

Conference Review

**3rd Revenue Management & Pricing in Services Conference (2019 RevME Europe)
2-3 December, Ecole hôtelière de Lausanne, Switzerland.**

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Abstract

On 2 December – 3 December, more than 100 industry experts and scholars attended the 3rd Revenue Management & Pricing in Services Conference (2019 RevMe Europe), which was hosted by the Ecole hôtelière de Lausanne in Switzerland. The theme of this year's conference centered on artificial intelligence and data analytics for revenue management. The conference provided an excellent platform for an authentic dialogue between educators, researchers, hoteliers, and technology providers in revenue management (RM). Key comments from participants focused on the diverse set of interesting speakers and the perfect blend of academics and practitioners. All participants actively engaged in discussions, and all sessions were stimulating and thought-provoking. Academics presented the various approaches to RM education and research on RM, and practitioners provided insightful feedback to academics for their future research and the future RM curriculum. The outcomes of this conference initiated further discussions among participants and several new projects on RM.

On 2 December – 3 December, more than 100 industry experts and scholars attended the 3rd Revenue Management & Pricing in Services Conference (2019 RevME Europe), which was hosted by the Ecole hôtelière de Lausanne in Switzerland in collaboration with The University of Applied Sciences and Arts of Western Switzerland (HES-SO), Smith Travel Research (STR), Hotel Performance and Room Price Genie. Conference participants included a group of leading hospitality professors and key industry players such as major international hotel chains, independent local hoteliers and providers of RM-related technology and services. Further, the geographical diversity of participants (e.g., Europe, USA, Asia, and Middle-East) encouraged dynamic discussions.

The aims of this conference were to offer academics and industry practitioners a unique platform to address the main issues related to Revenue Management and Pricing in the services sector. The conference theme of this year centered on Artificial Intelligence and Data Analytics for revenue management. During the two-day conference, four keynote speeches and 10 academic research papers on this topic were presented and six industry practitioners shared their industry case studies related to this topic. In addition, four professors presented various approaches related to revenue management education and two panel sessions focused on the immediate concerns and difficulties the industry is facing. The focus of the first panel session was data analytics and revenue management for small- and medium-sized enterprises (SMEs) and the second session was dedicated to revenue management education and training. After a warm welcome from Dr. Stefano Borzillo, Associate Dean of EHL, and Dr. Cindy Heo, Associate Professor of Revenue Management at EHL, the conference got underway by exploring various topics and trends in RM education.

Keynote Speeches

The first keynote speech was delivered by Mr. Nicola Simionato, Director of Business Development of Travel at Google. He explained how [Google.com/travel](https://www.google.com/travel) uses artificial

intelligence, machine learning, and deep neural networks to offer the trusted place where travelers go for the most useful information to make faster, effortless decisions.

The second keynote speech was delivered by Mr. Jan Krasnodebski, Senior Director of Data Science at Expedia. He showed how Rev+, a revenue management tool designed to provide hotel partners with data and insights, predicts occupancy, defines competitive sets, compares similar hotels and sends price optimization alerts using big data analytics. Market occupancies are forecasted from Expedia Group data and apply a hybrid algorithmic approach using time-series statistics and machine learning.

The third keynote speech was delivered by Mr. Paul van Meerendonk, Director of Global Advisory Services at IDEaS. He emphasized the tremendous potential of big data and machine learning and discussed how the role of the revenue manager is changing. As revenue managers cannot outperform machines at this point, revenue managers should become more like revenue strategists who are able to look at the big picture and identify goals that are broader in scope.

The last keynote speech was delivered by Professor Roberto Battiti from the University of Trento in Italy. He explained how data can simplify highly complex and non-linear problems through the use of non-parametric approaches. Unlike other approaches, non-parametric models allow us to find numerically solutions that otherwise would require complicated mathematical techniques.

The four keynote speakers underlined the potential associated with using big data and artificial intelligence in revenue management. The speakers all emphasized the need to 1) adapt the revenue management discipline to new technologies that already exist, 2) become competitive on the market and 3) maximize returns.

Data Analytics and Revenue Management for SMEs

While the recent interest in big data has led many big companies to develop big data analytics, it poses challenges for most small- and medium-sized enterprises (SMEs), which have limited financial and human resources to invest in big data analyses. Therefore, the first panel session, moderated by Dr. Cindy Heo, discussed how SME hotels can overcome those obstacles and benefit from data analytics. The panelists included Ms. Caroline Caponat, Corporate Director of Revenue Management at Kempinski Hotels, Mr. Damien Fruhauf, Director of Revenue at Sandoz Hotels, Dr. David Lopez Mateos, Chief Science officer at Pace Revenue Management, Ms. Marie Reichenbacj-Julien, General Manager of Le Mirabeu Hotel & Spa Zermatt, Professor Jean-Pierre Van Der Rest from Leiden University and Mr. Damiano Zennaro, Head of Advisory Services at IDeaS. The topics of discussion included:

- 1) Is it possible that Artificial Intelligence will replace Human Intelligence in Revenue Management?
- 2) Is there any task humans can still do better than solutions?
- 3) What is the root of the challenges SMEs are facing when they are left behind: is it financial / educational / cultural?
- 4) In general, SMEs are confronted with constraints in terms of accessing resources. In response, what should be their priority: human capability development such as staff training or a new smart system?
- 5) For SMEs, should data analytics be performed by an in-house team or outsourced?
- 6) Do you think Artificial Intelligence and Machine Learning can be an opportunity for SMEs, too? If yes, How?
- 7) What do hoteliers expect from RM solution providers?

In general, participants agreed that humans cannot outperform computers' calculations but still cannot be easily replaced by machines. Personalized services and optimal price offers for ancillary services (e.g., F&B, spa, etc.) do not currently fall into the domain of revenue

management. While all participants agreed about the potential of AI powered analytics, they acknowledged that it is challenging for SMEs to first identify the most relevant, cost-effective and useful data to collect. Different industry players also expressed their heterogeneous points of view for other issues. For example, some expressed a preference for outsourcing data analytics and revenue management to external providers that can use big databases and sophisticated techniques, while others expressed their reticence to use outsourced services and share all their data, citing data security as a major concern.

Industry Perspectives

During the conference, six industry practitioners presented industry cases and practical insights, which allowed participants to better understand how the industry functions and how the principles of revenue management can be applied to other fields. Ms. Ariane Bieri, Country Revenue Manager Germany at Hertz, explained the unique challenges of inventory optimization faced by rental car agencies. Unlike hotel rooms, cars can move and be taken to those places where demand is higher. Another interesting feature of revenue management for rental cars is that agencies tend to work on more long-term plans to optimize the actual fleet mix, which is much more flexible than a hotel.

Mr. Wilhelm K. Weber, VP Global Revenue and Digital Strategy at Kempinski Hotels, shared his views about future revenue management. He went back to Schumpeter's principle of creative disruption and underlined how disruption actually comes out of current practices, which is the reason why we should accept and benefit from new trends fully. He stressed the importance of human intelligence in the age of AI.

Mr. Kevin Hof, Data Scientist at RoomPriceGenie made us more aware of the Swiss market and of the big potential for revenue management practices in the Swiss hospitality industry, especially for small, independent hotels. He shared a case study where nine hotels

experienced a 22% increase, on average, in revenue and a 4% jump, on average, in terms of ADR after adopting a pricing optimization tool.

Mr. Emanuele Mansueti, Consultant at HotelPerformance showed us several interesting applications of dynamic pricing on different service sectors. Smart Pricer and Dynamitick are just two of the many pricing platforms that enable businesses in a wide range of sectors (sports, theatre, cinema and concerts) to increase revenue by adapting prices to fluctuating demand. He also discussed the emergence of dynamic pricing on secondary markets and its implications.

Mr. Daniel Krisch, Senior Director at Oracle Hospitality, focused on how artificial intelligence can help to provide a better hotel guest experience. He shared how artificial intelligence applied to hotel property management system (PMS) enhanced auto-room assignment, which helps to minimize operational costs while meeting guests' expectations. He also explained how the system can identify guests' persona based on their profile and transaction data mining and predicts guests' interests.

Finally, Dr. Luciano Viverit, CEO of Hotelnet, exhibited how cloud machine learning tools such as Microsoft Azure or IBM Watson can be utilized for predictive analytics for hotels. While business intelligence is a 'descriptive' diagnostic, advanced analytics using machine learning tools are predictive and prescriptive so that decisions can be automated.

Academic Research

During the academic research session, 10 research papers on various topics related to data analytics and revenue management such as demand forecasting, pricing strategy and restaurant revenue management were covered. On the first day, Ms. Naureen Ahmed, Director of Marketing, Research & Analysis at STR, and Dr. Prashant Das introduced a research project on optimal occupancy rate indices in the hotel context. Their study showed how it is actually sub-optimal to aim for full occupancy, because that could have the effect of depressing prices in a way that reduces revenue. Dr. Luc Beal and Dr. Jean-Michel Chapuis presented their study

on hotel dynamic pricing at a destination level. Dr. Basak Denizci Guillet shared her study on online upselling practices in hotels. Dr. Larissa Koupriouchina and Professor Zvi Schwartz shared interesting findings on revenue managers' override decisions.

On the second day, Dr. Apostolos Ampountolas presented research on a model that forecasts daily demand for hotel occupancy levels using a deep learning approach. His study compared the obtained results of various forecasting methods based on the accuracy of the various predictions and found that hotel demand complexity generates behaviors that are very difficult to predict. However, some relevant measurement problems also exist. Dr. Rachel Wang discussed the paradox of data generation and data usage in the hospitality industry. According to her research, business-generated data tends to pertain mainly to transactions at the property level; however, the use of that data at the property level is very limited (with the exception of customer profiles and customer survey information). Ms. Varini Kate explored the key roles and skills of revenue managers. Dr. Jing Ma presented a study on variable pricing with prix fixe bundles. The research found that the hybrid reservation strategy is superior as it mitigates the risks associated with using prix fixe menus as rate fences. Dr. Giuliano Bianchi presented a study on forecasting hotel night demand using a VECM Approach with exogenous variables. Dr. Isabella Blengini and Dr. Cindy Heo presented their study on the decision-making process used by hoteliers with regard to pricing and how those strategies are adapted to macroeconomic factors.

RM Education and Training

The second panel session focused on how we can improve revenue management education and training. Panelists included Dr. Basak Denizci Guillet, Associate Professor at Hong Kong Polytechnic University, Professor Patrick Legohérel, Professor at the University of Angers, Mr. Steve Hood, Senior VP of Research at STR, Mr. Oliver Geldner, Partner at Taktikon AB, Mr. Shankey Sehgal, Cluster Director of Revenue at Crown Plaza & Holiday Inn

(IHG), Mr. Horatiu Tudori, Senior Lecturer at EHL, and Mr. Emanuele Nardin, Director at HotelPerformance. The first three topics were geared more toward our academic panelists, while the last three questions intended to foster a dialogue between academia and industry practitioners.

- 1) Please share your observations of the changes that have taken place in your revenue management courses over the past three years
- 2) Please share one new idea or activity you recently implemented in your course
- 8) Please identify an idea or topic you would love to include in the course, if you only had more time.
- 3) In addition to simulation, what else could be done to prepare students interested in revenue management and pricing?
- 4) For industry experts: What suggestions do you have? What are the gaps between recent graduates and talents you are looking for? How do we help students to start their career in your industry (not limited to working for hotels)?
- 5) Continuing education: How do we help revenue management professionals to develop their knowledge and skills?

All panelists agreed that there is a growing demand for well-qualified revenue managers and the skill set and scope of the revenue manager is evolving. Therefore, RM education has to evolve accordingly. Industry practitioners pointed out that while good analytical skills are important, good communication skills - with which to share the valuable information based on data analysis with other people in the organization - are even more critical. Industry practitioners also mentioned the dilemma of RM training. Although there is a great need for RM training in the hospitality industry, companies hesitate to implement RM training, because many employees who completed RM training often wind up leaving the company.

Approaches taken by RM educators

The last main focus of this conference was on revenue management education. Dr. Toni Repetti updated us on the progress of new revenue management textbook, which is slated for publication in the first half of 2020. Dr. Rachael Wang and Mr. Steve Hood, Senior VP of Research at STR, talked about the importance of data communication in hospitality education and showed how data visualization tools can be used for revenue management education. Dr. Henri Kuokkanen shared with the conference participants a role play game that he created in collaboration with Prof. Jean-Pierre Van der Rest. The aim of this role play is to prepare students for internal and external pricing negotiations by highlighting the role of customer-perceived value as a basis for setting rates. This learning is further enhanced through reflection to share learning across the various groups and allow professionals to evaluate different strategies. Dr. Scott Smith shared his approach to teach revenue management by emphasizing competition among students. Further, the second panel session discussed revenue management education and executive training.

Participant Feedback and Conclusion

This conference provided an excellent platform for an authentic dialogue between educators, researchers, hoteliers, and technology providers in RM. Key comments from participants were centered on the diverse set of interesting speakers and the perfect blend of academics and practice. Participants appreciated the synergy by sharing the different perspectives of revenue managers, academics, and solution providers. All participants actively engaged in discussions, as all sessions were stimulating and thought-provoking. Academics presented the various approaches to RM education and research on RM, and practitioners provided insightful feedback to academics for their future research and the future RM curriculum. The outcomes of this conference initiated further discussions among participants and several new projects on RM.