

# Customer churn prediction

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## Project definition

- **What is churn prediction?** Churn prediction is predicting which customers are at high risk of leaving your company or canceling a subscription to a service, based on their behavior with your product.

## Project title

- Analysing demographic characteristics of marginal workers in Tamil Nadu



## Demographic analysis

- Demographic analysis is the collection and analysis of broad characteristics about groups of people and populations.
- Demographic data is very useful for businesses to understand how to market to consumers and plan strategically for future trends in consumer demand.
- The combination of the internet, big data, and artificial intelligence is greatly amplifying the usefulness and application of demographics as a tool for marketing and business strategy.

## Industrial category analysis

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Table Name	State Code	District Code	India/State	Division	Group	Class	NIC Name	Main Worker	Main Worker	Main Worker	Main Worker	Main Worker	Main Worker	Main Worker
2	B02185C	33	000	STATE -TAMM	00	000	0000	Total	2568994	1849620	719374	1120556	801901	318655	1448431
3	B02185C	33	000	STATE -TAMM	01	000	0000	Crop and ani	139687	78418	61269	70583	40993	20590	6910
4	B02185C	33	000	STATE -TAMM	01	011	0000	Growing of o	770	503	267	406	269	137	36
5	B02185C	33	000	STATE -TAMM	01	011	0111	Growing of c	88	77	11	39	33	6	4
6	B02185C	33	000	STATE -TAMM	01	011	0112	Growing of r	12	6	3	9	6	1	1
7	B02185C	33	000	STATE -TAMM	01	011	0113	Growing of s	314	223	91	133	107	36	18
8	B02185C	33	000	STATE -TAMM	01	011	0114	Growing of w	173	119	54	137	93	44	34
9	B02185C	33	000	STATE -TAMM	01	011	0115	Growing of b	35	27	8	26	18	8	1
10	B02185C	33	000	STATE -TAMM	01	011	0119	Growing of o	148	51	97	62	15	47	30
11	B02185C	33	000	STATE -TAMM	01	012	0000	Growing of p	64149	30628	33521	24907	12300	12667	39181
12	B02185C	33	000	STATE -TAMM	01	012	0121	Growing of g	6	6	0	6	6	0	1
13	B02185C	33	000	STATE -TAMM	01	012	0122	Growing of tr	68	52	16	46	38	8	2
14	B02185C	33	000	STATE -TAMM	01	012	0124	Growing of p	3	3	0	0	0	0	0
15	B02185C	33	000	STATE -TAMM	01	012	0125	Growing of o	139	76	63	79	41	38	64
16	B02185C	33	000	STATE -TAMM	01	012	0126	Growing of o	4491	3564	927	3126	2429	697	1361
17	B02185C	33	000	STATE -TAMM	01	012	0127	Growing of b	58431	26269	32162	21422	9633	11789	37001
18	B02185C	33	000	STATE -TAMM	01	012	0128	Growing of s	358	195	163	58	37	21	301
19	B02185C	33	000	STATE -TAMM	01	012	0129	Growing of o	653	463	190	230	116	114	42
20	B02185C	33	000	STATE -TAMM	01	013	0000	Plant propag	118	77	41	52	44	8	61
21	B02185C	33	000	STATE -TAMM	01	013	0130	Plant propag	118	77	41	52	44	8	61
22	B02185C	33	000	STATE -TAMM	01	014	0000	Animal prod	16416	9095	7321	12184	6730	5454	4231
23	B02185C	33	000	STATE -TAMM	01	014	0141	Raising of co	9121	4833	4288	6703	3536	3167	2411
24	B02185C	33	000	STATE -TAMM	01	014	0142	Raising of ho	73	70	3	30	30	0	4
25	B02185C	33	000	STATE -TAMM	01	014	0143	Raising and f	6	6	0	6	6	0	1
26	B02185C	33	000	STATE -TAMM	01	014	0144	Raising of sh	4630	2464	2166	3643	20	16	98
27	B02185C	33	000	STATE -TAMM	01	014	0145	Raising of sw	364	239	125	227	149	512	531
28	B02185C	33	000	STATE -TAMM	01	014	0146	Raising of po	1953	1298	655	1417	905	512	531
29	B02185C	33	000	STATE -TAMM	01	014	0149	Raising of off	269	191	78	158	103	55	11
30	B02185C	33	000	STATE -TAMM	01	015	0000	Mixed farmi	3	3	0	0	0	0	1
31	B02185C	33	000	STATE -TAMM	01	015	0150	Mixed farmi	3	3	0	0	0	0	1
32	B02185C	33	000	STATE -TAMM	01	016	0000	Support acts	58055	37936	20119	32829	21505	11324	25221
33	B02185C	33	000	STATE -TAMM	01	016	0161	Support acts	48326	30098	18228	26370	16030	10340	21591
34	B02185C	33	000	STATE -TAMM	01	016	0162	Support acts	16	15	3	12	12	0	1
35	B02185C	33	000	STATE -TAMM	01	016	0163	Post harvest	9687	7817	1870	6447	5475	972	3241
36	B02185C	33	000	STATE -TAMM	01	016	0164	Seed process	27	18	9	0	0	0	2
37	B02185C	33	000	STATE -TAMM	01	017	0000	Hunting, trap	176	176	0	145	145	0	3
38	B02185C	33	000	STATE -TAMM	01	017	0170	Hunting, trap	176	176	0	145	145	0	3
39	B02185C	33	000	STATE -TAMM	02	000	0000	Forestry and	12866	9931	2935	9056	6915	2140	381
40	B02185C	33	000	STATE -TAMM	02	021	0000	Silviculture a	326	251	75	157	139	18	16
41	B02185C	33	000	STATE -TAMM	02	021	0210	Silviculture a	326	251	75	157	139	18	16
42	B02185C	33	000	STATE -TAMM	02	022	0000	Logging	11154	8467	2687	8186	6118	2068	2961
43	B02185C	33	000	STATE -TAMM	02	022	0220	Logging	11154	8467	2687	8186	6118	2068	2961
44	B02185C	33	000	STATE -TAMM	02	023	0000	Gathering of	118	88	30	46	34	12	7
45	B02185C	33	000	STATE -TAMM	02	023	0230	Gathering of	118	88	30	46	34	12	7
46	B02185C	33	000	STATE -TAMM	02	024	0000	Support serv	1268	1125	143	666	624	42	60
47	B02185C	33	000	STATE -TAMM	02	024	0240	Support serv	1268	1125	143	666	624	42	60
48	B02185C	33	000	STATE -TAMM	03	000	0000	Fishing and i	7320	6050	670	4826	4412	417	249
49	B02185C	33	000	STATE -TAMM	03	031	0000	Fishing and i	6913	6319	594	4628	4243	385	2281
50	B02185C	33	000	STATE -TAMM	03	031	0311	Marine fish	5864	5387	477	3748	3458	290	211
51	B02185C	33	000	STATE -TAMM	03	031	0312	Fresh water	1049	932	117	880	785	95	165
52	B02185C	33	000	STATE -TAMM	03	032	0000	Aquaculture	407	331	76	201	199	32	201
53	B02185C	33	000	STATE -TAMM	03	032	0321	Marine aqua	235	198	37	199	69	10	181
54	B02185C	33	000	STATE -TAMM	03	032	0322	Freshwater a	172	133	29	122	100	22	81
55	B02185C	33	000	STATE -TAMM	05	000	0000	Mining of co	5948	5570	378	1499	1431	68	444
56	B02185C	33	000	STATE -TAMM	05	051	0000	Mining of ha	858	822	36	404	396	8	45
57	B02185C	33	000	STATE -TAMM	05	051	0510	Mining of ha	858	822	36	404	396	8	45
58	B02185C	33	000	STATE -TAMM	05	052	0000	Mining of lig	5090	4748	342	1095	1035	60	399
59	B02185C	33	000	STATE -TAMM	05	052	0520	Mining of lig	5090	4748	342	1095	1035	60	399
60	B02185C	33	000	STATE -TAMM	06	000	0000	Extraction of	458	429	29	230	216	14	221
61	B02185C	33	000	STATE -TAMM	06	061	0000	Extraction of	458	429	29	230	216	14	221
62	B02185C	33	000	STATE -TAMM	06	061	0610	Extraction of	202	196	6	89	89	0	11
63	B02185C	33	000	STATE -TAMM	06	062	0000	Extraction of	256	233	23	141	127	14	111
64	B02185C	33	000	STATE -TAMM	06	062	0620	Extraction of	256	233	23	141	127	14	111
65	B02185C	33	000	STATE -TAMM	07	000	0000	Mining of me	154	132	22	58	56	2	91

# Socioeconomic Insights

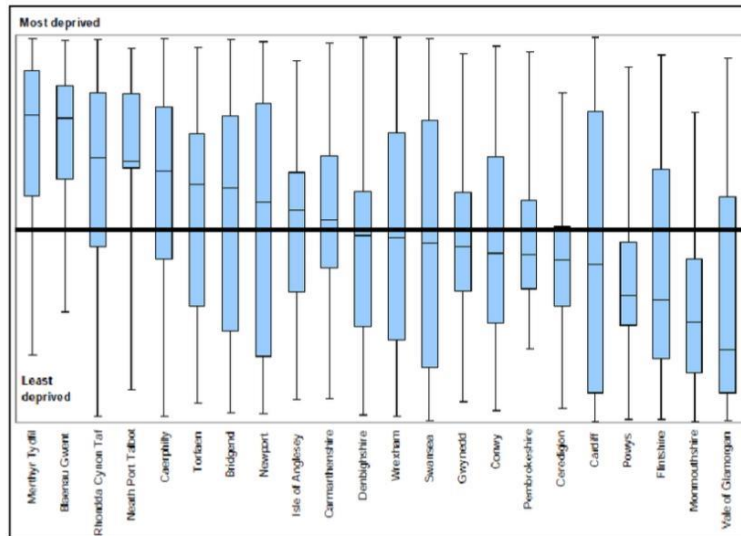
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- This paper examines the socio-economic condition of the migrant workers in Tamil Nadu. We analyse the income, consumption and savings pattern, and nature of work of the migrant workers in the Thiruvananthapuram district, based on data from a sample of 166 migrant workers. While existing studies provide evidences for short distance migration to Kerala from nearby states like Tamil Nadu and Karnataka, we find evidence for long distance migration from states like West Bengal and Assam in recent years. We find that informal information networks through migrant workers from native place plays important role in migration of workers to Kerala. Poor economic conditions in the native place and high wage rate and better employment opportunities in Kerala have been identified as the main reasons of migration to Kerala. Though there is barely any change in the nature of employment of the migrants even after migration, there has been a shift from the low-income brackets before migration to high-income brackets after migration. Notwithstanding the improved income level the living condition for most of migrant workers is deplorable, most of them live together in either poor rented houses or work sites with one room shared by many, without proper provision of hygienic sanitation.

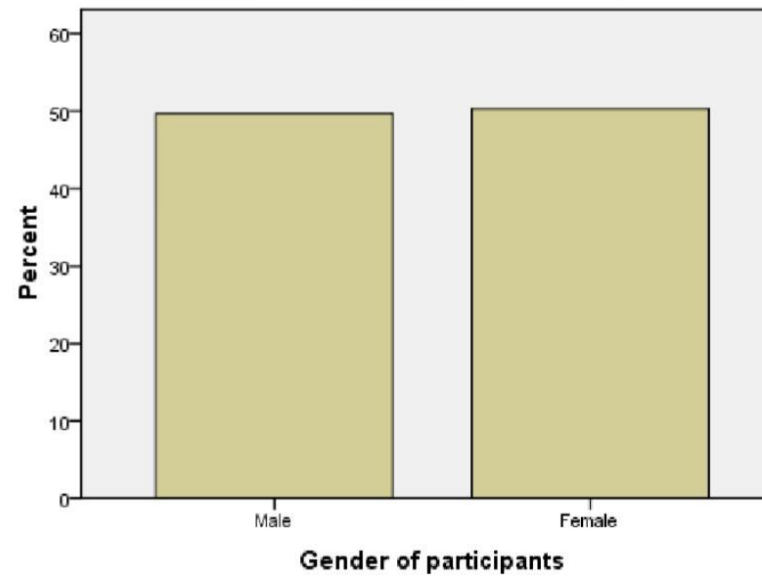


# Approach

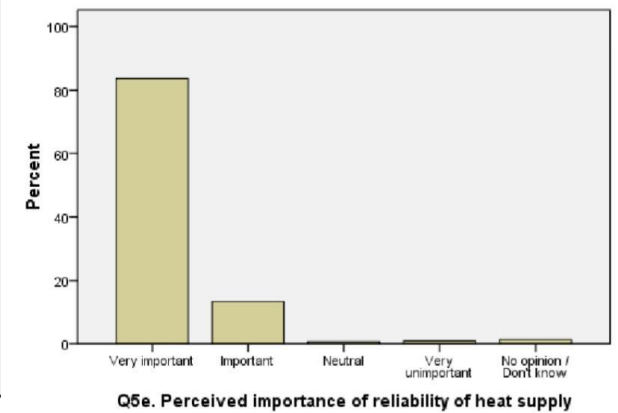
Overall Level of Deprivation for each local authority compared with the median (middle) rank for Wales.



Gender of participants



Q5e. Perceived importance of reliability of heat supply



# Conclusion

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- Empowers marketers to easily collect & process data from nearly any online source. Create a multiplier effect that enables marketers to maximise the efficiency. Customer Experience