Alternative Business Models for Telcos in Content and Applications - "Smart Pipe" and "OTT" –

GOETHE UNIVERSITÄT FRANKFURT AM MAIN

Presentation for the "Mobile Business" Course at the University of Frankfurt

February 08th , 2010

Consulting DETECON

Deutsche Telekom Group

Contents

Detecon

We are a company specialized in providing ICT management consulting services with the infrastructure of a global player.

We are **established**, with more than 50 years of consulting know-how

We are **experienced**, thanks to the success-ful realization of more than 6000 projects

We are **international**, with worldwide representation, clients in 165 countries, and employees from more than 30 nations

We are **part of a globally active shareholder**, Deutsche Telekom AG

Detecon

Our Branch Offices

Numerous branch and project offices assure proximity to the client and global know-how in all our work.

The Detecon Branch Offices

Established:

1954 Diebold
1977 DETECON
2002 Detecon International GmbH

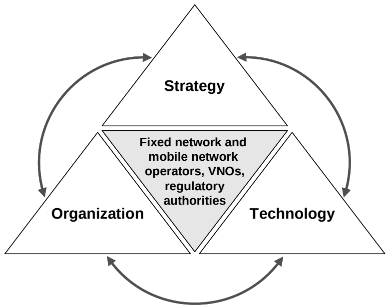
Shareholder:

T-Systems International GmbH

Company Profile

Our Consulting Approach

We provide the management of ICT companies with advice on the issues of strategy, organization, and technology design.



Strategy & Marketing

- Business Development & Innovation
- Corporate Strategy
- Marketing & Sales Strategies
- Wholesale & Regulatory Strategies
- Corporate Finance
- Launch Management
- Bid Book

Operations

- Process & Organizational Excellence
- Transformation Management
- Interim Management
- Human Resource Management
- Customer Relationship Management
- Procurement & Supply Chain Management
- Financial Processes & Applications

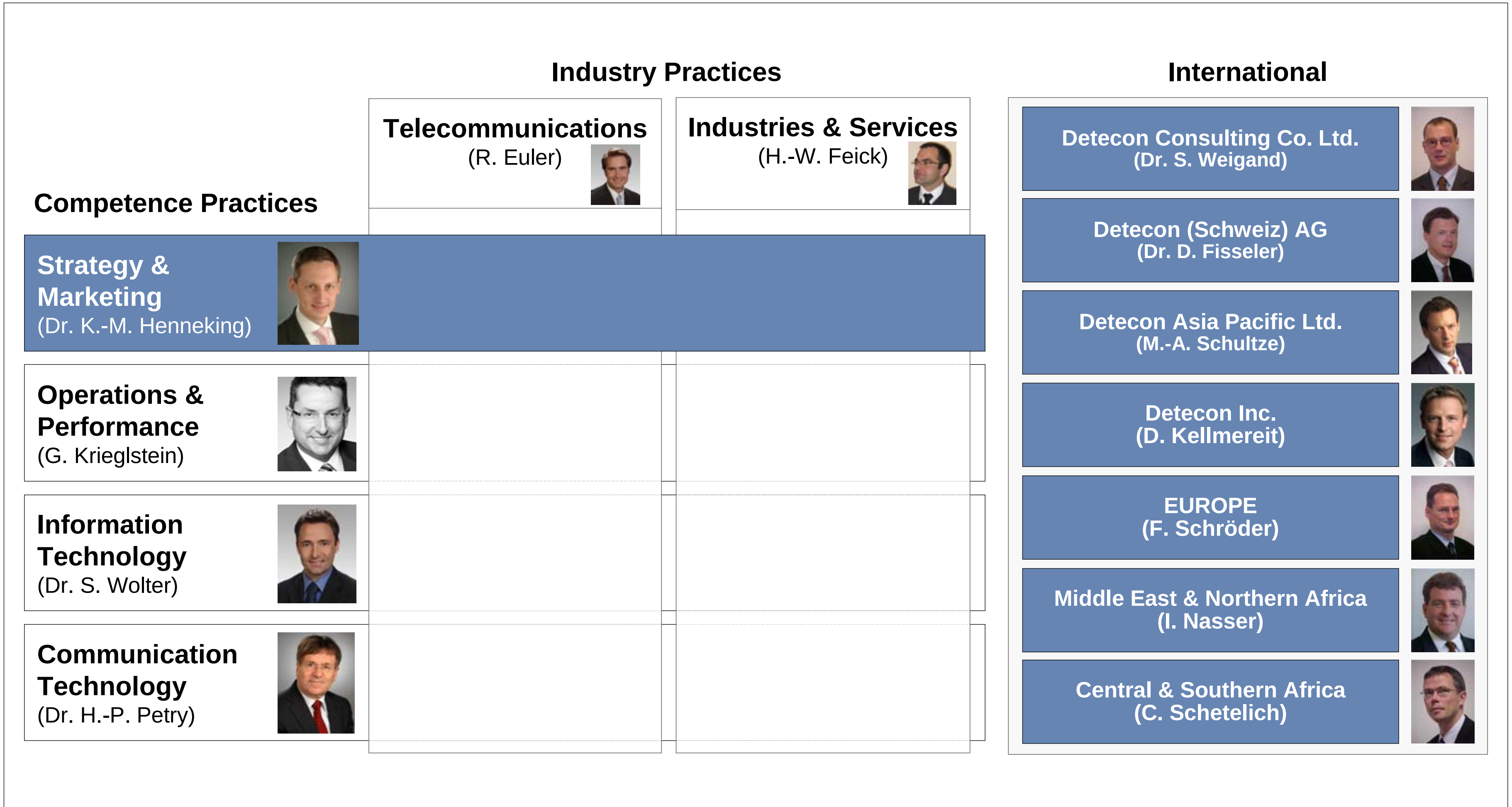
Technology Management

- ICT Strategy & Organization
- Technology Innovation Management
- Enterprise Architecture Strategy & Mgmt.
- Enterprise Application Strategy & Mgmt.
- Enterprise Service Management, Security & Sourcing
- Enterprise Infrastructure Management
- Transformation & Program Management
- Next Generation Network Service Architecture
- Network Performance & Implementation Management
- Network Architecture Strategy
- Network Operation Efficiency & Security

Practice "Strategy & Marketing"

Detecon company architecture

The practice "Strategy and Marketing" is an integral part of Detecon's industry-specific and competence-driven client approach.



Practice “Strategy and Marketing”

Practice group areas of competency

More than 120 management consultants, specialized in eight competence fields, form the backbone of our practice.

Telco Strategies
- Market Entry
- Internationalization
- Growth
- Turnaround Strategies

ICT Product Innovation
- Innovation Management
- Product Launch Management
- Portfolio Management

Business Innovation
- Innovation Management
- Content & Multimedia Strategies
- HRD/Skill Management

Strategic Marketing
- Marketing Strategies & Plans
- Market Intelligence & Modeling
- Value Proposition Management
- Pricing Strategies & Optimization

Wholesale Strategies
- Wholesale Business Development
- Portfolio Design & Development
- Costing / Tariff development
- Wholesale Capability Development

Sales & Distribution
- Consumer Sales & Distribution
- Business Sales & Partnerships
- Sales Performance Management

Corporate Finance
- Transaction Services
- Performance Engineering
- Corporate Financial Management

Regulatory Affaires
- Sector Policies & Legal Drafts
- ICT Development Strategies
- Regulatory Organization & Instruments

Practice “Strategy and Marketing”

A selection of our clients

Clients from over 100 countries have already benefited from our consulting services.

Content

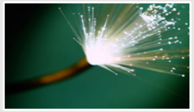
New Business Models for Telcos

Telco Challenges & Opportunities – Content & Applications

Successful carriers leverage today's ICT opportunities and face their challenges by a clear strategic positioning towards content & applications, the major future growth driver

Telco Opportunities

Bandwidth expansion



Internet mobilization

Industry convergence

Increasing Digitalization of Life

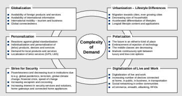
Internet of Things

Telco Challenges

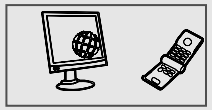
Saturation and price decline of legacy services

More and new type of competitors

Complexity and long tail of Demand



Fixed/ Mobile Integration



Cost efficiencies & synergies**

** C&A = Content and Applications*

New Business Models for Telcos

Internet services as main growth driver of telcos – here: DT as an example

The non-access business (“Internet Services”) is part of DT’s growth segments. Target is to increase current revenue volume from € 0.8bn to € 2-3bn in 2015.

“Internet Services” as DT’s Growth Segment No. 1

Growth segments of Deutsche Telekom	2009 Revenue in billion EUR		2015 Revenue in billion EUR Ambition level	
Mobile Internet	4	→	~ 10	➡ +250%
Connected home Double & triple play, home gateway and communication suite	5	→	~ 7	➡ +140%
Non-access business	0.8	→	2-3	➡ +375%
T-Systems (ext.) incl. cloud services	6	→	~ 8	➡ +133%
Intelligent network solutions in energy, healthcare, media distribution, connected car	0	→	~ 1	

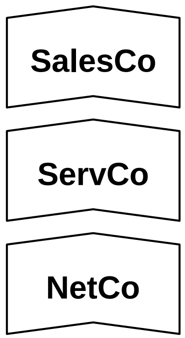
Source: R. Obermann, press workshop (March 17, 2010)

**Estimation*

New Business Models for Telcos

Alternative Strategies for Content & Applications

Three different strategies to market C&A: The Bit pipe requires "scale & efficiency", the Telco ISP "scope & flexibility" and the Smart Pipe "extensive partnering capabilities".

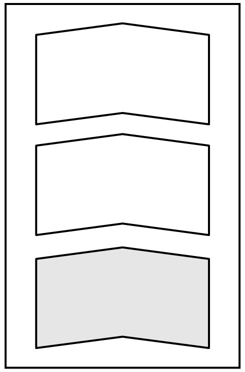


Telco

Non-Telco

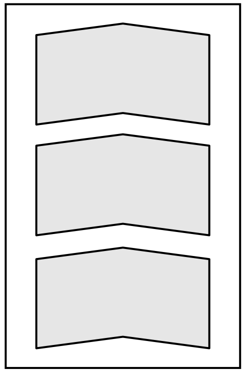
Partnering

Bit Pipe



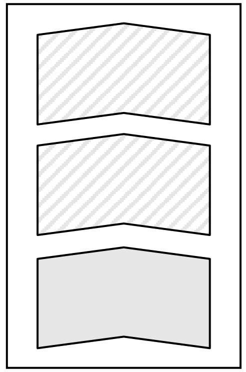
- Telco offers open internet only. C&A are independently sold by e.g. OEMs, WebCos, Content Providers and ICT Players.

Telco ISP/ B2C



- Telco runs business with own C&A. This model could be positioned as full competition towards OTT players or as a co-opetition model embracing such as 3rd parties.

Smart Pipe/ B2B2C



- Telco leverages core capabilities, i.e. enabling services and builds strong partnering models to offer enhanced value propositions regularly through B2B2C models.

Evaluation

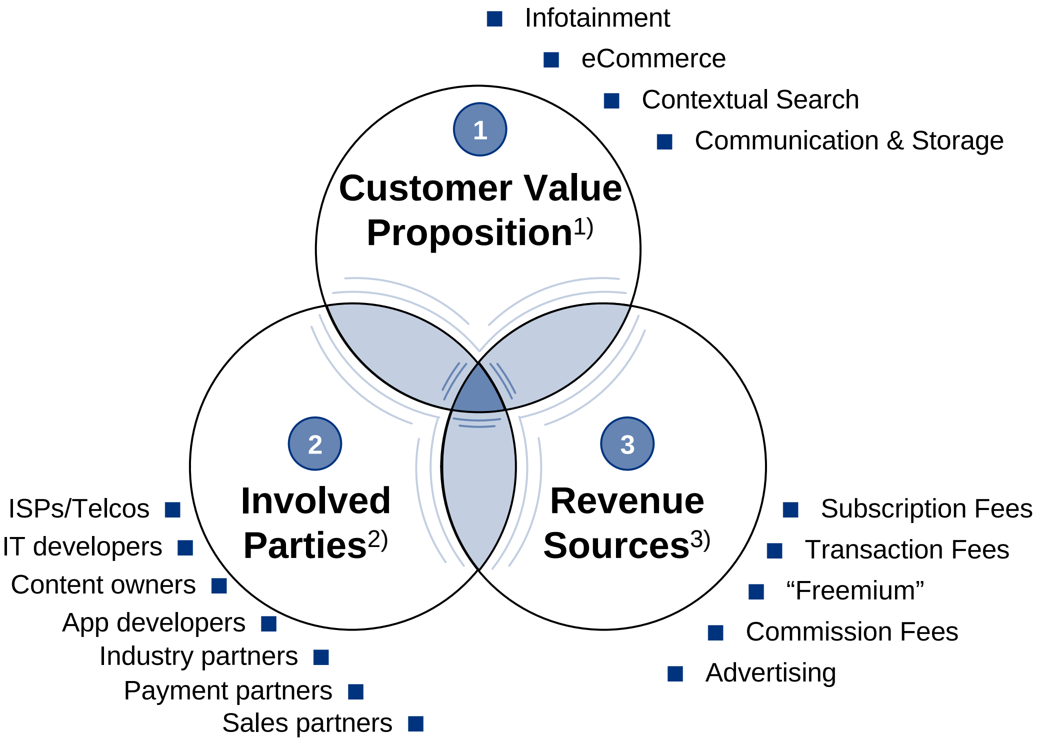
- Bit Pipe: Due to flat rates and VoIP in the mid-long term EBITDA margins of pure bit pipe telcos will decline inevitably. Feasibility requires international scale.
- Telco ISP/ B2C: Requires a highly flexibly and dynamic governance model contrary to many telco's main business. Not sufficient to face the future challenges.
- Smart Pipe/ B2B2C: In the mid-to-long term the only promising model that needs to be implemented next to bit pipe.

New Business Models for Telcos

Classification of internet service business models

The multitude and complexity of business models – regardless Telco/ISP or Smart Pipe – can be generically described by three modules and their respective elements.

Modules & Elements of Internet Service Business Models



Details

Customer Value Proposition
Description of the total benefits which the Internet Service promises its potential end customer alongside the four categories infotainment, eCommerce, Communication & storage, contextual search

Involved Parties
Outline of interactions (flow of services/ flow of payments) between all participants that are essential for fulfillment.

Revenue Sources
Design of the revenue streams across the involved parties. Typical models are subscription fees (fixed per period), transaction fees, commission fees (for successful sales), advertising (portals with ad sponsored content)

1) Categories based on P&I *2) Exemplary list of players for illustration* *3) List of most relevant revenue sources (non-exhaustive)*

Content

2. **Telco/ISP**

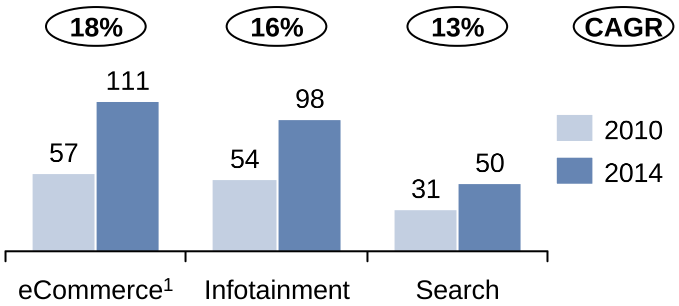
Telco/ISP

Key trends in internet services

The future of internet service markets worldwide is shaped by increasing competition of different players with tendencies towards internationalization and consolidation.

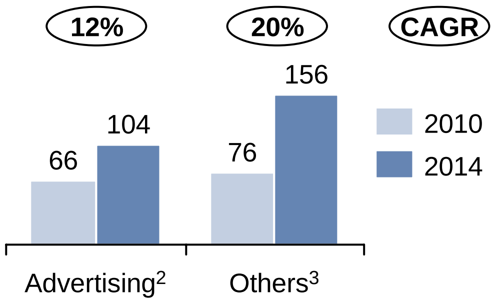
Revenues per Internet Service Type

Worldwide in USD bn



Revenue Sources

Worldwide in USD bn



Trends

Market development:

- **Services**: eCommerce with highest CAGR and revenues in 2014, followed by Infotainment and Search.
- **Revenue Sources**: Global online advertising revenues will reach USD 104bn in 2014. Subscription, transaction and commission based revenues account for a larger share of approximately USD 156bn.

Competition & business strategies

- **International expansion**, e.g. Groupon, Facebook
- **Diversification**, e.g. Google acquired 29 web companies since 2010, Amazon acquired 6, Yahoo 4, ebay 2
- **Market consolidation**
- **Integration of business models**, e.g. Groupon & Facebook, Pay with a Tweet
- **New competition** by retail chains, manufacturers/labels opening own online stores.

Source: PWC 2010, J.P. Morgan 2011 1) Calculated as % of retail revenues, % value based on Amazon's average commission rate 2) Based on total online advertising market 3) E.g. subscriptions/transactions fees, commissions - based on Infotainment, eCommerce and Search only – other service categories excluded

Telco/ISP

Example: Deutsche Telekom's ISP business - Did you know?

DT already has been embracing the ISP business model for many years. Most of them are run as independent entities. Communities are not part of the portfolio …

	Infotainment	eCommerce	Communication & Storage	Search
Germany	musicload, GAMESLOAD, softwareload, videoload	t-online.de Shop, JOB, FINANCE, TRAVEL, FRIEND SCOUT24, IMMOBILIEN, AUTO, ELECTRONIC, SCOUT24		DeTeMedien, Das Telefonbuch, Das Örtliche, Gelbe Seiten, suchen.de
Slovakia	topky.sk, Pauzička.sk, o Žene.sk, môjdom, Zoznam.sk, autoviny, dromedar.sk	Zobchody.sk, Kariéra.sk	Zoznam.sk email, free.sk	
Croatia	tportal.hr, fonoteka, MAX tv, MAXzona	Shopping centar		
Hungary	[origo] filmklub, [origo] tudomány, [origo] autó, [origo] tévé, [origo] sport			
Greece		ΓΕΡΜΑΝΟΣ		

DETECON

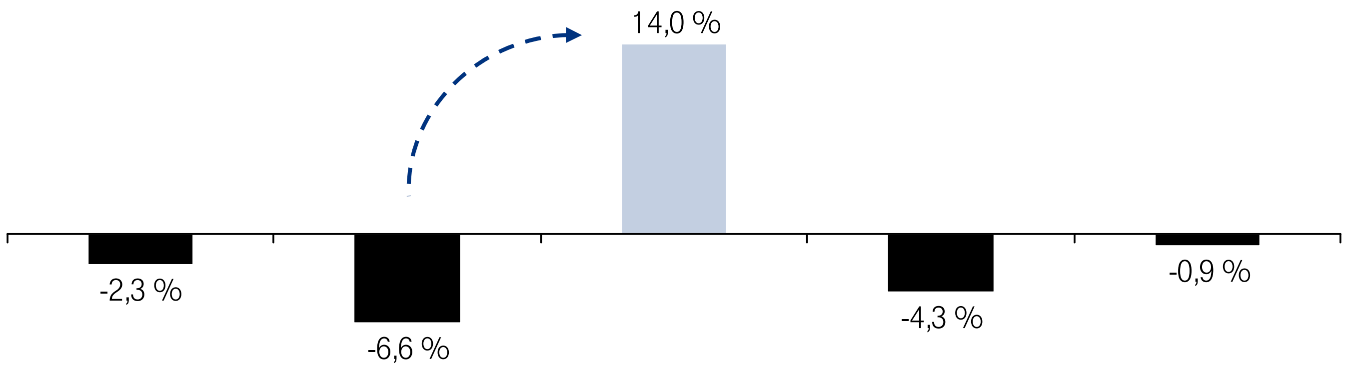
Telco/ISP

Key trends in internet services – social communities as new category

But internet users are shifting their time spent online in favor of communities, which are integrating communication features.

Changes in Consumer Engagement Online (05/2009 vs. 05/2010)

Shift in Share of Time spent online



Distinct Category	**Commerce**	**Communications**	**Community**	**Content**	**Search**
Web Sites & Internet applications that…	...are designed for shopping online	…are designed to facilitate the exchange of thoughts, messages, or information directly between (groups of) individuals.	…combine UGC + communications in order to foster relationships between (groups of) individual members.	…are designed primarily to provide news, information and entertainment.	…scan the Web to provide prioritized results based on specific criteria from user-generated requests.
Examples	amazon.com, ebay, Dell, Shopping.com	Yahoo! Mail, msn, AIM	facebook, myspace.com	CNN, ESPN, mapquest, Windows	msn, Google, Yahoo! Search

[1] *Source: Online Publishers Association (OPA) and Nielsen Online, Internet Activity Index (IAI), Share of Time Spent Online 09/2009 - 05/2010 (Share of Time data based on Total Time values: 2,500 millions of hours (May 2009); 3,154 millions of hours (May 2010))*

Telco/ISP

Successful business models - Caselet: Groupon

Groupon generated ~ US$ 500mn in 2010. Its successful international expansion[1)] led to a recent 6bn take-over offer by Google, but has been rejected.

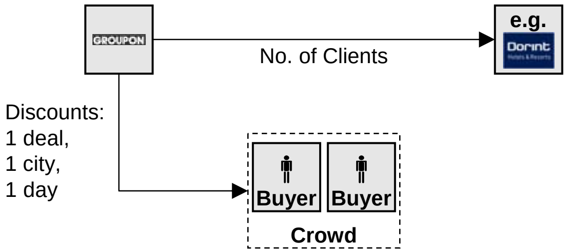
eCommerce Example: Groupon

Value Proposition

GROUPON
Collective Buying Power

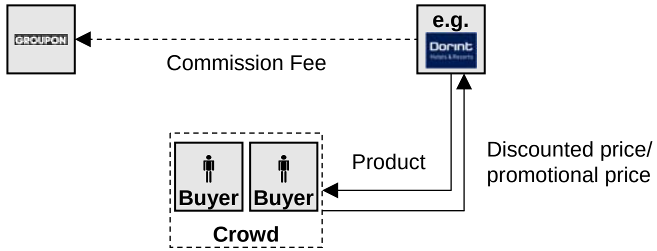
- **Deal-of-the-Day:** Groupon offers its members one "Groupon“ per day in each of the markets[1)] it serves.
- **Purchase:** If the offer fits the members’ interest, they purchase the “Groupon” and fetch a great discount.
- **Disclaimer:** Groupon guarantees the discount as soon as a minimum number of clients signed up for it.

Involved Parties



- **Groupon:** The provider acts as a broker which brings offerers and groups of consumers/buyers together.
- **Industry partner:** Companies apply at Groupon to offer their products (health & beauty, clothing, hotels, restaurants) to “quasi groups” at discounts.
- **Members:** Purchase becomes effective as soon as the defined group size has been reached.

Revenue Sources



- **Revenue Share:** Groupon takes a commission fee after the successful promotion..

1) As of Oct. 2010, Groupon serves more than 150 markets in the US and 100 markets in Europe, Asia and South America.

Telco/ISP

Successful business models - Caselet: Quirky

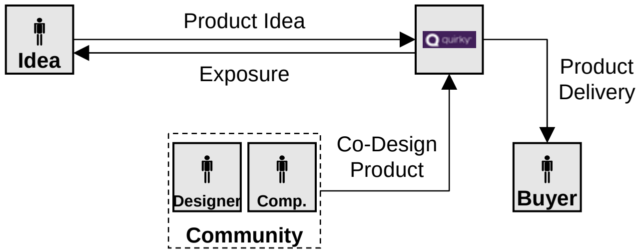
‘Open Innovation’, ‘Crowd-Sourcing’, ‘Instant Market Research’ – Quirky is a community to socially develop physical products; e.g. +500 people co-designed 1 new iPad stand[1].

Community Example: Quirky

Value Proposition

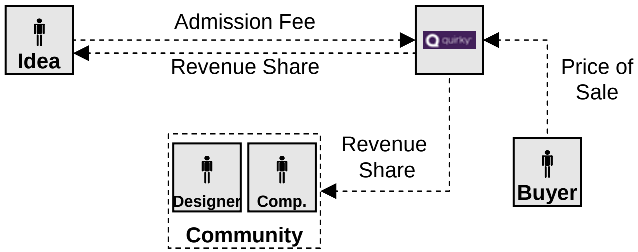
- **Submission:** Members can submit their own product ideas to the community which weigh in on them.
- **Influence:** Community-members can express their opinions and influence current product developments.
- **Purchase:** Already launched products are purchasable at Quirky.com.

Involved Parties



- **Quirky:** Based on the community’s feedback, the in-house team develops, produces & sells the products.
- **Product Idea Initiator:** Members submit and co-design product ideas within the community.
- **Buyers:** Also non-community-members can purchase launched products at Quirky.com.

Revenue Sources



- **Admission Fee:** The idea initiator pays an admission fee to Quirky after the exposure.
- **Purchase Price:** Quirky charges the regular purchase price in full.
- **Revenue Share:** The idea initiator gets a revenue share as well as members which contributed value.

1) *quirky.com/products/30-Cloak-iPad-Case*

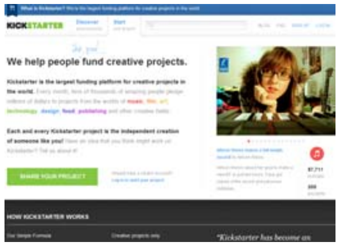
Telco/ISP

Successful business models - Caselet: Kickstarter

Kickstarter offers a marketplace for crowdfunding specialized for creative projects. In 2010, there were ~4,000 successful campaigns with an average funding of $10,000.

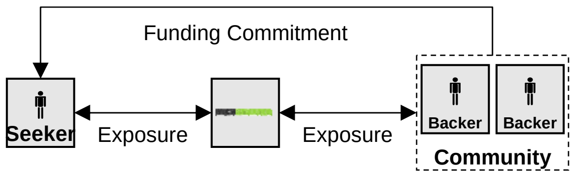
Brokerage Example: Kickstarter

Value Proposition



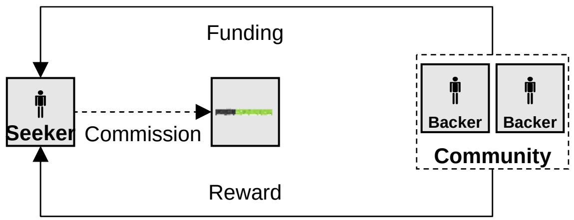
- **Fundraising:** Seekers post some basic exposure of their project ideas to attract interest of ‘backers’.
- **Investment Scouting:** Investors can search for convincing ideas to pledge some money.

Involved Parties



- **Kickstarter:** Kickstarter provides the marketplace and exposes as the ‘man in the middle’.
- **Fund Seeker:** Seekers post their funding interest and receive exposures from Kickstarter.
- **Bakers:** Bakers commit funding to investments of their interest.

Revenue Sources



- **Commission:** Kickstarter takes 5% of the funding.

Telco/ISP

Successful business models - Caselet: TVister

TVister is an online portal which aggregates internet services from third parties. Its revenue sources are based on advertising and commission.

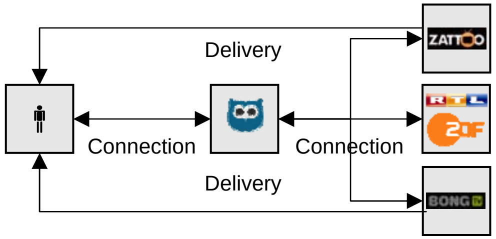
Infotainment Example: TVister

Value Proposition

tvister

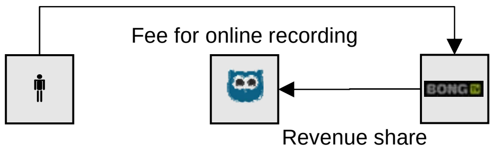
- **EPG:** TVister is an electronic TV program guide
- **Past Viewing:** TVister links to 'Mediatheken' of TV stations (e.g. ZDF, RTL)
- **Present Viewing:** TVister connects to Zattoo which streams live TV.
- **Recording:** TVister provides online recordings of future TV program.

Involved Parties



- **TVister:** Offers the EPG as well as the links between consumer and 'Mediatheken', streaming & recording
- **TV stations:** Deliver the content directly to the consumer
- **Bong TV:** Delivers recorded content directly to consumers.

Revenue Sources

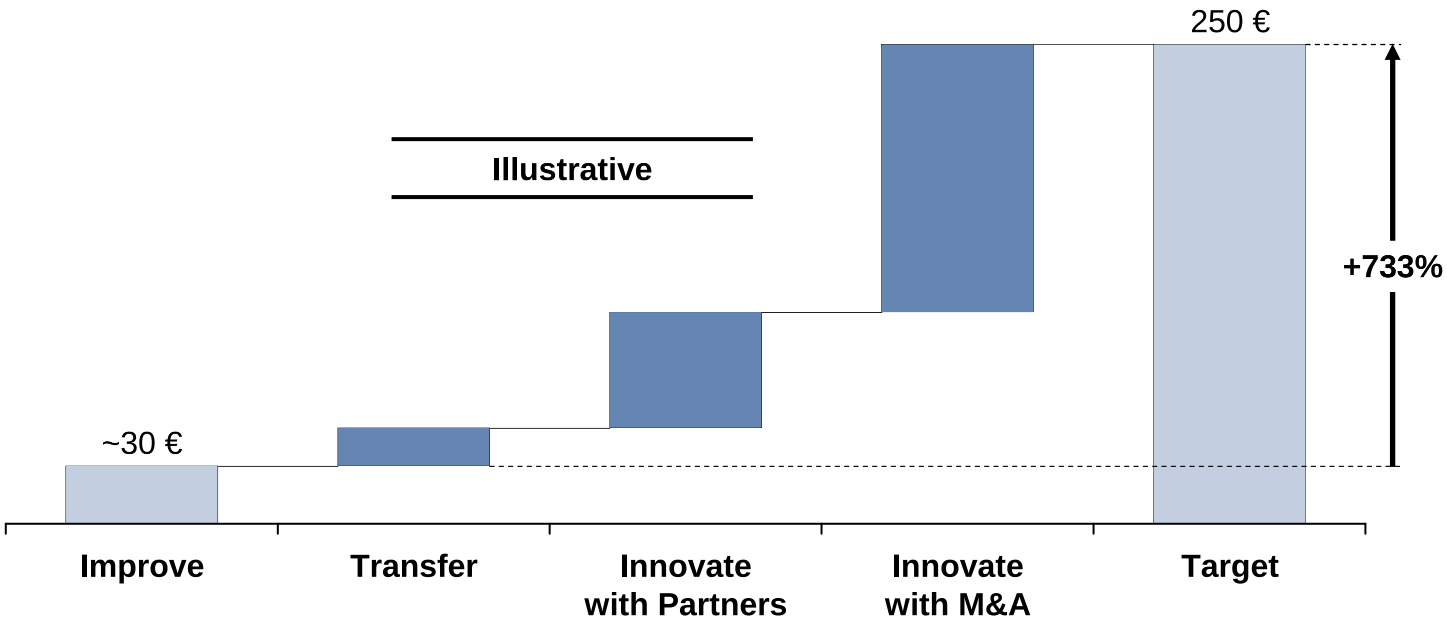


- **Advertising:** TVister's revenues are ad-based
- **Transaction:** Bong TV pays a revenue share

Telco/ISP

General realization options

Options for telcos range from improving existing services, transferring them to other countries of operation, building new services with partners or acquiring ISPs.



Telco/ISP

Decision criteria for realization option selection

Make or buy decisions are influenced by five factors: competitive landscape, NatCos' level of experience, availability of resources, potential synergies and technical feasibility.

	Greenfield	Transfer	Build with Partners	Acquire
Competitive landscape[1]	Weak or no presence of local/international players. Entry of new players not imminent.	Weak or no presence of local/international players.	Presence of one or few strong local or international players. No atomistic market structure.	Presence of few local players that outcompete international OTTs.
Experience level[2]	Already existing NatCo internet service strategy. Already experienced with internet services.	Transferring telco already has reliable and mature solution.	NatCo with already existing OTT portfolio and partnering structures.	Feasible for experienced and inexperienced NatCos.
Resource availability	Sufficient resources available to set up development team or to realize new organizational structures.	Additional resources for platform/solution integration and management available.	Additional resources for partner/account management available.	No extra FTEs required.
Synergy potential[3]	Given synergy potential through adoption of other NatCos best practices.	High synergy potential through e.g. common sourcing and platform usage.	No significant synergy potential between NatCos but high synergy potential with respective partner.	No significant synergy potential.
Technical feasibility	Ability to build up necessary IT infrastructure.	Given compatibility of existing IT systems.	Ability to integrate partner solutions into own IT.	No possibility to build up necessary technology.

1) Number and strength of OTT players and operators. 2) Degree to which NatCo is already involved in internet services.
3) Degree to which focus NatCo can profit form other NatCos' assets and know how.

strong/high
weak/low

Telco/ISPs

Innovate through Acquisition or Partnering

Telcos utilize the innovative strengths of start-up companies by the spectrum between partnering and acquisitions.

Parties		Partnerships
verizon	skype	▪ **ISP:** Skype is a VoIP provider. ▪ **Service-Integration:** Q1 2010, Verizon established a partnership with Skype. The service-agreement includes free national Skype calling on CS network. “3” in UK partners with Skype already since Q4 2007. They even offer cross-branded mobile phones.
Deutsche Telekom	broadsupport.tv	▪ **ISP:** Broadsupport.tv ▪ **Service-Integration:** broad|Support, a Hamburg-based start-up, developed the service-concept “Meine Konferenz” as add-on for LigaTOTAL! (Interactive TV Award 2009).
Parties		**Acquisitions**
vodafone	QYPE	▪ **ISP:** Qype is a user-generated local review site. ▪ **M&A Deal:** Vodafone Ventures invested € 3.5 mn in Qype (Q4 2010). ▪ **Service-Integration:** Qype provides a co-branded application which will be pre-loaded on supported Vodafone devices.
france telecom	Dailymotion	▪ **ISP:** Dailymotion is world's 2nd largest online video site dubbed "the French YouTube“. ▪ **M&A Deal:** France Telecom buys a 49% stake for € 58.8 mn. (Q1 2011). ▪ **Service-Integration:** Dailymotion still operates independently and will in future.

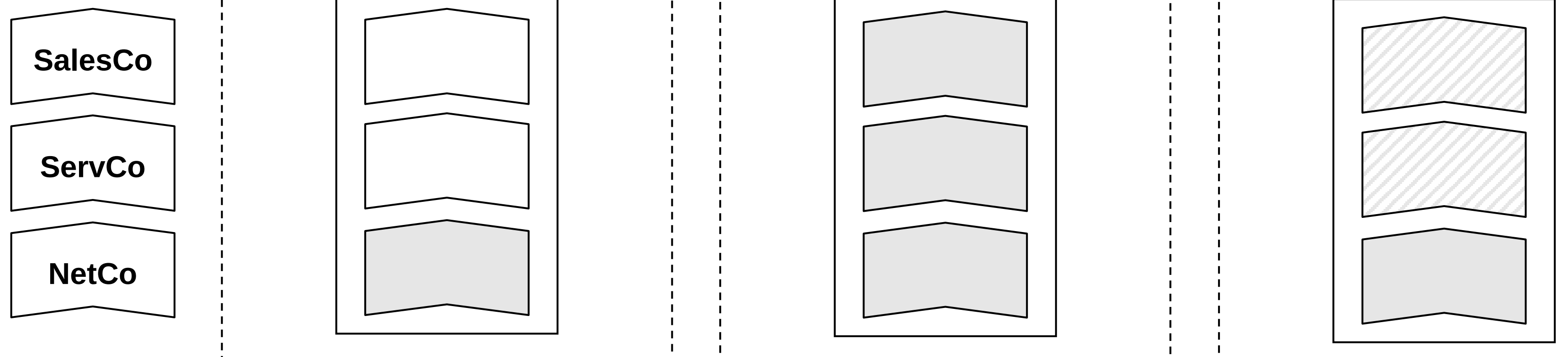
Content

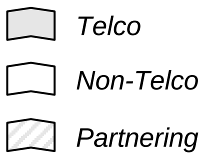
3.	**Smart Pipe**

Smart Pipe

Alternative Strategies for Content & Applications

Three different strategies to market C&A: The Bit pipe requires “scale & efficiency”, the Telco ISP “scope & flexibility” and the Smart Pipe “extensive partnering capabilities”.





	Bit Pipe	Telco ISP/ B2C	Smart Pipe/ B2B2C
	■ Telco offers open internet only. C&A are independently sold by e.g. OEMs, WebCos, Content Providers and ICT Players.	■ Telco runs business with own C&A. This model could be positioned as full competition towards OTT players or as a co-opetition model embracing such as 3rd parties.	■ Telco leverages core capabilities, i.e. enabling services and builds strong partnering models to offer enhanced value propositions regularly through B2B2C models.
Evaluation	■ Due to flat rates and VoIP in the mid-long term EBITDA margins of pure bit pipe telcos will decline inevitably. Feasibility requires international scale.	■ Requires a highly flexibly and dynamic governance model contrary to many telco’s main business. Not sufficient to face the future challenges.	■ In the mid-to-long term the only promising model that needs to be implemented next to bit pipe.

Smart Pipe

Key Success Factors - Overview

The key success factors of the smart pipe strategy are all related to necessary substantial changes of telcos compared to their prevailing telco business model:

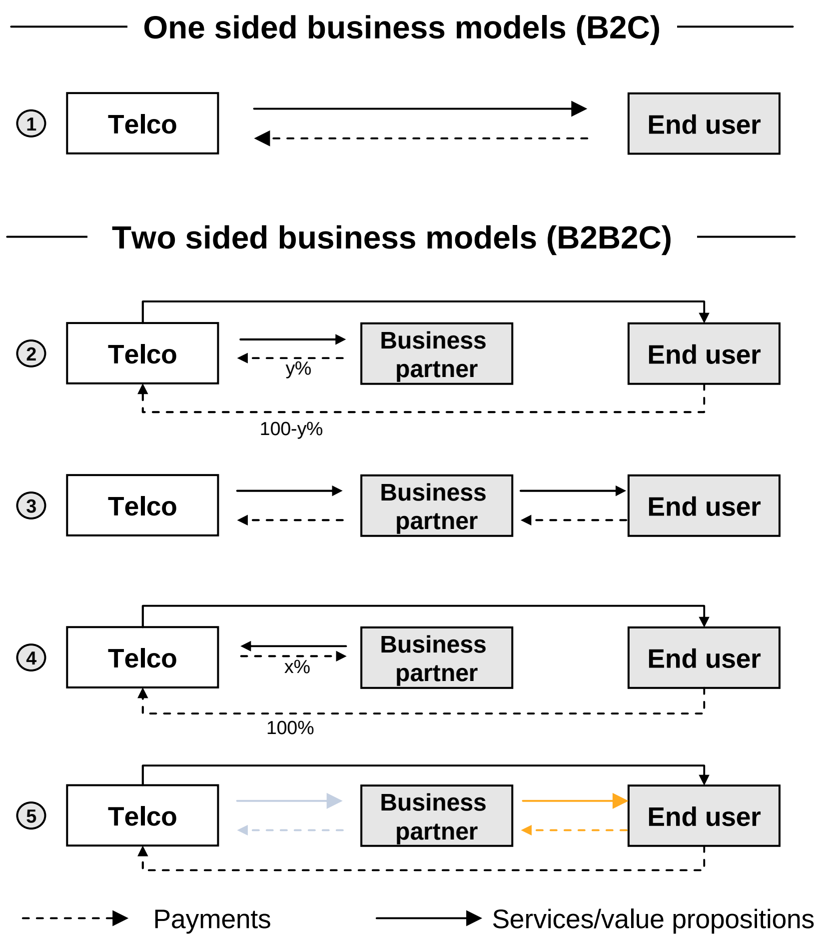
KSFs*	Description
1 **Smart Two sided Partnering Models**	■ Clear strategy regarding different types of business models ■ Partnering models for different solutions ranging from highly standardized wholesale agreements for telco services to highly complex joint ventures with business partners. ■ Standardization of respective new processes.
2 **Smart Enabling Services/ VAS Platforms**	■ Enhancement of telcos' capabilities in e.g. billing, AAA, RDM, real time customer insight ■ Further deployment of VAS platforms (e.g. IPTV, AppStores, Mobile Advertising, M2M ….) ■ Commercialization of such enabling services (to be integrated into partner solutions) and VAS platforms (allowing business partners to integrate their offerings into them).
3 **Open APIs/ Distribution Platforms**	■ Development of Open APIs as wholesale offerings allowing business partners to more or less independently integrate telco functionalities into their solutions ■ Compared to smart enabling services Open APIs are not or only to some extent managed by the operator

** KSF = Key Success Factors; E2E = end to end*

Smart Pipe

Key Success Factor: Two-Sided-Business Models B2B2C

Implementing the smart pipe strategy requires a bold move to a two-sided business model that generates revenues from end users and business partners simultaneously.



Remarks

- **One-sided:** Customers (consumer, business, carriers) are directly and fully served by telco and fully charged for the service usage.
- **Two sided:** Involve additional revenue streams from the interaction between telcos, business partners and end users

(2) telco delivers one value proposition to both (business partner and end user) and gets paid by both as well (traditional toll shared numbers, TV - voting platforms)

(3) telco offers wholesale service to partners who resell it with added value. Telco gets paid by partners only. (e.g. MVNOs, Amazon Kindle, connected Drive, bulk mssg, Open APIs).

(4) telco enables its business partner and gets paid by the end user only. Revenue share gets redirected to business partners (e.g. telco ringtones, telco App Store, money transfer service).

(5) telco delivers value propositions to both sides that are logically connected and additionally enables its business partner to deliver his value propositions in a better way. Telco gets paid by both directly (e.g. future smart energy solutions, affinity programs)

Smart Pipe

Key Success Factor: Two-Sided-Business Models B2B2C

Right business partners within and outside the industry are to be targeted and managed professionally by implementing suitable and smart partnering models.

Different Types of Partners

- Types of business partners vary from
  - international OEMs and WebCos
  - International publishers in entertainment,
  - Banks and credit card issuers,
  - Enterprise clients and public institutions
  - IT developers for device applications; IT developers for enterprise solutions (e.g. for Supply Chain Management, Sales Force Automation and CRM),
  - Advertisers and media agencies

Smart Partnering Models

- **The type of partnering models vary from low (e.g. wholesale) to high involvement (e.g. JV) of the telco operator**
  - **Wholesale business models** (e.g. MVNO, Amazon Kindl, “Internet of Things”, Open APIs)
  - **Highly standardized/ operator managed vendor relationships** e.g. in case of
    - Operator AppStores (e.g.China Mobile, Vodafone, Orange)
    - Enterprise solutions with applications including telco functionalities
    - Operator managed mobile advertising platforms (benchmark 3 Austria)
  - **Solution oriented relationships** (e.g. fleet management applications with telco functionalities)
  - **Co-operations and joint ventures** (e.g. in case of affinity partner programs, road toll collect programs, in-flight connectivity)

Smart Pipe

Key success factor: Smart Enabling Services/ VAS Platforms

Developing existing core capabilities towards managed enabling services for business partner solutions will improve the telcos competitive positioning with clear USPs.

Smart Enabling Services

Authentication & Authorization	Billing & Payment	Presence & Locating
Remote Device Management	Customer Insight	Customer Care
AppStore Platform	IPTV Platforms	Advertising Platforms
Seamless Fixed Mobile Customer Experience		

Built into business partners' solutions, like…

Device Applications	Vertical Business Solutions	Affinity Partner Solutions
Mashup Webservices	Horizontal Business Solutions	Mobile Advertising
…	…	…

= regularly all MNOs   = some MNOs

USP of Telcos

- **Authentication and authorization** services are highly secure via mobile networks (MSISDN/SIM).
- **Billing and Payment** via phone bill are highly standardized, accepted and preferred by subscribers. New payment methods consider mobile phone as credit card.
- **Network location services** are superior (compared to device based LBS) because they are device agnostic and even historical tracking of movements is possible.
- **Customer insight** of telcos is more sophisticated due to CDRs, payment history etc. Other webcos regularly don't have such information. In addition these information can be made available by telcos in real time.
- **Seamless Fixed Mobile Connectivity** e.g. through Femtocells also represent uniques services of Telcos opposed to OTT and WebCos.
- **Device management systems** of operators enable business partners to check compatibility of the type of device and adapt solutions respectively.
- **Customer care** of MNOs are highly professional.

Smart Pipe

Key Success Factor: Distribution Platforms/ Open APIs

Open APIs enable third parties to integrate telco functionalities more independently from telcos into their applications thus shortening time to market for new 3rd party apps.

Carrier	Open APIs	Evaluation & Impact
telenor	■ Content Provider Access program targeting enterprise clients, large content providers and WebCos with a large array of open APIs for telco enabled solutions. ■ No AppStore until today.	■ In 2008 Telenor's CPA program generated about 6% of total revenues in Norway which is an outstanding result due to its niche positioning. ■ Whether they can refrain from an AppStore is questionable.
orange™	■ Orange Partner programme with several Open APIs for enterprise solutions etc. ■ AppStore and developer community for mass market device applications ■ Widgets experiencing program for webservices mashups	■ Four years experience and most advanced in terms of number of open APIs ■ Enterprise solutions with substantial traffic increase (e.g. Pharmagest) ■ Faster time to market. New apps appear within two weeks.
O2 Litmus BETA	■ O2 has developed a whole ecosystem for application developers ranging from several open APIs (though less than at Orange) up to IPR consultancy and venture capital for promising developers and business partners. ■ AppStore that will compete with OEMs AppStores in the long term.	■ Ranked as the **most advanced open** APIs program by industry experts

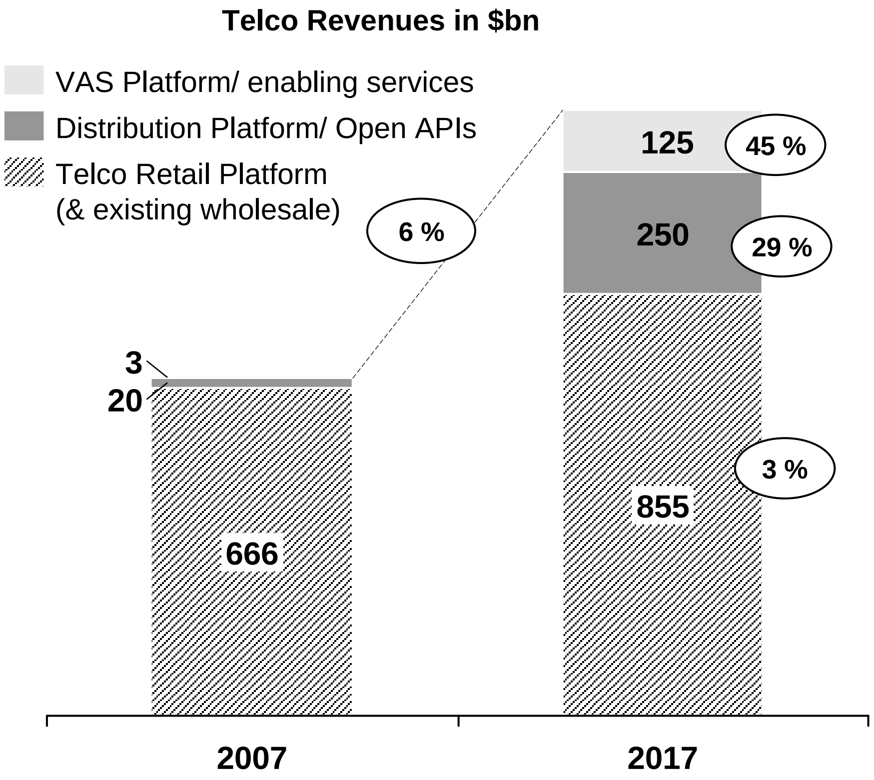
Source: Informa Mobile Network APIs 2009

Smart Pipe

Market Forecasts – North America and Europe

Forecasts for North America and Europe estimate a $ 375bn telco opportunity by de-ploying enabled services (managed) and Open APIs for such two-sided business models.

Forecast North America & Europe



Background

- **VAS platforms** (Smart Enabling Services, managed) allow 3rd party service providers to better interact with retail customers. Telco offers managed enabling services. (2,4,5)
- **Distribution platforms** (Wholesale, Open APIs) allow 3rd party service providers to distribute voice, content & data services as part of their proposition to end users across multiple distribution systems: Internet, broadcast, multicast, SMS. Telco offers open APIs. (3)
- Obviously **legacy telco services** will experience a slow down of growth rates whereas the smart pipe revenues are projected to grow annually on average at 29% and 45% until 2017. The smart pipe revenues will account for approximately 30% of total telco revenues by 2017. (1)

Legend CAGR '07-'17

Source: STL Partners 2008

Smart Pipe

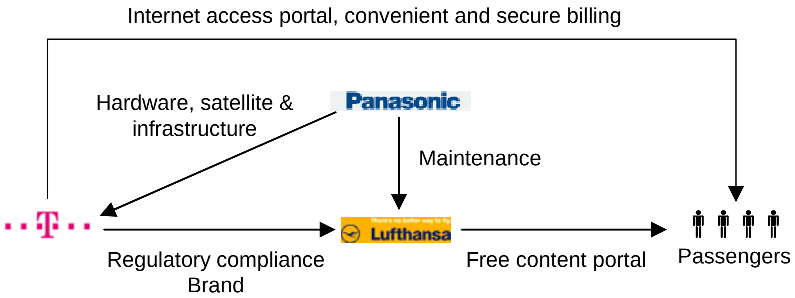
Case Study - Lufthansa FlyNet

Together with Lufthansa and Panasonic, Telekom provides onboard connectivity on long haul flights.

Value Proposition

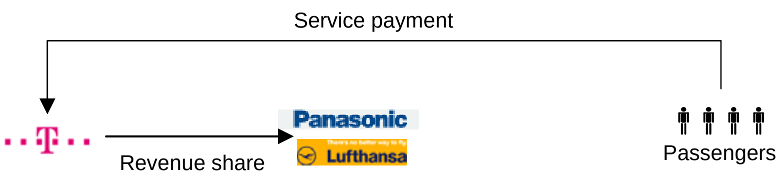
- **Onboard connectivity:** Passengers can access certain broadband internet onboard.
- **Billing:** Customers of Telekom and its roaming partners need not pay by credit card enjoying convenient payment through their normal monthly telephone bill.

Involved Parties



- **Telekom:** Offers internet access portal and manages AAA, billing and revenue share towards partners.
- **Panasonic:** Hardware and Software development as well as management of air-ground infrastructure.
- **Lufthansa:** HW installation & free content portal.

Revenue Sources



- **Revenue share:** Depending on adoption rate, Telekom retains 10% - 18% of passenger's service payments.

DETECON

Smart Pipe

Case Study: Amazon Kindle & BMW connected drive

Selling basic connectivity services is not limited to MVNOs. Car manufacturers and OEMs are one of many potential partners to profit from network operators.

Value Proposition

- **Inbuilt connectivity:** Consumer goods such as cars or electronic devices come with inbuilt connectivity opening up new possibilities for new convenient services for the customer, e.g. ubiquitous access to Amazon content platform for Kindle users or location based services for BMW connected drive customers.

Value Proposition

- **Telco:** Provides SIM and connectivity.
- **Amazon:** Offers customers eReader together with ubiquitous access to digital content.
- **BMW:** Offers customers location based services, teleservices (e.g. remote monitoring and maintenance) and in-car internet access.

Revenue Sources

- **Wholesale price:** Telcos sell connectivity via wholesale to its partners.

Smart Pipe

New wholesale models

New wholesale models are emerging with increasing pervasiveness of the internet – the internet of things. However, the BT example shows that success is not guaranteed.

PSP Go!Messenger

Sony & BT developed the PlayStationPortable into a mobile video & messaging phone:

- Contract to offer communication services for PlayStation Portable (PSP).
- Wireless broadband connection allows for video, messaging, voice services.
- BT was planned to be main partner of SCEE in all SCEE-sales regions (102 countries). Started in UK in 07/2007 as BT retail offer. Was planned as wholesale offer to Telcos and WISPs in other countries.
- However, the cooperation was **stopped** in 03/2009. Major reasons were slow uptake and licensing issues.

Amazon's Kindl

Amazon launched hardware based e-book reader in the US in 11/2007.

- Uses electronic paper display, reads the proprietary Kindle (AZW) format.
- Content (digital books with DRM) only available at Amazon's Whispernet platform.
- Customer pays one off price – wireless connectivity included – no contract needed.
- In US content download through Sprint's EVDO and most likely through AT&T network as well.
- Available in more than 100 countries (Q42009).
- Key driver for **Amazon's profitability** in 2009.
- Sold out in Germany on November 24th 2009 – one month after launch (connectivity through AT&T).

Smart Pipe

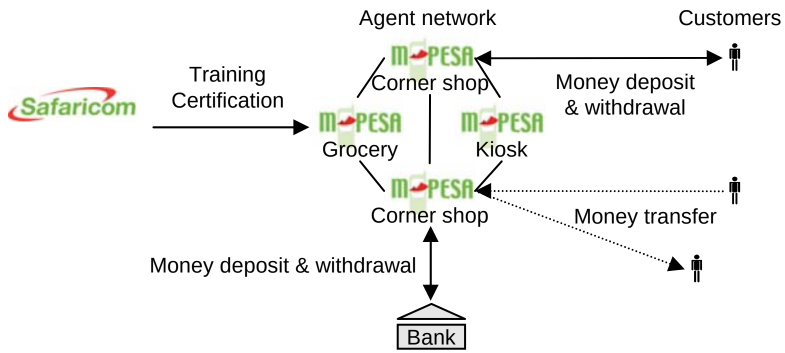
M-PESA Mobile money transfer

Kenyian mobile operator Safaricom has established a sophisticated money transfer service generating revenues from every transaction that takes place.

Value Proposition

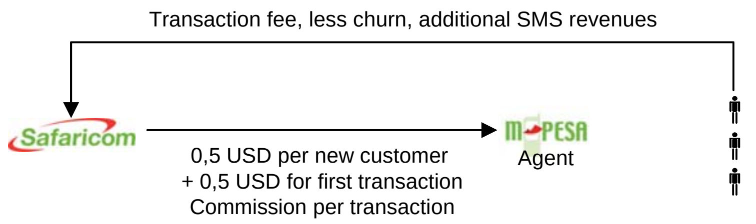
- **Convenient money deposit, withdrawal and transfer via mobile phone:** Customers can register at an M-PESA agent and perform basic banking services via their mobile phone. Real money is deposited at service points (M-PESA agents) on a virtual account via SMS and vice versa.

Value Proposition



- **Safaricom:** Provides platform enabling mobile money transfer. Trains and certifies “agents” building the basic infrastructure for M-PESA services.
- **M-PESA agents:** May be any persons owning a shop or other potential contact points for customers. Agents are authorized to take/give money from/to M-PESA customer and regularly transfer the money to real banks.

Revenue Sources



- **Transaction fees:** Safaricom earns a small percentage per transaction, benfits from reduced churn and additional SMS revenues.
- **M-PESA agent:** Gets 0,5 USD for every new customer signing up for M-PESA at his store, another 0,5 USD for the first transaction and a commission.

Smart Pipe

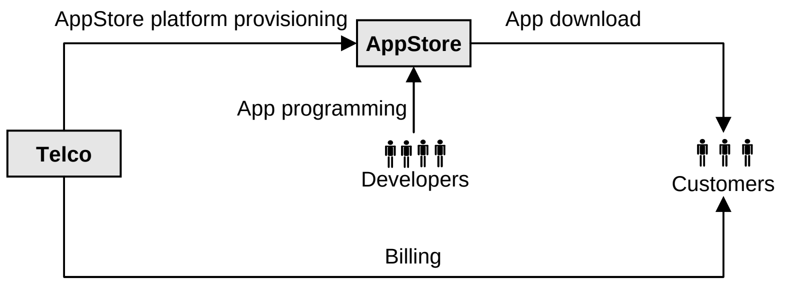
Operator managed application stores

Operator managed AppStores – though still lagging behind OTT solutions – form another opportunity to generate additional revenues in form of higher ARPUs.

Value Proposition

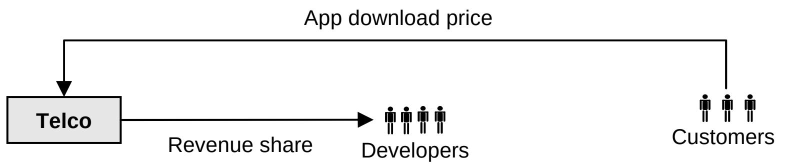
- **Access to and purchase of applications for mobile devices:** Customers benefit from a high variety of applications they can download and use with their mobile devices. The App purchase is charged conveniently through the monthly phone bill.

Value Proposition



- **Telco:** Provides Application Store platform and takes over billing towards customers. Acts as a filter prior to releasing an application for the AppStore.
- **Developers:** Anybody may develop applications and upload them to the AppStore platform.

Revenue Sources



- **Price for application downloads:** Customers pay for each application they download.
- **Revenue share:** Telcos forward a certain percentage of application purchase price to its developers.

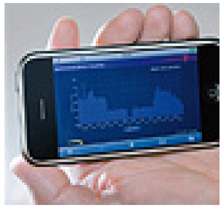
Smart Pipe

Smart metering[1)]

With their distinct competence in data and network management as well as billing services, telcos can position themselves as valuable players in the energy industry.

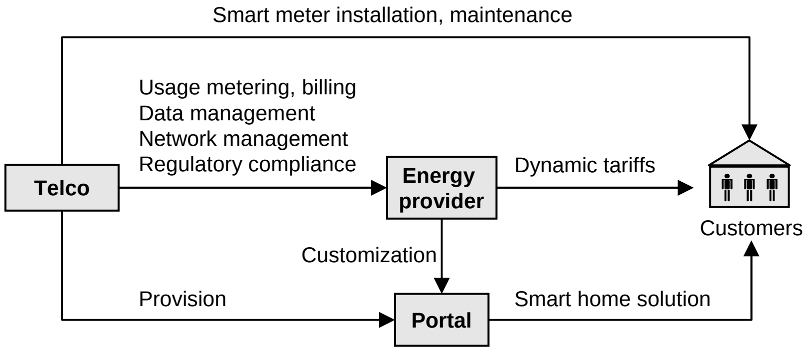
Value Proposition





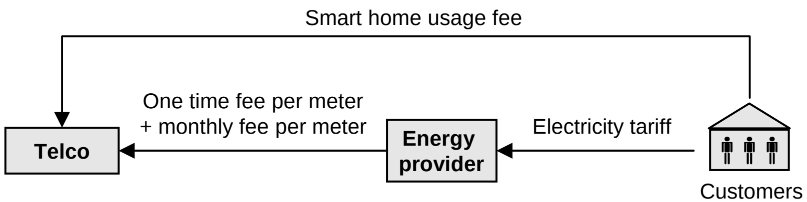
- **Transparency over and savings of energy consumption:** Customers can monitor and better manage their energy consumption in real time. Dynamic tariffs allow for cost savings by switching consumptions to off-peak hours. Meters are read remotely, i.e. no need for visits on site visits from technicians.

Value Proposition



- **Telco:** Offers energy providers complete smart metering infrastructure – from meter installation over meter reading and data management to billing services. This allows real time transparency on energy consumption. Also provides a portal enabling customers to better manager their energy consumption. Smart metering is also basis for smart grid implementation.
- **Energy provider:** Offers its customers dynamic tariffs, i.e. prices vary with overall capacity utilization.

Revenue Sources



- **One time plus monthly fees:** Energy providers pays telco a fee for meter installation (one time) and meter operation (monthly) .
- **Smart home usage fee:** Customers pay for smart home solutions (may also be energy provider branded, i.e. customers pay energy provider instead of telco).

1) Though technically feasible, smart metering in this form is not implemented in Germany, yet. Case displays potential use cases – non exhaustive.

Smart Pipe Strategy – Selected Cases

Smart Energy

Smart metering offers customers more transparency and control over their energy consumption and allows utilities to optimize the utilization of their capacities.

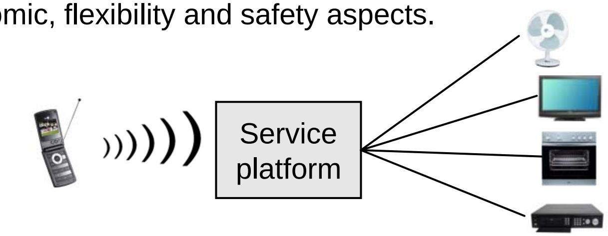
Smart metering

- Real time **recording**, **display** and **storage** of energy consumption, as well as **transmission** of readings to energy provider via a telco network (**Automated Meter Reading**).
- Gateway function for other meters (e.g. water, gas, heating) for consumption monitoring.
- For customers, smart meters offer transparency on their consumption patterns, giving incentives for a more efficient use of energy.
- Dynamic pricing for energy consumption depending on time of day and capacity utilization.
- Smart meters enable **Advanced Meter Management**, which refers to the possibility to remotely control the metering device and household appliances.
- Basic elements for **smart homes** and **smart grids**.



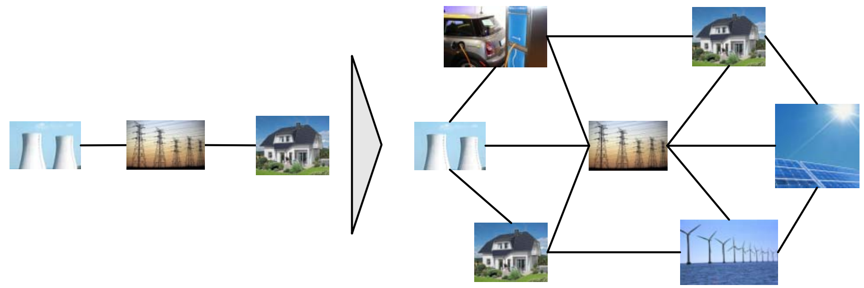
Smart home

- **Smart home** refers to a household where appliances are connected via an intelligent network and can be remotely controlled , e.g. via an online service platform, to ensure an optimal utilization with regard to efficiency, comfort, economic, flexibility and safety aspects.



Smart grid

- **Smart grids** refer to an intelligent network managing all elements of an energy infrastructure in such a way that capacity utilization is optimized (decentralized energy supply)



Smart Pipe Strategy – Selected Cases

Affinity partner programs

Vimpelcom joined the Malina coalition in 2006 and offers the loyalty plan over its BeeLine. The program has turned in positive results in retaining subscriber base.

The Challenge

- Although the number of its active subscriber base increased, Vimpelcom's market share shrank from 34% in 2005 to 25% in 2008 in the face of aggressive competition in Russia threatening to shake its number two market position by 2009.
- Vimpelcom was the first Russian operator to venture outside the FSU region, nevertheless this did not help to increase brand awareness at home.

The Result

- Vimpelcom reports positive results of its participation in the loyalty program, with Malina members having 2,5 times lower churn as non-members and 10% higher ARPUs.
- 56% of participants accepted to receive offers by SMS, 34% by e-mail.

The Approach

Билайн +

Principle

- According to a bonus structure based on usage, members holding Malina card collect reward points that can be used for shopping through the 300-member strong retail coalition.

Details

- Malina program is a loyalty program common to a coalition of shops allowing members to collect rewards at the shops including BeeLine.
- Participating shops include: patrol station BP, restaurants, pharmacies, supermarkets, movie tickets etc.…
- Furthermore, Vimpelcom offers airtime credit to subscribers based on spending.

Source: Informa, Ovum, Detecon

Smart Pipe Strategy – Selected Cases

Affinity partner programs

T-Mobile Austria offers since 2006 a bonus program for all subscribers. The program is easy to use and provides discounts at partner shops as well as rewards from T-Mobile.

The Challenge

- With 132%, the mobile penetration in Austria is above EU average: loyalty strategies are critical.
- At 33%, T-Mobile occupies the number two market position in Austria and has been slightly losing market share to the incumbent Mobilkom and challenger Drei.
- Mobile revenues in Austria are in decline with T-Mobile losing 2,8% in Q1 ’09 compared to Q1 ’09.

The Result

- T-Mobile is the only operator that operates a coalition program as part of its bonus program (Orange Austria has a bonus program but offers only discounts on Orange handsets and services). No clear contribution of the program to customer loyalty has been reported so far.

The Approach

T · · Mobile · flamingo

Principle

- Participants in the Flamingo bonus program collect rewards that can be traded for free handsets, free airtime or reduced yearly fees .

Details

- Every €5 euro spending result in 2 Flamingos.
- For example: for 400 Flamingos a subscriber can choose a Nokia 5000 or a Samsung J700; for 40 flamingos a subscriber can receive a cinema ticket in value of €6 or airtime in value of €5.
- Additionally all participants in the Flamingo bonus program are entitled for discounts at partner shops including flowers, car parking, and furniture.

Source: RTR Telekom Monitor Austria, Detecon

Smart Pipe Strategy – Selected Cases

Affinity partner programs

DiGi maintains a challenger strategy and has a reputation of being the most innovative operator in the Malaysian market: partner shops choice reflect the young target segment.

The Challenge

- DiGi targets the youth and young professional market, a highly price sensitive segment favouring prepaid plans.
- With 4 major operators in the country, MNP implemented, 3G licenses awarded, as well as encouragement of MVNOs by the regulator, DiGi is up for a heated competition.

The Result

- DiGi, the number 3 operator in Malaysia by market share, has increased its share from 20% in 2003 to 30% lately. It is not clear if the thrid party discount initiative has influence in the improved market share.

The Approach

Principle

- All registered DiGi subscribers are entitled to discounts on participating third party shops.

Details

- Subscribers get access to the discounts at partner shops by flashing their DiGi phone screen.
- Participating shops include everyday articles such as: Dunkin Donuts, EH! Magazine, Golden Oven Bakery, Football tickets etc…
- Additionally, DiGi provides priority services including personal and travel assistance to their tenured subscribers.

Source: Ovum, Detecon

Smart Pipe Strategy – Selected Cases

Joint Ventures with first tier OEMs and Media

In Japan the partnering models for the two sided business model even led to joint ventures. The two recent examples show the potential of cooperation with OEMs and Media companies.

NTT & Nintendo's Wii

NTT and Nintendo cooperation in Japan:

- Cooperation addressing Wii customers with internet enabled Wii console based on NTT's fiber optic network service
- NTT offers a special package including installation of web access equipment
- Nintendo provides exclusive games content to NTT's customers
- NTT and Nintendo jointly operate the call center services

NTT Docomo & Avex Group

NTT Docomo and Avex Group Joint Venture

- Joint Venture was launched May 2009
- Type of JV: 30 (NTT Docomo):70 (Avex)
- Purpose: Production and on-demand distrubiton of video content packages for the mobile phone environment
- Avex Group is the Japanese biggest music and moovie entertainment company.
- Service is available at NTT Docomo's mobile network under the portal brand beeTV.

Smart Pipe

Evaluation

Not all telcos are suited to run new business models – subscriber base, brand perception and network competency are few of many prerequisites for success.

Revenue potential vs. ease of implementation of new business models

Revenue potential	Ease of implementation: Low	Ease of implementation: High
High	■ Smart metering Smart grid Smart home solutions ■ Money transfer services M-PESA	■ New wholesale models Amazon Kindle BMW connected drive
Low	■ Inflight connectivity Lufthansa Flynet ■ Affinity partner models ■ Mobile payment	■ Mobile advertising ■ Content portals ■ Operator managed AppStores Vodafone Betavine O2 AppWorld

Remarks

Long term oriented solutions

- Requires relatively high invest (setup of infrastructure). Not feasible for all telcos – e.g. smart metering requires extensive know how in network and data management (NetCo).

Quick wins

- Especially incorporating new wholesale partners can be done without the need of heavy investments.

Partner centricity

- Successful AppStores require large subscriber base and developer community. Strong competition from OTTs.
- Finding enough/right partners is crucial, esp. for advertising & content portals.

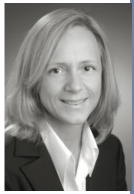
Churn reduction, ARPU uplift and co-branding marketing

- Affinity partner models mainly & mobile payment partly to reduce churn and increase ARPU.
- Inflight connectivity as a measure to improve brand perception internationally.

Source:

Contacts

For additional information please contact:



Ulrike Eberhard
Managing Partner/ Strategic Marketing
Detecon International GmbH
Oberkasseler Str. 2
53227 Bonn (Germany)

Phone +49 228 700 1540
Mobile +49 170 2283963
Fax +49 228 700 1507
ulrike.eberhard@detecon.com