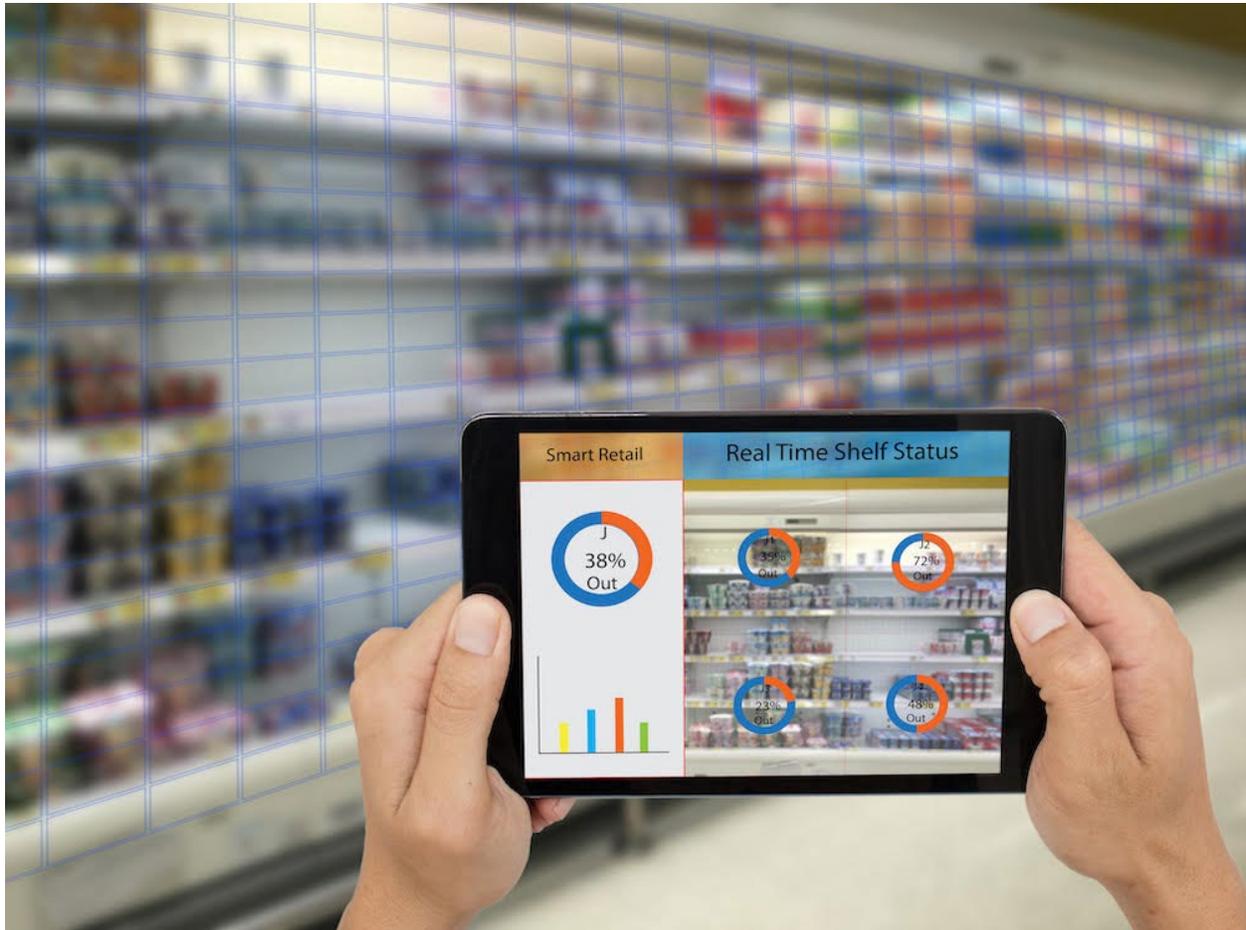




CPGs Must Strategize on AI Now or Risk Future Market Share



Executive Summary: In this simple yet important AI discussion on business strategy and execution, CEO Joe Bellini, a Harvard Business School alumnus certified in Artificial Intelligence & Machine Learning by MIT Sloan, shares why CPG executives shouldn't go to the next board meeting without reading this paper.

By Joe Bellini, AI Business Strategy, MIT Sloan

If you have watched or played golf, you know how much easier it is to putt if another golfer must putt their ball first on the same line. You get precise insight as to what your putt will do. What if you were lucky enough to watch a putt similar to yours for every putt on your round of golf? Rather than rely on green book recommendations, you'd



have real data on exactly how your ball will move, given the grass moisture, wind, temperature, and other conditions. Your score would improve materially.

In the same way, Artificial Intelligence/Machine Learning (AI/ML) provides stories about what has happened in the past—given a certain input and set of conditions, a certain output was realized. With today's powerful computing and robust data, we have stories for the equivalent of thousands of golf ball landing positions. And the more data, the higher the prediction accuracy, so the system gets better the longer you use it. Over time, in specific business areas where you have taken the time to model an ML solution, your business decision making will improve greatly since you have greatly improved the accuracy of your predicted outcomes. If you do A given B conditions, then C will result. Similar to the improved golf score, your business outcomes will improve materially.

Prior to AI/ML, you had to rely on business decision making capability similar to the green book. You calculated a high-probability outcome based on reported variables that combine using some type of formula to give the best guess. Unfortunately, as we have seen in many golf tournaments, and in real life, that best guess wasn't good enough and if we instead had a good story based on reliable data, we'd improve our outcome.

CPGs without AI throw money out the window

More than 70 percent of CPG promotions fail to break-even based on recent analyst reports. Mix this statistic with the fact that, on average CPG companies plow 20 percent of revenue into promotions, then having poor accuracy in predicting outcomes becomes a very costly problem. Plus, the opportunity cost is significant given you could have allocated funds to higher returning activities.

If you are similar to 60 percent of CPGs and still use spreadsheets to make decisions about where to invest 20 percent of revenues, or use yesterday's solutions from software companies still trying to use fancy differential equations and optimization to guess at your outcomes, then you will quickly fall behind the market in the new world of ML.

Markets do not behave in a linear fashion. Trying to create math models to represent this behavior can never consistently achieve high accuracy. We see that every day in trade spend returns.



A great example of non-linear behavior is from the first “Jurassic Park” movie. Remember when Malcolm explained chaos theory to Ellie by using a drop of water on her hand, showing that its movement changed every time a new drop was placed? Malcolm’s concern was that all the park safety systems were designed for linear events when real life happens in a non-linear way. Dr. Malcolm survived to do the sequel, whereas most of the folks who believed the linear approach was sufficient didn’t make it!

In business, wouldn’t it be better to have a strategy and set of business tactics that reflect your ability to make great choices and decisions and thus generate a better ROI for your investors? Today’s decision-making systems were all we had to work with for many years, but now that we have a new technology which models business with much higher accuracy, we can be Dr. Malcolm, rather than a never to be seen again movie extra.

AI is not the future, it’s the now

Of course, there are the usual hurdles to overcome, such as modeling an enriched set of data, capturing data from other systems such as forecasting/planning/promotions, the ability to compare actual results to predictions, and using event data to improve future predictions (the core strength of machine learning). As we deploy across these hurdles today, CPGs that wait will fall behind quickly.

Machine Learning can help CPGs run promotions with greater accuracy by leveraging stories created by forecasting, planning, execution, and evaluation. Data can be absorbed instantly, improving the accuracy of predictions over time, and thus arming CPGs with prescriptive recommendations to optimize their trade spend returns. Our machine learning algorithms assign the right promotion tactics based on the stories they have learned which were powered by deep data wells we have helped customers create over time (which quickly get better and better).

Promotion success is critical given the amount of investment dollars in motion. Our ML-based approach has been shown to improve accuracy by 10 percent or more as compared to today’s Trade Promotion Optimization (TPO) vendors. The ability to make the right decisions in terms of the return on investment (ROI) related to fund allocations, on a regular basis, will certainly improve your strategic market position.



Machine learning will absorb the data stories that you provide about past experience and based on both historical data as well as data about the various market and other conditions that existed at the time, will provide recommended actions based on various strategies such as maximize revenue growth. It will also provide outcome prediction if you are deciding between a buy one get one (BOGO) or if a percent or dollar-amount discount would be a better investment.

Over the past few decades, most data hubs were architected for storage and retrieval. Now ML gives CPGs the ability to interpret data and make more informed decisions for pending actions like future promotions. Where big data never really lived up to its hype, machine learning is real, effective, and driving strong results. AI and Machine Learning are showing up everywhere in the market today powering companies like Netflix, Stitch Fix, Campbell's, and Google.

If you are interested in an executive level discussion on the strategic impacts of AI and Machine Learning for your business, including ML extensions into image recognition, natural language processing, or robotics, please feel free to schedule a call through Don Quattrochio at DonaldQ@afsi.com or 1 (774) 278-1038.

About the Author, Joe Bellini



Joe Bellini is a seasoned technology executive having served as a CEO or executive with multiple companies focused on providing software solutions to the Consumer Goods industry segment. After starting his career with General Electric, he went on to lead Oracle's CPG solution deployments, JDA's (i2) CPG/Retail industry solutions, and IRI's CPG analytics team. Currently the CEO of AFS Technologies, Joe has earned degrees in Mechanical Engineering, Applied Mathematics & Statistics, is an alumnus of Harvard Business School, and is certified in Artificial Intelligence & Machine Learning from MIT Sloan.