



***Summary Report
Digital Terrestrial User Trial***

September 2008

Prepared for:

DCENR

By:

Amárach Research

TD

TABLE OF CONTENTS

1.	Executive Summary	1
2.	Introduction and Project Context	2
3.	Objectives and Remit of Investigation	5
4.	Research Approach	6
4.1	Phase 1 - Qualitative Research	6
4.2	Phase 2 - Quantitative Research	7
5.	Questionnaire Design	10
6.	Research Findings - Pre-trial Qualitative Research.	12
7.	Research Findings – Quantitative Research	17
8.	Insights and Implications.	26

1. Executive Summary

Digital Terrestrial Television (DTT) is a more advanced method of broadcasting television signals than the traditional analogue method. It allows improved picture and sound quality; enhanced services and the ability to transmit more channels in a smaller bandwidth. In a communication published in May 2005, the EU strongly advocated that by 2012 all analogue terrestrial TV transmitters in Europe should be switched off in order to free up radio frequencies for other uses. Many EU states have started introducing DTT and Ireland expects to meet this 2012 deadline.

The Department of Communications, Energy and Natural Resources (DCENR) managed a non-commercial trial of DTT in Ireland; Amárach Research was commissioned to manage the research element of the public user trial from March 2007 to August 2008.

Amárach Research recruited 500 panellists in counties Louth and Dublin. Quarterly surveys were conducted with the panellists in their own homes over the 18 month period.

The results revealed that there was very high satisfaction with the quality of picture; sound; navigation and overall usability. The majority of respondents also indicated they would recommend the service to a friend.

This report outlines the background of DTT; the approach taken to test the concept of DTT in Ireland and the results of the public user trial.

2. Introduction & Project Context

2.1 Digital Terrestrial Television (DTT).

Digital Terrestrial Television (DTT) is a system for broadcasting and receiving pictures and sound using digital signals. DTT is received through a set-top box, or integrated receiving device, that decodes the signal received by a standard aerial. DTT does not require a satellite dish or cable connection. This method of broadcasting is an upgrade from the traditional over the air analogue service that has been used in Ireland for over forty years providing free to air access to RTÉ, TV3 and TG4. DTT is considered to have several advantages over analogue television. DTT is more efficient than analogue and can offer many more services including an increased number of TV channels; radio stations; programme guide information; and enhanced Teletext services. Other advantages include more reliable picture and sound, increased viewer choice and better quality of service.

2.2 DTT in Europe.

Recognising the diversity of the European television market, the EU has called on its Member States to manage the process of digital switchover. In a communication published by the European Commission on 24 May 2005 (ref SEC(2005)661), the EC strongly advocated that by 2012 all analogue terrestrial TV transmitters in Europe should be switched off in order to free up radio frequencies for other uses. Ireland expects to meet this deadline.

Switch off of analogue terrestrial TV has already taken place in Luxemburg, Sweden, Finland and the Netherlands and in several areas in Germany. Of the 27 European countries 25 have indicated analogue switch off by 2012. In Poland a switch-off date of 2015 is proposed.

In April 2007, legislation to provide for the development of public DTT services in Ireland was enacted under The [Broadcasting \(Amendment\) Act, 2007](#). Under this legislation RTE, the Broadcasting Commission of Ireland (BCI) and the Commission for Communications Regulation (ComReg) are responsible for the development of DTT in Ireland.

2.3 The DTT Trial in Ireland.

The Department of Communications, Energy and Natural Resources (DCENR) managed a non-commercial trial of DTT in Ireland from August 2006 to August 2008. During this time broadcasts were transmitted from the Three Rock site in Dublin and the Clermont Cairn site in County Louth.

The trial provided the opportunity for technical testing of services on both existing and new broadcast channels while allowing for viewers to experience the new service at user level.

BT Communications (Ireland) provided a multiplexing and distribution service to the DTT Trial. Multiplexing enables compression of television signals resulting in higher quality reception and more efficient use of broadcast spectrum. NEC (UK) Limited supplied and installed the transmission and combining systems required for the DTT Pilot. RTÉ Transmission Network Limited, which maintains Ireland's TV broadcasting network, assisted the Minister and his Department in the development and operation of the trial.

Amárach Research was commissioned by the Department of Communications, Energy and Natural Resources to manage the research element of the public user trial with a panel of 500 homes. DCENR distributed an additional 500 set-top boxes to stakeholders and other relevant bodies. This report provides a summary of the research methodologies used and details of the findings for the public user trial.

The DCENR Trial ended on 31st July 2008. On that date the range of channels received by trial participants through the DTT set-top box ceased to be available. Updates on DTT are available from www.digitaltelevision.ie .

Panellists were provided with a free set-top box which connected to their television. The following television channels and radio stations were available on the trial:

TELEVISION

RTE1
 RTE2
 TV3
 TG4
 Channel 6
 cBBC – test
 cBeebies - test
 BBC3 – test
 BBC4 – test
 BBC News24 – test
 Sky News
 Sky Sports 1
 Extreme Sports
 UKTV History
 Setanta Golf
 Setanta Ireland
 Oireachtas TV
 *HD Ireland

RADIO

Radio 1
 RTE 2fm
 RTE Lyric fm
 RTE Raidio Na Gaeltachta
 Today FM
 RTE Radio 1 Extra
 Newstalk 106 - 108
 Dublin's 98FM
 East Coast FM
 Spin 1038
 DAP All 80s
 DAP Mocha
 RTE Choice
 RTE 2XM
 Phantom FM
 FM104

3. Objectives and Remit of the Investigation

The objectives of the public user trial by Amárach Research comprised two components:

Establishment and Maintenance of User Panel, including:

- The selection of potential demographic and geographic areas from which participants were recruited.
- Recruitment of 500 trial households which comprised a balanced test panel.
- Conducting initial face to face interviews with participant households to include the distribution of set-top boxes and accompanying information to participants.
- Providing information to the panellists throughout the course of the trial.
- Upgrading software where required.

The collection and analysis of data on user experience of the DTT services including:

- Conducting quarterly surveys to:
 - Monitor trial usage behaviour.
 - Assess the impact of DTT on users.
 - Gauge the panellists' reactions to the trial.
- Final / exit interviews with participants at the end of the trial.
- Evaluation and presentation of results to the DTT pilot stakeholder group on an ongoing basis.

4. Research Approach

A two phased approach was used to meet the objectives of the research.

4.1 Phase 1 – Qualitative Research

At the outset, a qualitative research programme was undertaken to explore the fundamental understanding and resonance of the various issues, attitudes, behaviours and perceptions of and towards television among the study's target audiences. More specifically the qualitative research explored:

- The world of television and entertainment today
- Perceived changes and innovation in the past ten years.
- The perceived future of television.
- Favourite channels and television programming.
- Reaction to the concept of digital television.
- Ideal television package.
- Reaction to DTT trial package and DTT trial box.

Focus groups were used to gather information and encourage a creative brainstorming environment. This maximized exploration of current behaviours, services used and preferred, along with any issues surrounding the introduction of a concept such as DTT.

Eight pre-tasked focus groups were conducted with users of analogue and digital; cable and digital satellite services. A pre-task diary exercise was conducted by participants of the focus group in which participants recorded their television viewing habits in the week prior to the focus group.

This exploration set a benchmark understanding of the issues as they existed for the target audiences. The findings of the research were then used to inform and gauge further research stages.

4.2 PHASE 2 – QUANTITATIVE RESEARCH

4.2.1 Sample Design

In designing the panel for the pilot programme, non-interlocking quota sampling was used to provide the most efficient and cost-effective method of ensuring that a fully representative sample of adults were interviewed on this project. The reliability of the quota sampling method is consistently and convincingly demonstrated by the fact that virtually all published public opinion research in Ireland is based upon quota-controlled sample selection. Quotas were set based on Central Statistics Office data for age; gender; social class; marital status and incidence of children in the home.

In overall terms, product trials commonly experience members of the panel dropping out. This can be for a number of reasons – being unable to contact the respondent due to moving house or being unavailable at the time of interview; panellist electing to leave the trial; or if a product ceases working. In a trial that is reliant upon technology the drop-out rate may often be higher again. A sample size of 500 was established to allow for a statistically robust base and to allow for drop-out from the trial. The margin of error on a sample size of 500 is +/- 4.5%. Allowing for a drop-out of 20% the margin of error on the remaining sample size of 400 is +/- 5%.

4.2.2 Sampling Point Selection

Amárach Research selected two locations that met the following requirements:

- To be within the coverage area of the DTT Trial.
- To have sufficient scale to enable the population to support 250 triallists within the coverage area of each of the two transmitters at Clermont Cairn in Louth and at Three Rock in Dublin.
- To have a sufficient range of demographic profile that allows for a representative sweep of the population to be included.
- To be accessible for the trial team.
- To include a mix of locations and housing types.

The DTT trial was transmitted from Clermont Cairn in Louth and Three Rock in Dublin. Dundalk and environs were selected as the trial location in Louth. With a population in 2002 of 46,500 (CSO 2006 Data), and a socio demographic profile that is inclusive of all different social groupings, it was of sufficient scale and range to support the pilot activity. The town hinterland and population profile also includes traditional urban, suburban and rural components.

In Dublin the area's of Tallaght / Templeogue / Rathfarnham were selected - covering the local electoral districts of Tallaght Central; Tallaght South and Terenure/Rathfarnham. Tallaght and its environs have a population of 72,800 (Source SDCC Development Plan 2004). The electoral district of Terenure Rathfarnham covers Rathfarnham Knocklyon, Templeogue (but not Terenure). It is the second largest local electoral district in the Country with over 50,000 voters. This area was selected because of its scale and ability to support a trial, its social profile, including the fact that much of Terenure-Rathfarnham was built in the 1950s and 1960s and has an older demographic profile. The area also includes consumers with a range of reception types.

4.2.3 Trial Equipment

Prior to the trial launch in 2007, DCENR conducted a search for suitable set-top boxes for use in the Irish DTT Trial. A report is available on www.digitaltelevision.ie. This report specifies that advanced set-top boxes were not readily available in the UK or Europe and would not be available before the trial launch in March 2007. An interim solution was required.

Therefore DCENR approached Humax – who had produced a prototype high Definition DTT set-top box for the HD trial in the UK. This box is specified to work with both MPEG 2 and MPEG 4 compression methods, is capable of receiving and decoding HD signals and has a conditional access slot which can be used with a variety of encryption methods. Within a very tight timeframe, Humax worked with the Department to adapt this box for the Irish DTT network in time for rollout in March 2007.

It should be noted that the DTT Trial box was very much a prototype rather than an off the shelf set-top box. The box has no associated middleware so testing of interactive services was not possible at this stage of the trial.

A further issue that arose during the testing of the boxes by DCENR related to over the air downloads. At this stage of their development set-top boxes often need to have software upgraded on an ongoing basis. During Wave Two of the trial, interviewers manually upgraded the software on each trial box in trial households using a software application on a portable laptop. Irish broadcasters and multiplex licensees will need to ensure in the future that they have systems in place to deliver these downloads without the requirement of manual intervention.

Trial equipment was distributed to the trial participants at Wave 1 of the research. This equipment consisted of:

- The Humax set-top box.
- A card for decoding the encrypted channels.
- An indoor aerial. All 500 participants were given a standard UHF indoor aerial that plugged into the set-top box. In some cases participants reported that signal strength was poor. In these cases the issued aerial was replaced with a higher strength mains powered aerial.

Participants were asked to use the trial on their main television if they received analogue reception; or on a spare television set.

5. Questionnaire Design

Once the panellists were recruited, the core research component of the trial commenced. This consisted of quantitative surveys.

Surveys were conducted face-to-face in the respondents own homes on a quarterly basis by Amárach Research's experienced interviewers. A number of core questions were tracked in waves 2, 3 and 4 –

- Overall satisfaction with trial.
- Rationale for satisfaction/ dissatisfaction.
- Quality of picture and sound.
- Reliability and ease of use.
- Navigation ratings.
- Usage of trial functions.
- Radio listenership and ratings.

In addition to these tracked questions each of the four waves of the research had a different focus:

5.1 Wave 1 - Panel Establishment and existing TV usage and attitudes survey- February 2007

The first wave of the quantitative research involved establishing the panel based on the quotas outlined in Section 4.2.1. At this wave data was collected in relation to:

- Demographics of panel.
- The number of television sets in the home.
- The mode of television reception in the home (satellite; cable or analogue.)
- The usage of television sets in the home.
- Channel viewing repertoire.

5.2 Wave 2 - Novelty Phase – August 2007

This second wave of the quantitative research was the first stage of evaluating the DTT trial. The box had been in the home for approximately two months and the purpose of this wave was to gauge initial reaction to the trial and to measure satisfaction with ease of set up and use. During this wave of research a manual software upgrade was performed by interviewers using a portable laptop. Data was collected in relation to:

- The type of television set the trial was being used on.
- Ease of installing DTT Trial box.
- Desire for any extra functions.
- Trial channel viewing repertoire.
- Programming preferences.
- Frequency of channel viewing.
- Trials ability to meet expectations.

5.3 Wave 3 – Established User Phase – November 2007

At this stage of the research the DTT trial had been in the home for 6 months. This wave concentrated on ongoing reaction to the DTT services with extra questions on identifying any issues

- Any issues encountered
- Types of issues encountered

5.4 Wave 4 - Final Phase – April 2008

The final phase of the research was conducted in April 2008. The primary purpose of this phase of the research was to gauge overall reaction to the trial and to identify positive and negative issues for the concept of DTT going forward. Therefore in addition to the tracking questions, data was collected in relation to:

- Incidence of recommending to a friend.
- Rationale for recommendation/ non-recommendation to a friend.
- Any issues experienced.
- Satisfaction with trial package content.
- Desired television package content.

6. Research Findings - Pre-trial Qualitative Research

A qualitative approach was used to explore the fundamental understanding and resonance of the various issues, attitudes, behaviours and perceptions of and towards television among the study's target audiences. This exploration set a benchmark understanding of the issues as they exist for the viewing audience. The findings of the research were then used to inform and gauge further research stages.

6.1 The world of television and entertainment today

Television viewing is prolific across all ages and genders with programme and channel selection varying by gender and age. Where possible, households with children try to encourage family viewing. It is important to remember that many have multiple television sets around the house and as a result monitoring of children's viewing is not always an easy task. Television viewing is typically of a solus nature and is viewed as a form of relaxation and enjoyment.

In urban areas there are more options in terms of service provision between analogue, cable and satellite. The decision between service providers in Tallaght/Tempelogue/Rathfarnham is based on individual requirements (e.g. desire for Sports channels) and pricing. In parts of Dundalk however where reception quality of analogue services can be poor, satellite provides the main alternative. As a result, choice is more limited here than in other areas.

- *Television viewing is a key component of many households and reception formats and quality differ between Dundalk and Dublin.*

6.2 Perceived changes and innovation in the past ten years.

The availability of more television channels was considered to be a key change in television viewing in the past ten years. This is largely associated with the developments in cable and satellite television. While these were available before, it is perceived that it is only in the past five to ten years that these methods of reception have become accessible, both physically and financially, to most Irish households.

The introduction of interactive television is viewed as an innovation in television viewing but was not widely used at the time the qualitative research was conducted (2007). Interactive television is largely associated with UK channels and is perceived as something that is unavailable to Irish viewers with many being aware of the “Red-button” option on channels – this is viewed as an attractive addition to television viewing. There is increasing awareness and advertising of interactive services such as recording programmes and auto-recording entire series on the hard drive – these services are largely associated with subscription satellite providers.

Television sets themselves are viewed as having experienced significant changes in recent years, most specifically with the introduction of plasma screen sets. Televisions have now become almost a display item in the home, taking pride of place over the fireplace rather than hidden in a corner or within a TV cabinet. Those who purchase these sets are viewed as most likely to seek television packages offering HD quality and a range of channels including movie channels.

- *Innovation in television viewing has boomed in recent years with the introduction of new technology and increased viewing options.*

6.3 Favourite channels and television programming and the ideal television package.

A range of channels are desired, however those with satellite indicate selection of key channels as favourites with the majority of channels being excluded from their consideration. The Irish channels RTÉ1, RTÉ2, and TV3 are viewed strongly and are a key component of television viewing. The UK channels BBC1, BBC2, UTV and Channel 4 are also considered to be crucial to the success of a TV Package due to their current presence in the majority of Irish homes. Additional desired channels include: a children's channel, The Discovery Channel, a news channel, a sports channel, a movie channel and an entertainment channel such as E4 or Living TV.

- *Television viewers desire a wide range of channels – despite indicating that not all channels are viewed even when they are available. Offering choice to suit different members of the family is crucial.*

6.4 The perceived future of television.

With such a high level of innovation in recent years it is perceived that innovation will level off in coming years, with the majority of new developments stemming from recent ones. Examples of anticipated changes include:

- Increased interactive services.
- Wider usage and availability of HD programming.
- Integration of the PC; games and recording devices into the one set.
- Increased pay-per view content, reduced free to air programming.
- Additional expectations are the availability of the internet on the television set and the use of the television as the control centre for all the homes services such as central heating; lighting and security.

6.5 Reaction to the concept of digital television.

In early 2007, at the time of the qualitative research programme, there was limited awareness of the concept of Digital Television in Ireland. Digital Television was largely associated with the UK and the Freeview service available there. This is largely due to many of the UK channels viewed in Ireland featuring ads for Freeview enabled television sets.

The concept overall was considered to be appealing as a replacement for analogue and was especially well received in Dundalk where options of service providers are more limited and analogue is not of a high reception standard. The concept of higher quality picture and sound; increased number of channels and the potential for interactive services was viewed as attractive – particularly due to the fact that these could all be received through a standard indoor aerial, with no cable or satellite dish requirements. The ability to move the set-top box between rooms and not be limited to a central aerial point was attractive. The potential ability to take the set-top box to a holiday home was also considered to be an attractive concept.

- *Associations between the UK Freeview service and Digital Television were made. However awareness and understanding of DTT in Ireland was limited. Ease of use and fitting compared to cable and satellite installation was considered to be a benefit of DTT.*

6.6 Reaction to DTT trial package and DTT trial box.

Reactions to the prototype set-top box were mixed due to the size and overall aesthetics of the box. However the box was considered to be comparable to a VCR or a satellite receiver and as such the primary concern was with its ability to work rather than the actual appearance of the box itself.

There was some disbelief amongst the groups that a simple internal aerial had the ability to provide signal for the 18 channels at the high level of quality viewed. The quality was viewed as being a significant improvement for Dundalk residents over their current analogue signal; Dublin residents felt it was comparable to their current reception quality.

The proposed channels were considered to offer a good range for all the family however there was concern that the key UK channels (BBC1, BBC2, Channel 4 and UTV) would not be available as part of the trial.

- *Reaction to the trial package, box and concept was positive overall.*

7. Research Findings - Quantitative Research

This section provides a summary of the findings of the Digital Terrestrial Television user trial. Individual reports are available on www.digitaltelevision.ie. Please note that the base size varied throughout the four waves of the trial due to being unable to contact panellists and panellist drop-out. The base size was 500 in Wave 1, 500 in Wave 2, 452 in Wave 3 and 407 in Wave 4. The results below detail the responses from all active panellists on the trial.

7.1 WAVE 1-PANEL ESTABLISHMENT & EXISTING TV USAGE AND ATTITUDES.

7.1.1 Demographics of panel.

At the panel establishment stage quotas were set to ensure a balanced sample based on age, gender, social class and reception format. Quotas allowed for marginally more women than men based on the member of the household responsible for grocery shopping and household decisions. Additional quotas were set to ensure a balanced representation between single occupied households; co-habiting households; and households with children. The average household size in the trial was 3.2 people.

- *The panel provided a good representation of the Irish public.*

7.1.2 Number of television sets in the home.

There was an average of 2.6 television sets per household on the panel. This was slightly higher in Dublin (2.8) than in Dundalk (2.4). Households with children aged over 13 were most likely to have 3-4 television sets in their home – illustrating the solus nature of television viewing in Ireland. The living room is the primary location for the main television set in the home. Of the 83% of households that had more than one television set in their home the most common location for this second set was an adults bedroom (67%) followed by another living room such as a playroom (35%) and the kitchen (29%). One in five respondents indicates there is a television in their child's bedroom.

- *The majority of panellists had at least two television sets in their home indicating that households have different viewing needs.*

7.1.3 The usage of television in the home.

The television is primarily used as a normal TV set in the home (95%). In a small number of cases it is used for games consoles (8%) – this is especially true for those with younger children (17%).

- *The television is used primarily for television viewing in all households.*

7.1.4 The mode of television reception in the home.

The majority of panellists had Cable reception (40%), the incidence of cable television was especially prolific in the Dublin area surveyed (78%). A third of respondents had analogue reception via either a roof top aerial or set-top aerial. One in four had a satellite dish.

- *The trial represented cable; satellite and analogue viewers.*

7.1.5 Channel viewing repertoire.

Due to the different methods of television reception between panellists the number of channels received varied between participants. Over a third (35%) received less than 10 channels, just over a quarter (28%) received between 10 and 20 channels. One in seven (14%) received between 21 and 120 channels and just under one in five (17%) received over 120 channels. RTÉ1, RTÉ2, and TV3 are the three most viewed channels with at least 91% of panellists indicating they watched these channels prior to the trial. BBC1, UTV, TG4, BBC2 and Channel 4 also rank highly with between 83% and 89% indicating they watch these channels.

- *Despite the wide range of channels received the majority of panellists view the basic Irish channels in addition to the basic UK channels most often.*

7.2 TRACKED QUESTIONS – WAVES 2, 3 & 4.

7.2.1 Overall satisfaction with trial.

Satisfaction with the trial was consistently high across the three waves of research with the vast majority of active panellists indicating they were satisfied with the trial (Wave 2 - 85%; Wave 3 - 85%; Wave 4 - 84%). Between 4% and 8% indicated that they were neither satisfied nor dissatisfied with the trial resulting in approximately just one in ten indicating they were dissatisfied with the trial. (Wave 2 - 10%; Wave 3 - 11%; Wave 4 - 8%).

- *Satisfaction was consistently high throughout the research.*

7.2.2 Rationale for satisfaction/ dissatisfaction.

Of the 84% of panellists that were satisfied with the trial, the larger range of TV channels and the picture quality were the main reasons for satisfaction. Less than one in ten were dissatisfied throughout the trial – the primary reason for dissatisfaction was the desire for more channels. Issues surrounding reliability of the set-top box also lead to dissatisfaction.

- *The primary reasons for satisfaction included the good range of TV channels and the picture quality.*

7.2.3 Ratings of quality of picture and quality of sound.

The picture and sound quality were the two highest rated attributes across the three waves of research with approximately nine in ten panellists rating these attributes as “Good”, “Very Good” or “Extremely Good”.

- *Picture and sound quality were highly rated on the DTT trial.*

7.2.4 Navigation ratings

Navigation ratings were rated highly across the three waves of research with over nine in ten rating the remote control as good, very good or extremely good and switching of channels as good, very good or extremely good.

- *The remote control was considered user friendly.*

7.2.5 Reliability and ease of use.

The DTT trial receiver was considered to be easy to use amongst nine in ten panellists. The rating of ease of use was consistent throughout the trial. Problems with ease of use related to those who experienced reliability problems in which re-booting of the set-top box was necessary. Despite receiving marginally lower ratings than quality of picture, sound, navigation and ease of use – reliability was rated highly during the trial with four-fifths of panellists rating it as good, very good or extremely good.

- *The trial receiver was considered user friendly.*

7.2.5 Usage of trial functions.

Three in five panellists used the menu function on the trial; two in five panellists used the programme information function; a third of panellists used the Now & Next feature; one in five used favourites and one in ten tried the parental lock. Those who did use the functions rated them highly in Wave 2. Those who were overall satisfied with the trial were most likely to use these functions.

- *The menu function was the most utilised function on the trial. Those who used the functions available rated them highly.*

7.2.6 Trial channel viewing repertoire.

The trial panellists each watched an average of twelve out of the eighteen channels therefore a wide range of channels were viewed. The most popular channels were the Irish terrestrial channels and sports channels. Others included general entertainment and children's channels.

- *A wide range of channels were viewed across the course of the trial.*

7.2.7 Radio listenership and ratings.

The radio was not widely used on the trial service with just over one in four panellists indicating that they listened to the radio as part of the trial. Those who used the DTT trial receiver in a bedroom or kitchen were more likely to have listened to radio than those who used the trial receiver in the living room. The rating for radio was the highest rated element of the trial with almost ten out of ten panellists who listened to radio rating it as good, very good or extremely good across all ratings.

- *The radio feature of the trial was not widely used, especially in a living room setting; however those who used this feature rated it extremely highly.*

7.3 WAVE 2 – NOVELTY PHASE

This second wave of the quantitative research was the first stage of evaluating the DTT trial. In addition to the tracked questions this wave captured the following information:

7.3.1 Ease of installing DTT trial

In the majority of cases the interviewers installed the set-top boxes in the panellists' homes. Panellists were asked to rate how easy they considered the installation process to be – over four in five described this as “Very easy” (55%), or “Easy” (29%). Less than one in ten considered it to be “Not easy” (5%) or “Not at all easy” (3%).

- *Four in five panellists considered the installation process to be easy or very easy.*

7.3.2 The television set on which the trial is being viewed.

Two in three panellists were viewing the trial on their main television set. In terms of location the majority used the trial in their living room (57%), followed by an adult's bedroom (18%), the kitchen (10%), another sitting room (9%) and then a child's bedroom (4%). Half of respondents indicated they were viewing the trial on a “standard television set”; the trial was also viewed on portable televisions (15%), widescreen televisions (13%), plasma screen televisions (8%) and LCD Televisions (7%).

- *Two thirds of the panel used the trial in a common room in their home (57% in living room, 9% in another sitting room)*

7.3.3 Trial's ability to meet expectations.

Over two in three panellists expected to receive more channels on the trial, two in three panellists also expected improved picture quality. One in three panellists expected improved sound quality. One in four expected the trial to be easy to use and a further one in four expected the trial to be reliable. Over two in three (69%) felt that the trial was actually better than they had expected, almost one in five (17%) felt that it was the same as what they had expected and a little over one in ten (13%) felt that the trial was worse than was expected.

- *Two thirds of the panel felt that the trial surpassed their expectations.*

7.3.4 *Desire for any extra functions or services on DTT.*

Almost half of respondents either did not desire any extra services or could not think of any additional services they would like to see on DTT. Half of respondents expressed a desire for Teletext, one in ten indicated they would like to see interactive services and a further one in ten indicated they would like DTT to have HD capabilities.

- *Half of panellists did not express a desire for additional services on DTT. Of those who expressed a desire for additional features Teletext was the most desired function.*

7.4 WAVE 3 – ESTABLISHED USER PHASE

The tracking questions were all covered in this wave in addition to a number of questions to help identify any issues experienced by the participants on the trial.

7.4.1 *User issues experienced on the DTT trial*

Just over two in five panellists reported issues with the set top box. These were generally fixed by prompting or restarting the box.

- *Just over two-fifths of panellists reported issues with the DTT prototype box that was used in the trial.*

7.5 WAVE 4 - FINAL PHASE

The final phase of the research was conducted in April 2008. The primary purpose of this phase of the research was to gauge overall reaction to the trial and to identify positive and negative issues for the concept of DTT going forward. Therefore in addition to the tracking questions, data was collected in relation to:

7.5.1 Suggested improvements going forward

More than half the panel (57%) indicate that they would make improvements to the DTT service going forward. The majority of these would like to see additional channels, in particular the main UK channels.

- *Desired improvements going forward are reasonable and actionable in nature with a requirement for more channels.*

7.5.2 Rating of trial package content.

The trial package as it stood with eighteen television channels and sixteen radio stations was rated highly at the final stage of the trial with nine out of ten panellists rating the package as “Good” (13%), “Very Good” (45%) or “Extremely Good” (33%).

- *Despite the strong desire for additional channels nine out of ten panellists considered the current range of channels to be good.*

7.5.3 Desired television package content.

When asked what channel types would comprise their ideal television package nine out of ten panellists expressed a desire for the basic Irish channels and the basic UK channels (Channel 4, UTV, BBC1, and BBC2). There was also a strong desire for Sports Channels (60%); Factual Channels (57%); Movie Channels (53%) and News Channels (51%).

- *A wide range of channels are expected to comprise the ideal television package – however it is the basic Irish and UK channels that are most desired.*

7.5.4 Payment expectations

When asked what they would expect to have to pay for their ideal package nine out of ten panellists expected to get the Irish channels free of charge; nine out of ten also expected to get the basic UK channels free of charge. There was also high expectation of the free provision of News channels (73%). Panellists largely expect to have to pay for Movie Channels, Sports Channels and Music Channels. A once off payment option is the preferable method of paying for such services.

- *Panellists expect to receive the basic Irish and UK channels free of charge but are open to the idea of paying for more niche channels such as movie, music and sports channels.*

7.5.5 Incidence of recommending to a friend.

Four in five respondents indicate that they would recommend trial service to a friend. The main reasons for recommending include satisfaction with picture quality and overall range of channels. It is also considered to be useful on a spare television set. Of the one in five who would not recommend the service the primary reasons for not doing so are inadequate range of channels and the issues experienced with the set top box.

- *Four out of five panellists on the trial would recommend the service to a friend. The remaining one in five panellists were concerned about the inadequate range of channels provided on the trial and the issues with the prototype set top box.*

8. Insights & Implications

- There have been many technological advances in the world of television in recent years – both in terms of advances in services offered and television sets themselves. Both the concept of DTT and the trial of DTT itself were very well received. This was evidenced by high satisfaction scores for all aspects of DTT performance including quality and ease of use and by the vast majority of participants indicating they would recommend the service to a friend. Reception improvement and additional content were crucial to this satisfaction – particularly in homes currently relying on an analogue terrestrial service.

IMPLICATION: Participants are open to the concept of an improved TV service and are comfortable with the evolution of technology. There was a high level of satisfaction and enjoyment of the trial DTT service.

- Trial usage patterns varied amongst respondents; however differences were driven more by different tastes in content (e.g. preference for sports channels) than by technology. There was no real difference between age; gender or regional groupings in terms of finding it easy to use.

IMPLICATION: The technology involved with using Digital Terrestrial Television was not a barrier to using the product. The primary differences between users related to personal preferences for different television channels and content.

- Two in five participants experienced issues with the set top box.

IMPLICATION: The role of the front end will be crucial to the success of the transition to DTT. Consumers are unlikely to distinguish between the broadcast methodology and the receiving methodology. Service providers will need to ensure that appropriate and easy to use receivers are available.

- Radio was not extensively used in the trial – usage was influenced at least partly by the location of the set-top box. Those who did use it loved it.

IMPLICATION: Radio will be a niche activity for DTT. However, it is a minority market that can be catered for.

- Panellists indicated that they watched the majority of the eighteen channels on the trial and expressed a desire for more channels. With service providers offering a vast array of channels people expect an increasing number of channels to be made available to them. Although every channel may not be watched by any one person the viewing patterns vary amongst the household and people want to exercise the choice themselves.

IMPLICATION: TV viewers have a preference for a wider range of channels. The provision of core Irish and UK channels is perceived as a basic requirement.

9. Conclusion

Overall, the Digital Terrestrial Television Public User trial was a success. All objectives of the research were met. DTT was well received by the panellists and going forward it is expected that DTT will be well received by the Irish public as a whole. The development of national DTT services is underway – RTÉ has initiated the development of a national network and a consortium comprising a Swedish company – Boxer, Communicorp and BT Ireland - has won a competition organised by the BCI, the Broadcasting Regulator, to offer commercial DTT services throughout Ireland. The detailed Quarterly Survey's conducted by Amárach are available on the following website <http://www.digitaltelevision.ie>. Further information on Digital Television and the DTT trial can also be found on this site.