**ORACLE ILLICIT**

**TRACKING PROTOCOL**

**Version 1.0**

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Oracle Illicit Tracker Protocol

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LEGAL NOTICE

*ASU30*

*ASU30 and ATUU30 are acronyms for Adult Smoker Under 30 and Adult Tobacco User Under 30. The term ‘adult’ is defined by local law, but shall in no circumstance refer to any person under the age of 18. Likewise, consistent with BAT’s International Marketing Standards, terms such as ‘consumer’, ‘target consumer’, ‘smoker’, or ‘target audience’ refer only to smokers whom are adults.*

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Background

Illicit Trade is the supply, distribution and sale of smuggled and/or counterfeit tobacco products, or tobacco products on which applicable duties and taxes in the country of consumption have not been paid. Illicit trade can happen in different forms like

* Importation without duty/taxes of trademarks which are not sold legally
* Importation without duty/taxes of trademarks which are also sold legally
* Undeclared local production of trademarks which are not sold legally
* Undeclared local production of trademarks which are sold legally
* Counterfeit of trademarks sold legally

This kind of illicit trading in cigarette products represents a significant and growing threat to the industry’s organic growth strategy. Thus, it is absolutely critical to monitor the growth of illicit category on a continuous basis.

Taking this into account, this document outlines the guidelines for estimation and tracking of illicit trade.

Objectives

The primary objective behind monitoring of illicit trade in cigarette products is to measure the impact of the illicit trade on the industry, the legal companies and on government revenue. This can be estimated by tracking such illegitimate trade in terms of

1. **Incidence and volume shares of illicit trade in a particular market**

This would provide an estimate of the financial impact of the illegal trade on the tobacco industry as a whole and also on government revenues.

1. **Areas with high incidence of illicit trade (dependent on scope of the study)**

This would help to identify the particular area with higher occurrence of illicit trade so that proper measures can be deployed to combat counterfeit trading of tobacco products in these areas.

1. **Share of brands in illicit trade (dependent on scope of the study)**

This can be estimated in two ways

**a) Proportion of each brand within illicit trade**

This would provide the proportion of each brand within the illicit packs.

**b) Proportion of illicit trade within each brand**

For brands with substantial market presence (>10% market share), the proportion of legal to illegal packs can be estimated.

The above findings would help to identify the most vulnerable company to illicit trade and companies which are relatively insulated.

Market Classification

A market can be classified based on the *form* of tobacco products purchases predominantly happening in the market.

*Pack buying market*

If stick-buying accounts for less than ***20%*** of total volumes, then the market should be defined as a Pack buying market.

*Stick buying market*

Similarly if pack-buying accounts for less than ***20%*** of total volumes, then the market should be defined as a Stick buying market.

*Dual market*

In markets where both stick and pack purchases account for over 20% of volumes (e.g. stick – 60%, pack – 40%).

In a stick buying market where cigarette purchases happen predominantly in the form of sticks, an ideal method to track illicit would be collection of sticks to determine the proportion of illicit. However, it is generally not possible to identify illicit through examination of sticks only and hence, even for these markets, the estimation is done via collecting packs.

**Hence, the default approach to track illicit trade would be via pack collection (garbage) irrespective of the market being a pack-buying market or a stick-buying one.**

*However in some markets where an alternative approach is being historically followed and/or garbage collection would not yield an accurate estimate, then alternative approach that is best suited to the market can be implemented after confirming with Global BAT team*

Pack Collection (Garbage) Methodology

Outline of the approach

A brief snapshot of the proposed approach can be depicted as

This approach involves pack collection (garbage) of disposed packs to determine the size of illicit trade in the market.

Under this approach, cigarette packs which are disposed-off by consumers are collected from several places within a country/region/city. Some of these places could be garbage bins on the roads, busy pavement, places of public congregation like bus stops, etc.

These collected packs would then be examined to determine if they are illicit/ legal packs. Based on the count of illicit packs collected, the proportion of illicit trade both in terms of incidence and volume shares would be obtained. However, estimating the share of brands within illicit packs would depend on the incidence of illicit trade.

Sampling Procedure

The sampling procedure should ensure a nationally representative sample size (referring to the number of disposed packs which are to be collected) where each region should have proportionate representation. Hence, the sampling procedure would be in line with GCS. Also, if the study is to be done within a smaller universe like a regional frame or covering only urban areas or some cities, then the sample size should proportionately reflect each of the areas covered within the smaller universe. Further, an over-indexing and under-indexing of the packs collected vs. GCS representation can be allowed within a range of 0.75 to 1.20.

To ensure all market/ representative sampling frame, first of all the relevant market would be divided into regions. For a volume share split from GCS, the smoker share would be multiplied by corresponding ADC within the respective regions. These regions would be further subdivided into areas according to the (region X pop-strata X ADC) representation in GCS, so that each area corresponds to a particular ‘cell’ in the below table. The sum of the contributions in terms of volumes of each of the individual ‘cells’ is the entire volume for the geography covered in the study.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| POPULATION STRATA |  | REGIONS | | | |
| R1 | R2 | ... | Rn |
| P1 | R1P1 | R2P1 | … | RnP1 |
| P2 | R1P2 | R2P2 | … | RnP2 |
| … | … | … | … | … |
| … | … | … | … | … |
| Pn | R1Pn | R2Pn | … | RnPn |

\*Each area will be represented by a “Cell” where “Cell” means region X pop-strata X ADC

Each area would be further divided into sub areas. Each sub-area will be assigned with starting points and the number of starting points for a sub-area will be based on the fact that approximately 10-20 packs can be collected from each starting point. In case, enough number of packs is not available in the designated block, the adjoining blocks can then be covered to achieve the desired number of packs. A schematic view of the entire framework can be similar to the following flow-diagram.

*While carrying out the illicit tracking module, areas having proximity to neighboring countries i.e. the areas adjoining the border regions have to be extensively covered as these are likely to be the places with higher prominence of illicit trade. This deliberate over sampling of such areas would then be corrected through weighting to reflect the representative national picture.*

Sample Size

Sample size refers to the number of packs to be collected – and this will form the base for estimating share of illicit. Given the nature of pack collection, the sampling cannot be random like GCS – and therefore, sample size needs to be higher than GCS. The guideline is that the sample size should be 50% higher than the GCS sample size. Therefore, minimum sample size for Pack Collection is 3000 packs and this would be higher if there are other requirements like need to report by regions, or need to over-sample border areas etc.

If data\* is required by any sub-group\*\* a minimum sample size of 600 is recommended.

Also, for each ‘Cell’ [please refer to the Region X Pop Strata X ADC grid above] which is covered in the study - the minimum number of packs collected from each cell would be as shown below

|  |  |
| --- | --- |
| For each ‘cell’ that is represented, which corresponds to | Minimum packs to be collected |
| Less than 3% of market | 150 |
| 3-10% of market | 300 |
| More than 10% of market | 450 |

\*Data: Incidence of illicit, volume of illicit, etc.

\*\* Sub-group: region, area, city, etc.

Data Collection

The entire operation of collecting disposed packs can be carried out by garbage collectors (accompanied by supervisors) who will be allocated to each starting point to pick up packs. The garbage collectors would be instructed to pick up disposed packs lying on the road on busy pavements, in places of public congregation e.g. parks, fairs, market places; in garbage bins/disposal areas in public areas. Especially for stick markets, pack collection would be focused specifically in and around tobacco retail outlets.

After the collection of packs, these are to be properly labeled by the local agency mentioning the name of the region, pop-stratum and starting point. Thus a unique code for each pack can be generated (e.g. using the 1st letters of the region, pop-stratum, starting-point, number).

These packs would then be physically examined by the team at the local agency’s end to identify the illicit packs, and thus categorize them as legal/ illicit packs. The packs which could not be categorized should be subsequently sent to technical experts at the local BAT office to identify the illicit packs based on country specific guidelines, through visual inspection/ laboratory analysis (if needed). In this manner, the number of illicit packs within the total sample would be obtained basis which the incidence of illicit trade would be determined.

BAT’s Role in Identifying Illicit

BAT must share country-specific guidelines so that illicit packs can be identified at local offices at a preliminary level. These guidelines can be

* Tax stamp
* Specific health warnings
* Name of manufacturer and source of manufacturing; name and address of importer
* The SKU sizes of the legal packs and the Trademark names
* Specifications about Tar and Nicotine levels

All the packs that do not match the above guidelines for that market will be treated as illicit packs. Any pack that cannot be identified as genuine/ illicit will be sent to the BAT’s local agency office for further visual inspection/ laboratory analysis if needed.

Pack Classification

After the process of pack collection and coding is over, every pack that is collected has to be classified as genuine or illicit. This would also entail identifying the nature of illicit as DNP genuine imports, DNP genuine local and counterfeit packs. The following table can be viewed as an illustrative example

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Pack Code** | **Brand Name and SKU** | **Local agency classification**  1=Genuine  2= DNP Imports  3= DNP Local  4 = Counterfeit | **BAT Technical Team Analysis based on visual inspection**  1=Genuine  2= DNP Imports  3= DNP Local  4 = Counterfeit | **Lab Analysis(if needed)**  1=Genuine  2= DNP Imports  3= DNP Local  4 = Counterfeit | **Fina1**  1=Genuine  2= DNP Imports  3= DNP Local  4 = Counterfeit |
| R1P1\_1 | ABC 20 KS |  |  |  |  |
| R1P2\_1 | XYZ 25 KS |  |  |  |  |
| ... | ... |  |  |  |  |
| RnPn\_n | PQR 20 KS |  |  |  |  |

After classification of all the packs as per the above table, the data would be aggregated to estimate the incidence of illicit in the country/ region/ city. Volume shares of illicit trade as well as share of brands within the illicit packs can also be provided subject to the availability of a minimum 200 illicit packs.

Weighting

It is necessary to weight the data obtained after the pack counting exercise in order to ensure correct representation of all the areas within the coverage of the study. For this weighting, ideally GCS data should be used as GCS covers Illicit Trade usage among consumers which is not covered in data like Shipment Volumes data and Retail Audit Data due to the nature of the product. As a consequence regions within a market which have a higher than average incidence of illicit trade will be under represented if Shipment Volumes data or Retail Audit data is used instead of GCS data for weighting purpose.

However, in case of markets where GCS data is not available or GCS does not represent the entire coverage that the Illicit Trade research is covering, data from other sources [like Retail Audit or Shipment Volumes or Census] having a representative coverage has to be used.

The weighting procedure can be done as below

**Area level weighting**

After the packs are classified and their numbers are counted by each category (e.g. Genuine, DNP etc.) as per the above grid, a weighting procedure must be employed using the GCS representation in terms of volume contribution of the corresponding areas covered in the study. Thus the data obtained has to be corrected using the proportional volume weight using ADC of each cell from the same grid given below which was used earlier in the sampling procedure.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| POPULATION STRATA |  | REGIONS | | | |
| R1 | R2 | ... | Rn |
| P1 | R1P1 | R2P1 | … | RnP1 |
| P2 | R1P2 | R2P2 | … | RnP2 |
| … | … | … | … | … |
| … | … | … | … | … |
| Pn | R1Pn | R2Pn | … | RnPn |

This shall also ensure proper representation of the areas which have been over/under sampled during the study.

**Brand level weighting (Optional)**

After the packs are counted and classified as per the above grid, it may be such that the brand shares within the non-illicit packs are not in-line with brand shares obtained from GCS. If this deviation of brand shares is found to be significant then the results obtained from the pack collection (garbage) methodology shall be corrected by weighting the brand with the brand volume shares from GCS. Through this weighting, the share of Illicit will remain the same, but the ratio of the legal brands will undergo a change and will be aligned to the GCS brand share. However, it should be noted that if a large proportion of illicit is counterfeit of legal trademarks, then the GCS brand share will include both genuine as well as counterfeit – this would be a limitation of the data.

Data Analysis

The following data on illicit trade can be obtained from this exercise

**1. Incidence of Illicit**

This can be estimated in two ways

a) **Incidence of illicit trade** - Proportion of illicit packs collected to total packs collected.

**Total number of illicit packs collected**

**Incidence of illicit trade=**

**Total number of packs collected**

b) **Volume share of illicit trade**- to be calculated by multiplying the illicit packs with their SKU sizes and dividing by total packs collected multiplied their SKU sizes.

**Σ Illicit packs X SKU of illicit packs**

**Volume Share of illicit trade=**

**Σ All packs X SKU of all packs**

In markets where there is only 1 SKU size, volume shares of illicit trade will be the same as incidence of illicit trade.

2. **Share of brands in the illicit**

This can also be estimated in two ways

**a) Proportion of each brand within illicit trade**

This can be calculated by determining the number of illicit packs collected for each brand divided by the total number of illicit packs collected. However, a minimum of 200 illicit packs have to be collected to enable such analysis.

**b) Proportion of illicit trade within each brand**

This can be provided for brands which have a substantial (>10%) presence in the respective market. To estimate this, the total number of illicit packs collected for a particular brand shall be divided by the total number of packs collected (legal and illicit) for that brand.

A minimum of 100 packs have to be collected for such brand wise analysis. This is because, in case of a lower sample size it can be such that most/all of the packs collected were concentrated in one particular region and not spread across the geography. This shall result in biased findings due to such regional skew. Hence a sample size of at-least 100 packs is recommended for such brand level analysis which shall ensure the robustness of the sample.

**3. Estimation of illicit volume in numbers of sticks**

It may be required to report the projected volume of illicit in number of sticks for the Government etc. It should be noted that the Pack Collection methodology per se cannot be used to derive the projected volumes. If volumes are required, it needs to be derived from combining the illicit share % from Pack Collection with existing Retail Audit or shipment data.

This is done as follows:

|  |  |
| --- | --- |
| **Process** | **Example** |
| 1. Obtain Legal: Illicit trade ratio from the Pack Collection study | *Suppose the ratio of Legal: Illicit trade in a market is 90:10.* |
| 1. Take current Retail Audit volume and project it to 100% | *Projected Industry Volume = [Current Retail Audit Volume ÷ 0.9]* |
| 1. Calculate Illicit Trade volume as a % of the above Projected Industry Volume | *Actual Illicit Trade volume = 10% of Projected Industry Volume* |

Please note that for volume projections RA data of the market would be used instead of GCS data. This is because it is assumed that RA data would be the ideal source for industry volumes estimation – as GCS covers smokers aged within 18-64 years only while there are certainly smokers outside this age bracket.

However, in case a market has any other data source (e.g. shipment data) that provides a more accurate estimate of the industry volumes (because Retail Audit may underestimate volume due to not covering particular regions, particular type of outlets, etc.) then it is recommended to use that particular data source.

Output

The following output can be provided by each reporting head (All market/regions as per scope of the study), following the data analysis exercise

1. **Incidence of illicit trade**

This would provide incidence of illicit trade and volume shares of illicit trade as well. Also, the entire universe of illicit trade in a market can be classified as per its nature, like Counterfeit, Duty Not Paid Imports, Duty Not Paid Local, etc. thereby estimating the volume contribution of each. However, this analysis would depend on the number of illicit packs obtained.

2. **Incidence of illicit trade by regions/cities/areas (depending on the scope of the study)**

This would help to identify the areas which are more susceptible to illicit trade and also enable a comparison across regions. Alike estimating the nature of illicit, this exercise is also dependent on the number of illicit packs obtained.

3. **Comparison between share within illicit and GCS share in the market for manufacturing companies and brands**

Depending on the extent of illicit trade in the market and hence sample size (number of illicit packs obtained), both company wise and brand wise data can be provided within Illicit trade. This exercise would help to identify the over-indexed manufacturing companies and brands which are more vulnerable to illicit trade.

***However, if incidence of illicit is low in the market, substantial number of illicit packs would not be available to analyse share at a company/ brand level for Illicit trade.***

Please note that all brand wise data will be provided at a house level only – as Illicit trade will likely have SKUs which are not registered within the country and therefore would be difficult to map to a Family/ Fam-Group level.

4. **Share of brands in the illicit trade**

Depending on the incidence of illicit trade and collection of adequate number of packs for a brand, further analysis at a brand level can be provided

a) *Proportion of each brand within illicit trade*- This would provide the volume contribution of each of the brands to the total illicit trade in the market.

b) *Proportion of illicit trade within each brand*- This can be provided for brands with substantial market share (>10%). It would provide the amount of illicit trade happening for each of the larger brands in the market.

Limitations

1. **Organised method of garbage disposal** In somedeveloped markets, the main method of garbage disposal from homes and retail outlets maybe direct collection. In such a case, collection of packs from streets, public places would represent a very small proportion of disposed packs. *In such countries, a joint arrangement with the local municipality can be explored so that garbage collectors may search for disposed-off empty cigarette packs from garbage-bins of the households.*
2. **The number of disposed-off Soft-Cup packs collected** is relatively lower than the Hinge Lid packs, as the Soft Cup packs get destroyed easily. Thus in markets where the Soft-Cup is big in size, the illicit category size that would come up from this study can be under-represented.
3. **Systematic Bias** in certain countries can be a potential hindrance to accurately track the illicit trade. For example, it can so happen that the premium/upmarket smokers dispose off their disposed packs at places other than public disposal bins which are directly deposited at a central garbage dumping area and hence the sample packs collected from bins are an over-indexed sample of low/VFM packs. As a result, a systematic bias creeps in which would not reflect the actual illicit incidence in the market.
4. **Market specific issues** In some West Europe countries, it might be difficult to find garbage collectors.
5. **Additional data about illicit smoker-** This pack collection (garbage) methodology would not capture any additional data about smokers. Thus data pertaining to socio-demographics, purchase channels etc. of illicit smokers cannot be estimated.

If the nature of garbage disposal and the nature of the illicit trade in the market is such that the estimation of illicit trade is a systematic under/overestimate and there is no scope to overcome this, then it is advised to evaluate alternative methods outlined in Sections 5 and 6.

Pack Swap Methodology (An Alternative Methodology for Pack Markets Only\*)

In some markets, where pack swap methodology is already in place as a GCS tag on or as a standalone pack-swap, it could be continued so that long term trend break does not create an issue, thus preventing loss of comparability with previous data.

Also, in markets where implementing a pack collection (garbage) methodology is not feasible due to market specific issues (e.g. finding garbage collectors in Western Europe countries), it is recommended that the pack swap approach is followed in those markets.

\*As in a stick market, going only to pack buyers for a pack swap would not represent the actual market scenario

Outline of the Approach

A schematic representation of the approach can be portrayed as

The Pack Swap methodology involves collection of current pack (with sticks) from the respondents in return of relevant incentives. The packs collected will then be examined to determine the proportion of illicit trade in the market in terms of incidence and total volumes of illicit trade. However, a brand level analysis would depend on incidence of the illegitimate trade in the market.

Sampling Procedure

The study can be carried out either as a tag-along with GCS or in a standalone technique.

**Pack Swap as a GCS tag-along approach**

If the study is carried out in a GCS tag-along manner then the entire GCS sample frame has to be covered. This shall ensure robust regional and socio-demographical representation.

**Standalone Pack Swap**

If this approach is followed for the study, the sampling process should be based on a nationally representative stratified sample of randomly selected adult smokers. If the study is to be done within a smaller universe like a regional frame or covering only urban areas or a cluster of cities, then the sample size should proportionately reflect each of the areas covered within the smaller universe. However, over sampling can be done for areas where incidence of illicit trade is assumed to be high. Depending on whether the study is done in home or via exit interviews at shops, sampling can be done in the following ways-

**Standalone pack swap by conducting exit interview at outlets**

If only organized outlets are to be covered, BAT’s Retail Census would be the ideal source where outlet to be visited can be selected in the following way.

*Method of outlet selection*

For selecting outlets, all the outlets in an area (region X pop-strata) would be listed and then divided on the basis of channel type (tobacconists/ grocery/ petrol stations etc.) and outlet volume class (volume class heavy/medium/low) as per the grid given below. A minimum of 20 outlets should be present in each cell where each cell shall correspond to the volume contribution of the respective channel type with respect to the total market volumes.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Type of Outlet | Channel Type 1 | Channel Type 2 | Channel Type 3 | Channel Type 4 |
| Volume Class Heavy | xx | aa | … | n1 |
| Volume Class Medium | yy | bb | … | n2 |
| Volume Class Low | zz | cc | … | n3 |

Now, the number of interviews shall proportionately replicate all the cells of the above grid.

As an example, the following grid belonging to a particular area can be referred to. Here, 25% of the entire cigarettes volumes are sold from outlets belonging to tobacconists with heavy volume sales, 10% via grocery outlets with medium volumes sales, 2% through petrol stations with low volumes sales, etc.

|  |  |  |  |
| --- | --- | --- | --- |
| Type of Outlet | Tobacconists | Grocery | Petrol Stations |
| Volume Class Heavy | 25% | 10% | 10% |
| Volume Class Medium | 20% | 10% | 3% |
| Volume Class Low | 15% | 5% | 2% |

So, if a total of 300 interviews have to be done in this particular area, then they should be spread across the outlets as per their volume contributions in the area. Thus, in the above example 75 interviews (25% of 300) must be done in heavy selling tobacconists’ outlets.

However, if a substantial proportion of illicit cigarette product purchased, is felt to originate from the unorganized trade or BAT retail census is not available, then the selection of outlets would be a random sample within an area where all the types of channels are represented proportionately/or equally depending on their market presence . Also, adequate volume representation of the outlets can be ensured by carrying out interviews for a same time period in each of the outlet type. Also, outlets must spread across busy places as well as from interior parts of an area.

**In-Home standalone pack swap**

The sampling procedure for doing an in-home pack swap study must replicate the GCS sampling procedure. To ensure this, first of all the country would be divided into regions as per the **smoker** share split of GCS at an all market level. These regions would be further subdivided into areas according to the region X pop-strata representation in GCS, so that each area corresponds to a particular ‘*cell’* in the below table. The sum of the individual ‘*cells’* is the entire coverage.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **POPULATION STRATA** |  | **REGIONS** | | | |
| **R1** | **R2** | **...** | **Rn** |
| **P1** | **R1P1** | **R2P1** | **…** | **RnP1** |
| **P2** | **R1P2** | **R2P2** | **…** | **RnP2** |
| **…** | **…** | **…** | **…** | **…** |
| **…** | **…** | **…** | **…** | **…** |
| **Pn** | **R1Pn** | **R2Pn** | **…** | **RnPn** |

\*Each area will be represented by a **“Cell”** where **“Cell”** means **region X pop-strata**

A multistage sampling would be implemented to select a sample of areas from the above grid. Then from each selected area, a sample of sub areas will be randomly selected. Further stages of sampling would give the starting points within each sub-area. The number of starting points in a sub-area would depend on the number of interviews that has to be done in that sub-area given that approximately 10-20 interviews can be conducted from each starting point. Next, a systematic random selection of households would be done by following a right hand rule from each starting point and finally random selection of respondent amongst residents of the household would be done using a Kisch Grid.

Sample Size

Here, sample size refers to the number of completed interviews along with packs swapped for the illicit tracking study.

Pack Swap as a GCS tag-along approach- In this approach, sample size should correspond to the GCS smoker sample size with provision for oversampling in areas where illicit trade is assumed to be high.

Standalone Pack Swap- If the study is carried out nationally then a minimum sample size of 2000 smokers has to be interviewed with 2000 packs swapped.

However, if the study is being carried out in a small market which has homogeneity across pop-strata and uniform brand spread, the study can be done with a smaller sample size [example 1000]. But, each such market should confirm the sample size from the global BAT team before moving forward with a lower sample.

Also, if the study is done only in selected regions/ cities and not nationally then at-least 400 interviews along with pack swaps needs to be done in that particular sub-group.

For estimating proportion of each brand within illicit trade, a minimum of 200 illicit packs has to be collected via pack swap.

Also, to estimate the proportion of illicit trade within each brand with substantial market presence (>10% market share), a sample size of 100 packs must be achieved for each of the brands.

Data Collection

A set of questions will be administered to the respondent (at the end of the questionnaire in case of GCS tag-along approach). During this interview, the interviewer requests the respondent to show him the pack of cigarettes he/she has and notes down the visible details like the brand name, name of the manufacturing company, etc. and also the identifiers of illicit trade like the tax stamp, health warnings, etc. If the respondent refuses to show his/her pack then the pack-swap interview is cancelled.

At the end of the interview, the interviewer requests the respondent to swap the current pack with one/two un-smoked sticks in return of locally relevant incentives. To dispel any suspicion about the purpose of research, the respondent is explained that the packs are being taken to test their quality. However, if any respondent in this stage refuses to exchange his/her pack, then another respondent belonging to the same socio-demographic group as the former (Age-group/ gender/ region) and smoking the same brand of cigarettes has to be substituted with.

After the packs are collected these are to be properly labeled mentioning the respondent ID. The labeling can be done on the inside of the pack to protect the print descriptors of the pack.

These packs would then be physically examined by the team at the local agency’s end to identify the illicit packs, and thus categorize them as legal/ illicit packs. The packs which could not be categorized should be subsequently sent to technical experts at the local BAT office to identify the illicit packs based on country specific guidelines, through visual inspection/ laboratory analysis (if needed). In this manner, the number of illicit packs within the total sample would be obtained basis which the incidence of illicit trade would be determined.

BAT’s Role in Identifying Illicit

BAT must share country-specific guidelines so that illicit packs can be identified at local offices at a preliminary level. These guidelines are the same as those listed in the Pack collection (garbage) section.

Similar to the pack collection (garbage) approach, all the packs that do not match the guidelines for that market will be treated as illicit packs. Any pack that cannot be identified as genuine/ illicit will be sent to the BAT’s local agency office for further visual inspection/ laboratory analysis if needed

Pack Classification

After the process of pack collection and labeling using respondent ID is over, every pack that is collected has to be classified as genuine or illicit. This would also involve identifying the nature of illicit as DNP genuine imports, DNP genuine local and counterfeit packs. Similar to the Pack collection (garbage) approach, the entire process will be carried out in 3 stages

1. The interviewer by visual examination (Tax Stamps, Health Warnings, etc.) would classify the packs as illicit/genuine and also the nature of illicit trade in case the pack is classified as an illicit pack.

2. In addition to this, a further examination by BAT’s technical team would be done based on visual inspection of the packs.

3. The packs which cannot be classified by the BAT technical team based on visual inspection would be sent for laboratory analysis.

The following table can be viewed as an illustrative example

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Respondent ID** | **Brand Name and SKU** | **Local agency classification**  1=Genuine  2= DNP Imports  3= DNP Local  4 = Counterfeit | **BAT Technical Team Analysis based on visual inspection**  1=Genuine  2= DNP Imports  3= DNP Local  4 = Counterfeit | **Lab Analysis(if needed)**  1=Genuine  2= DNP Imports -  3= DNP Local  4 = Counterfeit | **Fina1**  1=Genuine  2= DNP Imports  3= DNP Local  4 = Counterfeit |
| 0001 | ABC 20 KS |  |  |  |  |
| 0002 | XYZ 25 KS |  |  |  |  |
| ... | ... |  |  |  |  |
| n | PQR 20 KS |  |  |  |  |

After classification of all the packs as per the above table, the data would be aggregated to estimate the incidence and volume shares of illicit trade in the country/ region/ city. Similar to the pack collection (garbage) approach, share of brands within illicit trade can also be provided subject to the availability of a minimum 200 packs for illicit brands.

Weighting

In the pack swap methodology, the data obtained after the packs are counted should be properly weighted to ensure appropriate representation in terms of smoker-groups and areas covered in the methodology. Hence, weighting for the pack swap approach should be basis the following parameters-

**Socio-demographics**

Socio-demographic split from GCS will be used to weight the packs after they are counted and classified. This would ensure appropriate representation of each of the smoker-groups in the final output.

**Volume weighting by areas**

Average Daily Consumption of the respective areas covered in the study shall be used for weighting the data obtained from pack classification. This shall ensure that the data representative of the volume shares of the areas within the coverage of the study.

Data Analysis

The following data on illicit trade can be obtained from this exercise-

1. **Incidence of Illicit**

This can estimated in two ways

* ***Incidence of illicit trade*** - Proportion of illicit packs collected to total packs collected, as done for pack collection (garbage).

**Total number of illicit packs collected**

**Incidence of illicit trade ==**

**Total number of packs collected**

* ***Volume Share of illicit trade***- This approach uses a slightly different method to arrive at the illicit trade volumes. Instead of using the SKUs of the packs collected, the pack swap methodology would take into account the claimed Average Daily Consumption (ADC) of the smoker, to arrive at the volume shares. This methodology assumes that the claimed consumption of the smoker is applicable for the packs collected from him, irrespective of the pack(s) collected being his regular brand or not. In case, more than 1 pack is collected from a respondent, his ADC will be split equally among the packs. Thus Pack Swap provides an estimate of Illicit Volume & Size using the weighted average of smoker share of each Illicit Brand X respective illicit smoker’s ADC divided by the weighted average of smoker share of all brands X their respective ADCs. The formula is

**Volume Share of illicit brands =**

**Σ All brands X ADC**

**Σ Illicit Brand X ADC of illicit smoker packs**

2. **Share of brands in the illicit**

This can also be estimated in two ways

a) **Proportion of each brand within illicit trade**

This can be calculated by determining the number of illicit packs collected for each brand divided by the total number of illicit packs collected. However, a minimum of 200 illicit packs have to be collected to enable such analysis.

b) **Proportion of illicit trade within each brand**

This can be provided for brands which have a substantial (>10%) presence in the respective market. To estimate this, the total number of illicit packs collected for a particular brand shall be divided by the total number of packs collected (legal and illicit) for that brand.

A minimum of 100 packs have to be collected for such brand wise analysis. This is because, in case of a lower sample size it can be such that most/all of the packs collected were concentrated in one particular region and not spread across the geography. This shall result in biased findings due to such regional skew. Hence a sample size of at-least 100 packs is recommended for such brand level analysis which shall ensure a proper representation of the entire coverage.

3. Estimation of illicit volume in numbers of sticks

It may be required to report the projected volume of illicit in number of sticks for the Government etc. It should be noted that the Pack Swap methodology per se should not be used to estimate the projected volumes. If volumes are required, it needs to be derived from combining the illicit share % from Pack Swap with existing Retail Audit or shipment data.

This is done as follows:

|  |  |
| --- | --- |
| **Process** | **Example** |
| 1. Obtain Legal: Illicit trade ratio from the Pack Swap study | *Suppose the ratio of Legal: Illicit trade in a market is 90:10.* |
| 1. Take current Retail Audit volume and project it to 100% | *Projected Industry Volume = [Current Retail Audit Volume ÷ 0.9]* |
| 1. Calculate Illicit Trade volume as a % of the above Projected Industry Volume | *Actual Illicit Trade volume = 10% of Projected Industry Volume* |

Output

After the data analysis exercise, the output which is to be provided by this pack swap methodology would be similar to the pack collection (garbage) approach. Along-with this, the following can be provided under this approach of illicit tracking

1. **Comparison by different purchase channels**

This would provide the amount of illicit trade happening through the different purchase channels and hence a cross comparison of all the purchase channels in the market can be drawn up. However this shall depend on the number of illicit packs obtained and if required by BAT. The data for the channel type would be

* 1. Exit Interviews : the type of channel in front of which the exit interview is conducted
  2. In Home : based on asking the respondent the type of outlet from where the pack was purchased

2**.** **Profile of the illicit purchasers**

This methodology would also ensure estimating the illicit trade by demographic groups: age, gender, social class. Thus the particular smoker-group which is more inclined towards illicit purchases can be identified.

3. **Brand interaction of illicit purchasers (Optional)**

This exercise would provide the brands with which the illicit purchasers are interacting (substitute and occasional brands of the illicit purchasers).

Considerations

**Pack swaps as GCS tag-along method**

1. **Limited number of data-points in a year-** As GCS/tracker waves are conducted only at certain times of the year, a pack swap approach via a GCS/tracker tag-on method would not yield a continuous data. This can affect estimation of illicit if there is a seasonality of the illicit demand.
2. **Representation of areas-** It may be that border areas susceptible to illicit trade are not covered in GCS.

**Standalone pack swaps via exit interviews at outlets**

1. **Low/High footfall at outlets-** In certain outlets, footfall can vary at different time periods of a day. So, a consistent sampling plan considering the outlet footfall has to be adhered to, every time the study is done.

**In- home standalone pack swaps**

1. **Costs-** It would be more expensive than a GCS tag-along approach where incremental costs due to the additional pack swap questions are low.

Mystery Shopping Methodology (An Alternative Methodology for Stick Markets)

The market in which the illicit tracking exercise is to be done, should first review the feasibility of a pack collection (garbage) methodology. In case, it is proven that pack collection (garbage) methodology would not yield an accurate illicit estimate, only then the market should proceed with mystery shopping module.

This alternative method has been attempted in some markets like South Africa, Nigeria to track illicit trade. In this approach, there are two components

1. **Consumer Interviews**

Interviewers stand in front of shops to find out the brands purchased in each outlet. This gives the volume estimation for that outlet and also provides information to the mystery shopper about which brands to buy from the outlet (if some brands are not visible in the shop).

2**. Mystery Shopping (Purchase of packs from retailers)**

Here, interviewers pose as mystery shoppers and purchase different cigarette brand packs, at different times of the day. This process has to be done with utmost care to avoid raising a suspicion among the retailers.

**Feasibility**

1. This method is more time consuming and costlier because apart from ensuring adequate representation of outlets to reflect the universe, the interviewers need to stand in front of the shop for a significant time period (say for one full day) to find out all the brands which are sold in each of the shops. Moreover, as all the brands sold in a shop have to be bought by mystery shopping, same person cannot shop for every brand because the retailer would become suspicious. As a result, multiple persons need to pose as mystery shopper and buy the brands.

2. This methodology would not capture any smoker behaviour as smokers are not interviewed directly under this approach.

APPENDIX

**The operations for pack collection (garbage) approach**

Each centre where fieldwork is going on would have small storage locations rented, to keep a count and examine the packs collected throughout the day. At the end of each fieldwork day, packs collected will be brought to this centralized location.

* Every day, the packs will be counted, and the numbers will be entered into an excel table by the supervisor/ senior supervisor. An interviewer will be present at each storage location to receive/ label/ code/ count and store the packs under permanent supervision of the supervisor/ senior supervisor.
* After the counting is finished, the packs will be flattened, and stored in a box coded according to the center name, area, sub-area, and date of collection.
* Interviewers MUST share daily updates with their supervisors for the No. of packs delivered to each storage area, which will be in turn be shared by the supervisors with the central field office.
* At the end of each week, all the boxes at the local storage areas will be sent to the main storage areas rented in the central region.
* Packs will be recounted and segregated at the central field office premises in the presence of the researchers and the senior field executive. At this place, researchers from BAT will identify illicit packs from those which could not be judged earlier at the local offices.