ICEBEF 2026 | STUDENT MICRO-BUSINESS CASE STUDY

Pricing Dynamics, Unit Economics and Cash-Flow of a Preloved Timberland Micro-Business

A Python-based descriptive analytics of **sebat.boots**

Alya Kamila
Rizkia Siva Ayu

Business Education, Faculty of Economics and Business Education, Universitas Pendidikan Indonesia, Bandung



The case, the questions, and the data

The case: sebat.boots

- Student-run seller of **preloved Timberland** footwear, mainly for students aged 18-34.
- **Instagram** is the main sales channel (via DM); **TikTok** is used for promotion and sends prospects to Instagram.
- Stock comes from individual sellers on social media, is repaired or cleaned, photographed, and shipped by courier.

Research questions

RQ1 How fast and how regularly did the business sell?

RQ2 Did selling prices change over time?

RQ3 Was the size mix purchased aligned with the size mix sold?

RQ4 What unit economics, break-even and cash flow did it show?

Data & analysis

- Full ledger, **7 Aug - 18 Oct 2026** (73 days): **57 records** = 30 sales, 26 expenses, 1 capital entry (Rp1,200,000). Census, no sampling.
- **Python** (pandas, NumPy, SciPy, Matplotlib): regression, Mann-Whitney, Spearman, chi-square, sensitivity analysis.
- One Rp50,000 sale (6 Sep) looks like a partial payment: kept in revenue, excluded from price tests (n = 29).

Why it matters: most preloved research uses perception surveys. This study uses **real transactions** to see how prices, stock and cash move.

Monthly sales performance and sales velocity

Month	Pairs sold	Revenue (Rp)	Mean price (Rp)	Pairs bought	Stock purchase (Rp)	Other costs (Rp)	Net cash (Rp)
August[a]	7	4,536,000	648,000	2	720,000	56,000	3,760,000
September	13	9,870,000	759,231	13	6,260,000	79,500	3,530,500
October[b]	10	8,850,000	885,000	10	5,460,000	27,000	3,363,000
Total	**30**	**23,256,000**	**775,200**	**25**	**12,440,000**	**162,500**	**10,653,500**

Table 1. *Monthly sales, purchasing and cash performance. [a]Observed from 7 August; [b] observed to 18 October. Net cash = revenue - stock purchase - other costs (capital excluded).*

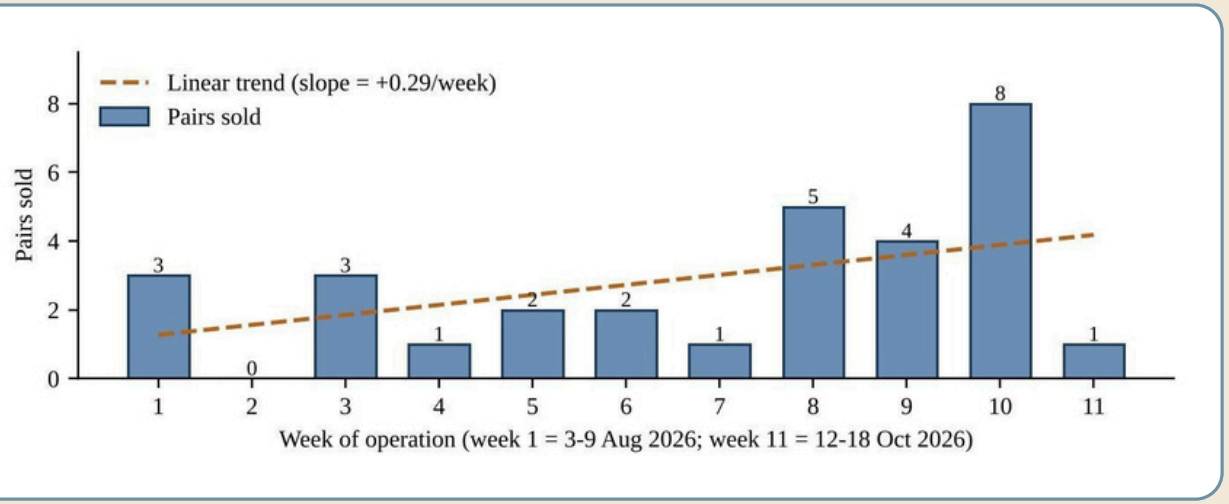


Figure 1. *Weekly pairs sold and linear trend (n = 11 weeks).*

Key takeaways

- 30 pairs earned **Rp23,256,000** (Rp318,575/day); mean price **Rp775,200**.
- Weekly sales averaged **2.7 pairs** (0 in week 2, 8 in week 10). The trend is +0.29 pairs/week but **not significant** (r = 0.42, p = 0.196).
- Sales were **bursty**: 17 of 30 pairs (57%) sold in weeks 8-10, possibly from batch listing of new stock.

RESULT 2 | FIGURE 2

Selling prices rose over time

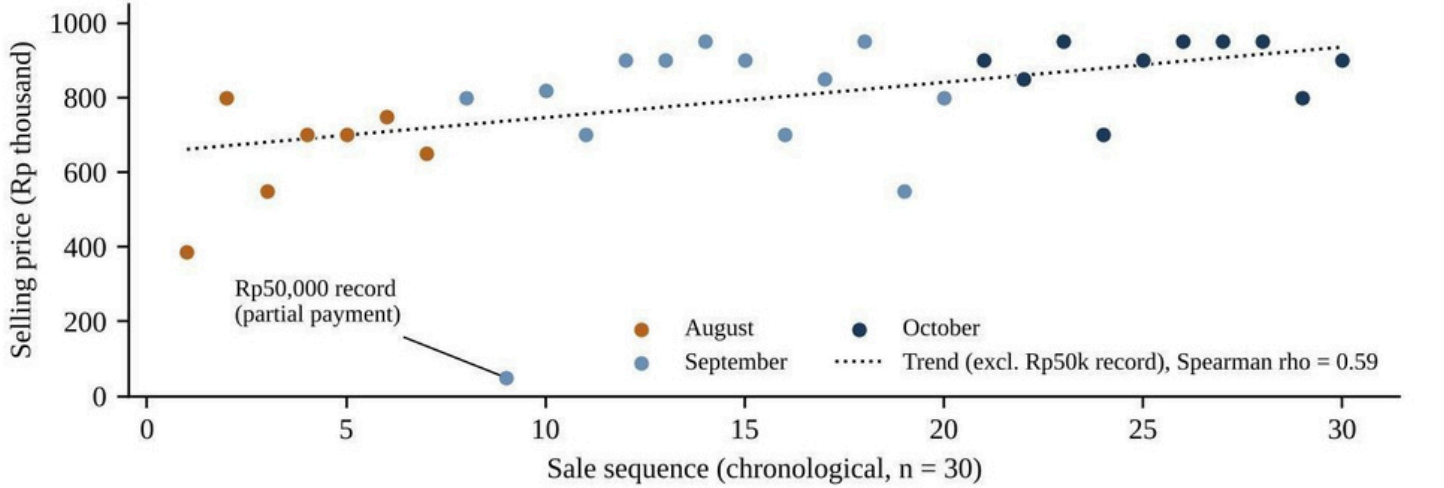


Figure 2. *Selling price by sale sequence and month. The Rp50,000 point is a partial payment, excluded from the trend line.*

Key takeaways

- No August sale reached Rp900,000; **55%** of Sep-Oct sales did.
- Mann-Whitney: August (M = Rp648,000, n = 7) vs later (M = Rp848,636, n = 22), U = 16, **p = 0.002**.
- Price rises with sale sequence: **rho = 0.59** ($p < 0.001$, n = 29).
- Six pairs (20%) sold at exactly **Rp950,000**, so the rise may be nearing a ceiling.
- Possible reasons: growing social proof and condition disclosure, or a shift to higher-grade stock. Condition is not recorded, so this is an **association, not causation**.

Rp648k
mean price, August

Rp759k
mean price, September

Rp885k
mean price, October

Size mix: purchased vs sold

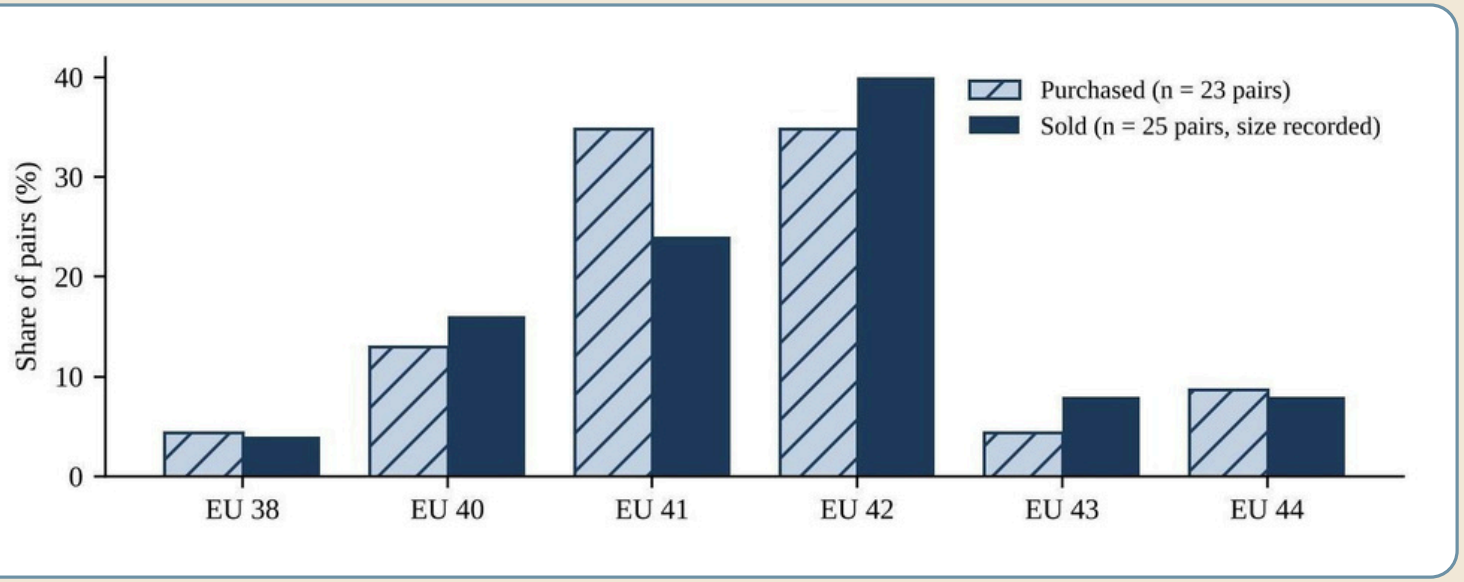


Figure 3. *Size mix of pairs purchased (hatched, n = 23) versus pairs sold (dark, n = 25 with size recorded).*

Key takeaways

- Sizes **40-42** dominate both sales (80%) and purchases (83%).
- Chi-square test: no significant mismatch (chi2 = 1.30, df = 3, **p = 0.73**), so **sourcing broadly follows demand**.
- Largest gap: size **41** (35% of purchases vs 24% of sales) and size **42** (35% vs 40%). If it persists, capital gets tied up in slower-moving pairs.
- *Some expected counts are below 5, so the test is indicative only.*

80%
ofsoldpairs are sizes 40-42

83%
ofpurchased pairs are sizes 40-42

p = 0.73
no significant mismatch

Unit economics, break-even and sensitivity

Table 2. Unit economics per pair: planned vs realised costs

Metric (per pair unless stated)	BMC cost structure	Realised ledger costs
Mean selling price (Rp)	775,200	775,200
Acquisition cost (Rp)	550,000	497,600
Repair, packaging and other costs (Rp)	46,250	5,417
Variable cost (Rp)	596,250	503,017
Contribution margin (Rp; % of price)	**178,950 (23.1%)**	**272,183 (35.1%)**
Break-even for Rp70,000 fixed cost (pairs/month)	0.39	0.26
Pairs needed to recover Rp1,200,000 capital	6.7	4.4

Table 3. Margin per pair (Rp): selling price vs acquisition cost

Price \ acq. cost	Rp450k	Rp500k	Rp550k	Rp600k	Rp650k
Rp600k	103,750	53,750	3,750	**−46,250**	**−96,250**
Rp700k	203,750	153,750	103,750	53,750	3,750
Rp775k	**278,950**	**228,950**	**178,950**	**128,950**	**78,950**
Rp850k	353,750	303,750	253,750	203,750	153,750
Rp950k	453,750	403,750	353,750	303,750	253,750

Other costs fixed at Rp46,250/pair (BMC). Rp775k row = observed mean price (Rp775,200). Sand cells = near-zero or negative margin.

Planned vs realised margin

Planned **Rp178,950 (23.1%)**; realised **Rp272,183 (35.1%)**, because purchases averaged Rp497,600. The realised figure is probably optimistic: repairs, courier subsidies and promotion are recorded only sporadically.

Pairs needed to recover Rp1,200,000 capital

Break-even is near zero

Fixed cost is only Rp70,000/month, so break-even is **0.39 pairs/month** and capital is recovered after **4.4-6.7 pairs**. Risk lies in acquisition and selling prices.

Acquisition ceiling

At Rp600k, margin vanishes once cost reaches Rp550k; 4 sales (13%) were below BMC variable cost. At the mean price, margin stays positive up to Rp728,950. For a 25% margin, pay **at most ~Rp535,000**.

Value comes from acquisition discipline and pricing

53%
ofrevenuereinvested in stock (16% Aug, 63% Sep, 62% Oct)

Rp10.65m
cashsurplus (45.8%of revenue), before adjusting for opening stock

> 0
cumulative cash never negative (minimum Rp1,536,000)

Rp9.45m
adjustedprofit (40.6%) if 5+ older pairs were financed by capital

Conclusion

- Near-zero fixed costs make break-even trivial; **acquisition price and selling price** drive profit.
- Mean price rose **significantly** from August to October toward a Rp950,000 ceiling.
- Sourcing followed demand by size (p = 0.73); sales volume stayed bursty and its upward trend was **not statistically reliable**.
- Pay **no more than ~Rp535,000** per pair to keep a 25% margin.

Recommendations

1. Adopt a **pair-level ledger**: channel, condition grade, acquisition date, sale date.
2. Track **days-to-sell** and margin per pair.
3. Record opening stock and resolve the **41 vs 30 pair** discrepancy.
4. Future research: longer period, buyer trust data, test the **TikTok-to-Instagram funnel**.

Limitations: *single case, 73 days (October incomplete), owner-recorded cash-basis data, small subsamples, no channel, condition or time-to-sell fields.*