From exploratory models to production

About B2W

History

Created in 2006 with the merger of the 3 leading e-commerce companies in Brazil

No cash position in day 1

Brands

4 complementary brands: Americanas.com, Submarino, Shoptime and SouBarato

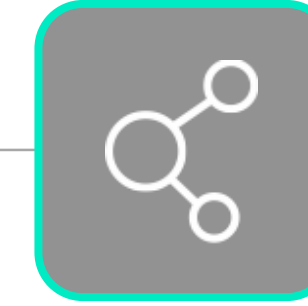Different positioning and low customer overlap

Sales Platform (1P + 3P)

Hybrid model: best balance between 1P & 3P

1P: High traffic, volume, private label, strategic categories and suppliers

3P: Long tail assortment, margin and qualified sellers

Tech Enablers & Supply Chain

Acquisition of best in class companies (10 tech enablers & 3 last mile providers)

11 DCs +200 hubs

98% of delivery through proprietary platform

User Experience

#1 in Customer Service reputation

Main awards of customer service

Cross device personalization using high scale analytics

About B2W

B2W invested over the last 10 years to build the dominant digital platform in Brazil

- Market Share: 27.7%[1]

- 9.7K Sellers on the Marketplace

- 4.6MM items (~90% via Marketplace)

- Traffic: 2 Bn (total visits in 2017), 62.7% from mobile (4Q17)

- 15MM active clients (+1MM last twelve months)

- 4 complementary brands (low overlap of customers)

- Highest customer service reputation

- Proprietary Supply Chain and Digital Platform

1. Source: Ebit (4Q17)

About B2W

Marketplace growth

Year	Value	Growth
2014	0.1 Bn	1%
2015	0.9 Bn	8%
2016	2.2 Bn	18%
2017	4.5 Bn	35%+
2018E		50%+

The *Digital Platform* that connects **People, Businesses, Products and Services**.

Total GMV (R$)

12,8 Bi

Market share (%)
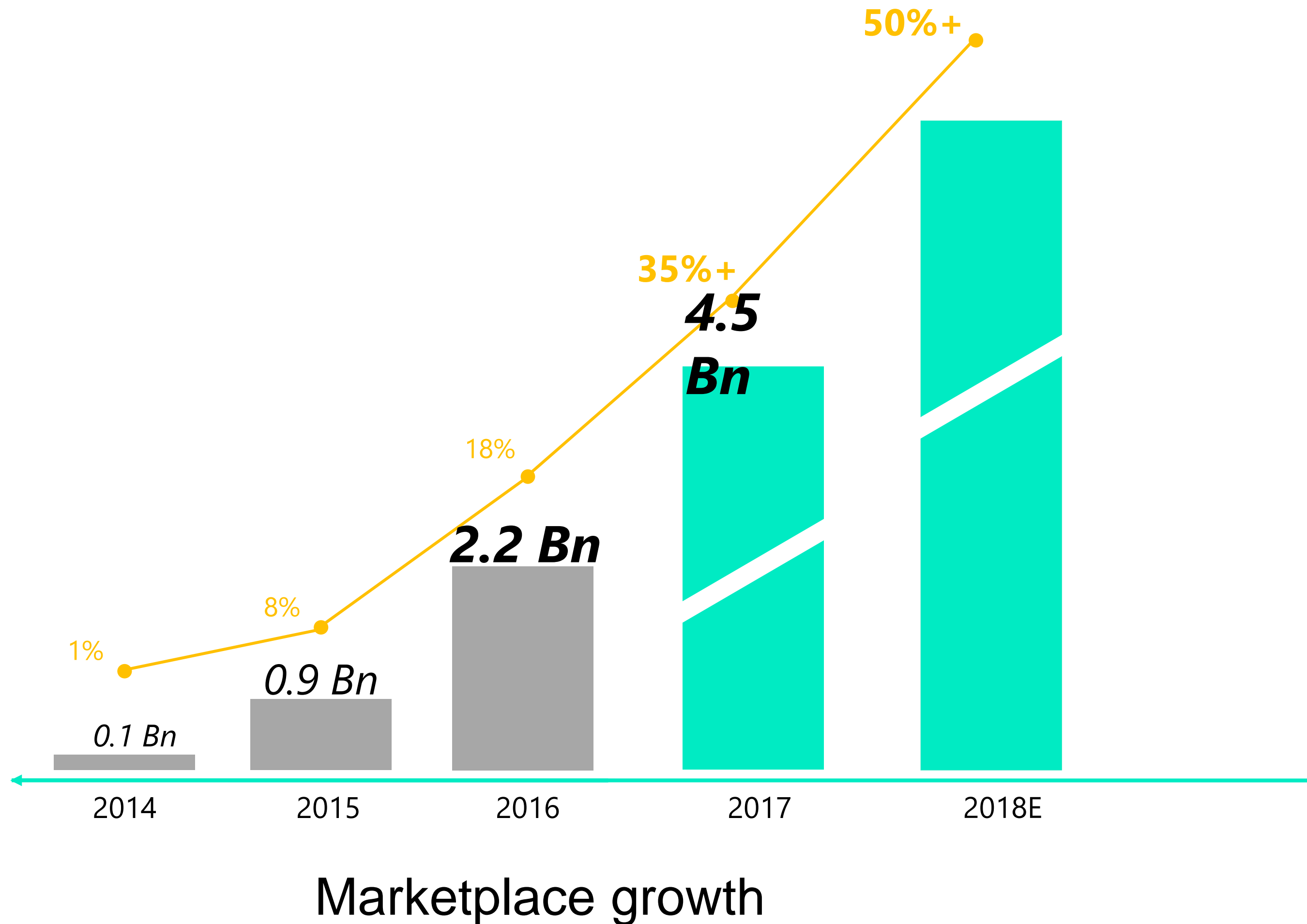
27,7 %

Problem Statement

Growing as a digital platform increases the complexity
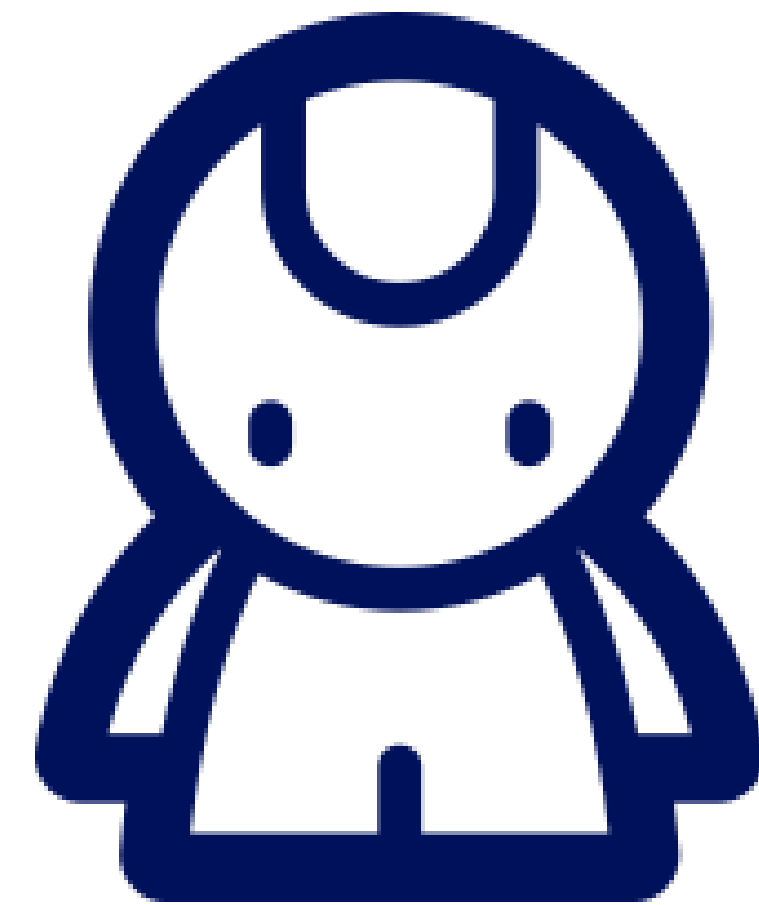and the scale of problems to be addressed.

Only AI and ML at scale can keep us at the edge.

**How can we abstract the complexity
in the creation of an AI application?**
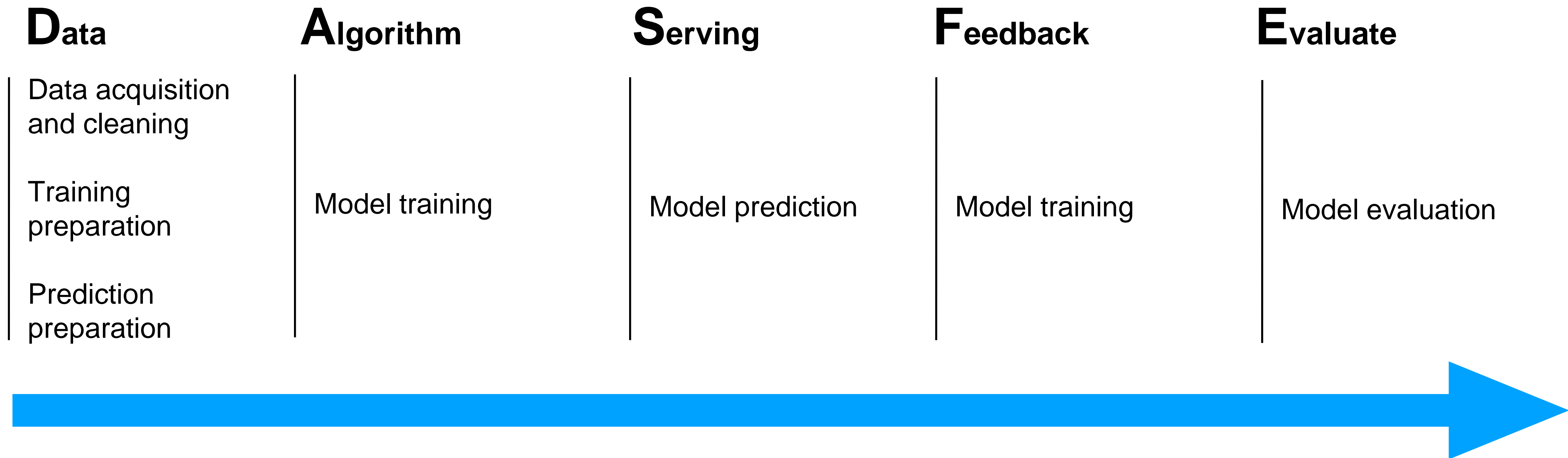
Marvin's Mission

To empower data science teams to deliver AI applications, *simplifying* the process of *exploration* and *modeling*.

Marvin DASFE pattern

Data   **A**lgorithm   **S**erving   **F**eedback   **E**valuate

Data acquisition
and cleaning

Training
preparation   Model training   Model prediction   Model training   Model evaluation

Prediction
preparation

Artificial Intelligence

Statistical Models

- Forecast demand
- Fraud detection
- Ad spend optimization

Natural Language Processing

- Feature extraction from product description
- Product category classification

Computer Vision

- Image matching to find associated products

Open Source Release

- In 2017 Marvin was published as an Open Source project

- Partnerships: MIT, UFSCAR (São Carlos, São Paulo), Cloudera, Apache (Open Source certification)
- Presented at Papis 2017, MIT, Big Data Week (São Paulo), Saturn (Carnegie Mellon, Software Arch., Maio)
- Paper: Papis 2017 Proceedings: https://github.com/marvin-ai/marvin-paper/blob/master/from-exploratory-models-to-productions/marvin_paper.pdf

Marvin general features

- Training pipeline REST interface

- Experiment and artifacts versioning

- Engine project scaffold generator

- Data sampling and impor CLI

- Engine test framework (unit, functional, dryrun)

- Toolbox: Python support

- Artifacts persistence layer: HDFS support

- Remote provisioning and deployment

MARVIN
Artificial Intelligence Platform

Fork me on **GitHub.com/marvin-ai**

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