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Management Review

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Ruben Sigala (Caesars), interviewed by Renee Boucher Ferguson

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Caesars Entertainment's analytics organization wasn't formed for incremental gain, according to chief analytics officer Ruben Sigala; the expectations — and deliverables — are much bigger than that.

RUBEN SIGALA (CAESARS), INTERVIEWED BY RENEE BOUCHER FERGUSON

With a MIT-trained economist and former Harvard Business School professor at the helm, Caesars Entertainment has become the poster child for how analytics can work successfully in the enterprise. CEO Gary Loveman is vocal — and frank — about his organization's reliance on analytics to guide business strategy, operations and innovation.

But even Caesars has had to readjust at times.

With more than 70,000 employees and casino resorts on four continents — the company primarily operates under the Harrah's, Caesars and Horseshoe brands, in addition to owning the London Clubs casinos and the World Series of Poker — Caesars has built its reputation on knowing its customer base. It builds this knowledge by using analytics to create a rich customer experience, marketing to customers based not only on their preferences but their actions while at a Caesars property, including whether they've had a winning day or a losing one.

Over the past several years, Caesars has undergone a reorganization, in part to centralize its analytics functions. The goal: to build a deeper understanding not only of customers, but also of operations — everything from food and beverage analytics to labor analytics. Ruben Sigala, chief analytics officer at Caesars, talks with MIT Sloan Management Review contributing editor Renee Boucher Ferguson about that process, some valuable lessons learned, and where innovation and intuition play a role.

Lets start with how it is that you're using analytics throughout your organization.

Our organization is exclusively devoted to the use of analytics. We are the consolidated and centralized analytics department for the entire enterprise. We provide analytical support for every aspect of the operations in every jurisdiction. We've got a number of sub-units that effectively represent the most highly leveraged or complex areas of analytical support required across our operation, and a supporting work structure against each one of those.

We have gaming analytics, revenue management, finance, marketing analytics, hotel ops and labor. There is also a casino marketing analytics group, an advanced analytics group, and a data logistics organization. Finally, there's also an on-property analytics team.

When you hire for each of these organizations within Caesars, do you look for specific skills within these areas, or do you train for those areas?

The short answer is yes to both. As we hire entry-level analysts, in a broad sense, we're looking for a specific intellectual toolbox, as well as a sense of cultural fit. As we continue to advance within the ranks of an organization, at the higher levels, there becomes a much greater sense of specialization.

Within each of these areas, there is a training regimen that we construct. In some cases, it's quite detailed and in other cases, it's a bit more loose. That's something that, as an organization, we're attempting to address in a much more meaningful way going forward.

Is there any department or organization within Caesars that is not tapping analytics?

My immediate impression is not really. I don't want to make this sound like an overstatement. Without question, there are some that are far more reliant on analytics than others, but one thing that you might appreciate is if you've had any exposure to our CEO, Gary, he is a classically trained economist. His trade really is analytics and numbers. He has, I think, instilled a pretty unique culture across the enterprise in terms of how analytics gets woven into the fabric of virtually everything that we do.

Now, there are some areas that I think still are frontiers that can be better cultivated, but in large part, the operators that work at Caesars Entertainment are tremendously astute at leveraging and consuming analytics. They frequently have done meaningful turns through analytics, whether they started their career in analytics or have, at one point in time, done a rotation through analytics. So, it is not unusual that across all of the operations that there are very well-trained analytical professionals conducting high-level operations.

We found in our research that one of the hardest things that companies or organizations face in their analytics journey is instilling an analytics culture. Was it Gary Loveman coming on board that instilled this pervasive culture of analytics at Caesars, or can that be attributed to something else?

I've been with the organization for slightly less than eight years. Gary's tenure predates my own, but it is clear that he's had a tremendous influence on the way the enterprise seeks to compete and how it defines itself. One of the core pillars that he has been consistent about is leveraging analysis and having the most data-driven and rigorous analytics within the industry.

Now, that's not to say that there certainly aren't opportunities to improve, and we're continuously seeking to identify those, but from a cultural standpoint since I've joined the organization, this aim to compete on analytics has been pretty apparent. Prior to joining Caesars, I did work in consulting. I also did work for other organizations, and I've found this particular culture to be quite unique in the demands it has on the analytics and the way it views itself. Similarly, there's a very clear career path within analytics, but it's not confined to analytics. I think this is not only an important component of the value proposition for attracting analytical talent, but it also serves to inform the way the organization operates.

Caesars has, in the past couple of years, undergone a reorganization of sorts to make analytics more centralized. Can you describe how that started, and what the impetus was for that?

Prior to my arrival, there was a very formalized analytics structure across our enterprise. It was decentralized. Virtually every property, in many respects, was developed to function as a stand-alone entity. Of course, there was always connecting tissue across each of those properties tied to our loyalty programs and other operational standards. That was true of the analytics too, but what also happened throughout that timeframe is that the enterprise as a whole grew significantly. In some areas, the enterprise grew organically, but often this growth was spurred through acquisition. Consequently, we were constantly absorbing other operations.

Like most organizations that experience these changes, that integration happened quite elegantly in some cases, and in other cases, there was a lot more of what I refer to as legacy friction that we continue to work through. At some point in time, we took a step back and said, "We now have what is in large part somewhat of a stabilized organization, and are we structured in a way that would result in the most efficient operations possible?"

One of the first areas that we looked at was analytics. The reason behind that was, analytics was something that was pervasive across every operation. It's something that every unit leveraged heavily, and the general thought was if you could go through this exercise in analytics and do it well, that it would represent an opportunity to affect a number of different areas of the operations in a meaningful way. In this respect, targeting analytics gave us an opportunity to ask, "Is this going to be workable?" as a broader reorganization exercise.

Subsequently, analytics didn't do this alone. There was a bunch of initiatives that were identified, but analytics was one of the more visible ones. Over the course of about a year, we went through an exercise in which we reviewed our operations in exacting detail. We looked outside our industry at various trends within the function and other organizations, and then ultimately came across with our own blueprint that we thought would work best for Caesars and executed against that. That included a central-

ization of all of our analytics functions, along with some decentralized or distributed support. In general, we have a federated model that enables us to benefit from many centralization aspects such as applying best resources to the biggest problems, identifying best practices, standardization, and so on. The positioning of resources in the field enables us to remain close to the operating dynamics and leverage innovation locally. In total, we feel this is the most efficient model possible for our operations. We've since been in this structure for the past couple of years.

Are there any lessons learned from that experience that you would share?

From a talent standpoint, we were building a much larger organization from a sense of scale. The analytics teams that existed previously, in many cases, were teams of three or four people at one location. In some cases, they could be significantly larger, but in general we were talking a magnitude change in the consolidated form. Identifying the appropriate leaders to run these very big organizations was not a small task, and it's one that, if anybody is going to attempt this type of change, they really need to be as deliberate as possible about that process. That was one of the big challenges.

Secondly, the infrastructure that's necessary to do this takes some time [to create]. We had a lot of the connecting tissue, but to be honest, much of that had eroded as we continued to integrate and grow through expansion, so establishing a uniform view of the data and to arrive to "one version of the truth" took us some time. Also, the presentation of that information required a lot of relearning for many aspects of the business. That familiarity was something that for many parts of the operation was altered and was something that we had to be quite careful about rebuilding. That was not a small task.

Third is that the communication necessary to do this well cannot be understated. We were spending a tremendous amount of time identifying stakeholders and doing our best to give them full

transparency into how we were progressing, how things would be affecting their operations, and also, incorporating the feedback that they were providing to us continuously. That is an exhausting exercise, but an absolutely essential one.

Finally, it was really critical for us to have a very visible and meaningful wins throughout the process to be able to proceed in an unencumbered manner. That was something that we had outlined upfront and made a very big priority. Whenever we thought we were close to executing against any of those "big wins," we were quite visible about that and tried to make sure that people understood from an operations standpoint how this was going to be impacting the business.

Are there any specific projects that you can point to that were impactful wins that provided that runway?

At a very basic level, giving all of the operations somewhat of a uniform view of their business was not a small thing, and getting to a common language around how we were going to be measuring the business from one location to the next was also pretty meaningful. I don't want to sound trivial about it, but having that exercise in getting everyone on board — because we also have regional presidents who are managing businesses across jurisdictions — and giving them a uniform platform against that was something that added immediate value.

That's a pretty low bar, at least in concept — but in actuality, that does take a good amount of time.

How did you get to a common language? Is that a technical solution, or process, or data governance?

All three of those things are relevant. The heads of each of the departments that comprise our organization were charged with developing the key operating metrics that they would be reporting and optimizing against on a going-forward basis. They did not do this in a silo. In every case, they were working with their identified client base to come to some degree of consensus against this, knowing that ultimately the responsibility resided with the analytics to resolve any disputes around operating metrics.

That process — in large part, there's a great deal of consensus to start, but as you go from one location to the next, there are some material nuances. So, making sure that we preserve nuance when it made sense and then eliminating nuance that was not as meaningful and resulted in inefficiencies, does take some time. Part of that is process-oriented. Part of that is technical expertise, but a lot of that is the governance that you described.

The other thing I'd add is … that exercise never goes away. The business evolves, and [it] requires that you're continuously examining this; at the same time, even just simple things like turnover or changes in organization structure results in renewed discussion around this very concern. Being able to manage that efficiently is not a given, but was a pretty meaningful step forward when we first began the process.

Where would you say analytics plays a role in innovation at Caesars? And can you point to any specific areas where you have innovated or are hoping to innovate?

One of the governing tenets that we have identified for this centralized organization was this notion around innovation. The way that we articulate it was that we said the organization wasn't formed for incremental gain. We were here to provide world-class analytical support. The intended implication [was that] there was some notion of continuous innovation residing within the group.

Within every area of the org — the gaming team, revenue management team, finance, etc. — they all have innovation outlines attached to their strategic plan for the coming year. I think we've had a good deal of success executing against a number of our highest-profile innovation agenda items, and there's still a tremendous amount of opportunity to continue to improve.

One of the other benefits the centralized structure provides us is [that] it's a great platform for partnership because it provides meaningful scale and gives an overview of a number of great live experiments across the enterprise, as well as various operating concerns that we're providing support against. A good deal of our innovation happens through partnerships outside of our organization or across industries. It's something that I think is one of the more exciting components of working at Caesars.

Can you give me some examples of live experiments?

We have experimentation going on every day, across every aspect of the operation. There are tests literally occurring all the time. These tests span the gaming floor, the website, the direct mail stream, hotel pricing … again, this is happening constantly and continuously. This is part and parcel of how Caesars operates its business.

In terms of things that were visible wins, I'm a little deliberate because this is where we get into some of the secret sauce components into how we operate, but I can tell you from a broad sense that we are constantly looking at how our marketing affects customer behavior and the value proposition that we're delivering against, as well as how we're attributing value to a customer. That's something that we're continuously refining and can have tremendous impacts to bottom line results.

There are big, large-scale projects that are on going within the organization in support of improvement in that space. There are things across pricing and how we yield against our hotel that also provide great ground for experimenting that we're actively executing against. And the explosion in data and the use of recursive algorithms offers us a great deal of flexibility.

Changes in data structure, architecture, and cost are also contributing to a wide range of exploratory analytics. There are things that we're going to be able to do with surveillance data, with traffic flow information and so on, that I think will add a tremendous amount of value once refined.

You mentioned partnerships. Can you talk about partnerships that lead to innovation?

I don't want to get into specifics around working arrangements with external partners, but I will tell you that there are a number of organizations that we work with to help us accelerate our capabilities in this space. Our centralized platform enables us to leverage these types of resources and absorb their capabilities in ways that add tremendous value. It also provides a meaningful platform for immediate consumption of the analytics and streamlined integration into the operations. This is of no small concern.

There are a number of talented providers of analytical thought leadership across industry, but we've found that effective partnership with these groups is greatly facilitated by having a strong internal capacity and infrastructure. This ensures that value is not only immediately observed but that it is sustained over time. Further, the ability to be critical, to push back and to "learn from each other" is also essential for success.

So the short answer is that these partnerships have been a pretty meaningful way for us to advance our capabilities. There are groups who we've used for short-term projects, and others who we are evaluating as longer-term partnerships. Those partnerships, we feel, align from both a skills and cultural standpoint to deliver long-term mutual gain. Under the right circumstances, we could have very long-lasting relationships with certain providers.

How do you factor in intuition or experience versus analytics? Where do you draw the line?

Our charge is to provide the analytics' view on any given question. It is not our charge to necessarily have decision rights against every decision. What we are also charged with doing is being transparent around degrees of uncertainty associated with every analysis that we do — and we try to be quite methodical and open about these things. Ambiguity is something that can be difficult for any data-driven organization to deal with, but it is a

point that we try to address directly within our team. It is ok to say that things are inconclusive, or to acknowledge constraints or scenarios in which the findings lose validity. In fact, this nuance is often the distinctive trait of our best analyses.

There are regular debates that occur in which we have a point of view on the best course of action, and the operations or other aspects of the business may have a contradictory view. Ultimately, we operate on the basis of the debate. I don't know that we would claim to have a perfect balance in terms of intuition and analytics and how that informs the most meaningful decisions that we have. But I would tell you that we're at constant debate around how do you make sure that we're not too narrowly focused on one direction versus the other.

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