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TECHNOLOGICAL INTERFACE IN FINANCIAL SERVICES INDUSTRY

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Abstract
In the later years of 2000, most American companies made their filings in an electronic format on the Commission's EDGAR (Electronic Data Gathering, Analysis, and Retrieval) system. India too adopted a similar kind of system in later years. The ready access to this database made possible by the Internet, both through regulator's own web site and others, forms the core of a new body of corporate information now available on-line. Investors now have improved access to information about mutual funds and securities, partly through use of the Internet. This paper examines the role of technology in financial services industry, with special reference to shaping the mutual funds industry. The mutual funds industry is making extensive use of assimilating technological advances that can increase efficiency, reduce cost and enhance information flow. The pace of development has shown remarkable acceleration in the past few years. New tools such as notebooks, tablets, social network, smart phones, personal computers, desktop workstations, applications, networking capabilities, satellite communications, internet, more powerful computer processing and increasingly sophisticated hardware and software have been developed and made commercially viable. These recent advances in information and communications technology are rendering the entire financial services industry, including mutual funds, more efficient, cost effective and transparent. Moreover, the benefits of recent technological developments have not been limited to just one or two players, but extend to the entire industry. The future impact of continuing technological advance is therefore far-reaching. The paper is a continuation of an earlier published report by the author and provides a snapshot of the technological advances that have taken place in the current decade for the mutual fund industry and the challenges that lies ahead.

Introduction

Technology has seen a phenomenal growth in financial services industry from the year 2005 onwards. A number of financial institutions and intermediaries have started taking concrete initiatives towards offering comprehensive online services even before the legal framework for online business transaction is in place. Technological breakthrough has enabled huge sums of money to flow through the world's financial markets every day, at a very low cost. These cost savings and efficiencies are, in turn, filtering down and benefiting both consumers and businesses around the world.

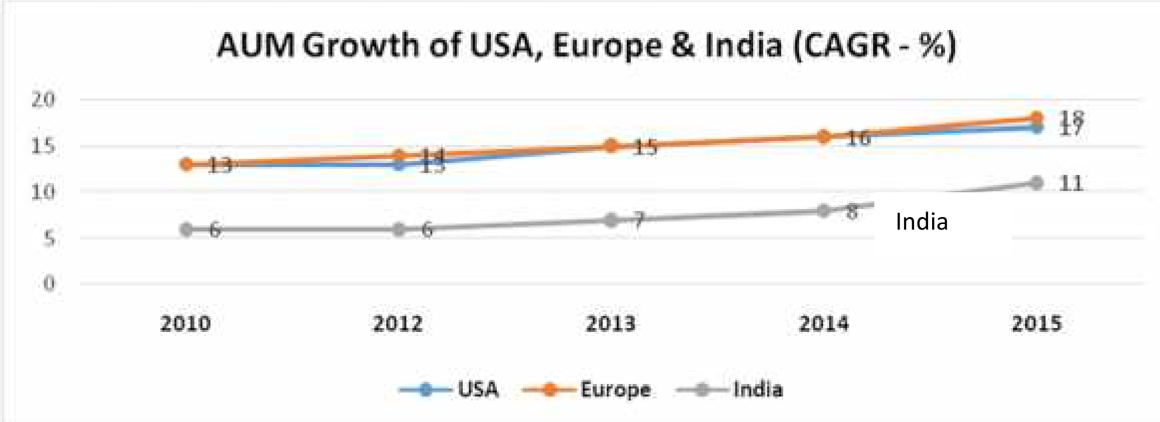
Movement of money, as a result of technological development, has started affecting overall volume of transactions that take place in the financial and capital markets. Indeed, innovations in technology are unleashing the full potential of e-finance, Internet, as an offshoot of spectacular growth in technology has already become an ubiquitous medium for transacting business, sharing information, and communicating with people all over the world. It has provided consumers and investors more power and more choices at a lower cost. Big data analytics now play a vital role in the Mutual Funds industry.

Mutual fund industry, like several other industries, is a beneficiary of growth in technology in the last few years, particularly in India. The writing on the wall is quite clear as the traditional style of distributing and servicing mutual fund unit holders is being revisited by many players in the industry.

Trends in the Global Mutual Funds Industry

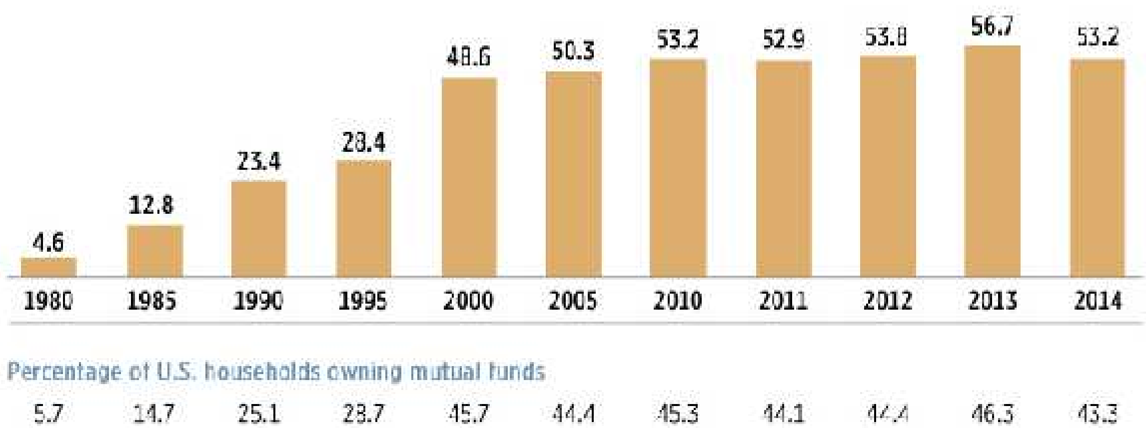
The assets under exchange traded Mutual Funds stood at $ 36.4 trillion world-wide by the end of May 2015. More than 80% of the AUM was held across USA and Europe. However these markets have witnessed lower CAGR for the 5-year period starting from the beginning of this decade. On the other hand, higher growth in India represents the latent potential of the Indian market which can be tapped to improve the penetration of the mutual fund industry.

AUM Growth (CAGR in %)			
	USA	**Europe**	**India**
2010	13	13	6
2012	13	14	6
2013	15	15	7
2014	16	16	8
2015	17	18	11



More than 50% of US mutual fund assets are in equity funds and this is congruent with the long-term investment perspective for the retail investors. The picture is different in the European market where bond assets comprise the single largest holding at 43% of AUM. The average AUM to GDP ratio stands at 7% for India and is considerably lower than the global figure.

Altogether, 43 percent of U.S. households—or about 53.2 million—owned mutual funds in mid-2014, slightly below the 2000–2014 average of about 45 percent (Figure 6.1). Mutual funds were a major component of many U.S. households' financial holdings in mid-2014.



Mutual Funds Industry in India: A Profile

Aa on November 2015, more than 40 Asset Management Companies (AMCs) have set up their operations since the liberalization of the Indian economy in 1991. Currently, 44 AMCs are operating in India and these comprise private sector companies, joint ventures (including those with foreign entities), bank-sponsored, etc. The industry has a tiered structure with the top seven AMCs having 70% of the industry Asset under Management.

AUM Analysis across AMC's (March 2015)

	AMC AUM as % of industry AUM	Nos of AMCs	AMC AUM Range (Rs. Crs)	Group AUM as % of industry AUM
Group I	10% - 14%	4	110,000 – 150,000	49%
Group II	5% - 10%	3	60,000-80,000	20%
Group III	2% - 5%	6	20,000-50,000	18%
Group IV	1% - 2%	6	10,000-20,000	6%
Group V	<1%	25	3,000 – 8,000	7%

Source: AMFI, ICRON Analysis

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Customer segments in India

In India, Institutional investors in the Mutual Funds currently hold 55% of AUMand share of individual investors increased their share from 45% to 46% in the last one year, as reported by AMFI. The institutional investor group comprises corporate (85%) as well as Indian and foreign institutions and banks. The number of investor accounts had hit a low of 39.5 mn in March 2014 compared to levels of 48 mn witnessed in 2009. There has been a recovery in the last one year, and the figure increased to 42.8 mn by June 2015. 99% of such accounts are individual investor accounts, which include both retail and High Net worth Individual (HNI) investors (ticket size greater than Rs 5 lakh).

The ability of US and European funds to have a strong retail customer base presents the Indian industry with pointers of opportunities on increasing their reach in the retail market. India has witnessed varying trends in fund inflow during the last decade. The aftermath of the global credit

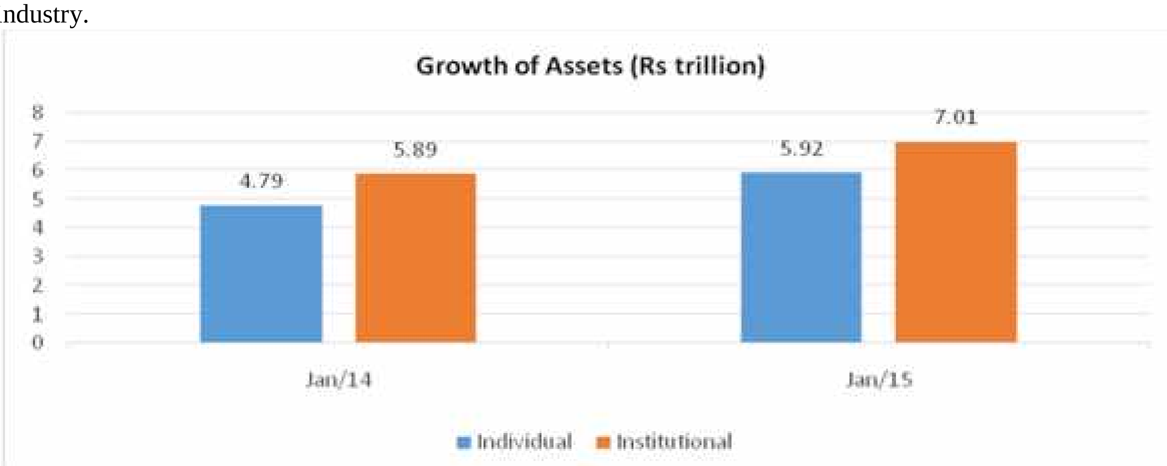
Crisis had led to continuous outflows for the next four-five years. The situation reversed in the last fiscal with net positive inflow, which while lower than the 2008 levels is a welcome sign for the industry, especially the growth in equity schemes.

Composition of Investor Accounts (as on June 30, 2015)	
	Nos of Accounts (in millions)
Retail Investors	40.88
High net worth Investors	1.52
Institutional Investors	0.37

Buying behavior in India

Individual and institutional customers, as two different segments of Mutual Funds buyers reflect significant differences in the nature and rationale of their buy, usage of distribution channel, place of origination of sale and ticket size.The choice of asset reflects the difference in investment objectives of the two customer segments – capital protection and return optimization for the institutionalinvestor vis-à-vis long-term growth for a retail investor.

With institutional investors located in Top-15 cities, these cities continue to form the core catchment area for fund collection for the industry.



Most individual investors acquire funds through the distributor network, and around 60% of total assets are garnered through this route. The two client segments with their separate preferences for different types of schemes demonstrate varied preference for direct plans vis-à-vis those sold through distributors.

With non-equity oriented schemes purchased primarily by institutional investors, the proportion of direct purchase is 60% for these schemes. AMFI data for September 2015 reveal that investment for 11% of retail investors and 15% of HNI investors was through the direct route.

Variations in ticket size are noticeable across different scheme types and customer segments, and this impacts the operating model of the AMCs. The investment objective of different customer segments is reflected in the differences in the average holding period between equity and non-

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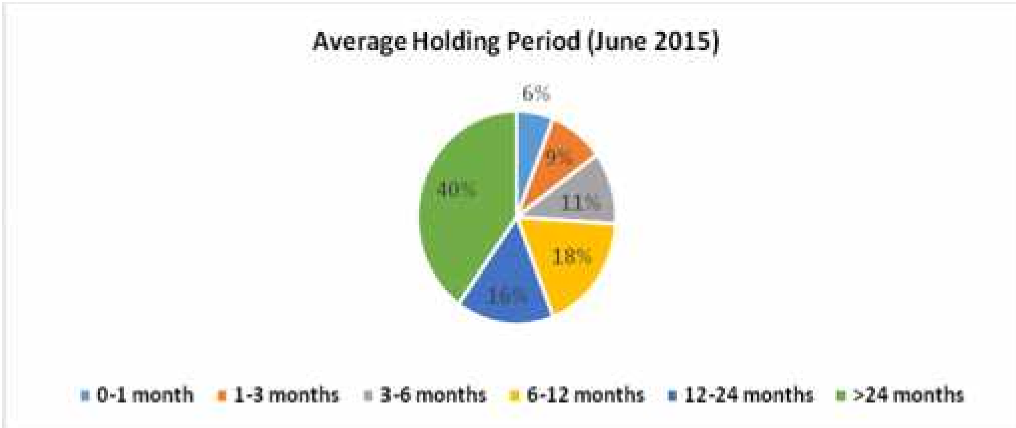
equity schemes. Equity assets have a longer holding period, as individual investors investing in these schemes have a longer-term perspective to realize their growth objectives.



The above diagram clearly shows that not just product preferences are different for The product portfolio as well as customer acquisition and retention strategy of the different AMCs reflect their target segments, as there are significant differences in product preferences and buying patterns across the segments.

Customer Engagement

Indian Mutual Funds industry has become extremely competitive and funds have resorted to many types of measures to engage with customers from different socio-economic ties to widen their base. In addition to conducting several awareness programs at several levels for investors for improved penetration of mutual funds, they are also deploying technology to engage with existing and potential customers in urban and semi-urban areas as most are regular Internet users. Apart from improving the ease of use of their websites, AMCs are using WhatsApp, Facebook and other social media services to reach out to prospects and customers. There exists a range of mobile apps for tracking and transacting portfolios, where some even offer a WhatsApp integration of such applications. Using social media channels to communicate and leveraging technology to invest, redeem and switch funds using mobile phone apps would help attract a new segment of customers, especially the burgeoning pool of young working population.

Growth if Internet in India and abroad

Internet has been the major catalyst for technological enablement of financial services industry in India and other countries. India has an internet user base of about 354 million as of June 2015. Despite being third largest user base in world, the penetration of e-commerce is low compared to markets like the United States, United Kingdom or France but is growing much faster, adding around 6 million new entrants every month. The industry consensus is that growth is at an inflection point.

India’s users of Internet

(July 1)	Internet Users	Growth	% of population with internet	Country's Share of World Population	Country's Share of World Internet Users	Global Rank
2015*	354,267,945	17%	21.11%	17.49%	9.11%	3
2014	243,198,922	14%	19.19%	17.50%	8.33%	3
2013	213,339,324	37%	17.04%	17.48%	7.87%	3
2012	155,575,944	27%	12.58%	17.47%	6.18%	3
2011	122,970,441	36%	10.07%	17.45%	5.39%	3
2010	90,421,849	48%	7.50%	17.43%	4.42%	4
2009	60,935,069	18%	5.12%	17.41%	3.45%	6
2008	51,450,210	12%	4.38%	17.39%	3.27%	6
2007	45,784,262	43%	3.95%	17.37%	3.33%	6

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2006	32,074,981	19%	2.81%	17.34%	2.76%	7
2005	26,917,033	23%	2.39%	17.30%	2.62%	7
2004	21,947,488	19%	1.98%	17.26%	2.41%	8
2003	18,446,604	11%	1.69%	17.20%	2.37%	9
2002	16,558,394	137%	1.54%	17.14%	2.50%	8
2001	6,994,257	27%	0.66%	17.08%	1.40%	12
2000	5,498,269	96%	0.53%	17.01%	1.33%	

List of Countries by Internet Usage (2015)

Rank	Country	Internet Users	Growth %	Internet penetration (%)	Country's share of World Population	Country's share of World Internet Users
1	China	641,601,070	4%	46.03%	19.24%	21.97%
2	USA	479,834,232	7%	86.75%	4.45%	9.58%
3	India	354,198,922	14%	19.19%	17.50%	8.33%
4	Japan	109,252,912	8%	86.03%	1.75%	3.74%
5	Brazil	107,822,831	7%	53.37%	2.79%	3.69%
6	Russia	84,437,793	10%	59.27%	1.97%	2.89%
7	Germany	71,727,551	2%	86.78%	1.14%	2.46%
8	Nigeria	67,101,452	16%	37.59%	2.46%	2.30%
9	UK	57,075,826	3%	89.90%	0.88%	1.95%
10	France	55,429,382	3%	85.75%	0.89%	1.90%

Changing Profile of Mutual Fund Investors

Ippolito (1992) found that scheme selection by investors was based on past performance of the funds and money flows into winning funds more rapidly than they flow out of losing funds. Shiller (1993) reported that many investors did not have data analysis and interpretation skills because data from the market supported the merits of index investing, passive investors were more likely to base their investment choices on information received from objective or scientific sources. Gupta (1994) made a household investor survey with the objective to provide data on the investor preferences on MFs and other financial assets. Phillip (1995) reported that there was a change in financial decision-making and investor behaviour as a result of participating in investor education programmes sponsored by employees.

The vast amount of information accessible to retail investors, and various tools available to enable such investors to sort, search and save data quickly, have dramatically altered the profile of the "typical" mutual fund investor. Until recently, the only information that most investors received about mutual funds consisted of the fund's prospectus, and the advice given to them by brokers or other financial advisers. Today, an investor with a computer and internet instantly receives not only many funds' prospectuses, but also performance data, commentary about funds and reams of investment advice. Technology has encouraged many individuals to research and track their portfolios using only a home computer.

A New Breed of Investor

As a result of impressive growth in technology, a new breed of investors - more informed and more inquisitive is emerging in our country. Never before Indian investors had so much available to them at the click of a button or a phone call. The Internet has emerged to be a powerful tool for people to manage their money and get financial news. As a result, there has been a boom in online brokerage firms and financial news and analysis web sites.

Today, many individual investors make extensive use of Internet for investment research and their number is increasing day by day. By visiting various web sites, they can now see fund's portfolio, scan corporate results and research reports, get stock quotes, and engage in e-trading. The new era for technological revolution has brought with it longer trading hours, lower costs, greater transparency and better pricing information.

Further, emergence of online brokerage firms has given many investors ease of use and lower commissions than charged by traditional brokerage houses. As traditional ways of doing business have been transformed by technology, many high networth individuals are opting for online investing. Many financial web sites offer personal portfolio-tracking features,

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which enable customers to instantaneously see the performance of their holdings online.

Retail investors are using financial web sites to help them with their investment planning. Various financial Web sites also enable them to figure out how much needs to be saved as well as what type of investment vehicles would make the most economic sense for investment planning for different age groups of investors.

According to Investment Company Institute, USA, the percentage of U.S. households owning mutual funds grew eightfold in the 1980s and 1990s, and has held steady for the past 15 years, averaging about 45 percent since 2000. In mid-2015, 43 percent of all U.S. households owned mutual funds. The estimated 90 million people who owned mutual funds in mid-2015 belong to all age and income groups, have a variety of financial goals, and buy and sell mutual funds through four principal sources: investment professionals, employer-sponsored retirement plans, fund companies directly, and fund supermarkets.

The number of American households trading stocks online in the USA will jump 15 fold from 4 million in 1998 to more than 60 million by 2016. This means that more than 40 % of all U.S. households will own stocks in some form using an online trading account by 2015. Currently, 47 percent of all stock trades are executed online in the USA, up from almost none 15 years ago.

Technology in the Mutual Funds industry

Information and communications technologies are critical to healthy and efficient primary and secondary markets, including mutual funds industry. Mutual funds are meant to be attractive savings vehicles for investors of moderate means, often investing for the future such as retirement plans, higher education, etc. Therefore, the need to communicate and service millions of investors, who frequently purchase units on an on-going basis (for instance systematic investment plans), makes it vital for the mutual fund industry to invest in technology. Technology has made the explosive growth of the industry manageable.

The transformation of the financial sector and the payment systems in this country over the last decade has been remarkable and helped the mutual funds industry too. Even though the For example, we do not have to now go through the agony of outstation cheques to be realized and credited or debited to our accounts for sale or purchase of units. As we have shifted from paper to electronic modes, the transfers are faster. The RTGS allows funds transfer on a real time basis and the NEFT on a near real time basis. Keeping in view the safe, secure and efficient electronic payment modes now available, the Reserve Bank has also closed the system of high value cheque clearing.

The relentless pace of technological change and user needs has changed the way we use, or even understand innovations, such as the internet. Technology through e-finance and internet had reduced distribution and transaction costs, speeded up document processing online, provided instantaneous access to information and enabled switch over in investment decisions, handled investor’s grievances, etc.

This, in turn has dramatically improved efficiency and decreased the costs of back office paraphernalia. Further, by providing detailed information about schemes, the Internet lets mutual funds engage in "one-to-one marketing," allowing them to tailor the online experience to fit unique individual needs.

Investors can now look for many pieces of vital information on the web. Procedures that used to take weeks-and that required seemingly endless personal visits, dozens of phone calls, messy paperwork, and huge amount of manpower -can now be handled in minutes or hours, electronically. For investors, technology and the Internet is fast becoming part of daily life.

While many funds are now using electronic media to "reinvent" themselves to be more accessible to the savvy investors, they are also using this media to transform themselves into more sophisticated and technologically advance entities.

The mutual fund industry thus uses electronic media:

- To permit unit holders to purchase and exercise switch over option across eligible schemes on-line.
- To deliver both required disclosure materials, such as prospectuses, and additional sales literature, to potential investors more quickly, and in a more economical manner;
- To educate their investors about the myriad choices facing them in today's market, by providing on-line tools to assist investors in developing asset allocation models

- To respond to unit holders inquiries, by using on-line communication and providing fast access to account information;
- To develop new types of fund services, expanding the choices available to investors; and for research purpose.

Areas affected by changing technologies

Four areas of the mutual fund industry saw the maximum change as a result of technological improvement. They are:

1. Investment / disinvestments in mutual funds
2. Distribution of mutual fund products
2. Research &Information on schemes
3. Customer care

This in turn allows efficient management of the industry that can provide a wider array of products and services to consumers.

Further, this development also clears the way for mutual funds, banks, stock brokerage firms, insurance companies to move increasingly into each other's territory, thereby forcing each player to become more efficient, more creative, and more customer-focused than ever before.

Online investing in Mutual Funds: Smooth Take Off

Online investments in the primary market, mutual funds and other financial assets have grown manifold in the past few years and they will continue to grow like this. Such services have made financial tasks like checking balances, paying application amount, and transferring funds cheap and hassle-free. Large number of issuers of equity, debt and mutual funds have already started offering their products online. ASBA offered by banks is an excellent example for this.

The structure of the mutual fund industry explains to some extent why such a large number of funds are using new technologies to provide information to investors. Investment advisers, RTAs, broker-dealers and other members of the industry typically create a web site that is shared by all of the funds in the group. A single web site therefore provides information about several different funds, allowing investors to reach large numbers of competing products.

Financial Inclusion for Mutual Funds Industry

Financial inclusion is important for Mutual Funds industry simply because it is a necessary condition for generating and sustaining distribution of mutual funds among the vast majority of Indian investors. As we are transiting from an agrarian system to a post-industrial and service centric modern society, broad-based financial inclusion will be the most important catalyst for growth of financial services market. The entire economic opportunity is strongly intertwined with financial access which is crucial to build savings, make investments and avail credit. Importantly, access to financial services also helps the poor insure themselves against income shocks and equips them to meet emergencies such as illness, death in the family or loss of employment.

And yet the statistics on financial exclusion in India are not encouraging at all. It is estimated that 5 percent of our population have access to commercial bank branch. With just about 40 per cent of the population having bank accounts, 10 pc with life insurance cover, horribly low of 0.6 pc for non-life insurance and poor 2 pc with credit cards, the reach to a common investor in mutual funds is long away from any satisfactory level

But there is a brighter side to this irony. If we recollect a case in Business Strategy courses in which a young professional of shoe manufacturing company was sent to a large island in Australia. He found thousands of people going without shoes and on his return reported to the management that there was no business potential there because no one wore shoes. A few months later, the strategist of a rival company went and saw the same picture. He came back and reported to his management that there is tremendous business potential in that island because not many people wore shoes. Ultimately, it is a question of mindset, and it is only the change in mindset of all concerned stakeholders that can make financial inclusion a reality.

Technology and the impact on distribution of mutual fund products

The area that has seen the biggest impact as result of changing technology is distribution. More funds are getting sold through the Internet, ATMs, kiosks, etc. While several mutual funds have been offering application forms on the net itself, many Registrar and Transfer Agents (RTAs) too have started investing heavily in technology. This activity, combined with the decline in the number of agents, has lead to significant changes in distribution.

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To expand into a broader range of financial services, several intermediaries have made significant commitments in technology for marketing of financial products such as bonds, equities and mutual funds. This has changed the distribution landscape of financial products and services significantly. The number one challenge for the mutual fund industry is gaining the widespread distribution network in India. Formulating and executing appropriate strategies that reflect the changing industry landscape in addition to the widespread application of electronic commerce is likely to be major challenges for the mutual fund industry. Finding opportunities to quickly exploit unique strengths in new ways in a new competitive environment will therefore be the real challenge.

All mutual funds in India are now using technology to sell direct plans through mobile apps as well as launch of the MF Utility portals. This has made sale possible on a 24/7 basis and in effect made the presence of an intermediary redundant. As some of the AMCs have also started accepting E-KYC and are using technology to do the In-Person Verification, effecting transactions easier have become a lot easier. The shift in preference from traditional savings channels to mutual funds and other assets has been made possible due to the awareness building exercises undertaken by the AMCs, demographic shifting customer base as well as availability of products that match the needs of the customers. This has been accentuated by the roll-out and subsequent customer adoption of initiatives that leveraged technology and the interplay amongst all these factors helped in the growth of the industry.

Advantages of Technology Enablement in mutual funds industry

1. **Reduced management costs:** The extensive use of the Internet and related technologies by funds and investors may not only facilitate informed investing; it also may lead to lower overall costs.
2. **Improved funds performance:** An ever-present challenge for mutual funds is to ensure growth in the value of assets it manages. As competition with other financial products increases, developing the right products and posting growth in NAV are the two most critical challenges of mutual fund outfits. To be a respectable and efficient fund, one needs to devise the product properly while providing superior customer service at reduced costs. The Internet, along with the use of other technologies, could provide the solution.
3. **Investor's need:** One challenge the industry faces relates to articulating the value the mutual funds add to the investor's portfolio. In meeting this challenge, campaigns on the internet can build awareness and promote a good image of mutual funds.
4. **Connecting with investors:** One of the most interesting developments technology has brought about is in the area of communication with unit holders and agent.
5. **Solution for the future: I**nternet has the potential to result in an enormous shift in theway funds deliver service.
6. **New Products and Services development:** Many new products and services in the mutual fund industry would not be feasible without advances in computer technologies.
7. **Hourly Pricing:** Technology has allowed mutual funds in the USA to provide enhanced services to fund investors that would not have been feasible before the advent of advanced computer systems. Most funds calculate their net asset values once daily, and all purchases and redemptions each day are effected at those net asset values.

Succeeding on the Net

The real feat will be to leverage technology while preserving the best human aspects of business. Successful funds will find ways to empower their sales people with tools that enable them to use their knowledge, experience and judgment to help investors. Many foreign mutual funds, uses e- commerce for sales, distribution, and customer communication. Trustmark has focused on using the Internet to provide superior customer service thereby achieving great improvements especially in dealing with our group clients. Allstate Life uses e-commerce to facilitate the exchange of information with consumers and agents while continuing to emphasize the role of agents and broker-dealers as the key players in the transaction process. Security Benefit Life has seen positive results from their integrated Internet and systems.

Challenges Ahead

- **Size doesn't matter:** We have already seen continued consolidation and the formation of larger conglomerates in the financial services industry. However the mid-sized, niche players still offer bright outlook in the industry.
- **Integration, the major challenge:** The time is not far away perhaps when mutual funds, banks and insurance companies merge with each other and convergence will be the major change factor for the future. All these are likely to lead to more reliance on technology.
- **Adding values:** As performance by the mutual funds takes center stage, funds will look strongly at the whole area of value propositions. Are different schemes really adding value? If the answer is no, changes will come about more quickly than in the past. Showing better performance will increase NAV and will add value at every

step along the way.

- **Efficient operations:** Funds have to constantly work to make operations as efficient as possible by employing highly skilled employees and providing them with the appropriate technology to provide low cost superior customer service. They need to be continually open to utilizing new technology to make continual improvements. Operating efficiencies hold the key to profitability for many funds. The industry must continue to improve its operating efficiency so that one can provide excellent value products to their unit holders.

Risks of on-line transactions

Several challenges exist for Mutual Funds industry operating in the world of e- finance. Technology is evolving so quickly that ever-more-sophisticated security solutions are being devised. People by and large are reluctant to reveal personal financial information online, and therefore success of e-marketing depends on ensuring confidentiality. For example, investors have to furnish PAN, salaries, e-mail addresses, assets and liabilities, and the names of employers, among other information, to qualify for being approached by the funds. While many take a very surreptitious approach to information about investors, via the use of "cookies," such a strategy is unlikely to be tenable in the long run. Consumers worry about how personal information- especially data gathered by financial services industry-will be used. Could they be haunted by tax men based on financial information provided by them. Will they be hounded by sales calls from marketers who obtain their name and critical financial data? Concerns such as these must be put to rest if consumers are to have the trust and confidence to do business in the new world of e- commerce.

Technology &Regulation

Mutual funds and other types of investment companies have recognized and capitalized upon the tremendous opportunities provided by technology. Funds world over sell their units to a rapidly growing market, and are anxious to use new systems to locate and communicate with potential investors. Many funds in India too have successfully adapted electronic media into their operations and communications strategies. Technology has permitted more funds to reach out to more investors faster, and more cost-efficiently, than ever before. The government & SEBI now has to respond to the promise of technology by introducing the laws to accommodate new ideas that they are consistent with investor protection and are friendly to the industry as well.

Thus SEBI and the government have to continue to be responsive to new technology driven ideas. While some of the recent growth in the industry may be attributable to the increasing use of technology by mutual funds and investors, not all mutual fund outfits and investors have embraced technology to the same extent. However, the market will ultimately prove the worth of technology.

While many mutual funds could realize significant cost savings by delivering all of their required disclosure documents electronically, many investors are not able or willing to receive them in this format. Thus, a system of pure electronic communication seems some distance away.

While technology has created opportunities and benefits for investment companies, their investors, and regulators, it also has created challenges. As technology continues to develop at a rapid pace, the regulatory framework must evolve as well. SEBI now faces challenges to facilitate and respond to developments in technology. Some challenges are related to technology itself, such as the need for secure means of communicating private information or transmitting monies on-line, and ensuring the ability of an investor to redeem units in a fund. Others arise from the nature of the Internet itself -- which provides unique opportunities for international communication. It will be a challenge to ensure that this generation of investors, with access to more information than their parents had in a lifetime, has disclosure documents that are helpful and that will guide them in making informed investment decisions.

Roadblocks

If these trends continue, mutual fund industry will approach a state of theoretical perfection, thanks to technological development made possible by the Internet and other innovations. Unfortunately, plenty of factors could yet spoil the party in the mutual fund industry. Some of they are:

- **Recession.** There is a direct connection between investment in technology and economic growth. Indeed, unless financial activity and savings increases as a proportion of GDP, countries struggle to develop their economies. Correspondingly, if the world economy entered a recession, causing markets to tumble, the technological revolution in the industry could temporarily grind to a halt.
- **Government.** Any effort by the government / SEBI to clamp down on both financial and technological innovation is also likely to jeopardize the. Financial scandals, such as the sale of inappropriate products to

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consumers, might lead to tougher regulation and stifle markets.

- **Privacy and security.** A global finance industry will depend on large amounts of data about consumers. If these data are abused, there might be insufficient trust to achieve a mass market. Problems with security on the Internet are a particular danger.

Conclusion

Which way will the future go? Thanks to technology, particularly the Internet, finance has the potential to reach both a new level of sophistication and breadth of participation.

The industry has utilized in the past few years productively in capacity building initiatives by augmenting its technology platform for creating awareness and new markets. Technology is being put to dual use – both for acquiring customers and meeting compliance requirements in a cost-effective and time-efficient manner. These new customers are expected to be more from the individual investor segment with higher preference for equity schemes, which will have a positive impact on the profitability.

India is emerging as a youngest nation in the world. Some of the game changers in the industry are expected to make use this trend. The demographic shift towards a younger workforce that is more aligned with technology will provide the industry with a larger customer base. The expected growth of HNIs augurs well for the industry. The average ticket size of the investment is also likely to go up. If e-commerce platforms are allowed to sell mutual funds coupled with simpler-KYC process, this has opened up a larger market for mutual funds. Replicating the model adopted for Jan Dhan savings accounts as well as using the payment banks to sell mutual funds, could lead to further increase in the customer base. Using analytics and data-driven models would help to retain and mine the customers better; employing technology to build gamification models for customer engagement would resonate better with the young and technologically savvy customer base.

Mutual fund industry in India need to make greater use of technology that reflects the changing industry landscape in addition to the widespread application of electronic commerce are major challenges. Finding opportunities to quickly exploit unique strengths in new ways in a new competitive environment will be a parallel challenge for the mutual fund industry.

Investors in India still feel that financial products such as mutual funds are too complicated to be sold over the Internet. Most expect that the role of the financial advisor will grow as they are needed to impart knowledge to investors. Many still believe that the Internet is not going to replace the professional advice-giver. The Internet will allow us to provide better service to customers— both end customers and those who sell our products. The Internet will offer greater ability to provide the financial advisor with more knowledge to impart to prospective customers.

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