

Appendix 28: Consumer Panel IQOS owners EU

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Consumer Panel of Adult IQOS Owners EU Countries

Key Methodological Features and Key Results

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Purpose of the Document

The purpose of this document is to illustrate key methodological features and key results of the longitudinal consumer panels of adult IQOS owners conducted in some EU countries.

Study Objectives

The objectives of the longitudinal consumer panel of adult IQOS owners is to describe:

- The usage patterns of IQOS over time
- The profile of IQOS owners over time.

Study Design

The study is a prospective longitudinal consumer panel composed of different cohorts of adult IQOS owners, who have registered their IQOS device.

Participants are regularly recruited according to the time of purchase of their IQOS device.

The study design consisted of three phases:

- A recruitment phase
- A weekly tracking phase lasting 12 weeks
- A subsequent monthly tracking, each 4 weeks, phase.

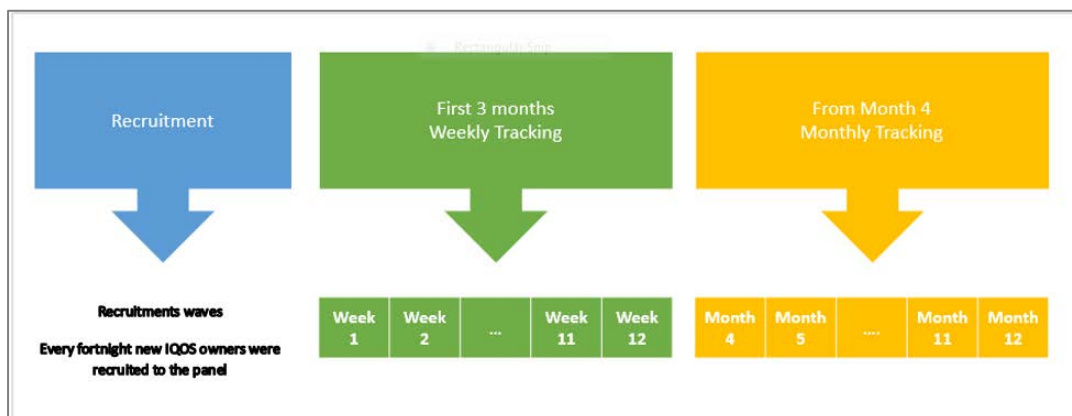


Figure 1: Study Design: Consumer Panel of Adult IQOS owners in Germany

Study Method

The study is conducted using an online web-based methodology. The questionnaire is self-administered. Panelists are able to complete the questionnaire using computer, laptop, tablet or smartphone.

Study Population

The study population is composed of IQOS owners who registered their IQOS device, have a valid email and agreed to take part in the panel. The following standard inclusion and exclusion

criteria are applied. Some additional exclusion criteria might be applied according to local peculiarities.

Inclusion Criteria

- Must agree to be part of the IQOS Owner Panel
- Must be above legal smoking age + 1 year
- Must own an IQOS device for their own use
- Must use 3+ Tobacco Sticks (Tobacco Sticks refer to the consumable to be used with the IQOS device) and/or cigarettes at recruitment
- Must have bought their IQOS in the past 4 weeks

Exclusion Criteria

- IQOS owners who work or have a family member working in the following professions:
 - Manufacturer of cigarettes
 - Market research
 - Legal profession
- Pregnant or breastfeeding (self-reported) female IQOS owners

Statistical Methods

Based on the objectives and the study findings in pilot markets (Japan and Switzerland), a longitudinal panel with continuous recruitment is implemented:

- Each 2 weeks a cohort of new IQOS purchasers is recruited and is added to the previously recruited samples
- The cohorts recruited in the same month (2 or 3 depending on the number of weeks in a month) represented the IQOS sales of the previous month. This proportion is calculated in accordance with the weighting described below
- No replacement is implemented for panelists quitting the panel. The last available data on usage category is prolonged beyond 12 weeks.

The following measures are implemented to mitigate self-selection biases:

- Panelists are not required to fill in every questionnaire. This would create an excessive burden and could cause a sizeable drop in participation, leading to the risk of underestimating abandoners as this group is more likely to quit panel because of its lower involvement.
- Specific criteria are defined to consider a panelist as active. Those criteria are put in place to avoid that panelists who just responded to a very few number of questionnaires are considered for the analysis since such data would be extremely volatile and would likely not reflect actual changes in behavior.

Measures are also implemented to ensure the sustainability of the panel in terms of operative and cost efficiency. In particular, after 12 months of participation, a random sample of active panelists is invited to continue participating to the panel

- This enable the tracking of older cohorts behaviour beyond 12 months of purchase
- Past usage categories were not re-calculated.

Active Panelist Definition

Data are reported for active panelists only. Active panelists are defined as follow:

- Have filled 2 or more questionnaires and 50% or more of the weekly questionnaires; or
- Have filled 2 or more questionnaires and left the panel in Total Abandonment status (0% IQOS)

The criteria of filling 2 or more questionnaires is implemented to ensure that all newly recruited panelists were not be included into the analysis (1 out of 1=100%). The criteria of 50%+ is implemented to provide adequate observations. Abandoners are kept in the panel to measure the proportion of panelist who quit IQOS or quit tobacco altogether.

Panelists not matching the above conditions are excluded from analysis.

Definition of “active panelist” is dynamic during first 12 weeks meaning that the panelist can be active or not depending on the number of questionnaires answered. After 12 weeks, a panelist is defined as active or not for the entire participation in the panel.

Below an example of how the above criteria are applied.

Week	1	2	3	4	5	6	7	8	9	10	11	12
Answer	Y	Y	N	N	N	N	N	Y	Y	Y	Y	Y

Answer: Y=replied N=not replied

Report data at weeks 4, 8 and 12

At week 4 the panelist is defined as active (2/4=50%)

At week 8 the panelist is not defined as active (3/8=37.5%), unless his usage category at week 8 is IQOS abandoner (0%)

At week 12 the panelist is defined as active (7/12=58.3%) and this panelist will keep this status for the entire participation in the panel.

Usage Patterns

All analysis are descriptive. Frequency tables displayed the percentage distribution of participants across the different “usage categories” (see below) monthly.

Usage Categories

>=95% of tobacco use is IQOS	Converted
>=70% and <95% of tobacco use is IQOS	Predominant
>=5% and <70% of tobacco use is IQOS	Situational
<5% of tobacco use is IQOS	Minimal/Abandoner User

Table 1: Usage Categories Definition

Usage Categories Calculation

The population included in the analysis consisted of daily and less than daily users of Tobacco Sticks and/or Cigarettes.

The IQOS usage categories are calculated by determining the IQOS Usage Proportion, according to the following formula:

$$IQOS \text{ Usage Proportion} = \frac{\text{Tobacco Sticks Daily Use}}{(\text{Tobacco Sticks} + \text{Cigarette})\text{Daily Use}} \times 100$$

The below figure presents how daily use are calculated.

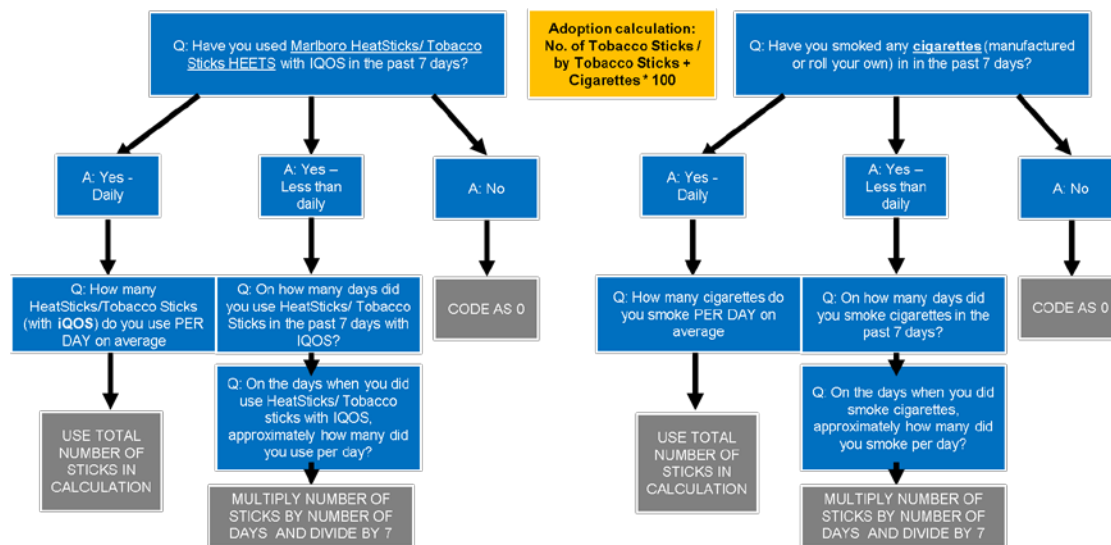


Figure 2: Daily Consumption Calculation

Usage categories at time t are obtained through the approach of “last available info”

1. If panelist answered the questionnaire at time t, those data are used.
2. If panelist do not answer the questionnaire at time t, data from t-1 are used.

Below an example of how the “last available info” is applied for an active panelist.

Week	1	2	3	4	5	6	7	8	9	10	11	12
Answer	Y	Y	N	Y	N	Y	N	N	Y	Y	Y	Y
Usage Category	C	P	P	S	S	P	P	P	S	P	C	C

Answer: Y=replied N=not replied

Usage Category: C=Converted P=Predominant S=Situational. A=Abandoner. In **Red** data based on “Last Available Info”

At week 12, this panelist is defined as active (2 or more questionnaires and 8/12=67%)

Missing data at W3 are replaced by W2 **P**, missing data at W5 are replaced by W4 **S** and missing data at W7 and W8 are replaced by W6 **P**.

Below an example of how the “last available info” is applied for a Total Abandoner (0% of tobacco use is IQOS):

Week	1	2	3	4	5	6	7	8	9	10	11	12
Answer	Y	N	N	N	N	N	N	N	N	N	Y	N
Usage Category	S	S	S	S	S	S	S	S	S	S	A	A

Answer: Y=replied N=not replied

Usage Category: C=Converted P=Predominant S=Situational. A=Abandoner. In **Red** data based on “Last Available Info”

At week 12, this panelist is defined as active (2 or more questionnaires and last status= Total Abandoner)

Missing data From W2 to W10 are replaced by W1 **S** and missing data at W12 are replaced by W11 **A**.

Profile of IQOS Owners

Descriptive statistics for panelist socio-demographics characteristics (such as age, gender and education level) are presented overall and by usage categories.

Weighting

In order to accurately represent the universe of IQOS purchasers evolution according to the evolution of IQOS devices sales on monthly basis, new panelists have to be recruited every month and weighting has to be applied. Therefore, the below weighting calculation is implemented:

$$Weight = \frac{Previous\ Month\ IQOS\ Devices\ Sales}{Active\ Panelists\ recruited\ in\ this\ month}$$

Example:

- Sales of Month 0 were n
- Sales of Month 1 were 1.5 times vs. Month 0
- Active panelists at month 2 recruited in month 1 were 2,000
- Active panelists at month 2 recruited in month 2 were 1,000
- IQOS converted users at month 2 amongst month 1 panelists were 50%
- IQOS converted users at month 2 amongst month 2 panelists were 60%

With no weight, the proportion of converted users would have been 53.3%

$$\text{Converted users unweighted} = \frac{50\% * 2000 + 60\% * 1000}{3000} = 53.3\%$$

This would give an excessive contribution to month 1 IQOS purchasers, which was two times larger than month 2 IQOS purchasers, while in month 2 the sales of IQOS devices were 1.5 times higher than the sales of IQOS devices in month 1.

With weight, the proportion of converted users is equal to 56%:

$$\text{Converted users weighted} = \frac{50\% * n + 60\% * 1.5n}{2.5n} = 56\%$$

Panel Size

The below table provides the number of active panelist for the reported countries at the month of January 2018.

Country	Number of Active Panelists (January 2018)
Germany	3,384
Greece	4,198
Italy	5,447
Portugal	4,033
Romania	5,599
Spain	2,237

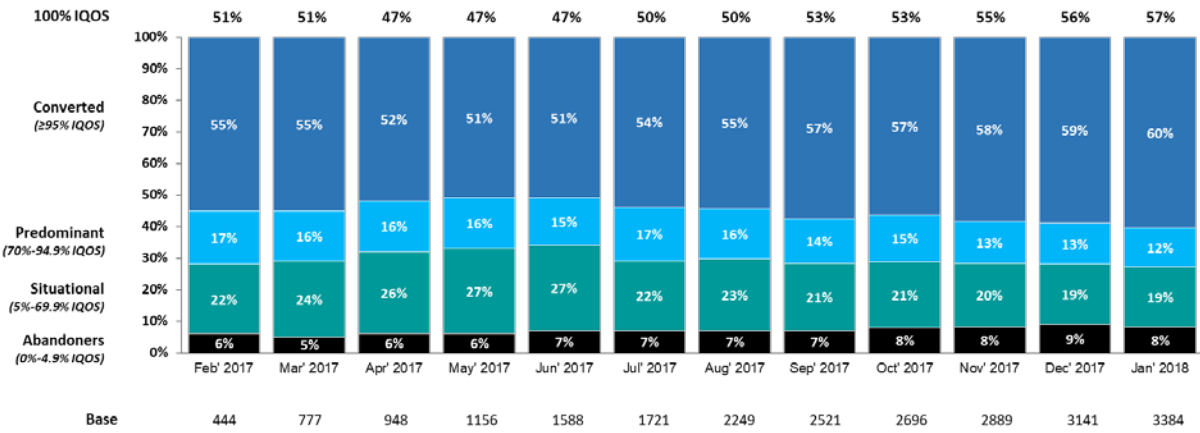
Table 2: Number of Active Panelists

Confidentiality

The research agencies managing the consumer panels ensure that all information remain confidential with measures in place to protect personal data. Potential panelists are made aware of the purpose of the study, the research agency in charge of running the study and the owner of the study. Potential panelists consent is sought by clicking Yes or No on whether they agree with the terms of panel. Panelists are compensated for their participation in the panel.

Key Results

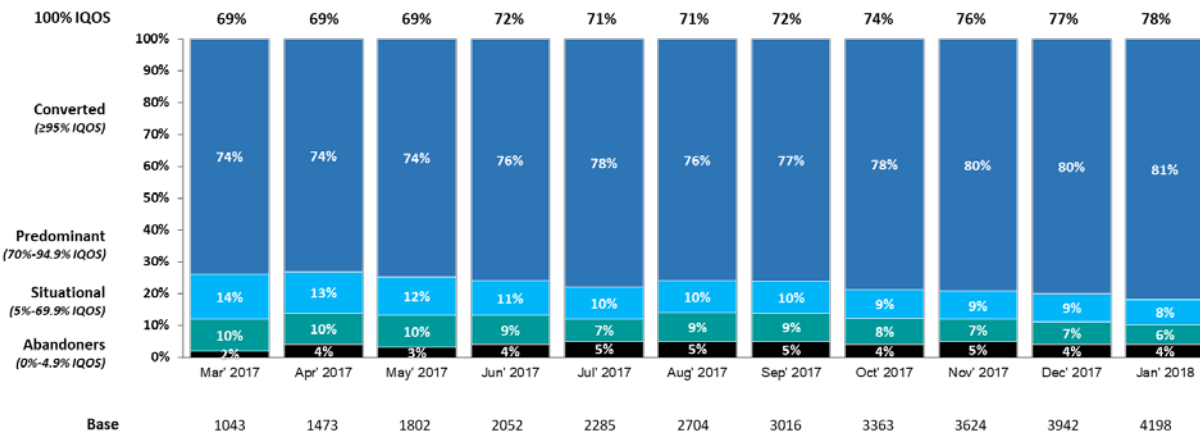
IQOS USE CATEGORIES



Source: IQOS Consumer Panel – Germany

Figure 3: Monthly IQOS Use Categories - Germany

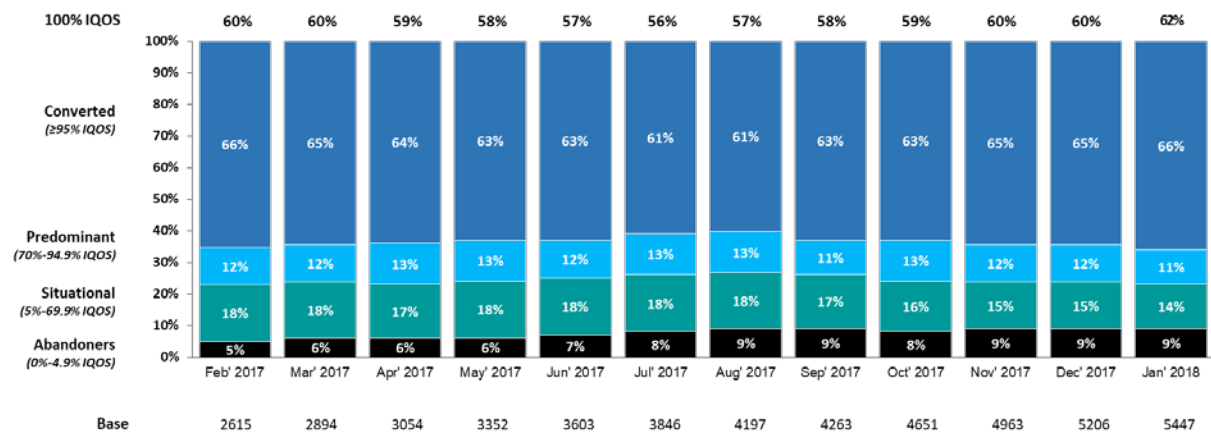
IQOS USE CATEGORIES



Source: IQOS Consumer Panel – Greece

Figure 4: Monthly IQOS Use Categories - Greece

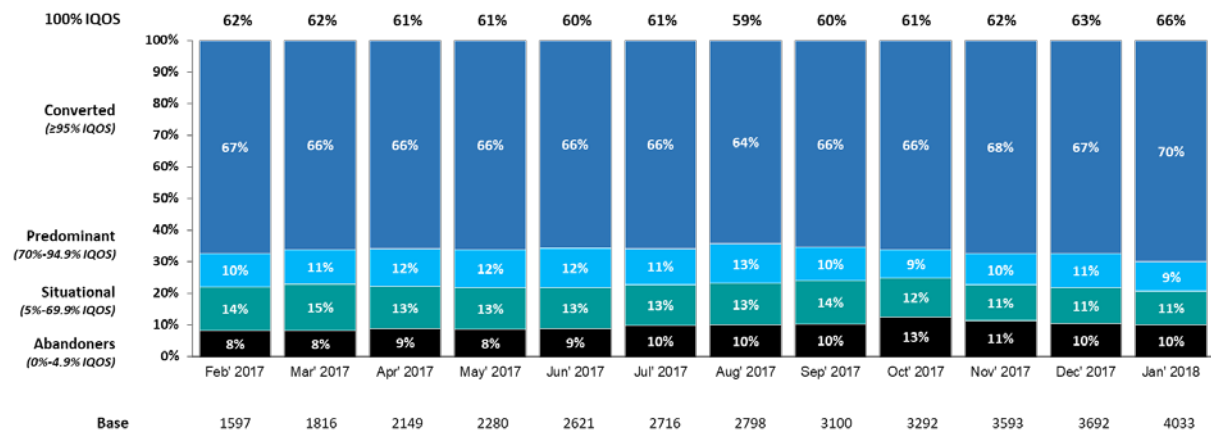
IQOS USE CATEGORIES



Source: IQOS Consumer Panel – Italy

Figure 5: Monthly IQOS Use Categories - Italy

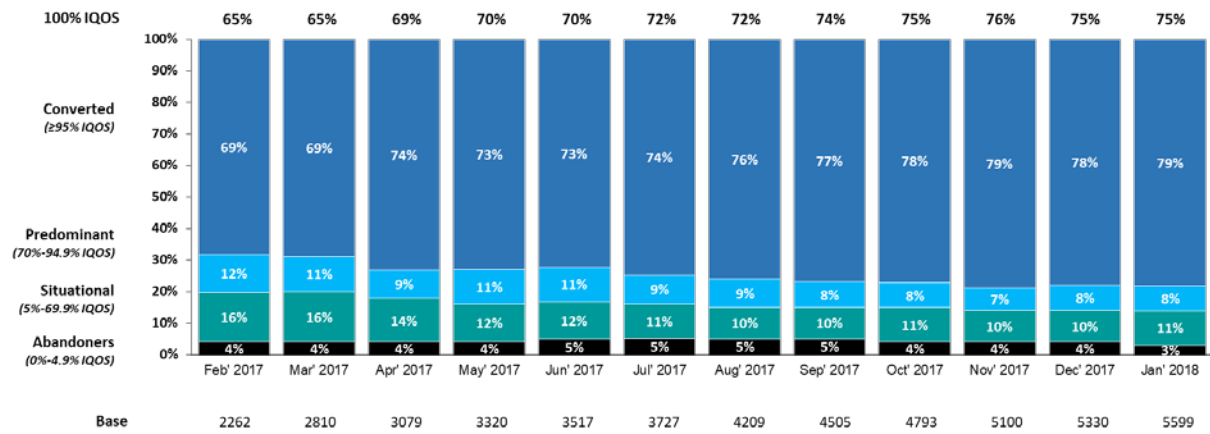
IQOS USE CATEGORIES



Source: IQOS Consumer Panel – Portugal

Figure 6: Monthly IQOS Use Categories - Portugal

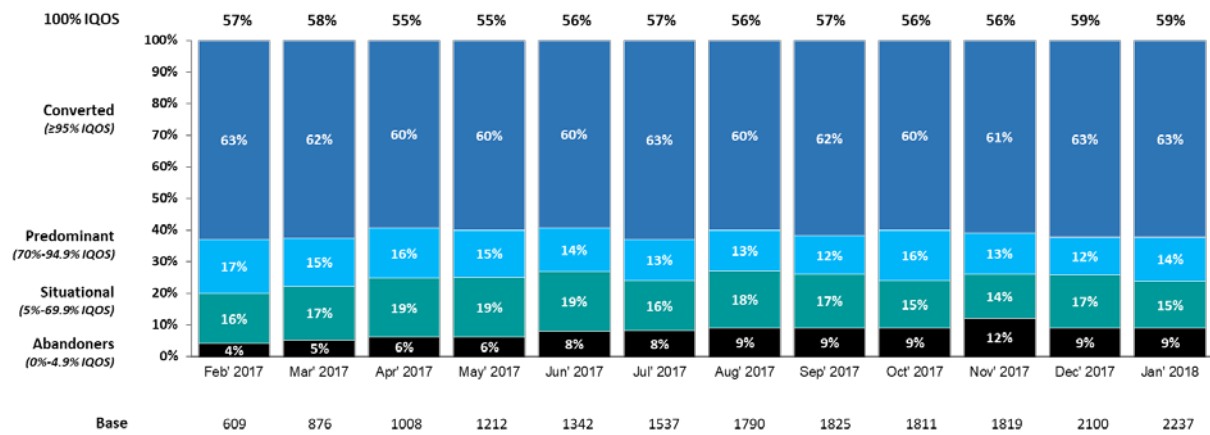
IQOS USE CATEGORIES



Source: IQOS Consumer Panel – Romania

Figure 7: Monthly IQOS Use Categories - Romania

IQOS USE CATEGORIES



Source: IQOS Consumer Panel – Spain

Figure 8: Monthly IQOS Use Categories - Spain