



TECHNOLOGY

The future of fast food

SA's competitive fast-food industry was mostly spared from the Covid-19 lockdowns, but times are changing and there may be more upheavals on the way.

South Africa's fast-food industry is a textbook example of a competitive industry. No franchise dominates the market: while KFC is the biggest, there are at least 20 other brands with at least 30 stores. Think of Steers, Debonairs, Wimpy, Nando's, McDonalds, Fishaways, and King Pie, to name just a few.

And there are always new entrants. In 2018, the celebrated owner and chef of Overture, Bertus Basson, opened De Vrije Burger, a burger and chips fast-food joint, in Stellenbosch. I asked him what he learned about fast food that he did not know before. "Firstly, fast food in many respects is an easier business model to manage than serious sit-down restaurants. Because our fast-food model is more linear, it was easier to equip our team to be specialists in their field. The self-service model can be very successful. Focusing on only one thing adds speed and quality in delivery."

With the focus on speed in an already competitive environment, one would imagine that there is little room for further efficiency gains. But that would be wrong, as a recent Predictive Insights report reveals. Predictive Insights combines economic theory and machine learning to make better predictions. I asked founder and CEO, Rulof Burger, to explain how it is that their machine-learning tools helped Hungry Lion to reduce wasteful spending by 14%.

"Having accurate predictions of how busy a restaurant will be in the future when making operational decisions – like scheduling workers, stock replenishment or food preparation – can empower managers to make better decisions. Managers in restaurants, much like managers in other industries, have hundreds of little decisions to make, all of which impact the profitability of the company. They simply don't have the time to consider all the necessary information carefully when making these decisions. Having access to a tool that recommends the number of workers that will be needed on different days and at different times of the day can help avoid having too few workers in a restaurant during busy times, or having too many workers at quiet times."

How receptive was Hungry Lion's staff to the better predictions of the model?

"Most managers welcome having one less thing to worry about during their busy day. While we have encountered scepticism, I suspect this is partly driven by a general distrust of artificial intelligence and concerns that robots will replace human workforces. Our experience of working with companies is that AI can free up humans to focus on the less tedious tasks that they do better than machines, like motivating staff, interacting with clients, and dealing with unexpected events.

"In the case of Hungry Lion, their CEO suggested that we run a 'man versus machine' forecasting competition to demonstrate to some of the more reluctant managers that the 'machine' can

outperform human forecasting. Not surprisingly, the machine outperformed the managers consistently and by quite a large margin on average."

I try to challenge the idea that machines perform consistently better than managers. Prediction is, inevitably, based on historical data. Yet when Covid-19 hit, and with lockdown restrictions, the data on which the model's predictions were based would have been outdated, as consumer behaviour had fundamentally changed. How do you marry the precision of your predictions that comes from reliable and consistent data with a black swan event that the model won't be able to predict?

"That is exactly right. Covid-19 caused a sudden change in consumer behaviour which the historical data could not have predicted. But our models demonstrated that this is exactly the kind of behavioural shock that machine-learning methods can more quickly understand than either human intuition or conventional models. The change in consumer behaviour was very similar across similar types of restaurants, so a single model which integrates the information about consumer behaviour across all restaurants can more quickly learn about new

consumer behaviours than a single manager who only observes what happens in their store. We found that the pre-lockdown data was still useful for predicting things like weekday patterns or behaviour during holidays or common payment dates."

One thing Covid-19 did do – a topic that has not received much attention yet – was to emphasise the importance of healthy living.

"Healthier fast food is still few and far between, but I think this trend is changing. Instead of driving the quality of our burger down to achieve our margins, we would rather charge more and use better ingredients and communicate this to our guests," says Basson.

Are healthier menus the future of fast food, I wonder? "I think the future is more choice. Although De Vrije Burger is just a simple burger, we believe that our guests would like to know what they consume comes from a better place. Products like Beyond Meat show that there is a high demand for meat and meat-like products that is more environmentally-friendly and kinder to animals."

Greater efficiency and greater choice seem to be the future of fast food. Says Burger: "I think most SA companies

are already using model-based decision-making in one way or another, and the ones that don't will find it increasingly difficult to compete in a highly competitive market like fast food. Ultimately, I think the winners will be the customers, who will experience lower prices, shorter waiting times and services or products that better fit their preferences." ■

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