Revenue Management and the Analytics Explosion: Perspectives from Industry Experts

Laurie Garrow
Georgia Institute of Technology
School of Civil and Environmental Engineering
790 Atlantic Drive
Atlanta, GA 30322-0355
Ph : (404) 385-6634
Fax : (404) 894-2278
E-mail : laurie.garrow@ce.gatech.edu

Mark Ferguson
Georgia Institute of Technology
College of Management
800 West Peachtree Street NW
Atlanta, Georgia 30308-0520
Ph: (404) 894-4330
Fax: (404) 894-6030
E-mail : mark.ferguson@mgt.gatech.edu

Paper submitted for publication to Journal of Revenue and Pricing Management
Last update: January 11, 2008

Laurie Garrow is an Assistant Professor of Civil and Environmental Engineering. Her research interests include travel behavior modeling and development of advanced discrete choice models. She currently serves as the Chair of the Urban Transportation Special Interest Group of INFORMS and co-chair of the AGIFORS Scheduling and Strategic Planning Group. Prior to joining the faculty, she worked for five years in the research and development revenue management group for United Airlines and for one year in customer science at Mercer Management Consulting.

Mark Ferguson is the Gregory J. Owens Associate Professor in the College of Management and is coordinator for the Pricing and Revenue Management Initiative at Georgia Tech. He served as co-chair of the conference featured in this article. He serves as a board member for the Pricing and Revenue Management subdivision of INFORMS and has consulted with a number of companies on price optimization. Two of his papers have won best paper awards at the national Production and Operations Management conferences and his research has been supported by the National Science Foundation. Before joining the faculty, he worked for five years as an engineer and inventory manager at IBM.

Revenue Management and the Analytics Explosion: Perspectives from Industry Experts

Abstract

On October 2-3, 2007, the third annual Revenue Management and Price Optimization conference was held at the Georgia Institute of Technology. The conference explored how multiple factors, including fragmentation of customer markets, transparency in markets, and globalization have spurred a transformation from intuition-based to analytical-based decision making across many industries. Panelists included representatives from industries spanning airline, hotel, gaming, grocery, jewelry, package delivery, consumer goods, manufacturing, and consulting. This paper summarizes key discussions that emerged from the conference and highlights success stories portrayed in keynote addresses given by James Whitehurst, former chief operating office of Delta Air Lines; Rick Campana, Vice President of Corporate Marketing of the United Parcel Service; and, Chuck Neville, Executive Director of Finance of General Motors Service and Parts Operations.

Keywords: Pricing, revenue management

Revenue Management and the Analytics Explosion: Perspectives from Industry Experts

INTRODUCTION

The third annual conference on Revenue Management and Price Optimization, co-hosted by Revenue Analytics and the Price and Revenue Management Focused Research Program at the Georgia Institute of Technology (GA Tech), was held at GA Tech on October 2-3, 2007. The primary goals of this annual conference are to foster academic and industry research collaboration and to seek out lessons, similarities, and differences between the various applications of revenue management and price optimization. The theme of the conference: “Revenue Management and the Analytics Explosion” was designed to explore how multiple factors, including fragmentation of customer markets, transparency in markets, globalization, and the evolution from cost-based to value-based and/or market-based pricing are driving the need for industries to rely more heavily on analytics to support their business processes. However, while the conference was designed to focus on the new role of analytics in revenue management and pricing processes, it became quickly apparent that the ability to successfully transition from intuition-based to analytic-based decision making is crucially dependent on a firm’s ability to achieve support from key stakeholder groups including marketing, sales, and finance. Cross-functional integration is essential to balance revenue, profitability, and growth objectives. As stated in the welcoming address by Conference Co-chair Robert Cross, Chairman and CEO of Revenue Analytics, “one of the first rules of the analytics revolution is that years of experience are no substitute for rigorous analysis and the opposite is equally true. That rigorous analysis is no substitute for years of experience. We will have to use both” (R. Cross, 2007). Numerous strategies for achieving this balance emerged during the conference.

This paper summarizes key discussions from the conference. First, the success stories of firms portrayed in three keynote addresses are described. The keynote addresses were given by James Whitehurst, former chief operating office of Delta Air Lines; Rick Campana, Vice President of Corporate Marketing of the United Parcel Service; and, Chuck Neville, Executive Director of Finance of General Motors Service and Parts Operations. Next, two key themes related to the roles of promotional spending and customization of products in revenue management and pricing are presented; these themes emerged during four panel discussions and two breakout sessions. The names, titles, and companies of all presenters, panelists, and moderators are included in alphabetical order in the references and the conference agenda is included in the appendix.

KEYNOTE ADDRESSES

Creating a Revenue-Focused Company: The Delta Story

James Whitehurst, former Chief Operating Officer of Delta Air Lines and presently the CEO of Red Hat Software, presented the opening keynote address, describing how Delta Air Lines entered and exited bankruptcy faster than most major companies by designing a restructuring plan that focused primarily on revenue generation, in contrast to more traditional restructuring plans that focus primarily on cost reductions. Delta entered bankruptcy in 2005, posting a loss that year of about $2.2 billion. Among the six U.S. major carriers, Delta had a 14 point revenue gap, generating 86 cents for every dollar the industry generated. As Whitehurst explains, the revenue gap translated to "a $2.5 billion dollar revenue shortfall. This was the difference between Delta being the most profitable and the least profitable carrier in the U.S." (Whitehurst, 2007). Unlike typical bankruptcy exit plans that primarily focus on cutting costs, Whitehurst helped engineer a bankruptcy plan that had a "singular focus on revenue." Within the span of two years, Delta went from being one of the least profitable airlines to the second most profitable airline in the U.S. – missing first place by a few million dollars.

One of the core elements of the bankruptcy exit plan was to first identify reasons for the $2.2 billion shortfall. Three root causes were determined. First, in 2005, Delta's mix of domestic and international passengers was 80-20, in contrast to its peers that was 65-35. This translated to about a third of the revenue shortfall, or $800 million. Second, over the last ten years, nonstop yields have become much higher than connecting yields. However, in 2005, Delta's mix of nonstop and connecting passengers was 40-60, in contrast to its peers that was 50-50. This translated to approximately another third of the revenue shortfall. Finally, compared to its peers, Delta's nonstop prices were lower than its peers, in part due to the presence of Air Tran in Atlanta. This translated to approximately the final third of the revenue shortfall.

To address the revenue shortfall, several strategies were used. First, Delta hired executives from Continental with strong expertise in network analysis and revenue management. This team used revenue management in a proactive way to design a network capable of generating revenue. Some of these modifications ensured that flights were scheduled during the times of day and days of the week conducive to business travel. In addition, full destination footprints out of places like LaGuardia and JFK were created to help ensure business travelers from these cities could reach many of their destinations via non-stop flights. Finally, a substantial number of planes were moved from domestic to international markets. As Whitehurst explains, "in early 2005, Delta had more wide body departures per day from Atlanta to Florida than the entire rest of the industry had in domestic wide bodies. [We used this fleet] to embark on the largest international expansion that any airline had ever attempted. … The first summer after Delta filed for bankruptcy, they moved 13 aircraft to North Atlantic markets and started 11 new routes. Including new routes in Latin America and the Caribbean, Delta started over 50 new international routes that year, effectively moving from 20% to 30% international with plans for an increase to 40% by summer of 2008" (Whitehurst, 2007).

The second main trust of the bankruptcy plan described by Whitehurst was to "build a company focused on the customer to generate the revenue." Conceptually, "we wanted to run the highest quality airline … safe, clean, on-time, and with your bags" (Whitehurst, 2007). Building a product and service that "employees would be proud of" involved several large capital expenditures and employee engagement. Areas where service improvements were needed were identified in part via net promoter scores calculated from customer satisfaction surveys. The net promoter score, mentioned by several companies at the conference including Archstone-Smith (McCulloh, 2007) is designed to overcome problems that occur when you simply average values from a Lickert scale that asks on a scale of zero to ten, how much did you like this product. In this case, Whitehurst states that "the survey score has no correlation to the ultimate success of the company providing a product or service. However, if you calculate the number differently and you take the nines and tens representing people who had a great experience and subtract the zero through sixes, you obtain a net promoter number. There is a very good correlation between the [net promoter] number and customer satisfaction. If you think about it, it makes a lot of sense because it's basically saying that … you have to strive for creating an extraordinary experience to build some degree of loyalty and some degree of word-of-mouth" (Whitehurst, 2007).

Delta uses its net promoter scores to benchmark its service performance and made a conscious choice not to be on the bottom of any service criteria. For example, surveys revealed that Delta was drifting near the bottom on international food satisfaction and reservations. Subsequently, Delta invested $20 million and committed to spending an additional $10 million per year to improve international economy food satisfaction. Delta is also relocating all of their reservation agents back to the U.S. and other places where English is the native language due to cultural issues and other unexpected issues that arose when outsourcing this function. Larger infrastructure investments were also undertaken – albeit, convincing the creditor's committee to make these investments often included "tough conversations." For example, Delta made a $20 million investment to deep clean planes once a month, effectively moving them from the bottom half of the industry to clearly number one in cabin condition. In addition, a $30 million investment was also spent on redesigning the lobby at Atlanta, and while "there was no direct payback associated with that … you need your employees to be proud of the product and service they are providing" (Whitehurst, 2007).

The final main trust of the bankruptcy exit plan was to actively engage employees. As Whitehurst describes "we decided that we really needed to engage our employees. Talking about how do you take out another $500 million in costs is really, really painful... talking about how you serve the customer better, create a better experience... how you get on time so people don't have to work overtime and they can leave at the end of the shift, all of these things really energize the employees and that focus on revenue as we talked to all of our people - that was really extraordinary" (Whitehurst, 2007).

Maximizing ROI in Pricing and Revenue Management: The UPS Story

Rick Campana, Vice President of Corporate Marketing of the United Parcel Service (UPS), presented the second keynote address, describing how UPS evolved over the last 15 years from a company focused on setting list rates to a company focused on pricing effectiveness, an evolution that Bob Cross stated "had hundreds of million dollars of impact on the bottom line" (R. Cross, 2007). As Campana stated, "revenue management comes down to the ability … to properly position price in front of the customer as part of an overall value proposition" (Campana, 2007). This shift in thinking to value based pricing, a philosophy in which the price reflects the relative buying power of the customer base and size, was driven by heightened competition and the increasing prevalence of discounting practices. The development of new pricing processes and decision support tools was possible due to the availability of detailed shipment characteristics (e.g., weight, distance, premium vs. standard delivery) that could be used to link profitability to customer shipping needs.

The transition to value-based pricing required investing in both analytics and human capital. From a technical perspective, the pricing process was redesigned several times in the last 15 years to take advantage of new technologies that allowed UPS to automate data feeds and track win/loss bid data from customers. Several models were developed to forecast demand and profitability outcomes of contractual bids as a function of the bid price offered, track and forecast competitor behavior, and measure salesperson behavior on the use of the analytical pricing tools. Automated data feeds enabled these models to be self-sustaining, a factor that was deemed important given the complexity of UPS's business and the fact that customer needs, product, markets, and technology are constantly evolving. Finally, new performance metrics were defined to measure success in terms of revenue and customer retention – e.g., overall profitability and improved contract compliance. Here, contract compliance recognizes that sales can grow the business in several ways, by attracting new customers, encouraging existing customers not to leave, and/or determining why customers are not meeting their contractual arrangements.

From a business process perspective, the transition to value-based pricing involved striking a balance among the objectives of the finance, sales, and marketing groups whose goals are quite distinct. Among these groups "there is a never-ending challenge to strike the right balance between providing an amount of flexibility at the local level and global decisions and maintaining centralized control over the decision making" (Campana, 2007). Fundamentally, UPS is a decentralized business that likes to push authority and accountability down to the local sales force while maintaining some centralized control over decisions to guarantee consistency across customers. The scalability of IT systems helps achieve this system-wide consistency. As described by Bob Telipsky, director of revenue management at UPS, decision support tools are used to provide sales representatives with a range of prices to quote to customers. About 85% of the pricing quotes from Telipsky's group use the tool. However, this represents only 50% of the revenue, as larger customers typically require more customization of prices. Depending on the customer size, pricing exemption requests are directed to either a district or national level account representative (Telipsky, 2007).

In addition to using pricing decision support tools, several other strategies are used to help achieve the balance between centralized and decentralized decision making, including realigning the sales compensation to better align with the objectives of the companies and diversifying the talent across these groups. Individuals with MBAs were hired to staff marketing and revenue management functions – a policy that diverged from the historical UPS policy of promotion within. In addition, consultants and those with expertise in areas thought to be critical to implementing the vision were hired. As Campana described "it has worked extremely well to mix people with outside experience and the core UPS people … this cross-pollination ensures healthy outcomes and helps ensure the balance between centralized planning with decentralized execution is maintained" (Campana, 2007).

To summarize, the success stories of Delta and UPS share several commonalities, which were repeatedly mentioned by other companies throughout the conference. Both Delta and UPS were forced to innovate and restructure due to increased competition; both were successful due to the ability to execute strategies that gained support from employees from distinct functional areas; and, both hired talent from outside the company with specialized skills and/or experience to help execute these strategies. Looking ahead, both companies also mentioned the need to constantly evolve and develop self-sustaining models to continue being successful.

From Intuition to Data-Driven Pricing: The General Motors Story

Chuck Neville, Executive Director of Finance at General Motors Service and Parts Organization, was the final keynote speaker of the conference. In many ways, the GM Service and Parts Organization is similar to UPS; GM's foray into revenue management was driven by increased competition (by firms such as Meineke, Firestone Tires, etc.), and the need to understand the connection between the vehicle owner and what was motivating them to get service. Also, similar to UPS, GM is a large corporation with rich sources of data about its products and customers. The GM Service and Parts Organization views its customers in terms of the fact that there are 125 million vehicles on the road with an average age of 12 years. The demand for service and parts is driven by the total vehicles on the road, the number of miles these vehicles have been driven, and the economy (economic indicators are important when considering the purchase of discretionary products such as chrome wheels). However, distinct from UPS, GM has many intermediate distributors, leading to a more indirect relationship with the end customer. For example, GM distributes parts to service dealers, warehouse distributors, independent distributors that sell to independent stores, and specific service stores such as AutoZone and PepBoys. The presence of numerous distributors creates additional challenges in terms of analyzing the effects of base price levels, competitive offerings, discounts, incentives, and promotional offers.

Before GM used revenue management, a cost-plus model was used to set prices. In addition, all promotions and discounts were focused on dealer and warehouse distributors. The presence of multiple tools that tracked different metrics, also led to difficulty in understanding the impacts of price on demand. GM began their transition to revenue management by restructuring the organization; the product group and sales groups were merged together and all pricing personnel were consolidated. New teams were created for repair and maintenance, collision, power train, and accessories. These four teams represent distinct go-to-market-models, each of which has its own supply chain and unique lifecycle characteristics. That is, maintenance and repair, collision repairs, and power train repairs are generally performed in different locations while accessories are predominately sold at the time and location the vehicle is purchased. Finally, a dedicated revenue management team was set up and staffed with people with business expertise across functional areas ranging from supply chain, to sales, to marketing. They are also in the process of adding expertise in statistical analysis to the RM group.

Data mining that combined parts information (weight, size, and first and last year of usage) with sales information (who purchased the part and at what price) was used to analyze the relationship between price and demand for parts. GM has more than 500,000 parts in its US, Canada, and

European portfolio. However, from a revenue perspective, 1,500 (0.3%) of these parts contribute 50% of the revenue while 20,000 (4%) of these parts contribute 90% of the revenue. Thus, many parts are infrequently purchased, yet required to ensure a vehicle does not become obsolete over a trivial repair need (e.g., the chip in a key required to start the vehicle needs repaired). The fact that a large part of the revenue comes from a small number of parts enabled GM to focus the majority of their pricing efforts on a small portion of their inventory. However, when developing pricing models, it was also critically important to incorporate the fact that 5,000 (or 25%) of the top revenue-producing parts turn over each year; i.e., each year about 50,000 new parts are introduced in the market and 50,000 are retired.

Analyzing the relationship between price and demand uncovered several examples that challenged traditional thinking. For example, according to Neville, GM's original intuition was that customer purchasing behavior was consistent across product lines and demand for repair parts was fairly static. However, this was not always the case (e.g., air conditioners are predominately sold as the weather becomes warmer). GM also observed that the price sensitivities varied across parts, i.e., some price increases led to stable or slight decreases in volume while other price increases led to large loses in volume. As Neville states, "we know that intuition is important, but we need to validate it … and really understand it" (Neville, 2007). GM's new approach to pricing was successful, in part, due to the combination of analytics and intuition required to decipher the "unique story" associated with each product line.

Summary of themes from keynote addresses

As noted by Patrick Manning Director of Deloitte's Consulting Strategy and Operations, Customer and Market Strategy practice, pricing decisions and pricing programs, like the ones noted by UPS and GM, can have a significant impact on a company's business, particularly when compared to improvements in volume or variable costs. Engagement with the employees across an organization is essential, as pricing tends to be a very decentralized activity for an organization and different groups have very different viewpoints about the value of pricing and whether its pricing program should be used to drive profitability, volume, market share, etc. According to Manning "operations will talk about the value that they bring to their customer … research and development will say we have some of the best products in the marketplace and our pricing needs to capture that … sales will say I need a pricing strategy that drives growth" (Manning, 2007). Those organizations that have been successful have been able to align the objectives of different groups and gain a deep analytical understanding of their business.

The role of the sales force in achieving pricing and revenue management goals merits further discussion, as it was discussed extensively by keynote speakers and other panelists including Krishnan Arangode, manager at Johnson & Johnson; Dick Braun, vice president of corporate strategic pricing at Parker Hannifin; and Sandra Wellet, vice-president for strategic sales and support at Leveno. Speed in execution and the ability to connect directly with customers were mentioned as two key strengths of an autonomous and decentralized sales force. As Wellett of Leveno states, an autonomous sales force enables deals to be closed quickly, a factor that is particularly important for large customers (Wellett, 2007). This opinion is echoed by Dick Braun of Parker Hanniffin (a manufacturing customer that "makes things to go into things" with an annual production of 800,000 different parts for 200,000 customers). He states that "you have to remember that the sales force is a pretty vital portion of your go-to-market… and you have to be thinking speed all of the time. … You know you have a set amount of time to evaluate the deal and you can use data or not. Historically, Parker choice not (to use data). But what we need to do is gather in all that data in the same amount of time because the time we have (to close deals) is finite. Speed is really the critical factor in leveraging technology – at least for me" (Braun, 2007). A second critical role of the sales force noted by Krishna Arangode of Johnson & Johnson is that they "understand the customer needs and the customer wants much better than a centralized view. [They] can appreciate the one-on-one conversation definitely much more." These benefits associated with a flexible sales force that result in speedy execution and personal connection with the customer have to be balanced with decisions the company wants to maintain control over, like identification of the large sales opportunities coming up (Arangode, 2007) and maintaining consistency in pricing across divisions.

One unique strategy for achieving this goal was mentioned by Tony Wilson, vice president of pricing and margin management at Acuity Brands Lighting. That company created a pricing council made up of practitioners from the pricing, product, and sales group to discuss issues that arose when implementing new pricing policies and present a united front to all groups. Issues that could not be resolved within the pricing council were elevated to a pricing steering committee headed by the CEO and comprised of the CFO, senior VP of legal, senior VP of supply chain and two business units (Wilson, 2007).

A final element to achieve success in rolling out new revenue management and pricing policies is to have a solid execution plan (Manning, 2007). The execution plan details how performance will be measured, how discounts will be made against list prices, and how compensation will be structured. Manning notes that communication about the reasons behind pricing actions is also important – as "one of the things we discovered is that when you don't think about the communications you want to send out into the market in terms of pricing actions, people make it up and you probably won't like the answer that they come up with" (Manning, 2007). This opinion was reiterated by Jim Rozell, revenue optimization leader at Carlson Hotels, who states that "the biggest thing we've had to do [to achieve execution success] is just getting out in front of the hotels. Telling them what's coming, telling them what's available, teaching them simple things" (Rozell, 2007). A final element of success noted by Manning that was not explicitly mentioned in the keynote addresses is the ability to understand and forecast how competitors will react, particularly in a market where there are few competitors. In his experience, "one thing we have found is that how an organization looks at and thinks about itself and their goals have a lot of bearing on how they will react to those moves … a private equity investment firm will react very differently from an organization that is your standard corporate environment. If they've introduced a product into an area where it was not successful, they may not want to chase that because they had a bad experience with that before. There are a variety of elements you can look at" (Manning, 2007).

CONTRAST BETWEEN LEGACY AND NEW USERS OF RM

In addition to the keynote presentations, several breakout and panel sessions were conducted. A clear distinction emerged among those firms that are just beginning to embark on pricing and revenue management efforts (such as retail chains exploring ways to manage promotional spending) and those firms that have more fully integrated revenue management into their business processes to maximize short-term and long-term customer revenue (such as the gaming industry). This section summarizes key insights from these discussions.

Role of Promotional Spending in Pricing and Revenue Management

One area in which revenue management and pricing optimization is becoming more predominate is in the retail sector, albeit one can argue that retail RM and pricing applications are still in their infancy. In recent years, more attention has been paid to managing promotions. Maura Hart, senior director at Winn-Dixie, explains that when her $10 billion company filed for bankruptcy in 2005, they “really had no formal strategy with respect to pricing, didn’t really have a formal category management, didn’t necessarily put the right types of items on sale and so forth.” (Hart, 2007). Over the last two years, a transformation has occurred at Winn-Dixie. Like Delta, Winn-Dixie hired experts from their successful competition. Like UPS and GM, Winn-Dixie leveraged their data warehouse to develop promotional applications to better understand the relationship between promotions, discounts, and sales. The tool currently enables them to predict sales and performs post-analysis to help the company distinguish between items where discounting drives higher volumes of sales and items where discounting has little impact on volume. As Brian Benson, head of trading projects states, Sainsbury’s Supermarkets is also trying to obtain a better understanding of their promotions and has a goal of running fewer promotions with consistent pricing messages.

One area of promotions that is particularly challenging to analyze is the effect of manufacturer promotions. As Bensen (2007) and Pattison (2007) of Sainsbury’s Supermarkets explain, they are offered a lot of money and incentives by manufacturers to increase shelf space and market share for branded products. An implicit trade-off occurs, as store brand/private labels (representing about 50% of items at Sainsbury’s Supermarkets) tend to be more profitable, yet “it is extremely hard to turn down cash.” The impact of manufacturer promotions can also lead to problems for the retailer if one brand is promoted more heavily over other brands. For example, Peter Marsh, former commercial director at Signet (known as Kay Jewelers in the United States) discusses how in the jewelry business, watches clearly represent a brand. As a consequence, if one manufacturer of that brand wants to do its own promotion, “sales of that brand of watch go up, but everything else goes down, and therefore other manufacturers are not happy and can produce chaos for the retailer.” (Marsh, 2007).

Product differentiation is another important consideration when designing promotions. Both Sainsbury’s Supermarkets and Winn-Dixie representatives commented on the inability to compete on price with large chains (like Wal-Mart) and the need to differentiate products. Sainsbury’s Supermarkets will sometimes match a competitor’s price, but always underscore their higher quality – such as fish caught by lines that do less damage to the environment or soft drinks with no artificial flavors or colors. Similarly, Winn-Dixie differentiates in the deli by not frying with trans fat oil and by promoting organic products throughout the store. Numerous other companies, including Marriott (Roberts, 2007), Leveno (Wellett, 2007) and Johnson & Johnson (Arangode, 2007) mentioned the need to differentiate on non-price factors to effectively compete.

Integration of RM and Pricing throughout the Business Process

In contrast to the retail industry where revenue management and price optimization is relatively new, the gaming industry has more fully integrated revenue management and pricing throughout their business process. It is generally well known that in the gaming industry, maximization on total customer value (that includes Casino revenues) is important, not maximization on revenue from hotel rooms. However, revenue management and pricing is integrated throughout many other business processes. Colleen Birch, Director of Revenue Management at Harrah's Entertainment describes how a centralized call center is used to help direct customers to properties owned by Harrah's, that is, if a customer originally called Caesar's Palace but the customer service representative senses price resistance, the customer will be encouraged to book at a less expensive Harrah's property (Birch, 2007). Tim Coleman, Vice President for Revenue Management at MGM Mirage, describes how group characteristics (e.g., a conference of surgeons versus nurses) are used to drive the number of tables the casino opens, the dealers that are on the floor, the minimums and maximums associated with each game, etc. (Coleman, 2007).

CONCLUSIONS

This paper summarizes industry perspectives on current revenue management and pricing practice that were brought up in a recent conference at the Georgia Institute of Technology. Several trends were noted, most notably the need to successfully achieve support from multiple stakeholders ranging from revenue management and pricing to sales, finance, and operations in order to achieve success. The ability to generate fresh ideas by integrating departments, hiring experts from competitors, and/or hiring new skill sets was mentioned by many as essential elements required to balance revenue, profitability, and growth objectives. Those companies who have been successful in switching from intuition-based pricing decisions to analytics-based pricing decisions are the ones that have been able to simultaneously achieve success in creating data-driven processes and having these processes accepted throughout the company.

ACKNOWLEDGEMENTS

The authors are grateful to all panelists and moderators who participated in the conference. We would like to extend our special gratitude to the conference organizing committee members, including Bob Cross, Zach Cross, Kevin Geraghty and Jon Higbie as well as Joanna Roy, Conference Planning Director. Sponsorship for this conference included leadership support from Deloitte, QL2 Software, and Zillaint; luncheon sponsorship by SAS; supporting sponsorship by Predictix and Rainmaker; and exhibitions by JDA, PROS, QL2 Software, and Zilliant. In-kind support for design of the conference logo was provided by Abovo Group. The authors are grateful for the generous support of these sponsors, which enabled us to effectively double the attendance from 2006.

For information about this conference and future conferences, please contact the authors or visit the conference website at http://revenuemanagementconference.com. The fourth annual conference will take place at Georgia Tech on October 28th and 29th, 2008. Additional information about the Pricing and Revenue Management Initiative at Georgia Tech, which was funded by a grant by the Georgia Tech Focused Research program and initiated these conferences, can be found at http://mgt.gatech.edu/fac_research/centers_initiatives/pricing.html.

REFERENCES

Arangode, Krishna (2007). Manager, Johnson & Johnson. Panelist in enterprise profits.

Benson, Brian (2007) Head of trading projects, Sainsbury's Supermarkets. Panelist in promotional spending.

Birch, Colleen (2007). Director, revenue management–western division, Harrah's Entertainment. Panelist in customer lifetime value.

Braun, Dick (2007). Vice president of corporate strategic pricing, Parker Hannifin Corp. Panelist in B2B and panelist in enterprise profits.

Campana, Rick (2007). Vice president of corporate marketing, United Parcel Service. Keynote speaker.

Coleman, Tim (2007). Vice president for revenue management, MGM Mirage. Panelist in customer lifetime value.

Cross, Robert (2007). Conference Co-chair. Chairman and CEO of Revenue Analytics. Welcoming address and chair of B2B panel session.

Hart, Maura (2007). Senior director, Winn-Dixie stores. Panelist in promotional spending.

Manning, Patrick S. (2007). Director, Deloitte consulting strategy & operations, customer & market strategy practice. Moderator of strategic pricing breakout.

Marsh, Peter (2007). Former commercial director, Signet. Panelist in promotional spending.

McCulloh, Annie Laurie (2007). Assistant vice president for pricing and revenue management, Archstone-Smith. Panelist in customer lifetime value.

Neville, Chuck (2007). Executive director of finance, General Motor Service and Parts Operations. Keynote Speaker.

Pattison, Jeremy (2007). Head of promotions management, Sainsbury's Supermarkets. Panelist in promotional spending.

Roberts, Dave (2007). Regional vice president for market strategy, Marriot. Panelist in B2B.

Rozell, Jim (2007). Revenue optimization leader, Carlson Hotels. Panelist in enterprise profits.

Telipsky, Bob (2007). Director of revenue management, UPS. Panelist in B2B.

Wellet, Sandra (2007). Vice president for strategic sales and support, Lenovo Americas. Panelist in B2B.

Whitehurst, James (2007). Former Chief Operating Officer, Delta Air Lines. Keynote speaker.

Wilson, Tony (2007). VP of pricing and margin management, Acuity Brands Lighting. Moderator of breakout on a framework for sustainable improvement.

BIBLIOGRAPHY

The following lists individuals who participated in the conference as moderators or workshop leaders who are not included in the reference.

Aref, Molham (2007). CEO of Predictix. Chair of panel on promotional spending.

Barfield, Bruce (2007). Principal, The Rainmaker Group. Moderator of customer lifetime value panel.

Cross, Dax (2007). President, Revenue Analytics. Workshop instructor for measuring pricing and revenue management.

Cross, Zach (2007). Vice president, Revenue Analytics. Workshop instructor for measuring pricing and revenue management.

Crystal, Carrie (2007). Assistant professor, University of Notre Dame. Workshop instructor for unconstraining demand data.

Ferguson, Mark (2007). Conference Co-chair. Associate professor, Georgia Institute of Technology, College of Management. Opening remarks, workshop instructor for competitive pricing in a B2B market, and workshop instructor for unconstraining demand data.

Garrow, Laurie (2007). Assistant Professor, Georgia Institute of Technology, School of Civil Engineering. Workshop instructor for discrete choice modeling.

Geraghty, Kevin (2007). Principal, Revenue Research, Inc. Workshop instructor for e-commerce.

Higbie, Jon (2007). Senior vice president and chief scientist, Revenue Analytics. Moderator of enterprise profits and workshop instructor for measuring pricing and revenue management.

Koppelman, Frank S. (2007). Professor Emeritus of Civil and Environmental Engineering, Northwestern University. Workshop instructor for discrete choice modeling.

Kuyumcu, H. Ahmet (2007). Prorize LLC. Workshop instructor for a primer on scientific pricing.

Salbu, Steve (2007). Dean and Stephen P. Zelnak, Jr. Chair, Georgia Institute of Technology, College of Management. Opening remarks.

APPENDIX: Conference Agenda

October 2, 2007

Time	Event
07:30-08:30 am	Registration and breakfast
08:30-08:40 am	Introduction – Mark Ferguson and Steve Salbu (Georgia Tech)
08:40-09:00 am	Welcome – Bob Cross (Revenue Analytics)
09:00-09:45 am	Keynote – James Whitehurst (Delta Air Lines)
09:45-10:30 am	Keynote – Rick Campana (UPS)
10:30-11:00 am	Break
11:00-12:15 pm	Panel A: Measuring promotional spending – Moderator Molhalm Aref (Predictix)
	Panel B: Optimizing profits in B2B Markets – Moderator Bob Cross (Revenue Analytics)
12:15-1:30 pm	Lunch
1:30-2:15 pm	Breakout A: Value of strategic pricing – Patrick Manning (Deloitte Consulting)
	Breakout B: Price management: framework for sustainable improvement – Tony Wilson (Acuity Brands Lighting)
2:15-3:30 pm	Panel C: Long term view of RM and price optimization: impact on customer lifetime – Moderator Bruce Barfield (The Rainmaker Group)
	Panel D: Maximizing enterprise profits through RM and price optimization – Moderator Jon Higbie (Revenue Analytics)
3:30-4:00 pm	Break
4:00-4:45 pm	Keynote – Chuck Neville (GM Service and Parts)
4:45-5:00 pm	Closing remarks – Mark Ferguson (Georgia Tech) and Bob Cross (Revenue Analytics)
5:00-6:30 pm	Cocktail reception

October 3, 2007

Time	Event
08:00-09:00 am	Registration and breakfast
09:00-noon	Workshop A: Measuring pricing and RM success – Instructors Jon Higbie, Dax Cross, Zach Cross (Revenue Analytics)
	Workshop B: Science behind competitive pricing in a B2B market – Instructor Mark Ferguson (Georgia Tech)
	Workshop C: E-commerce for revenue managers – Instructor Kevin Geraghty (Revenue Research)
Noon-1:30 pm	Lunch
1:30-4:30	Workshop D: Unconstraining demand data – Instructors Mark Ferguson (Georgia Tech) and Carrie Crystal (University of Notre Dame)
	Workshop E: Discrete choice modeling – Instructors Laurie Garrow (Georgia Tech) and Frank Koppelman (Northwestern University)