Modernizing Money Management

How Technology is Transforming Asset and Wealth Management

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HIGHLIGHTS

- Technologies, including smartphones, mobile broadband, data analytics, advanced computer algorithms, and social media and crowdfunding platforms, are set to spur a transformation of the asset and wealth management industry.
- Going forward, traditional firms in the asset and wealth management industry will need to strategically respond to new sources of competition from well-funded software-driven companies that are currently making significant inroads in the market by focusing on unmet client demands, bringing down costs, and providing innovative new services.
- Disruptors in the industry range from algorithmic portfolio creators to stock trading services to budgeting applications. All have some combination of automated investment features, low prices, and innovative platforms that are user-friendly, efficient, flexible, and rapidly scalable.
- Technological advances are enabling retail investors to emulate professional and institutional investment strategies, and explore non-traditional financial products that have historically only been available to high-net-worth or commercial investors.
- Incumbent firms unwilling or unable to adapt to new technologies, learn from new market entrants, and adjust business models will likely face persistent low growth and declining profits resulting from the inability to compete at a high level with tech-savvy incumbents and digital startups.

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Technologies, including smartphones, mobile broadband, data analytics, advanced computer algorithms, and social media and crowdfunding platforms, are set to spur a transformation of the asset and wealth management (AWM) industry. While new technology provides opportunities for traditional AWM firms, it also challenges them to re-invent their business models. Going forward, traditional firms in the asset and wealth management industry will need to strategically respond to new sources of competition from well-funded software-driven companies that are currently making significant inroads in the market by focusing on unmet client demands, bringing down costs, and providing innovative new services. This paper will examine how new technologies and software-based companies are transforming the industry.

DIGITAL DISRUPTORS

According to Silicon Valley Bank and CB Insights, global investment in financial technology ventures continues to surge, tripling from $4 billion in 2013 to over $12 billion in 2014, demonstrating that the digital revolution is well underway in the financial sector (Chart 1, next page). Many of the new entrants to the AWM market are benefitting from this trend and are disrupting the traditional business model of the industry. The new players range from algorithmic portfolio creators to stock trading services to budgeting applications. All have some combination of automated investment features, low prices, and innovative platforms that are unique, customer-focused, user-friendly,

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efficient, flexible, and rapidly scalable. By addressing the growing demand for simplicity, transparency, immediacy and a more integrated and customized service across multiple channels, new entrants have had considerable success.

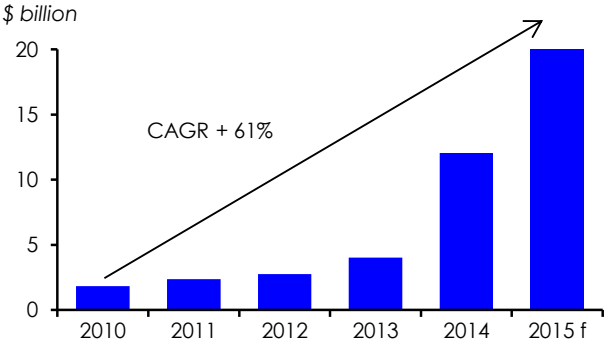
A MOBILE FUTURE

A key area of change for the AWM industry has been the spread of—and advances in—mobile technology. Smartphones—the fastest selling devices in history—are carried by approximately four in every ten people across the world. Global penetration per capita is forecasted to reach 50% next year and three-quarters of the world's population by 2020 (Chart 2). The growing prevalence of mobile technology provides new methods for AWM firms to communicate with customers and provide recommendations seamlessly at all hours, encouraging greater client engagement and brand allegiance. Individuals, especially tech-savvy millennials, are increasingly comfortable communicating through SMS or video calls rather than face-to-face. Mobile is quickly becoming the preferred channel for individuals to perform day-to-day financial tasks due to the growing power, speed, security and convenience of smartphones. Numerous AWM startups have been able to capitalize on this trend by offering new services on mobile platforms that fill their clients' unmet needs. Digital startups have enjoyed an advantage over traditional firms in the mobile arena, thanks to greater organizational flexibility, specialization, and risk tolerance. Moreover, many of the established financial services companies were—and remain—slow to adapt to the new technology as they have been preoccupied with the financial crisis and its aftermath.

SOCIAL MEDIA AND SOCIAL TRADING PLATFORMS

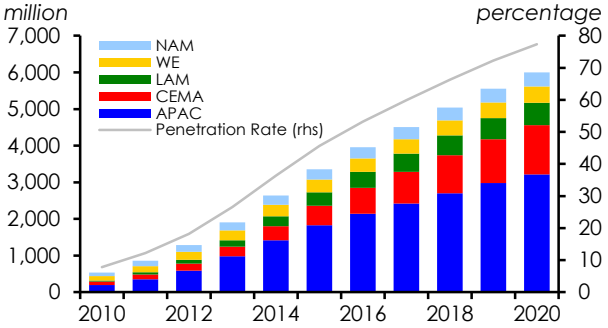
Social media is another channel changing the way individuals communicate and acquire information, and the implications for the AWM industry are substantial. Through social media platforms, individuals are able to obtain detailed and varied reviews and information from other clients ("people like me") to help them make the best decision regarding the suitability of a particular investment product, service, and/or company. This transparency has become increasingly important to clients in the aftermath of the financial crisis as many of the traditional financial firms' reputations were severely tarnished resulting in widespread distrust that exists to this day.

Chart 1
Global FinTech Financing Activity



f = forecast.
Source: Silicon Valley Bank, CB Insights, KPMG, H2 Ventures, IIF.

Chart 2
Global Smartphone Subscriptions and Penetration Rate



NAM=North America; WE=Western Europe; LAM=Latin America; CEMA=Central Europe, Middle East, and Africa; APAC=Asia Pacific.
Source: United Nations, Ericsson, GSMA Intelligence, IIF.

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Social media platforms also offer users the ability to exchange trading strategies with peers. For example, Openfolio, an application that runs on top of numerous brokerages, connects with LinkedIn and Facebook, allowing users to share information and compare portfolios with "friends" and "connections" using various filters such as location, age, or occupation. Cyprus-based eToro, which claims to be the world's largest social investment network with 4.5 million registered users in more than 170 countries, enables members to learn from, communicate with, and automatically duplicate the trades of other network users in real-time all on its own platform. Traders that are "copied" receive financial compensation based on the number of copiers they rack up. Citing a 2012 MIT study that found "social trading provides much better opportunities for profiting compared with individual trading," the company emphasizes that its platform provides members with a competitive advantage as it allows them to channel the "wisdom of the crowds." While still evolving, social trading platforms like eToro have significant potential to become a disruptive force for the industry.

"Social trading provides much better opportunities for profiting compared with individual trading."

— MIT Media Lab

Lastly, social media platforms are becoming increasingly valuable as sources of data for AWM firms. According to a PwC report, by 2020, AWM companies will be capable of detecting an emerging consumer need through social media and subsequently quickly produce and market customized services and products to fill that need. The report suggests that this can be accomplished through the "creation of a digital intelligence infrastructure, which includes monitoring, dashboards, process flows and integration into client relationship management software….with the desired result of more leads, more qualified leads and deeper engagement with existing leads, resulting in a tailored product for the end-client."

eToro and other social investment platforms allow members to channel the "wisdom of the crowds."

BIG DATA ANALYTICS

International Data Corporation, a technology market-intelligence firm, reports that the digital universe is doubling in size every two years. Over the past decade, the explosion of data (Table 1) has coincided with a decline in the cost to process and store digital information. This in turn has helped data mining become more affordable and accessible to a broader audience, resulting in the fast expansion of the big data industry which is expected to grow to $84.69 billion by 2026 up from $7.6 billion in 2011 (Chart 3, next page).

Table 1

The World of Data	
Emails sent every second	2.9 million
Video uploaded to Youtube every minute	100 hours
Tweets per day	500 million
Total minutes spent on Facebook each month	700 billion
Data sent and received by mobile internet users	1.3 exabytes
Number of new websites created every minute	570
Google search queries per second, per year	40,000, 1.2 trillion
Products ordered on Amazon per second	72.9 items

Source: KPMG, Forbes, *Big Data* .

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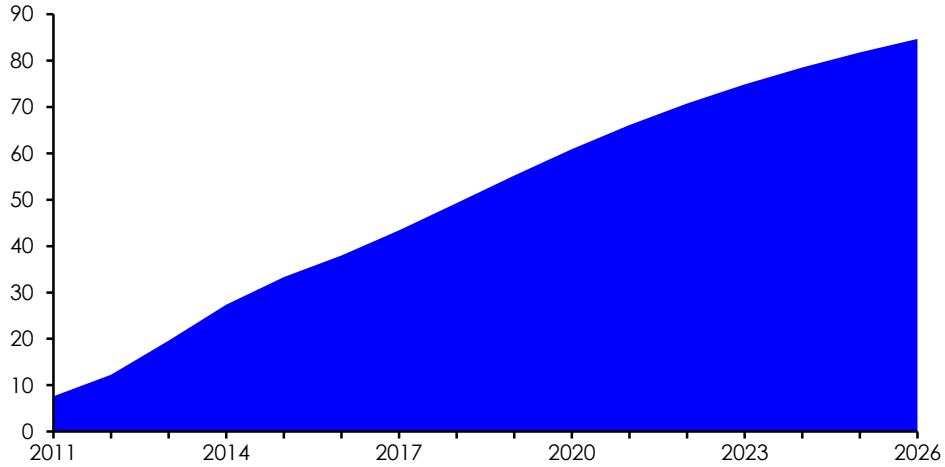
Going forward, big data will provide a competitive advantage to firms utilizing the analytical technology. In addition to accurately detecting emerging consumer needs, big data—according to a report by Ernst & Young—will likely allow companies to produce holistic client profiles in real-time and help accelerate and deepen the automation of the AWM industry. For example, an investor's medical history could be used to calculate an actuarial table and help manage finances automatically based on life expectancy and health requirements. One particular analytics company that has begun making waves in the AWM industry is Silicon Valley-based Addepar, whose clients represent over $300 billion collectively. The industry, according to the firm's CEO, Eric Poirier, "is still powered primarily by people with spreadsheets and other decades-old tools, making it impossible to keep current in this increasingly complex and rapidly evolving world." The company has responded by building technology that provides "comprehensive data aggregation, powerful analytics, and customizable communication tools" to wealth managers, giving them real-time insights into investments and financial markets. Addepar's integrated platform, which uses machine learning and predictive techniques, allows wealth managers to replace the suite of software tools many of them currently use and become more productive and better advisors to their clients. There is speculation that the company will eventually use its platform to sell actual investment products.

As mentioned earlier, social media platforms have become a particularly valuable source of big data for the AWM industry and several new entrants are looking to capitalize on this, including Dataminr and SNTMNT. Dataminr uses proprietary algorithms to instantly analyze publicly available data, including the 500 million tweets posted each day, and alert clients of emerging trends in real-time. Similarly, SNTMNT, a Dutch startup providing social sentiment analysis for financial markets, claims to have the world's first Application Program Interface (API) that gives predictions based on social media and news site financial sentiment for all S&P 500 stocks. The company reveals that its machine learning algorithms provide an additional indicator on top of technical and fundamental analyses, and that its stock price predictions have an accuracy rate as high as 60%, with an average of 54%. As data analytics technology advances, it is likely that companies such as these will be able to provide even faster and more valuable information.

ALTERNATIVE INVESTMENT STRATEGIES AND INVESTMENTS

Technological advances are enabling retail investors to emulate professional and institutional investment strategies, and explore non-traditional financial products that have historically only been available to high-net-worth or commercial investors.

Chart 3
Big Data Market Forecast
$ billion



Source: Wikibon 2015.

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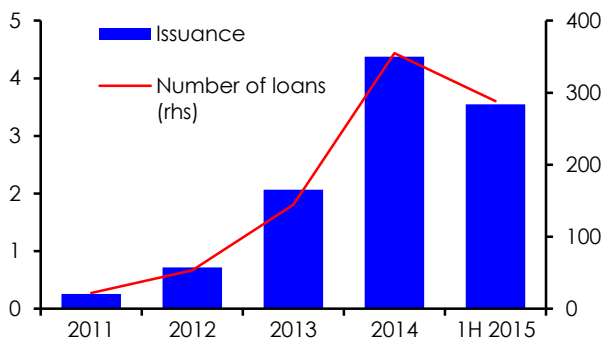
Several new market entrants are leading the way in providing these unique investment options to the average investor. One such company, Covestor, connects its more than 80,000 subscribers to professional portfolio managers (PMs) that match their risk tolerance. Once a user selects one of the PMs after viewing and studying their accounts, the firm will automatically replicate the PM's portfolio with the client's assets and then seamlessly copy all subsequent trades. Another example, Collective2 employs trading algorithms originally designed by hedge funds for very high-net-worth investors on its leader-follower automated trading platform, which features 18,000 traders and 55,000 strategies.

In addition to facilitating mass market access to complex, advanced and varied investment strategies, many software-based firms offer access to alternative investments, including debt and equity crowdfunding—together referred to as crowdfund investing (CFI). For example, Lending Club, the world's largest online peer-to-peer (P2P) lending marketplace, enables investors to become creditors and provide direct loans to borrowers in exchange for debt instruments with fixed rates of return. The now publicly-traded company saw loan issuance expand at a compound annual growth rate of 157% between 2011 and 2014, and as of the end of June issued a total of $11.2 billion in loans since its founding (Chart 4). This strong growth at Lending Club is a reflection of the development of the overall peer-to-peer lending industry, which per Goldman Sachs has the potential to reduce annual profits at America's banks by around $11 billion, or 7%, within five to ten years. Equity crowdfunding is another area where new players are providing alternative investment opportunities for the average investor. For example, Crowdfunder, a leading funding platform, allows investors to fund early-stage companies in exchange for equity. According to the company's website, approximately 122,000 crowdfunders and 32,000 companies have used the platform, with $336 million worth of deals reached.

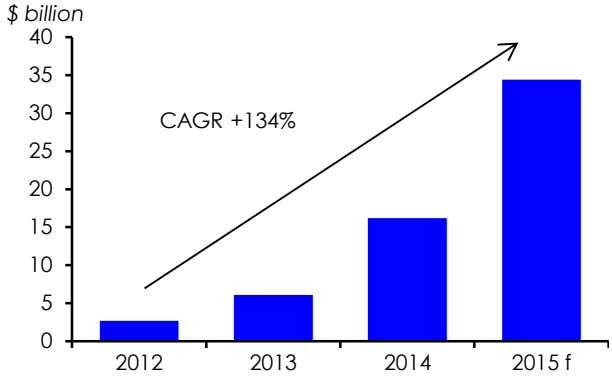
The crowdfunding industry as a whole (equity, debt, reward, and donation-based) has been growing quickly (Chart 5) and it is expected to continue, particularly the area of CFI, as regulators across the world have begun taking measures to open up this new area of finance (Chart 6). A notable step was recently taken in the U.S., when new rules mandated by Title IV of the Jumpstart Our Business Startups (JOBS) Act were adopted by the U.S. Securities and Exchange Commission, facilitating smaller companies' ability to raise capital and permitting—with

Chart 4
Lending Club Issuance and Number of Loans



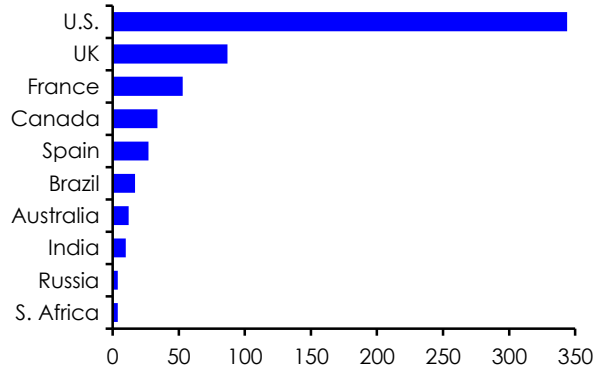
Source: Lending Club.

Chart 5
Global Crowdfunding Volume



f = forecast. Source: Massolution.

Chart 6
Number of CFI Platforms in Select Countries



Source: World Bank 2013.

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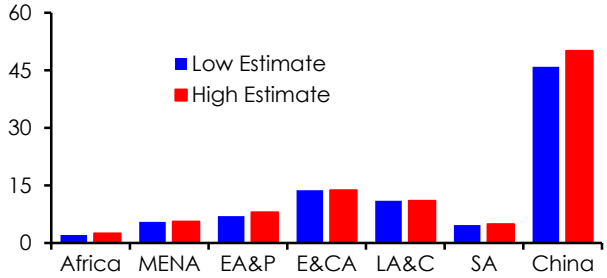
limitations—unaccredited investors to participate in equity crowdfunding. The likely continued growth of CFI globally could play a vital role in facilitating "the Rise of the Rest" by generating innovation, jobs and economic expansion. According to a 2013 study commissioned by the World Bank, CFI could reach between $90-96 billion in emerging markets alone by 2025 (Chart 7). This would equal 1.8 times the total global venture capital investments in 2012. These figures illustrate the tremendous potential new market players could have in disrupting the global AWM industry as technologies provide additional avenues for investors to obtain returns on their money.

Chart 7
Crowdfund Investing Potential in EMs by 2025
$ billion



EA&P=East Asia and Pacific; E&CA=Europe and Central Asia; LA&C=Latin America and Caribbean; SA=South Asia.
Source: World Bank.

ACCOUNT AGGREGATION AND FINANCIAL PLANNING

Technology is also making it easier for people to manage their finances and receive advisory services at affordable rates. Several software-driven companies provide account aggregation services that allow users to link their financial accounts in order to produce a comprehensive picture of their wealth and manage all their funds across various firms and asset classes more efficiently.

One of the first movers in this area is Intuit's free online personal finance service, MINT, which helps individuals effectively manage their cash flow, budgets and bills all from one place. With over 10 million users, it is one of the largest and fastest growing account aggregation services in the world. To maintain regular engagement, MINT sends SMS and email alerts to clients notifying them of unusual spending, low balances, and upcoming bills—which they can pay directly on the platform. In addition, MINT provides tailored suggestions on alternative products a user may be interested in, providing Intuit with a source of revenue as affiliates pay to have their products proffered on the platform. Similarly, LearnVest, an online financial advisor that combines financial planners with technology, aims to supply the middle class with impartial and wide-ranging advice. The company charges a one-time setup fee of $299 plus $19 per month for on-going support. In exchange, clients are able to connect all their accounts, including checking, savings, credit cards, and investments to the platform and monitor everything on a dashboard. The client's financial planner uses this data, in combination with information collected through a call and survey, to tailor a plan covering all areas of one's finances, including tuition, mortgages, life insurance, and retirement.

Crowdfund investing could reach between $90-96 billion in emerging markets alone by 2025. This would equal 1.8 times the total global venture capital investments in 2012.

— World Bank

ROBO-ADVISORS AND THE RISE OF THE MACHINES

Historically, access to personalized investment solutions was generally restricted to affluent individuals due to the

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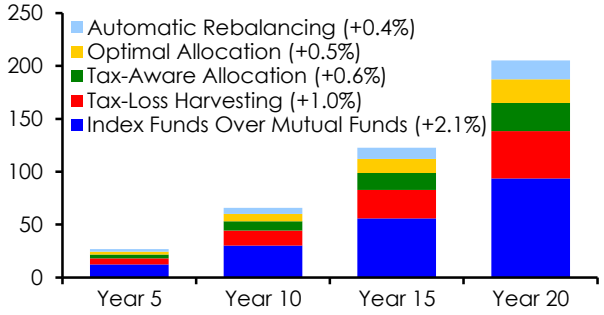
prohibitive cost of customization. This has slowly started to change. Today, digital companies utilizing new technology, including advanced algorithms and online platforms, are facilitating mass market access to tailored investment accounts.

Several new players have begun disrupting the industry with automated portfolio management abilities, providing inexpensive solutions to portfolio allocation, diversification, rebalancing, tax-loss harvesting, and the elimination of traditional commission and account fees. These firms, often referred to as "robo-advisors," use sophisticated algorithms that select investments based on a client's age, risk profile and other related factors. Two of the world's most prominent robo-advisors are U.S.-based Wealthfront and Betterment. Wealthfront, which manages over $2 billion in client assets, requires a minimum investment of $500 to open an account. No advisory fee is charged on the first $10,000 of assets under management (AUM) and individuals with accounts over $10,000 pay an advisory fee of 0.25% per year. Composed of Silicon Valley talent and a team of world-class financial experts, Wealthfront has raised over $129 million in financing, and reached its first $1 billion in AUM in 2.5 years and its second billion in less than nine months. In comparison it took Charles Schwab six years to reach its first $1 billion. Betterment, with over 120,000 users and more than $3 billion in AUM, offers similar online services. The company's annual fees range from 0.35% for balances less than $10,000 to 0.15% for balances above $100,000, with no additional trade, transaction or rebalancing charges.

Both robo-advisory firms claim to substantially increase returns for the average do-it-yourself investor thanks to various strategies employed by the two platforms, including passive investing, automated rebalancing, and tax-loss harvesting. Estimated additional returns for Wealthfront and Betterment investors are 4.6% and 4.3%, respectively, and calculations by both firms suggest that due to compounding this could equal more than $200,000 in additional returns over a 20-year period based on an initial $100,000 portfolio (Chart 8).

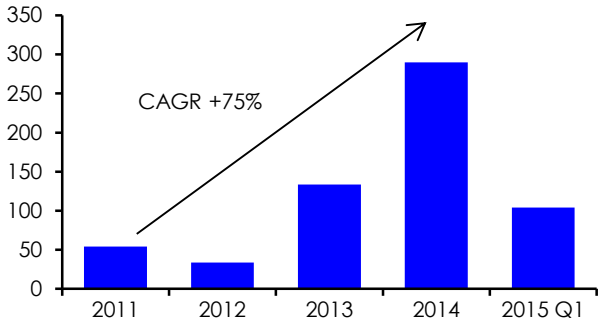
While robo-advisory services remain a tiny segment of the industry, they are expanding at a rapid pace that is likely to continue—a view supported by the substantial amount of venture capital financing flowing into the niche area of the industry (Chart 9). Furthermore, while robo-advisors are most common in the U.S., they are also popping up in other markets such as Germany (Vaamo), Hong Kong (8Now!), Italy (MoneyFarm) and the UK (Nutmeg). Key drivers for robo expansion include automation; cheaper

Chart 8
Additional Estimated Returns Over 20-Year Period Using Wealthfront*
$ thousand



*Based on an initial $100,000 portfolio. Source: Wealthfront.

Chart 9
Robo-Advisor Funding Trend
$ million



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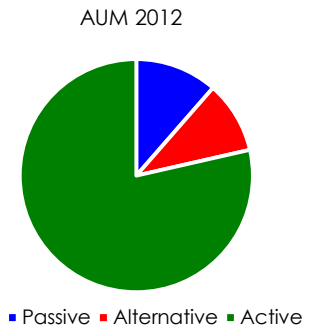
diversification through ETFs; growing demand for more simplified, accessible, and transparent investment management options; the decline of state benefits for seniors in many countries and the continued shift away from conventional pension models; and the increasing number of people that believe that algorithms can offer logical, objective and unemotional guidance at a cost well below that of traditional firms, which may charge one percent or more for managing a customer's assets. As Betterment CEO, Jon Stein, points out, "Humans suffer from changing behavioral biases…an advisor might give one answer in the morning and another one in the afternoon." Additionally, people are increasingly embracing passive investing over actively managed assets as they often offer better returns with lower fees. Many traditional asset managers charging high fees for actively managed accounts fail to produce long-term alpha. According to the 2013 Standard & Poor's report, "S&P Indices Versus Active Funds (SPIVA) Scorecard," over the five-year period from 2008-2013, a majority of U.S. equity funds underperformed their S&P benchmark indices: 78% for mid-cap funds, 73% for large-cap funds, and 67% for small-cap funds. Overall, nearly two out of three actively managed U.S. equity funds underperformed the S&P 1500 composite stock market index during the period, compared to 52% for the period 2000-2009. This has contributed to the growing trend towards passive investing. PwC estimates that passive investments will represent 22% of total global assets managed by the industry by 2020, doubling from 11% in 2012, while actively managed assets will shrink from 79% to 65% over the same period (Chart 10).

Chart 10
Investments within Global AUM



Source: PwC.

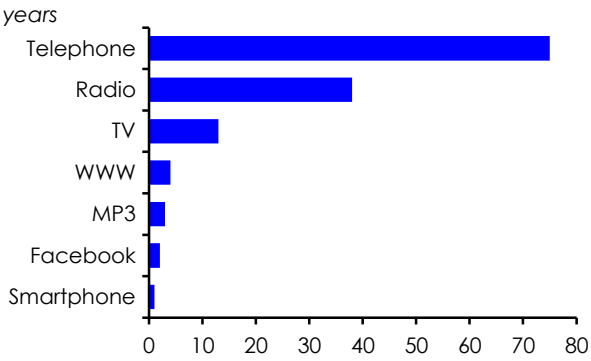
"Humans suffer from changing behavioral biases…an advisor might give one answer in the morning and another one in the afternoon.

— Jon Stein, CEO, Betterment

IMPACT ON INCUMBENT FIRMS: RISKS AND OPPORTUNITIES

AWM executives are well aware that the technology revolution currently underway is a threat as well as an opportunity for the traditional industry. With the pace of technology adoption accelerating (Chart 11), innovation cycles contracting, and distribution rates rising across the world, AWM firms will need to quickly adapt to the changing landscape. Incumbent firms unwilling or unable to adapt to new technologies, learn from new market entrants, and adjust business models will likely face persistent low growth and declining profits resulting from the inability to compete at a high level with tech-savvy incumbents and digital startups. However, firms that embrace technology and proactively build innovative, integrated and robust tools across multiple channels in order to provide customized products and services to their increasingly informed and price-sensitive clients will be in a much better position to overtake the competition, capitalize on emerging market

Chart 11
Time Taken to Reach 50 Million Users



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opportunities and increase market share while simultaneously cutting operational costs.

The rapid growth of industry disruptors has already placed considerable pressure on incumbents to enhance their services and offer more competitive prices. For example, Charles Schwab, recognizing the potential of automated investment management, became the first major company to enter the robo-advisor market when it launched "Schwab Intelligent Portfolios" in March. Vanguard's "Personal Advisor Services"—a combination of conventional financial advisors and software technology—is also infiltrating the robo space. Schwab's new platform drew in more than a half billion dollars in assets in less than a month and Vanguard's new service, which was officially rolled out in May after a successful pilot phase, is already overseeing more than $17 billion, illustrating both the growing demand for the new service and rising competition in the nascent market. Other incumbents have enhanced their services by acquiring new market entrants. For example, the $4.5 trillion wealth management titan BlackRock acquired FutureAdvisor, a robo-advisory firm, in August, Northwestern Mutual purchased LearnVest in March, and Capital One acquired money management app Level Money in January. This trend looks set to continue.

Firms that embrace technology will be in a much better position to overtake the competition, capitalize on emerging market opportunities and increase market share while simultaneously cutting operational costs.

CONCLUSION

New technologies—including smartphones, data analytics, advanced computer algorithms, and social media and crowdfunding platforms—and software-based companies are beginning to have a transformative influence on the AWM industry. By quickly leveraging emerging technologies and democratizing access to alternative investment options and tailored advice, new tech-savvy firms have been able to make considerable strides in the industry and are challenging incumbents to shake up their traditional business models and modernize. Increasingly, incumbents are compelled to strategize about ways to routinely innovate and establish superior digital experiences at lower costs in response to disruptors. Going forward, technology-induced competition in the industry will force further innovation and benefit clients in the form of lower fees, greater value, more convenience, and healthier expected rates of return.

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