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FinTech innovation

IBM Institute for Business Value

Financial investing gets personal in the digital age

Who doesn't enjoy a good game? But when it comes to money – investments and retirement savings – games are no laughing matter; in fact, they're serious business. While Monopoly money is great for games, the financial risks of investing can last long after the board has been put away. Investors and regulators desire full transparency regarding the rules of the game (including costs and conflicts of interest), as well as potential outcomes of each move and future action. They seek clear guidance about when and why to save, invest or sell.

Welcome to goal-based investing gamification

What if cognitive technologies, such as artificial intelligence and machine learning could design a personalized investing experience? If propensity-to-invest scenarios offered a graphical representation on how to reduce risk while achieving higher returns? Or could games, or more precisely, “gamification,” (that is, “the use of engaging gaming mechanisms to modify the behavior of individuals”) help investors achieve critical insights that offer the promise of long-lasting value?¹

Disruptive technologies are foundationally altering the financial services industry. They are reducing the complexity of investment decision-making by making offers and products more intuitive and, in some cases, even fun. The financial services industry is undergoing a transformation – from a distributor of financial products to a digital packager of financial advice. And because of this

reverse engineering of the investor experience (that is, starting with client insights first), financial services firms require a deeper, more intuitive understanding of each customer – whether institutional or individual (see sidebar, “In search of a better experience”).

Financial services businesses can use technology to help generate greater value and profitability for investors, as well as product manufacturers and distributors. How? By delivering personalized advice and content that leverage behavioral analytics and compel action (such as informational requests, stock trades, portfolio rebalancing and performance measurement) at the point of digital interaction.

Let’s further examine how goal-based investing, robo-advising and gamification are interacting to transform the experience of investing in the cognitive era.

In search of a better experience

Consumers – from high net worth to mass affluent groups, Baby Boomers to Generation X – increasingly desire better customer experiences from their financial institutions. According to an October 2016 IBM Institute of Business Value executive report, “Banking Redefined,” only 16 percent of global banking customers say that wealth managers provide an excellent customer experience, and just 30 percent said their financial institution provides personalization.²

Goal-based investing principles revolutionize the investment landscape

New philosophies about client interaction and portfolio management are a result of recent technologies impacting the financial services industries. For much of the latter half of the twentieth century, asset allocation techniques have been based on Harry Markowitz's Modern Portfolio Theory (MPT).³ MPT assumes that financial markets are efficient, focusing on simplified risk and return statistics, instead of considering the diversity of clients' profiles.

But since market participants are not necessarily rational, all aspects of behavioral finance need to be factored into the investment equation. Today, goal-based investing (GBI) makes investors active participants in investment decision-making, using technologies such as scenario analysis, financial visualizations and risk-factor simulations.

Whether the advisor is digital or human, consideration of a client's risk tolerance, personal preferences and goals expands the scope of the business: that is, from purely financial product-driven distribution to portfolio-driven and client-centric advising. GBI better allows clients

to address the surrounding emotions that often accompany investment decisions by testing investment opportunities against the singularity of their ambitions and financial balance sheet.

Digital transformation is driving GBI across the financial services industry through data insights, cognitive computing and social media analysis:

- Digital tools shift information gathering from standardized "clickable" questionnaires to real-time dialogues based on an individual investor's preferences and priorities.
- Social media and sentiment analytics create a contextual blueprint of each investor, constructing contextualized questions specific to an individual (for example, profession, family situation or location).
- Cognitive computing detects patterns of correlations among pieces of information from large datasets (for example, demographics, peer groups and news feeds), helping to enhance portfolio management, and enabling higher investor satisfaction and greater returns.

“Robo-advising”: Sustainable innovation of financial advice

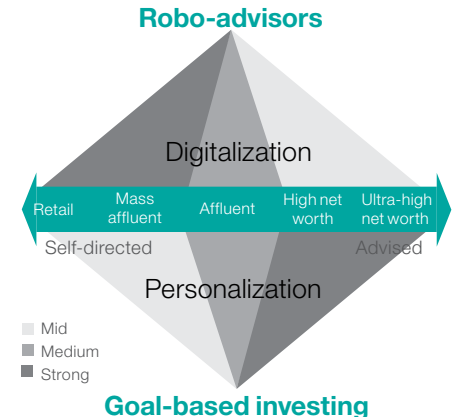
In our mobile and digital world, life-changing information and decisions are only a fingertip away. It seems only natural that the advent of digital wealth management would emerge as a game-changer, disrupting the way financial advice is offered and accessed.

Robo-advising leverages digital, personalized customer experiences and cognitive tools to create automated investment solutions (see Figure 1). Investors are guided through a self-assessment process, which helps shape investment behavior and decision making. For example, automated portfolio rebalancing can reduce investment anxiety that often triggers overreactions during periods of market stress.

As investors become increasingly tech-savvy, portfolio modeling based on trading algorithms, virtualization and cognitive insights empower these investors, impacting wealth management relationships:

- For financial services institutions offering personal financial and retirement advice, Robo-advising (both business-to-consumer or institutional offers) augments workflow by automating on-boarding, account aggregation, reporting, rebalancing and tax loss harvesting. Accordingly, early engagement leads to more efficient workflows.
- For those businesses seeking to reach underserved markets, Robo-advising provides entry points to emerging investors (such as Millennials and those who invest smaller amounts of money) who may possess negative sentiment about traditional institutional cost structures and relationships.
- For those start-ups offering fully digital advisory and portfolio management services, Robo-advising alters the profit-making model from product-driven (that is, affected by progressive squeeze of intermediation margins) toward advice-driven value. The result? An enhanced, more sustainable competitive advantage centered on the customer experience.

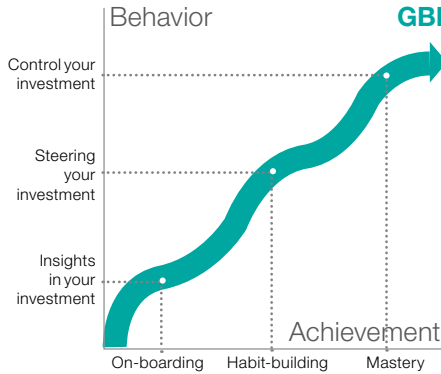
Figure 1
Digitization and goal-based investing



Source: Sironi, Paolo. *FinTech Innovation: From Robo-Advisors to Goal Based Investing and Gamification*. 2016.

Figure 2

Gamification: The player journey toward GBI



Source: Sironi, Paolo. *FinTech Innovation: From Robo-Advisors to Goal Based Investing and Gamification*. 2016.

The serious business of gamification

With greater emphasis on personalizing the investor experience, keeping customers engaged becomes paramount. Gamification of investment activities can include adding elements of game-playing, like competition or scoring points. It offers a holistic representation of a client's financials (one balance sheet) to help determine how that individual will react in different, real-world investing situations (see Figure 2). These scenarios depict an investor's risk tolerance or aversion limits.

Gamification enables investors to learn by experience using digital gaming mechanisms. Through gamification, an investor can:

- Anticipate and act upon the consequences of market fluctuations in alignment with one's retirement plans
- Test various investment strategies against risk tolerance levels and address different taxable situations
- Create probabilistic scenarios to drive wealth allocation, considering essential goals, as well as philanthropic causes

- Define more realistic and less exuberant return ambitions when confronting a spectrum of hypothetical market conditions.

For wealth-management advisors and firms, gamification produces a fuller representation about the propensity for an investor to act (such as invest or purchase new products). It can highlight the interdependencies among investing and insurance, borrowing, saving and real-estate planning. By developing more holistic models on a broad range of investor behaviors and sentiments, firms can develop digital products and advisory services. Such innovations can drive greater loyalty, increase marketing and cross-selling opportunities, and deliver personalized news specific to evolving market conditions.

But more importantly, gamification can establish or rebuild trust within the investor/advisor relationship by increasing transparency, sharing investment decisions and reducing the asymmetry of information specific to the functioning of financial markets.

Three ways to change wealth management behavior

Digitalization is clearly opening new innovative pathways to deeper investor engagement. Both traditional financial services firms and “FinTechs” (that is, businesses providing financial services utilizing software and technology) focused on wealth management must aggressively apply cognitive insights for twenty-first century market-place relevancy.

These recommendations can increase profitability and performance while simplifying product portfolios. They also can help increase trust between investment services providers and customers:

- Personalize the investment experience by institutionalizing digital tools and goal-based investing as cornerstones of the overall wealth management strategy.
- Take a behavioral approach, using cognitive insights and social media analytics to fully understand individual investor goals, motivations and financial priorities.
- Use gamification principles to construct a single diagnostic view of each wealth management investor: from initial onboarding to seasoned and loyal clients.

As IBM CEO Ginni Rometty stated at Sibos 2016, “Uncovering the deep value in your data will be the only way to differentiate – to be the disruptor, not disrupted.”⁴

Experts on this topic

Paolo Sironi

Thought Leader, Wealth Management
Investment Analytics, IBM

<https://de.linkedin.com/in/thepsironi>
paolo.sironi@de.ibm.com

Jan-Enno Einfeld

Head of Investing
comdirect bank AG

www.linkedin.com/in/jeeinfeld/
jan-enno.einfeld@comdirect.de

Gregg Schoenberg

Partner

Wescott Capital/The Financial Revolutionist

www.linkedin.com/in/greggschoenberg/
gregg@wescottcapital.com

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Notes and sources

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