Profiles of digital TV adopters in the switchover context in Portugal

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ABSTRACT

In order to conduct a successful transition from analogue terrestrial television to full digital terrestrial television it is essential to identify what are the most significant drivers and barriers for adoption among the impacted population. Also importantly, it is to segment the population according with their attitudes towards digital TV, their awareness about the switchover process and intention of adopting digital TV, among other relevant topics.

The tradition of profiles definition based on the adoption and rejection of innovations can be traced back to Beal & Bohlen, who proposed five categories of innovation adopters based on the time of adoption, with significant differences in selected personal and social characteristics: the innovators, the early adopters, the early majority, the majority and non-adopters. Later, Rogers would propose similar categories of adopters that became the standard for years to come: the innovators, the early adopters, the early majority, the late majority and the laggards.

While helpful, these traditional innovation adopters' profiles do not totally grasp the complexities of the adoption of an innovation such as digital TV, particularly in mandatory settings. In this paper we will propose a classification of adopters of digital TV in Portugal, based on the results of one of the four empirical studies of the research project ADOPT-DTV, namely, the quantitative inquiry administered to a representative sample of the Portuguese population. The paper will be concluded with a brief discussion of results and the enumeration of the next steps of the research project.

Keywords

Diffusion and adoption of innovation, digital TV, TV audiences

1. INTRODUCTION

1.1. Introduction

The digital TV switchover process presents diverse challenges that go beyond the strict technology field, with serious economical and social implications. Research can contribute with innovative solutions to the digitalization obstacles (Suárez Candel, 2007). Also, research enables the reflection about what has been accomplished in diverse contexts, in order to avoid repeating past mistakes, as Roberto Suárez Candel notes, to whom monitoring the development of the migration towards digital television is necessary to introduce correction measures on time (2007). Therefore, it is fundamental to understand people's attitudes towards digital TV, their concerns and worries, in order to communicate the correct messages and to assure that nobody is left behind in this transition process.

In order to conduct a successful transition from analogue terrestrial television to full digital terrestrial television it is essential to identify what are the most significant drivers and barriers for adoption among the impacted population. Also importantly, it is to segment the population according with their attitudes towards digital TV, their awareness about the switchover process and intention of adopting digital TV, among other relevant topics.

In the classic book *Diffusion of Innovations*, Rogers (1962) proposed five generic profiles of innovation adopters that became the standard for years to come: the innovators, the early adopters, the early majority, the late majority and the laggards. This classification was based on Beal & Bohlen's (1957) five categories of people, based on the time of adoption, with significant differences in selected personal and social characteristics: the innovators, the early adopters, the early majority, the majority

and non-adopters.
In the specific realm of digital TV adoption, the Go Digital report (2003) proposed the following classification for consumers intentions regarding digital TV in United Kingdom: "Adopter", "Likely", "Could be" and "Won't be". In a former study, Klein, Karger and Sinclair (2004a) quantified these consumers segments, having established that the UK non-adopters of digital TV would be 13% of the households and that 6% of the UK households expect never to buy digital TV equipment "even if it means stopping watching TV". These authors (2004a) are careful to point out that these percentages reflect what people say, rather than what they are likely to do: "given the possibility of some bravado in people's stated intentions, we suspect that these 'hard core resisters' will be a smaller percentage than this".

Table 1: Consumers' intentions with respect to DTV (Klein, Karger and Sinclair (2004a)

Classification	**Intentions**	**Percentage from Quest**	**Equivalent number of UK households**
"Adopter"	Already have DTV	**38%**	9,400,000
"Likely"	Intend to get DTV sooner rather than later	**12%**	3,000,000
"Could be"	Unlikely to get DTV but "could be" persuaded	**29%**	7,200,000
"Won't be"	Unlikely to get DTV and cannot be persuaded	**13%**	3,200,000

Klein et Al. (2004a) would propose a more refined segmentation of digital TV adopters in UK, based on the former by the Go Digital project: "the comfortable adopter", "the marginalized adopter", "the experimental adopter", "the could be", "the passive won't be" and the "active won't be". In these last two cases, the individuals would correspond to the "won't be" of the former segmentation. The "comfortable adopter", "the marginalized adopter", "the experimental adopter" are all adopters, but a successful switchover would still need them to continue to convert their remaining analogue TV equipments. In the case of the "could be" group, Klein and Al. characterized them as followers, with limited awareness of DTV and its benefits, observing that for this group to comfortably adopt digital TV, this "must be perceived as a mass market, stable product offering".
In this paper, we will propose a classification of the Portuguese television viewers focusing on their ownership of pay TV, intention to acquire digital TV and motivation to have digital TV, based on the results of one of the four empirical studies of the research project ADOPT-DTV, namely, the quantitative inquiry administered to a representative sample of the Portuguese population. To understand what are the most significant factors for the adoption of digital TV by the Portuguese population in the switchover context is the main goal of the ADOPT-DTV research project. The secondary goal is to propose recommendations that can be applied by the key stakeholders in Portugal, aiming to contribute effectively towards a more inclusive digital TV.
If it is true that a switchover process can occur without major problems and in a transparent way, on the other hand, a badly planned and implemented transition process can have profound negative consequences, which include the possibility of confused viewers suddenly lose their television services (DigiTAG, 2008b: 14). As an example, it should be mentioned than in the United States of America in January 2009, approximately one month before the deadline for switch-off, the market studies company Nielsen published estimated that nearly 7% of all homes with television in the United States – 7,8 million households – were not prepared for the end of analogue television, since they had no TV set or set-top box that could display a digital signal (InformiTV, 2008).
This research project focus precisely on the people who do not have the intention to adopt digital TV. More precisely, our goal is to understand and identify the main factors that explain this intention, as well as their demographic and socioeconomic profile. With these results it will be possible to define recommendations that can positively contribute towards a successful digital TV switchover process in Portugal, as well as other countries that are facing similar challenges.

1.2. Theoretical framework

The transition from analogue terrestrial TV to digital terrestrial TV is a particular case of diffusion and adoption of an innovation, in which the adoption is both voluntary and involuntary, since there is a mandatory date to terminate the analogue broadcast. Rogers (1962) explained that the diffusion of new ideas - even after they are proven positive and beneficial - is a difficult task that should be planned in order to succeed. Rogers presents several examples of innovations or new ideas that were not accepted and adopted, such as water boiling in a Peruvian village. The reasons for the majority of these failures, claims Rogers, are related with cultural beliefs of a given community of society, former traditions and

habits, failure in the diffusion of the ideas on the local community and individuals that are more socially accepted, failure in including opinion leaders in the process of adoption of an idea, perceptions of the target-audience about the change agent, messages not adequate to the needs and competences of the target-audience.
More recent studies in this field present other explanatory models of the diffusion and adoption of innovations. Venkatesh, Morris, Davis & Davis (2003) proposed an unified model based on the most significant models in the area – the *Unified Theory of Acceptance and Use of Technology* (UTAUT) -, defending that performance expectancy, effort expectancy, social influence and facilitating conditions are direct determinants of the usage intention and behavior in the adoption of innovations. The impact of these four constructs is mediated by age, gender, experience and voluntariness of use.
The project's theoretical framework follows the UTAUT model and its main research hypothesis is the following: in the switchover context, the adoption of the digital TV is significantly conditioned by factors of performance expectancy, effort expectancy, social influence, with a strong probability of rejection among population segments such as the elderly, people with less experience in technology use and people with special needs. All these factors constitute heavy barriers to the adoption of technology.

1.3. Methodology

The project's research design combines the following quantitative and qualitative methods:
1) Ethnographic study, at the households of 30 Portuguese families with different characteristics, with the objective of exploring in context what are their attitudes regarding digital TV and what uses they give to television and other media, among other issues;
2) Interviews with stakeholders, with the main goal of understanding the different perspectives of major players in this specific field;
3) Quantitative survey, to be applied to a representative sample of the Portuguese population, with the overall objective of determining the main adoption and rejection factors of digital TV usage,
4) Usability study, with a sample of 20 users, to perform a comparative analysis of the main digital TV systems in Portugal in terms of ease of use and overall satisfaction.
The project formally started in April 2010 and it will be concluded in late September 2011. In the following pages, we will focus on the specificity of the main drivers and barriers for the adoption of the digital, in the perspectives of the television viewers and other main stakeholders in this process, using the data from the interviews with stakeholders and quantitative inquiry.

2. PROFILES OF NON-PAY TV AND PAY-TV SUBSCRIBERS

2.1. Overview of the quantitative survey

The quantitative survey was applied to 1,205 individuals aged 18 to 92 years (average age 45.23), of which 48.9% were male (n=589) and 51.1% were female (n=616). Regarding the age distribution, 12% had 18 to 24 years, 21% had 25-34 years, 19.1%, were in the age group 35-44, 18.2% had 45-54 years, 13,3% had 55-64 years and, finally, 16.4% had 65 years and plus. Finally, regarding the nationality, 96.3% of the survey participants are Portuguese and the remaining respondents are from Brazil, Ukraine, Cape Verde and others.
The participants were selected by a quota method, based on a matrix which crossed variables such as gender, age, education level, occupation, region and place of residence / size of the place of residence. Overall, the instrument was composed of a total of 33 questions and 22 characterization items and the market studies company GfK applied it during November 2010, at the participants' households by a total of 68 interviewers through a direct and personal interview. The data was analyzed with SPSS software.
Out of the 1.205 participants in the quantitative inquiry, 99.4% replied that they have at least one TV set at home (n=1.198). Of these 1,198 respondents, 54.7% have pay TV at home (n=655), which means that 45.3% of the total sample only receives free-to-air TV at home (n=543).
According to the national regulator for telecom and broadcast industry in Portugal Anacom (2011), the total number of subscribers to pay TV services reached 2.770.000 in December 2010. Anacom estimates a 48.5 penetration rate for pay TV subscribers per 100 households. Cable TV represented 51.8% of all TV subscriptions, followed by satellite TV with 24.2%, other technologies (ADSL) with 18.8% and, finally 5.2% of fibre-to-the-home or fibre-to-the building subscriptions (Anacom, 2011). It should noted that while satellite, fibre and other technologies are digital, not all the cable TV subscribers receive digital TV: according to Anacom (2011), from the 1.438.00 cable TV subscribers, 1.074.000 households receive digital cable, which represents 74.7% of all cable subscribers.
Regarding the 45.3% of participants in our survey who claimed to only receive free-to-air TV, they were asked how they receive TV at home (Q.9):
- 96.7% claimed to have analogue terrestrial TV,

- 1.8% free-to-air direct-to-home (DTH),
- 1.1% digital terrestrial TV,
- 0.7% preferred not to answer to question.

The following sections will present an inferential statistical analysis of some central variables regarding this paper's goals – to trace the profiles of digital TV adopters. We worked with a level of significance of 95% (α=0.05) in all analysis performed and decisions took. The Chi-Square test was used as it was considered the more suitable regarding the variables analysed. When Chi-Square assumptions were not satisfied the Fisher Exact Test was used.

2.2. Socio-economical profile of pay TV and non-pay TV subscribers

In terms of the socio-economical profile of pay TV subscribers, firstly we found a statistical significant difference between gender and pay TV ownership. The data indicates that there is a higher level of female participants who have pay TV at home comparing with male participants ($\chi^2(1)=0.185$; p=0.667; n=1198; α=0.05).

We also found a statistical significant difference between age and pay TV ownership indicating that older participants, particularly individuals over 65 years of age are less likely to have pay TV in their own houses ($\chi^2(5)=73.879$; p<0.001; n=1198; α=0.05). We also found a negative reasonable and significant correlation between age and pay TV ownership (P=-0.25; p<0.001).

Table 2: Q.3. Pay TV and Non-pay TV subscribers vs. Age (ADOPT-DTV, 2011)

	Total sample %	Pay TV %	No Pay TV %
18-24 years	**12**	**14.2**	**7.2**
25-34 years	**21**	**24**	**17.5**
35-44 years	**19.1**	**20.8**	**17**
45-54 years	**18.2**	**19.2**	**16.6**
55-64 years	**13.3**	**11.3**	**15.8**
+ 65 years	**16.4**	**8.2**	**23**

About educational level attained, again we observed a correlation between education level attained and non-pay TV ownership (sp=0.335; p=0.027) and a statistical significant difference between the variables ($\chi^2(5)=143.348$; p<0.001; n=1198; α=0.05) indicating that participants with a higher level of education are more likely to have pay TV at their own homes. On the other hand, in the case of respondents with no pay TV, they are more likely to have a lower educational level. It should be noted that the individuals with the 4th grade or less and illiterate people represented 51,5% of all participants with no pay TV in this representative sample of the Portuguese population.

Table 3: Q.3. Pay TV and Non-pay TV subscribers vs. Educational Level (ADOPT-DTV, 2011)

	Total sample %	Pay TV %	No Pay TV %
University level	**5.5**	**8.7**	**2.9**
Bachelor degree	**1.9**	**1.7**	**1.5**
On university	**1.8**	**2**	**0.4**
12th grade	**24.6**	**27.3**	**14.2**
9th grade	**19.7**	**21.7**	**14.9**
6th grade	**13.1**	**15.6**	**15.7**
4th grade	**25.6**	**20**	**37.8**
Illiterate / incomplete 4th grade	**7.8**	**2.9**	**12.7**

Regarding the status of participants with pay TV, we found a positive correlation between status and

Pay TV ownership (V=0.244; p<0.001) and a statistical significant difference indicating that participants with a higher status level (A, B) are more likely to have pay TV at home than individuals in the less favored groups (D, E) being considerably below average on the subscription of pay TV services ($\chi^2(4)= 71.093$; p<0.001; n=1198; α=0.05).

Table 4: Q.3. Pay TV and No-pay TV subscribers vs. Status (ADOPT-DTV, 2011)

	%	Pay TV %	No Pay TV %
A	**2.7**	**4**	**0.7**
B	**13.9**	**19**	**8.5**
C	**19.6**	**24**	**14.9**
D	**48.8**	**40**	**59.1**
E	**15**	**13**	**16.8**

About people with special needs, particularly individuals with visuals impairments, hearing impairments and mobility challenged, again we found a positive correlation between impairments and no pay TV ownership. The data pointed out a positive correlation and significant difference between these variables, indicating that participants without pay TV are more likely to have visual, hearing or mobility impairments (visual impairment $\chi^2(4)=21.422$; p<0.001; n=1198; α=0.05; V=0.134; p<0.001; hearing impairments $\chi^2(4)=42.303$; p<0.001;n=1198; α=0.05; V=0.188; p<0.001; mobility impairments $\chi^2(4)=66.131$;p<0.001; n=1198; V=0.235; p<0.001; α=0.05).

Table 5: Q.3. Pay TV and No-pay TV subscribers vs. Visual impairments (ADOPT-DTV, 2011)

Difficulties in seeing	Total sample %	Pay TV %	Non Pay TV %
None	**62.3**	**68.8**	**56**
A little	**13.9**	**12.7**	**15.5**
Some	**18**	**14.8**	**22.1**
A lot	**5.1**	**4.1**	**6.4**
Can't see	**0.1**	**0.2**	**0**

Table 6: Q.3. Pay TV and No-pay TV subscribers vs. hearing impairments (ADOPT-DTV, 2011)

Difficulties in hearing	Total sample %	Pay TV **%**	Non-pay TV **%**
None	**80**	**86.7**	**71.8**
A little	**9.4**	**6.4**	**13**
Some	**8.5**	**5.8**	**11.8**
A lot	**1.9**	**0.9**	**3.1**
Can't hear	**0.2**	**0.3**	**0.2**

Table 7: Q.3. Pay TV and Non-pay TV subscribers vs. Mobility impairments (ADOPT-DTV, 2011)

Difficulties in walking	Total sample %	Pay TV %	Non-pay TV %
None	**77.1**	**85.5**	**67**
A little	**10**	**7.6**	**12.9**
Some	**8.8**	**5.6**	**12.7**
A lot	**3.7**	**1.1**	**6.8**
Can't walk	**0.3**	**0.2**	**0.6**

In summary, based on the results of this quantitative questionnaire applied to a representative sample of the Portuguese population, we can state that pay TV subscribers in Portugal are more likely to be young adults and middle aged adults, more likely to have high educational levels and to belong to status groups A/ B/ C and less likely to have some level of impairment (visual, hearing or mobility). On the other hand, the individuals exclusively with free-to-air TV in Portugal are more likely to have 55 and more years of age, more likely to have low educational levels or being illiterate and belong to the status groups D/ E and, finally, to have some significant level of impairment (visual, hearing or mobility).

3. PROFILES BASED ON THE INTENTION OF ACQUIRING DTT

3.1. Socio-economical characteristics of respondents

Considering the results of Q. 29, 3,3%, the percentage of participants who claimed to have the intention to get a digital terrestrial equipment over the next 12 months was 3,3%, while 30,5% claimed that they would get such equipments or services only when mandatory. The majority of respondents selected the option "don't know/ don't reply", more exactly 53,1%. The percentage of people who stated that they would never acquire a DTT equipment was 12,4% of the 525 participants who said not to have pay TV at home - which represents 5,4% of all the individuals in this survey.

Table 8: Q.29 Intention of acquiring digital terrestrial TV equipment (ADOPT-DTV, 2011)

	(n= 525) %	(n= 525)
Within a month to a year	**3.3**	**17**
Only when it is mandatory	**30.5**	**160**
Other	**0.8**	**4**
Never	**12.4**	**65**
Don't know/ Don't reply	**53.1**	**279**

Firstly, we found a positive correlation between gender and no intention to obtain DTT: however that correlation is not considered significant for a confidence level of 95% (V=0.167; p=0.075). Yet, significant differences were found between these variables indicating that women are more likely than men to reject DTT. On the other hand, when asked if they have the intention of getting digital terrestrial TV over the next 12 months, women are also more likely than men to give a positive answer to this question. The mandatory date is more likely to have an impact on men's decision to acquire DTT, rather than women (F=13.173; p=0.032; n=525; α=0.05).

Table 9: Q.29 Intention of acquiring DTT equipment vs. Gender (ADOPT-DTV, 2011)

	Total sample %	Within 12 months %	Only when mandatory %	Never %	Don't know/ don't reply %
Men	**48.9**	**35.3**	**56.9**	**38.5**	**47**
Women	**51.5**	**64.7**	**43.1**	**61.5**	**53**

When considering age, we found a significant statistical difference and a positive correlation between age and intention to acquire DTT equipment. Particularly on the individuals over 65 years of age, who despite being 15% of the total sample, represented 52,3% of the individuals who replied "never" when asked about their intention to get DTT ($\chi^2(25)=130.462$; $p<0.001$; n=525; α=0.05) (sp=0.201; $p<0.001$).

Table 10: Q.29 Intention of acquiring DTT vs. Age (ADOPT-DTV, 2011)

	Total sample %	Within 12 months %	Only when mandatory %	Never %	Don't know/ don't reply %
18-24 years	**12**	**11.7**	**8.8**	**3.1**	**8.2**
25-34 years	**21**	**17.6**	**17.5**	**9.2**	**19**
35-44 years	**19.1**	**17.6**	**23.1**	**7.7**	**16.1**
45-54 years	**18.2**	**41.2**	**17.5**	**7.7**	**17.2**
55-64 years	**13.3**	**0**	**16.3**	**20**	**15.1**
+ 65 years	**16.4**	**11.8**	**16.9**	**52.3**	**24.4**

About the educational level influence and the intention to acquire DTT, we found a positive correlation between no intention to get DTT and educational level (V=0.363;p=0.030) and also a significant difference between these variables ($\chi^2(25)=206.023$; $p<0.001$; n=525; $\alpha=0.05$). This data indicates that participants with lower educational levels are less likely to adopt DTT, more strongly observed on the individuals with the 4th grade or less and illiterate people, which represented a total of 72.3% of the respondents who claimed that they would never get DTT.

Table 11: Q.29 Intention of acquiring DTV equipment or subscription vs. Educational Level (ADOPT-DTV, 2011)

	Total sample %	Within 12 months %	Only when mandatory %	Never %	Don't know/ don't reply %
University level	**5.5**	**5.9**	**4.4**	**0**	**5.5**
Bachelor degree	**1.9**	**0**	**0.6**	**0**	**1.4**
On university	**1.8**	**5.9**	**0.6**	**0**	**1.1**
12th grade	**24.6**	**11.8**	**17.5**	**7.7**	**14**
9th grade	**19.7**	**41.2**	**16.9**	**13.8**	**14.3**
6th grade	**13.1**	**23.5**	**16.3**	**6.2**	**16.1**
4th grade	**25.6**	**11.8**	**32.5**	**43.1**	**36.9**
Illiterate/ incomplete 4thgr.	**7.8**	**0**	**11.3**	**29.9**	**13.6**

Finally, regarding status, we found a positive correlation (V=0.282; $p<0.001$) between no intention to get DTT and socio-economical status. The data also pointed out statistical significant differences between these variables indicating that individuals in lower socio-economical status are more likely to reject DTT ($\chi^2(20)=96.127$; $p<0.001$; n=525; $\alpha=0.05$). Note that people in status D and E represent a total of 83,1% of the respondents who said they will never acquire DTT.

Table 12: Q.29 Intention of acquiring DTV equipment vs. Status (ADOPT-DTV, 2011)

	%	Within 12 months %	Only when mandatory %	Never %	Don't know/ don't reply %
A	**2.7**	**0**	**1.9**	**0**	**0.4**
B	**13.9**	**11.8**	**10.6**	**4.6**	**6.8**
C	**19.6**	**11.8**	**18.1**	**12.3**	**13.3**
D	**48.8**	**52.9**	**51.3**	**76.9**	**60.2**
E	**15**	**23.5**	**8.1**	**6.2**	**19.4**

In what concerns people with special needs, the results pointed out a reasonable correlation and also a significant difference between visual, hearing and mobility disabilities and the intention to adopt digital terrestrial TV. The data indicates that participants with a higher level of impairment have less interest in adopting DTT, revealing that they do not intend to get the necessary equipment over the next 12 months and some even reject the acquisition of DTT equipment when mandatory (visual impairment $\chi^2(20)=61.978$; $p<0.001$; $n=525$; $\alpha=0.05$; hearing impairments $\chi^2(20)=83.203$; $p<0.001$;$n=525$; $\alpha=0.05$; mobility impairments $\chi^2(20)=123.678$;$p<0.001$;$n=525$) (visual impairment $V=0.227$; $p<0.001$; hearing impairment $V=0.264$; $p<0.001$; mobility impairment $V=0.321$; $p<0.001$). Therefore, the adoption of DTT depends also on the subjects level of impairment.

Table 13: Q.29 Intention of acquiring DTT equipment vs. visual impairment (ADOPT-DTV, 2011)

Difficulties in seeing	Total sample %	Within 12 months %	Only when mandatory %	Never %	Don't know/ don't reply %
None	**62.7**	**70.6**	**66.9**	**32.3**	**53.8**
A little	**13.9**	**29.4**	**14.4**	**18.5**	**14.7**
Some	**18.1**	**0**	**15.6**	**36.9**	**24**
A lot	**5.2**	**0**	**3.1**	**12.3**	**7.5**
Can't see	**0.1**	**0**	**0**	**0**	**0**

Table 14: Q.29 Intention of acquiring DTT equipment vs. hearing impairment (ADOPT-DTV, 2011)

Difficulties in hearing	Total sample %	Within 12 months %	Only when mandatory %	Never %	Don't know/ don't reply %
None	**80**	**88.2**	**81.3**	**50.8**	**70.6**
A little	**9.4**	**11.8**	**8.8**	**15.4**	**14.7**
Some	**8.5**	**0**	**7.5**	**26.2**	**11.5**
A lot	**1.9**	**0**	**1.9**	**7.7**	**3.2**
Can't walk	**0.2**	**0**	**0.6**	**0**	**0**

Table 15: Q.29 Intention of acquiring DTT equipment vs. mobility impairment (ADOPT-DTV, 2011)

Difficulties in walking	Total sample %	Within 12 months %	Only when mandatory %	Never %	Don't know/ don't reply %
None	**77.1**	**100**	**72.5**	**44.6**	**66.7**
A little	**10**	**0**	**15**	**13.8**	**12.2**
Some	**8.8**	**0**	**9.4**	**24.6**	**12.5**
A lot	**3.7**	**0**	**2.5**	**16.9**	**7.9**
Can't hear	**0.3**	**0**	**0.6**	**0**	**0.7**

3.2. Proposal of profiles

Based on the availability of pay TV at home (Q.3) and on the intention of acquiring digital terrestrial TV equipment (Q.29), we propose the following profiles of DTV adopters in Portugal, in the current switchover context:

- **Adopters:** who have pay TV (in the vast majority of cases they have digital TV),
- **Nearly adopters**: free-to-air viewers who are considering to buy a set-top-box or TV set on a voluntary basis over the next 12 months,
- **Reluctant adopters:** free-to-air viewers who consider to have DTT only when it is mandatory.
- **Doubtful adopters:** free-to-air viewers who do not know or did not respond what is their intention regarding DTT, that could go either way.
- **Non-Adopters:** free-to-air viewers who claimed that they will not get DTT.

The **Adopters** are, as previously mentioned correspond to pay TV subscribers, who more likely to be young adults and middle aged adults, more likely to have high educational levels and to belong to status groups A/ B/ C and less likely to have some level of impairment (visual, hearing or mobility).

The **Nearly adopters** are more likely to be women, more likely to be the in the age range of 45 to 54, to have the complete 9th grade or the complete 6th grade, to belong to the status D/ E and less likely to have any kind of impairment.
The **Reluctant adopters** are more likely to be men, more likely to be in the age groups 25-44 and 55-64, more likely to have the 6th grade or less, and more likely to have a significant level of impairment.
The **Doubtful adopters** are more likely to be women and to have 55 years or more – particularly over 65 years, more likely to have the 6th grade or less – particularly individuals with the incomplete 4th grade or illiterate, more likely to belong to status D/ E and, finally, more likely to have some kind of impairment.
The **Non-Adopters** are more likely to be woman, over the age of 65, more likely to have a low educational level (4th grade or less) and to belong to status D/ E and, finally, to have some kind of impairment.

3.3. Main motivation to get Digital TV

When trying to further explore the motivation to acquire digital terrestrial TV – or to reject DTT, we asked what motives the respondents have to get this broadcast technology (Q.30). Out of the 525 individuals without pay TV at home, 36,5% selected the option "don't know / don't reply", followed by 25,7% of the respondents you identified the mandatory cut of analogue TV as the main motive to get DTT, closely followed by the 23,6% of participants who said they have no motive to get DTT. Improved quality of image and sound was selected by 13,7% of the respondents, while 1,9% identified free HD as a main motive, with no one selecting the option interactive services, such as the EPG.

Table 16: Q.30 What is you main motivation to acquire DTT? (ADOPT-DTV, 2011)

	(n= 525) %	(n= 525) %	(n= 525)
Quality of image and sound	**13.7**	**15.6**	**82**
Free HD	**1.9**		
Interactive services	**0**		
Analogue signal cut	**25.7**	**25.7**	**135**
Other motives	**1.3**	**1.3**	**7**
None	**23.6**	**23.6**	**124**
Don't know/ Don't reply	**36.5**	**36.5**	**193**

(Note: all percentages = 102,7 – the respondents could answer more than one option)

Analysing the variable "don't have a motive to obtain DTT", out of the 1.198 participants in the study who said to have at least a TV set at home, 124 claimed that they had no motive to get DTT, representing 10,3% of the total sample. These 124 individuals have the following socio-economical composition:
- 57,3% are women and 42,7% are men;
- 3,2% are 18 to 24 years, 12,1% are 25 to 34 years; 12,9% are 35 to 44 years, 12,9% are 45 to 54 years; 21,8% are 55 to 64 years and 36,3% are individuals with 65 and more years.
- 0,8% have a university degree, 10,5% have the 12th grade; 12,9% have the 9th grade, 13,7% have the 6th grade, 46% have completed the 4th grade and 16,1% have incomplete 4th grade or are illiterate.
- regarding visual impairments, 39,5% have no difficulties in seeing, 18,5% have a little difficulty, 30,6% have some difficulty and 11,3% have a lot of difficulty in seeing.
- about hearing impairments, 61,3% don't have any difficulties, 15,3% have a little, 18,5% have some, 4% have a lot of hearing impairments and 0,8% are deaf.
- finally, on mobility difficulties, 51,6% don't have problems in walking or climbing stairs, 16,1% have little difficulties, 16,1% have some, 14,5% and a lot of difficulties and 1,6% cannot walk.

In summary, the individuals without pay TV who claim to have no motive to get digital TV are more likely women, more likely to be above 55 years of age and to have a low level of education (4th grade or less) and to have some level of impairments, particularly visual impairments.
Finally, these 124 individuals who claimed to find no motive to have DTT (Q. 30) were asked to indicate their level of agreement with a set of statements (Q.31). The basis of this question was Ofcom's study "Attitudes to Digital Switchover" (2004).

Table 17: Q.31. To which degree do you agree with each of these statements? (only for individuals who claimed to find no motive to have DTT; n=124)

	Completely disagree %	Disagree %	Neither agree or disagree %	Agree %	Completely Agree %	Doesn't know or doesn't reply %
TV is not important to me, so I am not going to bother to change over	**3.2**	**21**	**21.8**	**36.2**	**4**	**13.7**
I don't want digital TV in my household	**1.6**	**15.3**	**20.2**	**36.3**	**10.5**	**16.1**
I'd like to be able to continue to watch TV, but it's a matter of cost	**0.8**	**2.4**	**9.7**	**62.9**	**15.3**	**8.9**
I don't know how to get digital TV. It's all too complicated	**0**	**8.1**	**12.9**	**50.8**	**11.3**	**16.9**
I'd like to be able to continue to watch TV, but I don't know how I'd get it installed and set up	**0.8**	**9.7**	**16.9**	**43.5**	**8.9**	**20.2**
I'd like to be able to continue to watch TV, but I don't think I'd ever be able to understand how to use digital TV	**1.6**	**15.3**	**23.4**	**27.4**	**8.1**	**24.2**

This way, 77,9% of these participants agreed with the statement "I'd like to be able to continue to watch TV, but it's a matter of cost". The difficulty in knowing what to do in order to have digital TV was identified in second place in this list, with 62,1% of these individuals agreeing with the statement "I don't know how to get digital TV. It's all too complicated".

Focusing on the two most negative statements about DTT adoption and the variable age, 64.4% of the individuals of 65 years and plus agreed with the statement "I don't want digital TV in my household", followed by the age segment 18-25 years with 47.5% of agreement. Below average, we first find the 25-34 age segment with 46.7% agreeing with the above statement, 44.,4% of the 55-64 year olds, 31.5% of the 34-45 year olds, and finally, 25% the 45-54 year olds. Regarding the statement "TV is not important to me, so I am not going to bother to change over", first we find the 25-34 age segment, with 60% agreeing with it, followed by the 35-44 year olds with 50% of agreement, the 55-64 year olds with 44.4% Below average, we find 40% of the 18-24 age segment, 33.4% of the 65+ and 25% of the 45-54 age segment agreeing with the sentence.

4. NEXT STEPS

In this paper, we presented a proposal of profiles of digital TV adopters in the Portuguese switchover context, based on the results of the quantitative inquiry with integrates the ADOPT-DTV research project.

The individuals exclusively with free-to-air TV in Portugal are more likely to have 55 and more years of age, to have low educational levels or being illiterate and to belong to the status groups D/ E and to have some significant level of impairment (visual, hearing or mobility). Pay TV subscribers in Portugal are more likely to be young adults and middle aged adults, more likely to have high educational levels and to belong to status groups A/ B/ C and, finally, less likely to have some level of impairment (visual, hearing or mobility).

We proposed the following profiles of DTV adopters in Portugal, in the current switchover context, based on the availability of pay TV at home (Q.3) and on the intention of acquiring DTT equipment (Q.29):

- the **Adopters** correspond to pay TV subscribers, who more likely to be young adults and middle aged adults, more likely to have high educational levels and to belong to status groups A/ B/ C and less likely to have some level of impairment (visual, hearing or mobility).
- the **Nearly adopters,** free-to-air viewers considering to buy a DTT set-top-box or integrated TV set on a voluntary basis over the next 12 months, who are more likely to be women, more likely to be the in the age range of 45 to 54, to have the complete 9th grade or complete 6th grade and to belong to the status D/ E, and less likely to have any kind of impairment.
- the **Reluctant adopters,** free-to-air viewers considering to have DTT only when it is mandatory, who are more likely to be men, more likely to be in the age groups 25-44 and 55-64, more likely to

have the 6th grade or less, and more likely to have a significant level of impairment.
- the **Doubtful adopters,** free-to-air viewers who do not know or did not reply what is their intention regarding DTT, who are more likely to be women, to have 55 years or more – particularly over 65 years, more likely to have the 6th grade or less – particularly individuals with the incomplete 4th grade or illiterate, more likely to belong to status D/ E and, finally, more likely to have some kind of impairment.
- the **Non-Adopters,** free-to-air viewers claiming that they will not get DTT, who are more likely to be woman, over the age of 65, more likely to have a low educational level (4th grade or less) and belonging to status D or E and, finally, to have some kind of impairment.
More particularly focusing on the individuals without pay TV who claim not to have a motive to get DTT, these are more likely women, more likely to be above 55 years of age and to have a low level of education (4th grade or less) and to have some level of impairments, particularly visual impairments.
Regarding the next steps, the research team is in the process of conducting the usability study, with a sample of 20 users, with the objective of making a comparative analysis of a selection of DTT set-top boxes in the Portugal in terms of ease of use and overall satisfaction. This sample will be composed by four distinct groups of people, namely, a group of five participants aged 25 to 55 years with a high level of technology literacy, a group of five participants aged 65 years and plus with low technology literacy level, a group of five people with significant level of visuals impairments and a group of five people with a significant level of hearing impairments. The focus of this study is on the identification of particular problems and challenges in using regular DTT set-top boxes, currently available on the Portuguese market, with a special interest on the elderly and people with special needs.

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