U.S. Travel and Hospitality: Embracing a SMAC-Driven Future

A gradually improving economy and heightened consumer expectations for more personal and real-time interactions and transactions is driving airlines, hotels and travel agents to holistically embrace social, mobile, advanced analytics and cloud to boost business performance and retain share of wallet.

Executive Summary
For an industry hampered by the weak global economy, 2012 was a good one for the global travel and hospitality (T&H) industry, as a record-breaking one billion tourists traveled outside their home countries. Domestically, the U.S. T&H industry is experiencing a genuine revival. Real spending on tourism has increased in the past two years, and U.S. citizens are expected to travel more frequently this year than last, indicating a return to "travel as usual" in both the business and leisure segments.

The boost bodes well for leading players in the travel and hospitality value chain, namely, hotels, travel agents and airlines. However, a wave of technological advances is flooding the industry, creating opportunities to boost operational efficiencies and customer satisfaction, as well as combat the threat of displacement by more innovative, technology-savvy competitors. The wave comprises four foundational elements: social media, mobile, analytics and cloud computing, or the SMAC Stack. (For more on the SMAC Stack, read Cognizant’s paper, “Don't Get SMACked: How Social, Mobile, Analytics and Cloud Technologies are Reshaping the Enterprise, Cognizant Technology Solutions.”)

T&H is among several service industries feeling the disruptive impact these technologies can have on business, spurring forward-thinking players to begin consolidating their offerings and technology backbones around them.

The rise of mobile and social media has impacted customer behavior significantly. Consumers now use mobile devices to not just research their options but also book travel. While on vacation, they use social media to connect to their friends and share pictures. By doing so, they add to the voluminous business data generated each and every day. This data can and should be leveraged to create efficiencies and develop insights into customer behavior through the use of advanced analytics. Similarly, cloud computing holds the promise of reducing capital expenditures for companies looking to boost their business capabilities by paying only for the IT services they use from more flexible operating budgets.
Industry leaders are ahead on the adoption curve, and second-tier players will soon follow suit. Nevertheless, many T&H companies are in a state of flux regarding the best way forward, with many adopting a wait-and-watch approach, preferring to hold off until SMAC technologies mature and reach mainstream status. Yet, unless they act now, T&H companies might find themselves outmaneuvered by nimble-footed, technology-driven competitors that reach customers via mobile apps and optimized Web sites, impacting their revenues or, worse, enabling travelers to completely bypass them. Owning the customer (i.e., transacting directly with the traveler) is a critical battle that each and every industry player must fight and win.

We believe the key imperatives for T&H industry players include:

- **Take an integrated approach** to the emerging SMAC Stack, as these technologies perform optimally when deployed holistically rather than in silos.
- **Use cloud computing** to provide customers all travel-related services in one place.
- **Use social media as a cornerstone for marketing and communication** with customers, as social media and travel are considered to be a natural fit. The channel is ideal for spreading the message directly to the customer, using tools such as videos, personalized offers and contests. Social channels can also provide feedback for all other channels.
- **Develop high-quality content**, such as videos of services or destinations being offered, accompanied by customer testimonials to differentiate offerings and build customer trust.
- **Analyze customer data** to understand their behavior and preferences and build stronger relationships.
- **Leverage personalization to meet traveler expectations**. Analytics, in combination with mobile and social, is an ideal platform for creating an individualized experience. Analytics is being used to match offers, provide plans based on a customer’s previous choices and deliver personalized offers on consumers’ social media pages.
- **Integrate new technologies such as mobile devices into legacy systems** on a priority basis. Companies should invest in new technologies that help legacy systems work with emerging technologies. Alternatively, they can build technology layers (middleware) that interoperate with cloud-delivered third-party solutions.

**A Slow, Steady Comeback**

The current optimism in the T&H industry is well-founded. During the past few years, there has been a steady rise in the industry’s key economic indicators (see Figure 1). This is further corroborated by surveys indicating that both leisure and business travel are set to make a strong comeback in the coming years. For instance, the Global Business Travel Association found that a pent-up need for face-to-face conversations with clients, coupled with spending on international trips, is expected to boost travel spending in the U.S. by 4.6%, to $266.7 billion in 2013. Similarly, the members of the U.S. Tour Operators Association expect higher sales in 2013 over 2012.

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**Spending on U.S. Tourism Returning to Normal**

**Quarterly Growth in Real Tourism Spending**

![Spending on U.S. Tourism Returning to Normal](chart)

*Source: U.S. Bureau of Economic Analysis*

*Figure 1*
In addition, the expected growth in foreign tourists to the U.S., led by travelers from China, is expected to result in one million incoming travelers this year. This demand, coupled with the slow growth in supply, is expected to work in favor of U.S. airlines and hotels. In particular, hotels are expected to outperform other travel industry players. Airlines, hampered by high fuel and operational costs, express tempered optimism. Ongoing industry-wide consolidation is also expected to accelerate. Moreover, industry players are seeking regulatory relief to help them better control costs.

Hotels
Fueled by strong fundamentals, the U.S. hospitality industry is expecting a boom in the next four years. In 2012, the occupancy rate grew by 2.4% (see Figure 2), whereas the daily rate grew 3.8%, to $108.53, and revenue per available room (RevPAR) increased 6.3%, to $66.77. Supply has grown slowly in the U.S. hotel industry – 0.6% in 2011 – while demand has grown at a healthy 5% clip in the same period, which points to a favorable pricing environment for hotels.

Revenue and profitability have improved over the past two years (see Figure 3, next page). Simultaneously, hotels have maintained tight cost controls to improve productivity without adding new resources. This has added to the bottom line as occupancy rates bounced back. Net operating income (NOI) per available room, which fell to a low of $10,483 during the weakest phase of the recession in 2009, is expected to surpass the 2007 peak of $16,868 and reach $18,216 in 2014, according to research firm PKF.

Large U.S. hotels have rapidly expanded into developing markets, such as China. For example, 60% of the additions to Hilton Worldwide’s hotel portfolio over the past few years have been overseas. Expansion into developing countries will also improve providers’ chances of attracting tourists from these countries. The growing number of tourists will trigger domestic competition, allowing new players to enter the market. These developments highlight the importance for hotels to revisit their marketing strategies and find ways to boost customer loyalty.

Travel Agencies
U.S. travel agents are currently enjoying the fruits of a growing travel market. Online leisure/unmanaged business travel outperformed the industry, growing 11% in 2012. During the recession, travel agents bore the brunt of the weak economy, including travel cancellations and deferments. As bookings rebound and employment levels increase, business is expected to bounce back. Research firm IbisWorld expects the domestic travel market to grow at 3.3% annually between 2012 and 2017, while international arrivals are expected to grow 5.4% during the same period. The sector’s 2013 revenues are expected to grow 6.7% and reach $20.7 billion in 2013, as compared with $19.5 billion in 2012.

Rise in Hotel Occupancy Rates in 2012

![Graph showing rise in hotel occupancy rates in 2012](source: Smith Travel Research, HotelNewsNow.com)
Nevertheless, revenue growth is expected to slow over the next few years (see Figure 4). The pressure on revenues will come from multiple sources, chiefly from lower commissions, which form the bulk of travel agents’ income. As travel grows, hotels will, in all likelihood, cut their commissions to travel agents. Airlines, which struggle with high costs, may do the same. Moreover, as hotels up the ante on the online hotel booking front, competition will heat up, further affecting revenues.

According to researcher PhoCusWright, growth at supplier Web sites (hotels and airlines) is outpacing online travel agencies, with total online supplier bookings jumping 14% in 2012 compared with 6% growth for online travel agents (OTAs). Two-thirds of online bookings in 2014 are expected to be made via supplier Web sites. Travel agency heavyweights such as Carlson Cos., American Express, Expedia and Priceline.com, which together hold more than 75% of the market, will need to sharpen their marketing efforts to retain customers. Agencies will also need to look at ways to create efficiencies and customize offerings to the needs of various demographics, such as the millennial generation, baby boomers, etc.

Airlines
There seems to be no end in sight to the airline industry’s (global and domestic) woes. Factors such as high fuel prices and the economic slowdown have affected the industry’s financial performance. Consequently, the industry has...
witnessed frequent bankruptcies and large-scale consolidation, the most recent being the merger between American Airlines and US Airways. This leaves three large network players competing for market share, even as low-cost airlines make inroads into the market.

The most obvious benefit of a well-managed merger is the streamlining of operations that could potentially lead to lower costs. However, this will not be easy, as even the best intended mergers and acquisitions often encounter turbulence. An example is the United Airlines and Continental merger, where customers had to endure technical glitches, including dropped reservations, lost loyalty points and five-hour phone wait times. For an industry that relies heavily on customer choice, such a situation can significantly erode loyalty.

Such crises can be better handled by using social media tools to listen for early signs of customer dissatisfaction, communicating with customers on remedies and next steps, and providing enhanced customer support when required. With customer analytics, moreover, airlines can identify segments that need special attention and generate tailored offers to assuage high-value customers.

The U.S. airline industry remains the global leader, with almost 30% of the installed commercial fleet based in the country; China, the second largest in this measure, stands at 9%. Yet, China’s market grew 11% in 2011 compared with just 1.3% for the U.S.

A strong outlook for travel will benefit the airlines as they try to retain customers through innovative services and improve efficiencies. Cost-cutting is expected to remain a major source of profit. U.S. airlines have led the way in cutting back on non-profitable flights, and many carriers have “rightsized” their fleets by purchasing more fuel-efficient aircraft. Embracing green initiatives also helps airlines meet customers’ rising expectations.

**Forces Driving SMAC Adoption**

By adopting SMAC technologies, the T&H industry can drive down costs and support revenues through more innovative offerings that help retain existing customers and attract new ones.

SMAC technologies are transforming business models by redefining corporate IT infrastructures. While consumers are driving businesses to adopt social and mobile technologies, analytics and cloud allow enterprises to leverage the voluminous data generated all around them via the power of on-demand computing. The new master corporate IT architecture involves taking an integrated approach to these technologies by tying the individual components to core knowledge processes. This new architecture will not only improve T&H players’ abilities to reach consumers consistently across channels, but it will also drive enterprise-wide efficiencies.

Advanced data analytics, for instance, can help companies proactively identify areas to reduce waste, such as supply chain optimization. Cloud computing can provide on-demand access to the latest software tools, storage and processes across departments and geographies. At a time when T&H players must meet changing customer expectations while reining in costs, taking a holistic approach to implementing SMAC technologies is a smart way forward.

**Mobile**

Advances in consumer-facing mobile technologies, in combination with the rise of social media as a channel, offer a glimpse of the future playing field for marketing and communication strategies. For T&H players, mobile is considered the best medium for reaching travelers before, during and after their travel.

Smartphones have moved beyond the hardcore business traveler segment into the wider consumer electronics market, thanks to Apple’s iPhone, which was launched in 2007. Indeed, the same year that the world travel industry recorded one billion international travelers (2012), smartphone sales hit the one billion mark. These devices accounted for 40% of worldwide shipments in 2012, with the U.S. leading the way in smartphone usage, at close to 165 million iOS- or Android-enabled devices. However, the fastest growth in smartphone adoption is in overseas markets such as China (see Figure 5, next page).

Available for mass consumption only two years ago, tablets have recorded an even faster rate of growth. According to comScore, one in four smartphone owners uses a tablet.
Smartphones and tablets offer consumers a tool to research and plan their travel while on the go. The fight for customer attention will, therefore, play out on the touchscreens of these devices. Although the PC is still the favored medium for travel booking, travel searches and bookings on mobile devices have steadily increased over the past couple of years (see Figure 6). The number of Americans booking travel via mobile is expected to more than double from an estimated 16 million in 2012 to 36.7 million in 2016.

These devices have embedded themselves deeply in travelers’ daily routines. Price alerts and reminders are slowly moving from PCs to mobile devices. With emerging technologies such as context- and location-aware services, mobile devices and tablets are set to take the travel experience to a different level. Not surprisingly, T&H industry players are upping the ante in their efforts to create a strong presence on this channel. Hotels, for example, are increasing their spending on mobile marketing as a percentage of their digital marketing budgets. According to a survey by Hospitality eBusiness Strategies, the percentage of digital marketing budgets allocated to mobile was 10% in 2012 and is expected to rise to 15% in 2013. The focus of these initiatives is likely to include activities such as enhancing mobile Web

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sites and display advertisements (see Figure 7). Airlines also provide flight information and various other ancillary services, such as hotel booking and travel insurance via mobile apps, which could boost their revenues.

Social Networking
As smartphones become ubiquitous, social networking has emerged as the most important cog in the communication wheel for most service industries. Travel and social are considered a natural fit, and with good reason. From updating their Facebook status to checking into a hotel, many individuals actively indulge in social networking, even when on vacation. Perhaps more importantly, social has influenced the way consumers plan, book and experience travel.15

The notion that an agent knows the customer best is being challenged by algorithms that comb members’ Facebook interactions to make personalized recommendations.16 TripAdvisor, a leading online travel review site, managed to boost its membership by more than 100% year-on-year in 2012 by acquiring members (domestic and international) through Facebook.17 In fact, users logging into the site to shop for hotels increased by 30%. As a result, the site was able to drive revenues through targeted click-based advertisements generated by insights extracted from travel reviews gleaned from members’ Facebook updates.

For travel industry players, there is a clear incentive to provide services that generate positive social networking feedback. In a survey by VFM Leonardo, 92% of respondents said they trust the opinions of people they know above all other advertising.18 This makes mastering social media a key imperative. Social spend by travel companies is on the rise, driven by videos and images used in advertising and content-based direct marketing initiatives. However, social can be a double-edged sword, as negative publicity tends to spread faster than praise on social networks.

For this reason, T&H players need to approach social media strategically and place it at the heart of their marketing and public relations efforts. This can be done by embedding a social component in their communications strategy, directing users to the company’s social media page and employing PR-savvy customer relations executives to help create a responsive and personalized experience. Given the propensity of social media users to share their experience with friends, this channel holds much promise for attracting potential customers, with no marketing effort on the company’s part. However, the key differentiator for T&H players will be the social content generated, either by the company or by their guests. This content, in the form of videos or photos, is emerging as a key promotional tool for T&H players.

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**Hotels Investing in Improving the Mobile Experience**

Which mobile marketing initiatives are you planning for? (Percent of respondents)

![Mobile Marketing Initiatives Chart](chart.png)

*Source: 6th Annual Benchmark Survey on Hotel Digital Marketing Budget Planning, HeBS Digital, 2012*

*Figure 7*
Big Data, Analytics and Cloud Computing

Just as mobile and social have become crucial to how T&H companies interact with customers, data analytics and cloud computing have emerged as the backbone of a digital marketing strategy. Travel companies have traditionally stored volumes of data about everything from pricing models to customer relationships. But today, the focus has shifted to deriving insights from this data.

Thanks to increasing digitalization, companies find themselves at the center of a data deluge, in which the volume, velocity and variety of data are growing faster than ever before. Flights, for example, generate terabytes of data on every journey, and travel agents and hotels have access to crucial personal information on their clients.

Integrating this data into a coherent whole, and then using advanced analytics to slice and dice it according to various parameters, can drive fact-based decision-making across all departments. This could lead to improved efficiencies, better marketing campaigns and more personalized customer relationships. Big data is already driving innovations, such as Web sites that provide travelers with better hotel deals and help them gauge providers’ reputation and service quality by crunching data from millions of Web pages.

An example is Hopper, which converts raw data from Web pages into structured information to create a better travel search and planning experience. Olset, another big data startup, derives user information from sites such as Expedia and Facebook to identify user preferences and offer matching results in the travel planning stage. Going forward, big data and analytics will help travel providers better understand customers and create more personalized service offerings.

Cloud computing is gaining popularity across industries, and T&H is no exception. The benefits of cloud computing include cost reduction, scalability and access to the latest software. Cloud also allows companies to free up resources to focus on core business activities. Functions such as data storage, productivity tools and messaging are moving to the cloud in various service sector industries. For travel, cloud computing can create a low-cost but highly efficient platform to offer all customer-facing services that hitherto were offered separately.

Owning the Customer

As mobile becomes the preferred channel for consumer engagement, airlines, hotels and agents will fight harder to “own the customer” by persuading customers to transact directly with them.
Doing so will help them maximize revenues and obtain firsthand access to both transactional and interactional data. However, gaining and retaining customer loyalty is a far more challenging task in the age of mobility, given the plethora of options that can be revealed through a simple online search. Moreover, customer behavior has changed dramatically following the financial crisis (see sidebar, previous page).

A SMAC-enabled strategy should focus on creating a consistent and invigorating experience across channels. Mobile Internet users are set in 2013 to overtake fixed-network users. With the growing adoption of tablet and smartphones, tailoring Web sites to fit the screens of these devices will be a step in the right direction.

Video, in fact, is expected to be a key vehicle for engaging with travelers on the mobile Web, whether through reviews, demos or interviews. Travelers use video at almost every stage of travel planning (see Figure 8). However, while 85% of the U.S. population watches video online, travel advertisers reach just 3.5% of this audience. Online travel-related video viewing is expected to remain popular, especially among business travelers, according to an April-May 2012 Google travel study. Through high-quality, informative videos, providers can engage with travelers in the early planning stages and highlight the uniqueness of their offerings. Clearly, travel companies must focus on offering Web sites with quality content and optimize the site for mobile viewing, paying close attention to basic aspects such as readability and navigation.

But there is a lot more that mobile devices can do for T&H players. Hotels, for example, can smooth the customer journey by enabling them to check into a hotel without waiting at the reception desk. Mobile services such as these can help T&H players generate revenue. The Intercontinental Hotel Group, for example, generated $2 million in revenues from mobile booking in 2009, and this increased to $40 million in the first month of 2013, alone. The customer experience can be further enhanced by incorporating hotel loyalty programs into mobile apps.

The impact of social media on T&H providers can be gauged from the number of travelers who change their choice of hotels, agents or airlines based on social media feedback. Surveys have also found travel companies generating direct revenues from social media. It is imperative for T&H players to treat social media as the

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**Travelers Use Video at all Stages of Travel**

Respondents were asked which of the following they have performed online in the past six months.

- When deciding on which Web site to book: 34%
- When thinking about taking a trip: 66%
- When choosing a destination: 64%
- When looking for activities at a destination: 62%
- When deciding on accommodations at a particular destination: 57%

*Source: “The Traveler’s Road to Decision,” Google and Ipsos MediaCT, July 2012.*

*Figure 8*
cornerstone for marketing and communication, and their social activities need to be backed by strong content, such as videos, photos, contests, etc., while dedicated teams respond to customer feedback and inquiries, behind the scenes.

T&H players have traditionally used analytics in areas such as campaign management, but the role is expanding, due to the amount of data generated today. For instance, travel agencies can deploy analytics on customer data across channels to create personalized offerings, and recommendations can be made based on demographic data, such as younger baby boomers (aged 46 to 57) with strong spending power and a desire to reward themselves. Analytics can help airlines create a holistic view of customers, known as the customer composite vector, based on their travel frequency, spend per trip, non-travel spend, trip profitability, etc. (For more on this topic, see “Leveraging Advanced Analytics to Drive Customer Behavior in the Airline Industry.”) This holistic approach is better than traditional customer scoring cards used by T&H providers, as these are less effective for pulling together disparate customer data. Developing a holistic picture can help airlines, for example, build targeted offerings and campaigns based on specific aspects of customer behavior. If internal resources are limited, providers can also look to cloud-based analytics solutions.

To effectively embrace the SMAC Stack, T&H companies must create systems of engagement that interoperate with their legacy systems. They can invest in new technologies that help legacy systems work with emerging technologies, or they can deploy translation software, or middleware, to enable interoperability with external platforms to offer Web-based or mobile-based services. In fact, cloud computing has wider applications for the travel industry, as this platform can be used to internally provide software access to offices/franchises across the globe. An example of this is the choiceAdvantage platform offered by Choice Hotels in the U.S. This platform enables a cloud-based central reservation system for its franchisees, which no longer need to invest in new technology, resulting in cost savings.

Providers are also developing integrated customer-focused platforms that allow access to services across the travel and hospitality spectrum. These cloud-based platforms allow travel providers to sell their products to consumers cost-effectively. Such a service will be a boon to industry players that may not want to invest in new technology.

Industry-wide SMAC Imperatives
The combined forces of social, mobile, analytics and cloud is causing T&H players to rethink their business models. As customers become more empowered, companies need to tune their offerings to meet new expectations. However, we believe that a gradually recovering economy will provide the impetus needed for T&H players to widely adopt these technologies. The following are key imperatives, opportunities and challenges for industry players.

Hotels
- **Revive customer loyalty:** Hotels are experiencing an unprecedented erosion in customer loyalty. Mobile Internet and social networking have changed the way customers plan their travel. To minimize further erosion, hotels need to revive their loyalty programs by integrating them with customer and social media analytics.
- **Predict behavior:** Combining analytics on historical data with future scenarios can allow hotels to anticipate changes in customer behavior and modify their offerings to maintain wallet share, if not increase it.
- **Make CRM programs count:** As smartphones, mobile Internet and social media become an integral part of travelers’ lives, they provide hotels with critical touchpoints that can streamline and unify their CRM processes, something that was not easy to do in the era of newspapers and television.
- **Boost productivity with real-time tools:** Tools to monitor processes such as procurement on a real-time basis can reduce the cost of day-to-day operations. Such a tool could be deployed on a cloud-based platform to enable organization-wide access, supported by analytics that can improve spending decisions.
- **Create a culture of fact-based decision-making:** In addition to adopting technologies that help cut costs, it is important to create a collaborative environment and initiate a cultural change toward fact-based decision-making. Such change needs to be driven by top management, with technology teams working hand-in-hand with users.
Travel Agents

- **Create enhanced offerings:** Travel agents are well-placed to leverage location-based offerings. Based on a customer’s location, the travel app can send relevant location-based service coupons for restaurants, shopping, etc.

- **Go beyond the Web site:** As customers add new sources of information to their travel decision-making, travel companies risk being marginalized. To avoid this, they need to forge a connection with travelers through different channels such as social media, using content that customers want to see.

- **Provide agents with cloud-enabled capabilities:** A cloud-based communications system allows travel agents to work on the go, responding to urgent requirements from customers on a real-time basis using their smartphones or tablet devices.

Airlines

- **Plan a cloud-based future:** Airlines are saddled with high operating costs and other external factors, and their troubles will not vanish overnight. However, they can harness the power of cloud computing to cut costs further, while simultaneously pursuing a mobile and social strategy aimed at retaining customer mindshare and wallet-share.

- **Enhance the passenger experience:** Airlines can use the cloud to create services that allow technology-savvy passengers to utilize their in-flight time to the fullest. For example, Lufthansa’s CloudStream service allows passengers to choose and store content that they can access on their tablet devices after take-off.

- **Use apps as a branding tool:** Mobile apps allow airplanes to create a presence on the device that a customer is most likely to use while planning travel. This may or may not result in direct business from the consumer, but it will add to the possibility of gaining wallet-share.

- **Use social to build trust:** A strong social presence can drive brand loyalty in the same way as frequent flyer programs. By being active on social networks, airlines can build customer trust. An example of this is Southwest Airline’s dedicated social media team that not only responds to comments and questions, but also rebooks flights, tracks bags and issues travel vouchers.

Ready for Takeoff

A gradual return to pre-crisis levels of travel, combined with an increasingly mobile and informed consumer, make it imperative for T&H industry players to offer a personalized and consistent user experience across all phases of travel. Adopting an emerging master IT architecture comprising social, mobile, analytics and the cloud will enable T&H players to meet this challenge and be rewarded with improved operational efficiencies. These technologies will not only transform communication with applicable customer segments, but they will also push companies toward a more collaborative work environment.

Hotels, travel agents and airlines face different challenges. Yet, whether it is about cutting operational costs, improving sourcing or increasing wallet-share and mindshare, the emerging SMAC-driven business model will be at the heart of these efforts. Success will hinge on how well organizations manage the transition to new technologies. While there is no one-size-fits-all approach, the effort must be driven from the top. Industry players should also look to partner with third-party providers with the necessary experience and wherewithal to not only build solutions based on these technologies but also deploy them holistically to unlock value and exert a multiplying effect on business performance.

We believe that an integrated strategy for mobile, social media, analytics and cloud computing is the way forward for T&H players. Companies should look at these technologies as one integrated stack instead of embarking on isolated initiatives. Organizations that focus initially on eliminating data, process and operational silos will be positioned to reap early multiplier effects of the SMAC Stack.
Footnotes

1 Total guest room revenue for a given period divided by the total number of paid occupied rooms during the same period.


7 Ibid.


13 Ibid.


About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world’s leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 50 delivery centers worldwide and approximately 156,700 employees as of December 31, 2012, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world.

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