

RECOMMENDATION

1) Focus on Electric Vehicles: All car brands, especially those that have not sold more than 1,800 units over a 10-year period (excluding luxury brands), should focus on their electric vehicle offerings. This is because the demand for electric cars increased after 2011 and continued to rise until 2015. Brands that are not capitalizing on this trend may struggle to remain competitive in the long term.

	year	electric_sales	total_sales	electric_sales_percent
▶	2007	0	129195	0
	2008	0	110617	0
	2009	0	98675	0
	2010	0	127754	0
	2011	1996	138345	1.44
	2012	3950	137967	2.86
	2013	7882	142151	5.54
	2014	18094	144202	12.55
	2015	25788	150686	17.11
	2016	24245	154603	15.68
	2017	2295	13055	17.58

2) Sales Strategy Based on Units Sold:

- Brands that have sold more than 80,000 units over 10 years should consider opening more showrooms and manufacturing plants to meet increasing demand.
- Brands that have sold between 5,000 and 80,000 units should focus on innovation to stay relevant in the market.
- Brands that have sold fewer than 5,000 units need to reassess their sales and marketing strategies. Without significant changes, they may struggle to survive in the market for more than two years. Note that luxury car brands like McLaren, Rolls-Royce, and Bentley are not included in this analysis, as they target the premium segment and operate differently. For better understanding I have attached the screenshots

3	Sum of Quantity	Column Labels												
4	Row Labels		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Grand Total
5	Volkswagen		19689	16741	14267	19172	20898	20507	19130	21659	26344	26574	1688	206669
6	Toyota		20683	14968	14605	16878	15236	16903	17909	16000	16016	17453	1526	168177
7	Volvo		8562	6954	7317	10458	11995	11550	11863	11325	9978	8777	1158	99937
8	Ford		8774	10073	9804	11841	12991	11007	9997	7821	8462	8326	617	99713
9	BMW		4941	4963	4458	5657	6288	7325	6876	9602	9567	12098	1540	73315
10	Audi		6472	6755	5426	6654	7351	8321	7511	7077	6690	7653	565	70475
11	Skoda		5868	4421	4206	6755	7620	6793	6948	7451	7490	7774	681	66007
12	Nissan		4011	4840	3779	5028	5832	6658	8202	9192	8317	8061	615	64535
13	Peugeot		7493	5616	4401	7162	7427	6209	5259	6555	5542	4798	571	61033
14	Mercedes-Benz		4870	3813	3777	4562	4544	5616	6091	6603	7678	9033	970	57557
15	Mitsubishi		4239	4027	2542	4674	7842	4654	5735	5238	5790	6662	216	51619
16	Mazda		3144	3834	3023	2798	1762	2927	6109	6119	6702	6603	284	43305
17	Opel		6815	3970	3992	4180	4716	3616	3614	2947	3317	3708	191	41066
18	Hyundai		2104	1734	3139	4224	5504	5557	4185	2243	2472	2740	349	34251
19	Kia		1620	1059	631	1507	2614	4917	5035	4409	4635	4213	422	31062
20	Suzuki		3730	3175	1832	2687	3082	2060	2319	2848	3087	2990	352	28162
21	Subaru		1084	2503	2668	3137	2367	3559	3233	2478	3754	2772	39	27594
22	Honda		5136	4004	3059	2571	2008	1731	2655	2127	2127	1833	101	27352
22	Honda		5136	4004	3059	2571	2008	1731	2655	2127	2127	1833	101	27352
23	Citroen		2709	1842	1980	3413	3666	3583	2466	2751	2118	1855	163	26546
24	Tesla				5	14	28	32	1986	4042	4039	3481	367	13994
25	Renault		1190	687	679	707	880	657	889	1633	2682	2949	306	13259
26	MINI		364	374	301	398	813	856	983	940	841	858	65	6793
27	Fiat		214	560	969	1267	706	631	637	381	264	145	3	5777
28	Lexus		228	183	175	179	477	493	525	792	1071	1163	98	5384
29	Saab		2515	1494	420	390	298	11	2					5130
30	Land Rover		474	194	127	104	215	684	562	578	602	444	18	4002
31	Porsche		48	44	45	158	159	328	310	417	385	417	91	2402
32	Chevrolet		668	323	222	22	22	77	539	425	3			2301
33	Alfa Romeo		194	108	51	407	504	283	155	84	46	43	6	1881
34	Jeep		473	288	160	24	12	209	82	208	233	123		1812
35	Jaguar		73	117	74	59	46	47	63	49	115	359	27	1029
36	Dodge		272	323	240	72		1	1					909
37	Dacia						5	6	189	153	141	305	9	808
38	Think		4	177	93	331	137	18	8					768
39	Daihatsu		315	214	38	87	34							688
40	Smart		55	46	77	98	94	48	29	10	119	56	1	633
41	Ssangyong		24	17	8	5	111	36	23	2	5	82	1	314
42	DS										1	200	9	210
43	Chrysler		63	70	29	10	3							175

44	Nilsson	13	18	22	1	13	5	9	14	15	28	3	141
45	Iveco	15	41	1	30	21	2		2	1			113
46	Morgan	7	13	7	12	3	5	4	2	1	2		56
47	Aston Martin	11	5		7	11	4	3		4	3		48
48	Maserati	4	5					1	19	3	11	2	45
49	Cadillac	13	5	3	3		5	2	2	1	1		35
50	Ferrari		5	4	2	1	4		2	1	4	1	24
51	Isuzu	1	5	7	3	3	3						22
52	Polaris									19			19
53	NA	4		8			3	1					16
54	Lancia	2	6	3	2	1				2			16
55	Chevrolet US	5			2	1	2			3	2		15
56	Mia						8	5					13
57	Bentley	2	1		1		4	2			3		13
58	Fisker						6	1					7
59	Seat			1			2	1		2			6
60	Tazzari							1	2				3
61	Lotus					2				1			3
62	Binz						1	1					2
63	Lamborghini		1								1		2
64	Koenigsegg		1										1
65	Tata				1								1
66	McLaren						1						1
67	Martin Motors						1						1
68	Westfield						1						1
69	Secma					1							1
70	Infiniti					1							1
71	Grand Total	129195	110617	98675	127754	138345	137967	142151	144202	150686	154603	13055	1347250

3) Shift Away from Diesel Cars: Companies that are still heavily reliant on diesel cars, like Toyota, need to consider alternative options. The profitability of diesel cars has declined since 2013. To remain competitive in the market, these companies must adapt by introducing new or trending models, particularly in the electric and hybrid sectors.

2013	7	53.3	high
2013	8	50.5	high
2013	9	50.9	high
2013	10	49.4	midium
2013	11	48.6	midium
2013	12	56.7	high
2014	1	51	high
2014	2	49.2	midium
2014	3	43.6	midium
2014	4	49.7	midium
2014	5	49.3	midium
2014	6	48.6	midium
2014	7	48.5	midium
2014	8	47.2	midium
2014	9	46.4	midium
2014	10	48.2	midium
2014	11	48.5	midium

	Year	TotalDieselSales	TotalHybridSales	TotalElectricSales	TotalYearlySales	DieselSharePct	HybridSharePct	ElectricSharePct
►	2007	96037	0	0	96037	100	0	0
	2008	80289	0	0	80289	100	0	0
	2009	71746	0	0	71746	100	0	0
	2010	95736	0	0	95736	100	0	0
	2011	104549	3903	1996	110448	94.66	3.53	1.81
	2012	88734	6142	3950	98826	89.79	6.21	4
	2013	75119	9177	7882	92178	81.49	9.96	8.55
	2014	70293	11591	18094	99978	70.31	11.59	18.1
	2015	61661	18473	25788	105922	58.21	17.44	24.35
	2016	48868	37926	24245	111039	44.01	34.16	21.83
	2017	3433	4419	2295	10147	33.83	43.55	22.62

4) Aggressive Marketing in December: All companies should begin their marketing efforts aggressively in December. Data trends indicate a significant increase in sales, particularly in March, which could be linked to Good Friday. By starting their campaigns in December, companies could potentially boost sales in the following months and capitalize on this seasonal trend.

	month	total_sales
►	3	118439
	1	116439
	10	115847
	5	114407
	4	113946
	11	112615
	7	112113
	9	111359
	6	111137
	8	109194
	12	109070
	2	102684