

Lesson 8: Robo-Advisors and Digital Wealth

Module 1: FinTech Fundamentals

Digital Finance

Robo-Advisor Definition

Automated Wealth Management

- Algorithm-driven allocation
- Low minimum investment
- Passive ETF strategies
- Tax optimization

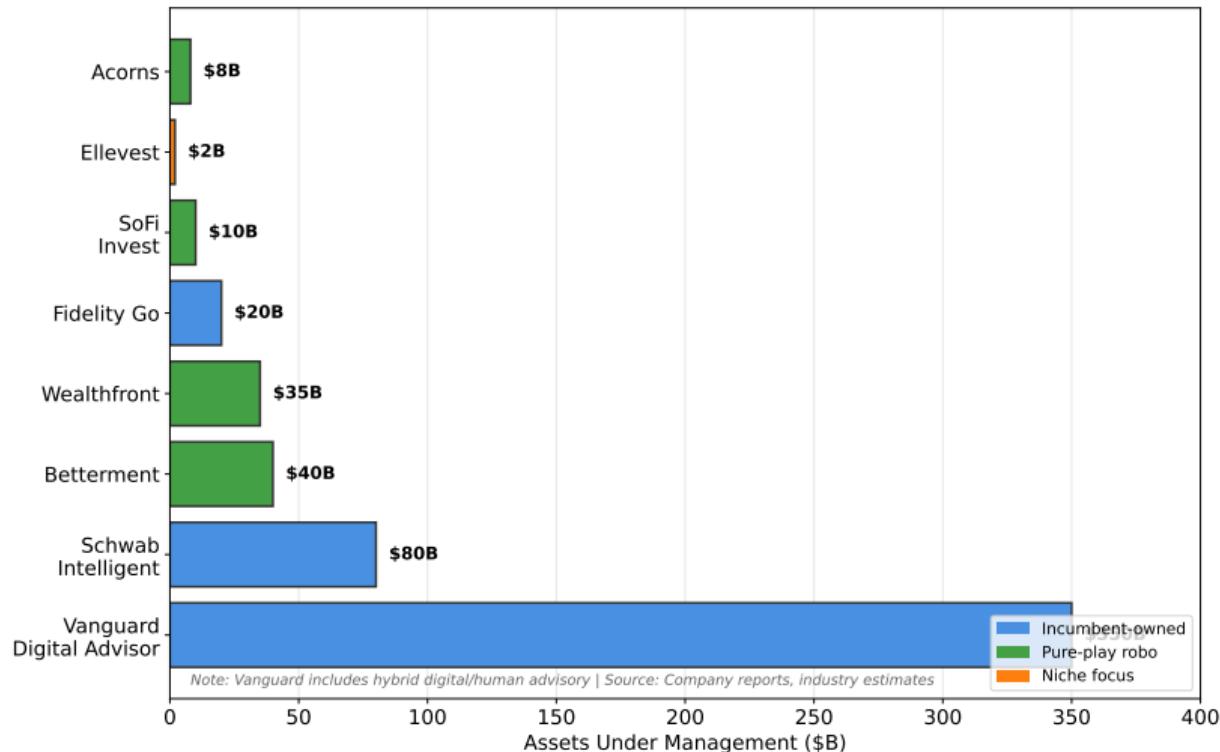
Robo-Advisor vs Traditional Advisor

	Traditional Advisor	Robo-Advisor
Fees:	1-2% AUM + commissions	0.25-0.50% AUM
Minimum:	100K-1M+	0 - 500
Service:	Human relationship	Algorithm-driven
Planning:	Holistic financial plan	Goal-based portfolios
Access:	Office hours, calls	24/7 app/web

Key Insight: Robos democratize investing | Traditional advisors offer personalized guidance

US Robo-Advisory AUM: \$1.4T (2024)
Projected: \$2.5T by 2028
Source: Statista, Deloitte

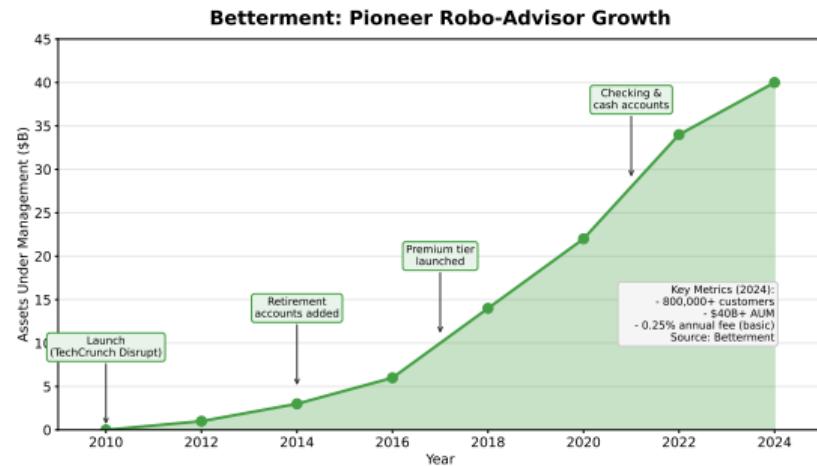
Robo-Advisor Market Leaders (2024)



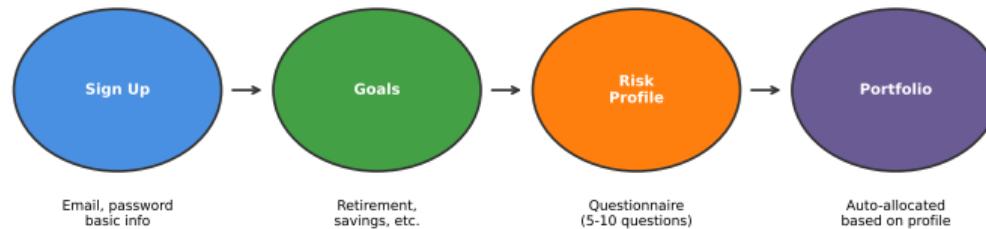
Betterment Case Study

First Robo-Advisor

- Founded: 2008
- \$40B AUM (2023)
- 800,000+ customers
- 0.25% annual fee



Robo-Advisor Onboarding Flow



Typical onboarding: 5-10 minutes | Account funded in 1-3 days

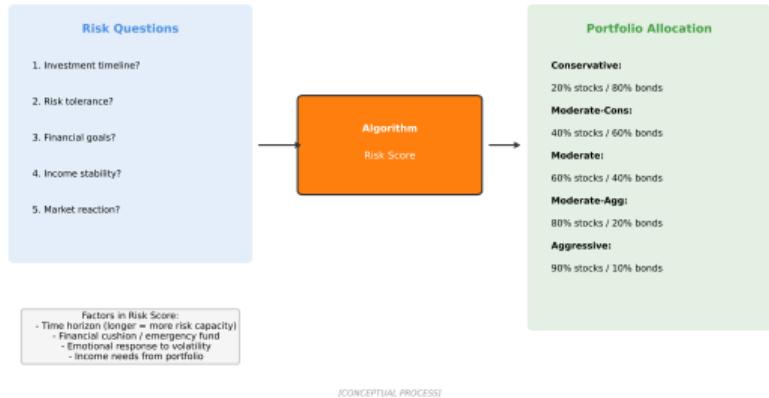
{CONCEPTUAL FLOW}

Risk Profiling

Questionnaire Inputs

- Time horizon
- Risk tolerance
- Financial goals
- Liquidity needs

Risk Profiling: From Questions to Portfolio



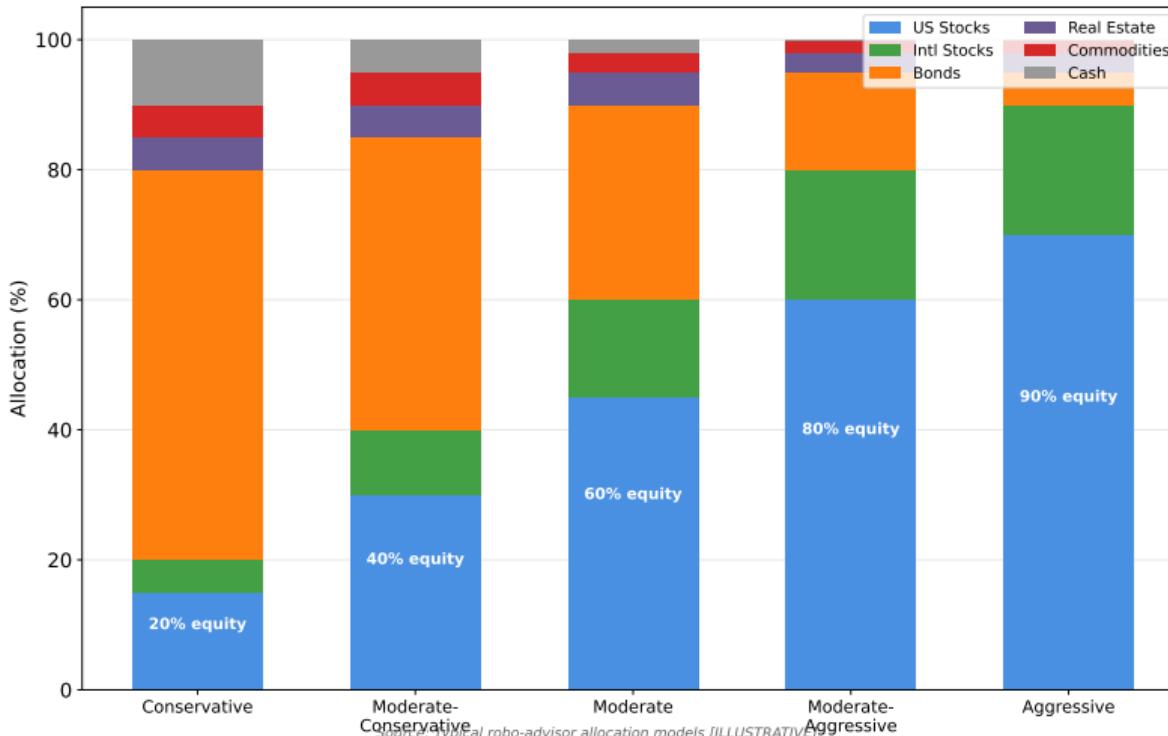
Portfolio Construction

Modern Portfolio Theory

- Mean-variance optimization
- Efficient frontier
- ETF-only implementation
- Global diversification



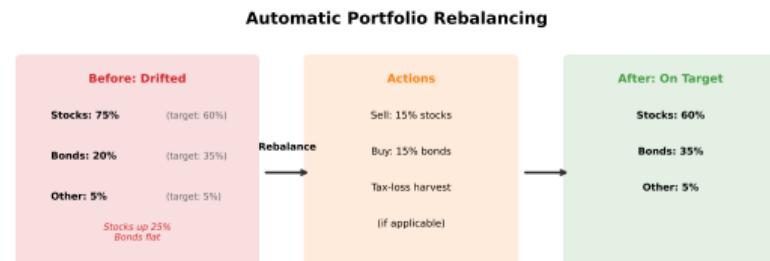
Robo-Advisor Asset Allocation by Risk Profile



Automatic Rebalancing

Drift Management

- Threshold: 5% deviation
- Calendar-based triggers
- Tax-aware trading
- Transaction cost minimization



Rebalancing Triggers:
- Drift threshold (e.g. 5% deviation)
- Calendar-based (quarterly/annual)
- Cash flow events (deposits)
- Tax-loss harvesting opportunities

{CONCEPTUAL EXAMPLE}

Tax-Loss Harvesting

Automated Tax Optimization

- Sell losing positions
- Buy similar ETF (avoid wash sale)
- \$3,000 annual deduction
- 0.77% alpha (Betterment)

Tax-Loss Harvesting

Automated Tax Optimization Strategy

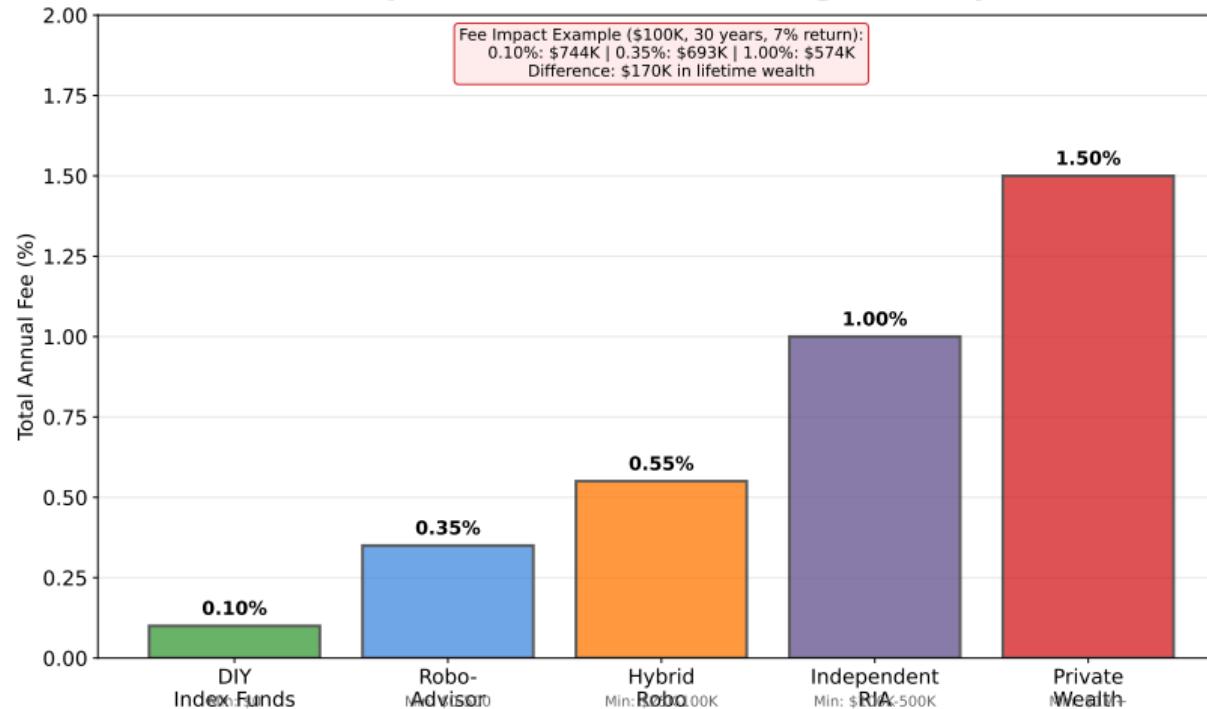


Key Rules:
- Wash Sale Rule: Cannot repurchase same security within 30 days before or after sale
- Works for taxable accounts only
- Losses can offset gains + \$3K income

Robo-Advisor Advantage:
- Daily monitoring for opportunities
- Automatic execution
- Wash sale compliance
- Can add 0.3-1.0% annual return

Source: IRS Publication 550, Industry estimates

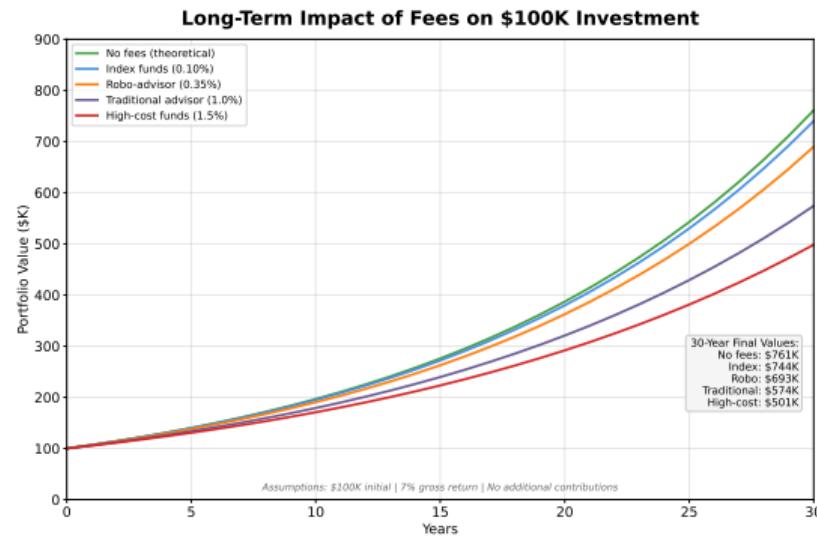
Fee Comparison: Investment Management Options



Fee Impact Over Time

30-Year Projection

- Portfolio: \$100,000 initial
- Return: 7% annually
- Robo (0.25%): \$652,000
- Advisor (1%): \$574,000



Business Model Economics

Unit Economics

- CAC: \$150-300
- AUM per customer: \$50,000
- Revenue: \$125/year (0.25%)
- Breakeven: 2-3 years

Robo-Advisor Unit Economics

(Per \$100K AUM Account)

REVENUE	COSTS	PROFITABILITY
Management fee (0.25%) \$250/year	Customer acquisition \$150-300	Year 1: Break-even to loss
Premium tier (if) +\$100-200	Tech infrastructure \$30-50	Year 2+: Marginally profitable
Cash sweep interest +\$50-100	Compliance/regulatory \$20-30	Year 3+: \$150-250/year profit
Total: \$300-450/year	Customer support Year 1: \$220-420 \$20-40	LTV:CAC: 3-5x (target)

Key Insight: Profitability requires scale (\$50B+ AUM) and customer retention (5+ years)
Average account size matters: \$5/account = unprofitable; \$100K+ = profitable

Source: Industry analysis (ILLUSTRATIVE)

Hybrid Advisory Model

Combining Robo Efficiency with Human Expertise



Typical Hybrid Pricing:
Betterment Premium: 0.40% + CFP access
Vanguard Personal: 0.30% + advisors
Schwab Intelligent: 0% + \$300 planning fee
Personal Capital: 0.89% (full service)

Source: Company pricing pages (2024)

Hybrid Success

- 0.30% fee tier
- Human advisor access
- **\$250B AUM (largest)**
- **\$50,000 minimum**

Vanguard: Largest Hybrid Robo-Advisor



Vanguard Advisory (2024):
- \$350B+ AUM (largest robo-hybrid)
- 2M+ clients
- 89% revenue from advisory fees
- Market leader in low-cost advisory

Source: Vanguard 2024 annual report, company website

Incumbent Response

Traditional Firms Enter

- Schwab Intelligent Portfolios
- Fidelity Go
- Morgan Stanley Access Investing
- Fee pressure on advisors

Traditional Firms: Robo-Advisory Products

Vanguard Digital	Schwab Intelligent	Fidelity Go	Merrill Edge
Fee: 0.20%	Fee: 0%*	Fee: 0%**	Fee: 0.45%
Min: \$3K	Min: \$5K	Min: \$0	Min: \$1K
AUM: \$350B+	AUM: \$80B+	AUM: \$20B+	AUM: \$10B+

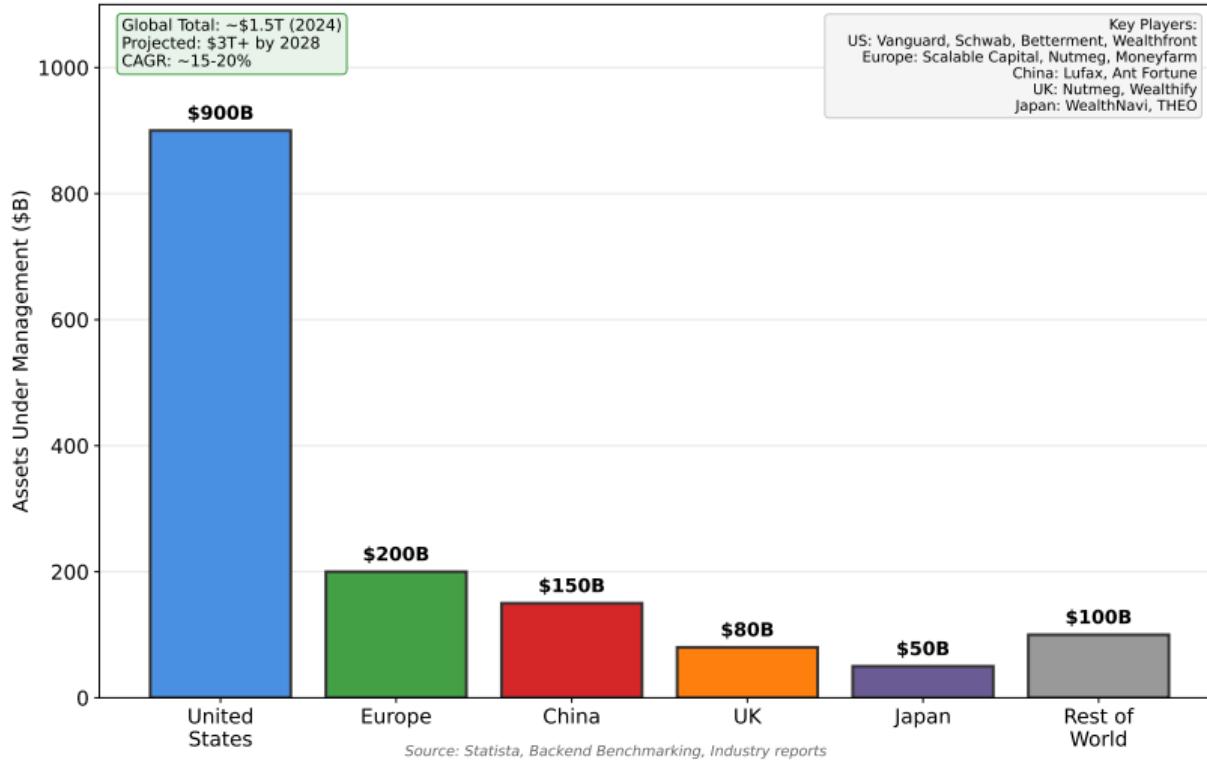
* Schwab: No advisory fee, but holds cash allocation (earns interest spread)

** Fidelity: free under \$25K, then 0.35%

Incumbent Advantage: Existing customer base, brand trust, cross-sell opportunities
Challenge: Legacy systems, advisor channel conflict, lower margins

Source: Company websites, SEC filings (2024)

Global Robo-Advisory Market by Region (2024)



Challenges and Limitations

Current Issues

- Behavioral coaching gap
- Complex planning needs
- Low profitability margins
- Commoditization pressure

Robo-Advisor Industry Challenges

Unit Economics

- * Low fees = thin margins
- * High CAC (\$150-300)
- * Small accounts unprofitable

Market Volatility

- * Client panic in downturns
- * Algorithm trust tested
- * Behavioral coaching gap

Competition

- * Incumbents copying
- * Race to zero fees
- * Feature commoditization

Differentiation

- * Similar portfolios
- * Limited personalization
- * Generic experience

Regulation

- * Fiduciary requirements
- * Algorithm audits
- * Cross-border complexity

Customer Retention

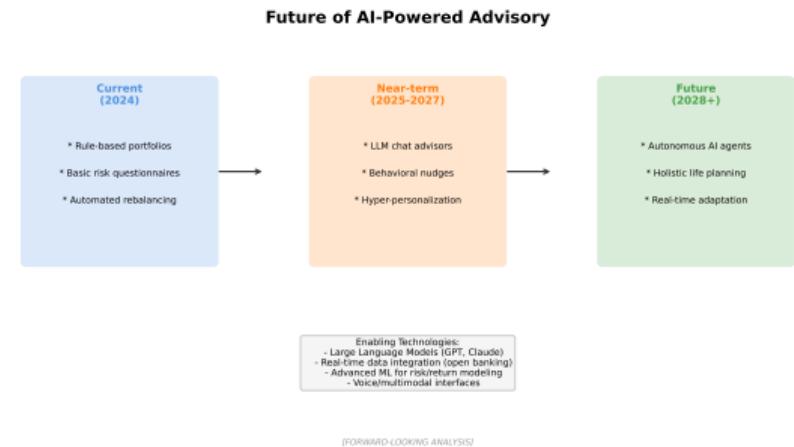
- * Easy to switch
- * Low engagement
- * Churn in bull markets

[INDUSTRY ANALYSIS]

Future: AI-Powered Advisors

Next Generation

- ChatGPT financial planning
- Real-time sentiment analysis
- Behavioral nudges
- Holistic financial wellness



Key Takeaways

- **Fees:** 0.25% vs 1% saves \$78K over 30 years
- **Strategy:** Passive ETF allocation + rebalancing + tax optimization
- **Market:** \$2.5T AUM globally, dominated by incumbents
- **Evolution:** Pure robo → hybrid models winning
- **Future:** AI personalization and behavioral coaching