

*Enterprise Search 2.0-Powered Analytics:
Transforming Data into Actionable
Knowledge*

*Exploiting the Data Avalanche to Drive Support
Performance*

June 1, 2011

*A Joint Research Paper from
TSIA and Coveo*

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Contact Information

Coveo
945 Lakeview Parkway
Vernon Hills, IL 60061
1-800-635-5476 (US/Canada)
00-800-2673-7642 (Intl.)
info@coveo.com
www.coveo.com

Technology Services
Industry Association
17065 Camino San Bernardo
Suite 200
San Diego, CA 92127
U.S.A.
Tel.: 858-674-5491
Fax: 858-674-6794
info@tsia.com

EXECUTIVE SUMMARY

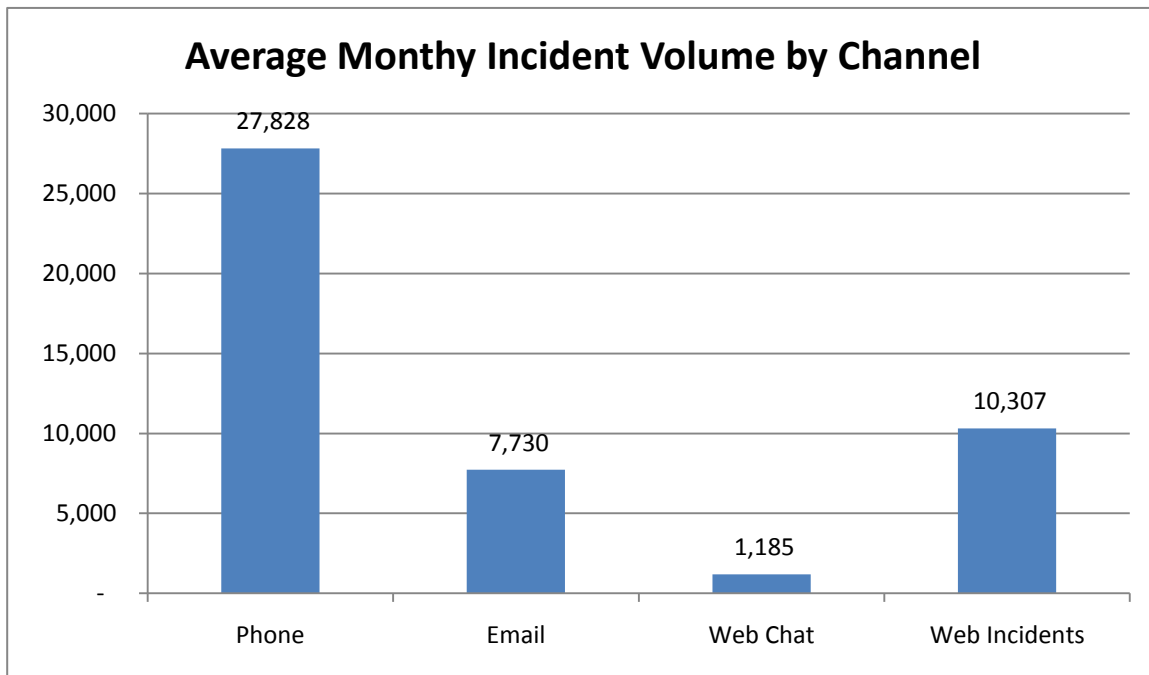
Today's customer support operations are overwhelmed by data, with executives complaining that finding meaning among the chaos grows increasingly difficult. The amount of information flowing through support organizations is increasing year over year due to rising interaction volumes, and the new world of social media is creating even more content that cannot be ignored without alienating customers. The solution to this data overload is the adoption of analytics in the form of 360-degree views of data, centered around what matters most: the customer and the customer base, correlated with product and sales information, and associated with customer support performance metrics: The ability to consolidate and correlate data from multiple sources enables the detection of customer trends and the identification of new operational and financial insights. Emerging solutions offer increased sophistication, including real-time access to data—not analyzing a copy of old data—extending the value of basic operational reporting with real-time insights.

In this report, learn the difference between analytics and operational reporting, and find out key features to consider when evaluating analytic tools. In addition, TSIA and Knowledge 360 Solutions provider Coveo will provide examples of how support teams are leveraging analytics through 360-degree views of both structured and unstructured data to deliver real business value for the organization, particularly in the areas of operational impact, knowledge management, multi-channel management, and voice of the customer.

OCEANS OF DATA CREATE OVERLOAD AND INACTION

Today's support executives are awash in an ocean of data. TSIA members receive, on average, over 51,000 support incidents a month, across phone, email, Web chat, and online incidents (*Figure 1*), each filled with critical information about products and services that could be mined for trends. CRM, incident management, and telephony systems track hundreds of metrics—the TSIA Support Services benchmark alone surveys members for more than 300 individual operational, financial, and quality metrics. In addition, usage metrics for online knowledgebase, product documentation, bug databases, download libraries, and online training materials all provide clues on what customers are struggling with in day-to-day operations. This creates a huge opportunity for more sophisticated analytics tools to harness the knowledge in this ocean of data, and inject it into customer support operations to better manage the interaction volume and bring order to the chaos.

Figure 1: Exploding Incident Volumes



Source: TSIA 2010 Benchmark

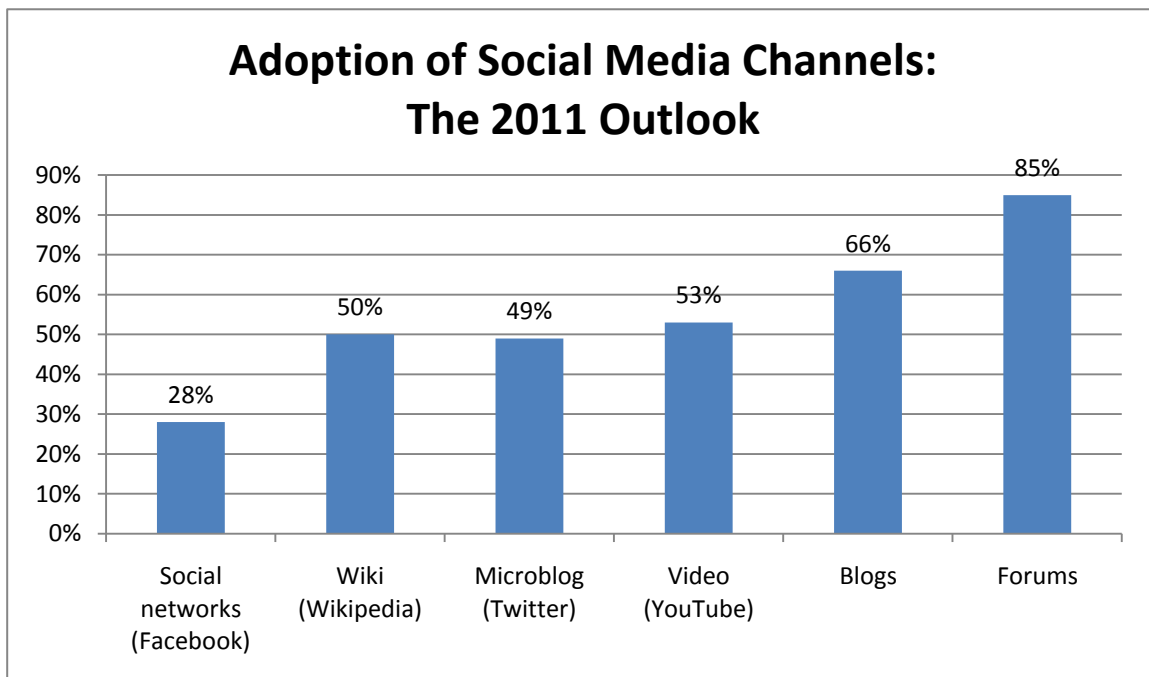
To add to this mass of information, new social media tools are creating even more customer interactions across social networks and microblogging, with customer communities and online discussion forums spawning huge libraries of information that require new and sophisticated Enterprise Search 2.0 technology to make sense of the unstructured data, combine it with structured data, and create actionable knowledge. Moreover, the transparency of social media channels is raising customer expectations. Organizations that embrace this transparency are beginning to leverage these valuable ideas and inputs as additional sources of knowledge. Support organizations that have yet to adopt this ability risk making already unhappy customers even more upset when their ideas and input are not acknowledged or acted upon.

Support organizations need to do more than listen and respond, however. Best-in-class organizations exploit this new, social data with text analytics and sentiment analysis tools. Bringing the social message into overall analytics is required to gain a true 360-degree view of the customer and the entire customer base.

As seen in *Figure 2*, 85% of TSIA members expect to have a discussion forum available for customers in 2011. Adoption of other social media avenues for customer support is also growing, with over half of members offering video content on sites such as YouTube, nearly half of members interacting with

customers via microblogging tools such as Twitter, and over a quarter of members leveraging social networking sites such as Facebook and LinkedIn to support customers. In all, TSIA members estimate that between eight and 14% of total customer interactions in 2011 will be handled via social media.

Figure 2: Adoption of Social Media Channels by TSIA Members



Source: TSIA 2010 Social Media Survey

Analytics can be leveraged to not only harness the value of social networking in terms of trends and ideation, but the tools can also be used to identify valuable company and product advocates who provide real value in the solutions and discussions they are providing. Once identified, these customer or community advocates may be invited to join more formal programs, such as becoming forum moderators, for an even greater impact.

Mining for Gold: Analytics Find Meaning Amid the Data Chaos

Support executives know there is value in all the data and metrics they collect, but identifying this value using legacy tools has proved frustrating, if not impossible. CRM, multi-channel, and telephony solutions typically include strong operational reporting, which is useful to determine a top performer for a certain metric, or to measure organizational performance by key performance indicators such as customer satisfaction scores or average response or resolution time. But what is missing in operational reporting is the ability to analyze data across multiple data sources, identifying linkages

and trends, enabling root-cause analysis, and providing insight to allow better understanding and granular interpretation of the operational report numbers.

This more sophisticated approach to reporting is known as analytics. A simple definition of analytics is "the science of analysis." A practical definition, however, would be that analytics is the process of obtaining an optimal or realistic decision based on a complete view of all existing data.¹

Over the last decade, demand for analytics has been increasing across enterprises, with back office, warehousing, sales, and marketing all demanding more intuitive tools to analyze and interpret data. As analytics grew in popularity, standalone vendors with analytics platforms became hot acquisition targets by major enterprise software vendors, and today, few standalone tools remain. However, the sophistication of analytics embedded in many software solutions is rising, and companies shopping for technology today should look for analytic capabilities such as:

- **Dashboards for 360-degree views.** A dashboard is a graphical representation of multiple data points and analysis presented to give an instant understanding of the state of operations. As an example, a dashboard may track all operational metrics, giving a consolidated view to a shift supervisor so they can easily spot which metrics are out of the normal range, with the ability to drill down into problem areas to identify possible reasons for the variance.

With support operations averaging a dozen or more disparate systems, it is critical that the consolidated views provided by management dashboards and operational consoles are easily accessed from anywhere within the ecosystem and not tied or integrated with any single system.

- **Ease of integration.** Given the issue described above—data stored in multiple systems containing customer information, as well as multiple accounting, inventory, and logistics programs—analytic platforms must be able to integrate with any front- or back-office system, with a library of documented, high-volume application program interfaces (APIs). Packaged integrations to popular CRM and multichannel systems are also helpful to speed integration activities. The new breed of Enterprise Search 2.0 technologies enable such integrations with packaged

IBM Netezza Case Study

Seeking to scale its customer support organization while taking its reputation for service excellence to new heights, IBM Netezza, the global leader in data warehouse and analytic appliances, turned to Coveo to provide a unified view of all customer information across the variety of enterprise systems its support agents use.

With Coveo, Netezza agents access all customer support and engineering repositories, via a single screen. Such dynamic analytics support decision making by sitting on the desktops of customer service agents, analysts and executives, all the way to the company's CEO.

After being live with Coveo for just five months, Netezza reports the following results:

- 67% reduction in time spent identifying known customer issues.
- Reduced duplicate bug submissions to development team by 50%.
- Increased development bug fixes by 67%.
- Executive Analytics Dashboard provides a unified, 360 degree view of customer and product information provides metrics and trends across the customer base.
- Scaled support operations, with a reduction in hiring of 5 planned FTEs within the first six months.

connectors that bring the data, both structured and unstructured, into a common index, in effect a type of “virtual” integration.

- **Real-time access to data.** The established and legacy analytics tools use a data warehouse, which replicates data from various systems and then analyzes it. However, data in a warehouse is structured, and, depending on how old the data is, insights from data warehouses may not be actionable—the problem or problems have passed. While data warehouses are valuable for historical data and therefore may predict future operations, it is key to combine this information, now possible with Enterprise Search 2.0 tools, with real-time data to identify problems and trends instantly. Dynamic navigation of the information allows access to actionable knowledge to find solutions in a timely fashion
- **Business user targeted controls.** While administrators may be required for complex analytic design, the system should be intuitive enough for business users to navigate and decipher information without administrative assistance.

LEVERAGING ENTERPRISE SEARCH 2.0-ENABLED ANALYTICS FOR BUSINESS VALUE: FOUR PRIMARY AREAS

Based on TSIA member conversations, conference presentations, and STAR Award applications, technology support organizations are looking to deploy analytics in four primary areas, each with enormous amounts of content and significant impacts to customers and operational costs: Operational Management, Knowledge Management, Voice of the Customer, and Multi-Channel. The following sections will describe possible analytic approaches and how they exploit high volumes of data to generate business value.

Operational Management

Customer demand for high-quality support is growing more and more prevalent thanks to the combination of an increase in product complexity along with an increase in competitive choices available to customers. Customers have raised the bar for every interaction with support organizations thanks to the plethora of information available on the Internet, including information from other customers in communities, microblogs, and forums. It is imperative that the support organization at least be on a level field of knowledge, or the customer will lose trust and potentially defect to the competition.

It has become critical that operational management have access to dynamic analytical information about their operations combined with information from beyond their organizations, so they can make informed decisions on how to run their businesses.

TSIA members say today that understanding the big picture with each account is paramount to delivering excellent service, so creating a 360-degree view of each account is critical. The customer wants the organization to know who they are and provide proactive support, rather than simply accepting that their challenge is already a known issue when they call.

Operational teams need to be able to see a complete view of the products they are supporting. The operational manager needs insight into how to support a product or family of products. Data that is important includes:

- **Product use.** Are customers using the product or products differently? For example, are other systems used in conjunction with my product? Which systems are integrated and what has the history been with these integrations?
- **Product quality.** Is a potential issue with product quality affecting customers? If so, is there a gap in the organization's knowledge to support the new issue trends identified? What processes are in place for verifying, documenting, and escalating new product bugs and enhancement requests?
- **Velocity.** How are the teams managing inbound incident traffic, and are they staying current? Is a backlog of incidents being created which impacts customer satisfaction? Why has the backlog started to grow, and do I have the right resources to eliminate that backlog and handle future issues with this product?

Today's standard reports and metrics show the statistical counts but they don't provide access to the insight that is needed for root-cause analysis. Dynamic navigation into the detail for every situation—while it is happening—is essential.

Knowledge Management

The next place many TSIA members target for sophisticated analytics is knowledge management. While most knowledgebase products include operational reporting to identify frequently accessed content, or unused articles to review, update, or delete, these capabilities only apply to the content within that knowledgebase—not the dozen or more content sources both employees and customers navigate trying to find information. Analytics can deliver business value

Global Software Development Company Study

Another Coveo customer, a global software development company serving the financial market, needed a way to quickly and seamlessly connect its customers and employees with knowledge and information related to its products.

Ultimately, there was a lot of reinventing the wheel going in its global support organization; someone would resolve a customer issue and the next support person wouldn't be able to learn from what their colleague had done to solve the problem.

With Coveo, the company now has a unified view of key information, including issue resolutions, from multiple repositories, resulting in several key benefits:

- Global support team troubleshoots more effectively, instilling confidence in their products and services.
- Global employees have better access to information, narrowing the gap and disconnection often felt by far-flung employees.
- Sales employees are able to better target customers' needs by having an improved grasp of the company's product strategy, product features, and open issues.

for knowledge management practices through:

- **Dynamic FAQs.** What content, structured or unstructured, across all data repositories, is most frequently accessed, and by whom? Creating dynamic FAQs can easily boost self-service success rates by prompting customers with the most useful content for their product, their geography, or by any available customer demographic.
- **Trusted third-party content.** In a Web 2.0 world, not all relevant content is internally authored. Enterprise Search 2.0 tools are necessary to mine and analyze third-party content, such as trusted content from blogs, forums, and other third-party suppliers in the social media world outside your firewall.
- **Content quality, applicability, and accessibility.** Most analytic platforms can look at content usage, articles tagged as resolving incidents, and the actual workflow of content creation to identify the best content in the knowledgebase, and how it got that way. Enterprise Search 2.0-powered analytics allows deeper insight into knowledge by consolidating information from outside a single knowledgebase. This enables predictive analysis that can avert a snowballing issue before it happens by ensuring that agents have access to the knowledge they need.
- **From gap analysis to root-cause analysis.** Basic operational reports can tell you which articles are accessed the most, and most analytics tools can identify content gaps. What questions are customers asking that aren't answerable with existing self-service resources, and what concepts are missing? However, moving beyond information gap analysis to root-cause analysis generates significant business value. Why is the information necessary? How did the defect occur? With the capability to move beyond just gap analysis to root-cause analysis, support organizations are able to leverage knowledge and alert engineering and product development so that fixes may be built into the product or proactively sent to them to engineer more satisfied customers.

Voice of the Customer

Today's support organizations track customer satisfaction in many ways, including transactional and periodic satisfaction surveys, and loyalty tracking such as Net Promoter scores—often managed by outside consultants. In addition to this information, analytic platforms can also mine internal and external social networking sites to gauge customer sentiment in postings and comments regarding the company and its products, allowing a much richer understanding of the voice of the customer.

Support management is in a central position to positively affect overall company performance. One method to ensure the value generated in support is valued outside the organization is to provide critical analytical information to other departments so they understand how support's intimacy with the

customer generates incredible insight. Support management should analyze the massive store of customer interactions, satisfaction and loyalty surveys, as well as social media “voice of the customer” information, to bring needed insight to other departments, such as:

- **Product Marketing/Development.** This is one area in which tech support teams already leverage reporting in order to provide input to development on needed features and bug fixes, but by adding 360-degree product dashboard analytics to the mix, additional intelligence can be gained, allowing product strategy to be better aligned with customer sentiment. Being able to deliver actionable knowledge to product marketing and development based on customer conversations can give support more clout in helping prioritize bugs and features, identify areas within the applications needing redesign, etc., without having to pay for costly usability labs or other controlled test programs. Ultimately, delivering products more aligned with the needs of customers should increase satisfaction and revenue.
- **Corporate Marketing.** Most marketing departments have a large budget for customer focus groups and surveys to determine what the reaction is to brands, new product advertising, company announcements or promotions, etc. While on the phone with support, customers frequently voice their opinions on all of these things, yet the information is not captured. By using interaction analytics on recorded customer conversations, email, and chat content, feedback insight into such areas as brand satisfaction and loyalty can be identified and made available to corporate marketing.
- **Sales.** By analyzing 360-degree views of your accounts including recorded conversations, emails, case notes and more, support organizations can deliver critical insights to the sales organization. Your customers provide a great deal of information that is highly valuable to the sales organization: How do they believe your products compare to those of your competitors (price, quality, design, features)? What do they see as weaknesses of a competitor’s products? What do reference customers actually say about you and your products? While sales organizations have competitive intelligence experts on staff to identify this information, customers freely offer up many data points in support conversations, though this information is likely not captured today.

By becoming the “go-to” folks for development, marketing, and sales on customer trend information, service and support will not only have increased visibility within the company but will significantly affect overall company performance.

Enterprise Search 2.0 solutions not only enable you to quickly and efficiently gather this information, they extend the platform selected by the support organization, allowing it to be used in a self-service manner by other organizations as well, combining information from support systems with systems used in each of these areas. This practice reduces information isolation and increases transparency of operations throughout the business.

Multi-Channel

Support organizations are obsessed with channel metrics. What percent of interactions flow through which channels, and why? Which customer demographics prefer which channels? What are satisfaction levels by channel, and why? As seen in *Figure 3*, this obsession is more than academic interest—it is all about cost. Field service visits, with high related fleet costs and in-person visits, rate highest in cost per interaction—\$797 per field service appointment. Not surprisingly, next comes personnel-intensive phone support, with an average cost of \$162 per incident. As the amount of human interaction lessens, cost drops, with chat and email incidents trailing phone. At the very bottom of the scale for cost is self-service, with a low price of six cents per interaction.

Figure 3 also shows average customer satisfaction scores by channel, and these averages follow the same curve as cost: the more human interaction, the higher the satisfaction. The low ratings for self-service are particularly troubling, showing that first-generation knowledgebase and full-text search tools are not keeping pace with customer demand.

CA Technologies Case Study

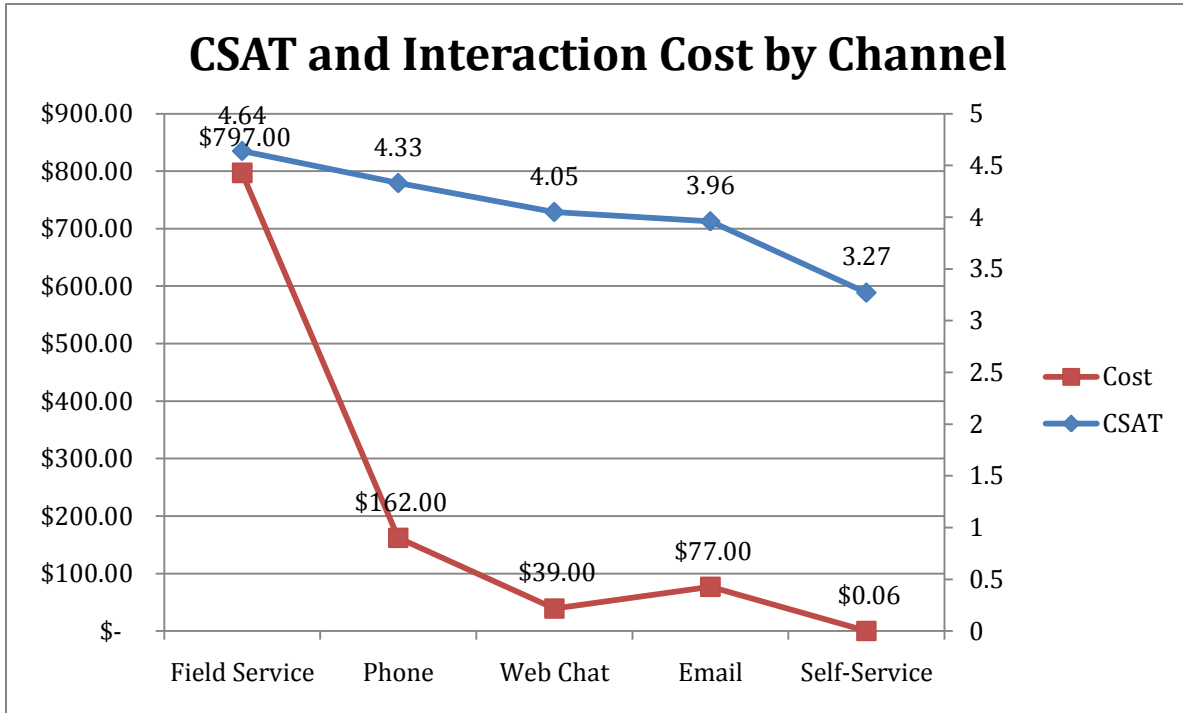
CA Technologies is the world's leading independent IT management software company. Its Technical Support team needed improved access to relevant knowledge stored in multiple repositories, to better improve the speed and accuracy of the information and technical resolutions they offered customers.

CA Technologies began by empowering its contact center agents with Coveo's unified access to its knowledge ecosystem, and based on its initial success with call center agents, the company expanded its use of Coveo to power customer self-service on its secure customer website. Next CA Technologies brought in content from all of its online developer communities, creating a holistic view of information from throughout the entire sphere of knowledge about its products and services.

With Coveo, CA Technologies has reported the following results:

- 10% increase in customer self-service satisfaction.
- Significant reduction in case resolution time.
- Improved productivity and call deflection.
- 50,000 queries per day with a 0.02 second average response time per query.

Figure 3: Incident Cost and Customer Satisfaction by Channel



Source: TSIA 2011 Benchmark

When analyzing channel volumes, along with related satisfaction and cost data, patterns will emerge, creating use cases of customer types, problem types, and channel usage. Once a company understands what drives use of particular channels, a plan of attack can be put in place to migrate traffic to the most effective channel to please their customers, which can have serious financial savings.

Often, the Enterprise Search 2.0 platform that provides the much-needed analytics is also leveraged to ensure that agents benefit from customer 360-degree views so that satisfaction levels of clients across phone, Web, and email channels increase. Self-service is another area that Enterprise Search 2.0 can facilitate, ensuring that the channel many customers prefer, provides the same level of experience as the more expensive field and phone service. With the customer 360-degree view, agents also become more able to conduct complex analysis of a customer issue, reducing the requirement for field service in many organizations.

COVEO AND TSIA RECOMMEND

After nearly a decade of cost cutting and optimization, support management is well versed in reporting on agent productivity, service level adherence, and customer satisfaction. While reporting activities in these areas are important and should continue, leading organizations seeking to increase the level of support performance, are embracing a more analytics-based approach, one which leverages the full knowledge ecosystem and provides real-time data. When evaluating your current metrics program with an eye toward better leveraging captured data to actionable knowledge, companies should:

- **Unify access to their data.** The massive proliferation of applications that collect operational data from every one of your business functions creates an enormous amount of data. Unfortunately this data, while valuable, is inaccessible to the organization as a whole because it only exists in the domain that it was created, and often it is difficult to access even within that domain. Bringing ubiquitous access to this data is a new paradigm shift that is taking place, as disparate data sources are indexed to provide a single unified and searchable layer of data. This ubiquitous unified layer provides multiple, configurable views of your business's data (which is automatically normalized) so that extensive multi-organizational analytics can finally be accomplished and shared across the enterprise.
- **Mashup information into easy-to-understand analytical interfaces.** It is paramount when leveraging analytics into your day-to-day work environment to present the analytical relationships that contain the information needed to make decisions. The existing, highly fragmented best-of-breed operational reporting engines only identify statistical information related to their own domains. While this domain reporting remains an important element, it doesn't provide a complete view of the information needed to quickly make informed decisions. If knowing that call volume is increasing for a specific product is all you need, then an operational report is great; however, if you want to know that call volume is increasing due to a marketing program targeting small business users who have very little technology experience, then you can understand the "why" as well as the "what." The hundreds of standard customer service metrics often have far-reaching impacts if presented in a cross-functional, analytical, 360-degree view.
- **Enable access to all core business information.** Operational reporting has been the standard for organizations for many years; business intelligence systems and tools have brought some insight to this data but such tools require significant investment and expertise to identify, locate, and design the model for analysis. With ubiquitous access to all information in your information ecosystem, you can focus on what to do with the data as opposed to finding, moving, and arranging it. Enterprise Search 2.0-powered operational analytics do not require predefined in-depth analysis, but rather they enable dynamic, 360-degree views of all your core business information to quickly understand not only what the data shows, but *why*. The

power of such operational analytics powered by Enterprise Search 2.0 allows real-time operational changes to be made to alleviate or eliminate source issues—in essence making your organization more agile and responsive to your customer base.

COVEO KNOWLEDGE 360 SOLUTIONS FOR CUSTOMER SERVICE

Coveo Knowledge 360 Solutions for Customer Service help knowledge-driven organizations with multiple, complex product lines to increase the quality and efficiency of their support operations.

Knowledge 360 Solutions for Customer Service leverage Coveo's Enterprise Search 2.0 platform to give customer service representatives (CSR's), managers, executives and customers immediate, efficient, single-screen access to critical customer, product and issue-resolution information – regardless of where the information resides. Coveo breaks down information silos across the enterprise, increasing knowledge sharing and collaboration to drive customer satisfaction and loyalty. Coveo solutions leverage the full breadth and depth of information available to customer service departments, whether in systems behind the firewall or in the cloud. Integrating content from online customer communities and forums, wikis, blogs and microblogs such as Twitter, together with enterprise information, helps CSRs, managers and customers to immediately resolve issues regardless of the information source.

Coveo Knowledge 360 Solutions for Customer Service address:

- **Agent Assisted Service.** 360 views of customers, cases and accounts deliver dynamic, ubiquitous data from throughout the entire knowledge ecosystem, turning this disparate data into actionable knowledge to help solve customer challenges faster, helping to scale growing contact centers efficiently while increasing customer satisfaction and loyalty. Particularly important for second and third-level CSRs, the Agent Assisted Service Solution makes short work of the most complex and costly customer challenges.
- **Customer Self-Service.** Web-based self-service gives customers 24/7 availability to information about their cases, products, and potential issue resolution to help customers solve challenges on their own. This solution leverages customer community data along with product information and case histories to help customers access the information they need, when they need it.
- **Management Analytics.** Customer, Product, Operational and People 360 views give customer service managers and executives a holistic overview of their business. Such improved insight into the operational and business metrics and trends driving their business helps them to make more agile, informed business decisions and better manage resources, set priorities and optimize throughput and capacity.

- **An extensible, scalable, secure Enterprise Search 2.0 platform.** Based on the Coveo Enterprise Search 2.0 platform, Coveo Knowledge 360 Solutions for Customer Service pull data from virtually any system into a common, unified index, and then provide composite views of this actionable knowledge in multiple formats.

Coveo Knowledge 360 Solutions for Customer Service Leverage and Extend Current Infrastructure Investments

IT executives leverage and extend investments in existing enterprise and legacy systems, without complex integration or data migration projects.

- Deploys quickly and non-intrusively — without affecting the existing production systems.
- Easily adapts to include additional, relevant information repositories and systems, providing support for other departments and business stakeholders.
- Avoids expensive, resource-intensive data migrations and system integrations.
- Seamlessly integrates content that is structured and unstructured, server-based, cloud-based, and web-based (both internal and external).
- Risk-free implementation with a Proof of Concept on your live data, from which many companies begin to leverage immediate value.

ENDNOTES

¹ Analytics definition according to Wikipedia, <http://en.wikipedia.org/wiki/Analytics>.