MultiPlay with MobileTV as it's driving force

Implications for Mobile Operators and other involved players

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Consulting
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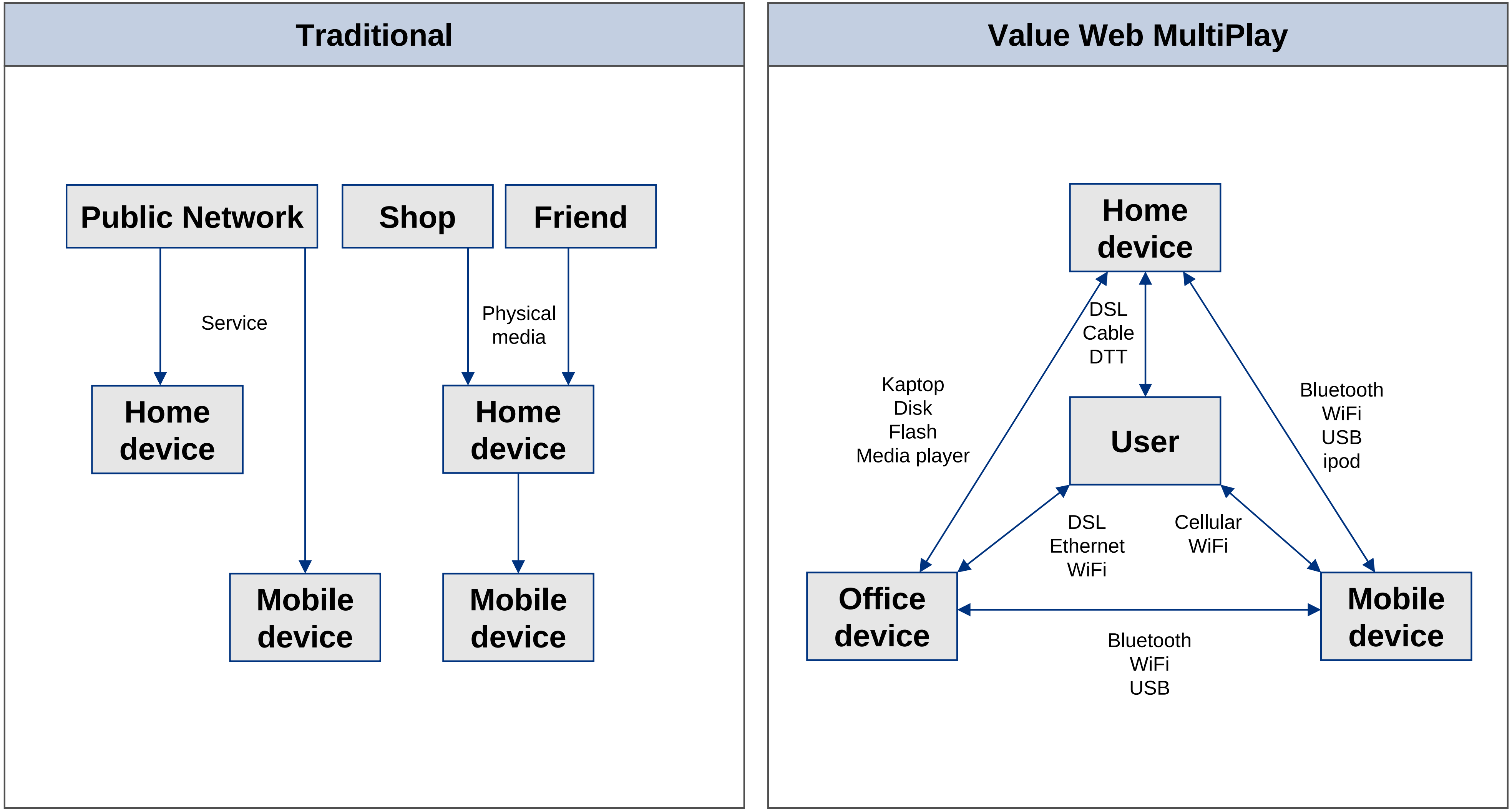
The New User-Centric MultiPlay World

Evolving from linear usage patterns towards a new value web: Usage patterns are now more complex then before.



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Today the user is not the couch potato any more.

The average customer is ready to perceive more value in laying forward and becoming vigorous by using additional interactive services.

The user's perspective

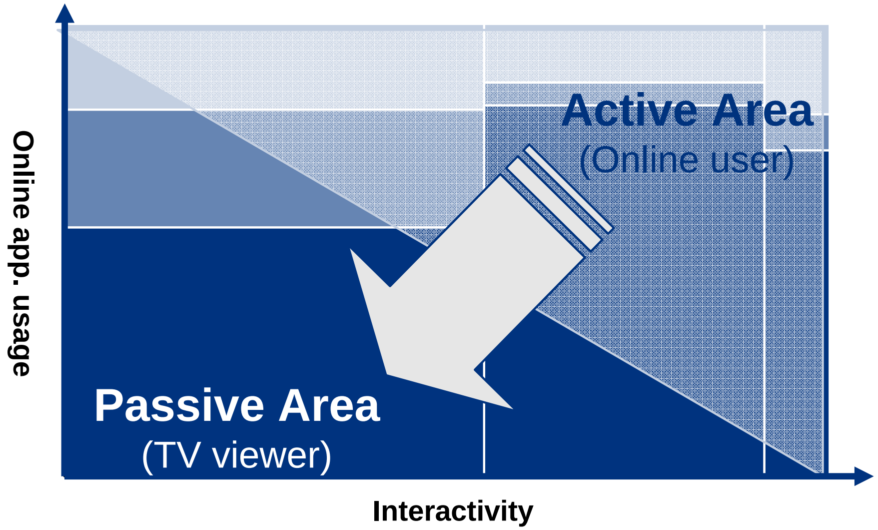
- Consumer
  - TV Channels
  - Non-specific interest
- Prosumer
  - Additional Services.
    E.g. EPG and VoD *)
  - Active interest and trust

laid back

Laid forward

*) Electronic Program Guide and Video on Demand

Merging user segments



Need for new TV/content model that attracts average user (TV, Internet, Mobile, etc.) in different usage scenarios.

A new IPTV approach that includes the interaction with the customer on a voluntary base!

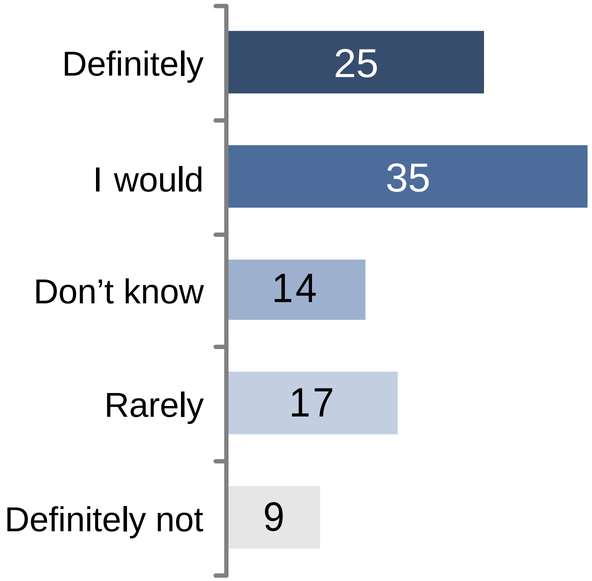
- It needs attractive services with a competitive pricing
- Metadata for content, interest and user groups are needed to offer enabling services
- Participation, Networking and Individualism are trends that need to be equally considered

New MultiPlay World

Users demand new service concepts that help them to manage the growing complexity in content and usage scenarios.

Interaction

Interactivity at quiz shows
(in %)

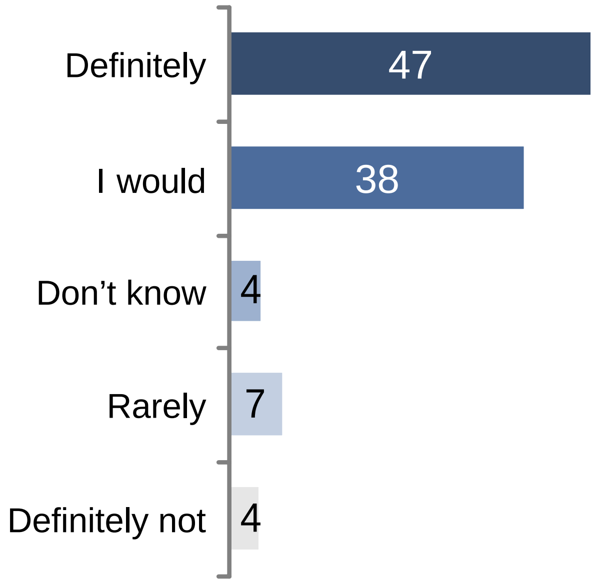


Source: TV2010, Detecon

What ever

Personalization

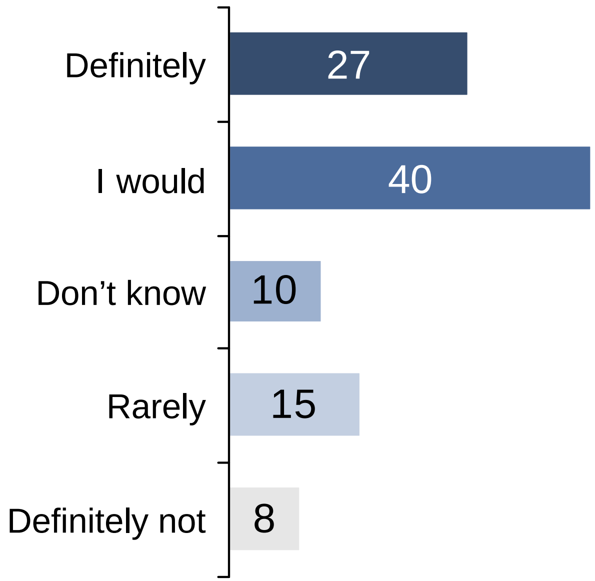
Personal weather forecast at news
(in %)



When ever

Ubiquity

Start recording by mobile phone
(in %)



Where ever

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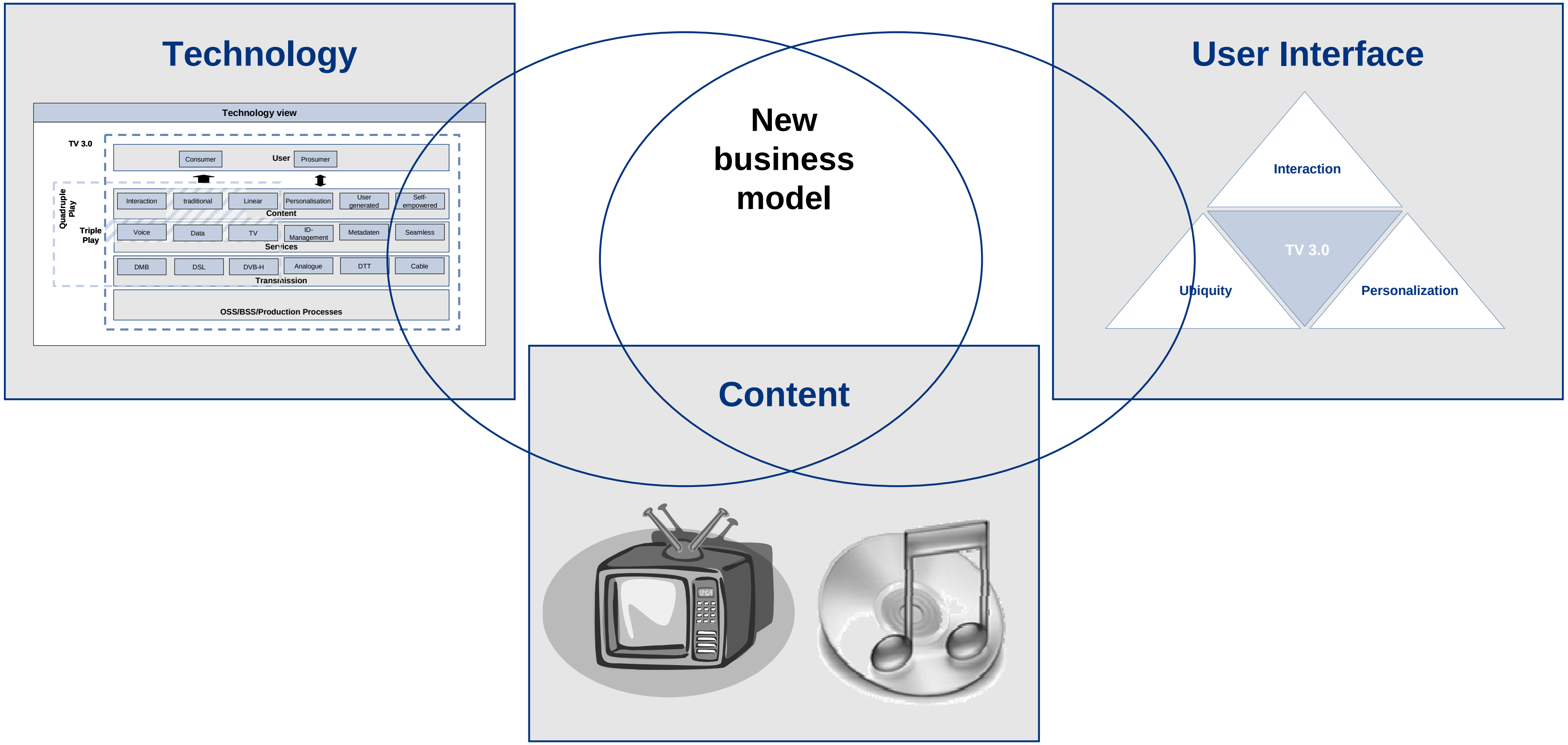
2. **The MultiPlay Concept**

Innovative business model

MultiPlay Overview

A successful Business Model in the MultiPlay environment requires equal focus on the Customer's and the Technical perspective.

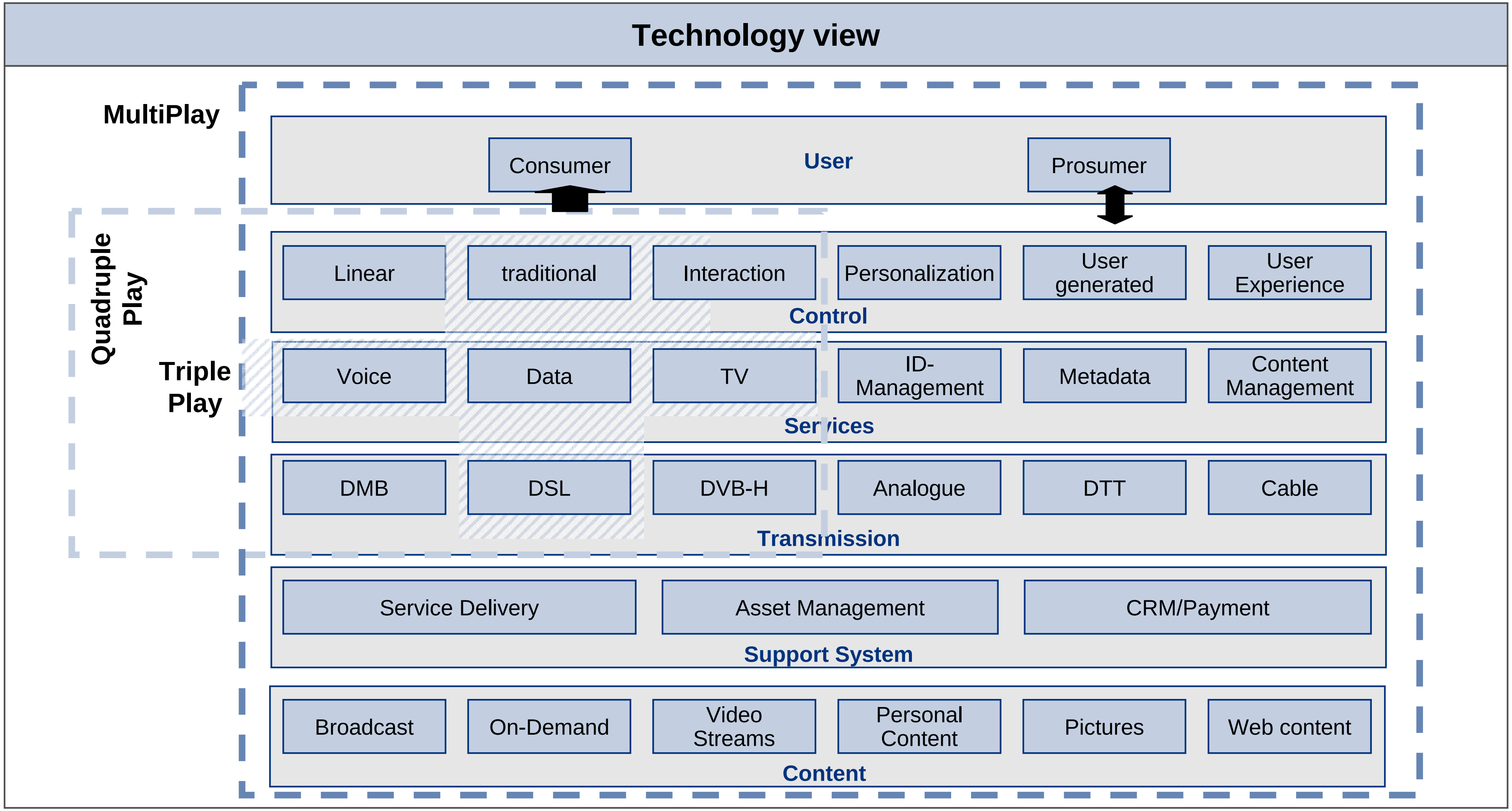
Technical Perspective and Customer‘s perspective need equally be looked at!



MultiPlay: Technology Must Be Seen As One Holistic Platform

Example

The MultiPlay infrastructure is able to use the full range of technology know how while implying the customer and covering all his needs.



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MultiPlay: Content is the key to success

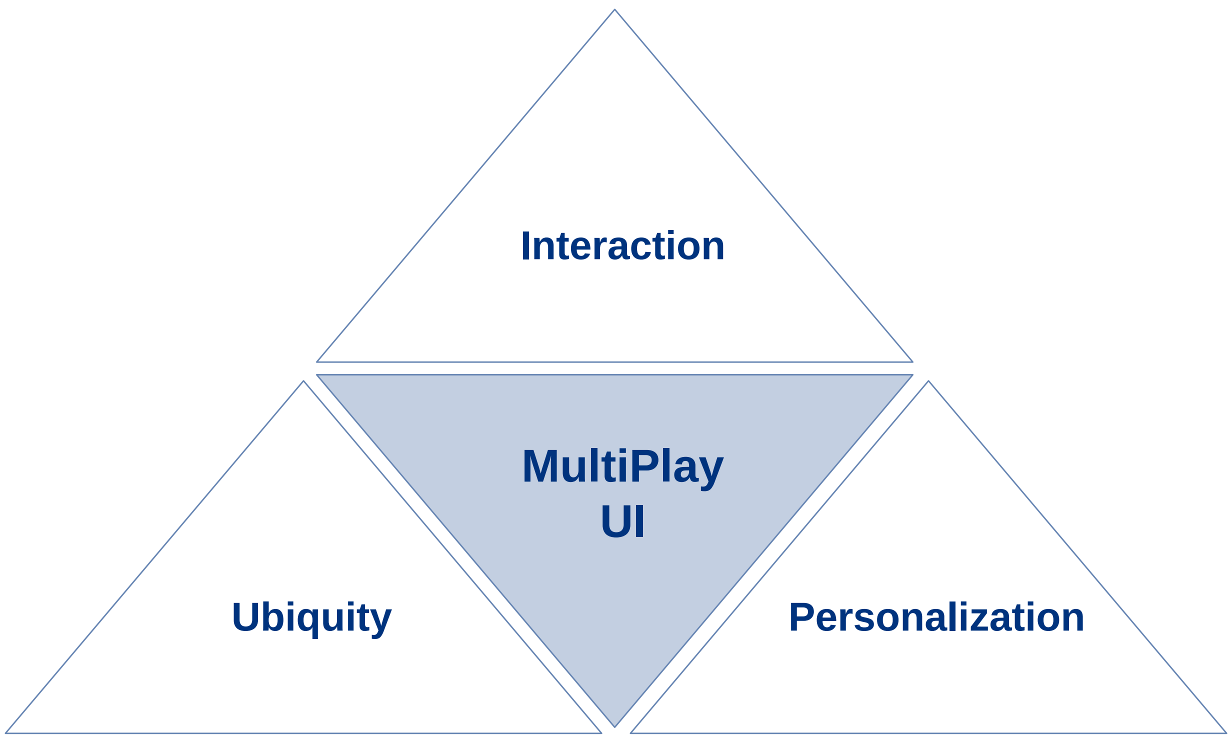
Users will have the possibility to get the right content at the right time on the right device, they finally become their own program director.

Community driven content	Branded content	Usage specific content
Leading communities secure unique content and enrich the professional business offering: ■ Online communities group around specific topics and are capable to generate specific content (e.g.: myspace, Wiki, etc). ■ Communities need individual focal points to develop and a critical mass of users. ■ Provide the first and most successful platform. Consider network economic effects.	Channel driven content becomes Brand driven content and existing brands extend their individual reach.: ■ Existing content brands extend into the MultiPlay environment (e.g. Lost becomes Lost mobile and rerun of Lost sequels). ■ The rich content offering provides the possibility for the user to be his own program director. ■ Longtail content usage offers new business opportunities.	„Plain old TV“ content formats will be replaced by enriched interactive formats: ■ Content must be produced according to the specific usage context (content on the move, online vs. offline usage, new prime times, etc) ■ Integrated interaction channels for Value added Services (betting, auction, etc.) ■ VoD, LongTail usage ■ PVRs and NetPVRs provide the possibility for new revenue streams.

MultiPlay: The Three-Way Approach Of The User-Interface

The customer's perspective requires a three dimensional approach consisting of interactivity and personalization to fulfill customers needs no matter when and where.

3D approach



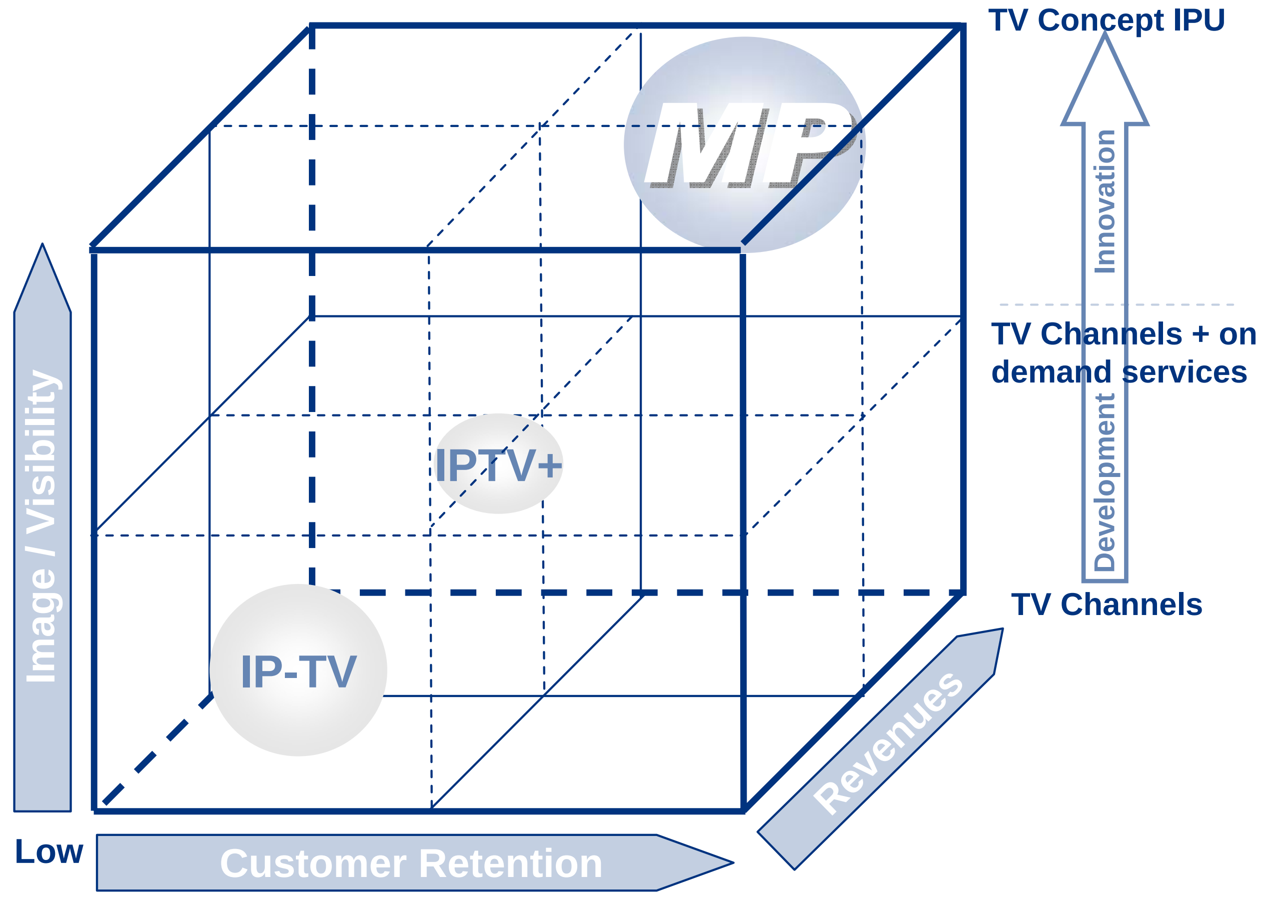
TV redefined

- Interaction will increase the usage intensity and binding the customer while increase APRU
- Interactivity takes place not only between user and provider but also between the individual users.
- Ubiquity will leverage the user's usage experience whether laid back or laid forward to his utilization context
- Personalization will guarantee the right content for the right person at the right time

MultiPlay: The Innovative Business Model

The visible long term benefit to customer and significant revenue streams to provider positions MultiPlay as a clear stand-alone innovation leader.

Positioning of MultiPlay (MP)



TV redefined

- Following the traditional cable TV operator approach will fail.
- Simple offering of more channels is not enough
- Understanding the evolving customer is a must .
- MultiPlay offers a usage concept that considers changing consumer habits and needs.
- Attractive services will result in increased ARPU and a decreased Churn, backed by the image of an innovation leader.

Content

3. **Implications for Mobile Operators**

Lessons Learned from Trials

Technology is only the Foundation

Different Business Models and the MultiPlay approach

Cooperation is essential to secure Success

Conclusions for a Mobile Carrier

Lessons Learned From Trials And Asian Deployments of MobileTV

The window of opportunity is open for new players.

Selected Trials	Selected Results
MobileTV trials focus on DVB-H and DMB technology ■ Czech Republic ● DVB-H Trial T-Mobile CZ, T-Systems ■ France ● DVB-H Trial Canal + Pilot, SFR, Canal+ ● DVB-H Trial TDF Pilot, Orange, SFR, Bouygues Telecom; TF1, France Télévisions, ARTE, Canal, M6, Lagardere Active Broadcast, TPS ■ Germany ● DVB-H Trial (mbco) Berlin Senate, T-Systems, Vodafone, T-Mobile, MABB ■ UK ● DMB-T Trial Virgin Mobile, Arquiva, BT ● MBMS (IP Wireless) Trial Orange UK	■ Usage ● Customers want simple services that are easy to use. They no not expect and want any revolution. ● Users accept basic encryption for all content. ● There's a significant willingness to pay for additional services – but the additional value received must be clearly understandable. ● A clear and realistic pricing structure is essential for success of any new service. ● Usage patters differ from traditional TV and telephony usage and are more similar to a Web-Page usage. ■ Content ● A/V Streaming of TV channels is only one limited option. ● Traditional TV content cannot successfully transferred into a mobile scenario. Usage context needs to be considered ● True partnership with content providers essential.

Technology Is Only The Foundation For A Successful engagement

To give the network ownership on someone else's hand is a critical question for Mobile Network operators.

	DVB-H	DMB	S-DVB-H	MediaFlo	MBMS FDD	MBMS TDD	MBMS LTE
Concept	Enhance-ment of DVB-T	Multimedia enhance-ment of DAB	Hybrid broadcast network	Proprietary terrestrial broadcast solution	Usage of WCDMA spectrum for broadcasting	Allocated unused UMTS spectrum	Evolution of W-CDMA system
Band-width	8 to 9 Mbit/s per MUX	1.1 Mbit/s per MUX	2.3 Mit/s (Satellite) 4.6 Mbit/s (Terrestrial)	8 to 9 Mbit/s	1.8 Mbit/s shared	3.4 to 5.3 Mbit/s exclusively	20 to 30 Mbit/s
Channels	20 to 30 (with 16QAM 40)	3 to 4	9 (Satellite) 18 (terrestrial)	ca. 50	3	10 to 15	Around 20
Devices	7 handset manufactures	Samsung, LG, Perstel	Limited CPE support	Samsung & LG announced support	Limited CPE support so far	Limited CPE support so far	No statement possible
Availa-bility	Mid 2007	End 2006	2008	End 2006	2007/08	2007/08	2010 onwards
Con-clusion	Efficient broadcast solution	Available but limited broadcast solution	Proprietary solution	Proprietary solution & spectrum	Competition with UMTS data traffic	Mostly allocated spectrum	Long term perspective
	Network ownership outside of MNO´s core domain				Network ownership inside of MNO´s core domain		

Several Technological Issues Still Need To Be solved

Some areas are fairly well standardized and supported, but many others aren't yet.

Technology areas supporting MultiPlay

- **Control**
- **Services**
- **Transmission**
- **Support Systems**
- **Content**

Selected Issues

In all layers, technology hurdles need to be overcome. This may include:

- DRM
  - No standardization, several disparate systems are emerging.
  - No solution for user generated content and Superdistribution
- Personalization
  - User concerns need to be considered
  - Multi-Plattform functionality
- Synchronization
  - Connection between a single mobile device and a hub. Eventual file conversion, securing of data integrity
- Across device portability of applications
  - Need of flexible runtime environments, difficult UI design and specific content issues.
- OSS/BSS
  - IMS can provide a common infrastructure
  - AJAX can bring web services together into relatively simple applications

Different Business Models And The MultiPlay Approach

Traditional Business Models for Mobile Operators need to be leveraged into a holistic MultiPlay approach.

Broadcaster led	Mobile Operator led	Independent Mobile TV	Mobile Operator only
The broadcaster manages the relationship with the end customer and is responsible for service provisioning, marketing, customer care and billing ■ *Advantage:* Broadcaster can keep most of the revenues. ■ *Disadvantage:* Inconvenience for the end-customer.	The mobile operator manages the customer relationship and is fully responsible. ■ *Advantage:* Operator has freedom to market services, consumer have access to an integrated service. ■ *Disadvantage:* Expenses incurred relatively high.	No Broadcaster is involved in this model. An independent service provider with spectrum acts as content aggregator, the mobile operator holds the customer relationship. ■ *Advantage:* Reduced complexity for Mobile Operator ■ *Disadvantage:* Need to buy content fr. MobileTV Operator.	The mobile operator is responsible for the whole value chain including content creation and aggregation. ■ *Advantage:* Unique role of mobile Operator. ■ *Disadvantage:* Highly capital intensive, high complexity.

The holistic MultiPlay approach

- Usage Context
- User Awareness
- Coverage

Transmission Types

Networks

MultiPlay Provider

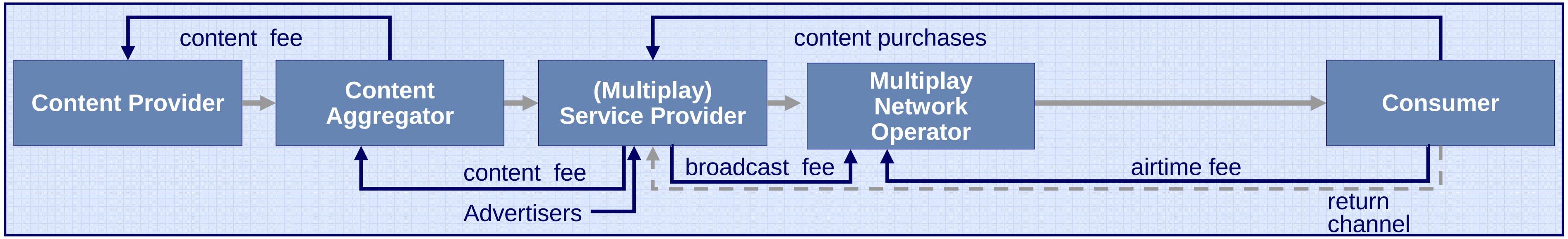
Content Types
- Broadcast
- Video Streams
- On-Demand Access

- Content Providers
- Content Aggregators

Cooperating And Partnering Is Essential To Secure Success

Content drives the MultiPlay Evolution. Content providers and content rights owners gain importance but need to rely on the Mobile Operator's competences.

Flow of contents and revenues



Source: IP Datacast Forum Reference Model, Detecon, ProSiebenSat1 Media

Leveraging into the MultiPlay World

Partnering and open approaches are essential to gain common understandings and trust with all involved players

- Providers, Aggregators: TV stations, Music labels, Majors, Platform operators, Community operators
- Network operators: OSS/BSS, Clearing, Payment, Fulfillment, other Network operators
- Consumer: Device manufactures, Sales Channels, Interactivity, Advertising

Conclusion

The MultiPlay concepts offers the Mobile Operator the opportunity to play <u>The</u> key role in the upcoming content and media development.

Selected Recommendations

- MultiPlay is **not only about MobileTV**. It´s MobileTV, Streaming Video and other Applications, accessible over different networks with different usage contexts. **It's about content the users want**!
- Mobile Operators must **understand the opportunities** of a MultiPlay world and their specific assets they can offer for all other involved players. They must develop plans for specific TV and video services
- Mobile Operators must **deploy an open, flexible and powerful operation support environment**. It shall permit the operator to be the "single interface" towards the customer in a converged MultiPlay world.
- Mobile Operators must develop a **distinctive content strategy**. Partnering with traditional content sourcers will probably not be enough.
- Mobile Operators must define their **service pricing** very carefully, as mistakes may be very costly. New service pricing is a potential minefield and mobile operators must carefully balance affordability, profitability and revenue cannibalization and mediate revenue sharing ideas from involved partners.
- Mobile Operators should develop **new attractive Services**. **Personalization, Interactivity and Ubiquity** will be key to success. New usage concepts and advertising models should be developed together with all partners.
- Mobile Operators must **avoid cannibalizing existing revenues**. They must be careful not to inadvertently undermine existing revenues, e.g. with inappropriate pricing or cheaper alternatives, as long as possible.

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