**Case Study 3: Driving Ari Fleet Management with Real-Time Analytics**

Automotive Resources International®, better known as simply ARI®, is the world's largest privately-held company for vehicle fleet management services. ARI is headquartered in Mt. Laurel, New Jersey and has 2,500 employees and offices throughout North America, Europe, the UK, and Hong Kong. The company manages more than 1,000,000 vehicles in the U.S., Canada, Mexico, Puerto Rico and Europe.

Businesses that need vehicles for shipments (trucks, vans, cars, ships, and rail cars) may choose to manage their own fleet of vehicles or they may outsource fleet management to companies such as ARI which specialize in these services. ARI manages the entire life cycle and operation of a fleet of vehicles for its customers, from up-front specification and acquisition to resale, including financing, maintenance, fuel management, and risk management services such as driver safety training and accident management. ARI also maintains six call centers in North America that operate 24/7, 365 days a year to support customers' fleet operations by providing assistance regarding repairs, breakdowns, accident response, preventive maintenance, and other driver needs. These call centers handle about 3.5 million calls per year from customers, drivers, and suppliers who expect access to real-time actionable information.

Providing this information has become increasingly challenging. Operating a single large commercial vehicle fleet generates high volumes of complex data, such as data on fuel consumption, maintenance, licensing, and compliance. A fuel transaction, for example, requires data on state taxes paid, fuel grade, total sale, amount sold, and time and place of purchase. A simple brake job and preventive maintenance checkup generates dozens of records for each component that is serviced. Each part and service performed on a vehicle is tracked using American Trucking Association codes. ARI collects and analyzes over 14,000 pieces of data per vehicle. Then multiply the data by hundreds of fleets, some with up to 10,000 vehicles, all operating simultaneously throughout the globe, and you'll have an idea of the enormous volume of data ARI needs to manage, both for itself and for its customers.

ARI provided its customers with detailed information about their fleet operations, but the type of information it could deliver was very limited. For example, ARI could generate detailed reports on line-item expenditures, vehicle purchases, maintenance records, and other operational information presented as simple spreadsheets, charts, or graphs, but it was not possible to analyze all the data to spot trends and make recommendations. ARI was able to analyze data customer by customer, but it was not able to aggregate data across its entire customer base.

For instance, if ARI was managing a pharmaceutical company's vehicle fleet, its information systems could not benchmark that fleet's performance against others in the industry. That type of problem required too much manual work and time, and still didn't deliver the level of insight management thought was possible.

What's more, in order to create reports, ARI had to go through internal subject matter experts in various aspects of fleet operations, who were called "reporting power users." Every request for information was passed to these power users. A request for a report would take 5 days to fill. If the report was unsatisfactory, it would go back to the report writer to make changes. ARI's process for analyzing its data was extremely drawn out.

In mid-2011, ARI implemented SAP BusinessObjects Explorer to give customers the enhanced ability to access data and run their own reports. SAP BusinessObjects Explorer is a business intelligence tool that enables business users to view, sort and analyze business intelligence data. Users search through data sources using an iTunes like interface. They do not have to create queries to search the data and results are shown with a chart that indicates the best information match. The graphical representation of results changes as the user asks further questions of the data.

In early 2012, ARI integrated SAP BusinessObjects Explorer with HANA, SAP's in-memory computing platform that is deployable as an on-premise appliance (hardware and software) or in the cloud. HANA is optimized for performing real-time analytics and handling very high volumes of operational and transactional data in real time. HANA's in-memory analytics queries data stored in random access memory (RAM) instead of on a hard disk or flash storage.

Things started happening quickly after that. When ARI's controller wanted an impact analysis of the company's top 10 customers, SAP HANA produced the result in 3 to 3 1/2 seconds. In ARI's old systems environment, this task would have been assigned to a power user versed in using reporting tools, specifications would have to be drawn up and a program designed for that specific query, a process that would have taken about 36 hours.

Using HANA, ARI is now able to quickly mine its vast data resources and generate predictions based on the results. For example, the company can produce precise figures on what it costs to operate a fleet of a certain size over a particular route across specific industries during a certain type of weather and predict what the impact of changes in any of these variables. And it can do so nearly as easily as providing customers with a simple history of their expenditures on fuel. With such helpful information ARI provides more value to its customers.

HANA has also reduced the time required for each transaction handled by ARI's call centers—from the time a call center staffer takes a call to retrieving and delivering the requested information—by 5 percent. Since call center staff account for 40 percent of ARI's direct overhead, that time reduction translates into major cost savings.

ARI plans to make some of these real-time reporting and analytic capabilities available on mobile devices, which will enable customers to instantly approve a variety of operational procedures, such as authorizing maintenance repairs. Customers will also be able to use the mobile tools for instant insight into their fleet operations, down to a level of detail such as a specific vehicle's tire history.

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1. Why was data management so problematic at ARI? **(1 Mark)**
2. Describe ARI's earlier capabilities for data analysis and reporting and their impact on the business. **(1 Mark)**
3. Was SAP HANA a good solution for ARI? Why or why not? **(1 Mark)**
4. Describe the changes in the business as a result of adopting HANA. **(1 Mark)**

**Case Study 4: Zappos**

Tony Hsieh’s first entrepreneurial effort began at the age of 12 when he started his own custom button business. Realizing the importance of advertising, Hsieh began marketing his business to other kids through directories, and soon his profits soared to a few hundred dollars a month. Throughout his adolescence, Hsieh started several businesses, and by the time he was in college he was making money selling pizzas out of his Harvard dorm room. Another entrepreneurial student, Alfred Lin,bought pizzas from Hsieh and resold them by the slice, making a nice profit. Hsieh and Lin quickly became friends. After Harvard, Hsieh founded Link Exchange in 1996, a company that helped small businesses exchange banner ads. A mere two years later, Hsieh sold Link Exchange to Microsoft for $265 million. Using the profits from the sale, Hsieh and Lin formed a venture capital company that invested in start-up businesses. One investment that caught their attention was Zappos, an online retailer of shoes. Both entrepreneurs viewed the $40 billion shoe market as an opportunity they could not miss, and in 2000 Hsieh took over as Zappos’ CEO with Lin as his chief financial officer.

Today, Zappos is leading its market and offering an enormous selection of more than 90,000 styles of handbags, clothing, and accessories for more than 500 brands. One reason for Zappos’ incredible success was Hsieh’s decision to use the advertising and marketing budget for customer service, a tactic that would not have worked before the Internet. Zappos’ passionate customer service strategy encourages customers to order as many sizes and styles of products as they want, ships them for free, and offers free return shipping. Zappos encourages customer communication, and its call center receives more than 5,000 calls a day with the longest call to date lasting more than four hours. Zappos’ extensive inventory is stored in a warehouse in Kentucky right next to a UPS shipping center. Only available stock is listed on the website, and orders as late as 11 p.m. are still guaranteed next-day delivery. To facilitate supplier and partner relationships, Zappos built an extranet that provides its vendors with all kinds of product information, such as items sold, times sold, price, customer, and so on. Armed with these kinds of details, suppliers can quickly change manufacturing schedules to meet demand.

**Zappos Culture**  
Along with valuing its partners and suppliers, Zappos also places a great deal of value on its employee relationships. Zappos employees have fun, and walking through the offices you will see all kinds of things not normally seen in business environments—bottle-cap pyramids, cotton-candy machines, and bouncing balls. Building loyal employee relationships is a critical success factor at Zappos, and to facilitate this relationship the corporate headquarters are located in the same building as the call center (where most employees work) in Las Vegas. All employees receive 100 percent company-paid health insurance along with a daily free lunch.  
Of course, the Zappos culture does not work for everyone, and the company pays to find the right employees through “The Offer,” which extends to new employees the option of quitting and receiving payment for time worked plus an additional $1,000 bonus. Why the $1,000 bonus for quitting? Zappos management believes that is a small price to pay to find those employees who do not have the sense of commitment Zappos requires. Less than 10 percent of new hires take The Offer.  
**Zappos’ unique culture stresses the following**:  
1. Delivering WOW through service  
2. Embracing and driving change  
3. Creating fun and a little weirdness  
4. Being adventurous, creative, and open-minded  
5. Pursuing growth and learning  
6. Building open and honest relationships with communication  
7. Building a positive team and family spirit  
8. Doing more with less  
9. Being passionate and determined  
10. Being humble  
**Zappos’ Sale to Amazon**Amazon.com purchased Zappos for $880 million. Zappos employees shared $40 million in cash and stock, and the Zappos management team remained in place. Having access to Amazon’s world-class warehouses and supply chain is sure to catapult Zappos’ revenues, though many wonder whether the Zappos culture will remain. It’ll be interesting to watch!19

**Case Study 4: Zappos**

1. Define SCM and how it can benefit Zappos. **(1 Mark)**
2. Explain CRM and why Zappos would benefit from the implementation of a CRM system. **(1 Mark)**
3. Demonstrate why Zappos would need to implement SCM, CRM, and ERP for a connected corporation. **(1 Mark)**
4. Analyze the merger between Zappos and Amazon and assess potential issues for Zappos customers. **(1 Mark)**
5. Propose a plan for how Zappos can use Amazon’s supply chain to increase sales and customer satisfaction. **(1 Mark)**