



Japan Airlines, RCI and Allegiant: the Journey to Hyper-personalization with a Human Touch

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A white paper in conjunction with

Analytics And AI In Travel North America

March 14-15, 2019 · Hilton Parc 55, San Francisco



In travel and hospitality, where technology is helping to cut costs and drive greater efficiencies, delivering a personal touch has never been more important. Now there is a business term to describe how companies are trying to address this: hyper-personalization.

But is hyper-personalization, the ability to not simply target customers in a superficially relevant way but with intelligent, highly tailored real-time offers, anything more than hype? Or is it really the future of customer engagement?

[A 2018 report by McKinsey](#), which finds that 69% of customers are more loyal to a travel company that personalizes their online and offline customer experiences, indicates that it is certainly worth doing.

Akira Mitsumasu, VP, Products & Services Planning, Japan Airlines, believes that most airlines today are embracing hyper-personalization using data, algorithms and artificial intelligence (AI) to generate a detailed single view of the customer alongside machine-generated recommendations. But that may not, however, be enough.

“I believe we need to go beyond personalization to truly customize the experience by using data, and the capability of suppliers, to offer a wider repertoire of choices. And, equally important is maintaining a human touch,” he says.

For established hospitality companies, like RCI, which sits under Wyndham Destinations’ umbrella, and is the world’s largest timeshare exchange with 4,300 properties spanning 110 countries, this is embedded into the company DNA.



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Akira Mitsumasu, VP, Products & Services Planning, Japan Airlines

“Traditionally RCI has provided a good level of personalization primarily through expert call centre agents. They have helped steer members towards a vacation that would make them happy, even if it wasn’t the first thing they were looking for, and which we almost never have,” explains Jeremy TerBush, SVP Analytics, RCI.

Admittedly, RCI has been doing online personalization for some time, but is now going a step further by making it a fully rich and dynamic web experience – in other words, it’s moving towards hyper-personalization.

Like Japan Airlines, and many other travel companies, in the past year RCI has been working internally on a new recommendation engine, which is now available on the RCI.com landing page. When a member logs in, one of the first things they see are data-driven offers for properties that might be of interest.

“We are taking a proprietary approach based on all the data that we have, but we are using similar techniques to other recommendation engines, things like collaborative filtering,” TerBush explains.

RCI’s recommendation engine, which was built by one of the members of a six-strong data science team over a nine to 12-month period is up and running. This remains a work in progress, but will be the cornerstone of RCI’s continued move into hyper-personalization.

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In the meantime, the rest of the team has been working on building an environment to capture real-time streaming data. By combining that with historical customer data and existing inventory data, the aim, says TerBush, "is to capture and change the way that we are merchandizing and putting products in front of the customer based on real-time information"

It is still early in the process for RCI, which is working with both legacy systems and new technology. Says TerBush: "It is challenging to capture information in real-time and actually process it and come back with something that is smart and makes sense to customers. There are a lot of people involved to make this happen, and to get people strategically aligned to justify the investment. Getting to the point of having a proof of concept and a minimum viable product requires a fair amount of foundational work."

Partnerships and the shop front

Like RCI, Japan Airlines sees the hyper-personalization piece as the next step in interacting with customers dynamically to deliver far more relevant recommendations at all stages of the journey, and in real-time. But it is looking to go further because while all airlines might be working towards hyper-personalization, there is still scope for differentiation.

"We are really changing from being just a mode of transport to becoming a retailer in the true sense of the word. But there is a limit to what airlines can do in-house, and we are looking a number of different ways to work with partners," explains Mitsumasu.



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Japan Airlines

As one example, JAL is looking into using white-label solutions from third parties to personalize the travel experience, and to package offers in a more dynamic way. Aside from dynamic websites, serving up tailored offers based on route, date and features searched, the Japanese carrier is considering some form of hyper-personalization at every touch point.

"We are looking into using facial recognition in some places, but it would be nice to have it everywhere, so that from check-in to passport control and the business lounge, a customer never has to show another document," says Mitsumasu. That's just one example of what is possible, though he acknowledges that this will require some serious third-party collaboration.

While airlines might be gearing up to be the Amazon of the skies, all are at different stages of the process, and none are there yet.

At US-based low-cost airline Allegiant, hyper-personalizing offers to customers is in the early stages of development, says Isaac Mavis, the airline's vice president of data science. Currently, Allegiant users can log in to the website and view their loyalty points, and e-commerce and marketing teams can send out personalised emails based on a customer's previous trip. Allegiant, however, is always looking for ways to better serve its customers, and Mavis' goal is for the airline's website to react dynamically to customer behaviour in real-time.

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“When someone visits the site and begins to shop for their trip, we want to be able to predict what they are most likely to do at each stage of the booking path, so that we can tailor directly to them,” he says.

Mavis, an aerospace engineer, joined the airline in 2012 as a research analyst and has been responsible for overseeing and developing numerous company systems, from RM to flight scheduling and preferential bidding. He is now in the process of assembling a team that will drive the company’s hyper-personalization efforts forward.

For Allegiant, improving the customer experience is a two-fold process that starts with removing unnecessary obstacles in the booking process. The next step is to make it easier for customers to book favoured items.

Airlines deploy various tactics to do this including making an offer for something a user has already searched for bigger or higher up on the page.

As Mavis puts it: “There are a lot of different ways you can improve the web experience if you know who the customer is and what they want. Once you have models that are capable of predicting these factors, there is a huge space of experimentation that can take place.” says Mavis.

However, he admits, that it’s not always as simple as it looks.

This could explain why not that many airlines today are getting it right. McKinsey’s recent report finds that most major airlines today still struggle to provide customers with complete, easy to use digital services. Among the 25 major airlines it assessed, ‘none excelled’.

Clean up data, prepare to pivot

Allegiant recognises that data science is a valuable tool that can be applied to nearly any part of an organisation. “In many parts of our company, and I think this is true for many other companies, the value provided by departments could be amplified by adding predictive and prescriptive analytics to day-to-day routines,” he says.



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Isaac Mavis, Vice President Data Science, Allegiant Air

However, data fragmentation remains a challenge. Mavis plans to address that at Allegiant by building a platform in the cloud. “It starts by identifying value-centred use cases, identifying the data sources, which could be disparate and/or dirty, then consolidating them into the platform so that they are ready for model consumption,” Mavis explains.

JAL too is working on ingesting all its siloed data into a ‘data lake’ so that it has a single view of the customer and real-time access to data. “Once that is complete, we will also be able to exchange data using APIs and provide a wider range of services through our capability providers, including white-label partners. We are also adopting a retailer’s mindset, and are looking beyond being merely a point A-to-B mode of transport. And the IATA NDC and the entire ecosystem will further evolve to redefine the industry boundary,” says Mitsumasu.

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NDC, or new distribution capability, an initiative of the International Air Traffic Association, involves the development and market adoption of a new XML-based data transmission standard; it is argued that this will enhance communications between airlines and travel agents.

Cloud thinking

For companies like airlines with complex IT architectures and legacy systems, moving applications and data to public cloud systems is a headache. So much so that just 60% of companies surveyed by [McKinsey](#) last year have migrated less than 10% of their workloads into the public cloud. However, companies recognise the limitations of their existing systems, and many are in the process exploring different technologies and models. Hybrid cloud models, which combine private cloud with the use of public cloud services, are viewed an effective way of creating a unified computing environment.

Rather than trying to do everything at once, Allegiant is taking a step-by-step approach by identifying valuable use cases, and then extracting that data into a platform where it's more consumable.

In this environment it's crucial that companies, especially those working with both legacy systems and new technologies, are prepared to pivot. Often it's a question of whether to hold out and apply fixes and patches on top of a legacy system or to completely remove it. Mavis says it depends on the level of risk, and what the objectives are.



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Jeremy TerBush, SVP Analytics, RCI

TerBush agrees that you shouldn't just do technology for technology's sake. "We have a big robust environment that allows us to do a lot of things. We do not put in new technology just to see how we can use it," he says.

Instead, it comes back to the problem that needs to be solved and how this can drive value. The question must always be: do we really have a challenge that requires us to use this technology? This is how RCI concluded that it needed something more than its existing on-premise architecture, and is currently in the process of rolling out a new cloud-based analytical environment.

"For some of things we are doing, specifically with streaming, and the recommendation engine, it is not possible to process the data and run the algorithm within a timeframe that is going to meet business needs," TerBush explains.

For this reason, it too is working with one of the big cloud-based providers and within that environment there are some new and exciting technologies. "These allow us to do things like parallel processing and to run algorithms that just produce results so much faster than we can in our current environment," he says.

Apache Spark is one of the core components of this, TerBush adds, which "is exciting, very exciting. There is a lot of optimism about what we are going to be able to do in an environment that goes beyond the recommendation engine."

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Within RCI, a core group, comprised of analytics and IT members of staff, has been established to stay on top of what is going on within the cloud environment. They are driving development in this area and building up expertise that wasn't previously there.

Meanwhile, at JAL, legacy systems have also posed a challenge, but the worst is over. "Last year, we migrated our passenger service system to Amadeus Altéa and are now in a much better position to experiment with new ideas, and that is exactly what we have been doing," says Mitsumasu.

Earlier this year, the Japanese carrier opened its JAL Innovation Laboratory to create prototypes and test ideas that can enhance the customer experience at various points of travel, such as at the airport or in the aircraft cabin.

Building partnerships, standing out

Finding the right people is crucial and central to any hyper-personalization efforts is the data scientist. According to Mavis, there are typically three things to look for in a data scientist. People with: i. Maths and Stats ii. Computer science iii. Domain expertise.

What Mavis has found is the first two are a more natural fit and are easier to find, while those with 'domain' expertise are tougher to source. "When it comes to initiating, ideating, and executing for a specific piece of the business, there can be a bit of a schism between what is conceptually possible and what is practically achievable," he says.



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Isaac Mavis, VP Data Science, Allegiant Air

For this reason, Allegiant is focusing on an embedded organizational structure. "The data scientists will develop strong relationships with the departments they are working with. They will get to know that domain to the best of their ability by immersing themselves in that environment," Mavis explains.

While the departments aid understanding of how the business works, the data science department will ensure that the solutions adhere to sound mathematical and development principles. At least, that's the plan for the moment but being fluid and ready for change is important too.

"As someone who seeks to apply the scientific method you shouldn't stick with a hypothesis that is concluded to be false, but at this present time I think this is the best way to maximize data scientist productivity. You don't want your data scientists to be seen as the group that 'fixes' others departments, since that implies anyone you work with is 'broken'. You need to develop a bond with the groups you work alongside so that success can be continual, he says.

At RCI, the data science and analytics team functions as a central group and supports a number of different functions, partly as a result of its place in the firm's history. TerBush explains that it grew up out of old-school revenue management, where systems were always built internally, and has had teams going back 20 years.

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Typically, a product manager acts a bridge between analytical developers, the business teams and IT, to understand the goals and define a vision a roadmap for a project like hyper-personalization.

For teams just getting started in this area, TerBush argues that it's crucial to identify the low-hanging fruit and then establish which part of the business might be a sponsor of a project. From there, value can be replicated in other business units.

Benchmarking performance

In all organisations, the goal should be to deliver business value, and key performance indicators (KPIs) must be set. At the same time, it's important to keep iterating and make improvements based on feedback.

Although it's still early in the 'measurement' stage, as RCI has only recently re-launched its algorithm, it is tracking a number of metrics to understand if its attempts to hyper-personalize are working. Among the questions it looks to answer are:

- Are the right recommendations being shown in the weeks leading up to the actual booking?
- Is it a good mix of destinations?
- Has the customer been shown a hidden gem?
- Are they clicking on recommendations?
- How often is a member steered into booking something that they might not have found in a standard search process?
- Are conversions up, and has the member successfully found what they are looking for?
- Is the experience consistent across all channels? ie. An RCI email should be consistent with what the user is clicking on online.

An easy thing to measure is whether a user is clicking on recommendations, and whether they are showing intent, so a simple click rate measure has been become one of RCI's first success metrics.

Delivering a consistent multichannel experience is another important measurement. "This shows that we are picking up on what the members telling us and intent they are showing to provide relevant communication based on where they are in the funnel," he says, but adds: "Having all that come together in a cohesive way sounds like it should be easy, but it isn't."

At Japan Airlines, on the other hand, the main KPI is customer satisfaction, and it uses net promoter score (NPS) tools to gauge this, while also benchmarking performance against other airlines.

Meanwhile at Allegiant, which is still building its platform, it's a bit early to define a highly detailed focus. "Before we have the tools to do our jobs, it's difficult to pinpoint where the realised value will be. It's similar to asking a gold prospector where she will make most of her money, before she's had the chance to dig," notes Mavis.

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Not everybody can be Amazon

It is fair to say that Amazon has cracked hyper-personalization for its prime customers. Every user is trained on the site, the experience is seamless, and the customer is always signed in. They know exactly who you are and can grab all sorts of data about you. But it's not that simple for airlines or hospitality firms.

"From what I've seen, most airlines don't require you to login to start shopping, so the game is a bit different. A user could sign in but it's more likely that we'll need to rely on behaviour they exhibit on the website," says Mavis.

However, while Amazon has set the bar high for hyper-personalization efforts, and remains a potential threat to some parts of the travel industry, it doesn't have to be the end game.

Says TerBush "We do look to the likes of Amazon and Netflix as the pinnacle of where we want to get to. But the reality is that the data we have about intent of customers still has a way to go. We want to partner with our customers to make sure they are giving us data they want, and to have us know and understand how we are going to use that to make their vacation planning more seamless and rewarding."



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He continues: "I don't believe an RCI member, who typically uses the site once every 1.5 years, expects an Amazon experience. But they do at least expect us to pull together everything we know [about them] and put something in front of them that makes sense based on that information. We have a lot of opportunity to get better at that because we don't do it today."

So, for example, if a customer wants a timeshare in Las Vegas in the first instance, and this likely isn't available, you simply don't want to offer Hawaii as a second choice! An array of destinations will be suggested based on past travel behaviour of that member and members like them, which will most likely fit their needs.

Amazon also provides inspiration at JAL, but Mitsumasu can't help returning to the human touch. "I think the Ryokan, the ancient Japanese-style inns, and the uniquely omotenashi style service that they deliver is a great example of personalized hospitality, and can provide some valuable lessons in the importance of paying attention to details and picking up signals to adjust and refine one's service offering. If you think about it, this is essentially what machine learning is trying to mimic," he says.

After all, in most cases for airlines, "it is still the front line staff, equipped with situational awareness, the ability to respond with empathy and share knowledge that enables excellent team work, and delivery of a truly one-to-one personalised service."

Every company faces different challenges but in the highly competitive travel market, with its growing depending on travel tech, this is no time for complacency. It's about understanding a company's own unique landscape, knowing the target audience, acquiring the right technology to do so and, perhaps most importantly of all, continuing to deliver a human touch.

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