Alphablox White Paper

InLine Analytics

INLINE ANALYTICS™:
DRIVING PROFITABILITY AT THE POINT OF OPPORTUNITY – *THE ALPHABLOX SOLUTION*

alphablox™

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EXECUTIVE SUMMARY

Driving profitability has always been one of the most important objectives in business and has become even more so in the age of eBusiness.

Profitability at the organization's bottom line is the result of countless "minor" actions taken by decision makers at the front lines – in front of customers, with partners, at employees' desks. But, because traditional analytic solutions are best suited to delivering historical, narrowly-focused information, most companies are unable to intervene and respond to business changes in real time.

Three obstacles to profitable actions emerge at the front lines:

- "Rear-view data," which takes days or weeks to reach the front lines
- Disconnected analysis, due to the levels of processing that separate the decision maker from the data on which he/she needs to act
- A lack of perspective across all the people and transactions that the current action will affect

Every organization attempts to use analytics to drive profitability, but existing tools isolate the analytics, limiting their accessibility and effectiveness

By integrating analytics in line with business processes, the Alphablox solution removes these obstacles, with concrete benefits for business, technical, and extranet audiences. The new Internet infrastructure has interconnected employees, customers and suppliers, providing new linkages that were previously invisible. Alphablox help companies capitalize on those linkages. Armed with InLine Analytics™ from Alphablox, decision makers can immediately pursue their most profitable courses of action under changing business conditions.

INTRODUCTION

THE QUEST FOR PROFITABILITY

The yardstick of business is profitability and, in today's uncertain economy, all eyes are on that yardstick. Investors, officers, customers, employees, and partners all weigh a company's past and current profitability in planning the future of their relationships with that company.

Profitability, in turn, has thousands of its own yardsticks throughout the organization. Did the customer buy from us again? Do they pay us more when we deliver sooner? Can we deliver sooner? Has this product made or lost money? In all corners of the enterprise, the goal of profitability is paramount and better processes by which to manage are in great demand.

Yet, as business managers scramble to identify their most profitable opportunities, they begin to realize how elusive current information can be. Their sales force automation (SFA) software is powerful, but there is no way to link their customer relationship management (CRM) data to it. Or, their enterprise resource planning (ERP) package is top-notch, but only the financial analysts have access to it, causing significant delay in getting the information to the front lines.

Before long, managers begin to lament, "You mean that, with all of our investments in technology, we still can't improve predictability and profitability in our business? How much longer must our people on the front lines look in the rear-view mirror? What will it take for us all to climb out of our silos and be able to see our profitable opportunities?"

THREE OBSTACLES

Imagine the sales representative of a pharmaceutical company as she poses a few common, profit-motivated questions:

- Which of my products sells the best?
- To whom can I sell more units of that product today?
- To whom can I sell more units of that product tomorrow?

To take the most profitable action, she needs to factor in several sources of business data:

- Data from her company's CRM system
- Historical transaction data
- External market and competitor information from third-party data providers
- The prescription behavior of one-half million doctors
- HMO data
- Cost/profitability data from her company's ERP system

To provide the answers to such questions, this rep's company has put in place business intelligence (BI) tools for ad hoc querying and reporting of data. Analysts in her company's IT and Finance departments use some predefined combination of these tools to submit the sales representative's query to their transactional systems and databases, and then isolate the portions of the resulting data which are of interest to her. They deliver the information to her in the form of reports which she can study, or exports to a spreadsheet which she manipulates on her own PC, sorting and regrouping data for answers to her questions.

This solution is designed to provide the sales representative with data, but it is not designed to optimize profitability. The existing approach can not help her pinpoint opportunities to sell more units more profitably because of these three obstacles:

1. **REAR-VIEW DATA**
   By the time the sales representative has received the information, it is not current. It is anywhere from a few days to a few months old and it offers her, at best, a rear view of her most profitable opportunities from last week, not for today.

2. **DISCONNECTED, OFF-LINE ANALYSIS**
   Once she has the information in hand, the sales representative must still manipulate it. Whether reviewing and understanding reports or manipulating spreadsheets, she has to deal with the obstacle of being disconnected from the source of the data she needs and is reliant on IT and Finance staffs to properly interpret and deliver on her requirements. Furthermore, she has no way of writing back to the source of the data or of preserving and sharing her analysis with other members of her team.

3. **LACK OF PERSPECTIVE ACROSS THE VALUE CHAIN**

The sales representative also faces the obstacle of poor perspective. She takes actions based on data from several "stovepipes," with little information on the interdependencies of, say, CRM and ERP data. Without this perspective across the "value chain" – the long series of other transactions that her action will affect – she is working in isolation. For example, she can spend 30 minutes determining which physicians have received samples of which products, yet not see data on which of those products is profitable, or on her company's ability to deliver the product if the physician orders it.

From where the sales representative stands, these are all obstacles to her ability to pinpoint and immediately pursue her most profitable opportunities.

With these obstacles in mind, we now explore the mechanics of profitable actions and the task of better equipping the decision makers taking these actions.

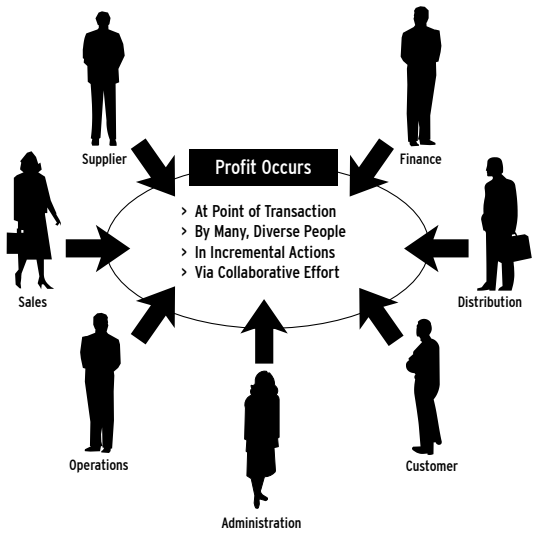
PROFITABILITY

HOW IS PROFIT CREATED?

Profitable actions – reducing costs, increasing revenue, improving quality, shortening time to market, increasing customer retention – occur all across the value chain. These actions occur at the point of transaction; by many, diverse people across the value chain; in incremental actions; and, via a collaborative effort.

FIGURE 1

Profitable actions – reducing costs, increasing revenue, improving quality, shortening time to market, increasing customer retention – occur all across the value chain.



AT THE POINT OF TRANSACTION AND OPPORTUNITY

The "front line" is the point at which the organization's profit is either gained or lost: on the sales call, during the stockholder's meeting, in creating next year's budget, or at the end of the assembly line. Throughout the organization, front-line decision makers take actions that can either negatively or positively impact the company and its profits. When they have access to historical and current views, and when these views are available to them at the point of transaction, they increase their chances to positively impact profitability.

BY MANY PEOPLE IN DIVERSE FUNCTIONS

Because of the myriad points of interaction with suppliers, partners, and customers, the ability to optimize profit also must be cross-functional and integrated at multiple points during these interactions. The account manager creating a proposal on a shipment of 100,000 microcomputer chips will factor information from his CRM, ERP, and SCM systems, such as:

- Have we dealt with this customer before?
- Are we satisfied with them?
- Does the customer fit our target profile?
- What is our current pricing for a specified volume?
- What are our terms and conditions?
- Do we have that quantity in stock?
- How can we get it?
- From which suppliers?
- At what cost?

IN INCREMENTAL ACTIONS

Profitability is incremental. One or two actions in a particular area of the company may suffice to make a department – perhaps even the entire enterprise – profitable, but the cumulative burden of unprofitable actions elsewhere in the company eventually takes its toll on the bottom line. The supplier whose shipments have high exception rates, the customer that drives the hardest bargain and takes the longest to pay, the reseller whose orders never quite add up to his forecasts, all create unprofitable pockets throughout the enterprise. Identifying and focusing on profitable actions throughout the company, however, can incrementally enhance profitability, as hundreds of solid, individual decisions make the difference in the overall bottom line.

THROUGH COLLABORATIVE EFFORT

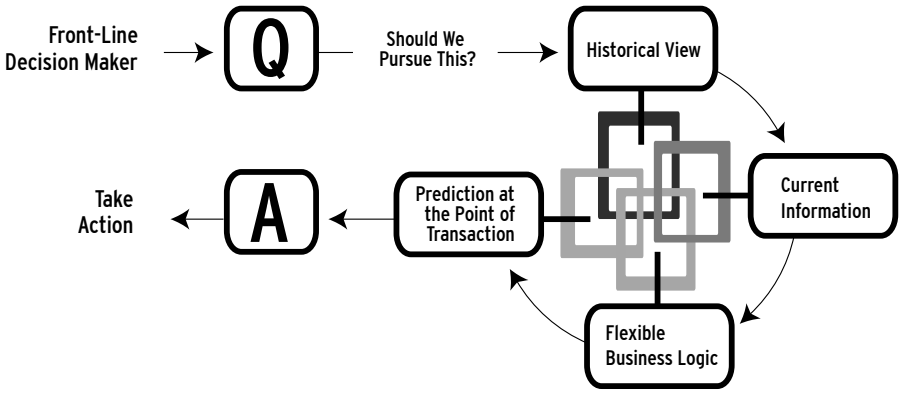
Because it is incremental, profit is a result of relationships and collaboration across the organization and beyond. Sales cannot single-handedly make the organization profitable because Sales relies on targets and direction from Executive Management which, in turn, cannot single-handedly make the organization profitable because it relies on revenue and expense data from Operations.

ANATOMY OF A PROFITABLE ACTION

The microscopic view of a profitable action is simple: combine a historical view with up-to-the-minute transactional information and business logic (i.e., market conditions, regulatory changes, financial factors) to deliver predictive analytics to front-line decision makers and enable them to take action. In going from the microscopic view of profitability to the macroscopic one, the organization soon understands that profitable actions take many different forms in many different places, and that driving profitability is more than simply reminding people to increase revenues and reduce expenses. Also, because profitability is incremental and collaborative, profit potential rises as the organization looks across its "value chain" to make more and more of its actions profitable.

FIGURE 2

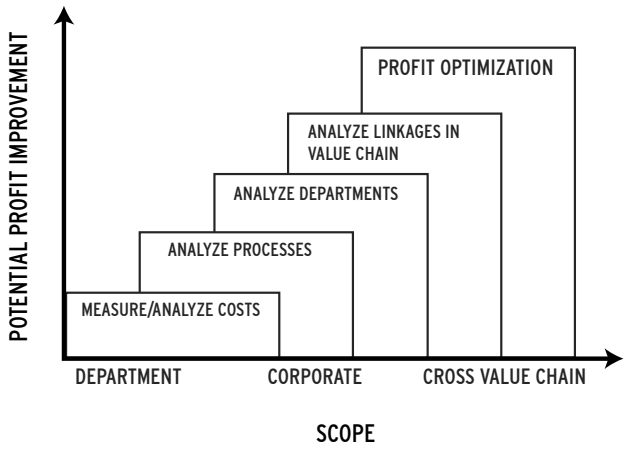
InLine Analytics combine a historical view with up-to-the-minute transactional information and business logic, delivering predictive analytics to front-line decision makers so they can take the most profitable action.



As we saw in the example of the sales representative, the value chain encompasses all points which affect – and are affected by – profitable actions. While initial steps toward profit improvement are usually small in scope (e.g., measuring and analyzing costs in a particular department), greater profit lies in analyzing linkages at all points along the value chain.

FIGURE 3

Profit optimization improves as analytics move from an off-line, departmental activity and become integrated in line with business processes – providing insight into departmental linkages across the value chain.



Consider an example from the automotive industry, which began actively analyzing future profitability in the summer of 2000 as signs of the impending economic slowdown became more pronounced. Starting at the retail sales level, auto manufacturers measured weekly, daily, and even hourly levels of dealer inventory and detected a slowdown during Q4, 2000. With new cars not moving, the first, obvious response was to stop shipping more of them. The second response was to address other processes closely aligned with a decline in sales, which meant cutting deliveries of replacement parts to dealers. Moving up the profit improvement ladder, General Motors made changes in entire departments and divisions, initiating a plan to idle 14 North American assembly plants through the first half of 2001 and taking this opportunity to terminate Oldsmobile altogether. Looking beyond departments to linkages along their entire value chain, auto makers tuned their marketing to offer aggressive rebates across all product lines, appealing to customers to help them move more inventory. With the value chain so roundly exploited, the industry saw the key Inventory-to-Sales ratio improve between June 2000 and March 2001, and they beat earnings estimates – the bottom-line measure of profitability – by as much as 20 percent.[1]

When scope is broadest, the potential for profit optimization is greatest. At this stage, all dependencies along the value chain have been resolved and the organization is free from the obstacles that have muddied its quest for optimizing profitability.

The value chain perspective on profitability goes far beyond buying more computers to analyze more data from more people. "Forty years ago, data processing was wrestling with relatively simple challenges such as how best to relieve the tedium of daily tasks like typing checks. Today, [optimizing profitability] lies in integrating and leveraging an enterprise's relationships across the entire business chain."[2]

THE ROLE OF ANALYTICS

The enabler of this micro- and macroscopic view of profitability is analytics: sets of interactive objects (i.e., graphs, tables, reports, alerts) which support the process of taking profitable actions by helping the decision maker separate truly "actionable" knowledge from raw data.

Thus, analytics can help bridge the gap between insight and action. However, to do this properly, they must be available when profit occurs: at the point of opportunity, by many people, in incremental actions, and through collaboration.

[1] "Auto Improvement," Cory Johnson, The Industry Standard, June 11, 2001.

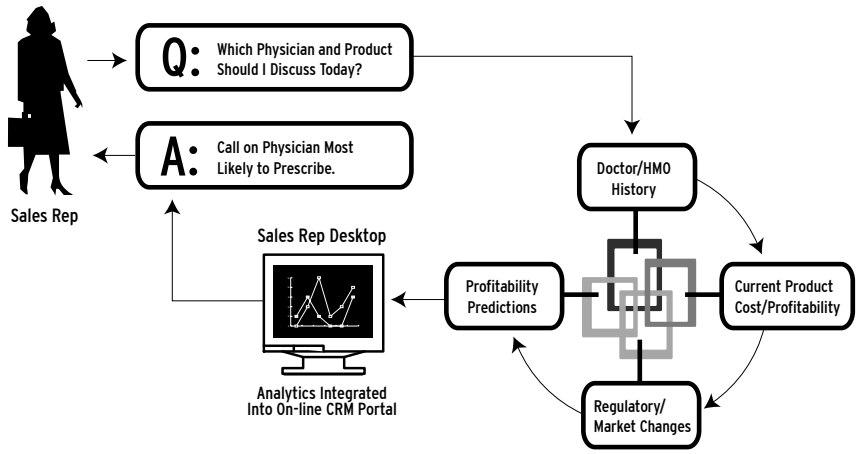
[2] Dr. Ravi Kalakota and Marcia Robinson, e-Business 2.0, p. 167. Addison-Wesley, 2001.

THE PROBLEM: INTEGRATING ANALYTICS WITH BUSINESS PROCESSES

Taking true advantage of analytics requires that they be accessible when front-line managers are making decisions. Analytics that are integrated into business processes provide real time information, enabling decision makers to make profitable decisions *at the point of opportunity.* The pharmaceutical sales representative, for example, needs her company's vast and complex set of analytics at her fingertips so that she can plan her sales calls. Her company's IT infrastructure includes legacy BI tools and packaged analytic applications, but as we've seen, these solutions only serve to perpetuate her obstacles to profitability: the rear-view of the data, the analysis disconnected from the front-line manager, and a "stovepipe" view which lacks perspective across the value chain.

FIGURE 4

InLine Analytics address the linkages between analytical and transactional information, delivering personalized, relevant information directly to the front-line decision makers so they can take action.



"OLD WORLD" SOLUTIONS CANNOT DELIVER

The crux of the problem, then, is that traditional solutions are inadequate for optimizing profitability at the front lines. Organizations understand the microscopic view of profitability, but find it difficult to deploy that view to the masses because existing tools are not up to the task.

Departmental, packaged analytic applications focus on internal productivity and do not offer a view outside that stovepipe. They may offer a deep view of, say, CRM transactions, but no ability to predict or collaborate on ERP data. Traditional BI tools have also fallen short because they have been designed for the "power-user"/ analyst, are not integrated with the business process, and possess a number of limitations (e.g., support for only one data source at a time; and, the inability to write back to the data source, making real-time decisions based on changes to the information virtually impossible).

While analysts, for whom these tools have traditionally been designed, may have time to sort through this non-integrated approach to optimizing profitability, front-line decision makers do not. They need a solution that accesses information from multiple sources, supports collaboration, and delivers the decision analytics in line with their business processes, rather than as an offline, isolated event.

THE ALPHABLOX SOLUTION: INLINE ANALYTICS FOR OPTIMIZING PROFITABILITY

The Alphablox solution is based on a component-based architecture which fits within the existing IT infrastructure, enabling decisions to be made at the point of opportunity. Alphablox provides the only Web-centric infrastructure software for delivering analytics that can be integrated into business processes and transactions – also known as InLine Analytics.

With Alphablox, the infrastructure spans the breadth of business processes and the depth of transaction systems. This means that managers can base their decisions not only on the organization's CRM data, but also on ERP and SCM data, while leveraging the business rules already in place. Analytics applied cross-functionally to data from all of these sources point to the most profitable transactions in real time, whether the manager is negotiating a sale, planning a purchase of materials, or developing a budget for next fiscal year. And, the infrastructure can deliver the information to the decision maker on the front line in an appropriate format, whether by broadband network connection, over a modem, or to a telecommunications device.

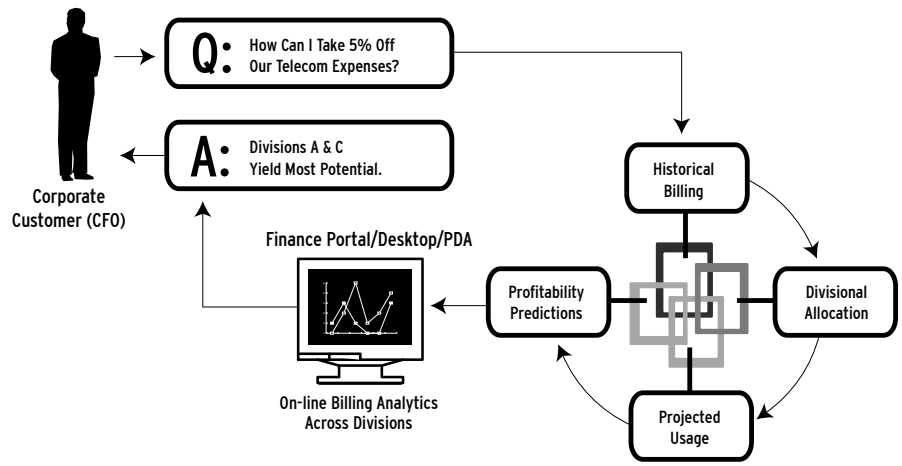


FIGURE 5

Analytics applied cross-functionally to data from multiple sources point to the most profitable transactions in real time.

For example, the CFO who wishes to reduce his organization's telecommunications expenses by 5% can simply disable all outbound calls for one hour per day until his goal has been reached. Taking advantage of on-line billing analytics integrated with his analytical applications, however, the CFO can look forward using data from historical patterns, allocation of expenses among divisions, and projected usage in light of upcoming activities in particular divisions. As a result, his more proactive decision is to focus on Divisions A and C to achieve savings.

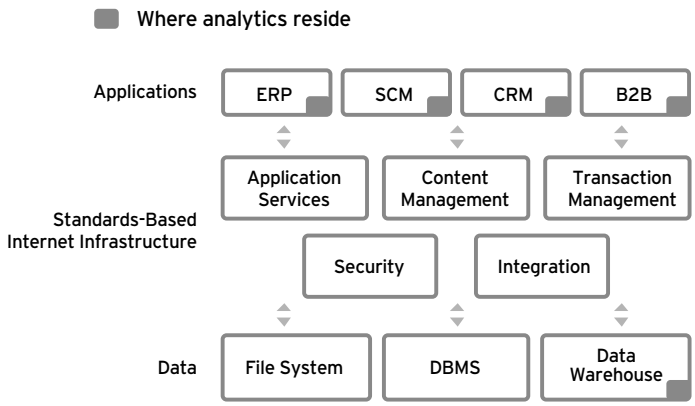
ANALYTICS IN ALL THE RIGHT PLACES

In the "old world" analytic landscape, analytics reside in two, relatively isolated places: the transactional applications (i.e., ERP, SCM, CRM) and BI tools themselves, where the focus is on the productivity of a particular department or function; and in the data warehouse, where IT applies analytics to multidimensional data or data marts. When they are that remote from line of business managers, analytics are ineffective in overcoming obstacles to profitability.

FIGURE 6

OLD WORLD ANALYTIC LANDSCAPE:

Analytics are isolated in transactional applications, BI tools, and the data warehouse where they are remote from line of business managers, and ineffective in overcoming obstacles to profitability.

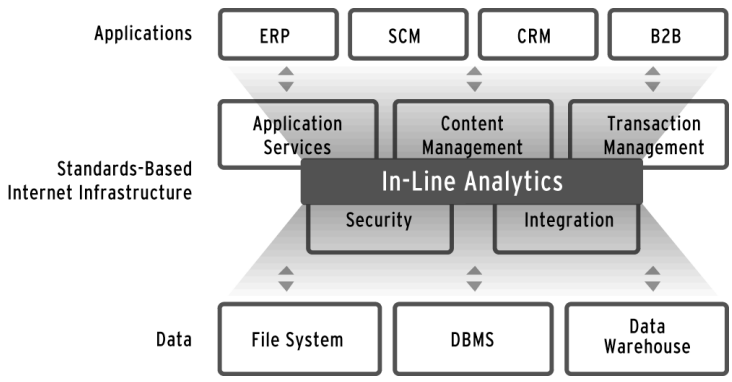


InLine Analytics, on the other hand, are integrated with business processes and the entire IT infrastructure. With the new goal of optimizing profitability, Alphablox delivers InLine Analytics as a part of the standard IT infrastructure, enabling their re-use across transactional applications. With this new approach, the organization can, for instance, define a security policy once, then make that policy available to all analytical applications, instead of defining and updating it separately for CRM, SCM, ERP, and other applications. Different divisions can apply the same analytics in evaluating revenue to provide management with a unified, apples-to-apples view of revenue across the enterprise.

FIGURE 7

NEW WORLD ANALYTIC LANDSCAPE:

InLine Analytics are integrated with business processes and the entire IT infrastructure, providing a unified view of the entire enterprise.



In this role, InLine Analytics support "the underlying premise of eBusiness design: companies run on interdependent application frameworks."[3] Making these analytics available as part of the infrastructure is the first step in making them available to all the business processes in the enterprise.

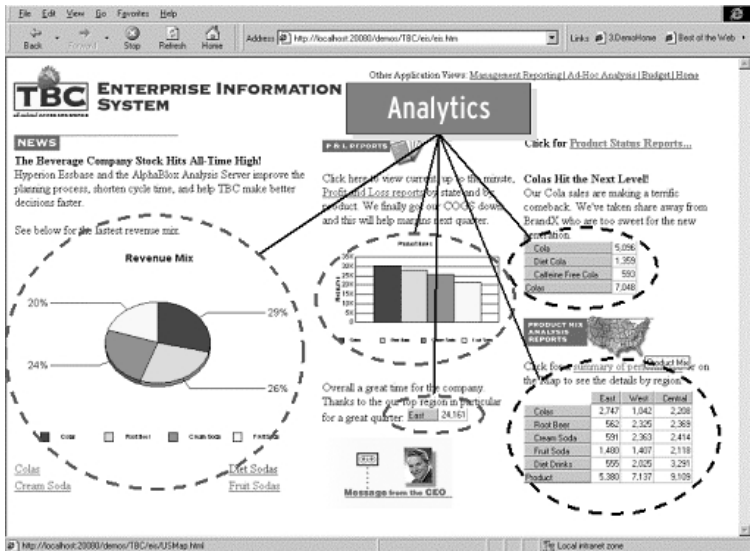


FIGURE 8

InLine Analytics send only the information necessary for the front line decision makers to capitalize on their most profitable transactions.

Imagine, then, a sales analysis application which is always available over the organization's broadband network. The sales representative can read from and write to all permitted data sources. The application also directs information showing that week's most- and least-profitable sales to her via email, as well as providing paging alerts if inventory of a particularly profitable product drops below a designated threshold. The power of this application is that it allows the sales representative to say, in effect, "I'm busy selling right now. Determine what I need to know in order to sell more. Then come find me."

[3] Kalakota and Robinson, p. 163.

HOW WILL INLINE ANALYTICS BENEFIT THIS ORGANIZATION?

Depending on its view of profitability, each audience in the organization reaps different rewards from the Alphablox solution.

BUSINESS AUDIENCE (EXECUTIVES, LINE OF BUSINESS MANAGERS)

Alphablox helps members of the business audience identify and act upon their most profitable transactions and opportunities in real time, at the front line.

On-Time Information and Delivery to Operational Decision Makers

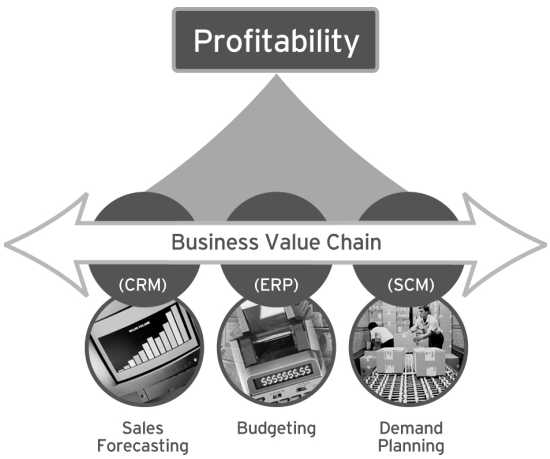
Overcoming the obstacle of the rear view, the information from current as well as previous decisions and transactions is now available at the front lines at Internet-speed, and in a variety of views customized for each role (i.e., executives, sales channel, planning). This supplements the rear view with a "front-view" of transactions, offering information that is more timely, actionable, and relevant to the current opportunity.

Proactive Analysis Integrated with Business Processes

No longer does analysis need to be disconnected and off-line. InLine Analytics integrated into regular business processes (e.g., generating proposals, sourcing suppliers, evaluating investments) empower the organization to move profitably past the old order of waiting for monthly or quarterly reports, then having IT or Finance massage data out of them, then forwarding the data through the hierarchy in batches. The infrastructure now incorporates collaboration, write-back to data sources, and the organization's own business logic. Front-line managers can be more accountable now that they can immediately recognize opportunities and maximize the predictability of their actions.

FIGURE 9

The answers to profitability questions lie in a broad view of transactions across the value chain. Alphablox provides a unified view of the business based on the interdependencies across the enterprise.



A View of Profitability Across Functions and Across the Value Chain

Finally, InLine Analytics broaden the manager's perspective. While data may reside in the silos of CRM, ERP and SCM transactions, the answers to profitability questions lie in an integrated view of these transactions. And, with value chains extending to the extranet, the Internet-age view of profitability crosses the firewall to include customers and partners. Whether the questions come from Sales ("How can we meet our forecast?"), Marketing ("Are our programs working?"), Finance ("Are revenues ahead of expenses this quarter?") or the back office ("Are we keeping up with demand?"), InLine Analytics are in place to deliver cross-functional answers. Alphablox gives everyone a unified view of the business based on the interdependencies across the enterprise.

TECHNICAL AUDIENCE (CIO, IT MANAGEMENT, SYSTEMS INTEGRATORS)

Alphablox helps members of the technical audience deliver InLine Analytics across the IT infrastructure to any individual at the front lines.

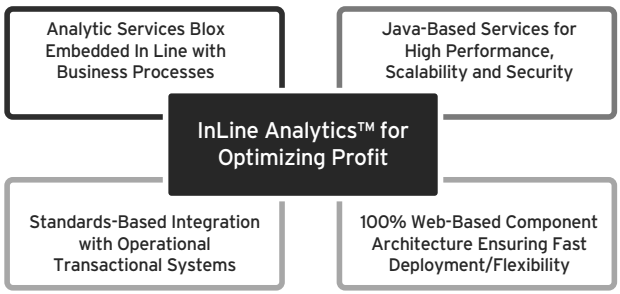


FIGURE 10

Alphablox's unique technology approach ensures that analytics reside as a central component of the new "IT infrastructure" – providing the flexibility to optimize profit across the entire company.

100% Web-Based Component Architecture

Alphablox's infrastructure software is 100% component-based and written entirely in Java, offering an open and modular approach for embedding analytics into the Web-based IT infrastructure. Alphablox's unique technology approach ensures fast deployment, flexibility, and ease of integrating analytics across the enterprise and extraprise.

Analytic Services Blox Embedded In Line With Business Processes

Alphablox's infrastructure software is based on Java components called Blox™, which manage all aspects of the analytic solution. Analytic services Blox (i.e., ChartBlox, GridBlox, SpreadsheetBlox) make up the layer visible to the user of the analytic application. Modular and reusable, they can be leveraged across a variety of business functions.

Because they are parameter driven, Blox can be easily modified with any HTML editor, offering substantial flexibility in designing solutions. This approach enables companies to embed analytics directly in line with business processes as well as providing application assemblers with the ability to render to any Web-based interface tool (i.e., DHTML, HTML, Java). Alphablox provides all users with a single, interactive view of information that is easily personalized to their roles and responsibilities.

Java-Based Services for High Performance, Scalability, and Security
Alphablox is optimized for enterprise-class performance, scalability, and security. Alphablox infrastructure software provides:

- Server-based analysis, ensuring fast application performance for end users.
- Clustered server support for load balancing and scalability management.
- A robust security model that can leverage existing Web server or application server security standards.

Standards-Based Integration With Operational and Transactional Systems
Alphablox was designed for integration with your existing infrastructure, including Web servers, data sources, and application servers.

For integrating and supporting Alphablox's InLine Analytics in existing operational and transactional (SCM, ERP, CRM) systems, IT teams can rely on standards such as Java Database Connectivity (JDBC), Microsoft's OLE DB for OLAP (ODBO), and structured query language (SQL).

Finally, the Alphablox infrastructure software leverages leading J2EE-compliant application servers enabling:

- Analytics to be integrated into mission-critical applications delivered via the application server.
- Single user log-in using standard authentication mechanisms, such as NTLM, LDAP, and other security models.

Alphablox's unique technology approach ensures that analytics reside as a central component of the new "IT infrastructure" – providing the flexibility to optimize profit across the entire company.

EXTRANET AUDIENCE (CUSTOMERS AND PARTNERS)
As the goal of optimizing profit spreads to decision makers among customer and partner companies, so do the benefits of InLine Analytics. Alphablox's Web-based architecture helps extend the power of the organization's applications beyond the firewall, while preserving access privileges and security.

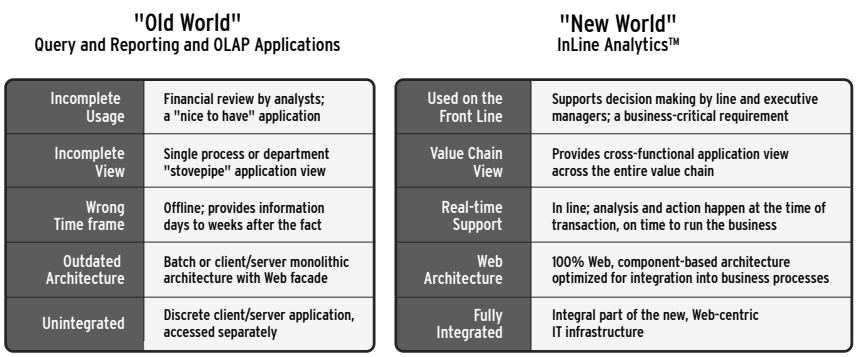
CONCLUSION

Analytics are the key to overcoming the three obstacles to optimizing profitability:

- Rear-view data
- Disconnected analysis
- Lack of perspective across the value chain

As the Internet heightens expectations about exploiting immediate linkages among employees, partners, and customers in the value chain, organizations are finding that their existing tools are not adequate for optimizing profitability. Until now, the tools have incorporated analytics, but in places which aggravated the obstacles to optimizing profitability.

However, when the analytics are integrated as part of the IT infrastructure, they help overcome these obstacles through on-time information delivery to decision makers, proactive analysis integrated with business processes, and a view of profitability that spans the organization's value chain.



"Old World" Query and Reporting and OLAP Applications		"New World" InLine Analytics™	
Incomplete Usage	Financial review by analysts; a "nice to have" application	Used on the Front Line	Supports decision making by line and executive managers; a business-critical requirement
Incomplete View	Single process or department "stovepipe" application view	Value Chain View	Provides cross-functional application view across the entire value chain
Wrong Time frame	Offline; provides information days to weeks after the fact	Real-time Support	In line; analysis and action happen at the time of transaction, on time to run the business
Outdated Architecture	Batch or client/server monolithic architecture with Web facade	Web Architecture	100% Web, component-based architecture optimized for integration into business processes
Unintegrated	Discrete client/server application, accessed separately	Fully Integrated	Integral part of the new, Web-centric IT infrastructure

FIGURE 11

Completely designed for the Web, Alphablox can transform the way you use analytics to run your business more predictably and profitably.

Alphablox's 100% component-based architecture benefits business audiences by offering exactly this type of integrated analytics. These InLine Analytics deliver a view across functions and data sources to give forward-looking answers at the point of transaction. Alphablox's infrastructure software and solutions enable front-line decision makers to identify and immediately pursue their most profitable courses of action.

ABOUT ALPHABLOX

Alphablox serves Global 2000 organizations in multiple industries, such as manufacturing, financial services, telecommunications, and energy sectors. Our customers include Deutsche Bank Securities, SBC, Pfizer Pharmaceuticals, FedEx, General Electric, Morgan Stanley, OppenheimerFunds, and Toys-R-Us. Alphablox provides infrastructure software and solutions that integrate analytics across the business, allowing decision makers to pursue their most profitable course of action in real time.

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