

## 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

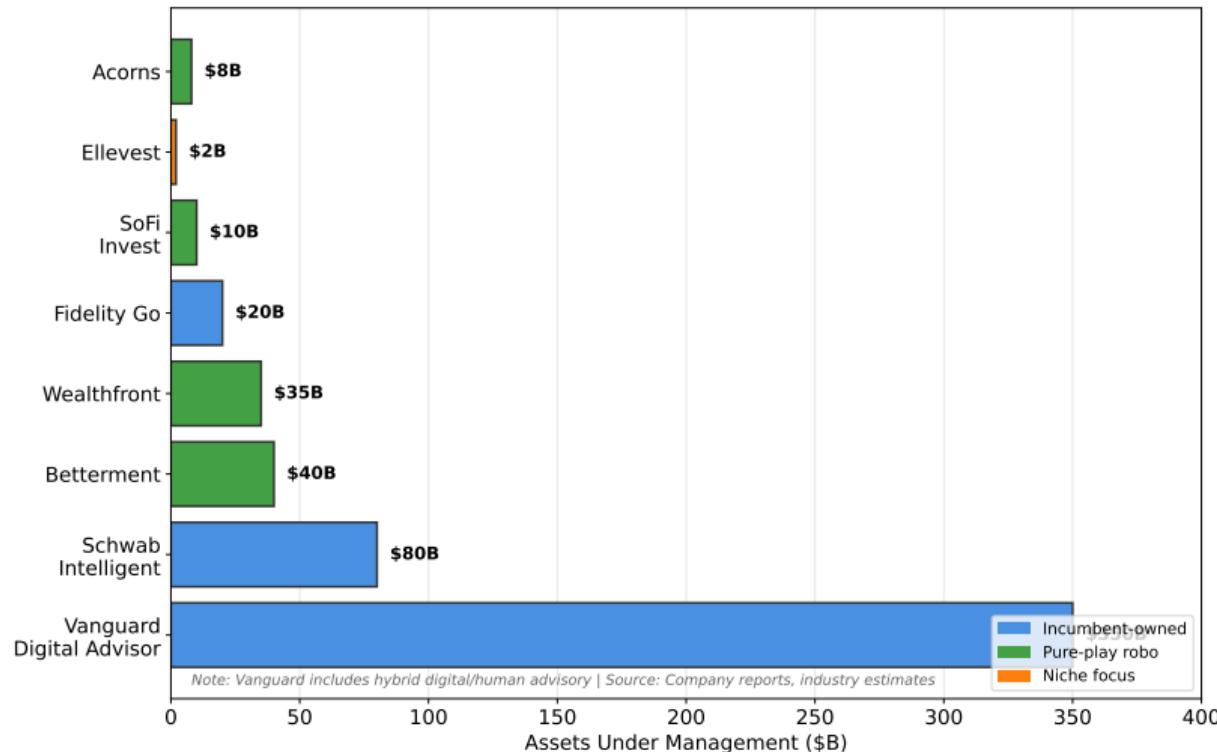
## Robo-Advisor vs Traditional Advisor

	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

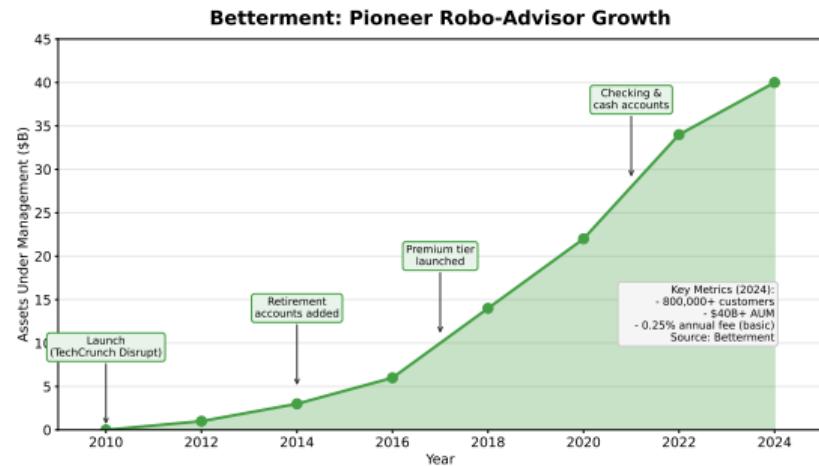
## Robo-Advisor Market Leaders (2024)



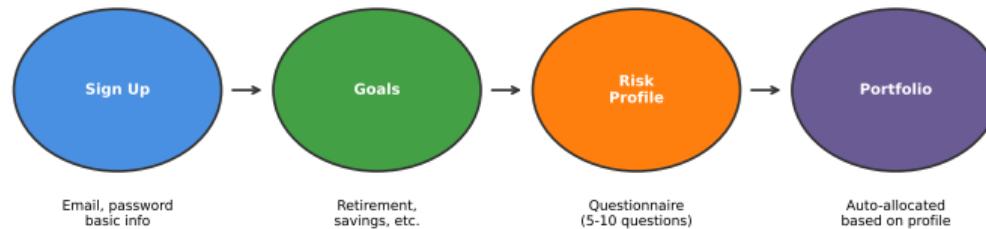
# Betterment Case Study

## 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**

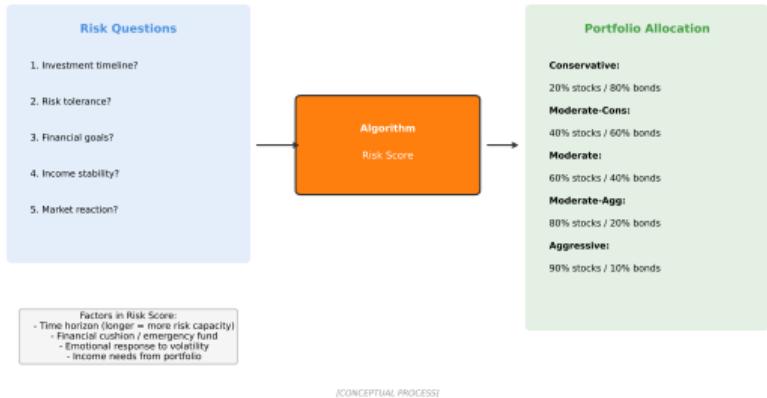
{CONCEPTUAL FLOW}

# Risk Profiling

## Questionnaire Inputs

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

## Risk Profiling: From Questions to Portfolio



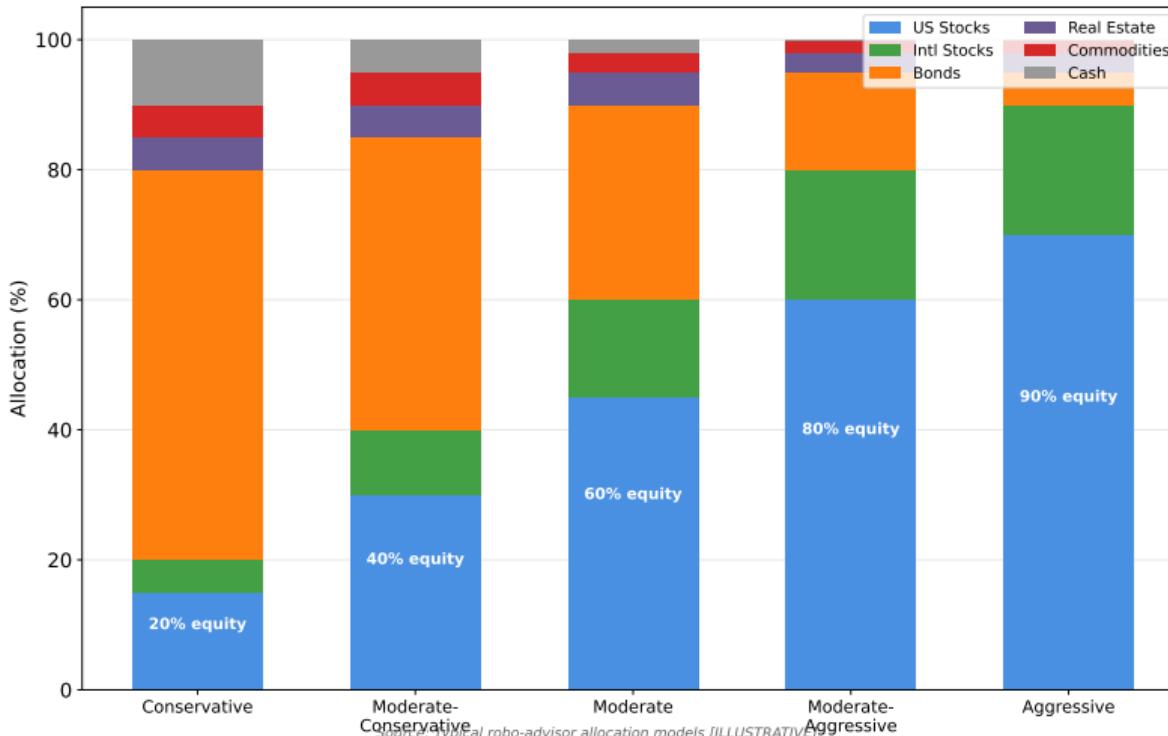
# Portfolio Construction

## Modern Portfolio Theory

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



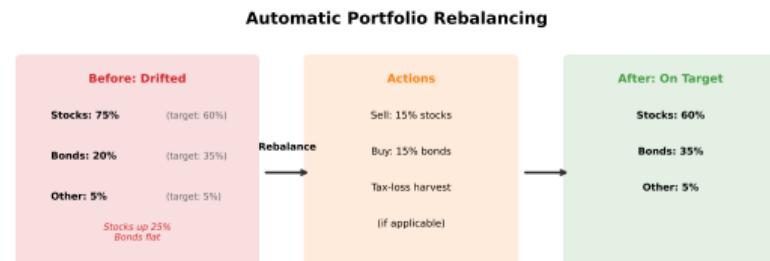
## Robo-Advisor Asset Allocation by Risk Profile



# 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

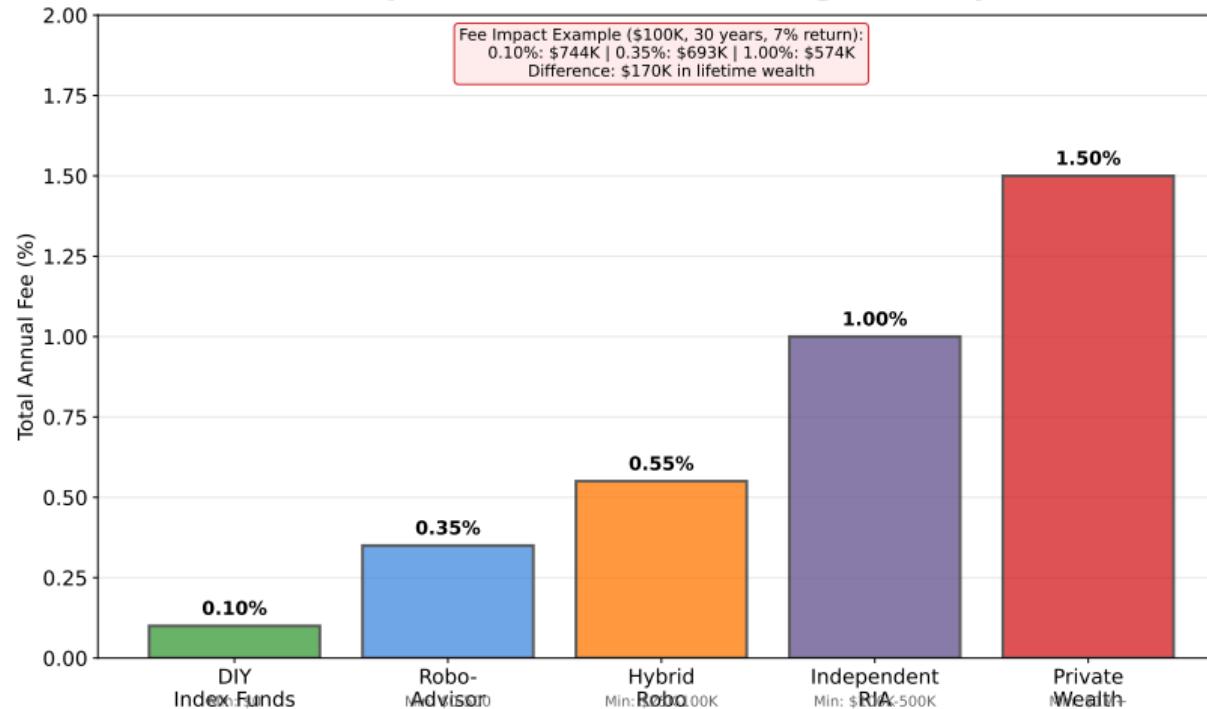


Key Rules:  
- Wash Sale Rule: Cannot repurchase same security within 30 days before or after sale  
- Works for taxable accounts only  
- Losses can offset gains + \$3K income

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

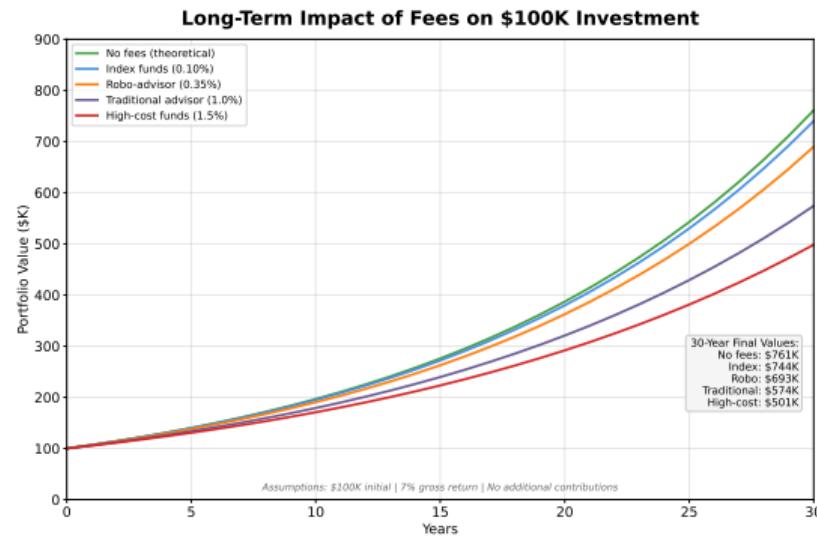
## Fee Comparison: Investment Management Options



# 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+

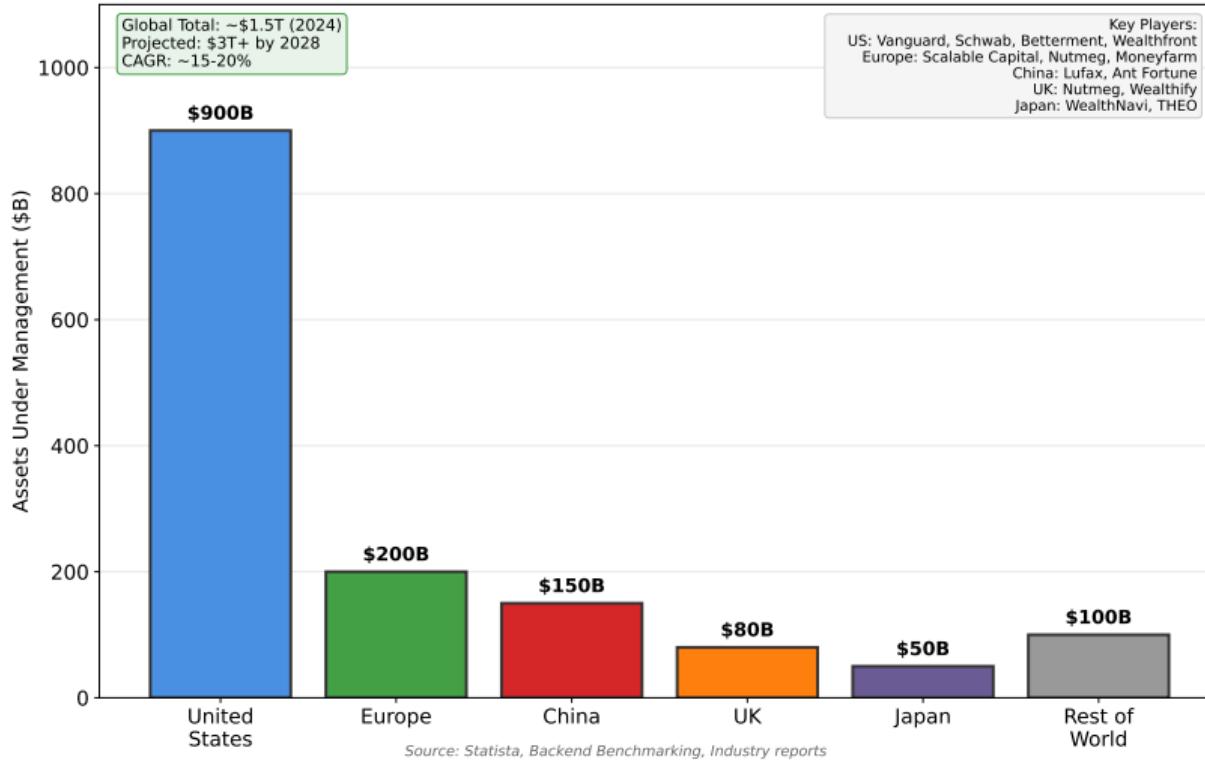
\* Schwab: No advisory fee, but holds cash allocation (earns interest spread)

\*\* 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**

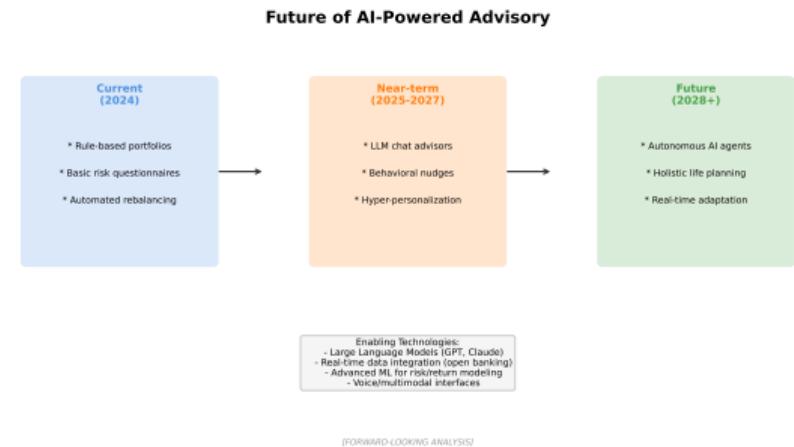
- \* Easy to switch
- \* Low engagement
- \* Churn in bull markets

[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