Overview

Dataset info

Number of variables	58
Number of observations	3912
Missing cells	85956 (37.9%)
Duplicate rows	0 (0.0%)
Total size in memory	1.7 MiB
Average record size in memory	464.0 B

Variables types

Numeric	31
Categorical	17
Boolean	2
Date	0
URL	0
Text (Unique)	1
Rejected	7
Unsupported	0

Warnings

age_of_account_days has 2513 (64.2%) missing values	Missing
all_avg_meaningful_comm_duration_mins has 473 (12.1%) zeros	Zeros
anger_description is highly skewed (γ1 = 33.74667513)	Skewed
anger_description has 2773 (70.9%) missing values	Missing
anger_last_conversation has 2431 (62.1%) missing values	Missing
anger_overall has 2431 (62.1%) missing values	Missing
anger_sentiment_last3 has 2431 (62.1%) missing values	Missing
anger_short_description has 2431 (62.1%) missing values	Missing
assignment_count has 2774 (70.9%) zeros	Zeros
catalog_name has a high cardinality: 114 distinct values	Warning
catalog_name has 1415 (36.2%) missing values	Missing

country has a high cardinality: 112 distinct values — **Warning**

disgust_description is highly correlated with anger_description (ρ = 0.9999783432) — **Rejected**

disgust_last_conversation has 2431 (62.1%) missing values — **Missing**

disgust_overall has 2431 (62.1%) missing values — **Missing**

disgust_sentiment_last3 has 2431 (62.1%) missing values — **Missing**

disgust_short_description has 2431 (62.1%) missing values — **Missing**

fear_description is highly correlated with disgust_description (ρ = 0.9999794497) — **Rejected**

fear_last_conversation has 2431 (62.1%) missing values — **Missing**

fear_overall has 2431 (62.1%) missing values — **Missing**

fear_sentiment_last3 has 2431 (62.1%) missing values — **Missing**

fear_short_description has 2431 (62.1%) missing values — **Missing**

first_meaningful_comm_duration_mins has 629 (16.1%) zeros — **Zeros**

joy_description is highly correlated with fear_description (ρ = 0.9998742015) — **Rejected**

joy_last_conversation has 2431 (62.1%) missing values — **Missing**

joy_overall has 2431 (62.1%) missing values — **Missing**

joy_sentiment_last3 has 2431 (62.1%) missing values — **Missing**

joy_short_description has 2431 (62.1%) missing values — **Missing**

life_time_spend_usd has 770 (19.7%) zeros — **Zeros**

life_time_spend_usd has 1477 (37.8%) missing values — **Missing**

meaningful_comm_count has 58 (1.5%) missing values — **Missing**

monthly_recurring_revenue_usd has 333 (8.5%) zeros — **Zeros**

monthly_recurring_revenue_usd has 2681 (68.5%) missing values — **Missing**

sadness_description is highly correlated with joy_description (ρ = 0.9997086855) — **Rejected**

sadness_last_conversation has 2431 (62.1%) missing values — **Missing**

sadness_overall has 2431 (62.1%) missing values — **Missing**

sadness_sentiment_last3 is highly correlated with sadness_overall (ρ = 0.9008934293) — **Rejected**

sadness_short_description has 2431 (62.1%) missing values — **Missing**

sentiment_description is highly correlated with sadness_description (ρ = 0.9983378477) — **Rejected**

sentiment_last3_conversation has 207 (5.3%) zeros — **Zeros**

sentiment_last3_conversation has 2431 (62.1%) missing values — **Missing**

sentiment_last_conversation has 398 (10.2%) zeros — **Zeros**

sentiment_last_conversation has 2431 (62.1%) missing values — **Missing**

sentiment_overall is highly correlated with sentiment_last3_conversation (ρ = 0.9123230126) — **Rejected**

sentiment_short_description has 971 (24.8%) zeros — **Zeros**

sentiment_short_description has 2431 (62.1%) missing values — **Missing**

technology_level_3 has a high cardinality: 142 distinct values — **Warning**

Variables

account_type
Categorical

Distinct count	3
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

account_type_2	2525
account_type_1	931
account_type_3	456

Toggle details

age_of_account_days
Numeric

Distinct count	931
Unique (%)	23.8%
Missing (%)	64.2%
Missing (n)	2513
Infinite (%)	0.0%
Infinite (n)	0
Mean	6278.367405
Minimum	291
Maximum	43836
Zeros (%)	0.0%
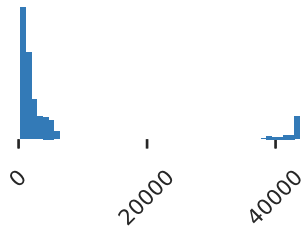
all_avg_meaningful_comm_duration_mins
Numeric

Distinct count	2324
Unique (%)	59.4%
Missing (%)	0.0%
Missing (n)	0
Infinite (%)	0.0%
Infinite (n)	0
Mean	5307.359151
Minimum	0
Maximum	277959
Zeros (%)	12.1%
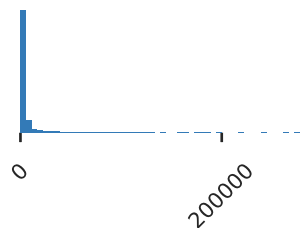
anger_description
Numeric

Distinct count	1130
Unique (%)	28.9%
Missing (%)	70.9%
Missing (n)	2773
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.4366333924
Minimum	0
Maximum	400
Zeros (%)	0.1%
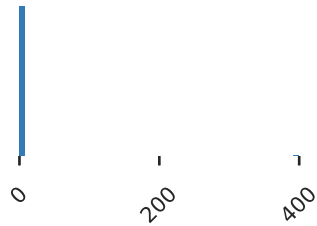
anger_last_conversation
Numeric

Distinct count	1371
Unique (%)	35.0%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.0738182316
Minimum	0
Maximum	0.651299
Zeros (%)	0.9%
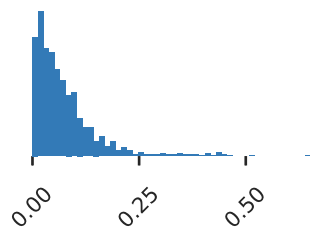
Toggle details

anger_overall
Numeric

Distinct count	1406
Unique (%)	35.9%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.07825629575
Minimum	0
Maximum	0.695223
Zeros (%)	0.4%
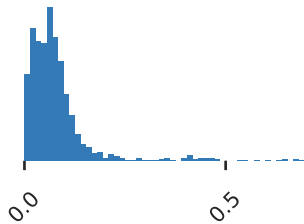
anger_sentiment_last3
Numeric

Distinct count	1403
Unique (%)	35.9%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.07691310398
Minimum	0
Maximum	0.695223
Zeros (%)	0.4%
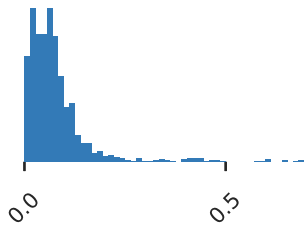
anger_short_description
Numeric

Distinct count	1331
Unique (%)	34.0%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.1051098764
Minimum	0
Maximum	0.931034
Zeros (%)	0.6%
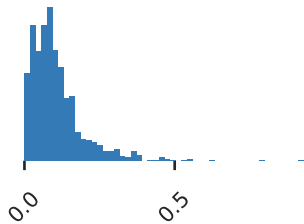
assignment_count
Numeric

Distinct count	11
Unique (%)	0.3%
Missing (%)	0.0%
Missing (n)	0
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.4378834356
Minimum	0
Maximum	12
Zeros (%)	70.9%
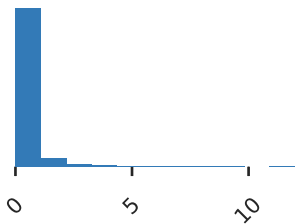
case_id
Categorical, Unique

First 5 values
cs0000001
cs0000002
cs0000003
cs0000004
cs0000005
Last 5 values
cs0004388
cs0004389
cs0004390
cs0004391
cs0004392

case_origination_source
Categorical

Distinct count	11
Unique (%)	0.3%
Missing (%)	0.0%
Missing (n)	0

case_origination_source_1	1388
case_origination_source_2	1154
case_origination_source_3	551
Other values (8)	819

Toggle details

case_origination_user_type
Categorical

Distinct count	2
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

case_origination_user_type_1	2711
case_origination_user_type_2	1201

Toggle details

catalog_name
Categorical

Distinct count	114
Unique (%)	2.9%
Missing (%)	36.2%
Missing (n)	1415

catalog_level_1	1223
catalog_level_2	204
catalog_level_3	182
Other values (110)	888
(Missing)	1415

Toggle details

country
Categorical

Distinct count	112
Unique (%)	2.9%
Missing (%)	0.0%
Missing (n)	0

united states of america	1479
japan	271
brazil	205
Other values (109)	1957

Toggle details

dayofweek
Categorical

Distinct count	2
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

weekday	3390
weekend	522

Toggle details

disgust_description
Highly correlated

This variable is highly correlated with *anger_description* and should be ignored for analysis

Correlation	0.9999783432

disgust_last_conversation
Numeric

Distinct count	1356
Unique (%)	34.7%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.04008528157

Minimum	0
Maximum	0.685565
Zeros (%)	1.0%
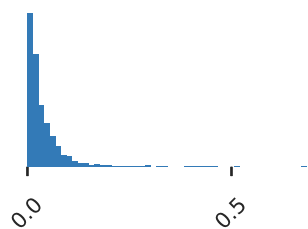
Toggle details

disgust_overall
Numeric

Distinct count	1393
Unique (%)	35.6%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.04388774207
Minimum	0
Maximum	0.684787
Zeros (%)	0.4%
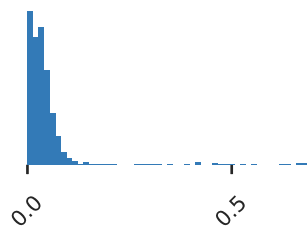
Toggle details

disgust_sentiment_last3
Numeric

Distinct count	1393
Unique (%)	35.6%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.04173836732
Minimum	0
Maximum	0.684787

Zeros (%)   0.5%
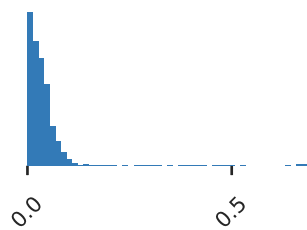
disgust_short_description
Numeric

Distinct count	1326
Unique (%)	33.9%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.05772802633
Minimum	0
Maximum	0.931034
Zeros (%)	0.6%
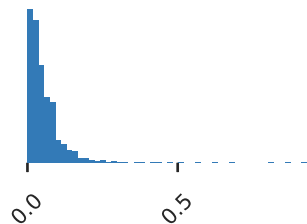
fear_description
Highly correlated

This variable is highly correlated with disgust_description *and should be ignored for analysis*

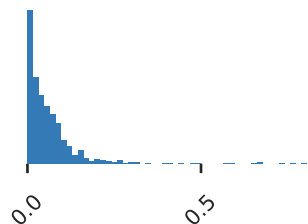**Correlation**   0.9999794497

fear_last_conversation
Numeric

Distinct count	1371
Unique (%)	35.0%
Missing (%)	62.1%

Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.06105607698
Minimum	0
Maximum	0.805911
Zeros (%)	0.9%

Toggle details

fear_overall
Numeric

Distinct count	1402
Unique (%)	35.8%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.06589991357
Minimum	0
Maximum	0.725567
Zeros (%)	0.5%
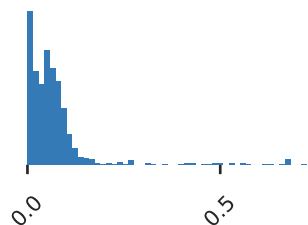
Toggle details

fear_sentiment_last3
Numeric

Distinct count	1401
Unique (%)	35.8%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%

Infinite (n)	0
Mean	0.06326717691
Minimum	0
Maximum	0.725567
Zeros (%)	0.5%
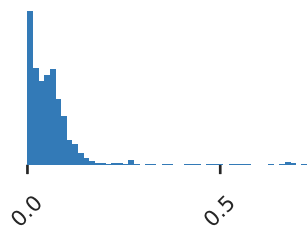
Toggle details

fear_short_description
Numeric

Distinct count	1333
Unique (%)	34.1%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.07380373531
Minimum	0
Maximum	0.931034
Zeros (%)	0.6%
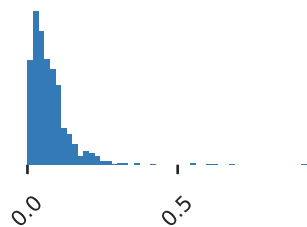
Toggle details

first_meaningful_comm_duration_mins
Numeric

Distinct count	1668
Unique (%)	42.6%
Missing (%)	0.0%
Missing (n)	0
Infinite (%)	0.0%
Infinite (n)	0
Mean	5932.240798

Minimum	0
Maximum	364627
Zeros (%)	16.1%
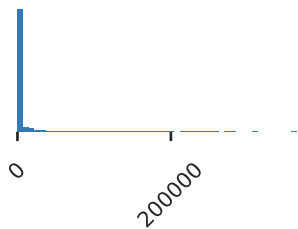
Toggle details

geography
Categorical

Distinct count	8
Unique (%)	0.2%
Missing (%)	0.0%
Missing (n)	0

am	1648
ep	938
la	449
Other values (5)	877
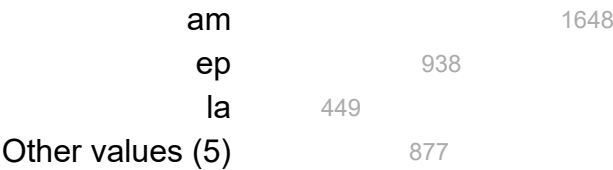
Toggle details
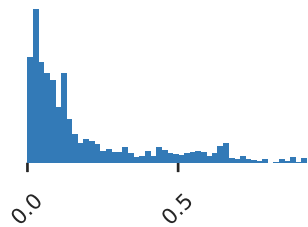
~~joy_description~~
~~Highly correlated~~

This variable is highly correlated with *fear_description* and should be ignored for analysis

Correlation   0.9998742015

joy_last_conversation
Numeric

Distinct count	1374
Unique (%)	35.1%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.1889784146
Minimum	0

| **Maximum** | 0.928355 |
| **Zeros (%)** | 0.7% |

<div align="right">Toggle details</div>

joy_overall
Numeric

Distinct count	1409
Unique (%)	36.0%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.295449239
Minimum	0
Maximum	0.913211
Zeros (%)	0.2%
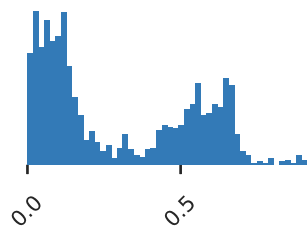
<div align="right">Toggle details</div>

joy_sentiment_last3
Numeric

Distinct count	1411
Unique (%)	36.1%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.2577274092
Minimum	0
Maximum	0.913211
Zeros (%)	0.2%
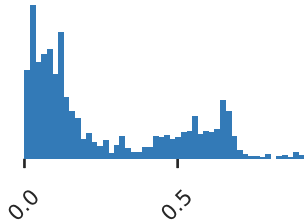
joy_short_description
Numeric

Distinct count	1346
Unique (%)	34.4%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.1151504976
Minimum	0
Maximum	0.761737
Zeros (%)	0.6%
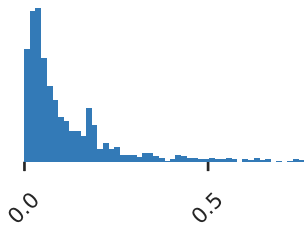
life_time_spend_usd
Numeric

Distinct count	1365
Unique (%)	34.9%
Missing (%)	37.8%
Missing (n)	1477
Infinite (%)	0.0%
Infinite (n)	0
Mean	532526.6587
Minimum	-855321
Maximum	101489592
Zeros (%)	19.7%
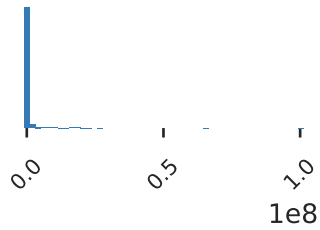
likelihood_to_recommend
Boolean

Distinct count   2
Unique (%)   0.1%
Missing (%)   0.0%
Missing (n)   0

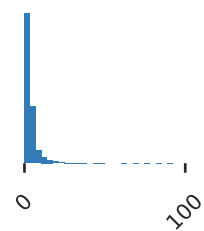|		
0		2350
1	1562	

Toggle details

meaningful_comm_count
Numeric

Distinct count   49
Unique (%)   1.3%
Missing (%)   1.5%
Missing (n)   58
Infinite (%)   0.0%
Infinite (n)   0
Mean   4.090814738
Minimum   0
Maximum   174
Zeros (%)   0.1%

Toggle details

monthly_recurring_revenue_usd
Numeric

Distinct count	687
Unique (%)	17.6%
Missing (%)	68.5%
Missing (n)	2681
Infinite (%)	0.0%
Infinite (n)	0
Mean	21613.00406
Minimum	0
Maximum	1666052
Zeros (%)	8.5%

0   1000000
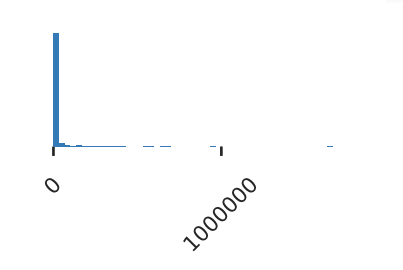
Toggle details

region
Categorical

Distinct count	18
Unique (%)	0.5%
Missing (%)	0.0%
Missing (n)	0

us	1483
latin america	449
japan	270
Other values (15)	1710
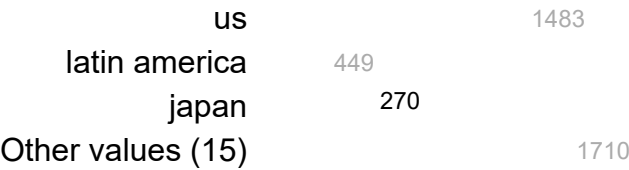
Toggle details

sadness_description
Highly correlated

This variable is highly correlated with `joy_description` and should be ignored for analysis

Correlation 0.9997086855

sadness_last_conversation
Numeric

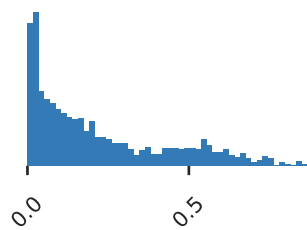|	
Distinct count	1374
Unique (%)	35.1%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.2206692944
Minimum	0
Maximum	0.866575
Zeros (%)	0.8%

Toggle details

sadness_overall
Numeric

Distinct count	1411
Unique (%)	36.1%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.2795609629
Minimum	0
Maximum	0.862839
Zeros (%)	0.3%
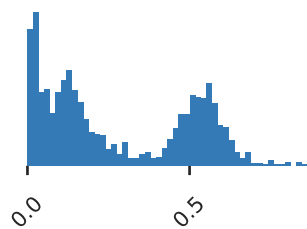
Toggle details

sadness_sentiment_last3
Highly correlated

This variable is highly correlated with *sadness_overall* *and should be ignored for analysis*

Correlation   0.9008934293

sadness_short_description
Numeric

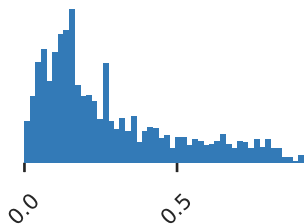|	
Distinct count	1337
Unique (%)	34.2%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.2782097036
Minimum	0
Maximum	0.916667
Zeros (%)	0.6%

Toggle details

sentiment_description
Highly correlated

This variable is highly correlated with *sadness_description* *and should be ignored for analysis*

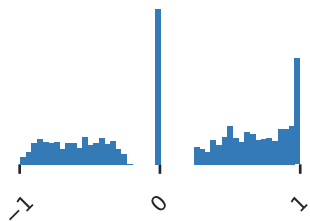Correlation   0.9983378477

sentiment_last3_conversation
Numeric

Distinct count	1265
Unique (%)	32.3%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0

Mean	0.163667497
Minimum	-0.994395
Maximum	0.999919
Zeros (%)	5.3%

Toggle details

sentiment_last_conversation
Numeric

Distinct count	1071
Unique (%)	27.4%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	0.09001513167
Minimum	-0.992415
Maximum	0.999919
Zeros (%)	10.2%
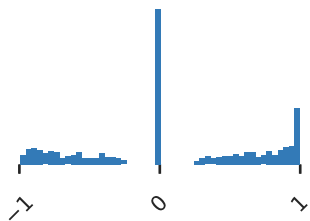
Toggle details

sentiment_overall
Highly correlated

This variable is highly correlated with *sentiment_Last3_conversation* *and should be ignored for analysis*

Correlation   0.9123230126

sentiment_short_description
Numeric

Distinct count	504
Unique (%)	12.9%
Missing (%)	62.1%
Missing (n)	2431
Infinite (%)	0.0%
Infinite (n)	0
Mean	-0.2284835294
Minimum	-0.987403
Maximum	0.992234
Zeros (%)	24.8%
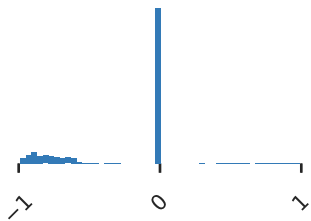
Toggle details

severity_change
Boolean

Distinct count	2
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

no	3731
yes	181

Toggle details

sr_severity
Categorical

Distinct count	4
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

4	3292
3	274
2	259

Toggle details

support_plan
Categorical

Distinct count	4
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

support_tier_1	2086
support_tier_2	1111
support_tier_4	581

Toggle details

technology_level_1
Categorical

Distinct count	2
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

technical	2053
customer support	1859

Toggle details

technology_level_2
Categorical

Distinct count	10
Unique (%)	0.3%
Missing (%)	0.0%
Missing (n)	0

assignment_group_1	1859
assignment_group_2	557
assignment_group_3	491
Other values (7)	1005

Toggle details

technology_level_3
Categorical

Distinct count	142
Unique (%)	3.6%
Missing (%)	0.0%
Missing (n)	0

technology_level_3_1	1223
technology_level_3_2	1088
technology_level_3_3	204
Other values (139)	1397

Toggle details

ticket_duration_days
Numeric

Distinct count	611
Unique (%)	15.6%
Missing (%)	0.0%
Missing (n)	0
Infinite (%)	0.0%
Infinite (n)	0
Mean	194.1472393
Minimum	0
Maximum	733
Zeros (%)	2.5%
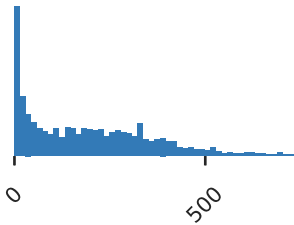
Toggle details

ticket_open_date
Categorical

Distinct count	693
Unique (%)	17.7%
Missing (%)	0.0%
Missing (n)	0

10/30/2018	19
12/7/2018	19
Other values (690)	3846

Toggle details

timewindow
Categorical

Distinct count	2
Unique (%)	0.1%
Missing (%)	0.0%
Missing (n)	0

| prime_time | 2413 |
| non_prime_time | 1499 |

Toggle details

tribe_level_1
Categorical

Distinct count	46
Unique (%)	1.2%
Missing (%)	36.2%
Missing (n)	1415

tribe_level_1_1	1224
tribe_level_1_2	229
tribe_level_1_3	199
Other values (42)	845
(Missing)	1415

Toggle details

tribe_level_2
Categorical

Distinct count	13
Unique (%)	0.3%
Missing (%)	36.2%
Missing (n)	1415

| tribe_level_2_1 | 1255 |
| tribe_level_2_2 | 365 |

tribe_level_2_3	334
Other values (9)	543
(Missing)	1415

Correlations

Pearson's r   Spearman's ρ   Kendall's τ   Phik (φ_k)   Cramér's V (φ_c)   Recoded

Missing values

Count   Matrix   Heatmap   Dendrogram
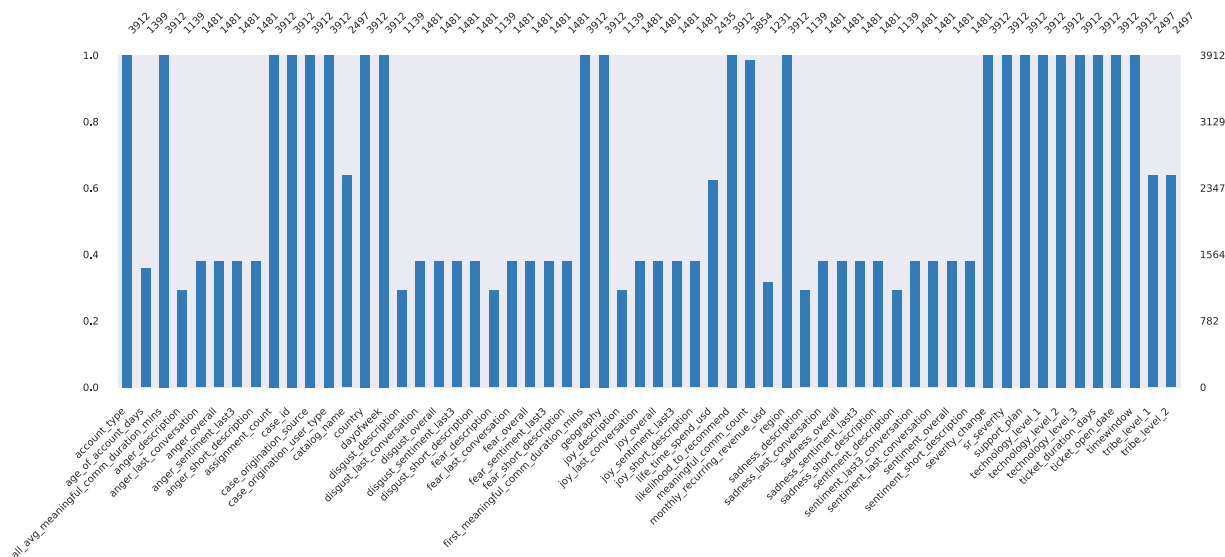
Sample

First rows

	account_type	age_of_account_days	all_avg_meaningful_comm_duration_mins
0	account_type_1	NaN	6
1	account_type_1	NaN	596
2	account_type_2	836.0	1
3	account_type_2	1825.0	27
4	account_type_2	NaN	19
5	account_type_2	NaN	509
6	account_type_1	NaN	666
7	account_type_2	NaN	6

	account_type	age_of_account_days	all_avg_meaningful_comm_duration_mins
8	account_type_3	NaN	287
9	account_type_1	NaN	713

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Last rows

	account_type	age_of_account_days	all_avg_meaningful_comm_duration_mi
3902	account_type_2	NaN	366
3903	account_type_2	NaN	410
3904	account_type_2	NaN	0
3905	account_type_2	NaN	0
3906	account_type_2	NaN	0
3907	account_type_2	NaN	98
3908	account_type_2	NaN	0
3909	account_type_2	NaN	0
3910	account_type_2	NaN	0
3911	account_type_2	NaN	0

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