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Consumer Panel of Adult <i>IQOS</i> Owners	Version 1.0

# Consumer Panel of Adult *IQOS* Owners

## Study Overview

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## Purpose of the Document

The purpose of this document is to provide an overview of the longitudinal consumer panel of adult *IQOS* owners in the markets where the longitudinal consumer panels are conducted. *IQOS* owners are defined as owners of PMI's commercialized Heated Tobacco Products (HTPs). PMI HTPs include devices previously authorized by the U.S. Food and Drug Administration (FDA), such as *IQOS* 2.4/ 2.4+ and *IQOS* 3, as well as devices that are commercialized outside the U.S. such as: *IQOS* 3.1 (DUO), *IQOS* MULTI and *IQOS* ILUMA systems. PMI HTPs may also include devices produced by other companies if the devices are commercialized by PMI. Examples include LIL, which is manufactured by KT&G Corporation, and commercialized by PMI.

## Overall Aim and Objectives

The overall aim of the longitudinal market research panel of adult *IQOS* owners is to track *IQOS* use among *IQOS* owners over time.

There are two key objectives:

- To describe *IQOS* use patterns over time.
- To describe the socio-demographic profile of adult *IQOS* owners.

## Design

The study is a dynamic longitudinal panel with continuous recruitment.

The study consists of three key phases:

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

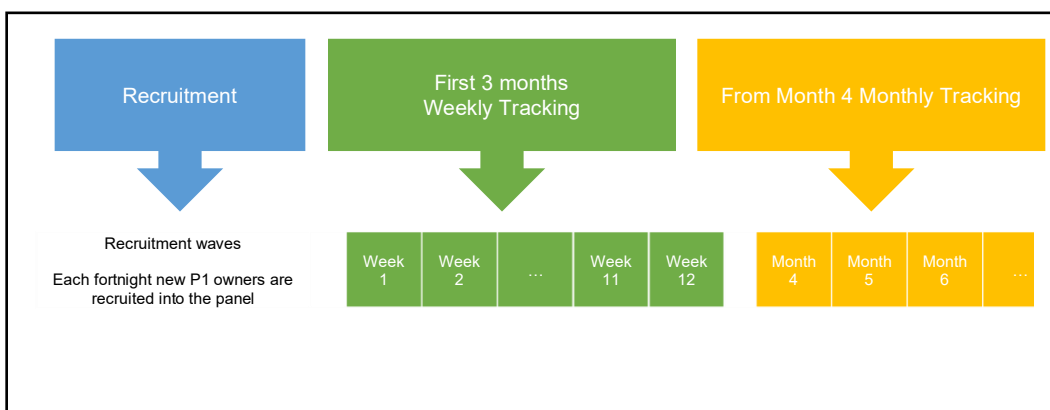
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**Figure 1:** Study Design: Panel of Adult *IQOS* Owners

Every two weeks a new cohort of recent *IQOS* owners (*IQOS* owners who bought their first device in the past 4 weeks) is added to the existing panelists. Panel is optimized every 6 months to permit optimal tracking of older cohort's behavior. Panel optimization is achieved through a review of sample stratification by discriminant criteria and weighting. The optimization process ensures that the study sample remains representative of the distribution of *IQOS* users in the broader *IQOS* population at any given time point by creating a dynamic panel that reflects the evolution of *IQOS* users in a specific country over time. In addition, it ensures panel size remains manageable. The study is conducted using an online web-based methodology. The questionnaire is self-administered and can be completed using computer, laptop, tablet or smartphone.

## Population of Reference

The study population is composed of *IQOS* owners<sup>1</sup> who registered their device in PMI *IQOS* owner databases, had a valid email address and consented to take part in market research.

## Sampling Method and Eligibility Criteria

Participants are extracted from PMI *IQOS* owner databases, randomly within each stratum. Strata are defined by device type and channel of first purchase.

<sup>1</sup> *IQOS* owners include owners of PMI HTP devices previously authorized by the U.S. Food and Drug Administration (FDA), such as *IQOS* 2.4/ 2.4+ and *IQOS* 3, as well as devices that are commercialized outside the U.S. such as: *IQOS* 3.1 (DUO), *IQOS* MULTI and *IQOS* ILUMA systems. *IQOS* owners may also include owners of HTP devices produced by other companies if the devices are commercialized by PMI. Examples include LIL which is manufactured by KT&G Corporation, and commercialized by PMI.

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Device type includes all of PMI's HTPs commercialized in a given country. Depending on the country, PMI HTPs include devices previously authorized by the U.S. Food and Drug Administration (FDA), such as *IQOS* 2.4/ 2.4+ and *IQOS* 3, as well as devices that are commercialized outside the U.S. such as: *IQOS* 3.1 (DUO), *IQOS* MULTI and *IQOS* ILUMA systems. PMI HTPs may also include devices produced by other companies if the devices are commercialized by PMI. Examples include LIL which is manufactured by KT&G Corporation, and commercialized by PMI.

Channel of first purchase is defined as the point of first purchase. Channels of purchase can be divided into two categories: direct channels (i.e., managed by PMI, such as PMI online shops) or other channels (i.e., third-party retail shops).

The stratification is done to minimize sampling bias and to ensure the obtained sample of study participants is representative of the different type of users within the broader population of *IQOS* owners.

This sampling strategy was developed as a result of an in-depth analysis that showed that device type and channel of first purchase are the two most discriminant criteria of *IQOS* Use Category.

#### *Inclusion Criteria*

- Must agree to be part of the *IQOS* Owner Panel
- Must be legal smoking age + 1 year or older
- Must own a *IQOS* device<sup>2</sup> for their own use
- Must use 3+ units of tobacco sticks per day (including cigarettes, tobacco sticks/capsules used with *IQOS* or other competitor HTPs such as *Ploom* or *Glo*) or have used e-cigarettes with nicotine in past 7 days (P7D) at recruitment
- Must have bought their first *IQOS* device 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

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<sup>2</sup> Device type includes all of PMI's HTPs commercialized in a given country.

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### *Panel Size*

The target is to recruit a minimum of 200 new panelists on a monthly basis per country. Panel size varies across countries and depends on the duration of the existing panel.

## Study Procedures

*IQOS* owners who a) register their *IQOS* device; b) have a valid email address; and c) consent to take part in market research, are sent an invitation by email to join the panel. The invitation contains general information about the study and a URL link to the screening questionnaire.

*IQOS* owners who satisfy the inclusion/exclusion criteria, outlined above, are then sent regular surveys in accordance with the study design described above.

All questionnaires are open for completion for one week.

If a participant does not respond to a subsequent survey, the invitation to the next survey is still sent until the participant fulfils one of the following conditions:

- Completes the survey or decides to stop participating in the study by unsubscribing from the study.
- Finishes the 12 weeks period as Non-Active panelist (see below for definition).
- Claims to have not used any nicotine product in P7D and claims not to have intention to use nicotine in the future. In this case, a participant is recontacted after 3 months and asked again about their consumption/intention to consume. If a participant confirms no intention to use nicotine products, they are identified as a Nicotine Quitter<sup>3</sup> and no further invitations are sent.

Participants who decide to unsubscribe are not entitled to re-enter the study.

## Key Measures

*IQOS Usage Level*: The main measure of the study is the “*IQOS Usage Level*”. *IQOS Usage Level* is defined as the daily consumption of all consumables that are commercialized by PMI in the market where the *IQOS Owner Panel* is conducted, and which can be used with *IQOS* devices<sup>4</sup>, relative to consumption of cigarettes plus any competitors’ HTPs.

Consumption of all PMI consumables is considered given the interchangeability of consumables across PMI HTP devices.

<sup>3</sup> Nicotine quitter is defined as an individual who stated no intention to use tobacco or nicotine containing products after 3 months of initial claim of no tobacco or nicotine containing products use in P7D and no intention to use them in the future.

<sup>4</sup> For instance, HEETS, TEREA (*IQOS ILUMA* consumables), MIIX (manufactured by KT&G Corporation)

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$$P1 \text{ Usage Level} = \frac{PMI \text{ Consumables Daily Consumption}}{(PMI \text{ Consumables} + \text{Cigarette} + \text{Other HTP}) \text{ Daily Consumption}} \times 100$$

## Analysis and Reporting

### *IQOS Use Categories*

*IQOS* use categories are reported for the total population sample (active panelists). Where appropriate, the *IQOS* use categories are stratified and presented for subsamples such as gender, age group, etc. Frequency tables display the percentage distribution of participants across the different “use categories” on a monthly basis.

### *Active Panelists Definition*

Active panelists are defined as follow:

- Have filled 2 or more questionnaires and more than 50% of the weekly questionnaires; or
- Have filled 2 or more questionnaires and left the panel as an abandoner (0% *IQOS* P7D)

The criteria of filling 2 or more questionnaires is implemented to ensure that not all newly recruited panelists are included in the analysis. The criteria of 50%+ is implemented to provide adequate observations. Active users who are abandoners, defined as those reporting 0% *IQOS* P7D use, are kept in the panel to measure the proportion of panelists who abandon *IQOS*, up until they quit all tobacco or nicotine containing products and are deemed Nicotine Quitters.

All other Panelists not matching the above conditions are excluded from analysis.

Definition of “active panelist” is dynamic during the first 12 weeks meaning that a 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.

Provided below is 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

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Based on data from weeks 4, 8 and 12, a participant is defined as:

- Active at week 4 (2/4=50%)
- Non-Active at week 8 (3/8=37.5%), unless their usage category at week 8 is *IQOS* Abandoner (0% *IQOS* use).
- Active at week 12 (7/12=58.3%). The panelist will subsequently maintain this status (i.e., Active panelist) for the entire participation in the panel.

### *Weighting*

To ensure results are representative of the broader population of *IQOS* users, Random Iterative Method (RIM) weighting is applied to data. RIM weighting ensures an even distribution of observations across the entire data set whilst balancing a defined set of criteria.

Two criteria are used to weight data:

1. *IQOS* Acquisition. This criterion is split by device type, channel of first purchase (where available) and cohort<sup>5</sup>. This weighting criterion is used to adjust for sampling bias.

*IQOS* Acquisition is calculated as total devices sold to new users who registered in the *IQOS* users Client Relationship Management (CRM) database, otherwise known as the *IQOS* owner database, over total devices Offtakes<sup>6</sup> in CRM multiplied by Total Devices Offtake. The latter condition is important as it takes into consideration the broader device offtakes and the fact that a small proportion of offtakes might not be registered in the CRM database.

$$IQOS\ Acquisition = \frac{Total\ Devices\ sold\ to\ New\ Users\ in\ CRM}{Total\ Devices\ Offtake\ in\ CRM} \times Total\ Devices\ Offtake$$

*IQOS* Acquisition is calculated monthly by device type and channel of first purchase.

2. *IQOS* Segmentation. This is a variable built inside the *IQOS* owners CRM database that segments *IQOS* owner based on their attitude towards *IQOS* and interactions with CRM. This criterion is used to adjust for self-selection bias resulting from *IQOS* users with higher interactions being potentially overrepresented in the CRM, while *IQOS* users with lower interactions being underrepresented.

<sup>5</sup> Cohorts may include combinations of recruitments from different months to account for small cohort size in certain months.

<sup>6</sup> Also known as sales to adult *IQOS* users or purchases of *IQOS* devices by adult users

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Weighting is by marginals (*IQOS* Acquisition by device type, channel of purchase, cohort and *IQOS* Segmentation). Each respondent receives a weight on a monthly basis. Across time, a participant's *IQOS* Acquisition cell remains constant while their *IQOS* Segmentation can change, leading to a potential change in their weight.

In general, to measure 100% *IQOS* users at time  $t$  (or any other metrics), the following calculation needs to be made:

$$100\% \text{ P1 users Weighted}_t = \frac{\sum 100\% \text{ P1 users Weights}_t}{\sum \text{Weights}_t}$$

This weighting method provides a precise measure of *IQOS* users at any given time point, as the ratio of new users on total HTP device offtakes decreases over time.

#### *Missing data*

Monthly *IQOS* use categories are calculated based on information provided by the panelists for that specific month. In case, panelists did not respond to a survey in a specific month, the information provided in the last survey is used (Last Observation Carried Forward (LOCF) imputation method). Of note that the newly described panel optimization and weighting method ensures that prolongation of older cohorts is minimized and that the contribution of LOCF to current estimates is reduced.

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