

Accenture Life Sciences
Patient Inspired. Outcomes Driven.

RAISING THE LIFE SCIENCES
COMMERCIAL IQ WITH
APPLIED INTELLIGENCE



We are in an unprecedented period of technology innovation where data, analytics and artificial intelligence are completely changing our understanding of disease, wellness and patient outcomes. The combined impact of data availability, massive advances in computing power, and the application of “intelligence” (predictive and cognitive analytics, robotics, machine learning, etc.) will change traditionally siloed business models and companies.

In this new era, life sciences commercial organizations should embrace artificial intelligence (AI) as a co-worker, collaborator, trusted advisor and enabler of more rapid response to patients' and healthcare ecosystems' needs.

There is an enormous opportunity here for the life sciences industry. For the moment, R&D has a head-start, having more aggressively pursued the use of AI over the past decade (specifically in early discovery or preclinical research phases). The AI revolution on the commercial side of the pharma business has, however, been slower on the uptake.

We see three major reasons for the slower uptake:

01 — The lion's share of pharma promotional strategy and investment has been focused on the interaction between physician and sales representative. This hasn't lent itself to companies thinking about how to use AI technology to simplify, automate and identify deeper insights.

02 — Even as the industry has matured into multi-channel campaign management and digital engagement, it has lagged other industries in terms of the need for true personalization. Still largely believing that the "science sells", many companies struggle to define the ROI for marketing. And because meaningful data is often sparse or hard to come by, the bulk of their investment has not been in cutting-edge commercial capabilities.

03 — As the industry further pivots toward patient services, many organizations are underfunded and still struggling to demonstrate ROI on basic service offerings. Investments in more sophisticated service models with embedded AI have largely been limited to experimental/pilot stage or a single solution for a single brand in a single market.



AI: THE ANTIDOTE TO SEVERAL PERSISTENT COMMERCIAL CHALLENGES

Using AI on the commercial side of the business, however, does offer tremendous opportunities. Life sciences executives are starting to understand its importance. In an Accenture survey¹, more than 90% of life sciences executives recognized artificial intelligence as important in driving innovation and achieving outcomes such as hyper-personalized experiences, new sources of growth, and new levels of efficiency.

AI can be used to achieve exactly those outcomes. From developing deep analytical insights to drive better decision making and hyper-personalize content to optimized marketing, sales and patient programs to become much more effective

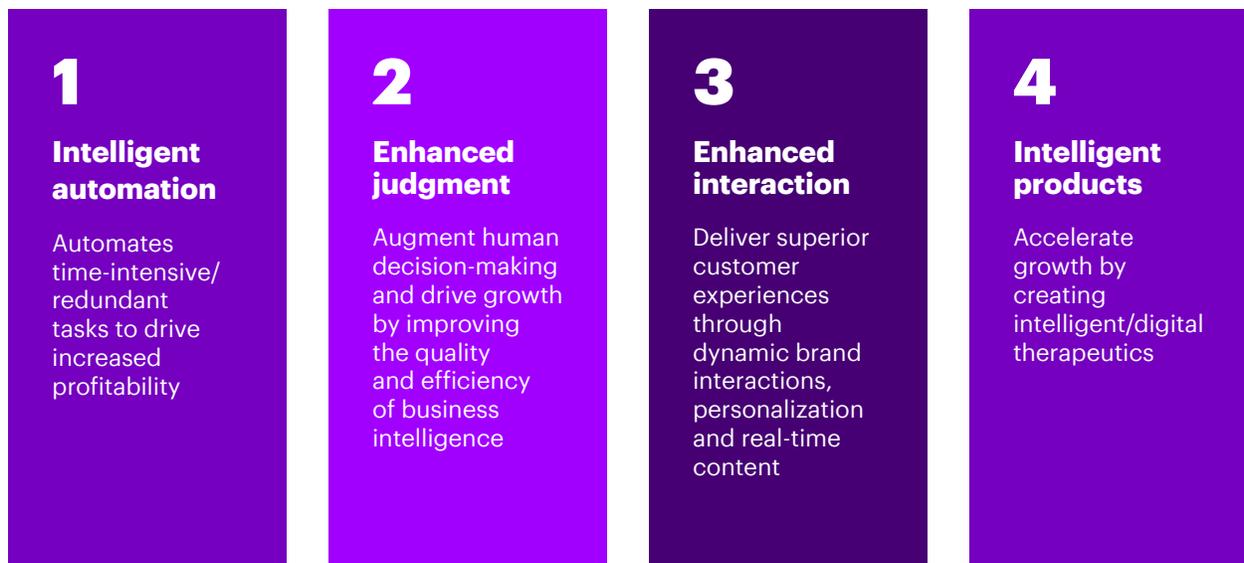
in bringing new treatments to market and supporting better health outcomes. It also has the potential to address a long-standing challenge in pharma being the limited capacity within Legal, Medical, Regulatory (LMR) review processes.

Overall, AI can take the operational burden out of the system so that the organization can focus on the things that really matter—delivering solutions (products and supporting services) that help patients and providers improve health outcomes in more economically viable ways. In this report, we introduce some of these use cases and provide a framework to quickly get started on the AI path in the commercial organization.

ZEROING IN ON COMMERCIAL

There are many applications of AI in the commercial space that can significantly accelerate growth, profitability and sustainability.

Recognizing when and where AI can be most effective is a vital first step towards applying AI in commercial. We've identified four applications:



We're seeing signs that market leaders in the life sciences industry are starting to realize some of these possibilities by giving intelligent machines access to previously siloed data and adopting the latest AI applications to help accelerate innovation. When asked, life sciences executives said that the expansion of AI's opportunity is evident: 74 percent of them believe AI will completely transform, or significantly impact, life sciences².

So, what kind of use cases might arise within the commercial space? Accenture's experience in AI shows just how broad the possibilities are with examples in commercial, marketing and sales operations as well as patient engagement.

COMMERCIAL OPERATIONS

By including AI as part of commercial operations, companies could dramatically increase process efficiency by automating processes that are bogged down with human intervention. For example, robotic process automation (RPA), an “entry-level” AI technology, can still deliver immense value when applied to any reporting, data processing or traditional marketing activity³. Accenture experience shows that results can be outstanding: up to 20 percent increases in work efficiency are possible, along with up to 40 percent increases in accuracy. It can also vastly accelerate the speed to market of MLR (Medical Legal Review)-approved content. This means quickly turning around the right content to the patient or provider at the right time.

Here are some examples how AI can be used to enhance judgement in commercial operations:



MLR Review Automation: use robotic process automation (RPA) and machine learning to screen all MLR submissions, identify and alert job owners about compliance issues before they reach reviewers. Pre-approve assets based on historical data (precedents).

Getting started: categorize MLR submissions and list required submission components for each category. Use AI algorithm to scan materials, identify possible gaps based on the checklist and make pre-approval recommendations based on precedents.

Benefits: improved speed to market, improved consistency – eliminating human error, increased MLR reviewer’s capacity



Business Intelligence: Use all structured and unstructured data available to you to analyze and predict performance of your business operations.

Getting started: identify which business objectives you are looking to get AI-generated insights for. List all possible data sources (structured and unstructured, internal and external), which can be used to inform these insights. Use predictive analytics solution to analyze all your data sources and receive recommendations.

Benefits: improve accuracy of business performance predictions

MARKETING OPERATIONS

When used in Marketing for the aggregation and intelligent capture of customer interactions across channels, AI informs next best interactions through targeted, modular marketing content and offers. The focus is on seamlessly integrating siloed data with proprietary tools that automate tasks associated with traditional marketing activities and allow marketers to concentrate on more innovative campaign development.

Although life science industry-specific benchmarks don't exist, based on what we've observed in the other industries, the uplift in campaigns that make use of predictive AI machine learning is up to 40 percent, on average⁴. The extra insight in the data helps to craft content strategy and creative development, as well as providing hyper-targeted audience segmentation for every brand. Direct benefits span improved customer satisfaction and retention, and higher sales.

Here is an example of how AI can be used to enhance judgement in marketing operations:



Intelligent Marketing: Leverage Smart Targeting, Smart Content Curation, Quick Automated Content Creation, Predictive Analytics / NBA to enhance the way you interact with your customers and provide them with the information they need.

Getting started:

- a. Use human-centered design approach to envision and co-create interactions your customers value most and understand what they need from you to be successful
- b. Prioritize the types of interactions you find most valuable and define what you want to change about them
- c. Envision to-be integrated interaction model and define the extent to which you want to allow AI to help you execute customer touchpoints

Benefits: increased ROI on marketing content, improved conversion rate and customer experience

AI also plays a huge role in Amazon's recommendation engine, which generates 35% of the company's revenue.

Forbes, July 16, 2018

SALES OPERATIONS

In sales, AI-powered solutions can be used to help sales reps find new and interesting ways to engage physicians, including recommendations on scheduling via self-learning algorithms. Armed with these insights, sales reps can spend more time adding value to physician discussions by providing relevant content (and less time on pre-call planning and other administrative tasks). AI algorithms can also be used to optimize how field force is geographically distributed.

Here is an example of how AI can be used to enhance judgement in sales operations:



Pre- / Post-Call Planning and Territory Alignment:

Use intelligent computer models to analyze quantifiable sales data and combine it with unstructured qualitative field feedback data to design sales territories, align sales forces and qualify leads.

Getting started: feed available quantitative and qualitative data from the field into an AI-enabled model. Use the intelligent model to generate sales force re-alignment recommendations.

Benefits: Maximize salesforce effectiveness and boost profits.

PATIENT ENGAGEMENT

Where patient engagement is concerned, the promise of AI is to significantly improve the experience patients receive by anticipating their needs and providing quicker, more effective outcomes⁵. Certainly, the growing demand for AI-powered connected devices and their place in healthcare innovation (including helping patients manage their health) is becoming increasingly prominent.

Studies have shown that during the treatment of chronic illnesses, approximately 50 percent of patients do not adhere to their physician's long-term therapy recommendations⁶. And, for many years, solutions have been available that make use of connected devices to collect patient data (e.g. taking medication on time, dosing, diet, filling prescriptions etc.)

Now there's an opportunity to take these solutions a step further by running the data through machine-learning modules and AI algorithms. By better

understanding the inputs and analyzing them, life sciences companies could make proactive recommendations and personalized/dynamic interventions that would help patients stay on therapy, as well as informing doctor visits, supporting co-pay cards, and helping patients fill their prescriptions on time. The net effect? Better health outcomes.

There are some inspirational examples of what can be achieved in commercial life sciences organizations. Boehringer Ingelheim, for instance, has launched a website for its animal health business that uses AI to optimize and personalize the experience for vets by learning users' habits through pattern recognition technology⁷. The site can provide personalized search results based on each user's search history and preferences (much like Amazon does in the retail space).

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Eularis, meanwhile, has developed solutions that use AI to increase sales and revenue for pharma companies⁸. These include E-VAI, a cloud-based marketing analytics platform which can learn from the success of marketing campaigns over the past decade and effectively mimic them and apply them to new products.

Here is an example of how AI can be used in intelligent products for patient engagement:



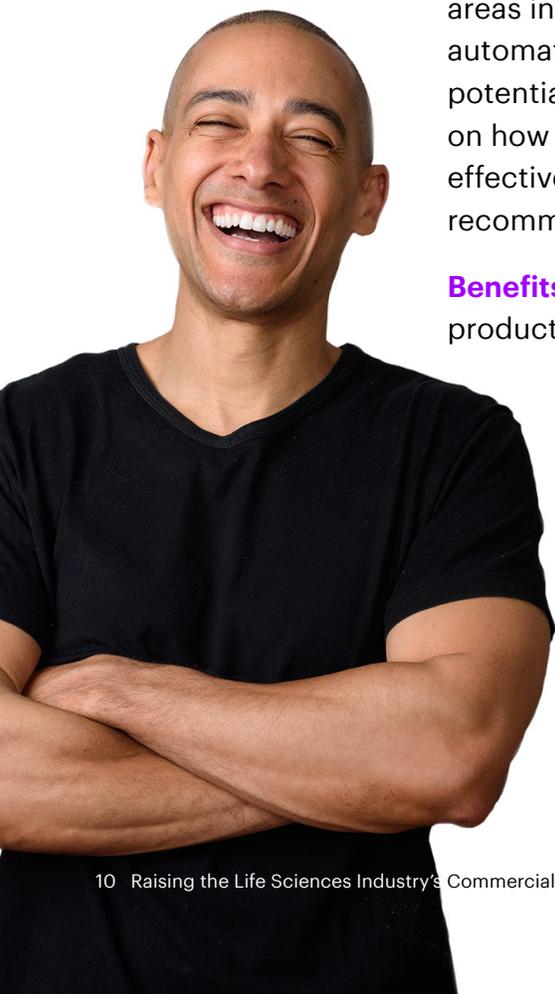
Smart Products and Services: Leverage connected devices and intelligent services to optimize patient experience

Getting started:

a. Select products where route of administration involves a device (e.g. inhaler) and use AI to simplify patients' daily routine (e.g. automatically adapt dosing based on pollen count, weather patterns and patients' vital signs)

b. Use human-centered design approach to understand your patient needs, their journey and identify how it can be simplified and assisted through AI-enabled solution and service. Prioritize products, which require complex therapeutic regimen. Identify areas in the treatment routine which can be simplified through automation. Use AI and machine learning-based tools to identify potential gaps in patient experience, get recommendations on how to streamline patient experience and improve service effectiveness. Use predictive modelling to forecast on how recommended changes impact patient outcomes.

Benefits: Improved patient outcomes through maximized product efficacy and better treatment adherence.



KEY SUCCESS FACTORS

So, with all that value potential for AI in commercial, what is the most effective way of getting started? Many life sciences companies perceive the application of AI to their business as a huge undertaking, involving broad-based transformation. That's at odds with what we have seen. In fact, our experience shows that the best way to capitalize on AI's potential is to start small, with highly targeted use-cases as outlined. We have also identified a few general principles which can serve as guideposts when you embark on your AI journey:

- Treat AI as a co-worker, collaborator, trusted advisor and enabler of more rapid response to patients' and the healthcare ecosystem's needs
- Accept the fact that "failure is an option"
- Have enough data to draw conclusions / generate recommendations
- Know precisely what questions you would like your computer model to answer and what are the actions / next steps that can be taken once you know the answers
- Know the measures you will apply to verify if the AI-enabled solution drive desired business outcomes
- Allow time to experiment and "train" your intelligent computer model - make sure your teams have skills and capacity to do it
- Leverage pre-built AI-enabled tools and solutions when possible or partner who have experience working in this space
- Ensure you have senior sponsors, appropriate budget and a task force

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ABOUT ACCENTURE LIFE SCIENCES

Accenture's Life Sciences group is committed to helping our clients make a meaningful impact on patients' lives by combining new science with leading edge technology to revolutionize how medical treatments are discovered, developed and delivered to people around the world. We provide end-to-end business services as well as individual strategy, consulting, digital, technology and operations projects around the globe in all strategic and functional areas— with a strong focus on R&D, Sales & Marketing, Patient Services and the Supply Chain.

We have decades of experiences working with the world's most successful companies to innovate and improve their performance across the entire Life Sciences value chain. Accenture's Life Sciences group connects more than 15,000 skilled professionals in over 50 countries who are personally committed to helping our clients achieve their business objectives and deliver better health and economic outcomes.

ABOUT ACCENTURE

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations. Combining unmatched experience and specialized skills across more than 40 industries and all business functions – underpinned by the world's largest delivery network – Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders. With approximately 442,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com.

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