The state of smarter transportation

Smarter Industries Symposium, Barcelona, November 2010

IBM

The possibility of smarter industries

Two years ago, IBM first introduced the concept of a Smarter Planet, a world in which collaboration, systems thinking and data analytics improve the efficiency and effectiveness of the many systems that facilitate life on earth. It was a bold idea, but one that resonated within the business and government communities because it is rooted in a deep understanding of what's possible with today's technologies and capabilities. For this reason, our clients and business partners immediately embraced and echoed the concept.

Two years later, IBM has collaborated with more than 600 different organizations worldwide that are each doing their part in making this vision a reality. In November 2010, we brought many of these world leaders in government and business to Barcelona to share their stories of a Smarter Planet. We called the event Smarter Industries Symposium because while the notion of a Smarter Planet may be global in scope, the work of building it happens industry by industry, company by company, government by government, and process by process.

Representatives from ten different industries attended the event, including banking, communications, energy and utilities, healthcare, government, insurance, oil and gas, retail, transportation and electronics. And though each of these industries faces unique circumstances in today's economic environment, the most advanced organizations in each field share a common outlook. They are the organizations that have stopped seeing change as a threat and started seeing it as an opportunity. They have changed the conversation from one about problems to one about possibilities.

IBM Smarter Industries Symposium

Smarter Industries. Smarter Business.

"We are climbing out of a global downturn in an environment of accelerating complexity and uncertainty, with an explosion of data all around us," said Frank Kern, Senior Vice President and Managing Partner at IBM Global Business Services. "Yet the question on the mind of global business leaders is shifting from 'What's my biggest problem?' to 'What's my greatest opportunity? What are my prospects? What's available to my enterprise now that wasn't before?'"

Analytics, ROI and the customer
During the course of the Symposium, attendees saw many examples of how organizations are answering those questions with action. In particular, they saw the power of data and analytics in making smarter industries a reality. "Analytics: The New Path to Value," a study jointly conducted by IBM and the *MIT Sloan Management Review*, found organizations that utilize analytics outperform those that are just beginning to adopt analytics by a factor of three.[1] They use them to understand historical trends, to model current conditions and to predict the return on investment of different courses of action.

And though the approaches to analytics vary, every organization shared a remarkably consistent design point: the customer. From Fundacio TicSalut, an institution of the regional healthcare administrator in Spain that has built a shared electronic medical records system to improve health services for its citizens, to Best Buy, the electronics retailer that is listening to its customers across multiple channels and engaging them over social networks, smarter industries are being built around serving the needs of the customer.

"Our customers are asking us to know them, empower them, offer them and support them," said John Thompson, Senior Vice President and General Manager at BestBuy.com. "We're inclined to listen to them."

A path to possibilities
Having the design point of the customer is important because without it, all the innovation in the world has no purpose. John Kao, Chairman of the World Economic Forum's Global Advisory Council on Innovation, explained it to symposium attendees like this: "Creativity and innovation are not the same thing. Creativity is the ability to generate new ideas. But innovation requires a goal to move forward."

Kao advocates having a plan, or a system, when pursuing any innovation. And smarter industries are no different – which is why IBM has produced more than 30 industry-specific progression paths that identify key transformation milestones, outline the return and benefits of each step, and simplify the journey to getting smarter. The progression paths address specific aspects of various industries, from building a collaborative care model in healthcare to meeting regulatory requirements for municipal water systems.

Not surprisingly, some consistent patterns emerge at each stage of transformation, which Ginni Rometty, Senior Vice President and Group Executive for Sales, Marketing and Strategy at IBM, noted to attendees of the symposium:

1. **Instrument to manage** – The collection of data to measure, monitor and understand a system
2. **Integrate to innovate** – The analysis of that data to see patterns and identify opportunity
3. **Optimize to transform** – The action of reaching system-specific goals and redefining what's possible.

Throughout this report, you will read about what was shared at the Smarter Industries Symposium and the stories of how many organizations in your industry are applying this progression path. It's a path that is helping improve the efficiency and operations of hundreds of IBM clients and business partners around the world. It is a path to possibility. And it's a path to a Smarter Planet, one industry at a time.

Seamless possibilities

The travel industry is defined by diversity but unified by a common purpose. From public entities to private companies and from airports to subways to railways, these ecosystem members leverage a diverse range of assets to move passengers and freight across cities, within countries and around the globe.

Not surprisingly, contributors to the Smarter Industries Symposium brought divergent perspectives and paradigms to the table. But they share a strong commitment to improving the travel experience for their customers. Indeed, many participants acknowledged that delivering interconnected travel and a superb traveler experience across all modes of commercial and public passenger transportation is the universal end game of the travel and transportation industry.

At the outset of the travel-focused symposium sessions, IBM set forth a vision for the future of travel: with tighter coupling and coordination among travel modes, providers can deliver seamless journeys to travelers, alleviating many of the most common challenges that plague the travel sector today. IBM asked participants to advance this vision through discussion and debate during the sessions.

Customer expectations

Like other sectors, the travel industry is awash in data that can be used to achieve more seamless travel, but the incentives to take on the challenge of analyzing and coordinating this data are more difficult to come by. Both well-established and emerging technologies already collect data about passengers as they move through the travel process, from toll charging systems to subway and bus cards, to airport check-ins. But very little of this data is used to integrate the *end-to-end* experience on behalf of the travelers. Travel providers do their best to optimize the travel experience within their individual travel silos, but they have not seized the opportunity to leverage data across travel modes to further improve the experience for customers.

Recent IBM research has found that some customers feel they should be able to pay a single provider to take them from their origin all the way to their final destination, without having to manage the coordination of modes on their own. Other travelers simply expect that schedules for commuter trains and buses, for example, should align with departure times at airports for common destinations.

Conference participants amplified these findings with stories of customers who, having conferred with other travelers through social media, have come to expect more seamless journeys. Because travelers expect that more is possible, IBM asked conference participants what plans they have in place to remedy these challenges and suggested that providers that resolve such issues have much to gain in the way of increased revenue and traveler loyalty.

Traveler-centric innovation

Industry participants expressed near-universal concurrence that the time for convergence in the travel industry has arrived. Seamless travel is not only desirable but, in the words of one participant, "It is clear that eventually this vision will be brought to life. The question is who in this room will make it happen – and what happens to the rest of us when they do."

Participants shared valuable insights from their own organizations, which helped guide the thinking about how best to accomplish this. Many stressed that it is vitally important to bring customers into the design process early because, in the words of Ab Oosting, Senior Project Manager, City Region of Eindhoven, The Netherlands, "You can't manage innovation," but rather you can "create an environment where innovation can be formulated and developed by the travel ecosystem." Indeed, conference participants agreed that travelers are the best source of innovation and are the most important resource in resolving the challenges facing the travel industry. Lise Fournel, Senior Vice President of E-Commerce and CIO at Air Canada, and Koos Noordeloos, Senior Manager of Capacity and Innovation at Amsterdam's Schiphol Airport, both made it clear that their most successful initiatives were derived and implemented in close partnership with customer groups.

Of course, the real challenge in bringing the seamless travel vision to life is finding a business model or public motive that induces participants to define standards, share data and design systems to facilitate a more integrated journey across travel modes. The Singapore Land Transport Authority successfully embodied this vision when it developed a predictive traffic system to integrate multiple modes of travel around the common objective of improving the traveler experience. This system calculates optimal routes and schedules to reduce congestion. Not only has the system increased the appeal of public transit and cut fare leakage by 80 percent, it has also reduced the cost of fare processing by 2 percent.

Standards and the role of government

Travel providers acknowledged that the concept of seamless travel can and will be realized by sub-sectors of the industry over time, but they also observed that many of the most significant barriers will be difficult to overcome. In particular, while participants agreed that sharing data about passenger schedules, operational changes and recovery plans is essential for the development and delivery of seamless travel solutions, they acknowledged it will be difficult to justify these investments without confidence that the standards to which they develop these solutions are common across providers.

This is where governments have played an important role in the past, assisting travel providers to align incentives; it is also where government leaders offered other members of the travel ecosystem significant insight during the conference. Alessio Chiavetta, Mayor of Comune di Nettuno, Italy, observed, "The surest way of ensuring cooperation among public and private entities is to have a published and endorsed master plan to bring in Smarter cities." This sentiment was echoed by Dennis Christiansen, of the Texas Transportation Institute, who reasoned, "The most appropriate contribution government can make to Smarter Transportation is to set down standards to make the system interconnect and to highlight examples of successes so that other organizations and entities can see the value in moving forward on this vision."

Critically, industry participants also recognized that smarter travel will depend on the flexibility of the solutions and systems that are put in place; despite providers' best efforts to predict the future of the travel industry, unforeseen circumstances may derail any specific plans to implement cross-modal seamless travel. For this reason, participants suggested that despite the challenges created by unconnected public and private systems, organic evolution should be encouraged when possible so that many competing solutions are forced to vie for customers.

Reference

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