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TA2

Together Anywhere, Together Anytime

Large Scale Integrating Project

ICT – Networked Media

D8.3 Market Perspective – version 1

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Abstract

The challenge of TA2 is to develop new, representative, ICT based media experiences that support the social interaction between families or groups of people who are already firm friends. This report provides an overview of the current market perspective and critical factors of TA2 services, based upon the study of a number of existing services relevant to TA2.

Target audience

This deliverable serves as a basis for a broad public, the TA2 consortium and the Commission to estimate and forecast the market, business, social, privacy and user experience issues for the TA2 products and services.

Disclaimer

Impressum

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Executive Summary

The objective of TA2 is to enable new, representative, ICT based media experiences that support the social interaction between families or groups of people who are already firm friends. This report describes the market perspective for TA2 services. The intention of this report is to support developers of TA2 concepts in making their design and implementation decisions, by providing insights from the business, societal as well as user experience perspective.

This report builds on earlier work on TA2 business and market issues, in particular deliverable D8.2 (Business Model Feasibility Framework), in which a framework for evaluating TA2 services has been described, and deliverable D2.1 (Design and Market Insights), in which a number of critical business trends and issues were identified by analysing a number of so-called 'proxies' (video games, IPTV, Web 2.0 and video communication).

To identify viable business models, specific services resembling and/or relating to the TA2 concepts have been identified and studied. In order to select a representative sample of cases, a set of criteria was established. On the basis of these criteria, the following six cases have been selected: Motorola Social TV, VisionsConnected videoconferencing, Skype, Xbox LIVE, BuddyPoke avatar and Yahoo! TV Widgets. These cases appear to show a sufficient degree of similarity to TA2 applications, and at the same time can be considered front runners (not to be confused with market leaders) in bringing 'togetherness-like' services to the market.

The selected cases have been studied by means of the PITCH-methodology as introduced in D8.2 (Business Model Feasibility Framework), in order to identify viable business model designs and to assess the viability and critical factors of these cases.

Main conclusions from the cross case analysis

- An overview of the case studies in terms of types of functionality they offer shows that they all share similar functionality and thereby create similar types of value. Overall, it can be stated that service platforms (TV, internet, game console) are increasingly converging into generic social media platforms. However, the manner in which different functionalities are bundled differs.
- The business models in each of the case studies involve different business actors to fulfil the roles required to deliver a service resembling those envisioned in TA2. From the analysis of the case studies the most important capabilities that make or break a business model were distilled; control over several of these capabilities enables a business model to become viable:
  - The capability to build an attractive application and content store;
  - The capability to leverage aggregated user data;
  - The capability to provide interoperability between networks;
  - The capability to provide an interface that enables the creation of a social experience.
- The revenue models of the studied cases differ greatly from each other and the conclusion is that no general revenue model can be extracted. The choice of revenue model directly depends on the type of service provider offering the service and the target group upon which they focus. However, it is notable that the Web 2.0 services are all offered as part of a free offer, or as a free add-on to a subscription package. Also, it is concluded that for advertising revenues in TA2 related service environments a lot of uncertainty over privacy exists. Finally, premium memberships are popular in the selected cases.
- With respect to the critical criteria for success of a service, the following conclusions were derived:
  - Interoperability and fit with the partner network are crucial in (almost) all of the cases;
  - A smooth user experience and quality of service may stimulate the success of the services;
  - Togetherness services should create synergies with the offering organisation's existing service portfolio;

- Critical mass and segmentation are important for the success of the service;
- Fierce competition and lack of well defined revenue models increase the need for showing added value.

Conclusions on the market perspective for TA2 applications

Given the complexity of the business ecosystem and the related multisided markets, the conclusions for the market perspective for TA2 applications were organised along the lines of the most likely business models of the different 'candidate' TA2 service providers, being telecom operators, game console platforms and internet native platforms offering 'Over The Top' (OTT) TV. The table provides a summary of the results.

	Telecom driven	***Game console based***	***Over The Top TV***
Core value creation	• Presence • Notification • Recommendation	• Sharing/gaming • Messaging	• Sharing/gaming • Notification
Core assets	• Interoperability/QoS • Aggregated user data	• Interface • App/content store	• App/content store • Aggregated user data
Critical Partners	• SNS • content/apps suppliers	• SNS • Non-gaming content/ application suppliers	• OEMs • Content/apps suppliers
Prominent Revenue models	• Add-on in subscription • Premium subscription • (Targeted advertising)	• Add-on in retail of hard/software • Premium membership	• Add-on in retail of hardware • Targeted advertising
Critical factor fit	- Fit with partners +/- Synergy portfolio + QoS + Interoperability	+ Fit with partners + Synergy portfolio - QoS +/- Interoperability	+ Fit with partners + Synergy portfolio - QoS + Interoperability
Critical factor viability	- Critical mass - Segmentation - Interface +/- Revenue model +/- Substitutes/competition	- Critical mass - Segmentation + Interface + Revenue model +/- Substitutes/competition	+ Critical mass - Segmentation - Interface +/- Revenue model +/- Substitutes/competition
Maturity	Low	Medium/high	Medium

Design recommendations for TA2

For TA2, the most important design recommendations derived from the work in this report are:

- It is important to (re)design the current complex net native applications into (TA2) applications that better fit the new and old interaction rituals in the high trust living room. Copying the internet model to TV is (still) not a good idea; there are too many differences between lean backward and lean forward interactions.

- The choice to design TA2 applications towards group to group communication seems to be a right one. This choice therefore is encouraged to be cherished and exploited where possible since it probably brings along important added value.
- The design of service orchestration mechanisms in order to combine content, collaboration tools and communication features such as messaging and audio and video calling are key. Both towards users' expectations of integrated and multiplatform services as towards the different levels in the value chain which are essential to establishing a successful service these mechanisms are vital.
- Important to note is that even though existing TA2 related video and audioconferencing services have managed to improve their quality of service considerably, the market image they have of providing only a low quality service appears very difficult to get rid of. Important therefore is in what way high quality video and audio will actually increase the added value of a TA2 service.
- Audio and videoconferencing are an add-on to communication and content sharing. Audio and videoconferencing are never the 'central services', but they always exist in a certain context.
- The TA2 designers will need to question whether a specialised TA2 platform needs to be build. The choice to build applications on top of existing interfaces such as Google Apps engine, large social networking sites or platforms offered by large telecom operators has been quite successful for some of the cases in this report.
- The speed of introduction, acceptance and neglect of applications related to the TA2 services is high. This requires a design method which is open for continuous developments and evolution into new branches of related services.
- The aggregation of user data is necessary for use in the potential TA2 services, but (given there is some kind of link with an existing telecom operator / game console / OTT TV platform) with sources outside these services.
- With respect to the revenue model of TA2 services, many choices can be made. It is important to make a profound decision on the revenue model beforehand, because it will prove to be very difficult to change it once the service has been commercially launched.

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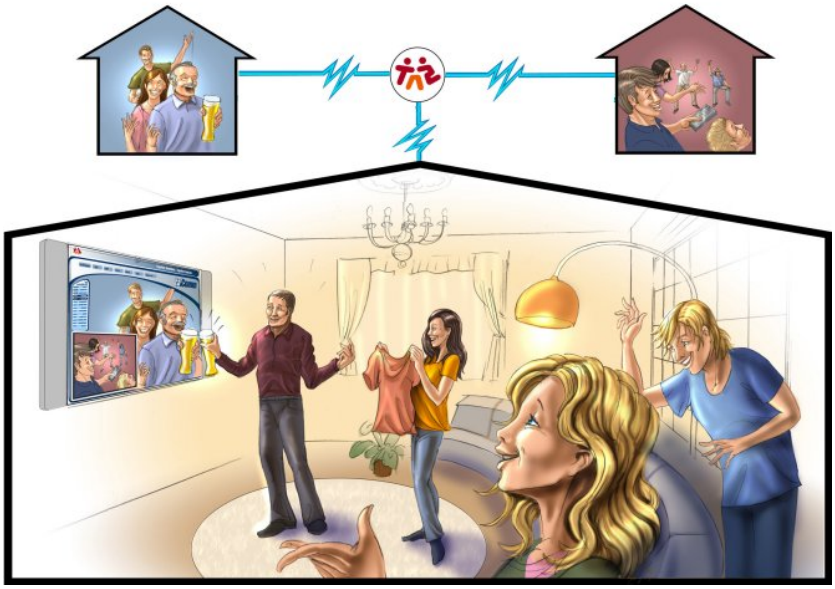
Abbreviations

API	Application Programming Interface
B2B	Business to Business
B2C	Business to Consumer
CeM	Communication enriched Media
EPG	Electronic Programming Guide
ICT	Information and Communication Technology
IPTV	Internet Protocol Television
iTV	Interactive TV
MeC	Media enriched Communication
OTT	Over The Top
PITCH	Portfolio Innovation Check -methodology)
QoS	Quality of Service
SMS	Short Message Service
SNS	Social Networking Site
STB	Set-top box
STV	Social TV
TA2	Together Anywhere, Together Anytime
VoD	Video on Demand
VoIP	Voice over Internet Protocol

1 Introduction

1.1 Objective

The objective of TA2 is to enable new, representative, ICT based media experiences that support the social interaction between families or groups of people who are already firm friends. With TA2 it will be easier for friends and families to remotely keep in touch and share moments of laughter and fun, and people should get a stronger feeling of being together while being physically separated.



An important challenge in TA2 is to develop application concept demonstrators that facilitate social interaction and are perceived as attractive, useful, natural and fun. The five demonstrators that are being developed in TA2 will be periodically analysed during the project to try and understand the associated business opportunities. This should help the designers to make informed decision in all stages of the development process.

1.2 Aim of this report

This report describes the market perspective for TA2 services. The intention of this report is to support developers of TA2 concepts by providing insights from the business, societal as well as user experience perspective in order to support the design and implementation decisions. This document is part of the TA2 work package dealing with 'Best Practice and Evaluation', and provides a common understanding within the consortium on the current market for applications helping people to nurture their relationships.

This report builds on earlier work on TA2 business and market issues, in particular deliverable D8.2 (Business Model Feasibility Framework), in which a framework for evaluating TA2 services has been described (i.e. the PITCH-methodology). This report also relates to deliverable D2.1 (Design and Market Insights). In that report a number of critical business trends and issues were identified by analysing a number of so-called 'proxies' (video games, IPTV, Web 2.0 and video communication).

Based on the aforementioned documents, this report intends to sketch a market perspective in order to inform and support the specification process of the TA2 demonstrators, the design of the reference architecture, as well as the user evaluation work.

2 Research set-up and case selection

2.1 Approach: assessment of case studies with PITCH

To identify viable business models, specific services resembling and/or relating to the TA2 concepts have been identified and studied. These cases have been taken from the 'proxies' as defined in D2.1 (Design and Market Insights): gaming, video communication, IPTV and Web 2.0.

The selected cases have been studied by means of the PITCH-methodology as introduced in D8.2 (Business Model Feasibility Framework), in order to identify viable business model designs and to assess the viability and critical factors of these cases. The service concepts, value networks, revenue models, critical factors and feasibility of these cases have been analysed, and from a cross case analysis conclusions and recommendations for TA2 have been derived.

2.2 Assessing business feasibility: PITCH-methodology

To structure and organise the case studies, we turned to the PITCH-methodology. The Portfolio Innovation Check (PITCH)-methodology as introduced by Leendertse and Pennings (2008) is based on an assessment of a service concept on two levels: whether it corresponds with the existing capabilities, strategy and culture of the service provider ('fit') and to what extent the service is a viable proposition on the market ('viability'). Combining these two assessments enables service providers to kill, spin out, redesign or invest in a new service initiative. The PITCH-methodology supports business decision making at an early stage of developing a new service, filling a gap between the launch of a business idea and the formulation of a business plan.

The PITCH-methodology consists of five iterative steps:

1. Determine service concept. A service concept can be seen as a description of the service, the organisation providing the service and the complete set of partners required to deliver the service.
2. Determine propositions towards stakeholders. We consider stakeholders here as the actors that directly generate revenues for the service provider. For the purposes of this report, we also included a discussion on informal partnerships as these seem crucial in making business models viable.
3. Identify fit and viability issues. Critical issues are potential drivers OR barriers for the commercial success of the service. Critical issues are those necessary for the service to flourish, but that are highly uncertain or volatile (for example: consumer demand) and have a high impact on the commercial feasibility of the service.
4. Make assessment. In order to make an assessment, specific propositions are linked to specific critical issues. The next step is to make an assessment by scoring to what extent a proposition matches a certain issue. This assessment is repeated for all propositions and all issues.
5. Analyse, refine and wrap-up. The scores on the issues for each proposition are mapped on the quadrant (see figure 1). Together, these propositions add up to an assessment of the overall feasibility.

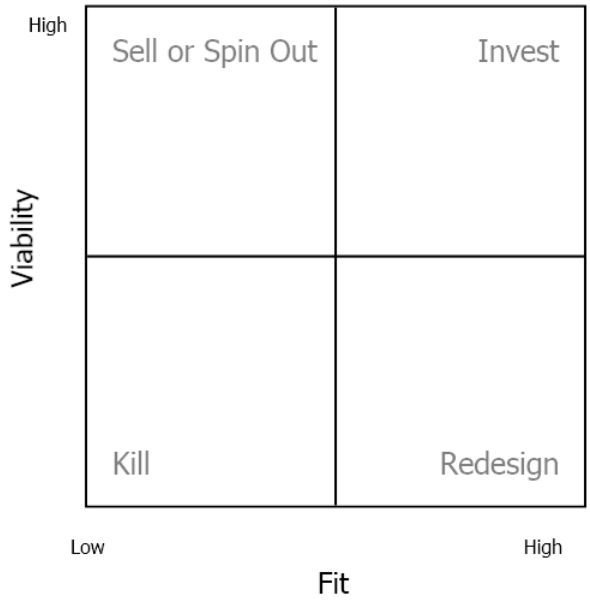


Figure 1: Business feasibility options (Source: Tjan, 2001)

In this report, we use the conceptual framework of the PITCH-methodology to structure the gathering of data and to organise the case and cross case analysis. This approach is similar to benchmarking, of which an often used definition is the definition of Camp (1989):

'Benchmarking is systematic research into the performance and the underlying processes and methods of one or more leading reference organisations in a certain field, and the comparison of one's own performance and operating methods with these 'best practices', with the goal of locating and improving one's own performance.''

We used this definition of benchmarking as a starting point for developing an appropriate approach to answer the questions in this report. In benchmarking services resembling those in TA2 we encountered several difficulties using this definition:

- Reference organisations: in a converging market place for media, and with the blurring boundaries between the service and distribution platforms, it is difficult to scope and define an inclusive set of 'reference organisations'. We took a broad scope and focussed on service concepts enabling a 'togetherness' experience in, and sometimes outside, the living room. This resulted in a range of services provided by different sorts of service providers, but which encounter similar business uncertainties and problems as those experienced within TA2.
- Leading organisation: In the blurry domain what we labelled social television, it is hard to pinpoint leading organisations. Although previous research (Willems et al. 2008, Limonard et al., 2009) within TA2 shows there is a lot of activity and user studies point in similar directions, those same sources show that it is a type of service offer on the brink of market introduction, which makes gathering reliable data on business and market estimations hard to find.

Based on these insights, we turned to initiatives comparable with those in TA2. These services are in the same phase of service development in adjacent domains (the proxies defined earlier: video communication, IPTV, Web 2.0 and gaming, see figure 2) and therefore encounter similar problems, at least around specific issues. By comparing these results with earlier user studies and business modelling work on social television, we hope to ensure sufficient checks and balances to ensure a minimum level of robustness of our analysis and conclusions.

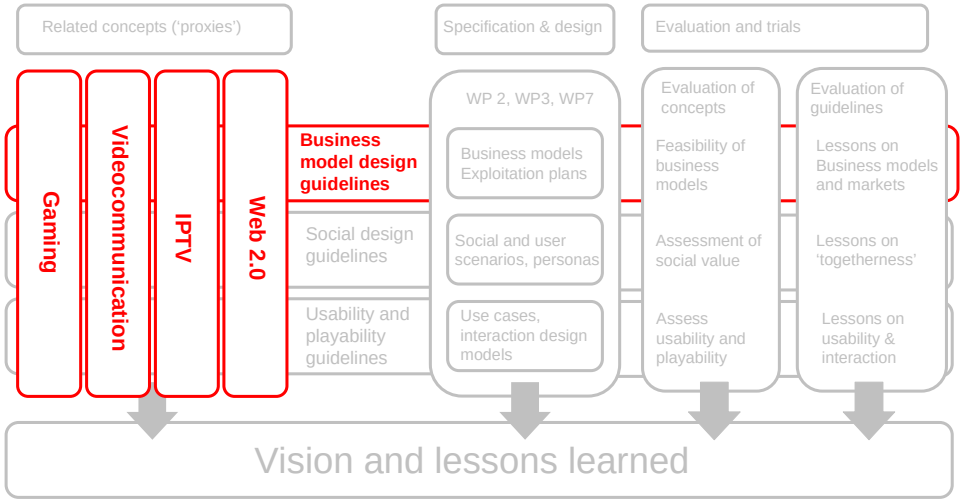


Figure 2: Combining related concepts and 'PITCH' to derive best and worst practices

2.3 Identification of a long-list of relevant cases

To identify relevant cases for determining the market perspective of TA2, the following selection process was adopted. First, experts within TNO were consulted in a TA2 workshop in which they were asked to investigate the TA2 demonstrators and the criteria that may determine their success. As a result of the workshop a list of criteria was developed that reflects critical design issues for the TA2 demonstrators. This list was then combined with the criteria that were formulated in D8.2.

Based on this list of criteria, on the results of D8.2 and D2.1, and on the network of contacts of TNO, a long-list of potential cases deemed useful for discussing the identified critical design issues was composed. These cases were all based on the proxies that were formulated in D2.1. Examples of cases on the long-list are Cisco and Skype for videoconferencing, Xbox 360 and Spill Group for gaming, Facebook and BuddyPoke for Web 2.0 and TMF Reaction and Yahoo! for IPTV.

2.4 Case selection criteria

Thereafter, a set of criteria was established in order to select a representative sample of cases to determine viable business models for TA2. This resulted in the following criteria:

- Since the TA2 project focuses on services that enhance the feeling of togetherness, the cases should contain togetherness features, such as functionality for presence and communication.
- The cases should be part of one of the proxies that have been introduced in D2.1: games, interactive TV, Web 2.0 and video communication. (In the actual selection the proxies 'video communication' and 'IPTV' have been combined into proxy 'video and TV'.)
- The cases should be spread over the two kinds of the TA2 service families as introduced in D8.2: Media enriched Communication (MeC) and Communication enriched Media (CeM).[1]
- For investigating the viability of TA2 business models the 'case service' should have been active for at least a year in order to be able to determine its viability.
- Finally, we should be able to find enough information and/or arrange interviews with the 'case service provider'.

[1] Based on market research and guided by the five TA2 demonstrators, in deliverable D8.2 a distinction has been made between Communication enriched Media (CeM) services, media such as games which are extended with communication functionality, and Media enriched Communication (MeC) services, where communication is enriched with media such as photos and videos.

2.5 The selected cases

On the basis of the selection criteria, the following six cases have been selected for the purpose of this research: Motorola Social TV, VisionsConnected, Skype, Xbox LIVE, BuddyPoke and Yahoo! TV Widgets (see figure 3 below). These cases appear to show a sufficient degree of similarity to TA2 applications, and at the same time can be considered front runners (not to be confused with market leaders) in bringing 'togetherness-like' services to the market. For the MeC category no gaming services have been identified.

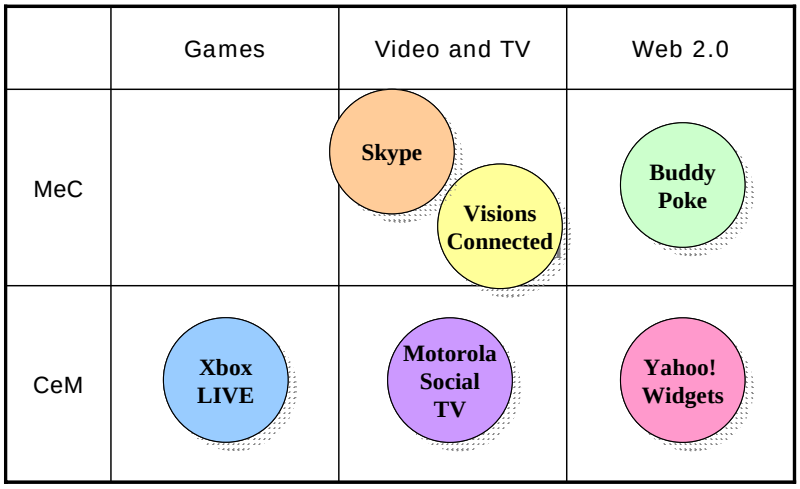


Figure 3: Plot of cases against 'proxy' and 'TA2 service family'

Besides the general criteria and approach that is described above, the specific choice for these cases is determined by a number of arguments, as discussed in the following sections.

2.5.1 Motorola's Social TV

Interactive TV services are seen as being important for TV providers, enabling them to differentiate their service from the competition and to generate extra revenues. Also, due to the great amount of content offerings, services that enhance finding specific programs are growing more and more in importance.

With respect to interactive TV, social TV is an interesting service where iTV, social media and Web 2.0 meet. Social TV enables people to watch TV with remote friends and to communicate with them. It also enables them to send each other recommendations for video content. Moreover, social TV faces multiple technical, organisational and financial challenges, many of which are relevant for TA2.

Because particularly Motorola is very active in the field of social TV research and pilots, Motorola will be the focus of the case study in this report.

2.5.2 VisionsConnected and Skype

Video communication and videoconferencing are fast growing markets. Organisations such as KPN, Tandberg and Getronics reported sales growth in 2008 of 35%, in a market that is currently estimated at $200 billion worldwide.[2, 3] Videoconferencing can reduce travel and accommodation costs while still providing a feeling of togetherness.[4]

[2] 'KPN buys majority stake in videoconferencing specialist Talk & Vision', http://www.talkandvision.com/en_nieuws.asp, July 1, 2009
[3] 'Tandberg reports a 10% increase in units shipped in Q1 2009', May 5, 2009, http://www.talkandvision.com/en_nieuws.asp?id=721&title=TANDBERG_reports_a_10%_increase_in_units_shipped_in_Q1_2009
[4] http://blog.radvision.com/videooverenterprise/2008/09/11/100-percent-in-person-meeing-experience-is-heading-your-way/

Skype is a very interesting case as it claims to be successful, but was acquired by its original owners after a $2.6 billion acquisition by eBay a couple of years ago[5]. Currently, Skype tries to appeal more to businesses and to leverage its huge customer base of 404 million people. At the same time the company faces fierce competition from substitutes.

VisionsConnected is interesting because it focuses on managed high quality video communication services for paying business users and because it is interoperating with multiple carriers and networks.

2.5.3 Xbox LIVE

The market for video gaming is growing very fast. According to PriceWaterhouseCoopers, the video gaming market will grow with an annual rate of 7.5% from $51.5 billion in 2008 to $73.5 billion in 2013.[6] From the video game market, the console game market is accounting for 54 percent of overall spending. According to PWC, the current generation of game consoles (Wii, Xbox 360 and PlayStation 3) will drive the market for the next few years.

Xbox 360 is most interesting in this context, because it focuses on gaming as well as on providing TV and video content with its console game offering. Recently, a new gesture based recognition system called project Natal[7] was announced. Xbox also announced partnerships with Facebook and Twitter to enhance the number of 'togetherness' features on the platform.

2.5.4 BuddyPoke

Global active memberships in social networking sites (SNS's) are growing very fast. In the US, 41% of the internet population visited SNS's at least once a month and this is expected to increase to 52% by 2013.[8] Moreover, social networks increasingly seem to be taking over the communication role of email for consumer users.[9]

Social networks provide interesting and relatively new ways of low barrier communication. One of these forms of communication is BuddyPoke, an online avatar that brings status notification and messaging to a new level. It is integrated on nine social networking platforms, including Facebook, MySpace and Ning. It is successful: for example in Brazil, where in 2008 over half a million of BuddyPoke avatars were personalised and used for communication with other users.

2.5.5 Yahoo! TV Widgets

According to Forrester[10] the penetration of internet connected TV's will increase fast in 2010. Yahoo! is the first organisation that provides an open application platform for widgets on the TV screen. This platform enables any developer to produce interactive TV services.

This case is interesting because of the open application platform where all kind of developers can provide their interactive TV service. Also, Yahoo! TV Widgets currently partners with impressive names such as LG, Samsung, Sony and VIZIO, which will probably strongly stimulate the growth of interactive TV.

[5] 'Skype Targets Businesses to Ring Up New Revenue', March 23, 2009, http://online.wsj.com/article/SB123776338990608661.html
[6] 'Global entertainment and media outlook 2009-2013', PWC (2009), www.pwc.com/outlook
[7] http://www.youtube.com/watch?v=oACt9R9z37U
[8] 'eMarketer Predicts Social Network Growth Through 2013', February 9, 2009, http://www.Webpronews.com/topnews/2009/02/09/emarketer-predicts-social-network-growth-through-2013
[9] 'Social Networking Growth Outpaces Email Among US Consumers', April 22, 2009, http://www.reuters.com/article/pressRelease/idUS75445+22-Apr-2009+BW20090422
[10] 'The Year Of The Connected TV', Forrester, March 9, 2009

3 Case studies

As described in the previous chapter, the PITCH-methodology has been applied to determine the feasibility of the selected case studies and the business models that support them. We used this methodology here to provide 'rich' or 'thick' descriptions of the selected cases. This type of description does not only provide insights into the structure of the business model and the current market, but should also give an impression of the considerations of the developers and providers of the service in fine-tuning the service and business model design, or reacting to external forces.

3.1 Motorola's Social TV[11]

3.1.1 Service concept

The research lab of Motorola developed and piloted a social TV service called 'STV3'. Social TV is a term used for defining a set of television services that combine watching television with communication and interaction. The piloted versions of STV3 included the following functionalities and features (source: Harboe et al., 2008):

- Buddies can see which of their buddies are logged in and what they are watching;
- Users can start a voice chat (1 to many) or text chat (1 to 1) with any buddy in their buddy list, regardless of the channel they are watching;
- The voice call will be executed once the call is accepted by the buddy. Voice chat can be done by speakerphone style microphones in the living rooms;

[11] This case study is based on desk research and an interview with Mr. Gunnar Harboe, a representative of Motorola Labs who participated in developing and piloting the application. Furthermore, the results of the pilot of this SVT3 pilot published in Huang and Harboe (2008) were benchmarked against a pilot with similar functionality developed by TNO ICT in the Netherlands called ConnecTV (see Klok et al., 2008).

- Text chat can be initiated by selecting a buddy and typing a message**.** The text window displays up to three lines of text and can be hidden from view;
- Users interact with the application by using a standard remote control/wireless keyboard;
- Users can see a viewing history that shows what programs are popular among their buddies. This feature can also be integrated into an EPG.

Figure 4: Screenshots of SVT3. Source Harboe et al., 2008

Several studies show that Motorola Social TV increases the 'feeling of connectedness' and resembles watching TV together in the same room. Also, Motorola Social TV functionality is claimed to trigger conversations that would otherwise not occur (Huang and Harboe, 2009; Klok et al. 2008; Weisz and Kiesler, 2008).

Social TV services can be seen as an add-on to existing TV services. While users can communicate with each other and use interactive services, watching television is the activity around which Motorola Social TV services are organised, implying that most of the activities of users are content related. Therefore, we perceive Motorola Social TV services to fall into the category of Communication enriched Media services (CeM)[12].

3.1.2 Service provider and partners

Although Motorola piloted the services, the service provider anticipated by Motorola, as well as others (Schie and Staal, 2007), is a telecom operator offering IPTV services. Motorola Social TV services match the strategy of telecom operators as most of these organisations are exploring the introduction of media services, thereby 'moving up the value chain'. Telecom operators offering personal media services are expected to create customer loyalty or soft lock-in, thereby retaining customers who might otherwise be lost to the competition. Also, the technical complexity of a social TV service requires an intelligent network, which suits telecom operators well as they do not want to be marginalised into mere bit pipes.

Also, it is important that from the start of providing a social TV service, a social network of buddies already exists. Instead of building its own social network, Motorola does best by partnering with social networks. Critical partners are perceived organisations controlling user profiles and existing social networks such as Twitter, Facebook, MySpace and so on, or an intermediary who acts as an aggregator of profiles over the specific platforms (e.g. Microsoft's .Net, Google, People Aggregator).

[12] Weisz, J.D., & Kiesler, S. (2008). How Text and Audio Chat Change the Online Experience. Proc. UXTV 2008.

3.1.3 Revenue model

Due to the stage of development of most social TV services, information on propositions and revenue models is limited. In the interview as well as in a market feasibility study (Schie and Staal, 2007), the following revenue models were identified:

- Add-on in IPTV service bundle;
- Premium services granting access to extra features and/or content;
- Advertising services.

3.1.4 Market performance

While several social TV services have been piloted or released as a public beta version, no serious market introductions have been made.

3.1.5 Assessment along the fit and viability criteria

In assessing the business feasibility of Motorola Social TV services, the fit with the strategy of the service provider and the fit with the current customer relationship are the first critical criteria that spring up. On the one hand, the current billing relationship lowers the threshold to implement revenue models such as premium subscriptions. On the other hand, these services imply a redefinition of the existing customer relationship and require a leap in terms of customer intimacy.

However, the fit with the strategy of (potential) partners is less certain. Social networking platforms are critical potential partners as they provide the critical mass of users and the relations between those users. These organisations seem to perceive TV as the next step after mobile phones. The gap that needs to be bridged with social networking platforms is considerable, not only in terms of strategy (will they be mere suppliers of profile data or a gateway to content and applications they control themselves), but also in terms of technology and, for example, trustworthiness of profile data coming from the internet.

This fit with existing technologies is therefore another critical factor. STB's are not ready to provide such functionality or to enable more complicated interaction with the screen, for example by means of a keyboard. Also, interoperability is low on several levels: between fixed networks, but also on a service management level. This includes managing the quality of service (QoS) and also the exchange and importing and exporting of personal profile information.

In terms of viability on the market, the size of the user community is critical. Network effects are a first prerequisite: the network effect supposes that, with every new user of the service, the overall value of the service raises to the square. Network effects can only take place if users have a similar technology base across service providers and are triggered by similar interests, either based on high trust personal ties or interest driven weak ties.

Another issue here is the level of engagement of the user community. A great advantage of the Motorola Social TV service is that it is non-obtrusive and low-barrier. But what features will prove to trigger structural use, and what features are considered ‘nice to have’, or are a candidate for premium packages for heavy users? In answering this question, the impact on group dynamics in and between living rooms is also critical. For now, these services are designed as mere copies of the individual messaging services on the internet.

Interrelated with several of the criteria mentioned above is the critical criterion of ease of use. Because users outside of the ‘digital natives’ generation are likely to be among the early adopters of such a service, the interaction with the service should be very basic when compared to the internet. The basic features are operated with a remote, but more advanced options requiring a keyboard require a break with the TV watching habits.

Privacy is critical on several levels. Firstly, migration from data created on the internet to TV provides obstacles: the living room is a high trust environment and users therefore only seem to want to

communicate with a close circle of contacts, not their entire Facebook network. Secondly, although pilot results suggest that users are willing to reveal several types of personal information to be able to use the service, there are limits to the free flow of personal data. This applies especially to information displayed to buddies in other living rooms. Giving away real time presence information does not seem to be a major obstacle, it remains to be seen whether people would like to share their watching history with others in an EPG.

Also, research conforms that people do not want to communicate during certain types of programs, ranging from soccer matches to adult entertainment. In general, the question is whether parallel use of similar services on another device such as a laptop will be a substitute for Motorola Social TV. The pilot's participants feel that when the Motorola Social TV functionality is absent, this level of communication with other means is hard to reach. At the same time, substitutes such as SMS, online social networks and Twitter services are widely available and also used while watching TV.

3.2 VisionsConnected[13]

3.2.1 Service concept

VisionsConnected develops video applications and provides managed video services that are based on the portfolio of partner company Tandberg, which manufactures videoconferencing and telecommunications equipment. Its managed video services are currently targeted to the B2B market, offering corporate customers more efficient and effective ways of communication. VisionsConnected provides hardware (video screens, connections) as well as facilitating services such as scheduling calls. The services are delivered to enterprises, media companies and content providers or indirectly distributed to (mobile) consumers by operators or service providers.

An important feature of the services of VisionsConnected is that they provide broadcast quality video over a full managed dedicated IP video network that enables visual communication independent of the devices that are being used. Other features of the VisionsConnected managed videoconferencing services portfolio are: virtual meeting rooms, central address book, usage and availability reporting,

[13] This case study is based on desk research and an interview with Mr. Raymond Alves, managing director of VisionsConnected.

streaming and recording, concierge services, helpdesk service and other options such as a personal scheduler. According to VisionsConnected video changes the way people communicate: besides being more efficient compared to travelling, it also makes communicating more fun.

Since VisionsConnected and Tandberg's origins are communications-based, the services of VisionsConnected can be seen as MeC-services.

3.2.2 Service provider and partner network

The VisionsConnected service is offered by an application provider (VisionsConnected) and a device manufacturer (Tandberg).

3.2.3 Revenue models

The main proposition of VisionsConnected is to provide the managed video facilities in exchange for a monthly subscription. Also, relatively little money is generated by selling hardware (one time fees).

3.2.4 Market performance

As stated in the case selection paragraph, the market for corporate videoconferencing and communication is growing rapidly. It looks like VisionsConnected can profit from this market and experience a steady growth. However, there are some issues in the way of growing even faster.

Firstly, the uptake of high quality video communication services is lower than the potential growth, due to the high price perception of videoconferencing services. A number of potential customers perceive that videoconferencing systems require a large investment.

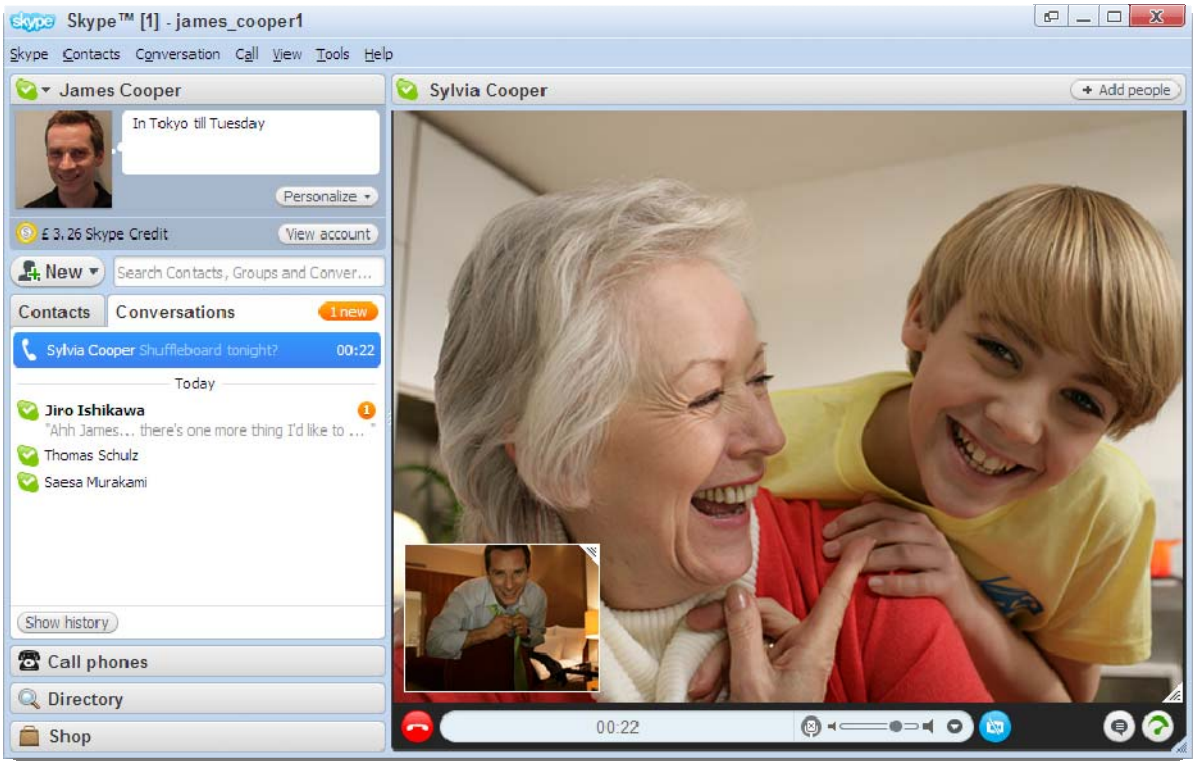
Secondly, there is a lot of competition from low quality video communication substitutes such as Skype. While VisionsConnected does not compare itself to low-quality services as Skype, potential customers often have the perception that 'all videoconferencing services are of low quality'. Because of the 'vague' definition of managed video services and great variety of market players for low-quality and managed video services, a lot of confusion about services and pricing exists. This may create extra a barrier for a faster growth rate.

3.2.5 Fit, viability and assessment

An important issue is that VisionsConnected is dependent on network and hardware providers. By partnering with Tandberg, dependency of hardware providers is decreased. But providing a managed solution that works globally requires a lot of partnerships with network operators. On the other hand, VisionsConnected supports a lot of devices and technologies. In this way users can focus on using the service instead of configuring their devices, which results in a probably better user experience compared to other video communication services.

From the viability perspective, the limited adoption of video communication services implies that, as yet, any 'network effect' is minimal; the fewer people using video communication services, the less added value the services provide for potential customers. Also, the high price perception and competition from substitutes can create a barrier for fast growth.

3.3 Skype[14]



3.3.1 Service concept

Skype is software that enables communication between people globally. Skype is used by individuals as well as businesses to make video and voice calls and send instant messages. In order to use Skype, people need to have a broadband connection. The service can be used on PCs, Wi-Fi phones, wireless phones as well on Skype phones and works with multiple operating systems. The service consists of the following features:

Individual user features	**Business user features**
• Skype-to-Skype calls • Calls over the internet • Call phones and mobiles, send SMS • Instant messaging • Voicemail • Video call • Forward calls to a phone when you're offline • Skype toolbar for MS Office and Outlook • Heartbeat, Skype status announcements for SkypeOut, online number, Skype voicemail and SMS	• Calling • Video calls from meeting room or computer • Conference calls • Instant Messaging and SMS • Admin tools to give calling credits to staff and keep an eye on costs • Skype toolbar for MS Office and Outlook • Heartbeat, Skype status announcements for SkypeOut, online number, Skype voicemail and SMS • Support: talk to a local service partner

Togetherness is facilitated through high quality video and audio and extra functionality for expressions with avatars and moods, collaboration by 'shopping together', and other applications that are

[14] This case study is based on desk research.

integrated within Skype. Since the key functionality of Skype is communication, Skype can be considered as a MeC-service.

3.3.2 Service provider and partners

The organisations that offer Skype related services are application providers and device manufacturers. By having an extensive partner network, Skype is able to integrate its services on a great number of devices and platforms.

3.3.3 Revenue models

Besides the free basic access, Skype offers premium services for calls to landlines and mobile phones (monthly subscription or pay-per-use) and by selling hardware (Skype phones and Skype shop items).

3.3.4 Market performance

Skype has a large user base of 405 million registered users in 2007 and is used in almost every country in the world. Although revenues increased from 7 to 551 million dollars between 2004 and 2008, most customers are using the basic free service. Because of this, all registered users contribute very little to Skype's revenues ($5/user).

For increasing their revenues, Skype is trying to migrate their customer base to paid services. Since there are a lot of alternatives (local telephone companies, cable providers, and other VoIP providers), this can be a difficult task. Furthermore, Skype's penetration appears to grow among business users (about 35% of total), where enhanced (paid) services may be offered[15].

3.3.5 Fit, viability and assessment

Skype is owned by online auction service eBay that recently announced its intention to spin off Skype through an initial public offering in 2010[16]. The main reasons for the spin off seem to be the negative market conditions and the difficulty to integrate Skype in eBay's strategy and processes. Furthermore, Skype finds difficulties to convert users of free services to paid users.

An important viability issue is that Skype is dependent on technology partners for using their technology and installing their software on devices. Skype is integrated with a lot of devices and technologies, but has to compete with services that are owned by their partners. For example telecom

[15] http://www.crn.com/networking/217600296;jsessionid=RJ4FY3Y3TSERSQSNDLOSKHSCJUNN2JVN
[16] http://www.watoday.com.au/technology/biz-tech/ebay-to-spin-off-skype-next-year-20090615-c9lz.html

providers and device manufacturers may choose to disadvantage Skype traffic or to prevent Skype for operating altogether, in order to fit in with their business model or to encourage use of a service provider owned alternative service. The low degree of openness of social networks also limits the ways in which Skype can be used.

3.4 Xbox LIVE[17]

3.4.1 Service concept

Xbox LIVE is an online multiplayer gaming platform for the Xbox and Xbox 360 game consoles, which are operated by Microsoft. Via the Xbox LIVE platform users can play games against other gamers, communicate with gamers in their buddy list and order games and video content on the 'Xbox LIVE Market Place'. Besides the Xbox LIVE platform Microsoft develops, manufactures, licenses and supports a variety of software products for computing devices.[18] Since gamers play games together and communicate with other users, Xbox LIVE can stimulate togetherness. Also the social network facilitates interaction with other users.

Xbox LIVE consists of the following features:

- Multiplayer gameplay (local 'system link' (max. 4) or connect online, Gold Package subscription required;
- Achievement points and 'gamerscores' (earned during playing).

[17] This case study is based on desk research.
[18] http://en.wikipedia.org/wiki/Microsoft

Communication:
- Windows Live messenger (integrated);
- Voice chat (headset required, Silver Package subscription required, max. 2 people);
- Video chat (Live Vision camera and Gold Package subscription required).

Social networking:
- Avatars;
- Friends list (created by player, max 100);
- Recent player list (the most recent 50);
- Reputation rating (based on other players' votes);
- Complaint filing system (report when another player breaks the Xbox LIVE Terms of Use);
- Enhanced matchmaking (using gamerscore, reputation, location/language, and gamer zone);
- Bio section in which one can list personal interests, URLs, etc.

Other functionalities:
- Parental controls, limiting children's exposure to other users ('Family Settings');
- Newsletter about events, products, interviews and games;
- Access to Xbox LIVE Market Place content, including new game content, games and movies, e.g. video marketplace (in combination with Microsoft TV service, using IPTV) and e.g. Xbox LIVE Arcade (for casual online gaming);
- Netflix movie streaming, only in the US, only for Netflix subscribers, requires Gold Package subscription.

Because of the focus on games, Xbox LIVE can be considered as a CeM-service.

3.4.2 Service provider and partners

The organisation that offers Xbox LIVE is Microsoft. Increasingly, Xbox is partnering with different organisations, mainly in the field of content and applications such as Netflix (VoD), but also Twitter and Facebook.

3.4.3 Revenue models

The main revenue models for Xbox LIVE consist of free 'Silver Package' access to voice and text communication and the Xbox LIVE Market Place. For extra services such as being able to participate in multiplayer online gaming and enhanced matchmaking a paid 'Gold Package' subscription exists that starts from $7,99 per month.[19] The 'Premium Gold' subscription gives access to extra features, live games, a free headset and extra points.

Besides the subscription options, Xbox LIVE users can buy premium content, such as TV series and games. Moreover, gamers pay for the hardware (game console and accessories), but this does not cover the investments that were made by Microsoft.

3.4.4 Market performance

Xbox LIVE is the largest social network on television with 20 million users worldwide.[20] The Xbox 360 game consoles were sold over 30 million times in total (as of May 28, 2009).[21] It is noteworthy that Nintendo Wii has passed this number: the company sold over 50 million units over all years (as of March 31, 2009).[22] From PlayStation 3 23 million units were sold (as of March 31, 2009).

[19] http://www.xb360info.com/Xbox/Xbox-live/110
[20] http://www.mcvuk.com/news/34445/360-global-sales-surpass-30m
[21] http://www.mcvuk.com/news/34445/360-global-sales-surpass-30m
[22] http://www.shacknews.com/onearticle.x/58824

3.4.5 Fit, viability and assessment

Microsoft's Xbox LIVE service offers a good user experience; the game console remote control and the user interface provide an intuitive way of gaming. Also, the match with Microsoft's strategy to strengthen its position in people's living rooms by providing multiple home entertainment services is good. Furthermore, because Microsoft fulfils multiple roles in the value web, fewer dependencies exist with partners.

On the other hand, the target group for Microsoft is specific and consists of hardcore gamers, a target group in which a lot of competition is encountered from alternative services such as PlayStation and online multiplayer games that can be played on PC's. Moreover, the open platform model and Xbox LIVE market place that provides access to third parties can increase the attractiveness and thus revenues for Xbox LIVE.

3.5 BuddyPoke[23]

3.5.1 Service concept

BuddyPoke is a profile and avatar application that can be used on social networks to show one's emotions and to interact with friends that use the same social network. The application can be added to

[23] This case study is based on desk research and an interview with Mr. Dave Westwood, developer and owner of the application.

one's profile on social networks Facebook, Orkut, Hi5, MySpace, Netlog, Ning, QuePasa, Lokalisten, Friendster and Hyves.

Summarized, BuddyPoke supports the following functionality:

- Customize the avatar's appearance;
- Set and share mood, state of mind and activities;
- 'Poke' friends by e.g. hugging or kissing their avatars;
- Send short text messages (100 signs).

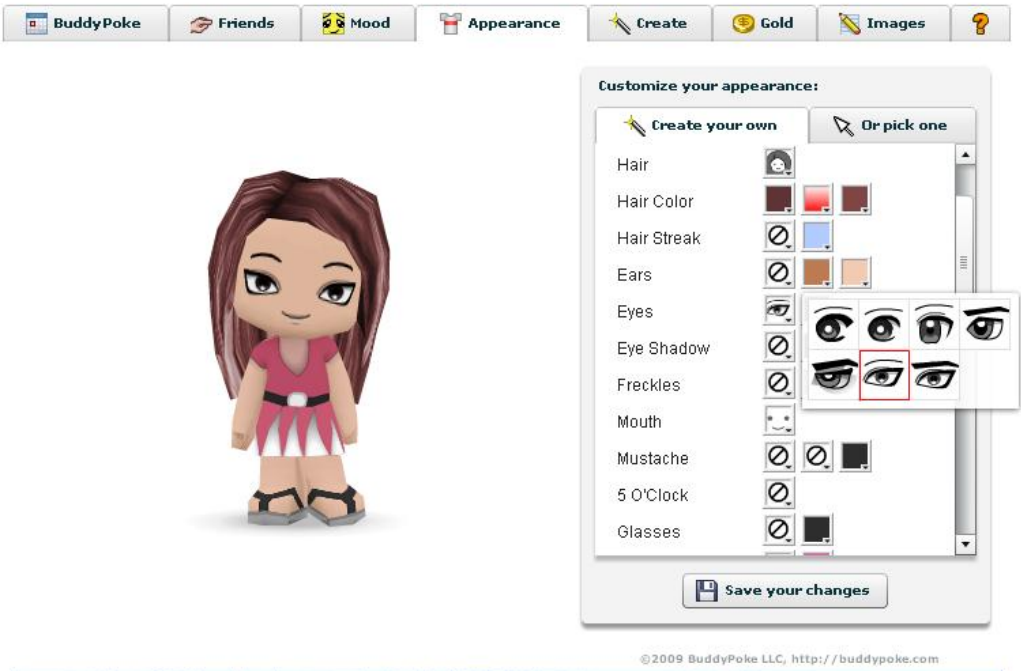


Figure 5: Customizing avatar's appearance with BuddyPoke

Since BuddyPoke facilitates social network users to show their emotions, the application helps to stay in touch with other people and to share a feeling of togetherness. Since social networks focus on communication, BuddyPoke is considered a MeC-service.

3.5.2 Service provider and partners

BuddyPoke is offered by social networking sites to their users. Sometimes BuddyPoke receives a one time licensing fee for using BuddyPoke on their platform. Also, revenues are shared for advertising banners and sponsored BuddyPokes.

3.5.3 Revenue models

For BuddyPoke, several revenue models exist:

1. Free basic access to customize and share the BuddyPoke avatar for users, SNS's pay BuddyPoke Inc. a one time fee and revenue share in the advertisements around (not in) the application.
2. Premium paid services for exclusive BuddyPokes, BuddyPoke Inc. gets a share of the revenues.
3. Branded BuddyPoke content.

3.5.4 Market performance

Since its start, BuddyPoke has been very successful. 'BuddyPoke processed 1 million installs on Netlog and 17.8 million visitors (February 5, 2009), 1.1 million active users on MySpace (February 8, 2009), 1.3 million users (16% of total users) on Hyves (February 8, 2009) and the application was

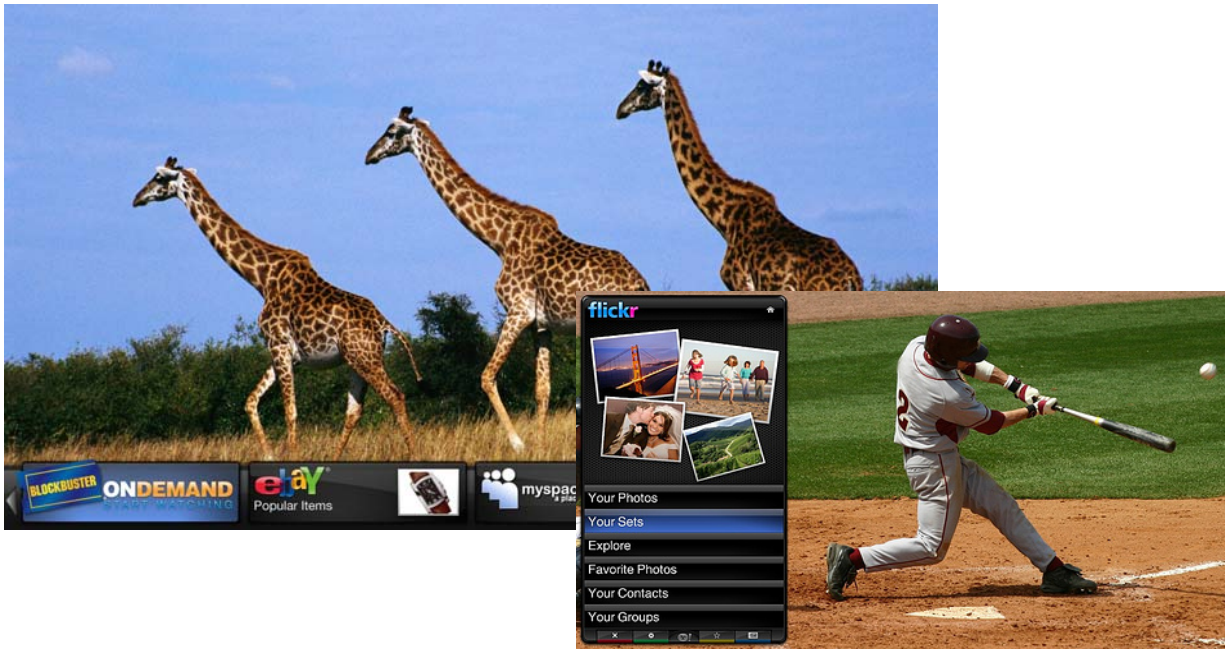
listed as most popular in the Orkut application Directory.' [24] Since its introduction BuddyPoke has especially been popular among young and teenage girls.

3.5.5 Fit, viability and assessment

BuddyPoke's intuitive interface provides a good user experience. Moreover, BuddyPoke is present on the major social networks by using their open API. However, the dependency on SNS's is still extensive; BuddyPoke can get limited access to other social networks but coping with multiple technologies remains an issue.

From the viability criteria perspective, the high adoption rate is impressive, but it is challenging to adapt BuddyPoke to different cultural differences and events. Competition is limited since the avatar service is currently only competed by substitutes (profile with picture and text without BuddyPoke).

3.6 Yahoo! widget TV[25]



3.6.1 Service concept

In 2008, Yahoo! launched its Connected TV initiative. In a partnership with Intel and vendors of television screens, the service offers a selection of widgets to be installed and operated on an overlay screen on the television set, without mediation by a telecom operator, STB or any other additional hardware. The widgets are operated with the remote control that comes with the TV set. For now the widgets are mainly based on professional content including Yahoo!® Finance, CBS, USA Today and Netflix. Nevertheless, social applications have also been integrated as widget, mostly in a more closed format compared to the internet. Examples here are Flickr (owned by Yahoo!), eBay, Twitter and Facebook.

[24] http://www.viralblog.com/Widgets-apps/cute-buddypoke-wins-hearts-of-the-social-Web/

[25] This case study is based on desk research and on an interview with Mr. Rich Ezekiel during the EuroITV 2009 conference in Leuven, Belgium. As a member of Yahoo!'s Connected TV Group, Rich Ezekiel serves as the Director of Strategic Partnerships, where he is responsible for defining, planning, and executing Yahoo!'s next-generation Connected TV experiences with major partners across the globe.

Yahoo! TV Widgets allow consumers to interact with their favourite web services while they watch TV: 'Press one button on your remote to bring up the TV Widget Dock, select a TV Widget, and view content without missing a moment of your favourite TV show. No more arguing over the remote, as everyone gets to enjoy what they want at the same time! You can check out the latest news from the New York Times®, while other family members are still enjoying the TV show.' [26]

3.6.2 Service provider and partners

Yahoo! provides the service on television sets of the following television manufacturers: Samsung, Sony, LG and Vizio. Intel is a critical partner as their built-in chips enable the TV's to present this kind of functionality. Other partners include the TiVo PVR which discloses this service on its platform and AT&T (nature of partnership unknown).

On the content and application level, Yahoo! chooses to act as an intermediary offering a technical platform. It partners with professional content owners and net native platforms mentioned above, and more. These we assume loosely organised partnerships are enabled by Yahoo!'s 'widget engine', a relatively standardised and open API with a widget development kit based on software called Konfabulator. In this way, Yahoo! wants to enable an ecosystem of developers, publishers, device makers and advertisers to develop a wide array of widgets.

3.6.3 Revenue models

For now, Yahoo! is said to receive a small revenue share on the retail of the television sets. However, its main focus now is to develop a proposition towards advertisers. Based on the profiling of users, Yahoo! aims to create a targeted advertising system for the television.

3.6.4 Assessment along fit and viability criteria

In terms of fit with the organisation and partnerships, Yahoo! seems to have positioned this service quite well in terms of business partnerships. Apart from the fact that it fits their current role online and on mobiles, manufacturers of television sets have a hard time gaining a competitive edge, and value added services such as these can provide such an advantage.

[26] Quote taken from connectedtv.yahoo.com

On the other hand, Yahoo! is well connected with a wide range of content and application owners, and might be able to leverage these existing relationships to convince those organisations to participate and create their own widget. Also in other fields, Yahoo! leverages existing capabilities to the fullest: the service seems to fit well in the existing target group of Yahoo!, which is considered more mainstream than other net native portal owners, and existing revenues models such as advertising may also be transferred to the living room.

The analysis of the viability on the market however shows a different picture. Despite the fact that Yahoo! TV widgets are pre installed on the TV sets, the adoption by consumers might actually be low. First of all, the quality of service is said (anecdotal evidence) to be poor, due to the absence of a network operator in the partnerships (AT&T being the exception to the rule). Once connected to the internet, loading times are long, which might prove to be decisive for the user at home.

Secondly, the usability of the widget becomes quite complex once a widget opens and consumers are able to browse collection of widgets, their personal or other people's social networking profiles, pictures etc. It resembles browsing the internet, which is quite hard on a TV with a remote control.

Thirdly, the widgets are tailored along the concept of online widgets, which are designed for individual use. Up until now, a large number of attempts to bring social features on to the television, based on copying online services, have failed. Especially when families are targeted, watching TV should be considered as a group activity, and the interaction with the TV set should take into account the group dynamics in, and sometimes between, the living room(s).

4 Cross case analysis

The 'thick descriptions' of case studies in chapter 3 serve as basis for the cross case analysis in this chapter. in which we aim to identify, map and classify business and market insights that are relevant for TA2.

This chapter is structured along the five steps outlined in the PITCH-methodology. The first three steps concern business model design. First we compare and analyse the build-up of service concepts and how they enable the creation of different types of togetherness. Secondly, we turn to the value network in which we compare value networks and identify key capabilities any business partnership needs to control in order to deliver a business feasible TA2 experience. Thirdly, we map and outline the accompanying propositions (revenue models).

The last two steps concern the analysis in terms of business and market feasibility. Identifying critical factors in terms of fit (with organisation) and viability (on the market) is the fourth step, followed by an overview and analysis of the overall assessment of all cases. This cross case analysis is the stepping stone for the conclusions and recommendations in chapter 5.

4.1 Analysis of service concepts

An overview of the case studies in terms of types of functionality they offer shows that they all share similar functionality and thereby create similar types of value (see figure 6). Services offered over different types of platforms (TV, internet, game console) are broadening the range of functionality and services, assumingly to gain a competitive edge as a service platform. Videoconferencing service packages of Skype and VisionsConnected include content sharing and notification features.

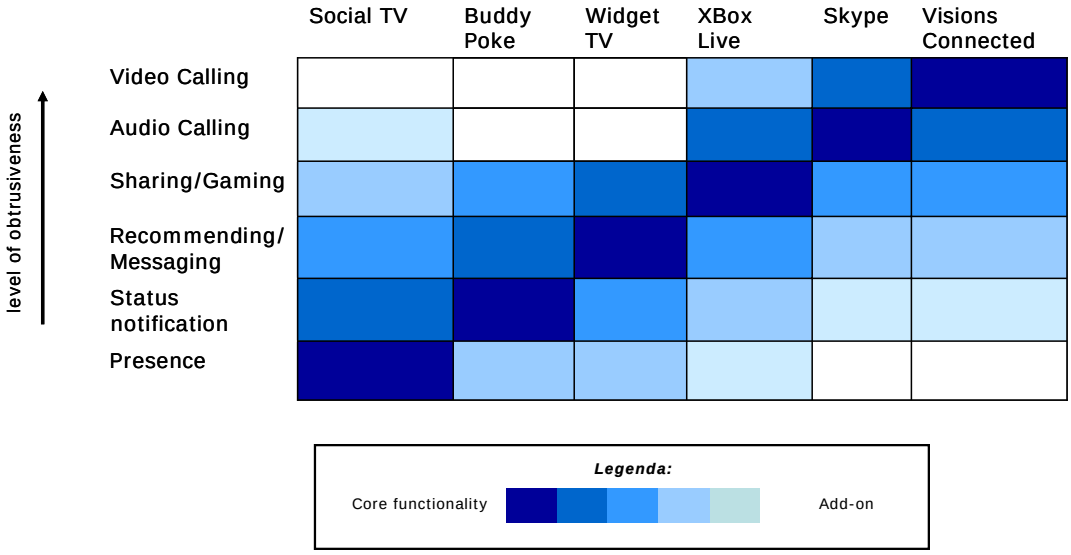


Figure 6: Overview of functionality in service concept

Gaming platforms such as the Xbox 360 include a live audio and video calling functionality, but also messaging and recommendation features that are supported by social networking partners such as Facebook (www.facebook.com) and Twitter (www.twitter.com). And relatively simple notification features on social networking sites developed into rich subcommunity platforms such as BuddyPoke, an embedded application that enables community members to create avatars that are able to message, interact and play with each other. Overall, it can be stated that service platforms are increasingly converging into generic social media platforms.

However, the manner in which these functionalities are bundled differs. In each case, the different types of functionality are combined in order to not only create a more inclusive offer, but also to create synergies. Presence, status notification and recommendation and messaging functionality need to trigger users of these platforms to engage in collaborative activities such as gaming and sharing content. Apart form the business-to-business videoconferencing service of VisionsConnected, impulse driven, ad hoc notification and recommendation is perceived to be the mode of communication that might trigger more intense forms of communication. Gaming or sharing content might induce users to make this experience more immersive by adding audio and video calling.

Also building on previous discussions on notions of togetherness (Kort, Steen et al., 2009), these findings suggest some kind of *hierarchy in different notions of togetherness* (see figure 7). Each of the aforementioned functionalities enables the creation of a notion of togetherness. From a business and market perspective, there is no reason to believe that there is a degree of togetherness, i.e. that one notion supersedes the other in terms of being 'together'. We labelled it a hierarchy because of the fact that by creating a type of togetherness that is not obtrusive, people might feel persuaded to more obtrusive modes of communication. We assume that as communication becomes more obtrusive, a smaller number of the users of a service or service platform will feel inclined to use it.

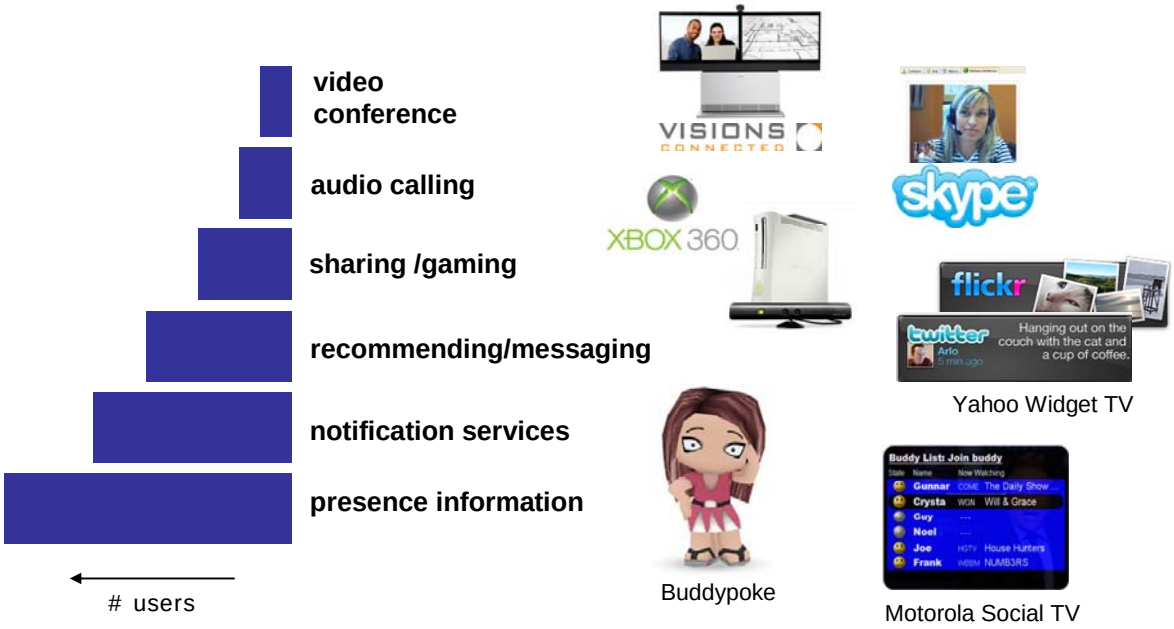


Figure 7: Hierarchy in notions of togetherness

4.2 Key capabilities in value network

The business models in each of the case studies involve different business actors to fulfil the roles required to deliver a service resembling those envisioned in TA2. These partnerships are forged in order to create one or more capabilities that enable the service provider to create surplus value and a competitive edge.

Based on the analysis of the case studies, we now turn to a discussion of the key capabilities that are most contested, but that at the same time also do induce companies to cooperate. These are the capabilities that make or break a business model. Control over several of these capabilities enables a business model to become viable. We will use the value network as described in Limonard, Esmeijer and Staal (2009) to map these capabilities.

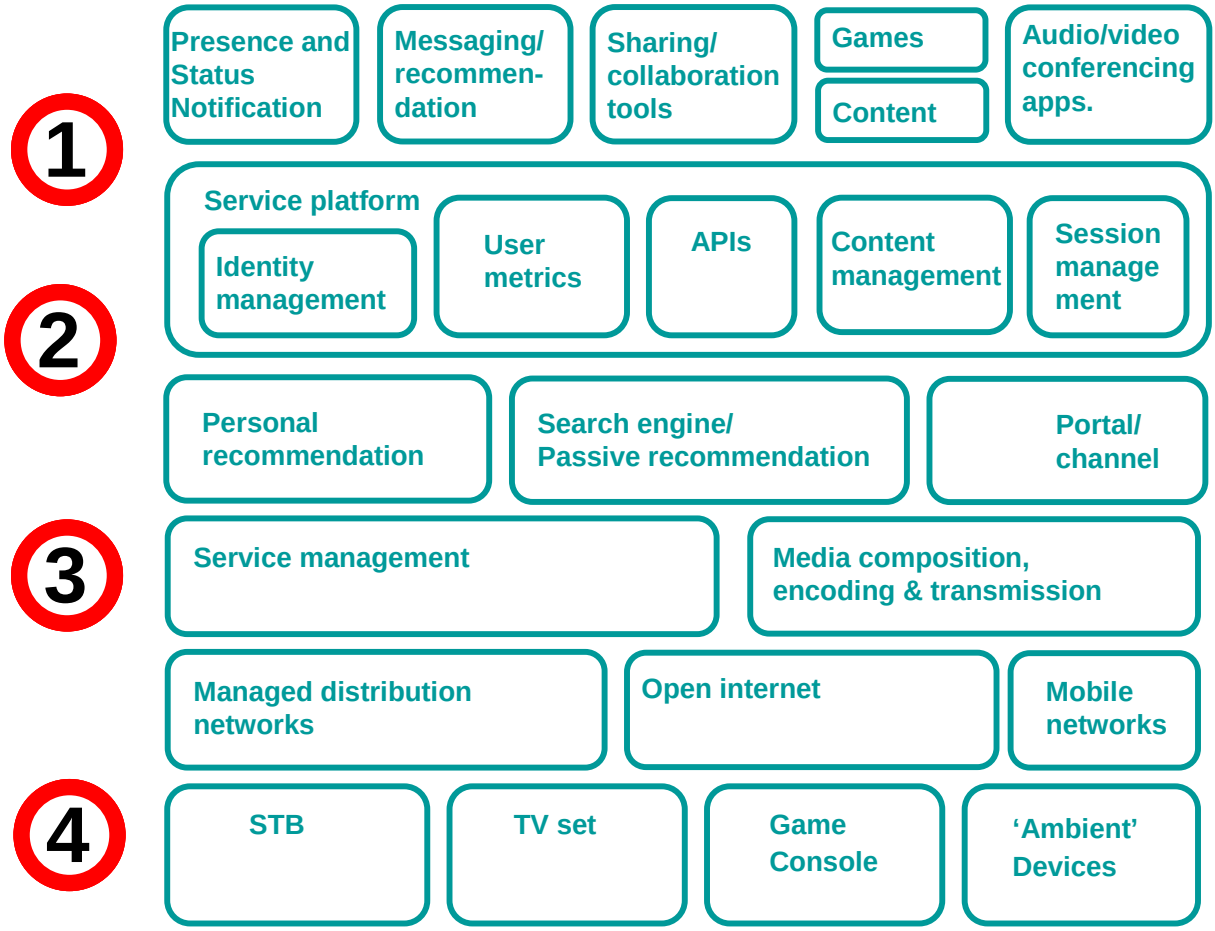


Figure 8: Key capabilities required to create a viable business model

4.2.1 Capacity to build an attractive application and content store

The previous section revealed that different sorts of applications are required to create an engaging social experience in the living room. The service provider offering the most appealing applications is likely to attract a larger audience and trigger active use of its services. These findings are supported by research on mobile application stores that reveal that engaging applications are among the main competitive advantages to attract users, and the continuous introduction of new applications prevents online communities from becoming inactive. The question is to what extent these applications are developed in-house (first party), tailor made in cooperation with partners (second party) or based on an open, standardised API (third party).

In the case sample, different strategies are selected for different kinds of functionality. Video and audioconferencing applications such as VisionsConnected or Skype, and also video chat on the Xbox 360, were developed in house and are an integral part of the service platform. Moving down the 'hierarchy of togetherness', the development and implementation of applications is performed in a more open manner. The Yahoo! widget TV case is the primary example of a third party platform where 'the crowd' is invited to develop applications based on an open API. With this approach, Yahoo! aims to build a critical mass of applications which is continually renewed.

On the other hand, commentators argue that this typical Web 2.0 approach might be fruitful for the internet, but lacks the customisation required to make these applications viable in the living room.

This is one of the main reasons for Motorola to develop the applications for their social TV platform in close cooperation with application developers and network operators.

Finally, we need to note that applications lacking a certain degree of technical complexity are best developed on an open API. The BuddyPoke case is an example of a second party application developer which demonstrates that developing engaging applications and continuous development do not necessarily require a crowdsourcing strategy.

4.2.2 Capability to leverage aggregated user data

The capacity to control and leverage user data is a major asset. As Web 2.0 guru Tim O'Reilly put it: who controls the data, controls the business model. This also seems to be the case in the living room where network operators, content aggregators as well as application and content developers are all fighting for a piece of the pie.

In the field of Motorola Social TV services, user data is relevant for two reasons. First of all, it is a requirement for the status notification and recommendation services that are required to trigger ad hoc communication. Secondly, user data forms the basis of the majority of revenue models associated with Motorola Social TV such as targeted advertising and premium memberships.

The question is to what extent the control over user data is concentrated in one single organisation, or whether the control over user data is distributed over several business partners. The answer to this question is partly determined by privacy considerations. Privacy concerns might prevent a single service provider from aggregating too much personal information (a concern especially relevant for telecom operators as they can make a link between address details and IP numbers). On the other hand, privacy concerns might prove to be an obstacle to let personal information 'drift', i.e. be used for services or goals other than those for which the user signed up, or be used for the same service on a different platform (in the case of social networks: from the internet to television) without prior consent of the user.

Videoconferencing services such as VisionsConnected and Skype (are able to) control a rich library of data, but only marginally leverage this data toward users by means of recommendation/notification or for the support of revenue models. As these service providers enable media rich, obtrusive ways of communication, privacy concerns might scare off users. Other companies who offer a range of (largely less obtrusive) services such as Yahoo! Widget TV, Xbox 360 and Motorola's Social TV do leverage user data actively. In providing widget TV, Yahoo! collects and leverages this user data to support its main revenue model, targeted advertising, without involving its hardware partners. This seems to be the exception to the rule, because in other cases the telecom operator and gaming platform company forge partnerships in which a division is made between user profiles and generic and specific user metrics.

Two issues spring up in answering questions about how the division of roles based on user data will occur. In terms of business partnerships, the first question is whether social networking sites or other net native organisations will be mere suppliers of user profiles, or will also function as the gateway to content and applications on the platform of this organisation. The second issue lies in the field of user acceptance. If the revenue model such as advertising or premium membership is closely related to the content or application, it is more likely that the online partner of the service provider will seize a large part of the revenue share. If the revenue model is closely linked to the platform itself and decoupled from specific applications, content or embedded service platforms, the service provider (telecom operator, game console) is likely to claim a larger stake.

4.2.3 Capability to provide interoperability between networks

Motorola's Social TV services need to be rolled out over different distribution networks. So called 'walled garden' strategies are less applicable as these prevent a critical mass of users to get in touch with each other in the living room. This trend does not only cover network operators, but also other

players such as game console companies. The key capability in creating a viable business model is to provide interoperability between networks (managed TV networks, sometimes also between managed networks and open internet/mobile) while maintaining a sufficient degree of quality of service. Users are accustomed to real time interaction on the internet. They might expect similar experiences in the living room, and even better quality when it comes to audio and video calling. The question is to what extent interoperability and quality of service are balanced and who will take up this role: the aggregator, the network operator or a third party?

Although not all services in the case studies face this question, several strategies can be identified. VisionsConnected is a company which built its business on this balancing act. By providing managed telepresence services, it is able to provide videoconferencing services over different fixed networks and, depending on the capabilities of the access points and networks of the different participants, hook up participants from other channels as well. Although acting as an intermediary, VisionsConnected is still closely connected to Tandberg, from which it acquires most of its hard- and software solutions, and needs to strike deals with several Dutch telecom operators.

Skype aims for interoperability over other platforms, up until recently at the expense of any guaranteed quality of service. This problem is now being addressed by moving into more closed partnerships with all kinds of clients, but the interoperability and quality of service still are considered to bottlenecks. The same applies for the Yahoo! TV Widgets. The full interoperability across networks seems to directly influence the quality of service, which is said to be mediocre.

The Xbox functionality seems to be working quite well without very active service management, although we could not identify to what extent audio and especially video calling is hindered by lack of service management. What we do know is that this is a unique selling point for the Motorola Social TV case, which aims to combine quality of service and interoperability to create a real time social TV experience.

4.2.4 Capability to provide an interface that enables the creation of a social experience

The service provider that is able to provide an interface which supports (a range of) functionalities enabling a social experience will most likely be able to attract a large customer base. This does not mean all players are opting for one single ‘killer’ application. The different types of togetherness require different kinds of interaction, ranging from ‘lean back’ interactivity when it comes to notification and recommendation, to lean forward behaviour when it comes to gaming and videoconferencing. The more obtrusive the type of togetherness, the more advanced the interface becomes.

This is underlined by the appreciation of the interface through which such applications are presented to the user: an application which is presenting a new feature supporting some kind of togetherness such as BuddyPoke is offered through the social networking platform already in use. The user is not facing a whole new application encompassing installation, registration etc., but is offered an add-on to his already accustomed platform (Facebook, Hyves, MySpace). This low barrier, add-on strategy also applies to the Xbox LIVE case, which is not confronting its users with a new interface. The Motorola Social TV case shows the opposite: their users need to switch from their general TV menu interface and via the EPG interface to the interface opening the social TV options. This may be one step too far for some users, especially the less digitally literate.

4.3 Revenue models

An important part of the business model is the revenue model, or how the service provider aims to generate revenues from providing his service. The kind of revenue model has a major impact on the adoption and success of the service. As can be seen in table 1, the revenue models of the studied cases differ greatly from each other.

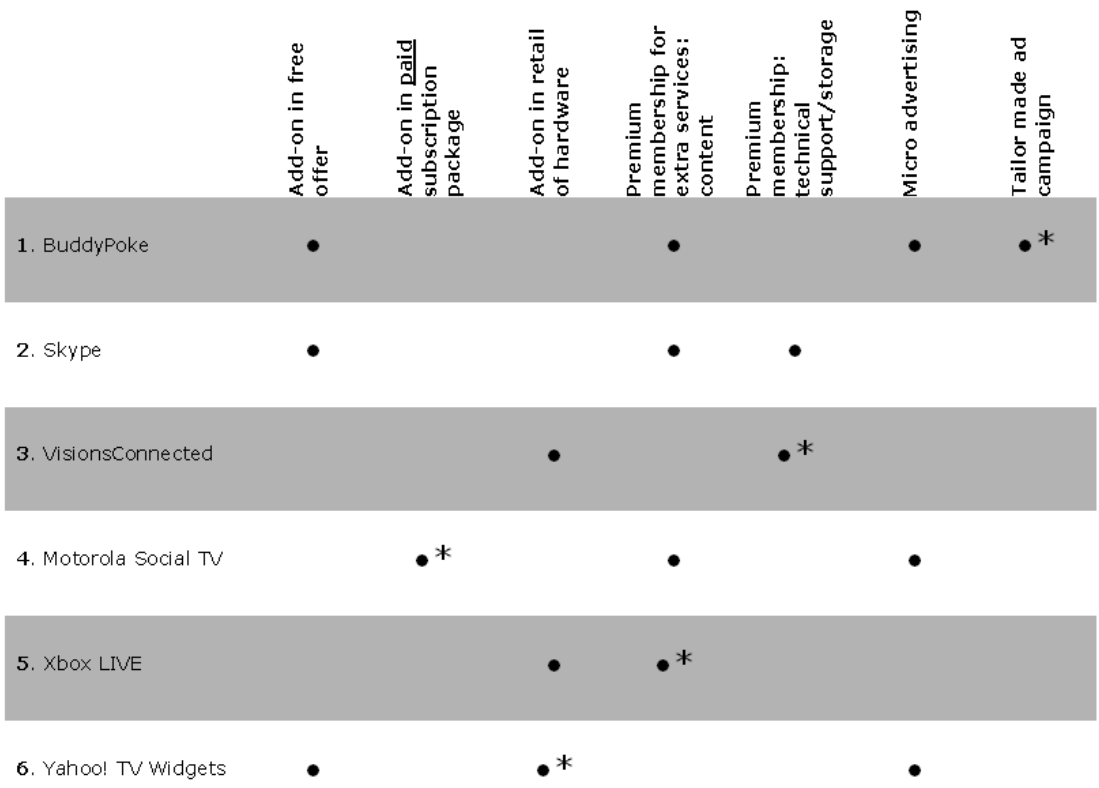


Table 1: Revenue models for cases (main revenue model is indicated with '*')

The conclusion is that no general revenue model can be extracted. The choice of revenue model directly depends on the type of service provider offering the service and the target group upon which they focus. However, it is notable that the studied Web 2.0 services are all offered as part of a free offer, or as a free add-on to a subscription package. For BuddyPoke, Skype and Yahoo! TV Widgets the most important reason for choosing this model is probably that it is expected to accelerate the uptake of their service. The 'add-on in free offer' model most of the time implies that the service is dependent on other, more indirect, revenues such as advertising and tailor made campaigns; the revenues of which will often need to be shared with partners in the value chain.

For advertising revenues in TA2 related service environments a lot of uncertainty over privacy exists. There is a strong feeling of infringement of people's privacy in the living room, using private profiles and possibly accompanying private messages. Not many of the service providers studied here have chosen this path for their revenue model.

In the case of Motorola Social TV, the service provider can use the 'add-on-in-subscription' service as an incentive for consumers to buy a TV subscription. However, it is questionable whether the consumer perceives the added value as large enough to switch from service provider.

Premium memberships are popular in the selected cases. In a premium membership model members pay an (extra) subscription fee for extra content, applications or services. The subscription fee for premium content services for e.g. Xbox LIVE generates a big part of the total revenues. However, for the Web 2.0 services such as BuddyPoke the subscription is relevant for only a small part of the total user group and usually the premium fee is relatively small.

For B2B services as offered by Skype and VisionsConnected the subscription fee can be higher in exchange for providing a professional customer support service. The extra revenues from the sales of hardware and equipment can be seen as negligible, since in day-to-day reality most service providers

loose money on selling the hardware that is needed in order to use the service and hope to make up for this 'loss' via service revenues.

4.4 Critical criteria

In chapter 3, the case studies and their critical factors have been described. Although for each case the fit and viability criteria can have a case specific interpretation, interesting conclusions can be found by comparing similar cases.

Table 2 describes the most important criteria. This list is based on an extensive list of criteria that has been derived from the case studies in this project and from the results of D8.2 on the business feasibility of togetherness services. In table 2 below the studied cases are scored against these criteria. The criteria marked by 'X' are largely responsible for the success, or otherwise, of the different cases.

		FIT criteria				**VIABILITY criteria**			
	TA2 case study	**Fit with partners**	**Synergy in portfolio**	**User experience and QoS**	**Interoperability**	**Critical mass**	**Segmentation**	**Revenue models**	**Substitutes/ Competition**
Communication enriched Media	1. BuddyPoke	X			X	X	X	X	
	2. Skype	X	X	X	X	X	X	X	X
	3. VisionsConnected	X	X	X	X		X	X	X
Media enriched Communication	4. Social TV	X		X	X	X	X	X	X
	5. Xbox LIVE		X	X		X			X
	6. Yahoo! TV Widgets	X	X		X			X	

Table 2: Evaluation of fit and viability criteria for TA2 case studies

In the following sections the most important conclusions concerning the criteria are presented.

4.4.1 Interoperability and fit with partner network are crucial for (almost) all of the cases

For most case studies, it appears to be crucial that different systems and technologies are working together seamlessly. In the case of Skype and Yahoo! TV Widgets for example, it is important that the

application works on different mobile phones and TV sets. Yahoo! TV Widgets even settled deals with TV manufacturers which were initially seen as fierce competitors, such as Sony and Samsung.

Interoperability may be even more important for BuddyPoke and Motorola's Social TV which need to be working with different social networks, set-top boxes and TV service providers respectively. Without interoperability, these services would probably have little network effect and slow market adoption. VisionsConnected actually bases its services on interoperability; it offers a managed videoconferencing service that works with different operators and providers and takes care of the whole videoconferencing solution from arranging appointments to setting up and moderating calls and interfacing with different mobile and fixed telecom networks. This ability serves as a strong Unique Selling Point of VisionsConnected's services portfolio.

A profound network of partners has a positive impact on the interoperability of the TA2 services. Their extensive list of partners has helped Skype to spread their application to millions of users. Also, VisionsConnected has a lot of partners to make sure that their service works with different networks and different providers. For Motorola Social TV and BuddyPoke a partner network of Social Network Services is essential to use the service together with friends and share the feeling of togetherness. Without the SNS, BuddyPoke and Motorola Social TV providers can probably not hold out to set up their own network.

The same seems to apply for openness of the TA2 services; Xbox LIVE and Yahoo! TV Widgets both choose to open up their platform and let third party developers build applications on top of their platform. For Xbox LIVE this results in great number of games and video content which increase the attractiveness of the game console offerings and thus their revenues from console games and content. For Motorola Social TV the lack of openness of the current TV platforms generates problems; for TV service providers it is difficult to integrate multiple SNS in their offering. Also, the 'walled garden' model of IPTV will make it difficult for Motorola Social TV service to work on other TV platforms.

4.4.2 Smooth user experience and QoS may stimulate the success of TA2 related services

For a number of Social TV pilots (e.g. the ConnecTV pilot) users faced difficulties concerning the user experience of the application (Schie and Staal, 2007). This directly influenced their willingness to use the service, or to choose substitute services. On the other hand, Xbox LIVE shows that an intuitive user interface and nice to use game controller can take away obstacles for using the service. A smooth user experience in particular seems important for CeM specific services. For MeC-services the user experience is also important, but seems to have less influence on their success.

Confusion about the existing quality of service level seems to slow down progress in some cases. Skype experiences difficulties in attracting new groups of B2B customers since the quality of service of online videoconferencing is often perceived as low. Even though the quality of the B2B VisionsConnected service is much better than online B2C videoconferencing services such as Skype, VisionsConnected has to deal with a lot of confusion about the quality of their fully managed services. The right way to change this perception is probably to let potential customers experience the high quality of the services themselves.

4.4.3 Togetherness services should create synergies with the organisation's service portfolio

In most case studies, the TA2 related service strengthens the service portfolio of the service provider. E.g. VisionsConnected's service offering and partnership with Tandberg creates synergies for both, since their product portfolio focuses on videoconferencing and telepresence. However, this fit may fade away when strategies for further growth are changed. For example, when Skype's shareholders insisted on generating more revenues from their users, Skype had to ask money for more services and address other (business) users. Currently this may be a reason for eBay to privatise Skype.

At the same time, Microsoft sees in Xbox LIVE a way to obtain another gateway to the customers' homes; the service was originally used for gaming purposes only, but provides video content services

and set-top box functionalities too. Xbox LIVE creates therefore synergies with other services such as Microsoft's IPTV platform and internet portals.

4.4.4 Critical mass and segmentation are important for the success of the service

Finally, a critical mass and the right segmentation are very important for the success of the service. The value of Motorola Social TV, BuddyPoke, Skype and Xbox LIVE's multiplayer gaming and communication service directly depends on the number of users and the kind of users that are using the service. For social TV, it is only useful to communicate with others, if you know them personally and if your friends are using the service too. This means that Motorola Social TV should not be used by small scale service providers only; cooperation with other service providers is necessary to create a critical mass.

At the same time, some services are widely available but focus on a specific target group which decreases the chances for critical mass. For example game consoles are being marketed in particular towards male fanatic gamers.[27] It is questionable whether the more general TV and content services will be attractive enough for this group. On the other hand, providers of e.g. content do also have requirements for the profitability and reach of the services they provide. This can make it a prerequisite for some potential TA2 services to target the service on a more general and larger user group.

The same applies to Skype for it has a large number of non-paying users. These users may generate a critical mass or network effect on the one hand, but at the same time cause considerable operational costs without compensation with revenues from paid services.

4.4.5 Fierce competition and lack of well defined revenue models increase the need for showing added value

Showing the specific added value which is created by a potential TA2 service is very important before defining revenue models. Otherwise, when money is asked to use the service, chances will increase that users, businesses and advertisers will switch from service provider. This need for showing the services' value increases because of competition.

CeM- as well as MeC-services face fierce competition from other service providers with similar services or from alternative 'substitute' services. E.g. while Skype tries to upmarket their products, their 'free image' and competition from other free or low-cost services make it difficult to convert more consumers to paying Skype users. On the other hand VisionsConnected has to deal with the low quality image of videoconferencing. Their potential business users appear to have doubts about the quality of videoconferencing, mainly caused by the early-day low cost conferencing services such as Skype.

The same applies for Motorola Social TV: currently a lot of substitutes exist for communicating while watching TV: SMS text messages, instant messaging and Twitter are frequently used as such, and internet enabled TV sets make it possible for online services to enter the television screen. This trend makes it more difficult for completely new, but similar services, as they still need to prove their added value.

4.5 Assessment: readiness for the market

Now that the cases have been described and analysed in the cross case analysis, a preliminary PITCH-assessment can be executed. Such an assessment provides valuable insights into the viability of the business model for a TA2 service and on how to improve its score on the fit or viability criteria.

[27] http://www.mediaonderzoek.nl/1126/mannen-en-vrouwen-gamen-anders/

The PITCH-assessment of the cases that were studied here is shown in figure 9. It is important to note that it cannot be regarded as a 'full assessment': for this too few criteria were determined so far. In order to perform a complete assessment an evaluation with respect to more criteria than those listed in D8.2 is required. Because of this, it will serve as a basis for first conclusions about the services' viability and its conclusions will mainly concern the maturity of the services (fit) and market (viability).

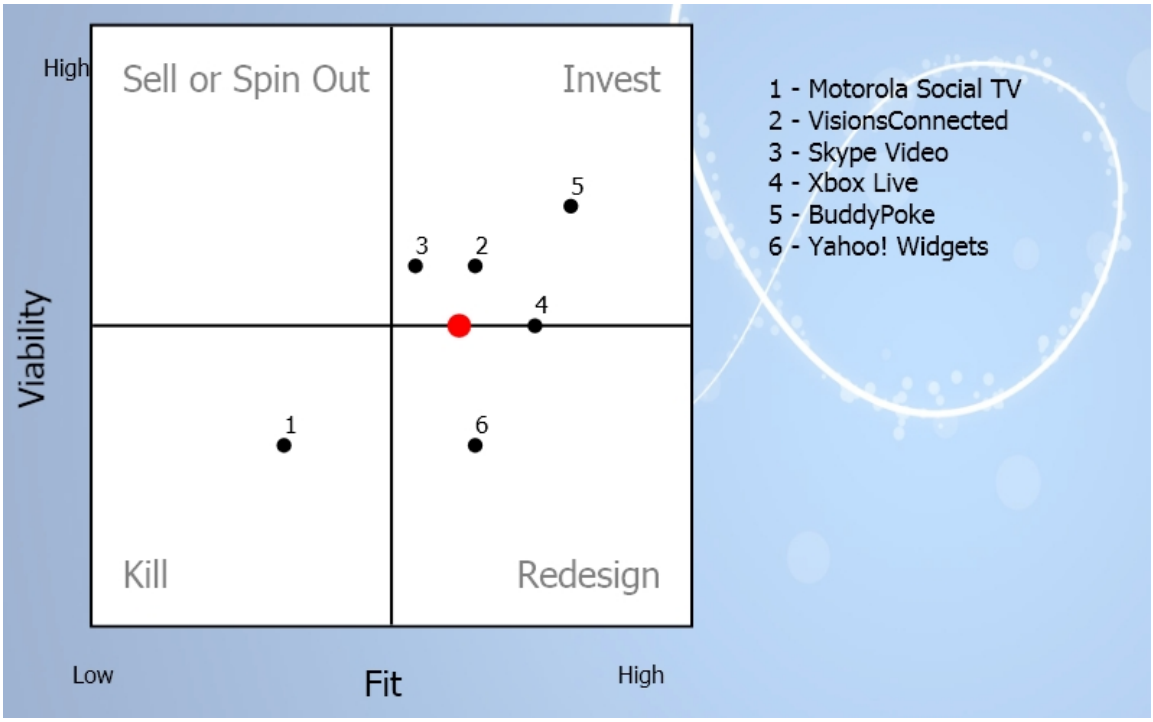


Figure 9: TA2 related cases in PITCH assessment

A first conclusion is that the outcome of the PITCH-methodology is very different for each case. Most services are in the *invest* or *redesign* square, which means that these services score well on the fit and viability criteria and that their maturity is medium to high. In order to obtain an even better score the focus with respect to these services should be on improvements of the scores on the viability criteria.

For BuddyPoke (#5) the conclusion is that extra investments are appropriate. The fit as well as the viability outcome for BuddyPoke is good. However, it is still difficult to find the right revenue model. To strengthen its position, BuddyPoke could invest in integration with other, smaller social networks to increase its relevancy for users and to start pilots with them to discover revenue models that work.

Skype Video (#3) and VisionsConnected (#2) are both placed in the 'invest' quadrant. Skype has a large number of users, but it does have a hard time competing video and instant messaging communication alternatives. Also, a synergy gap with eBay and customer support issues cause difficulties in the adoption of their paid services by B2B users. For increasing its viability and fit score, investing in marketing (image building) and support is necessary. VisionsConnected is also part of the fast rising B2B video communications market, and expands to other geographical markets. For improving its viability, VisionsConnected should also focus on changing potential customers' perception of the quality of their service.

Xbox LIVE (#4) is on the border of invest and redesign. The score on fit criteria is good, but the high number of alternative game consoles for the specific target group ('hardcore gamers') and the broad range of services causes a great level of competition, and thus a lower score on viability criteria. To

improve its position, Xbox LIVE should invest in making their service available and attractive for other target groups too.

Yahoo! TV Widgets (#6) is assessed in the 'redesign' square. The score on viability is low, due to the high level of competition and the fact that a limited number of users do have access to its TV Widget application. However, the openness of Yahoo! TV Widgets makes it possible to supply extra distribution partners of the service easily.

Finally, Motorola Social TV (#1) is in the 'kill' zone. There are too many complexities to make the service successful; a high level of competition, dependencies on service providers and a gap in the partner network prevents a further growth in adoption by users. To improve on viability, Motorola should invest in low-key social TV applications (via e.g. widgets) and partner with social networking sites and telecom operators.

5 Conclusions and recommendations

Based on the cross case analysis in chapter 4, several conclusions were distilled on the market perspective for TA2 applications. These conclusions lead to a number of recommendations on how to make business informed design decisions.

Table 3 below contains a summary of the conclusions that are elaborated in the following sections. Given the complexity of the business ecosystem and the related multisided markets, we organised the conclusions as the most likely business models of the different 'candidate' service providers:

- Telecom operators;
- Game console platforms;
- Internet native platforms offering OTT TV.

	Telecom driven	***Game console based***	***Over The Top TV***
Core value creation	• Presence • Notification • Recommendation	• Sharing/gaming • Messaging	• Sharing/gaming • Notification
Core assets	• Interoperability/QoS • Aggregated user data	• Interface • App/content store	• App/content store • Aggregated user data
Critical Partners	• SNS • content/apps suppliers	• SNS • Non-gaming content/ application suppliers	• OEMs • Content/apps suppliers
Prominent Revenue models	• Add-on in subscription • Premium subscription • (Targeted advertising)	• Add-on in retail of hard/software • Premium membership	• Add-on in retail of hardware • Targeted advertising
Critical factor fit	- Fit with partners +/- Synergy portfolio + QoS + Interoperability	+ Fit with partners + Synergy portfolio - QoS +/- Interoperability	+ Fit with partners + Synergy portfolio - QoS + Interoperability
Critical factor viability	- Critical mass - Segmentation - Interface +/- Revenue model +/- Substitutes/competition	- Critical mass - Segmentation + Interface + Revenue model +/- Substitutes/competition	+ Critical mass - Segmentation - Interface +/- Revenue model +/- Substitutes/competition
Maturity	Low	Medium/high	Medium

Table 3: Summary of TA2 business model typology and market perspective

5.1 The telecom operator business model: lazy interactivity

5.1.1 Service concept and core assets

Telecom operators are slowly moving into offering social features on the television. Presence information and recommendation seem to be the main functionalities offered by telecom operators. These functionalities invite users to get interactive, but not in a 'lean forward' modus as is the case with gaming. 'Lazy' interactivity seems to be the way forward.

This fits the strategy of network operators which are moving up the value chain (again). This time, they carefully choose their position, most of the time as enabler of third parties to disclose services over their network. Instead of moving into buying or developing content and applications and trying to imitate a broadcaster, network operators are opting for an enabling role. The major assets of network operators seem to lie in the network: providing interoperability with packagers of applications and content, but also interoperability over different distribution platforms. Their key asset seems to be service management, combined with the aggregation of user data and interfaces towards the various stakeholders. As one interviewee claimed: '*Unified presence management is now focus, as this not only opens up possibility of social features, but also personalization, recommendation and data mining possibilities.*' (Gunnar Harboe, Motorola Labs).

5.1.2 Critical partners

For 'higher order' social communication (messaging, collaboration, gaming, audio and videoconferencing), network operators seek partnerships. Especially social networking sites are key partners. The big question is what shape these partnerships with SNS's will take. Will the SNS be a mere provider of user profiles, or will they claim a larger role, also acting as a gateway to applications and content belonging to the SNS? To what extent the second option will be chosen depends on the level in which the complex interaction on the internet can be made manageable on a TV set. Also, the living room is a high trust environment and presence information identity of buddies and content need to come from reliable, trusted sources. The most likely option is that telecom operators and SNS's will develop a TV ready version of a social network in close cooperation, so called second party application development (see figure 10) which will contain some, but not all applications available from social networking sites.

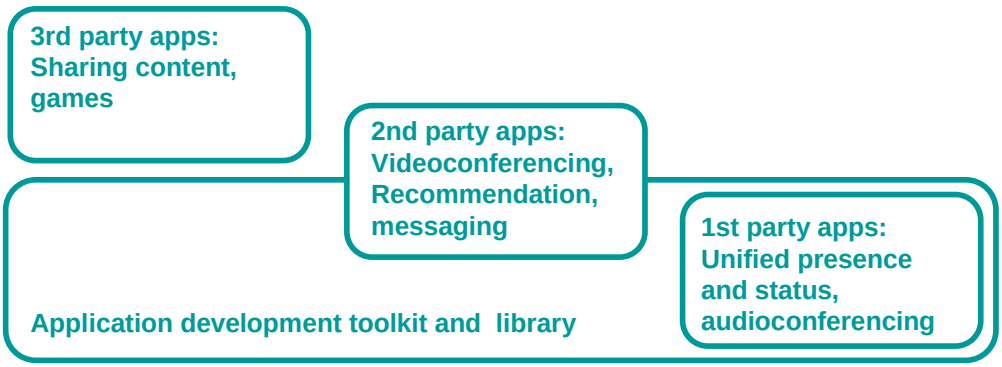


Figure 10: First, second and third party applications for social TV offered by a telecom operator

5.1.3 Prominent revenue models

The revenue models are quite straightforward. The first revenue model will probably be social television features as an add-on in the IPTV service bundle. From this basis, different models can be applied, with premium services which give access to more advanced functionality as the most prominent one. Targeted advertising was also identified as a possible revenue model. Depending on the division of roles between a SNS and the telecom operator, but also the type of advertising (next to

or in the application), the control over aggregated user data and therefore the revenue share coming from advertising needs to be divided between the partners.

5.1.4 Critical factors

In assessing the business feasibility of social TV services, the fit with the strategy of the service provider and the fit with the current customer relationship are the first critical criterion that spring up. On the one hand, the current billing relationship lowers the threshold to implement revenue models such as premium subscriptions. On the other hand, these services imply a redefinition of the existing customer relationship and require a leap forward in terms of customer intimacy.

However, the fit with the strategy of (potential) partners is less certain. Social networking platforms are critical potential partners as they provide the critical mass of users and the relations between those users. These organisations seem to perceive TV as the next step after being disclosed on mobile phones. The gap that needs to be bridged with especially social networking platforms is considerable, not only in terms of strategy (will they be mere suppliers of profile data or a gateway to content and applications they control themselves), but also in terms of technology and for example trustworthiness of profile data coming from the internet.

This fit with existing technologies is therefore another critical factor. Set-top boxes (STB's) are not ready to provide such functionality or enable more complicated interaction with the screen, for example by means of a keyboard. Also, interoperability is low on several levels: between fixed networks, but also on a service management level. This includes managing the quality of service, but also the exchange and importing and exporting of personal profile information. In sum, the fit with the organisation that provides the social TV service (so, the telecom operator) is considered to be low.

In terms of market viability, the size of the user community is critical. Network effects are a first prerequisite: with every new user of the service the overall value of the service raises to the square. Network effects will only occur if users have a similar technology base across service providers and are triggered by similar interests, either based on high trust personal ties or interest driven weak ties.

Another issue here is the level of engagement of this user community. A great advantage of the social TV service is that it is non-obtrusive and low-barrier. But what features will prove to trigger structural use, and what features are considered nice to have, or are a candidate for premium packages for heavy users? In answering this question, the impact on group dynamics in and between living rooms is also critical. For now, these services are designed as mere copies of the individual messaging services on the internet.

Interrelated with several of these criteria is the critical criterion ‘ease of use’. Because users outside of the ‘digital natives’ generation are likely to be among the early adopters of a social TV service, the interaction with the service should be very basic when compared to the internet. The basic features are operated with a remote control, but for more advanced options requiring a keyboard a break with the current TV watching habits is inevitable.

Privacy is critical on several levels. Firstly, migration from data created on the internet to TV provides obstacles: the living room is a high trust environment and users therefore only seem to want to communicate with a close circle of contacts instead of their entire Facebook network. Secondly, although pilot results suggest that users are willing to reveal several types of personal information to be able to use the service, there are limits to the free flow of personal data. This applies especially to information displayed to buddies in other living rooms. Giving away real time presence information does not seem to be a major obstacle, but it remains to be seen whether people would like to share their TV viewing history with others in an EPG. Also, research confirms that people do not want to communicate during certain types of programs, ranging from soccer matches to adult entertainment.

In general, the question is whether parallel use of similar services on another device such as a laptop computer will be a substitute for social TV. The ConnecTV pilot’s participants feel that when the social TV functionality is absent, the same level of communication is hard to reach with other means.

At the same time, substitutes such as SMS, online social networks and Twitter are widely available and also used while watching TV.

5.2 The game console business model: from immersive to pervasive

5.2.1 Service concept and core assets

Gaming platforms are moving more and more to offering social features and content services. Where game console providers' main business model is to sell games, these interactive gaming services are extended frequently with audio and video communication services and presence information. Moreover, game console providers are trying hard to gain extra money from their users by providing free and paid video content services. This fits their strategy since they are keen on distributing their game consoles into as many living rooms as possible, and consequently make themselves more relevant by providing extra content services. The interface (user interface and game controller) is the key asset around an ecosystem of games, content and applications.

While the telecom operator business model focuses on enabling third parties to disclose their services, game console providers try to fulfil most of the roles for providing hardware and providing and distributing content by themselves. On the one hand, this creates more independence since a less extensive partner network is needed. On the other hand, interoperability of the social services over multiple platforms is mostly not possible. This implies that users of different service providers can not communicate with each other, which may slow the adoption of the service.

When multiple content services are offered, an important issue is that game console providers may focus on a target group that is too specific. E.g. where Xbox 360 focuses on in particular young male gamers, the Wii targets a broad audience and thus is able to make a better business case for providing other content services.

It is notable that in the game console business model, in particular 'high order' social communication services such as video and audio communications are needed. The communication features are mostly initiated by the games (Communication enriched Media). Only some 'low order' presence services are used ('who of the buddylist is currently gaming'), but these seem less relevant. For realising these social communication services, only few partnerships with social network services and telecom operators exist. Only for content services partnerships with content producers such as Warner Bros. are necessary. Because of the limited number of partners the game console business model stays relatively closed, and the power remains at the game console provider.

5.2.2 Critical partners

A very powerful thing is that some game console providers (e.g. Microsoft) are present on a large number of platforms. The IPTV platform has a clear presence in countries in which TV service providers have chosen Microsoft's IPTV offer. In combination with Microsoft's gaming platform (that also can be used as set-top box), and its Windows Live platform, content services can be offered via multiple channels. Also for this, Microsoft acts relatively independent of other organisations.

5.2.3 Prominent revenue models

The revenue models that are in use by game console providers, are based on 1) add-on to selling hardware and 2) part of the premium membership. Besides, variations on advertisements could also play a role but this model is unclear. For TA2, the first option would mean that TA2 related services are offered as a part of selling the game console device. Service providers should realise that the revenues for the game console hardware itself do often not outweigh their costs. However, offering the services as an add-on can increase the attractiveness of the game console offer and eventually increase sales of the games itself. The second option would mean that the TA2 related services are part of a 'higher value' paid premium subscription plan which is currently sold by Microsoft yet to offer

multiplayer gaming and voice and audio communication services. With new project Natal services (see section 2.5.3), extra value and more premium memberships can be sold.

5.2.4 Critical factors

The analysis of the TA2 related services by a game console provider has shown that this model has reached a moderate market maturity yet. For now game console platforms are seen as an add-on to existing platforms. However, the audience of game console platforms is slowly growing into using the game console platform as main platform.

In terms of market viability reaching a critical mass of users is very important. To become a self sustaining viable service on the market, the question is how to break with current demographic: male gamers that are in their 20's and 30's. For delivering and selling more added-value content services, a user group that is bigger than the small target group 'young males' should be attracted.

Future key services are where users are playing games with a group and between groups. Currently only sporadic examples can be found, since the group-to-group interaction is still a relatively unexplored area. When the service is attractive for a larger user group and focuses more on group-to-group interactions, the competitive position of game console providers compared to competitors and substitutes will be improved.

The fit with of TA2 related services with the strategy of game console providers can be considered as good. However, game console providers should be aware that for guaranteeing the quality of service of their services, they need to partner more with telecom operators. Also if functionality drifts away from only gaming (social networking, VoD, etc.) interoperability with other platforms such as other game console providers and social networking sites will become an issue.

5.3 The 'Over The Top' TV business model: push it

5.3.1 Service concept and core assets

It is only since last year that the emergence of OTT TV provides some indications of dramatical developments in the way how TV content is consumed. Different organisations such as Yahoo! and Intel partner with device manufacturers such as Philips and Samsung. This means that these organisations can offer content related services to consumers directly and 'pass the middleman' (i.e. the TV service provider). Also, more 'open application stores' are created, in which third parties can offer their content like iTunes does. In theory, this means that every one can offer TV related content services then.

This fits the strategy of manufacturers of devices; the degree of freedom and openness is one of their major assets. Until now, their primary source of revenues and their moment of (indirect) customer contact was limited to the moment that hardware is sold (TV sets, home cinema sets, etc.). Because of the integration of their equipment with internet, manufacturers are able to build a relationship with customers beyond the moment of selling the hardware and to provide additional services. The same applies to third parties which were dependent on TV service providers and have more options to distribute their content now.

5.3.2 Critical partners

Because of the fact that the TV service providers can be passed, services are not always content related and not very interactive. It is evident that status notification ('what are you watching') is more difficult to realise in a OTT setting because technical connections are needed with the TV service providers' platforms. The services that are actually possible will be independent of service providers (e.g. chatting, sharing internet content).

5.3.3 Prominent revenue models

In the OTT situation, choosing the right revenue model is more difficult as compared to the other models. Because the model is open and independent of the 'walled garden' models of the telecom operators and game console providers, it is harder to obtain control over the revenues that are generated. On the one side organisations such as Philips can profit from TA2 related services, because they may increase the added value of their hardware and thus stimulate hardware sales. On the other side, targeted advertising is possible. But because of the openness and lack of control of the content that is used in the OTT TV model, smarter ways to display relevant advertising and at the same time guaranteeing privacy in the living room are needed. At last, revenue sharing on content that is sold via the open model is possible. But in the beginning, the content is very important for stimulating the adoption of internet enabled hardware. This means that in the beginning deals for revenue sharing will be more difficult to negotiate.

5.3.4 Critical factors

On the one side, ease of use and quality of service are big problems. Since the 'open internet' is used to distribute the content, few guarantees can be made concerning the quality e.g. communication. For presence services and exchanging content with other users this is no problem. But for the uptake of TA2 related services, it is very important that watching and streaming live content in particular can be done flawlessly.

At the same time the newness of the OTT model probably suggests that users will face a lot of user experience issues with the interface. Moreover, the revenue model is not well-defined yet and a lot of competition is present from low-key substitutes. Providers of OTT services should definitely invest much time and money then in showing their added value compared with alternative services.

All in all, the OTT model can be considered as a long shot. It takes longer time to provide an offer that is comparable with the offerings of telecom operators and game console developers. The maturity of this model is very low and the fit of the service as well as the viability of the service in the market need to be changed. Time has to show whether this model is too much a copy of internet to TV or that applications will alter through time to the habits of TV viewers (or vice versa).

5.4 Design recommendations for TA2

When working on this report several design recommendations were drawn up: the most important ones are listed below. These will be further refined through discussions with the TA2 consortium. Some may have already been taken into account this far, and are mentioned since the outcomes of this report once again stress their value. Others are perhaps newer to the TA2 public and will need careful consideration in the upcoming project months.

- It is important to (re)design the current complex net native applications into (TA2) applications that better fit the new and old interaction rituals in the high trust living room. Though some rituals seem never to change ('we always eat our dinner watching ….', 'my husband watches sports while I do my crosswords at the table') the spatial interactive game console Wii has shown complete new activities, placement of furniture (coffee tables?) and social behaviour in the living room. Copying the internet model to TV is (still) not a good idea, there are too many differences between lean backward and lean forward interactions.
- The choice to design TA2 applications towards group to group communication seems to be a right one: so far too much services are designed for individual use, some with success, some fail but all of them can in one way or another easily replace each other, or add extra features to existing services but at lower costs (e.g. SMS/texting during watching TV, 'Twittering' through mobile using #groups). This choice therefore is encouraged to be cherished and exploited where possible since it probably brings along important added value.

- The design of service orchestration mechanisms in order to combine content, collaboration tools and communication features such as messaging and audio and video calling are key. Both towards users' expectations of integrated and multiplatform services and towards the different levels in the value chain which are essential to establishing a successful service these mechanisms are vital.
- Important to note is that even though existing TA2 related video and audioconferencing services have managed to improve their quality of service considerably, the market image they have of providing only a low quality service appears very difficult to get rid of.[28] Low quality of service has been sufficient for many, many users to whom a free service could just give that bit of added value, however their willingness to pay for higher quality was low. Important therefore is in what way high quality video and audio will actually increase the added value of a TA2 service. In which cases does this meet people's demands, and in which cases can a desired level of togetherness be achieved through services lower on the hierarchy of togetherness (presence notification, avatar standard moves as in BuddyPoke)?
- Audio and videoconferencing are an add-on to communication and content sharing. Audio and videoconferencing are never the 'central services', but they always exist in a certain context. The challenge therefore is to integrate audio and/or videoconferencing in a certain context in which it ads value: videoconferencing only gets meaning in a specific context and that's where the one million Euro question is.
- The TA2 designers will need to question whether a specialised TA2 platform needs to be build. The choice to build applications on top of existing interfaces such as Google Apps engine, the large social networking sites, platforms offered by large telecom operators, has been quite successful for some of the cases in this report. A large barrier to success: acceptance by users seems to be broken through this strategy. However, the way in which these types of applications can actually make money is still 'under construction'.
- The speed of introduction, acceptance and neglect of applications related to the TA2 services is high. This requires a design method which is open for continuous developments and evolution into new branches of related services. An open model for this, using creativity from large designing audiences from first, second and third party application builders as was taken for the Xbox LIVE, but also for the Apple iPhone is essential. Depending on the service platform through which TA2 services will be delivered this model will look slightly different, however, open it must be.
- The aggregation of user data is necessary for use in the potential TA2 services, but (given there is some kind of link with an existing telecom operator / game console / OTT TV platform) with sources outside these services. This needs some anticipation on.
- With respect to the revenue model of TA2 services, many choices can be made. For example, targeted advertising is possible at several levels: in the application itself, next to the applications on the service platform, in an EPG, etc. Another example concerns content: if a difference between basis and premium content or subscriptions seems attractive, it requires careful consideration to decide what content is offered in a standard package or membership and what content is premium content for which an additional fee can be asked. Or, with respect to the hard- and software of a service: should hardware sales subsidise software or vice versa, or is a cross relation between the two undesirable? It is important to make a profound decision on the revenue model beforehand, because it will prove to be very difficult to change it once the service has been commercially launched.

[28] In April 2009, Skype announced that it will upgrade Skype Video to High Definition for business users in particular, see 'Skype helping TV upgrade: HD and backpack reporting', Skype.com, http://share.skype.com/sites/us/2009/04/skype_helping_tv_move_to_hd.html

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