

Elevating the cost of doing nothing: an interview with Mark Shafer

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Abstract This interview discusses the implementation of pricing and revenue management in a large, diversified company—Disney. The interview explores success factors to improve profitability by leveraging the role of analytics in the discipline of revenue management and pricing. The interview also illuminates the characteristics at the level of individual revenue and pricing managers that discriminate between high and average performers. The interview finally points towards the existence of biases in revenue management implementation and reminds that the inability to perceive the inevitable biases severely undermines the ability to improve profitability.

Keywords Pricing · Pricing strategy · Revenue management · Implementation · Analytics · Psychological traits

Andreas Hinterhuber:

Mark, today we'll explore insights and key learnings on the implementation of revenue management. Let's begin with your own professional background.

Mark Shafer:

Of course I always need to start off by saying, the views expressed are my own and not necessarily those of The Walt Disney Company. Any analytics strategies or techniques attributed to Disney are not necessarily those that Disney may use in a given situation.

Now to answer your question, my career started with a startup airline called People Express. After 3 years at People Express Airlines, they were bought out by Continental Airlines. I worked at Continental Airlines for 10 years in both revenue management and pricing roles. I was approached by Walt Disney World 21 years ago to start a revenue management department for their resorts. Disney has always been a leader in innovation; this was a time when the hospitality industry was still in their infancy with revenue management. They were looking for someone with experience from an industry where revenue management was a mature discipline, i.e., the airline industry, in order to bring a new kind of analysis to the company. I started in a traditional hotel-revenue management role at Walt Disney World leading the discipline of revenue management.

Like most early adapters, we started with something rather simple and it evolved to what it is today. As the models became more sophisticated the value noticeably grew as well. This gave us the opportunity to branch out into other businesses within Parks and Resorts. As an example, we implemented what we call the *Customer Centric Revenue Management system* which optimized our sales process at the call center to better understand our guests' needs when they are in the process of selecting a resort/room type. We used this system to ensure we provided the most relevant products for our guests, out of

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the thousands of possible products we have at Walt Disney World.

Then we introduced revenue management to table service restaurants where it is essential to forecast your turn times. Unlike a resort where it is easy to quantify your inventory by simply counting your rooms, for table service restaurants, you need to forecast your turn times so you will know your sellable inventory to appropriately accommodate your guests. To understand your inventory there is a wide array of things to consider: you need to forecast by day of the week, by time of day, by party size, and so on. With this revenue management solution, we were able to make better predictions of our sellable inventory and thus became better at accommodating our guests' needs.

As our successes grew, so did our opportunities. 10 years ago, we expanded to applying decision science solutions outside of Parks and Resorts to other segments of the Walt Disney Company. We moved away from traditional limited-capacity/perishable-inventory revenue management to leveraging applied science to drive a wide array of better business decisions company-wide. Today, we develop, implement, and integrate analytical software solutions to support the entire Disney Company to help solve some of our most difficult business problems.

One of our early successes beyond Parks was our dynamic pricing and revenue management solution for our Broadway shows such as the *Lion King*. The market took notice when *Lion King* was breaking all kinds of box-office receipt records even though it is neither the longest running show, nor in the largest theater, and we do not charge the highest prices on Broadway. Of course, something that cannot be overlooked is that the show is a phenomenal product, clearly this is a key component. However, the software solution we developed to yield manage and dynamically price show tickets certainly played a role in the revenue success. It was fun to see the solution that we developed achieve accolades in articles for the *New York Times* such as, "Ticket Pricing Puts 'Lion King' Atop Broadway's' Circle of Life" (Healy 2014), as well as in other major publications.

We have also developed analytical solutions for our media companies such as ABC, Freeform, ESPN, and our A&E partners as well as Disney Studios where we expanded applied mathematics to provide insights for marketing ROI, sales optimization, and viewership forecasts. In short, we expanded the scope and definition of revenue management to include leveraging applied science to drive better business decisions, improve long-term profitability and overall guest/client satisfaction.

Andreas Hinterhuber:

Who recognized the potential for revenue management? Was the initiative driven by middle management, or did it come from the top?

Mark Shafer:

At the very beginning, revenue management was only a forecasting tool to provide operations labor planning insights. Then the VP of Finance hired a revenue management team to get revenue management started and to implement it at Walt Disney Resorts. The decision came from senior-level executives who recognized the successes the airlines were having leveraging revenue management; they identified opportunities for success in Walt Disney World by applying it to our resorts as well. I would define our first solution as less science and more business rules, which eventually was replaced with a full science-based solution.

One of the lessons learned that I would share is not to limit yourself to your own industry, rather find the best overall solution and see if you can transform that model into something that might fit your particular industry. At Walt Disney World, we didn't just look at hotel-revenue management models, we also looked at airline-revenue management models. Recognizing that the airline models were clearly more sophisticated and probably a better fit for us, we basically took an airline-revenue management model and converted it into a hotel-revenue management model. That was our first real big success in revenue management.

Andreas Hinterhuber:

Revenue management is all about the intelligent use of data. What do you do to instill a sense of passion for data in Disney?

Mark Shafer:

That's a great question, we do a lot of things! To start with, we hold a 3-day annual conference on data analytics that we call the Disney Data and Analytics Conference, or DDAC. This year's conference was our sixteenth annual event and it was a big success. The conference has multiple purposes, however, it primarily serves to evangelize data analytics across the Walt Disney Company. We actually have a registered trademark for a term that describes just that, we call it *Evangalytics*[®] which is the spreading the gospel of analytics.



The first day of the DDAC is only open to Disney employees. This year we had about 800 internal employees attend of which roughly a third were executives from segments company-wide. During the first day, we share learnings in developing, implementing, and integrating the analytics enterprise wide. Of course, that's also a great opportunity to evangelize analytics at Disney and share intellectual property because during this time it's all internal employees.

The next 2 days we open it up to the general public. During these sessions, we invite outside speakers as well. This creates two opportunities. First, it provides our Walt Disney Company colleagues an opportunity to hear a perspective from outside the Disney Company. Second, it provides the Walt Disney Company an opportunity to showcase our dedication and efforts in applied science branding us as a leader in the field of analytics. So when the attendees (this year we had a total of about 1300 in attendance) see this massive forum focused around analytics, it demonstrates that applied analytics is a major discipline and investment at The Walt Disney Company.

So when people think about perhaps working for Disney, they may not instinctively think of us as a great company to pursue an analytics career. Normally when you think of Disney, you think of us as a great creative-content, guest-focused company, which we are. But a lot of that requires strong analytics. It's a big component of our success. One of our greatest opportunities is how we use analytics in unique and different ways that are only possible in a varied company like Disney.

Andreas Hinterhuber:

The key differentiating capability that allows Disney to implement revenue management across the different business units, from parks to studios to ESPN, is this focus on analytical capabilities?

Mark Shafer:

Yes, absolutely—and getting full buy-in across the entire organization. Earlier I talked about the value streams of our conference but there's another value stream in evangelizing analytics. A quote from Jeffrey Ma (who was a keynote speaker at the DDAC 2016) illustrates the point: “There will come a time in analytics where you'll make the right decision but have the wrong outcome”. No different than in a football game where the math will recommend you go for a field goal; if you miss the field goal that does not mean you made a bad decision. So, *Evangalytics*[®] helps you work through these situations where there is a level of uncertainty. By educating and evangelizing analytics across your company, there is buy-in to the value of

analytics. So when you have those moments where you made the right decision but had the wrong outcome, you can maintain the buy-in.

Andreas Hinterhuber:

That, Mark, is very well said. You make a distinction between the right process and the right outcome, and you say you would choose the right process 100% of the time, even if sometimes you get the wrong outcome.

Mark Shafer:

I want to mention one other piece. We have introduced something new to our DDAC this year, which we call the DDAW—Disney Data and Analytics Women—where we sponsored women college students to attend our conference. The idea is to help them recognize the career opportunities in analytics, as well as realize that Disney is a great company where they can pursue an analytics career. This was our first year with this initiative. The sponsored students had the opportunity to meet and discuss their careers with women executive leaders in analytics from across the Walt Disney Company and it was very well received by both the students and the executives.

Andreas Hinterhuber:

In terms of current research, one fascinating area explores the micro-foundations of pricing, the relationship between individual characteristics and behaviors and outcomes in pricing: Stephan Liozu and I had the privilege of editing a special issue on this interesting and little explored topic (Hinterhuber and Liozu 2017). This leads to the next question: What are individual traits that differentiate highly effective from less effective revenue managers? Are there differences across Disney's business units?

Mark Shafer:

That's a great question, and I'd say: a couple of things. I'll begin with the obvious. You need to have a strong math background, the desire to continually learn about applied analytics, and the ability to connect the dots. Then there are the characteristics that are often missed such as the need to have an entrepreneurial spirit in that you're always looking for new opportunities. Creativity and innovation are central to the Walt Disney Company. I would argue that revenue management/analytics are still in their absolute infancy. Recognizing all those opportunities that are out there and pursuing those should be a passion and a priority.



A piece that will also drive success is storytelling. Many folks are uncomfortable with math or analytics. You have to find ways to build stories around those analytics so that people can better understand the approach and buy into it. At Disney, we're storytellers. Analytics simply allows us to add numbers to help tell a better story.

Also, individuals who have the skills to identify with the end user of the analytical tools and grasp existing processes, will succeed greatly in this business. This is important as it is one thing to actually develop a software solution that provides the analytics and does a great job of that, but the next piece is what's often missed: the integration of those solutions. You have to understand the business and make sure the solutions integrate appropriately. Say you're working with a team and they've always worked in Excel. Many times we'll develop a software solution that has all the great intelligence behind it, but the front end will look very much like the Excel spreadsheet their team is familiar with, so there's very little process change required of those end users. It's about integrating complex analytics processes with user-friendly business solutions.

The last characteristic I would add is to act like a thermostat. Think of individuals as falling into two buckets, thermometers and thermostats. Your thermometers are going to tell you what's happening, call out opportunities, or potential risks but do very little to act on these opportunities or risks. The thermostats on the other hand are like thermometers and recognize opportunities and potential risks but they also act on these opportunities. That is absolutely critical. Because whether you're evangelizing, developing, or implementing analytics you can be assured you will hit obstacles. You will always run into issues: data issues, buy-in issues, science issues, and integration issues. Therefore, to be successful you have to have that tenacity and the will to succeed to overcome these obstacles. That is the thermostat-type behavior that is a critical characteristic.

Andreas Hinterhuber:

How do you begin to develop an analytical software solution?

Mark Shafer:

When you are looking for an analytic solution, you want to make sure that you don't just limit your search to your own industry. Every industry does something really, really well. What you want to do is identify the best in each of those industries and try to figure out how to leverage those insights. You need a skill set to try to connect those dots—

the ability to see something that doesn't look anything like what you're looking for. But if you look with a critical eye, you recognize clearly that there are components from this industry that could actually work and carry it over to your own industry.

When we hire, we look for people with diverse backgrounds. A diversity of teams certainly helps us to approach business problems with varied and unique perspectives.

A great example of using other industries as examples was when we worked with this one airline-revenue management vendor and recognized the similarities between hotel and airline business problems. Airlines have origin and destination considerations which is very similar to hotels length of stay considerations.

This is one of the primary reasons our centralized organization at Disney has been successful. We have been able to leverage the knowledge across the segments within the Disney Company to solve some of the most difficult business problems.

Here is a simple example:

We forecast box-office receipts for studios for every movie. Keep in mind every release is a new movie. So how do you forecast something that hasn't happened before? This is a very similar business problem Disney Cruise Line faces every time they open a new itinerary. So we will leverage tactics and learnings from our studios forecasting to the Disney Cruise Line new itinerary forecasting.

Andreas Hinterhuber:

Great comments. You mentioned roadblocks to the implementation of revenue management.

Mark Shafer:

It's pretty much the traditional ones, which would be the buy-in issues, data issues, and integration issues. Also, in many cases, the business problems we are trying to solve have never been solved before, which is why we drive a lot of patents. So you have to figure out the appropriate science approach to solve our unique challenges. These are probably the biggest roadblocks that come to mind.

Andreas Hinterhuber:

You said before: don't be stuck to your own industry. Learn from the very best regardless of where they're



coming from. This leads to the next question: from whom are you currently learning?

Mark Shafer:

Well, every industry does something really, really well, and they're all improving. You can't just look at any one industry and say "Oh, that's where you want to go." You've got to look at them all, and just really try to figure out the best of breed from these industries to solve your specific business problem.

And that is what I like about using the *Journal of Revenue and Pricing Management*; leveraging those learnings across industries, whether it's an airline example, or a hotel example, or a supply chain example, whatever the case may be. Whenever something is in there, because it is multi-industry, try to use that and leverage that for your own industry. Just look for the best. But you've got to stay on top of all those industries.

I would also say we do have a big focus on machine learning. We're finding more and more applications. So that's a big investment for us.

Andreas Hinterhuber:

You use artificial intelligence and machine learning to automate processes which are done manually at present?

Mark Shafer:

Yes, or even just an improvement to existing solutions. In some cases, we may use statistical models that provide segmentation and forecasting, and in some cases, we may move more towards machine learning because it just does a better job. Especially when you've got a lot of data coming in and it's an ever-evolving industry, particularly anything online. It's constantly evolving. If you have, like with machine learning, the ability to adapt and learn and make changes quickly, it certainly helps.

Andreas Hinterhuber:

How do you see the future of revenue management at Walt Disney? One important part clearly is the focus on machine learning and artificial intelligence.

Mark Shafer:

Yes. But the other piece—literally what we're always doing—is going out there and looking for where people are making business decisions. Just simply thinking about all the business decisions that are made in any

company, probably thousands if not millions of decisions are made every single day. What we're trying to do is go out and identify some of those where, if we use analytics and decision science, we can drive better business decisions.

We don't limit ourselves to traditional revenue management, as I said before. Literally, we're looking for any place where we can simply drive better business decisions through the application of decision science.

Andreas Hinterhuber:

Great little piece. Evandro, you also had a set of questions.

Evandro Pollono:

Indeed: In the experience of Hinterhuber & Partners, you need a theory and a process to implement lasting changes in pricing and, quite frankly, in any other area that affects how people work together in organizations. I will cite the 8-step change model by Kotter (1995) or the Change Acceleration Process by General Electric (Ulrich et al. 2002) as examples of such a theory. What theory or process do you use to get buy-in for your initiatives in pricing and revenue management?

Mark Shafer:

We have very clear steps once we've got buy-in to start a process developing an analytics software solution. But before that, we have a lot of conversations. A couple of things we've learned over the years is that simply hearing the successes from us—a central function—is usually not enough. What better way to share success than from a partner who has already seen the benefit of our approach? So, many times we'll make sure that perhaps one key partner of ours will hear a success story from another key partner.

That's the advantage of the conference. Attendees get to hear the learnings from other business segments, not just from us. If you ever came to my office, you'll see that I have hundreds of books. I'm always giving out books. Again, hearing it not just from us but from a third party clearly makes a difference in getting people to buy-in to analytics. So if I know of a particular book that has a success story in it, where someone applied analytics in a very similar situation, I'll make sure I give our partner that book.

The other piece is constantly developing everyone's acumen when it comes to analytics. It's a huge component. The conference does just that; it is a forum for education. The best thing I can have is someone across the table from me, a partner of mine who helped develop that analytic



solution, to be fully aware and knowledgeable when it comes to analytics. So the more I can get the company to reach that level, the better off we are. One of the key components is not just evangelizing it—we're also developing our customers into very smart analytic leaders. Besides the conference, we send out quarterly newsletters containing success stories and learnings from our various partners within Disney. As you can see, we are all about having multiple touch points for analytics education. But it doesn't stop there.

We also take the best presentations from our conference and present them online regularly throughout the year as part of our Speaker Encore series. So we're constantly exposing our partners with the opportunity of development when it comes to analytics. That development is essential to getting around the barrier of an unfamiliarity with analytics and more specifically what our department does to help drive business results.

Then, when there is an opportunity to pursue a new idea, you're already ahead of the game. So don't start just simply by saying "I found a solution" which you then go out and sell. Start way before that. Get everyone starting to buy-in to the value of analytics. Get them to understand the value of data-driven decisions. The value of moving away from averages, to quote Sam Savage and "*The Flaw of Averages*" (2009). I've probably given out a 100 copies of this book—it's very good, easy to read. Most places start with simply making decisions based on averages, which is not a bad place to start; however, if you can just move them away from averages, to understand the distribution around those averages, that's not only a huge science leap, it's also a huge win for the organization and in many cases drives significant value. We are always looking for these types of opportunities: science that improves decision quality that in turn creates value.

Evandro Pollono:

Great insight. The other, fundamental insight is to have a game plan in mind where you start almost like it was a journey and you continuously maintain the organizational energy towards analytics and revenue management.

Mark Shafer:

Absolutely. That's exactly right. It's never a single decision. It literally is a mindset. We always talk about revenue management as a discipline not an application. It's a mindset you have to get started. Like I said, don't wait for the opportunity to actually go ahead and apply analytics somewhere to start evangelizing analytics. Start fostering the mindset in advance of any analytical application.

There are many opportunities you'll never even see that are buried within your organization. I'd say right now, as an example, when we first began doing analytics for the enterprise, I'd say probably 90% of the opportunities came from us identifying them. I would say it's almost 50/50 if not 60/40 that now our clients, our partners, are reaching out to us: they are now identifying the opportunities. They have been able to identify them because they've developed their own framework on analytics and the discipline for how to think about their business, with our help of course. Self-realization is what continues to evolve.

Andreas Hinterhuber:

In summary: at the beginning, 90% of the opportunities in revenue management were identified at a central level, whereas now about 60% of opportunities are generated at a decentralized level by your own partners.

Mark Shafer:

That's exactly right. What's exciting is that opportunities are now generated by all of the segments and all departments across The Walt Disney Company. Analytics can solve the wide array of business problems in every discipline. So you have to make sure you bring this discipline across the organization and there are lots of unique ways that analytics are implemented across our company.

I think many people start out with something simple like, "I wanted to implement revenue management." Then they try to start evangelizing revenue management. But they should start even before that. Start evangelizing analytics, data-driven decisions, decision science, to everyone in advance, and all those various opportunities will start to unveil themselves. As I have mentioned, buy-in is always the greatest challenge so the earlier you can start promoting Evangalytics[®], the better!

Evandro Pollono:

Great insight, very well said. I would like to explore one further point. You say you encourage people to bring new ideas from other industries. How do you decide which ideas to implement? Let's say you have ten people with ten ideas. How do you say "Okay, we're going with this one, run some experiments, but we will drop the other nine"?

Mark Shafer:

That's a very good question, Evandro. When we prioritize our workload—and we have to because, as you can imagine, I could be doing this for another hundred years



and I wouldn't be able to catch up with everything that's still out there—we do a couple of things.

One obvious thing is to identify the highest value. Value could be defined as anything from enhancing the overall guest experience to improving profitability. Different projects have different definitions of value. The other things we certainly look for are speed to market. Also, how clean is the data? Has the data ever been used in this way before? The buy-in is huge. Is the opportunity being identified by the end client, or is it coming from us? If it's coming from the end client, that means there's a lot more buy-in typically. So we certainly prefer opportunities coming from decentralized units.

Lastly, I would say is take into account the ability to leverage components or learnings from one business problem to another. This in itself assists my earlier comment on the importance of speed to market. We have developed many really good solutions that we frequently leverage across our projects. When we see success with a solution, this makes the buy-in from our partners much easier to achieve.

Evandro Pollono:

Mark, are there any further points that we should explore in the area of implementing pricing and revenue management?

Mark Shafer:

There are a couple of things I want to make sure we call out. Many times when we think about applying analytics or applying revenue management, we think of it as a go or no-go decision. We tend to think the initiative has an investment profile. We tend to think about the value the initiative is going to bring. But the piece, I think, that's often missed is not only the potential expansion in revenues, but the effect on the organization if you do not pursue analytics. That is key: your competition does something like revenue management and you don't. Or your competition is smarter about movie selection or forecasting than you are—what are the implications of that? If I say that I will not pursue this opportunity today, I will do it in the future based on capital constraints—what are the potential financial repercussions of not acting? Recognize that you're not simply forgoing revenues, you may be forgoing your existing base, if you will. That's something you have to be very careful with.

I would argue today we're very much in a global analytics race. You have to recognize that yesterday's strategies, strategic advantage, can quickly become tomorrow's industry standard. So there's a cost to doing nothing. I think that's a piece we often miss.

Andreas Hinterhuber:

Mark, I will quote you on this one: the cost of doing nothing is not zero. This is a great, quotable quote.

Mark Shafer:

Thank you. The other piece I would also remind everyone about is that you're never done. Take our hotel-revenue management model. We implemented hotel-revenue management twenty-one years ago, and we're constantly improving it. Even though it is perhaps one of our more sophisticated solutions, we're not done. We are constantly evolving the solution: the science is getting better, the processing power allows us to do more, and the business environment is changing. You have to recognize that you're forever evolving. You are never done. There's a quote by Walt Disney that I like to use a lot: "Let your past inspire you. Let it motivate you. But never let it hold you back." It's something we think about a lot around here. We are always looking for ways to improve.

Andreas Hinterhuber:

Great. Mark, I really appreciate your insight on the cost of doing nothing. Essentially you suggest: elevate the cost of doing nothing to energize the entire organization to act.

Mark Shafer:

Exactly. One last piece, and I will finish here with this, is to recognize your system biases as well as your data biases. Be very transparent about those to the end user so they know how to interpret the results or recommendations. That is absolutely critical. We have a saying here: "All our solutions are tools, not rules." You still have to make sure that there is oversight in all these solutions. Our people are still very important to the success of our solutions. The key point is: be conscientious and transparent about the biases of the solution and the data. There are always biases, and you have to interpret the results appropriately. Educate your people and promote Evangelytics® in your organization in order to achieve maximum business success.

Andreas Hinterhuber:

I would agree with you on this one. Biases are real and pervasive and I, too study them passionately (Hinterhuber 2015). Mark, we really enjoyed our conversation. Thank you for your time and insights and for the privilege of this firsthand intellectual exchange on a fascinating topic.



Evandro Pollono:

Thank you; we really enjoyed this exchange of ideas.

Mark Shafer:

Thank you for this opportunity.

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