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Is Pharmaceuticals Ready for the Rapid Increase in Commercial Analytics and Forecasting?

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Description

Abstract:

Difficult to see. Always in motion is the future." – Yoda (Star Wars) As Cryptocurrency is to Fintech so is Bigdata in pharma. Some call it the Fourth Revolution combining Data and Science together. AI is shaping the future of pharmaceuticals and how. According to Global Data, global AI revenues in the pharmaceutical, medical, and healthcare sectors are expected to reach almost $21 billion by 2025.

AI has entrenched in pharmaceuticals drug discovery and clinical stage and how. Top companies such as AbbVie, Novartis, Pfizer, Sanofi, GSK, AstraZeneca and the likes are either collaborating with the AI companies or acquiring the AI technologies. Therefore, the heavy investments by the top healthcare companies are exponentially fueling the growth of the global AI in the pharmaceutical market. The AI in the pharmaceutical market witnessed a sudden spike in 2019-2020 owing to the increased investments in the AI for discovering the drugs for the COVID-19 disease. Drug discovery is a time-consuming process but with the implementation of the AI in the drug discovery procedure, the drug discovery method can be boosted, and time and cost can be significantly reduced. This has fostered the growth of this segment. Clinical trial is expected to be the fastest-growing segment during the forecast period. The increased drug discovery activities are resulting in the rising number of the clinical trials, which fosters the demand for the AI in the clinical trials.

Digital adoption and transformation enabled by AI and machine learning is affecting virtually every aspect of the value chain across geographies. AI is applied to big data to reshape business models, streamline biopharma manufacturing, and enhance everything from clinical research to supply chain & inventory management to KOL intelligence. For Oncology, Rare diseases and Cell & gene companies it is proving to be a boon to develop more personalized and authentic medicines, engagements across the key stakeholders namely health care professionals, patients, and policy makers.

The Pharmaceutical future will require a greater understanding and interpretation of available information from multiple sources including electronic health records, digital and big data sources. The pipeline of potential oncology and rare disease products continues to grow significantly and holds great promise for novel interventions due to advances in clinical trial design and data analyses. Expanding diagnostic procedures with improved sequencing methods will speed up the diagnosis for these critical diseases. There is a huge development of predictive analytics algorithms in forecasting in these areas. The clinical side of the pharmaceutical industry has lapped the usage of AI to predict the next blockbuster. Pharma investment in

AI grew from less than $1 billion in 2015 to more than $7 billion in 2021, according to a report from life sciences consultancy McKinsey & Company.

But what about AI in commercial functions? Are we still ahead or lagging? Can AI predict the causes of the increase or decrease in market demand? If AI software sees the data for 2020 and 2021 chances are that it might predict the sales to go down as the market has never seen that volatility in a long time. This is certainly not the case as those years were the COVID years and we all know that market is bouncing back to the same normalcy. With that there is certainly a manual "forecaster" override needed.

With more and more advent and usage of technology in the pharmaceutical industry, one of the challenges remains as to "are we really technology ready yet "or "are we still north of the preparedness"?

These are some of the valid challenges faced by the pharmaceutical world which is still warming upto the usage of AI & machine learning in commercial functions like marketing, forecasting and business analytics.

The promise of smarter, faster, and sharper insights produced by big data is lucrative but there we are still have miles to conquer.

In Marketing & Branding,

Nearly 50% of global healthcare companies will implement artificial intelligence strategies and by 2025 and it is crucial for how businesses operate and maintain the competitive advantage in the industry. Patient journeys, advertising metrics, and HCP, KOL data can be combined and analyzed with AI to improve omnichannel marketing messaging and channels. AI is also known to provide recommendations to marketing and sales reps on next key accounts, channels, and personalized content (Is the customer a social media person or prefers a traditional approach?). But the benefits of this direction stretch beyond marketing. It can also be used to analyze patient feedback and complaints, medical inquiries, and social media data to incorporate the voice of the patient into product iterations. The possibilities are endless but it can also be a thin line between data and too much data.

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In Strategic Planning

Strategic Planning, Long range planning, and forecasting is one of the most pivotal functions in the pharmaceutical commercial industry. No decision is made in the pharmaceutical world (or any sector) for that matter without looking at the numbers. More importantly, companies are forward looking on how they will perform, how they will enter and capture the market, how they will eventually win? Forecasting influences many other functional areas within an organization. These relationships may be in one direction (where forecasts feed into decisions made by the other functional areas) or in many directions (where the forecast is used to generate the changes proposed by other cross functional areas). The relationships reflect the various uses to which a forecast can be applied such as R& D forecasting, pipeline planning, revenue planning, sample and free goods, safety stock, supply & production planning, resource and budget allocation, project prioritization, partnering decisions, compensation plans, market access efforts etc. These varied uses, and the effect of forecasting on many functional areas in an organization, reflect the first major challenge of forecasting – meeting the needs of varied and diverse stakeholders.

In Risk assessment and equipment analysis

In the middle of various tools and techniques to help pharmaceutical manufacturers optimize and streamline their operations, predictive analysis is garnering quite a buzz. There are different ways with which predictive analytics can integrate with existing software setup and forecast plausible technical glitches and predict future trends, thus helping in enhancing operational efficiency. The Role of Robust Infrastructure and Database management has become one of the topmost priorities for companies across the globe. Companies will have to ensure there is IT infrastructure budget allocated to be able to digitally transform themselves. According to CIO.com, 93% of healthcare executives stated that predictive analytics is important to their business' future. In development and production, AI provides numerous opportunities to improve processes. AI can perform quality control, shorten design time, reduce materials waste, improve production reuse, perform predictive maintenance, and more. Manufacturers can benefit highly from this advanced digital technology by optimizing their operations and enhancing the speed of production.

In Supply Chain and Manufacturing

Another area where Analytics, Bigdata and AI is used is within supply chains. Key performance indicators like patient demand, in-store inventory and expiration dates of existing stock are helping to mitigate this risk before it became a crisis. Speeding up the medicine to the market process by predicting demand based on patient demographic is enabling pharma companies to be prepared for the increase in end-customer demand and manage stock outages without compromising patient needs.

Bringing Humans & Machine together

AI usage in Analytics and commercial area is underutilized and it is surely growing and gaining traction. However, companies will have to hire "special trained talent" in these roles to be able to not only run the AI based models but also have the logic to interpret the results and tie into the complex patient systems. Hence, companies will have to ensure that they get a right mix of to be successfully generate actionable insights from AI. Also, not all the pharmaceutical companies may have the budget to roll out expensive AI technology and software's. There are still many medium and small tier pharma companies who still rely on the traditional methods of collection information and data. A lot of firms are cognizant on the $ spent and are also developing in house capabilities to cater to this function.

Key Takeaways

Before starting the AI journey into commercial roles, the organizations must introspect and identify its own future path. Jumping on the AI driven forecasting wagon would not be a smart move unless warranted by the short, midterm and long-term vision of the company. A major aspect is to benchmark where the pain points lie, what the potential impacts could be, and where the organization wants to carve its niche the industry. The adoption needs to be cross functional and should be gained consensus collectively amongst various senior leadership across IT, Finance, R&D, Commercial and Supply.

An important aspect is also to keep "Change management" in perspective. The leadership needs to ensure that they have prepared and engaged the middle management to deliver the uptake in commercial functions (especially sales which in until now was considered very F2Fand relationship building activity). The amount of training of experienced employees needed versus hiring a fresh expert needs to be balanced to maintain the employee equity, retention and expectations. **Building trust and** communication is the essence and key to make Pharmaceutics truly warm upto Analytics, Bigdata and AI apart in Commercial field.

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Declaration

The views and thought leadership in the article belong to the author and has no affiliation to any employer past or current.

Conflict of Interest

The author declares that there is no conflict of interest associated with this manuscript.

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Biography:

Sanobar Syed has over 14 years of proven achievements in establishing and leading business strategy and forecasting with Top global pharmaceutical firms (Beigene, AbbVie, Novartis, and McKesson). She is repeatedly invited to speak at leading industry conferences across North America and Europe as an industry subject matter expert in this field. She is actively involved in bridging the gap between academia and industry around strategy, analytics & forecasting emerging trends and its usage in the real life pharmaceutical world. She is considered a subject matter expert and has delivered guest lectures & developed academic modules on this subject at TRIEC, Toronto Metropolitan University and Schulich University (Healthcare & Biotech) Canada. She is also on the advisory board of the prestigious CPHI conference board.