The challenges facing mobile operators

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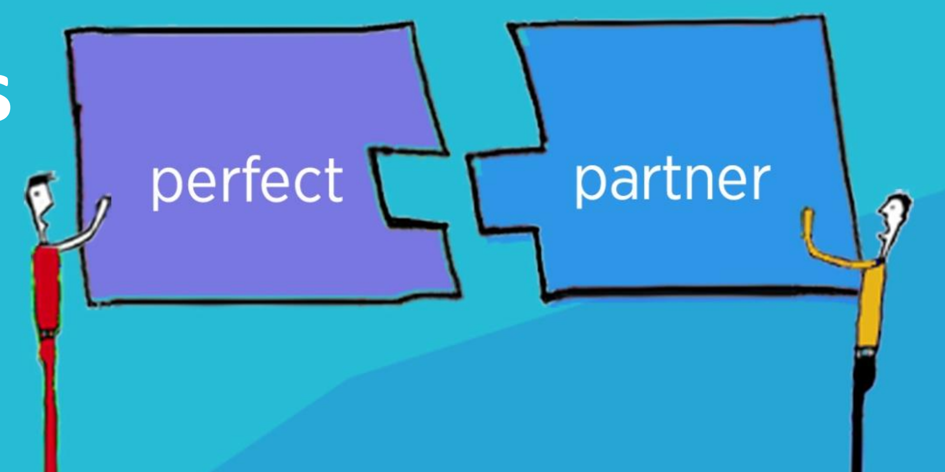
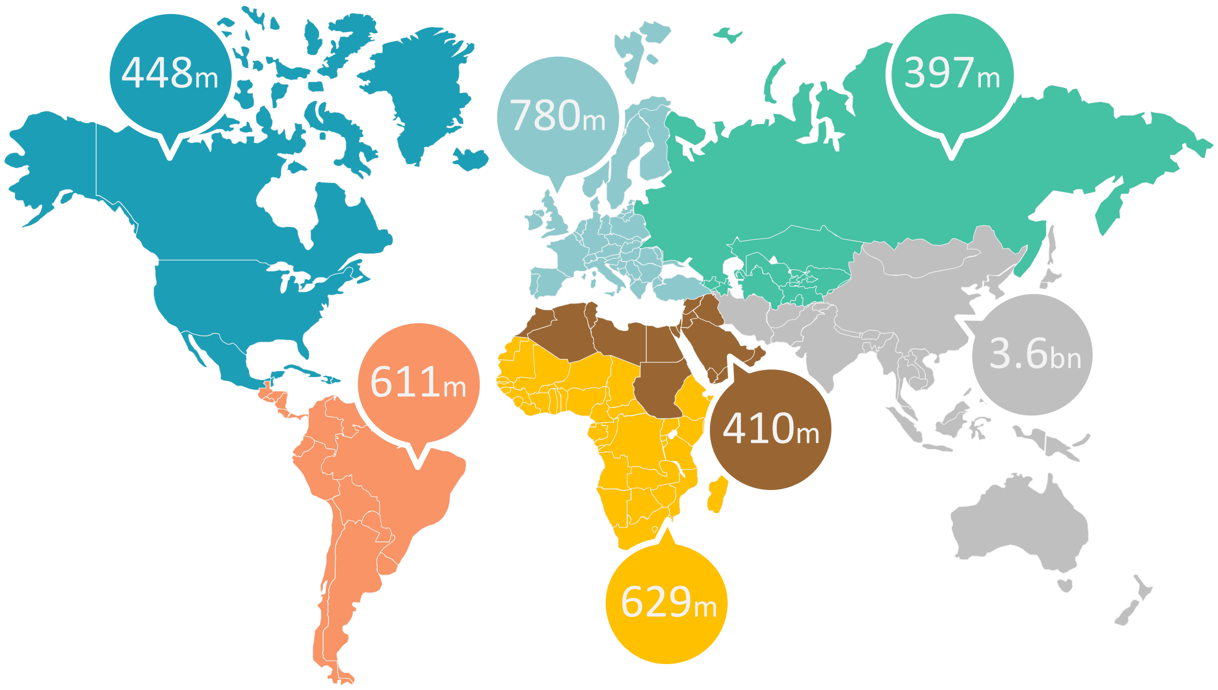
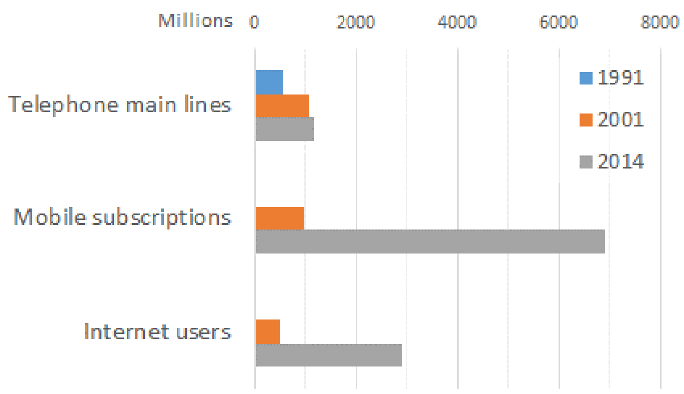
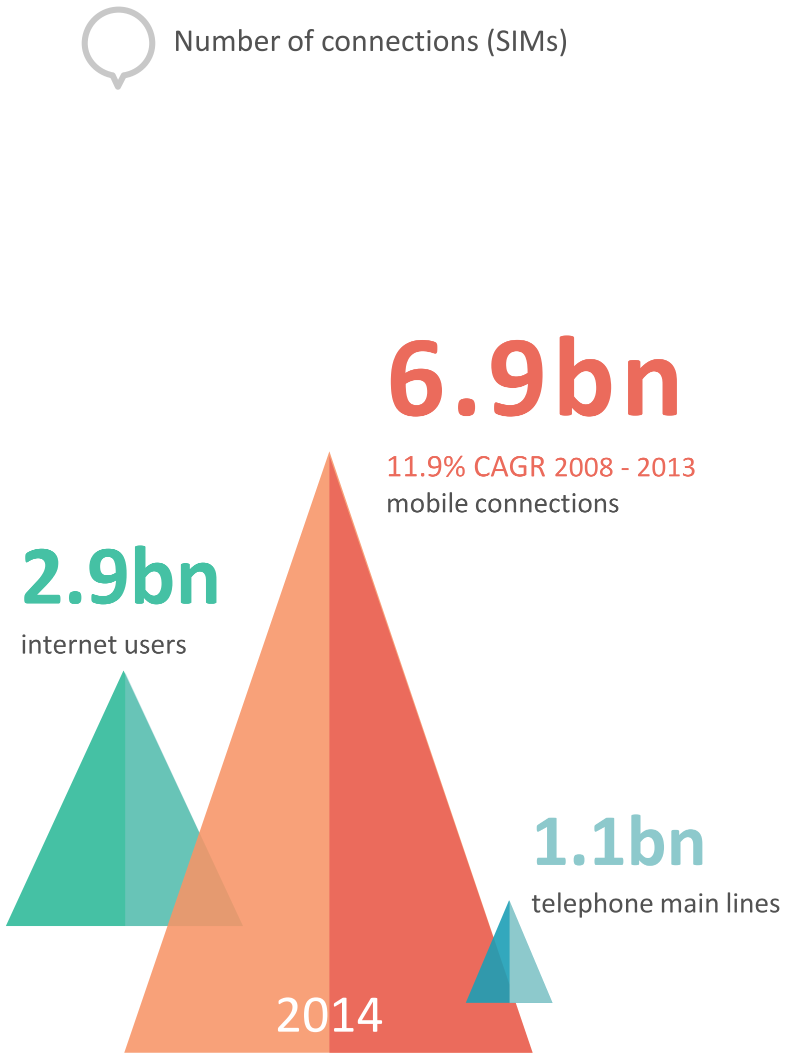


The growth of mobile communications…

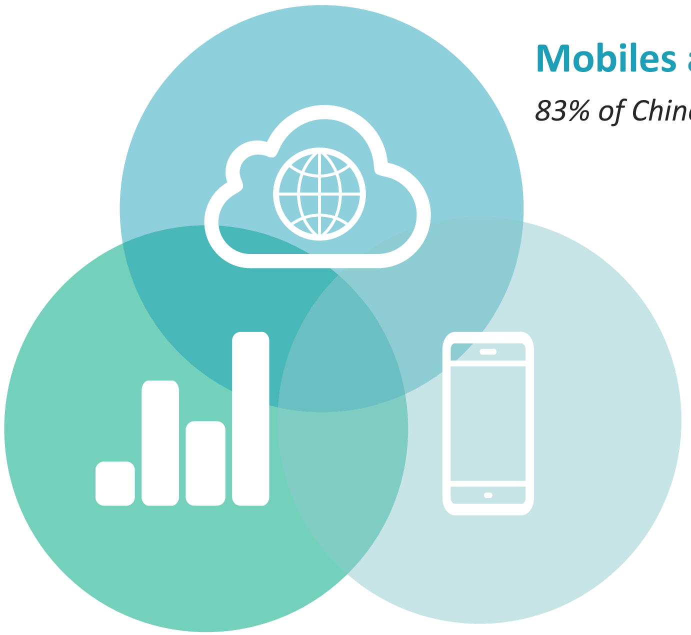






Source: ITU 2014 mobile connections & region definitions

Common themes globally …



Mobiles are driving Internet access

83% of Chinese users access the Internet via mobile

Driven by availability of cheaper smartphones: sub-US$99 devices already >25% of all shipments

>57% of global phone shipments are now smartphones

Hastened by rollout of fast 3G / 4G networks (& Wi-Fi) in most regions

Driving growing mobile data consumption worldwide

Globally, mobile data traffic in 2013 was equivalent to 39x the volume of traffic five years earlier (in 2008)

1.4 ExaBytes per month in 2013 (equivalent to 372m DVDs)

sources: China Internet Network Information Center, The Economist, Gartner, Cisco

... but regional differences

Europe – mature markets

Slowing migration to contracts from pre-paid

Always connected: 4G / Wi-Fi / Broadband

Growing adoption of *'triple & quad-play'* bundles

Enterprise unified communications & convergence

Growing digital commerce & machine-to-machine

Asia-Pacific – mix of growing & mature markets

Increasing migration to 3G & 4G services

Less than 100% penetration in most countries

Mobile devices are primary means of access to Internet

Cost of telecoms service & handsets are key considerations

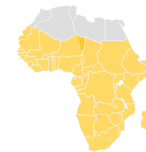
Arab States – growing ahead of global averages

Real contrasts between North Africa & Arab Middle East

Increasing migration to 3G / 4G services

Greater than 100% penetration

Mobile devices are primary means of access to Internet



Sub-Saharan Africa – low levels of penetration

Basic & feature phones dominate

Voice & SMS key services – access to information

But innovative e.g. Mobile banking (*m-Pesa Kenya*)

Cost of telecoms service & handsets are key considerations

North America – quasi-mature market

Majority customers on post-paid contracts with smartphones

But sub-100% penetration driven by high cost of services

Big consumers of voice, text & data

Significant digital commerce & machine-to-machine activities

South America – dynamic market

Greater than 100% penetration in most countries

Rapid migration to 3G, 4G in infancy

Mobile devices are primary means of access to Internet

… and significant variances in KPIs & forecasts

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Region	ARPU	Connections 2013	Connections 2020	Connections CAGR 2013-20	% 4G by 2020	Data GB/mth	Data CAGR 2013-18	Minutes 2013	Texts 2013	% PAYG 2013
EUROPE (EXCLUDING TURKEY)	$18.3	689m	762m	1.4%	53%	0.7	47%	151	125	60.2%
N.AMERICA (EXCLUDING MEXICO)	$49.1	341m	398m	2.2%	75%	1.0	44%	628	467	37.0%
S.AMERICA (INCLUDING MEXICO)	$9.7	694m	890m	3.6%	80%*	0.31	35%	173		78.3%
ASIA-PACIFIC	$9.3	3.4bn	4.8bn	5.0%	28%	0.15	57%	334		82.3%
SUB-SAHARAN AFRICA	$6.6	564m	947m	7.7%	52%*	0.10	58%	112		95.4%
ARAB STATES (BLENDED N.AFRICA & MIDDLE EAST)	$11.5	400m	529m	4.1%	63%*	0.19	70%	300		90.0%

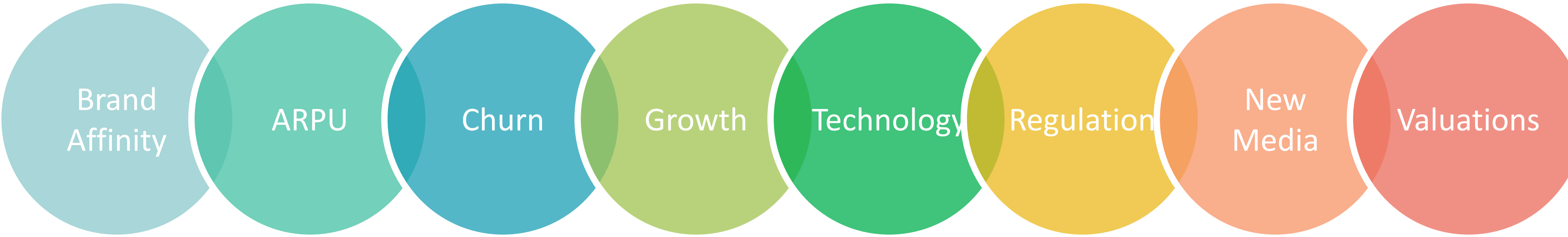
S.America: * 3G & 4G by 2020

Sub-Saharan Africa: * 3G only by 2020

Arab States: * 3G & 4G by 2020

sources: GSMA 2013 / 2020 figures & regions, CISCO VNI to 2018 for forecast data growth

Inter-related challenges…



Inter-related challenges…

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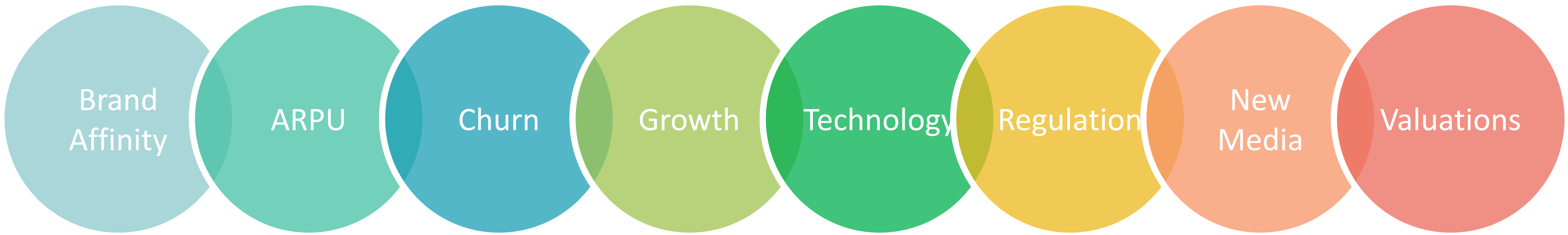
Brand Affinity | ARPU | Churn | Growth | Technology | Regulation | New Media | Valuations

Who is more important to consumer?

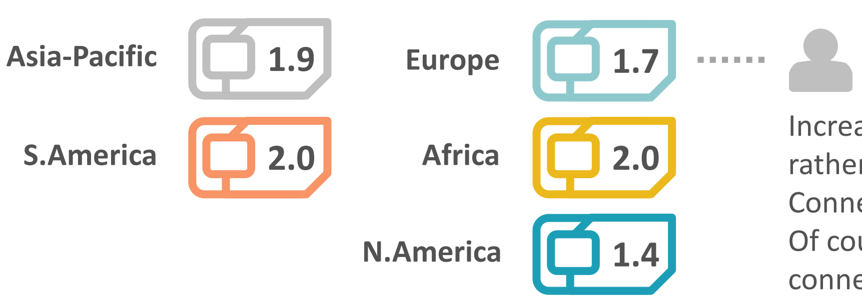
Relevance of operators’ brands & consumer perceptions

Inter-related challenges…



Pressures on Average Revenue per ‘User’

Declining in most markets & likely to continue
Significant competition, especially in mature markets
Regulatory interventions
Voice & text substitution



connections (SIMs) per customer

Increasing focus on **Average Revenues per Customer** rather than per User which traditionally meant per Connection (SIM)
Of course can’t guarantee these SIMs are all connected to the same network – and anonymity of pre-paid makes it difficult to link SIMs with customers

Inter-related challenges…

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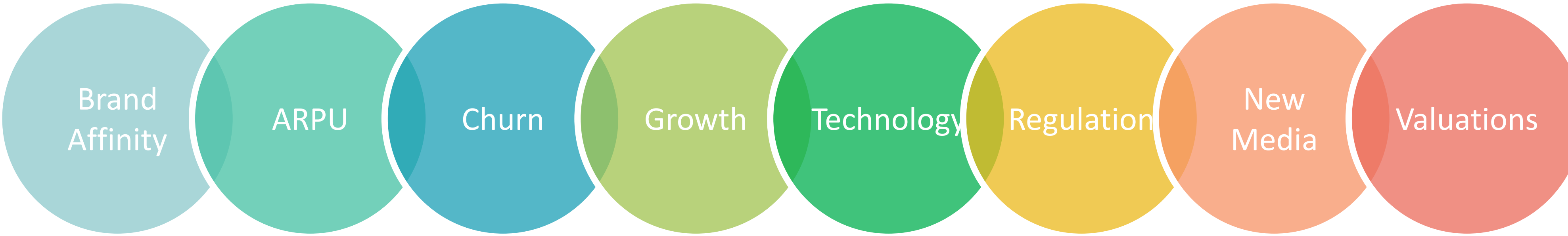


Managing churn (customers leaving)

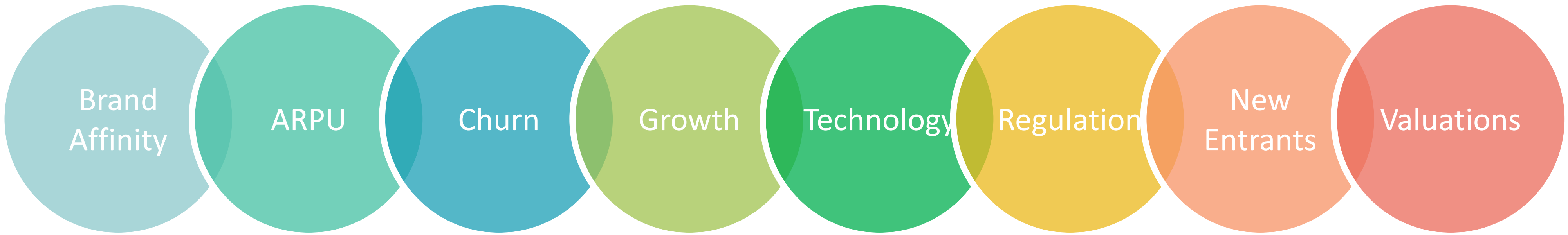
Driven by quality of service, devices, pricing & competition
Pay-as-you-go customers less loyal
Mobile number portability simplifies moving
Effectiveness of retention strategies
Rise of SIM-only offers (& soft SIMs)

Pre-paid vs contract churn

1 in 7
customers churn annually
N.America: 37% PAYG

3 in 7
customers churn annually
S.America: 78% PAYG

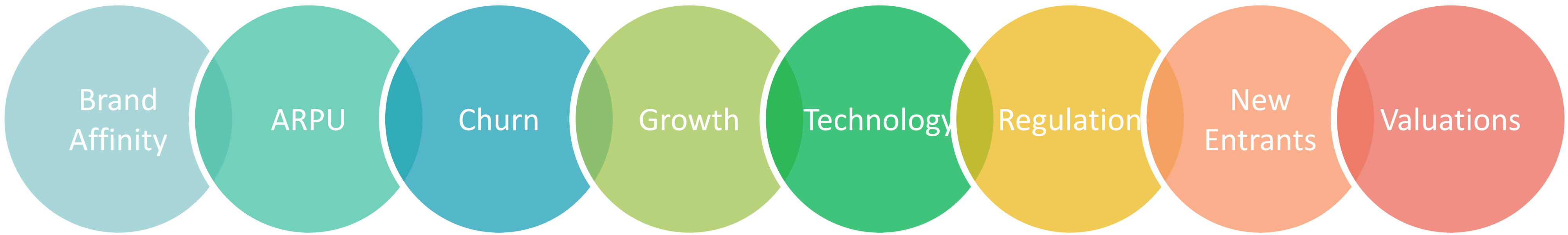
Inter-related challenges…



Where will growth come from?

Pay-As-You-Go to Contract migration:
(limited by domestic banking, credit & tax rules)
Organic growth versus M&A?
Product innovation
Smart-devices, Internet of Things & new M2M apps

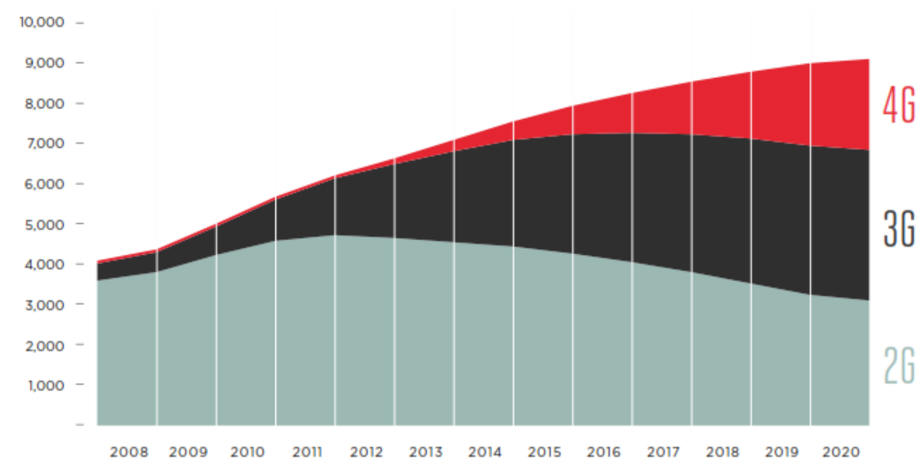
Inter-related challenges…



Technology choices

Migration to 4G / LTE (& 3G UMTS)
Capital investment needs
Cost of spectrum if auctioned
Managing convergence: fixed, mobile, broadband, media
How to manage forecast growth in data consumption
Network sharing & outsourcing

Global connections by technology



source: GSMA

Inter-related challenges…

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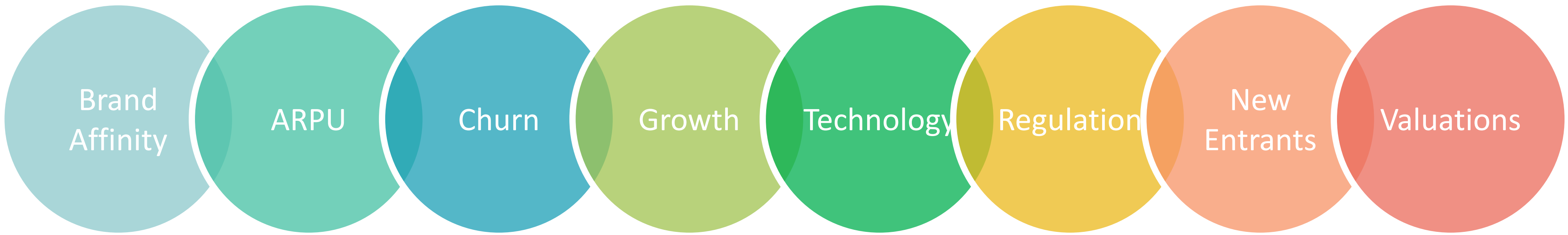
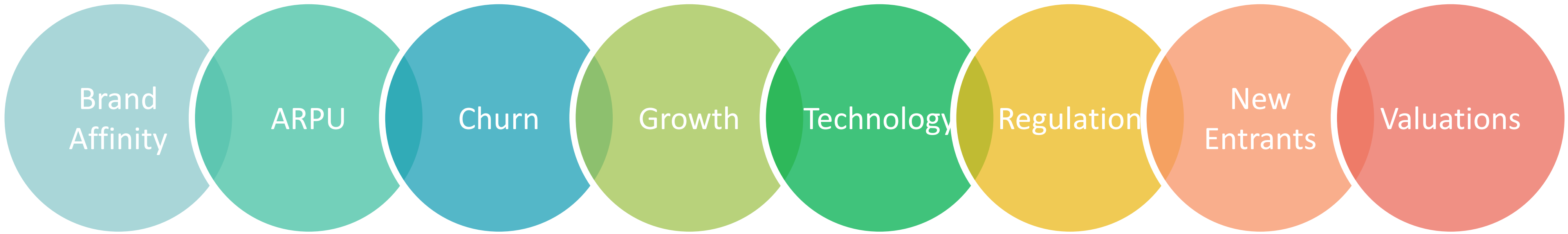


Regulatory predictability & impact

Reduction in mobile termination rates
(charges paid or received to terminate a call: 'hidden' revenue)
Roaming regulations: *'Roam like at home'*
Net neutrality rules: *can't charge more for Facebook access*
Spectrum auctions
Mandated Mobile Virtual Network Operators
Taxation rules

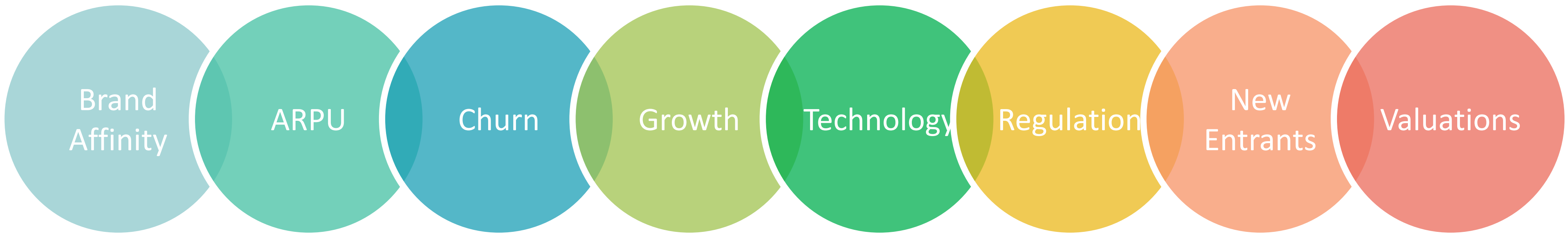
Inter-related challenges…

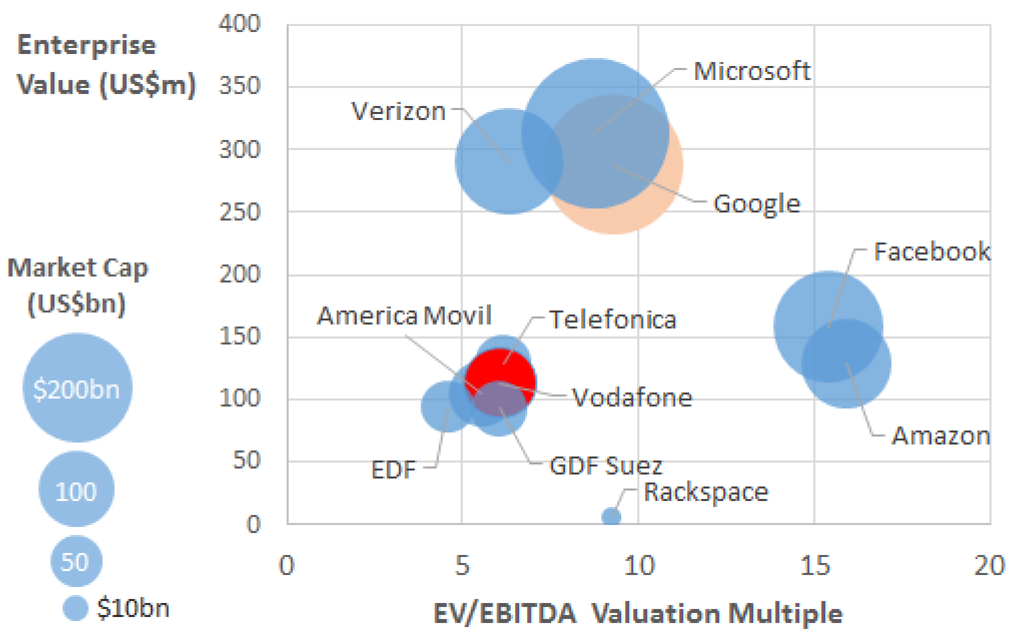


Competition from new players

Rise of the new media companies: disintermediation
Downstream integration by Google & Amazon into devices
Upstream content & media delivery, mobile payments, cloud services
Voice-over-IP & messaging services
(*'OTT' services from Skype, Snapchat etc eroding traditional income*)
Who funds infrastructure to support rising data demands?

Inter-related challenges…





Enterprise values of utilities

Valuation multiples (‘*EV/EBITDA*’) lower than many new entrants
Impacts market capitalisation & ability to undertake M&A

A mobile operator’s business model…

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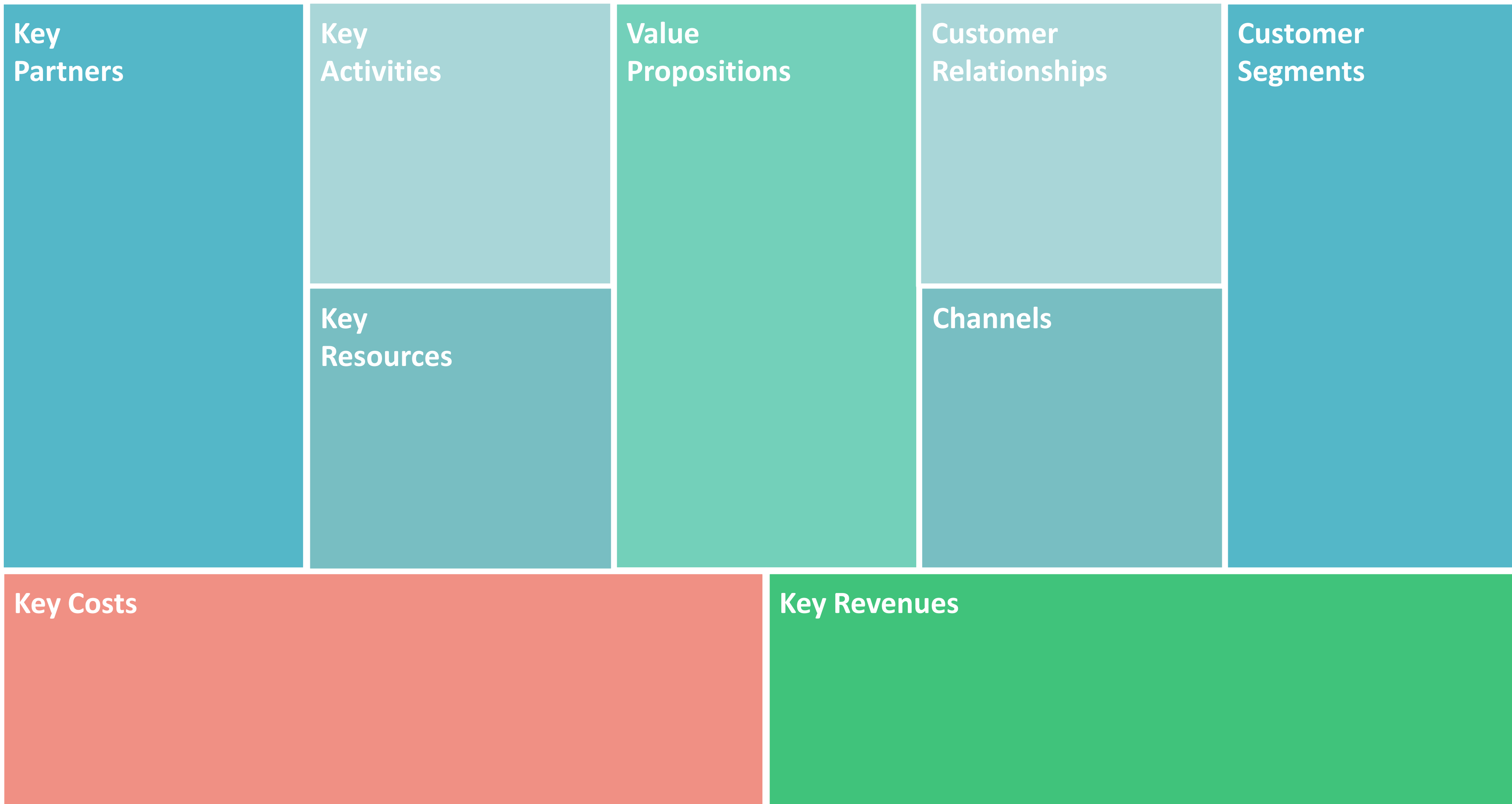


A mobile operator's business model…

Key Partners

- *Handset & equipment vendors*
- *Other carriers*
- *Distribution partners*

Key Activities

- *Product marketing*
- *Operations*
- *Logistics*
- *Carrier relations*

Key Resources

- *Product managers*
- *Operations*
- *Billing*
- *Customer care*

Value Propositions

- *Service bundles*
- *Multi-product bundling*
- *Value Added Services (e.g. money transfer)*
- *Loyalty schemes*
- *Segmented offers*

Customer Relationships

- *High-touch*
- *Customer care*
- *Agents*

Channels

- *Direct & online*
- *Indirect resellers*
- *MVNOs*

Customer Segments

- *Consumers*
- *Enterprise*
- *Wholesale (MVNO)*

Key Costs

- *Selling & distribution*
- *Network maintenance & investment*
- *People*
- *Marketing*

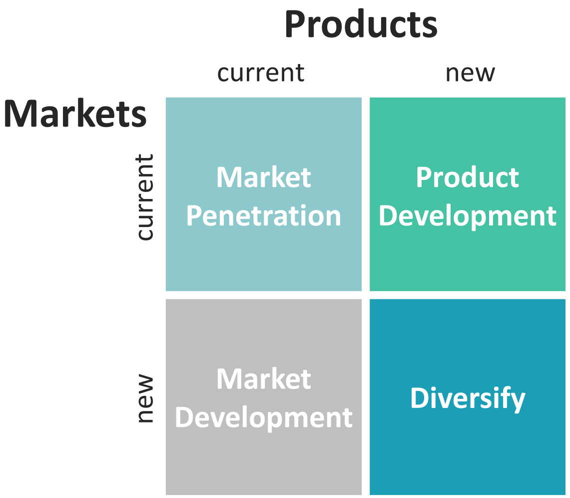
Key Revenues

- *Pay-As-You-Go top-ups*
- *Post-paid service revenues*
- *Wholesale revenues*
- *Mobile termination revenues*

$ Revenue

- *Voice 60 – 90%*
- *Data 10% - 40%*

Potential strategies



Drive growth

Bundling of services to grow 'share of wallet'
Launch differentiated products: make relevant
Focus on key segments:
enterprise – require convergence & single sourcing

Reduce costs

LTE offers lower '*$ per bit*' costs – *but still have legacy 2G / 3G*
Offload data: for example onto Wi-Fi – *get someone else to pay*
Automate & drive self-service
Outsource or share operations

Acquisitions / enter new markets

Convergence: mobile + fixed
Enter new markets through acquisition or MVNO
regulatory hurdles & market remedies
significant barriers to entry
market sentiment & ability to buy