



UNLEASHING ADVANCED ANALYTICS

HOW ASSET MANAGEMENT FIRMS
CAN TAKE ADVANTAGE

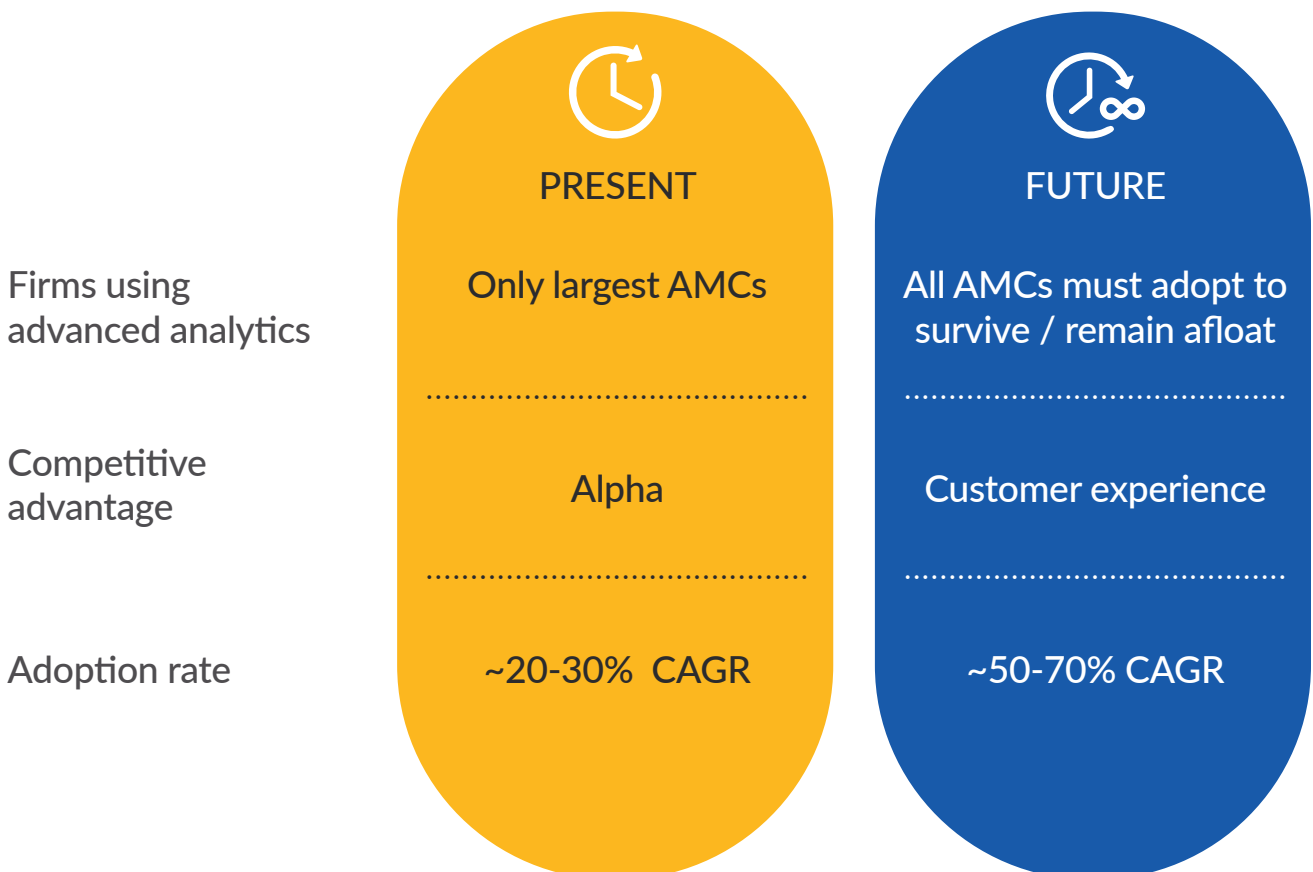


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01

INTRODUCTION

Asset management industry has enjoyed a golden period since the global recession in 2008. However, as is the case with any economic cycle, the growth has ground to a halt. The downturn in the economic outlook along with increasing interest rates has resulted in a halt in the increase of global assets under management, a rare occurrence since the 2008 recession. The direct result of this is a decline in profitability and pressure on margins for asset management firms globally.

The smarter firms have anticipated and taken cognisance of the changing landscape and have looked for ways to reinvent themselves to the new reality. Currently, their emphasis is on generating higher alpha and reducing costs in areas of sales and distribution. This is possible when AMCs leverage advanced analytics and transform themselves into a digitally savvy firm from front to back.

The asset management space is no stranger to technology. Historically, a majority of the technology adoption was focused on automation of operational tasks such as sharing of prices and information, execution and clearing of trades, rather than areas such as fund management, which were always considered as tasks that required a “human element”. However, with rapid digitalisation across all industries, advanced analytics is starting to find applications in the previously human-centric roles. This blurring of lines is set to disrupt the asset management space drastically in the near-future.

Through this white paper, IBS Intelligence and Hexaware endeavors to explore the potential impact and application of advanced analytics w.r.t. buy-side asset management firms. It looks at ways advanced analytics is being leveraged and the possible future use cases that allow the asset management firms to leverage advanced analytics to their significant advantage.

ASSET MANAGEMENT
INDUSTRY HAS ENJOYED
A GOLDEN PERIOD SINCE
THE GLOBAL RECESSION IN
2008



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ROAD TO ADVANCED ANALYTICS

The asset management industry, by its very nature, values data as a source of its competitive advantage. Thus, unsurprisingly, a key focus of their technology investments is on leveraging data and subsequently, advanced analytics to differentiate themselves from their peers. Traditionally data sources such as financial information, transaction information and proprietary

2/3rd  of asset managers expect actionable insights are a key advantage of using advanced analytics

Figure 1. Lower Alpha is driving Asset Managers to use Advanced Analytics



data were used to make investment decisions using existing analytical and BI tools.

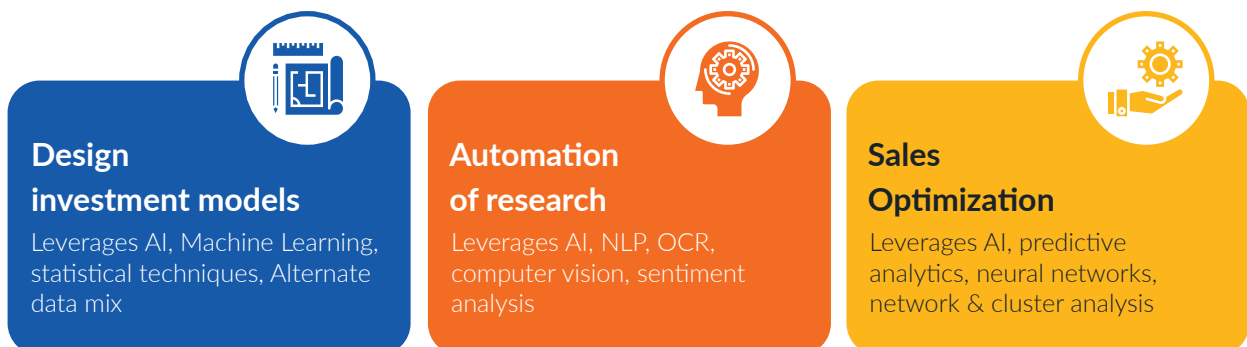
and ETFs, delivering a blow to the actively managed funds.

In the last few years, the asset management space is witnessing significant changes in environment. Regulations such as Alternative Investment Fund Managers Directive (AIFMD), Undertakings for Collective Investments in Transferable Securities (UCITS) V, VI, and VII, and Markets in Financial Instruments Directive (MiFID) II and III are forcing changes in fund product features, regulatory and investor disclosure and transparency in fee structure for asset managers. At the same time, AMCs are demonstrating a reduction in their risk appetite, in line with investors who have become very sensitive to a depreciation of their investments. These factors, coupled with the ever-increasing people costs, have resulted in a significant reduction in the alpha (fund performance exceeding market returns) that actively managed funds are able to deliver. This, in turn, has driven investors to move their assets to passive funds

The priority for these AMCs is to deliver a higher alpha, and considering the restrictions on the risk-taking ability, the only variable in the above equation they can control is the cost of research and sales. Thus, AMCs are turning to advanced analytics to automate major parts of these functions as processes, so that the cost savings can be leveraged to deliver higher alpha, giving back their competitive advantage over passive funds.

The avalanche of data being created globally by virtue of a digitally connected world allow these firms to refine and improve their asset models using unstructured data sets such as customer emails, social media posts, satellite imagery, recorded voice calls, internet of things (IoT) data, etc. These data sets can be mined for insights and analytics, which provide a competitive advantage. Investment managers are focusing on three key areas where they are leveraging advanced analytics.

Figure 2. Technologies driving Investment Managers' Priorities in Advanced Analytics



Design investment models

Leverages AI, Machine Learning, statistical techniques, Alternate data mix

Automation of research

Leverages AI, NLP, OCR, computer vision, sentiment analysis

Sales Optimization

Leverages AI, predictive analytics, neural networks, network & cluster analysis

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EVOLUTION OF ADVANCED ANALYTICS

One standard fuel for advanced analytics of any kind is the underlying data. The richer and more varied the data, the better are the results from advanced analytics techniques. While structured data has always been used, new Artificial Intelligence (AI) powered techniques such as natural language processing (NLP) and machine learning (ML) open up the opportunity to tap into unstructured data such as verbal conversations, images and externally sourced consumer data such as digital exhaust from mobile devices.

The advantage of using AI and ML is that it creates a robust feedback mechanism between advanced analytics tools and the use of alternative, unstructured data.

As the AI tools get better, it improves their ability to harness newer sources of data and derive better insights. As ML has self-learning capabilities, it can continuously improve upon its ability to spot patterns in varied data sources.

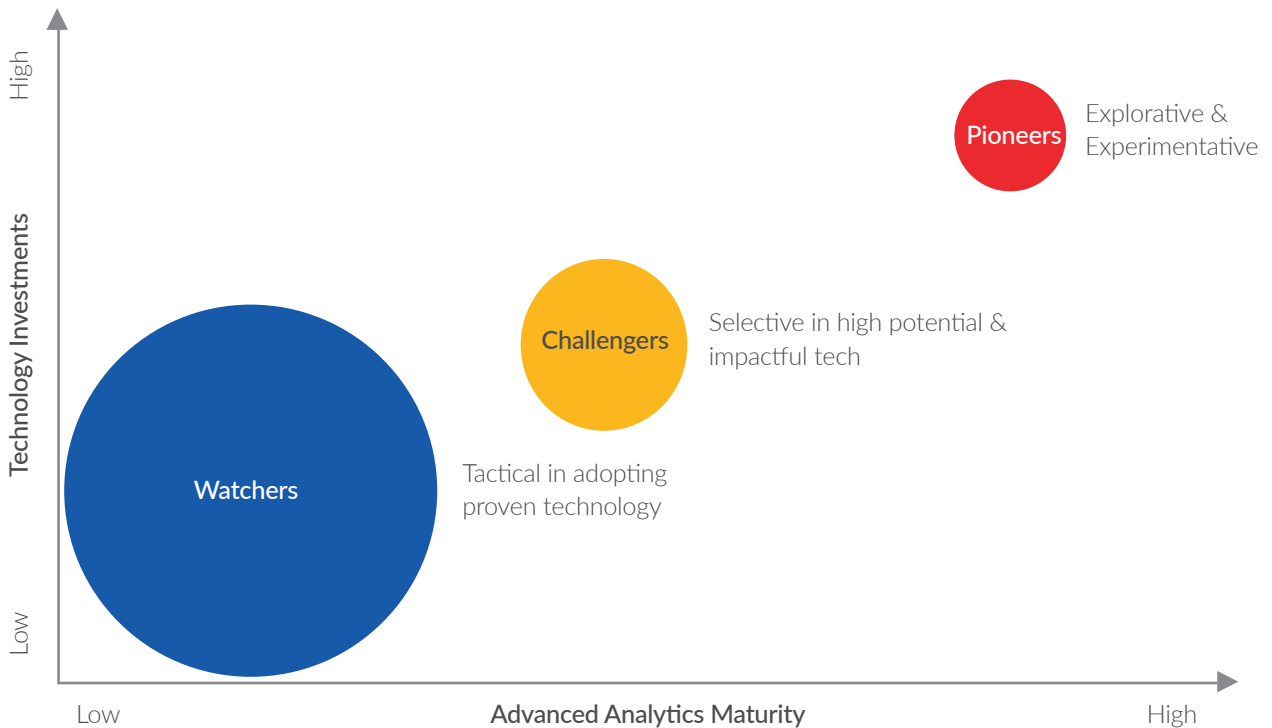
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MATURITY LEVELS OF ADVANCED ANALYTICS IN ASSET MANAGEMENT

In recent years there has been an indisputable uptick in conversations around advanced analytics as asset management firms start understanding the benefits accrued from its use. Firms have begun building data science teams to help them on the journey to advanced

analytics and scaling it across the organisation. However, as expected, not all firms are in the same boat when it comes to deploying advanced analytics. There are three broad categories of firms based on their maturity – Pioneers, Challengers and Watchers.

Figure 3. Advanced Analytics Maturity Scale



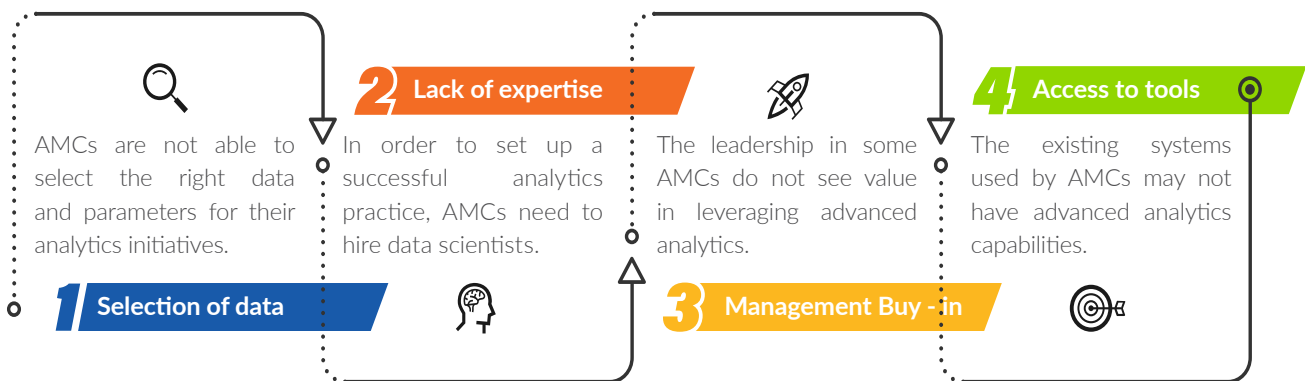
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CHALLENGES

Despite the rapid evolution of advanced analytics, AMCs are still struggling to implement these into their operations. Most AMCs experience challenges while devising their advanced analytics strategies. Typical challenges include lack of management buy-in due to

a traditional mindset, selecting relevant and clean data sources, lack of expertise and capabilities in their current technology stack to leverage analytics. This has kept advanced analytics out of reach of most AMCs so far.

Figure 4. Challenges AMCs face during Advanced Analytics Implementation



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APPLICATIONS OF ADVANCED ANALYTICS IN ASSET MANAGEMENT

Wherever they are on the maturity scale, one undeniable fact is the impact that advanced analytics has on the industry and the need to start implementing it with their organisations. Naturally, most of the use cases so far have centred around the primary function

of asset research and alpha generation.

Nevertheless, other use cases are emerging in allied functions such as client servicing and distribution, product development and back end operations.

Figure 5. Key Applications of Advanced Analytics in Asset Management



Investment Research

At the asset front, advanced analytics is being used to complement decision making and research prowess of a financial analyst. These efforts have been focused on the following three areas:

Automation of research: AMCs leverage techniques such as NLP and ML to parse through various reports that are available and present the relevant information in an easy-to-analyse visualisation. This process could potentially save the analyst's time wasted in reading reports and help utilize it instead on value-adding analysis.

Global AMCs are aiming to automate the capture of relevant information, thus significantly minimizing the headcount in their research function. This would reduce the costs associated with the research, while making the function more productive.

One of the largest, global AMC uses ML, NLP and human knowledge to analyze global news reports to allocate a score, based on their potential impact on portfolio holdings, which can be used by asset managers for asset decisions and managing portfolio risks.

Aiding Alpha Generation: AI techniques have democratized the use of algorithms that can generate recommendations based on large sets of historical and alternative data, helping asset management firms gather, analyse, and find insights in unstructured data that was previously not possible. Availability of alternative data sets based on geography, public sentiments, etc., are growing and firms will focus on this in the future. AI can further help maximize alpha, run scenario analysis, etc. that will ensure best results with the available data, under given restrictions. The ability of AMCs to generate alpha is a direct result of the algorithm efficiency that the investment managers design. Modern investment managers work with data scientists, who help them translate their investment logic into algorithms that will run investment decisions. They actively review and revise these algorithms to ensure accuracy and improve fund profitability.

AMC of a large Swiss Bank leverages advanced analytics to accelerate its queries into credit card transaction data. The insights gained through the firm's platform are giving asset managers the ability to spot changes affecting full industries, as well as specific companies, almost real-time.

Analyst performance: Advanced analytics also has applications to improve inward-looking areas. For instance, advanced analytics and AI is used to detect cognitive and behavioural biases among financial analysts and then suggest ways to mitigate them during asset selection process. Other applications include portfolio performance attribution on an almost real-time basis, rather than after a time period, providing relevant feedback and course correction steps earlier in the process.

The AMC division of global universal bank has its own advanced analytics platform, which provides real-time calculation of analyst performance, contribution and attribution, in addition to on-the-fly grouping and advanced ex-post risk analytics.

Client Servicing & Distribution

Digitalisation has had a significant impact on industries across sectors, and asset management is no different. There is an excellent potential to combine the data-driven processes espoused by digitalisation and advanced analytics to disrupt the way client servicing and distribution is done in asset management. Some of the applications for advanced analytics in this area are below.

Targeted Client profiling: Each client's needs and preferences are unique and asset management firms have started realising that to differentiate themselves, they would have to provide customized services to individual clients. Advanced analytics enables them

to provide highly personalised services, offerings and relevant insights to customers resulting in customer delight.

An American AMC is combining machine learning (ML) algorithms with predictive analytics to help its financial advisors generate more insights, identify the next-best-product, and provide customised advice for clients.

Sales & Marketing: Asset firms are using advanced analytics to identify patterns for potential new sales opportunities by connecting various data points such as sales contact activities (calls, meetings, events, etc.) with marketing activities, advisor prospect data, sales trends and market intelligence data to improve sales performance.

Optimised Distribution Model: Asset management firms are optimising their distribution model leveraging digital means to reach the right client at the opportune time. One popular model that has emerged is the Robo-advisory channel. Utilising advanced analytics, firms are offering custom portfolio solutions to independent advisors as well as traditional representatives, improving customer satisfaction and lowering service costs.

A leading Singaporean asset management firm in collaboration with digital robo-

advisory channel provides their corporate client customised investment solutions.

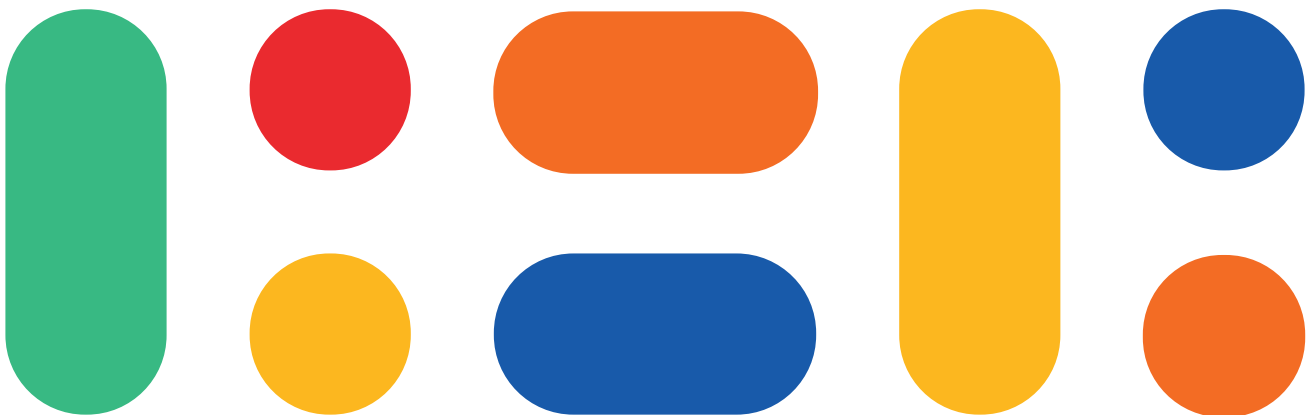
Operational Efficiency

AI techniques combined with advanced analytics can be deployed to improve productivity for the backend processes. These tools and techniques with decision making and self-learning capabilities can potentially automate even complex processes, thus saving on costs and improving employee efficiency.

For instance, asset management firms can automatically upload documents into a central repository and use NLP technology to move relevant information into a searchable database, reducing the time for generating reports.

Another example is using ML algorithms to quickly classify the type of financial instrument (fixed-income bonds, mutual funds, etc.) traded by the firm and among those instruments, automatically identify potential tax saving opportunities.

Another area is the use of advanced analytics in fraud mitigation. AMCs are leveraging advanced analytics, AI, and ML to detect fraudulent activities and real-time monitoring by analysing the trade activity, news activity, and price movement. These insights can be used to detect insider trading or fraudulent traders.



Product Development

An exciting area of application of advanced analytics is the new product development. Customer preferences are ever-changing, and asset management firms need to be on top of that shift to ensure that they have the products to cater to them.

One such instance is the use of sentiment analysis on data sets from social media, popular media, etc., to identify newer, emerging areas of importance to clients. For example, greater social awareness

from millennials, pension funds' long-term horizon, and favourable regulatory changes are driving the increased interest toward ESG investing. Firms, by detecting trends at an earlier stage, can then include these considerations in their product development plans.

Advanced analytics are also being used to identify the regions and segments resonating with the investors and developing products customised for those investors. This is essentially facilitating a more data-driven process for new product development.

CASE STUDY : ONE OF THE WORLD'S LARGEST AMC

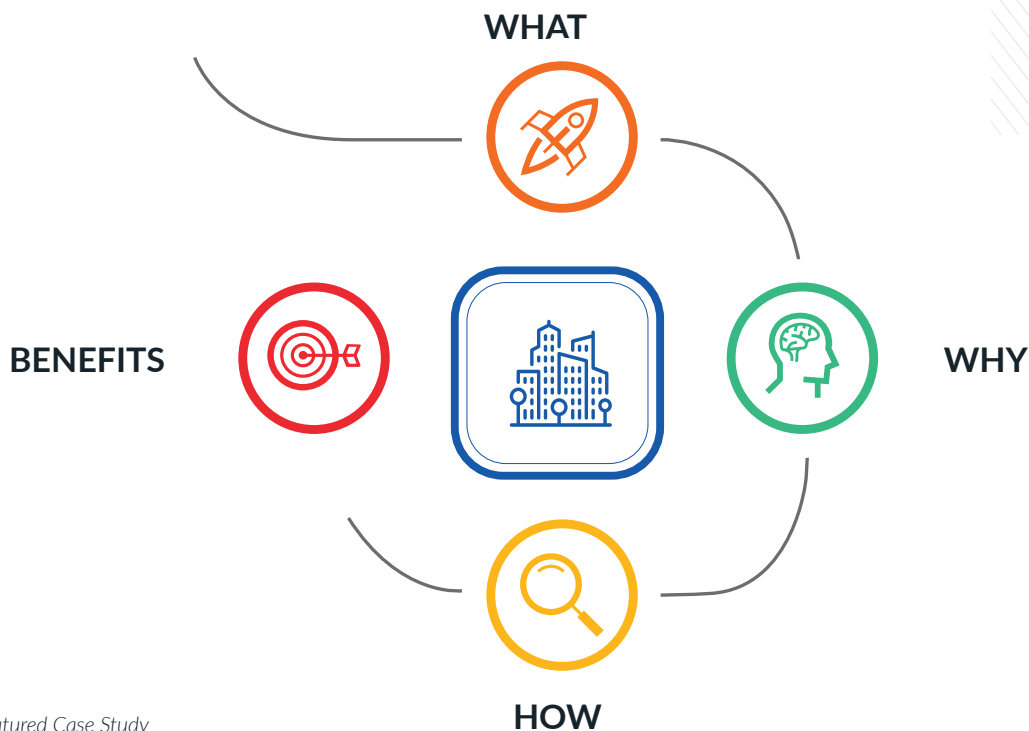
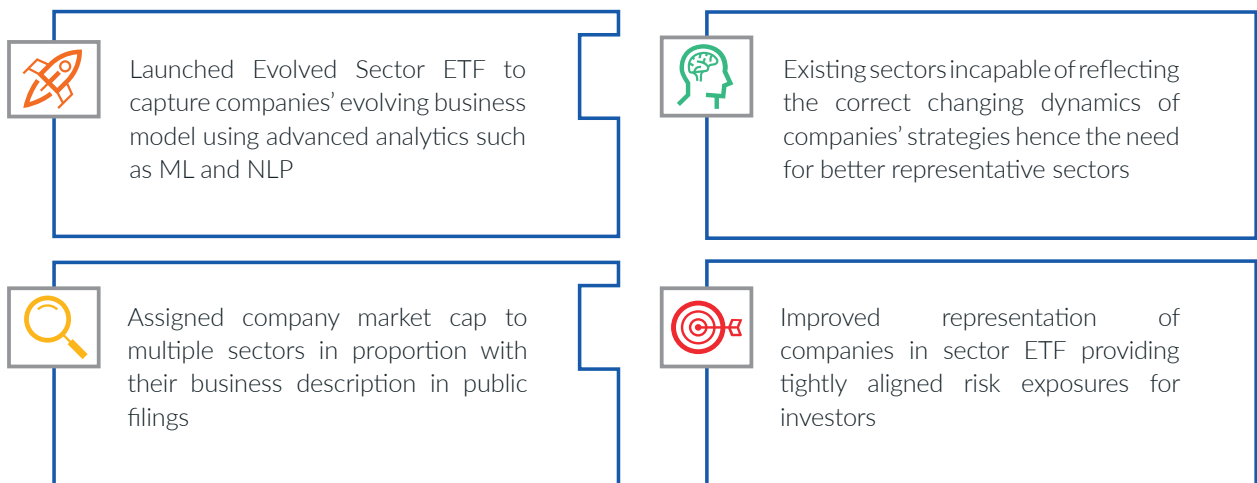


Figure 6. Featured Case Study



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FRAMEWORK FOR ADVANCED ANALYTICS IMPLEMENTATION

The adoption of advanced analytics, powered by artificial intelligence technologies in asset management firms is inevitable. Thus, these firms must embark on the advanced analytics journey with a viable strategy. We have suggested a four-step framework that may enable asset management firms to have a good chance at success in their advanced analytics implementation.

Step 1: Scope Definition

The critical first step for asset management firms before implementing advanced analytics is to identify use cases, qualify the appropriate use cases and prioritise those with highest impact. For example, a firm that invests in index ETF does not require advanced analytics for stock selection but can use advanced analytics to identify active clients likely to divest. However, a regular pitfall to be avoided during this process is of ensuring the presence of an objective led process (identify the objectives) and not technology-led one (and then select the tools).

Step 2: Process Transformation

Data management is key for optimising benefits of advanced analytics, and that requires identifying processes as data contributors or data consumers. Most asset management firms suffer from a technology stack that is a complex web of inter-dependent systems, impinging on data integrity. Thus it is important to identify a process architecture in line with the key offerings of the asset management firm and create a strong data foundation.

Step 3: Create the building blocks

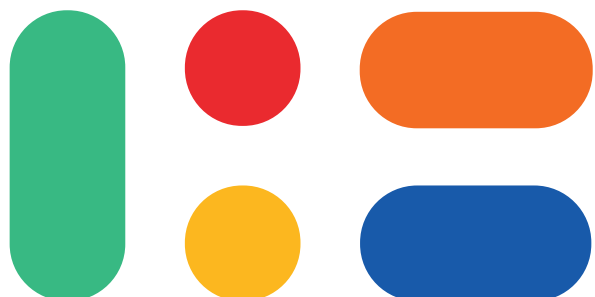
Next step is to create the building blocks on which the advanced analytics would run. The four building blocks that organisations need to consider and make decisions are as follows:

- **Data** – Identify the best sources of structured and unstructured data sets for analytics engine to consume. Asset management firms can get their edge by ensuring their alternate data providers have the following three capabilities - wide pool of data, relevance to their hypothesis and compatibility with their analytics technology

- **Tools** – Asset management firms need to select their analytics technology for data assimilation, analysis and visualisation based on their usage. For example, if the focus is on analysis for alpha generation, a generalised analytics software would be appropriate, whereas for sales & marketing a specialist visualisation tool would be required along with analytics software.
- **Talent** – Asset management firms need to create a strong pool of analytics talent sourced either internally or from vendors. It needs to have a mix of investment skills, technology skills and analytics skills for it to be a long term success.
- **Infrastructure** – Firms need to understand the volume, variety and velocity of the data and the complexity of the analytics to identify the appropriate infrastructure to support analytics. They need to validate if existing data storage structures can assist in their advanced analytics use cases and only then evaluate use of data lakes, etc. Cloud based SaaS analytics systems is appropriate for scaling functions in the future.

Step 4: Agile Execution

For asset management firms advanced analytics capabilities development needs to be an evolving process as newer use cases are identified frequently. The essence of advanced analytics implementation is test and learn, as firms can learn exponentially from their deployments. Also, due to rapid advances, fluid advanced analytics architecture is necessary. Thus, an agile methodology of delivery, aligned with organisation wide support across IT, business, operations, data sciences and compliance works best for advanced analytics implementation.



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OUTLOOK AND THE PATH AHEAD FOR ADVANCED ANALYTICS

Advanced analytics powered by artificial intelligence is here to stay in the asset management industry. Investment managers expect the advanced analytics technology space to grow by 50% - 70% CAGR over the next five years. While advanced analytics is not expected to ever replace the human element of the investment process, its relevance in areas such as alpha generation, asset ideas creation, client servicing and product development will only increase going forward.

Hence, asset managers and financial analysts must start understanding and adopting these newer datasets and methods of analysis to stay on top of their game. Experts predict that automation would take over and the number of investment managers as well as the headcount of research teams would shrink to a small fraction of their current size over the next decade.

Data is the most crucial ingredient for the success of advanced analytics solutions. Currently, most of the data generated globally remain unassessed and sits in what is known as dark data pools. For the asset management industry, the next evolution in advanced analytics will be where solutions will be able to parse through these realms of data and provide actionable business knowledge.



This explosion of available data, along with the analytical development of machine learning is the greatest new opportunity for asset management.

Global Head of Scientific Equity Research, Top 5 AMC

The advent of quantum computing with its massive processing power, combined with maturing artificial intelligence technologies such as NLP, ML, OCR, computer vision, neural networks, etc., will influence the structuring of this data. This would allow asset management firms to access data that was not available before and draw even better insights using advanced analytics.

Figure 7. The Advanced Analytics Journey to Success for AMCs



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CONCLUSION

Currently, within the asset management industry there is enormous disparity in the use of advanced analytics. The leading proponent for this is the large investments required to experiment and implement it. Hence, we have the larger firms taking the lead and benefiting from advanced analytics. However, as the underlying technologies within advanced analytics mature and the data storage infrastructure improves, the cost of implementation is expected to reduce significantly. This would democratise the availability of advanced analytics to smaller firms and considering the benefits widespread adoption is inevitable. Once most firms achieve advanced analytics maturity, the differentiation created by advanced analytics to generate alpha will eventually diminish. The key differentiator is likely to be customer service and customer experience.

The competitive edge of successful asset management firms has always come from having access to data and their ability to analyse that data. As information becomes ubiquitous, it has become more important than ever for these firms to leverage advanced analytics for maintaining their competitive advantage. Asset managers who choose not to leverage advanced analytics would not be able to generate returns comparable to their peers and would face significantly higher cost of operations, resulting in a very high risk of failure.

ABOUT HEXAWARE

Hexaware is the fastest growing next-generation provider of IT, BPO and consulting services. Our focus lies on taking a leadership position in helping our clients attain customer intimacy as their competitive advantage. Our digital offerings have helped our clients achieve operational excellence and customer delight by 'Powering Man Machine Collaboration.' We are now on a journey of metamorphosing the experiences of our customer's customers by leveraging our industry leading delivery and execution model, built around the strategy— 'AUTOMATE EVERYTHING™, CLOUDIFY EVERYTHING™, TRANSFORM CUSTOMER EXPERIENCES™.'

We serve customers in Banking, Financial Services, Capital Markets, Healthcare, Insurance, Manufacturing, Retail, Education, Telecom, Professional Services (Tax, Audit, Accounting and Legal), Travel, Transportation and Logistics. We deliver highly evolved services in Rapid Application prototyping, development and deployment; Build, Migrate and Run cloud solutions; Automation-based Application support; Enterprise Solutions for digitizing the back-office; Customer Experience Transformation; Business Intelligence & Analytics; Digital Assurance (Testing); Infrastructure Management Services; and Business Process Services.

Hexaware services customers in over two dozen languages, from every major time zone and every major regulatory zone. Our goal is to be the first IT services company in the world to have a 50% digital workforce.

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