e 'bufferização'

- Velocidades de *upload* inferior a 1Mbps para troca de *sinalização e ACK* dos terminais

E2E QoS Framework

Engineering, Operations, TI, Network, O&M, Customer Care, Marketing B2B, Marketing B2C, ...

End to End Management
Network Elements, Servers, storages, tools

Reports Insights

KQI Service Performance

Transform Enrich

KPI Operational Performance

Real-Time Data

Analytics

Dashboards & Visualisation
Dashboards
Executive Reports
Infographics
+ableau

ETL
hadoop
(probes)

Big Data
ORACLE
OSS   Tools

Data Source
streaming
logs
flow s
SNMP
CDRs
2G   LTE   3G

FCAPS

Media Server

Falcon Push
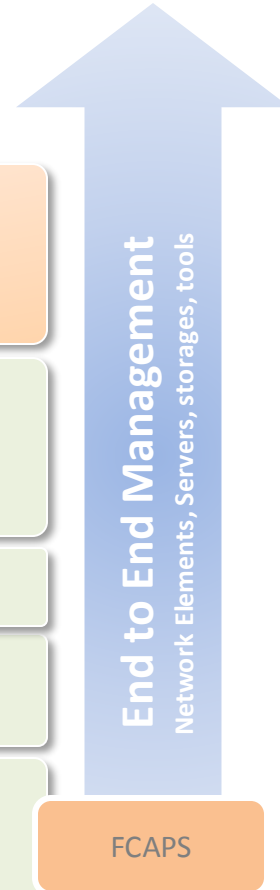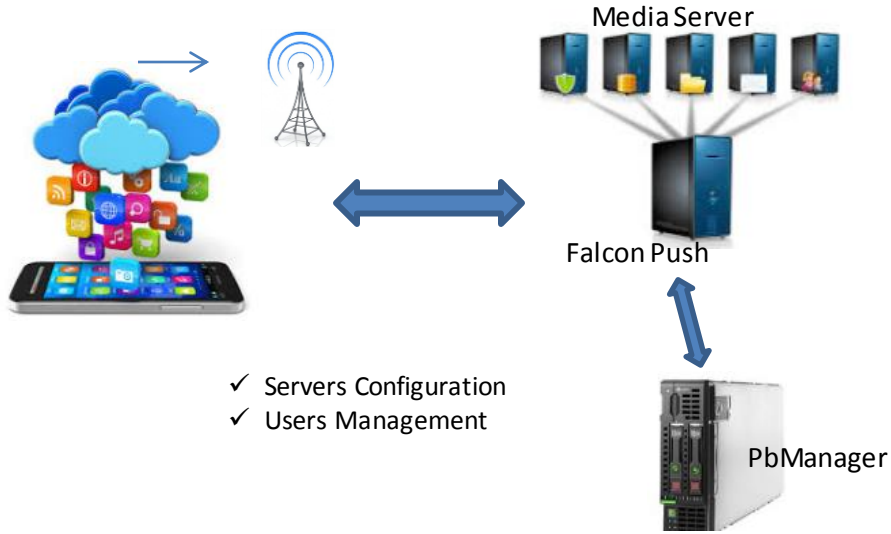
✓ Servers Configuration
✓ Users Management

PbManager

BIG DATA & ANALYTICS

- **Dashboards**
  - **NET**
  - **CLARO**
  - **Regulatory**

IMEI+CGI

Data Collection
IMEI = TAC

DB GSMA

Network Usage

TAC

Maker
Model
Tehcnology

Network Inventory

CGI

Station (Site)
Technology

CDR

Volume of
USAGE

Heavy User TABLE Mediation

IMEI+CGI

IMEI=TAC

DB GSMA

Maker
Model
Technology

Coverage 2G, 3G, 4G

**Classification
Heavy Users**

List of Heavy Users
City
GSM Data/Voice
GSM Only Terminals
Dual Sim Devices (2nd Slot)
Network – O&M, Provis.

CUSTOMER EXPERIENCE DRIVES SALES
In a transaction-based business, sales are driven by good customer experience.

ANNUAL REVENUE INCREASE PER CUSTOMER

CUSTOMER EXPERIENCE DRIVES MEMBERSHIP
In a subscription-based business, membership is driven by good customer experience.

PREDICTED FUTURE MEMBERSHIP (YEARS)

SOURCE MEDALLIA ANALYSIS   HBR.ORG

SOURCE MEDALLIA ANALYSIS   HBR.ORG

"delivering great experiences actually reduces the cost to serve customers from what it was previously. Unhappy customers are expensive — being, for example, more likely to return products or more likely to require support."

Pain points from the customer's perspective:

- Are **device or package** comparisons well communicated?
- Or are customers left confused by the **range of options** open to them?
- Are customers being forced to speak to **multiple agents** to solve a single query?
- Are **terms and conditions** – whether for insurance or for plans – well understood before a sale is completed?
- Do customers **call back** at a later date because they are confused by what they have bought?

Bain & Company *forecasts that companies* _excelling_ *in customer experience* _grow revenues_ *four to eight percent beyond the rest of their market.*
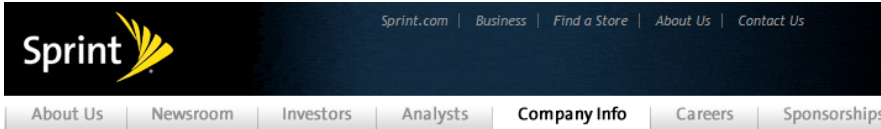
Our Customers

Priority: We will strive to dramatically improve customers' experience and earn their long-term loyalty

Throughout 2010, Sprint customers continued to see unprecedented, continuous improvement in their experiences thanks in large part to the Sprint Customer Care organization. Through having an unwavering focus on the customer, Customer Care focused on "upstream drivers" - the reasons why customers have called in the first place. During the year, Sprint built upon previous momentum in improving the customer experience, recording its 12th consecutive quarter of improved customer satisfaction and first-call resolution by year-end. During this time, retention of existing customers has improved at a rate faster than that of our competitors, while our overall cost of Customer Care operations decreased as billing adjustments and churn were significantly reduced.

- ☐ **feature Sprint.com** that provides notifications and alerts about customers' activity on their usage, billing, payment options, devices
- ☐ **family-focused microsite** on Sprint.com making it easier for parents to manage their children's wireless usage
- ☐ **Sprint Family Locator** will locate up to four phones, enable a parent to use a phone or PC to locate a child's device on a map.
- ☐ Sprint added new **customer-friendly capabilities to its online social-networking community** of more than 50,000 registered contributors

- ☐ **Sprint Free Guarantee:** If a new customer or an existing customer adds a line of service and is not completely satisfied, they are able to deactivate and return the device within 30 days.
- ☐ **Total Equipment Protection (TEP)** by offering a month-long open-enrollment period to any customer who did not enroll at the time of purchase.
- ☐ **Sprint Premier**, an exclusive loyalty program

2010 Results

1. Customer satisfaction, first-call solution and calls per subscriber all improved by more than 33%
2. The cost of Customer Care operations was reduced by more than 33%
3. Billing adjustments were reduced by 75%
4. Sprint customers' churn rate was reduced to less than 2%

Sprint customer churn has steadily improved since the first quarter of 2008.