FinAccess digital credit tracker survey methodology and organization

Study Design

The survey was a cross-sectional household-based survey that utilized a two-stage stratified cluster sampling methodology in selection of the survey sample. The survey was designed to produce statistically reliable estimates at national level only.

The target population for 2017 FinAccess Digital Credit Tracker survey was individuals aged 18 years and above. For inclusion into the survey, the targeted individuals had to have access to a mobile phone.

Sample Size and Allocation

The target sample size for the survey was 5,000 individuals from all the 47 counties of Kenya. The sample was distributed across rural and urban strata of each county. Table AI in the appendix shows the distribution of sample by strata.

Sample Frame

Administratively, Kenya is divided into 47 Counties. In turn, each county is subdivided into Sub-Counties. Prior to the enactment of the current constitution in 2010, the counties and sub-counties had not been established. Instead, the country was divided into provinces which were further divided into districts which are equivalent to the current sub-counties. Each district was divided into divisions, each division into locations and each location into sub-locations. In addition to these administrative units, each sub-location was subdivided into census enumeration areas (EAs) i.e. small geographic units with clearly defined boundaries. A total of 96,251 EAs were developed during the 2009 Kenya Population and Housing Census (2009 KPHC) cartographic mapping. This information was used to design a master sample known as the fifth National Sample Survey and Evaluation Programme (NASSEP V) with a total of 5,360 EAs.

The NASSEP V master frame was designed in a multi-tied structure with four sub-samples (C1, C2, C3 and C4), each consisting of 1,340 EAs that can serve as independent frames. The frame used the counties as the first level stratification and further stratified by rural and urban areas, making a total of 92 strata with Nairobi City and Mombasa counties. The sampling of EAs into the frame was done independently within each strata. Each sampled EA was developed into a cluster through a listing and mapping process that standardized them into one measure

of size having an average of 100 households (between 50 households and 149 households). The frame was gradually developed in phases from the year 2012 to 2015.

The 2016 FinAccess Survey was implemented in the NASSEP V sampling frame. During data collection, the respondents were randomly selected at the household level using the Kish grid.

After the 2016 FinAccess household survey, a list of 6,713 individuals who were 18 years and above and had an access to mobile phone was developed. The list formed the sampling frame for the 2017 FinAccess Digital Credit Tracker Survey.

Selection of Individuals

Equal probability simple systematic sampling method was used to select 5,000 individuals to be interviewed. Interviews were undertaken on pre-selected individuals only and no replacement of the preselected individuals was allowed during data collection.

Data Weighting

Since allocation of the sample to strata was non-proportional, the survey was not self-weighting. In addition, some of the sampled individuals did not respond to the interviews as a result of refusal or failure to be reached due to various reasons. Accordingly, the sample thus required weighting adjustments to cater for non-proportional distribution of individuals in strata and non-response and in order to provide estimates that are representative of the target population.

The design weights incorporated the probabilities of selection of the clusters from the census EAs database into the NASSEP V sample frame, the probabilities of selection of 2016 FinAccess household survey clusters from NASSEP V frame and the probabilities of selection of the households from each of the sampled clusters and finally the probability of selection of an individual from the household by use of Kish Grid. The design weights were then adjusted for household non-response by multiplying them with the inverse of the households' response rates to get the sampling weights. For the individuals' (18+ with access to mobile phone) sampling weight, the household sampling weight was multiplied by the inverse of the individual's response rate, by stratum while for individual within the household weight, the individual weight was multiplied by inverse of household individual response rate. After adjusting for non-response, the sampling weights were

normalized to get the final standard weights that were used during analysis. The normalization process is done to obtain a total number of un-weighted cases equal to the total number of weighted cases at the national level, for the total number of households and individuals. Normalization is done by multiplying the sampling weight by the estimated sampling fraction obtained from the survey.

Appendix A1: Sample Distribution

Sno	County	Sampled Cases_Rural	Sampled Cases_Urban	Cluster_R	Cluster_U	Female	Male
1	KWALE	66	41	9	6	58	49
2	KILIFI	37	36	11	7	46	27
3	TANA RIVER	27	27	7	4	25	29
4	LAMU	23	16	5	4	21	18
5	TAITA TAVETA	42	21	8	4	36	27
6	GARISSA	47	50	10	8	70	27
7	WAJIR	50	40	11	7	53	37
8	MANDERA	46	49	11	7	52	43
9	MARSABIT	51	46	12	9	54	43
10	ISIOLO	53	57	10	9	67	43
11	MERU	112	48	19	8	101	59
12	THARAKA NITHI	52	36	11	7	55	33
13	EMBU	77	38	13	7	70	45
14	KITUI	93	46	16	8	89	50
15	MACHAKOS	86	99	13	14	119	66
16	MAKUENI	95	50	14	7	98	47
17	NYANDARUA	54	33	9	5	50	37
18	KIRINYAGA	61	32	9	5	60	33
19	MURANGA	76	48	11	6	70	54
20	KIAMBU	78	88	10	13	98	68
21	TURKANA	23	27	9	6	24	26
22	WEST POKOT	41	30	13	4	31	40
23	SAMBURU	16	23	6	5	20	19
24	TRANS NZOIA	44	35	7	5	42	37
25	UASIN GISHU	55	41	7	7	51	45

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26	ELGEYO MARAKWET	33	21	6	3	24	30
27	NANDI	42	26	8	3	36	32
28	BARINGO	23	19	7	2	22	20
29	LAIKIPIA	42	23	6	4	31	34
30	NAKURU	62	68	9	9	87	43
31	NAROK	56	29	11	5	47	38
32	KAJIADO	53	77	10	10	78	52
33	BOMET	80	38	12	6	65	53
34	KERICHO	61	48	9	8	64	45
35	KAKAMEGA	104	52	15	8	97	59
36	VIHIGA	76	51	9	7	81	46
37	SIAYA	61	27	9	4	56	32
38	KISUMU	43	56	7	8	64	35
39	KISII	65	40	9	6	62	43
40	NYAMIRA	56	29	8	4	51	34
41	NAIROBI	0	340	0	47	188	152
42	MOMBASA	0	230	0	34	129	101
43	NYERI	77	34	10	6	72	39
44	HOMA BAY	59	27	9	4	57	29
45	MIGORI	43	32	8	6	43	32
46	BUNGOMA	83	44	14	6	75	52
47	BUSIA	80	28	11	5	74	34