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Antti Paatela PhD Thesis
Quick-reading instructions & selected figures, tables and diagrams

ABOUT THE THESIS

The PhD thesis is an academic read, responding to research tradition of linking findings to existing theories and to multiple personal intrigues of the doctoral committee.

GENERAL FINDINGS ON INDIVIDUAL INVESTORS AS USERS OF DECISION-SUPPORT FUNCTIONALITY FOR INVESTING:

- Self-directed investors are an underserved or ignored market segment by multiple financial service providers.
- Universal banks don't realize the potential of this segment, as part of investors systematically avoid their services.
- Online investors are not as irrational than empirical research claims (empirists study samples where 70-90% of participants are investor wannabes, who fail in a couple of years).
- Investors suffer from information overflow; more data is not the solution. They need interpretation - whether the information is numbers or text.
- Financial utility is just one of the investor motivations. They want *control*. They want to understand.
- Most investors don't know their performance accurately or do not trust the data provided. Learning-by-investing should be speeded up by better feedback.
- Because of the need to get involved, push-button optimisation (like Robo-advisor) is not a solution. Instead, what-if type portfolio planning would be adopted by many
- The power of strong UX has not been understood by platform providers. Except for Robin Hood, who systematically used it for customers' demise.
- Investor expectations for decision support is low. They haven't seen a killer application yet. This is an opportunity.
- Decision support in the form of automated monitoring has been implemented in a way considered more distracting than supporting. Surprisingly, portfolio level monitoring is ignored on most platforms; they focus on positions.
- Investors are ready to adopt AI based interpretation of data, portfolio analysis and advice. Advice needs to be interactive suggestions, not black-box optimisations.
- Modularisation of self-directed investing solutions would produce better decision support in long-term. But there should be standards and directives to enable that
- There is no known profit model (yet) to serve this investor segment. Let's find out?

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In the following, suggestions for quick reading:

TO KEEP IN MIND: FOCUS OF THE THESIS AND INTERVIEWED INVESTORS

The criteria for investors to participate this qualitative investor decision-making study were minimum of 50 k€ portfolio and minimum of 5 years of investing experience. A typical investor had 15+ years of experience and a 200-500 k€ portfolio. The largest investor portfolios were worth dozens of millions of assets.

Although a sample of live and funded online platforms were studied as well, the self-directed individual investor is the centre of focus in all the thesis.

SECTION 2: INTRODUCTION

In academic publications, an "introduction" is often a summary of the thesis from research questions through methodology, data, analysis to findings.
This 20 pages section may take 30 minutes to read.

Another approach to study the document is to jump through the below list:

REVIEW OF ALREADY EXISTING LITERATURE

Section 4.5.1: As a group, online investors underperform 2-8% yearly, depending on the empirical study in question

Exhibit 4-1: Empirical studies on performance of active management are not compatible with each other. Neither are their cost considerations coherent with individual investors.

Section 4.5: Existing empirical research on individual investor behavior

Table 4-1 : Profiles of outperforming investors found in empirical studies. Even universal banks providing wealth management admit that some of their execution-only customers perform better than their managed (discretionary) accounts.

Figure 4-12 and Appendix 32.1 (detailed): Template for an investing process. Used for investors' investing pattern analyses.

METHODOLOGY

Section 5.3: Criteria for investor selection in the study (39 investors from CH, USA, FIN)
See also Appendix 33: Investor sampling (multiple interviews per investor)

PART 1 – INVESTOR DECISION-MAKING

Figure 6-1: Investor learning cycle. 70-90% of beginning online investors drop out.

Figure 6-3: Unlike claimed in empirical research, surviving investors incubate their decisions for a longer time instead of making impulsive trading.

Table 6-1: Investor-stated explanations for performance inattention.

Table 6-2: Investors distrust for lack of trust for financial services.

Tables 7-2, 7-3: Contextual rationality found instead of common claim for investors behaving in an irrational manner.

Table 7-4: Antagonism between professional and individuals' investing approaches.

Figure 7-4: *Financial-mental hierarchy* of needs. Need for control was the strongest mental motivation for self-directed investing. The most common financial goals were related to enhancing the life style in the future.

PART 2 – ONLINE INVESTING PLATFORMS

Table 15-1: Online platform functionality footprint.
Changing the platform in use does not solve the investing problem. No integrated platform has everything for everybody. Planning functions were considered not satisfactory or not usable by most investors.

Figure 16-1: Broker mode comparison model
Explains why investors performance decreases after switching from classic broker model to online broker model.

Section 17.4 - 17.6: Descriptive feedback on platforms by investors.

Table 19-1: Perceived online investing platform shortcomings.

PART 3 – INVESTOR MOTIVATION FOR IMPROVEMENT

Table 21-1. Improvement initiatives evaluated by investors.

Section 24. Problem definitions and their relevance
Read selectively the titles, exhibits and investor quotes.

Section 25. Investor evaluation of new decision support constructs.

Figure 25-1: Investors are ready to adopt investor profiling if implemented in a convenient way.

Exhibit 25-1: All international investors want a consolidated (global) portfolio performance view. However, sub-portfolios (like dividing the portfolio to 2-3 different strategies) interested only few. Still, investors often have a concurrent conservative portfolio and an opportunistic portfolio and trust their brains to understand the performance of these different strategies.

Figure 25-2: All investors want more intelligence (plus filtering and interpretation) in what is presented to them as market events, fundamentals or investing ideas.

Figure 25-3: Investors are ready to adopt portfolio planning support, if given in an intuitive interactive manner; possibly including simulations.

Figure 25-5: Portfolio monitoring "v 2.0"
Current monitoring and alert are found distracting. Investors don't believe that monitoring functions can be improved (they are wrong).

Figure 25-6. Investing process support

Investors reacted in a bipolar manner. 10% of investors found process support essential - creating their own Excel sheets for this purpose. The rest didn't understand the need, trusting their faultless and indefinite memory, linking multiyear plans and alerts to investing decisions.

Table 26-1: First round investor evaluation of improvement initiatives.

Table 26-6: Overview of investor evaluation results.

Table 26-7: Attempt to glue thesis contributions to one overview.

Figure 28-1: As above.

Section 29: Summative conclusions

FOR AN ACADEMIC RESEARCHER

Figure 7-9: Research domains linked to investor decision-making. Sticking only to one discipline leads to a tunnel view.

Mathematical portfolio theory and behavioral finance are just a start. Already the start – investing goals – are partially different from portfolio theory. Investors learn along the investor experience cycle, also about themselves and start mitigating their decision-making biases.

Reviewed existing research on investors repeat certain systemic flaws: using trading platform transaction data as the only source for conclusions for an investor decision-making study. Decision-making experiments are mostly done with students and virtual money, instead of real investors investing their hard-earned own money. All deviations from portfolio theory are considered as "irrational". Investors are blamed for overconfidence bias, although real investors are often confused and underconfident.

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