

Innovation Diffusion Analysis - ASUS Zenbook Duo (2024)

Step 1 - Chosen Innovation

ASUS Zenbook Duo (2024) - TIME Best Inventions 2024:

Step 2 - Similar Innovation from the Past

Look-alike: Lenovo Yoga Book 9i (2023), a dual-screen OLED laptop.

The ASUS Zenbook Duo (2024) and Lenovo Yoga Book 9i (2023) both represent the evolution of portable dual-display computing. Functionally, each device integrates two full-sized 14-inch OLED touchscreens that can operate as a traditional laptop, a tablet, or an extended multitasking workspace. This flexible design allows users to switch between creative, professional, and entertainment modes, positioning both products at the intersection of productivity and design innovation.

Step 3 - Historical Data (Look-Alike)

Data source: Statista (based on IDC).

Tablet and 2-in-1 tablet unit shipments forecast worldwide from 2013 to 2019 (in millions).

Accessed October 2025.

Stored in `data/2_in_1_tablet_shipments_forecast.xlsx`.

Year	Shipments (M)
2013	220
2014	230
2015	212
2016	245
2017	254
2018	263
2019	239

Step 4 - Bass Model Estimation (Look-Alike)

Using the above time series, the Bass diffusion model was estimated by randomized least squares.

Parameter	Symbol	Value
Coefficient of Innovation	p	0.0541
Coefficient of Imitation	q	0.1184
Market Potential	M	3,971.39 million cumulative units

Goodness-of-fit: **SSE \approx 948.31**

A relatively high **p** indicates strong innovation-driven growth in early years, while moderate **q** suggests steady but not viral imitation.

(See `img/lookalike_fit.png`.)

Step 5 - Predicting Diffusion for ASUS Zenbook Duo (2024)

The parameters **p** and **q** are transferred from the look-alike category.

Market potential ****M**** is estimated using Fermi logic for a premium niche.

Scenario	M (million units)	Interpretation
Low	0.10	~100k cumulative adopters (early enthusiasts, designers)
Base	0.25	~250k units (global realistic demand)
High	0.50	~500k units (broader premium sub-segment)

Forecast range: ****2025-2035****

Results saved to `data/zenbook_duo_forecast.csv`.

Plots saved to `img/zenbook_duo_annual.png` and
`img/zenbook_duo_cumulative.png`.

Step 6 - Scope

****Global scope**** is used because:

- Both the source data (Statista/IDC) and ASUS sales network are global.
- The diffusion pattern depends on global innovation exposure, not one market.

Step 7 - Estimated Adopters by Period (Base Scenario)

Year	New Adopters (M)	Cumulative (M)
2025	0.0135	0.0135
2026	0.0143	0.0278
2027	0.0149	0.0427
2028	0.0153	0.0580
2029	0.0156	0.0736

(Full 2025-2035 table: `data/zenbook_duo_forecast.csv`.)

References

1. TIME. **A Double-Screen Laptop (ASUS Zenbook Duo)**, Best Inventions 2024.
2. Statista . **Tablet and 2-in-1 tablet unit shipments forecast worldwide, 2013-2019 (in millions).** Accessed Oct 2025.