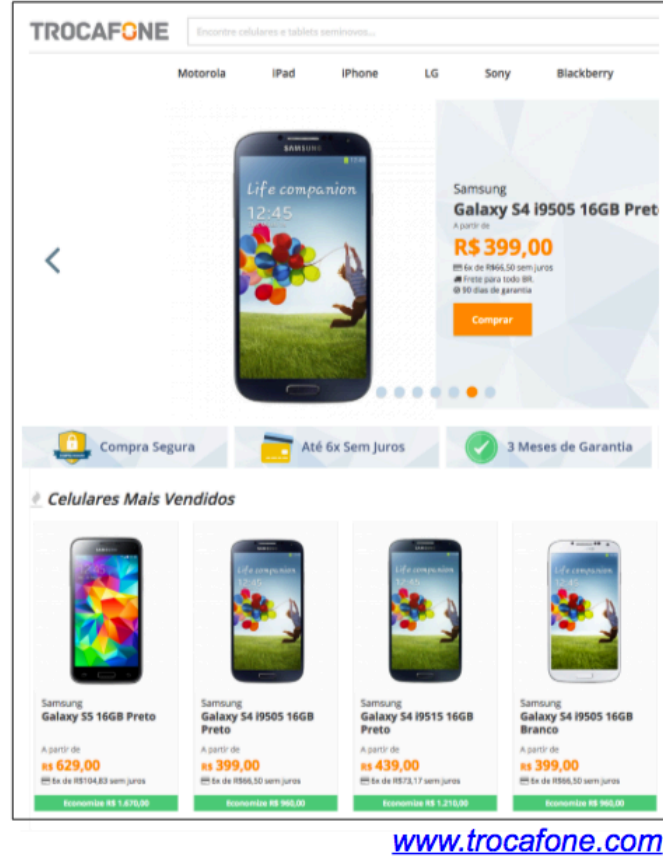


Overview

Overview: The Company TROCAFONE

Trocafone is the leading marketplace for used smartphones in Brazil

- The opportunity:** For >100M people in Brazil new smartphones are too expensive, but used phones unreliable and difficult to get
- Trocafone founded in 2014** by Guille Freire and Guille Arslanian
- #1 online marketplace** to trade used smartphones in Brazil
 - 128 employees in Buenos Aires, Argentina, and Sao Paulo, Brazil
 - Frictionless transaction: purchase, refurbish, and sell used phones
 - Founders: "One man's trash is another man's smartphone"
 - 2016: 42,000 customers
 - Outselling competition by 10x
- Trend:** Price sensitive customers prefer used smartphones
- Vision:** Reducing e-waste and simultaneously bridging social inequality in Latin America!



Overview: The Business Challenge

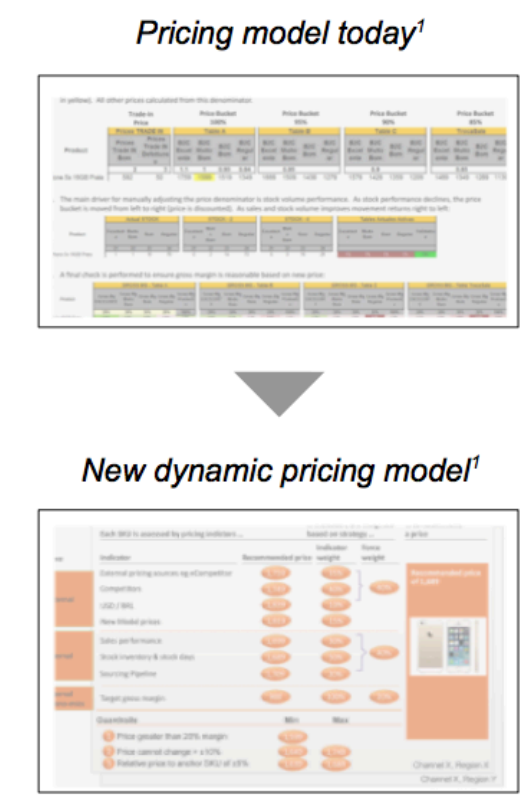
A new dynamic pricing model is required to achieve optimal pricing

The problem

- Given its strong growth trajectory, Trocafone's current manual pricing approach and processes are out-of-date
- A dynamic pricing algorithm and automated pricing model offers significant profit optimization potential

Project scope

- Develop a dynamic pricing model prototype
 - Define pricing algorithm for select SKUs in Brazil
 - Develop a first simple functional prototype
 - Incorporate industry best practices
- Strategic direction & governance considerations
 - Define processes & governance structure for new approach
 - Define roadmap: testing, training, deployment, add-ons
 - Define pricing strategy given future industry trends in pricing

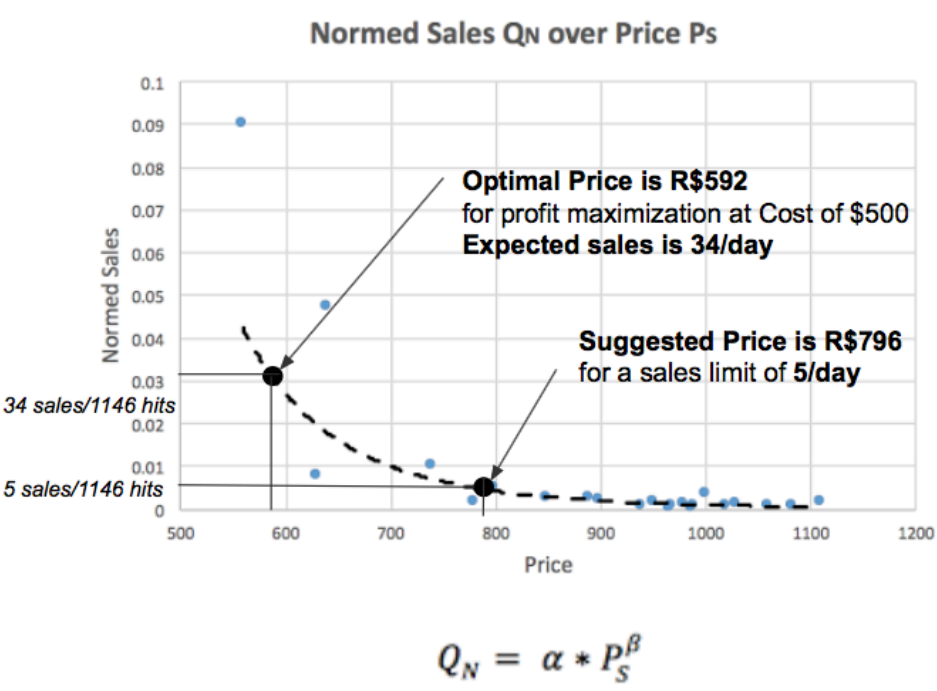


Pricing Theory & Technology Architecture

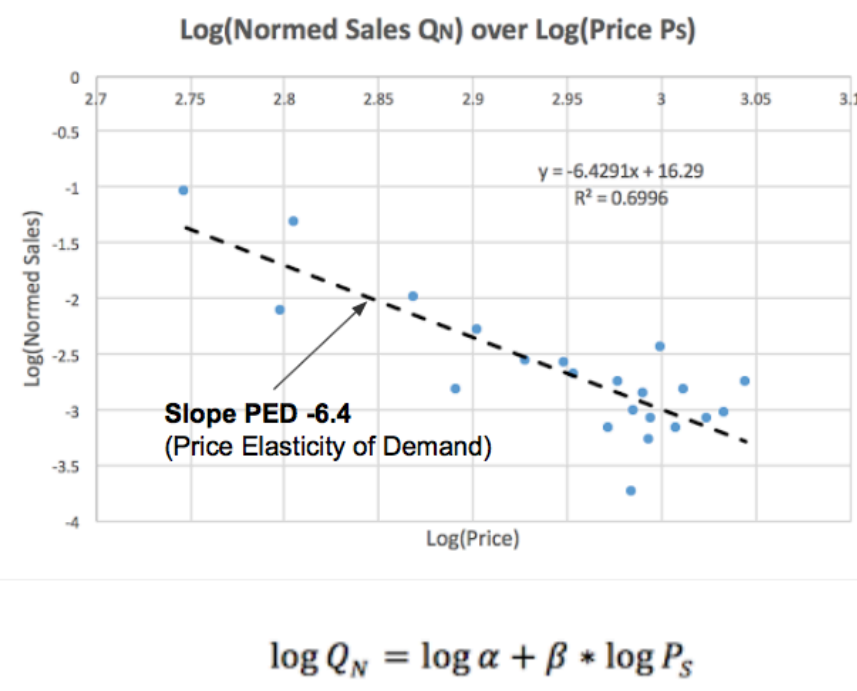
Price Elasticity of Demand - Determining Price and Sales

Using the PED and average costs per SKU the optimal price can be determined that will maximize profit

Price-Sales-Relationship for a sample SKU

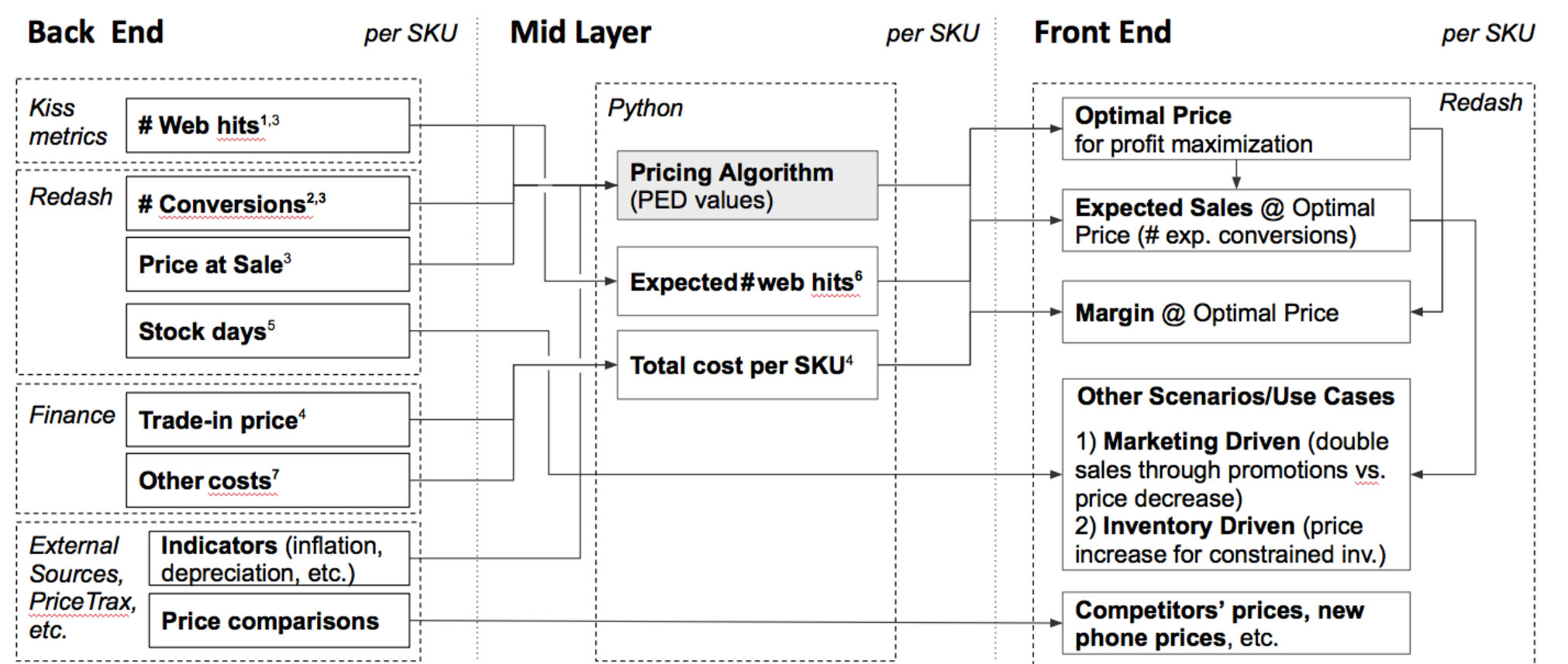


Linear Regression and PED



Technology Architecture - Core Data Flow

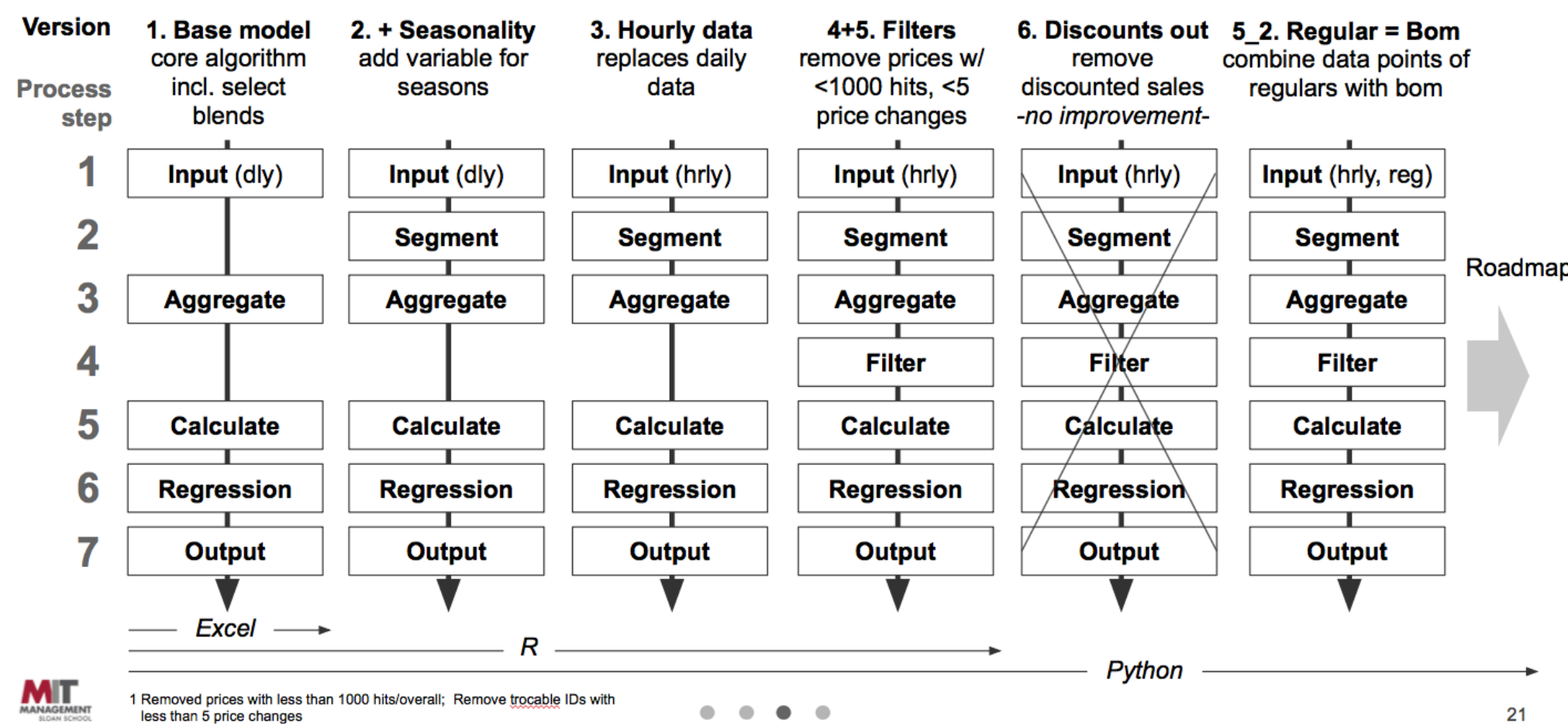
The pricing algorithm processes sales and financial data to suggest optimal prices



Pricing Algorithm Development

Pricing Algorithm - Pricing Model Development

Major improvements of the algorithm have been incorporated. More to come



Pricing Algorithm - Validation of Elasticities

The output from each version are visualized in Excel to validate improvements

Comparison of different pricing algorithm versions in Excel

Comparison of Elasticities for TOP 10 Phones across Pricing Algorithm model versions - Selected Phone:

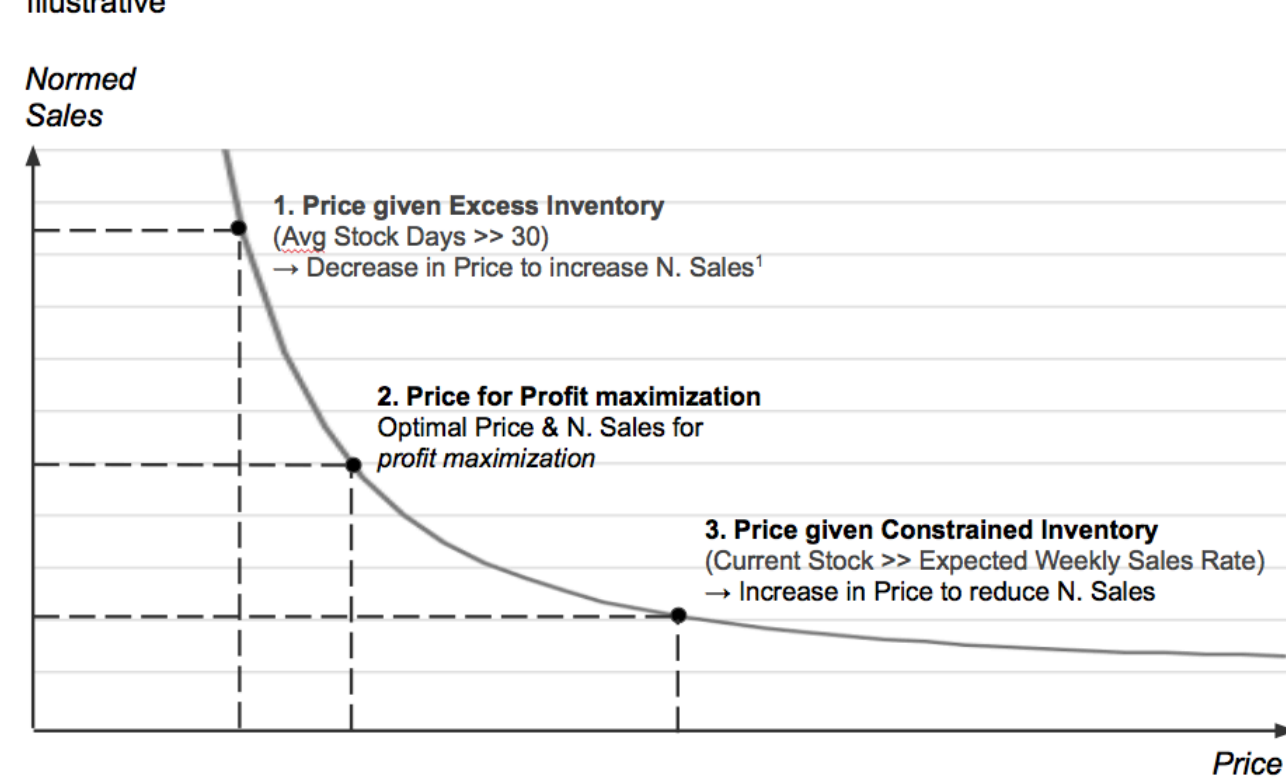
SKU/Brand	Model condition	Elasticity					R Squared				
		1Y	2Y	3Y	4.5	5.2	1Y	2Y	3Y	4.5	5.2
319 SKU	8 Prata Excelente 64GB	-3.02	-3.85	-2.40	-2.70	-2.76	0.332	0.548	0.199	0.338	0.338
326 SKU	8 Prata Excelente 64GB	-2.89	-2.86	-2.86	-2.86	-2.86	0.332	0.355	0.380	0.505	0.505
333 SKU	8 Ouro Excelente 64GB	-1.87	-4.68	-4.03	-1.86	-1.86	0.468	0.409	0.386	0.410	0.410
298 SKU	8 Prata Excelente 32GB	-2.02	-2.46	-2.06	-1.99	-1.99	0.149	0.214	0.270	0.236	0.236
305 SKU	8 Ouro Excelente 32GB	-4.02	-2.34	-4.52	-4.92	-4.92	0.433	0.399	0.329	0.337	0.337
312 SKU	8 Ouro Excelente 32GB	-2.24	-2.69	-1.96	-1.99	-1.99	0.244	0.344	0.161	0.311	0.311
277 SKU	8 Prata Excelente 32GB	-0.40	-0.88	-0.20	-0.72	-0.97	0.058	0.128	0.058	0.060	0.060
284 SKU	8 Ouro Excelente 32GB	-3.76	-4.62	-9.25	-3.24	-3.27	0.622	0.787	0.623	0.608	0.619
291 SKU	8 Ouro Excelente 32GB	-0.88	-0.03	-1.33	-0.14	-0.15	0.259	0.046	0.122	0.090	0.090
318 SKU	8 Branco Excelente Bom 64GB	-0.14	-0.14	-1.27	-0.03	-1.00	0.002	0.008	0.363	0.382	0.382
312 SKU	8 Ouro Excelente 32GB	-1.25	-2.36	-2.77	-2.02	-2.02	0.421	0.470	0.432	0.339	0.339
328 SKU	8 Ouro Excelente Bom 64GB	-3.40	-2.88	-3.50	-4.07	-4.07	0.344	0.315	0.280	0.280	0.280
297 SKU	8 Prata Multico Bom 32GB	-4.10	-4.25	-3.85	-3.19	-3.26	0.587	0.625	0.760	0.605	0.605
304 SKU	8 Ouro Excelente Bom 32GB	-3.37	-3.72	-3.28	-1.80	-1.80	0.589	0.591	0.637	0.341	0.341
277 SKU	8 Prata Excelente 32GB	-1.89	-2.88	-0.20	-1.81	-2.66	0.314	0.268	0.307	0.304	0.304
276 SKU	8 Prata Multico Bom 32GB	-1.11	-2.41	-0.11	-0.03	-0.05	0.102	0.481	0.257	0.028	0.032
283 SKU	8 Ouro Excelente Bom 32GB	-0.83	-0.73	-0.23	-0.26	-0.30	0.109	0.037	0.025	0.025	0.025
290 SKU	8 Ouro Excelente Bom 32GB	-0.57	-0.11	-0.11	-0.11	-0.11	0.408	0.137	0.024	0.008	0.013
269 SKU	8 Prata Bom 64GB	-3.81	-3.76	-3.89	-2.24	-1.91	0.505	0.597	0.677	0.204	0.053
2697 SKU	8 Ouro Excelente Bom 64GB	-6.62	-7.75	-6.51	-4.53	-3.17	0.699	0.869	0.402	0.402	0.388
2698 SKU	8 Ouro Excelente Bom 64GB	-2.84	-2.88	-0.03	-0.03	-1.00	0.388	0.466	0.427	0.427	0.318
2699 SKU	8 Prata Bom 32GB	-2.28	-2.40	-1.33	-0.42	-0.14	0.364	0.397	0.094	0.031	0.046
2694 SKU	8 Prata Excelente Bom 32GB	-1.39	-1.01	-0.40	-0.40	-0.40	0.006	0.018	0.020	0.004	0.009
2695 SKU	8 Prata Excelente Bom 32GB	-0.30	-0.11	-0.23	-1.39	-1.48	0.002	0.006	0.026	0.066	0.148

Front End

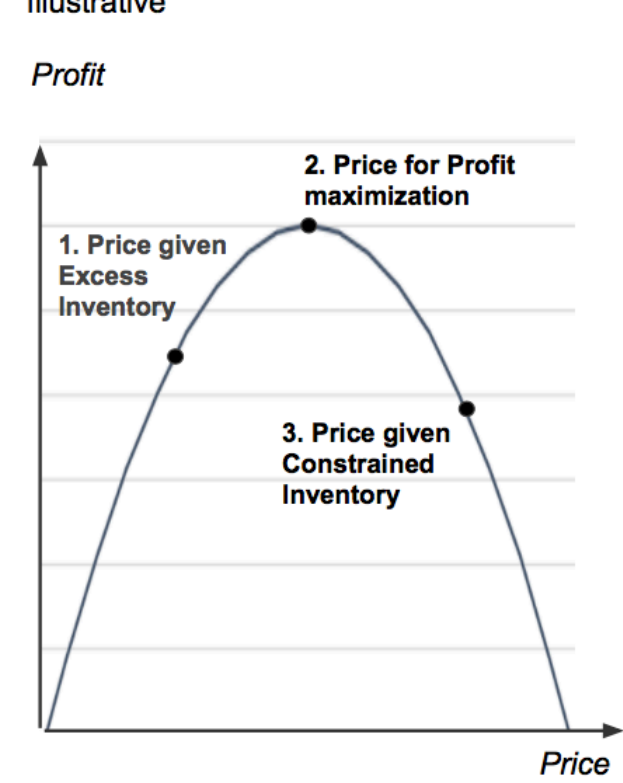
Front End - Use Cases: Example Inventory Constraint

The algorithm suggests prices and expected sales to account for inventory constraints

Price and Sales suggestions by inventory scenario

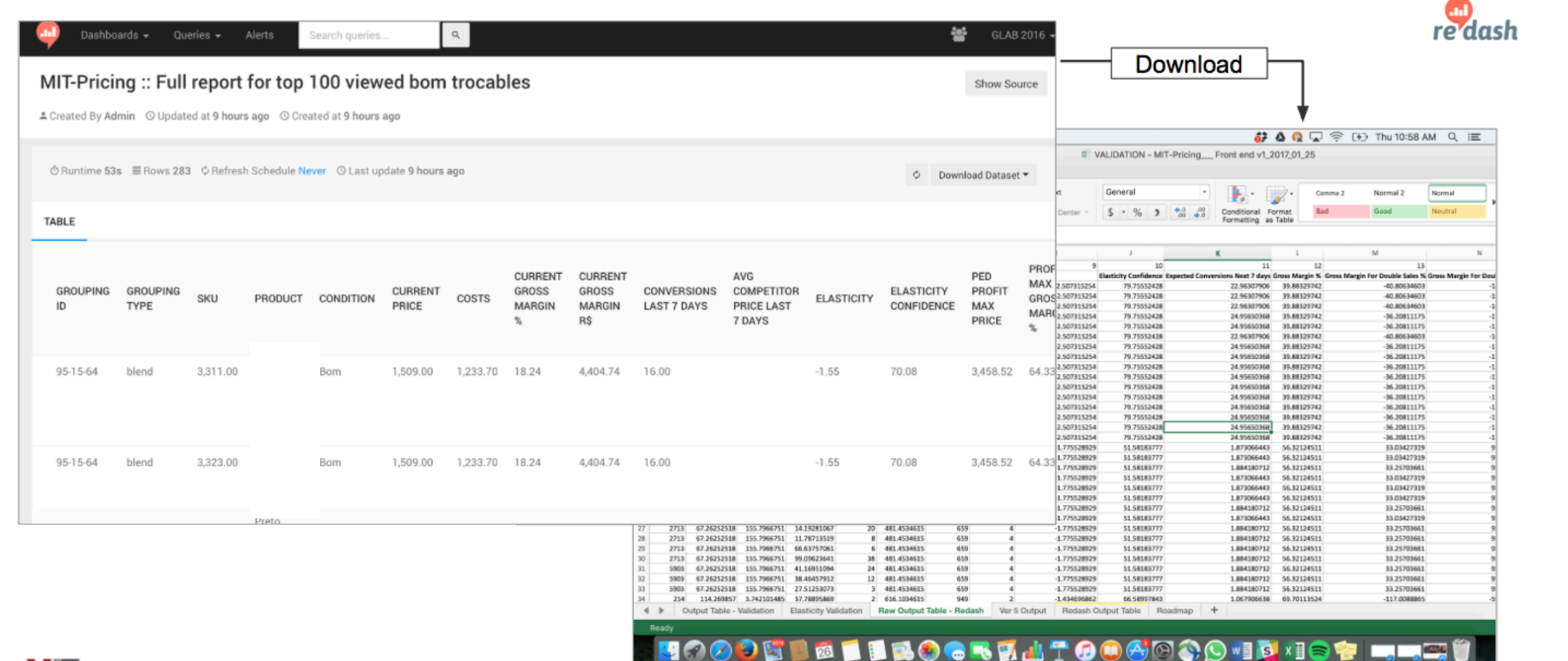


Profit-Price-relationship



Front End - Dashboard in Redash

The dashboard displays price suggestions and key metrics for select SKUs¹ and use cases



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