These 4 Challenges in Adopting Machine Learning Can Lower Your ROI & Sabotage Your Success

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By this point, machine learning isn't some pie-in-the-sky solution. However, there are accurate, measurable results for businesses that leverage this technology across their organization. Here's just a few good use cases that come to mind:

- **UPS saves 10 million gallons of fuel and $50 million each year** because of their algorithm-powered ORION (On-Road Integrated Optimization and Navigation) platform. With their **dynamic parceling** processes, they are on track to save even more.

- Rosetta Stone, the name-brand language learning company, introduced **object-recognition tech into their platform,** which helped to contribute to **32% YoY growth.**

Even with all of the machine learning wins across industries, some businesses still seem to run aground on an unseen barrier, preventing or limiting their ROI. The good news is that the root problem is not unresolvable. Here are the common challenges in adopting machine learning in business settings – and how the right **business intelligence and analytics solutions** help.

1

Reliance on Legacy Systems

A recent survey conducted by Algorithmia found that the second greatest AI/machine learning challenge was technology integration and compatibility. As many as 49% of organizations that are actively using machine learning solutions find that their technologies, programming languages, and frameworks do not work together. Often, legacy systems are the main culprit.

In general, legacy systems do not work well with prediction algorithms. The amount of hardware necessary to analyze large quantities of complex, high-quality data is usually not available through legacy systems and databases. Plus, the lack of scalability and the siloed configurations prevent rapid analysis at the speed of modern business decisions.

It's one of the very early challenges in adopting machine learning in your business. At Evolutyz, we advocate for legacy app modernization before we start any machine learning project. We can encourage accessibility and collaboration by providing digital transformation solutions while still maintaining essential security measures and protocols. That way, extensive analysis runs smoothly – and is far less likely to expose your business to cybersecurity threats.
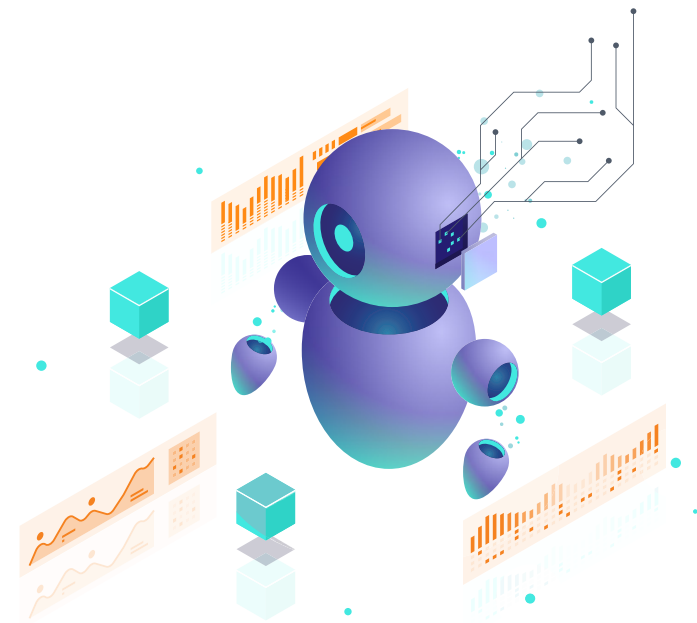
2

Insufficient Data in Your Training Dataset

Machine learning models are not designed to distinguish between good data and insufficient data. Instead, algorithms take the training dataset provided, no matter how deficient or irrelevant, and use it as a precedent that determines all resulting analyses and conclusions. Without data comprehensiveness or the proper quality standard, the old dilemma of "garbage in, garbage out" comes home to roost.

And this challenge isn't limited to small or medium-sized businesses. Even enterprises with extensive resources and teams of machine learning specialists have made this mistake. Take IBM as an example. During creating their Oncology Expert Advisor system, they trained their Watson supercomputer on a small sample size of hypothetical cancer patients rather than many real cancer cases. As a result, their machine-learning recommendations were routinely incorrect and unsafe, falling painfully short of their goal to help oncologists make accurate and life-saving diagnoses.

Whatever your machine learning processes (supervised, unsupervised, or a hybrid of the two), you need to ensure that the raw data fed into the training dataset is reliable and exhaustive for your desired outcome. That requires incorporating a human element into the early stages of machine learning. Organizations get the best results when end users understand the applications, and data scientists, who understand the analysis process, collaborate on the planning and data cleansing processes. Only with thorough reviews to ensure correct, complete, and consistent training data can you create the necessary foundation for successful machine learning projects.

3

Isolation from End Users

No machine learning process is completely removed from human involvement. Even unsupervised learning, which does not have the annotation of supervised learning, still needs to be understandable to people at some point. Unfortunately, far too many projects unintentionally segregate the machine learning team from those who'll use the models in the long run.

One notorious Amazon machine learning project may have suffered from this exact issue. In the hopes of improving their ability to recruit exceptional people, the multinational tech company assembled an engineering team to build machine learning models that could crawl the web and find top performers. They built ten models throughout the project and trained the programs to review for 50,000 terms across past candidates' resumes. Great idea, but in practice, the algorithm developed an unintended bias against women and penalized mention of all-women's colleges – something that might have been avoided with more HR input.

Without the involvement of HR and recruiters focused on D&I initiatives, Amazon's algorithms disqualified people who might have made exceptional employees based on arbitrary distinctions. In addition, there was an evident lack of oversight and involvement from recruitment experts in the process, missing an opportunity to identify deficiencies in the training datasets or faulty conclusions.

Avoiding these types of mistakes requires what we call a 360° checklist. This brings together analysts, end users, and any other essential stakeholders to analyze the pros and cons of the features that go into modeling. All stakeholders should have a say in data acquisition, data preparation, and evaluating results to make sure subsequent analysis is accurate and fruitful. In addition, we frequently use a business intelligence strategy to ensure that the final product gets the best ROI.

4

Lack of Machine Learning Professionals

One foundational challenge is that some organizations still lack the essential machine learning talent to take their projects across the finish line. And the talent gap is only widening. According to the **2020 RELX Emerging Tech Executive Report**, 39% of their survey respondents said the reason behind many of the significant challenges for adopting machine learning in business scenarios is a lack of available talent.
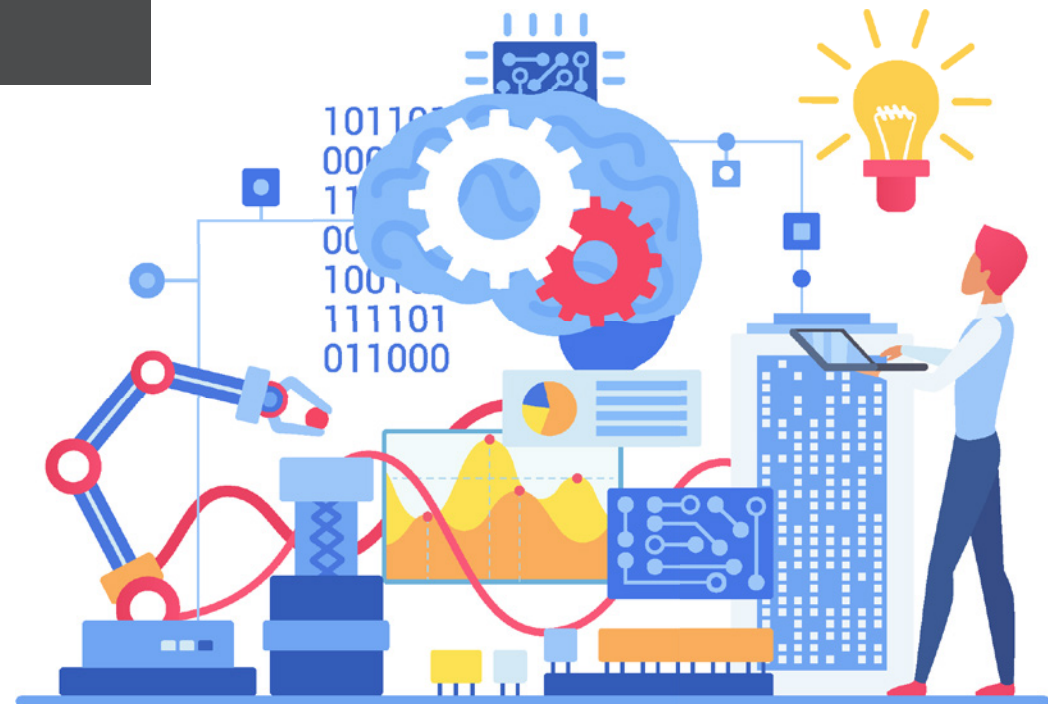
There is an opportunity to hire some machine learning professionals looking for new employers with the current job market. As small companies call their workers back to the office, **more than one-third of professionals** say they would instead change jobs than stop work from home arrangements. If your business can move fast, you may be able to acquire part of your necessary workforce. Even then, it might be challenging to assemble the entire team you need to complete machine learning projects.

That's why working with an experienced machine learning solutions provider can be instrumental. Their team of experts knows how to overcome the above challenges and knows how to work efficiently together as they address emerging problems while delivering the entire machine learning ROI.

Are you looking to overcome the challenges in adopting machine learning in business?

Evolutyz provides machine learning expertise with best-in-class results.

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At Evolutyz, we offer our customers the necessary products and tools to build and deploy innovative solutions. We enable our customers to adopt newer technologies, enhance employee productivity, and gain more in-depth insight into business performance, thereby increasing ROI while minimizing the TCO.

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