

A photograph of three business professionals in a modern office building. A man in a dark suit and red tie is holding a smartphone and showing it to a woman in a dark suit. Another man in a dark suit is standing next to them, looking at the phone. The background shows a glass-walled building and a street with other buildings.

# BUSINESS ACTIVITY MONITORING

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# INTRODUCTION

**As our economy stretches, technology continues to play a key role in determining success or failure in the marketplace. And as business processes become tied to computerized business systems, organizations are well-positioned to leverage technology.**

**Business Activity Monitoring**, or BAM for short, is a term that was coined by Gartner analysts to describe software that monitors designated business processes that are managed by computerized business systems, such as Enterprise Resource Planning (ERP) systems or Business Process Management (BPM) systems. BAM allows organizations to monitor and react to key aspects of their business in real-time. This ability to keep pace with the twists and turns of modern business helps organizations sync important business events or anomalous business transactions with the appropriate business response. BAM allows you to resolve issues quickly and competently as they arise.

The need for BAM, or Exception Management as it is sometimes called, has arisen out of the competitive pressure of a dynamic, fast-paced, and globalized economy that requires organizations to leverage information and technology to achieve higher levels of worker value and productivity. Today's companies need to be more agile and more productive than ever in order to remain competitive.

In this paper, we explore how Business Activity Monitoring solutions can help you become more flexible, responsive, and customer-centric by boosting productivity, operational efficiency, and business clarity.

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**//** Today's companies need to be quicker, more agile, and more efficiently productive than ever in order to remain competitive regionally, nationally, and globally."

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# BAM OVERVIEW

Information is one of your company's greatest assets. It can tell the story of your business, helping you plan future performance through thoughtful analysis of past performance. But when information is poorly managed, you're barred from translating your data into meaningful insight and action. Enter technology that translates *business data* into snapshots of *real-time business performance* by monitoring and reacting to the flow of new information into the company's business systems and filtering out non-critical noise.

By using computerized business rules to monitor every transaction that is executed digitally, BAM software identifies and reports upon anomalies that occur within key performance indicators (KPIs) you set for your organization. Reports are then typically delivered to decision makers in the form of a constantly-updating dashboard— your real-time monitoring system for KPIs that reflect *business performance* versus simple tracking of *business data*. The information presented within the dashboard can then be used to evaluate the quality and integrity of the processes that support your business.

In addition, when underlying business processes are not performed consistently and accurately, BAM works behind the scenes to ensure that appropriate corrective action is taken to realign business activities with your intended outcomes.

BAM solutions can be deployed in different ways in order to pinpoint specific needs.

By monitoring individual business transactions, then logging and reporting any erroneous or anomalous entries, BAM can help decision makers gain insight into the functional aspects of business. This can help identify and resolve various problems that prevent the business from operating at peak efficiency.

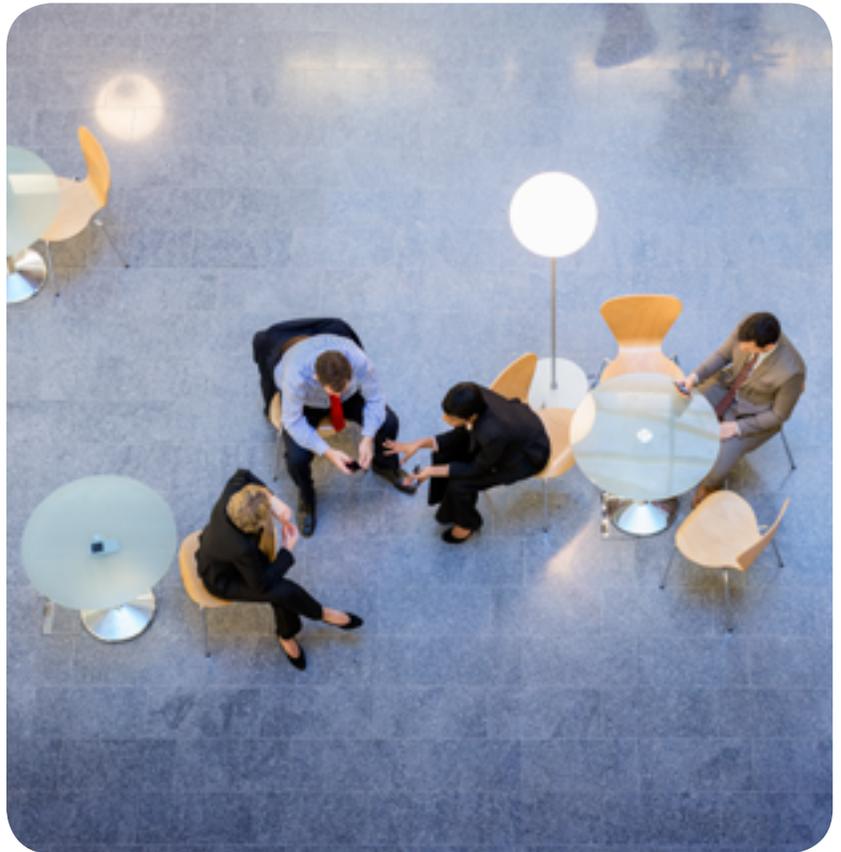
BAM can also be set to function as a facilitator, quickly launching single or multiple alerts that can be as simple as updating a database or as sophisticated as creating individual or collaborative workflow requests in response to unique business situations. For example, consider a customer who happens to be over their credit limit placing a large order with your company. You may already have a documented process to deal with issues like this, but a customer-centric organization needs to be flexible and responsive to customer needs. Employees other than the order taker (Account Manager, Salesperson, etc.) likely need to know about the transaction, so the decision about whether or not to fulfill the order will be appropriately informed.

Typically, the order taker might notify his or her manager who then may need to elevate the problem to a level of authority that can formulate an appropriate response. Modern business systems like email or BPM can help facilitate this chain of communication, but the process is still launched and executed by employees. This siphons time and resources away from the business, requiring the company to seek as many internal business processing efficiencies as possible.

BAM software can be customized to monitor and act upon any event or process that a company finds relevant to the business. Actions can be communicated via email, pager, or even traceable workflow requests to every resource that must be notified in order for the corrective action to take place. Actions can even be sent with recommendations about what to do in response to a triggered event and include appropriate documents, references, or other file attachments.

In the previously presented scenario, BAM both speeds up the process dramatically and frees up many of the supporting resources involved by proactively notifying decision makers as the situation occurs. With immediate visibility of the issue at the appropriate level within the organization, a unique situation can be addressed before it turns into a problem (i.e. business from an excellent customer is refused or delayed due to an AR oversight, potentially damaging the relationship long-term). The velocity of business analysis is drastically improved, creating an important advantage in an economy that identifies speed and agility as aspects of quality customer service.

But customer-centric organizations also need to be able to leverage their relationships as well as protect them. Many benefits of BAM are indirectly tied to higher revenue and profit numbers, mainly due to the increases in productivity and efficiency that companies with BAM deployments are likely to experience. But BAM can also affect a company's revenue number directly by uncovering opportunities with automatic actions that are based on recent account activity levels or market trends. The point being, BAM delivers the information that decision makers need in order to adjust strategies on the fly and leverage emerging opportunities.



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# BUILDING BUSINESS VALUE WITH BAM

Integration with other systems will often determine how effective BAM will be for any business. Workers are challenged to continue managing the valuable tasks and processes that move the business forward, as well as resolve daily problems that might arise from BAM generated activities. The best way to manage the constantly shifting priorities that can be brought about by a BAM deployment is through enterprise software integration. The practical software blueprint of a modern manufacturing organization now includes ERP, a workflow management engine or BPM system, a Business Intelligence (BI) tool, and a BAM solution. Effectively tying these applications together to support the business can establish a solid foundation for success.

Traditional ERP systems accommodate only about 15%–25% of the enterprise and have become primarily used to support back-office data flow for financial and quantity-based transaction processes. They have proved successful in consolidating the disparate systems once used for accounting, manufacturing, and distribution, but have fallen short on the promise to touch and connect the whole enterprise. BPM naturally extends ERP to the front-office by connecting it with customer relationship management (CRM), human resource management (HRM), document management, as well as workflow engines and Web-enabled customer and supplier-facing supply chain tools. This allows businesses to leverage information and control processes that extend across the enterprise and beyond, into the realm of customers, partners, vendors, and other business associates.

For example, enterprise integration means that sales resources can provide more realistic expectations and higher pre-sales service levels to the customer during the initial quoting process because they now have the ability to monitor current manufacturing workloads and lead times from ERP. Or, for businesses that outsource all or some manufacturing, the engineering manager can quickly check on the status of a recently released change order for an outsourced product. Facilitating communication and access to information throughout

the entire reach of the organization can dramatically increase efficiency and lead to higher productivity and profit levels.

Where ERP controls much of the back-office information and BPM unifies it across the enterprise to enhance overall productivity and communication, Business Intelligence consolidates it and delivers it to decision makers so they can evaluate how well the business is performing. BAM is the final link in the chain, put in place to constantly monitor the transactions and processes that keep the business moving forward and to protect the organization's interest against costly, unnecessary oversights by calling for immediate corrective actions even when the best laid plans go awry.

All of these tools are focused on making massive amounts of information more palatable for users and decision makers. BAM technology allows companies to extract further value from existing ERP and/or BPM software system implementations because it provides decision makers with real-time visibility into how individual events are affecting immediate business performance. Core ROI for BAM is realized through the improvement of business process execution and the ability to make informed business decisions more quickly.

BAM can also add value to the organization by helping companies build business rules into a secure, consistent application, effectively capturing and guiding business processes. BAM's virtual employee inner-workings can protect business value by reducing the impact from employee attrition or job turnover that otherwise may cause a breakdown within the system. Automatic alerts are used to broker information in the absence of a person, ensuring the continued integrity of essential business processes.

# HOW COMPANIES LEVERAGE BAM

As an increasing number of businesses are forced to do more work with the same or fewer resources, it is imperative that organizations leverage BAM to produce undisputed efficiencies. BAM does have some practical limitations where manual labor is involved. For example, BAM cannot physically file invoices into paper archives, but it can replace the need for paper filing by creating digital copies of customer invoices and copying the images to a disk archive at the end of each business day. And although it may not be prudent for BAM to increase customer credit limits automatically, it would be within reason for BAM to monitor and analyze customer activity and automatically route requests for credit limit increases to the Credit Manager each Monday morning.

Not unlike the introduction of any new technology, BAM's immediate and long-term benefits will develop gradually. Organizations must be careful while selecting initial BAM targets as there can be many skeptics and naysayers that perceive BAM as either unnecessary or a threat to job security. In truth, BAM will likely prove to be a great protector of jobs by improving the value stream of many business processes and providing an impetus for real growth. In other words, BAM provides the infrastructure necessary for resources to begin working smarter, not harder.

But what must an organization consider in order to determine how a BAM implementation is most effectively positioned? It's most often recommended that the business start the effort by forming a BAM committee, initially tasked with overseeing a formal information gathering exercise, such as a very practical and low cost Request for Ideas survey distributed to existing employees by functional area. Not all responses will qualify for a BAM project, and some ideas will likely be quite ambitious. Once the survey results are tallied, the committee should draft a list that prioritizes potential BAM targets using the Pareto principle. That is, the highest value targets should include the 20% of submitted ideas that will likely provide 80% of the real economic benefit in terms of efficiency gains or reduction of lost opportunities. But since higher-value targets often require a higher level of employee and department buy-in, the committee must also understand the need to create short-term departmental wins in order to unite the whole organization in support of BAM. This will most likely involve implementing some targets from the bottom of the Pareto list first. The quick and visible results realized through departmental success should then clear the path toward addressing higher value-items from the top of the Pareto list.

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# BAM CASE STUDIES



## Example 1

**BAM Objective** – To improve the efficiency of Sales Representatives, reduce missed opportunities, and increase sales volume and margin dollars.

**Business Problem** – An individual commissioned sales representative is constantly servicing the same large customers even though their customer list is extensive. Some customers call the general sales order desk, quickly order product, and mention that they never hear from their sales representative. When asked about attentiveness to all assigned customers, the sales representative complains that he/she has to spend a whole day analyzing reports to determine which other assigned customers may require attention.

**BAM Solution** – BAM can solve this problem by bridging the organization's core ERP system, reporting system, and email.

Because BAM is tireless, all sales representatives can be monitored simultaneously. BAM can continually monitor historical customer sales activity on a prescribed interval (for example: Friday at 5 p.m.), prepare a formatted report by sales associate for all customers that have not purchased within 'x' number of days, create a PDF of the report, and send an email with the attached report to each salesperson for follow up.

This simple BAM example provides three distinct benefits. First, it eliminates the sales representative's unproductive time spent extracting and documenting a list of qualified accounts. Second, it provides accurate lists to the sales representative weekly as opposed to intermittently. And third, it provides the organization with the ability to better leverage its sales resources for the production of profit margins.

A more challenging BAM implementation scenario with an even higher relative ROI can be understood from the next example:

### Example 2

**BAM Objective** – To support the organization’s requirement to adhere to ISO standards directed at Customer Service.

**Business Problem** – An organization must consistently comply with its ISO Standard Operating Procedures in order to satisfy and renew its ISO certification. The organization manufactures all customer requests “to order.” Documented waivers must be obtained from customers prior to shipping less than 90% or greater than 110% of the quantity ordered.

**BAM Solution** – BAM solves this problem by synergizing disparate elements of an organization’s MES (Manufacturing Execution System), core ERP, and BPM to create a timely, accurate, and unified response to business exceptions. For this solution, BAM provides immediate notification to Customer Service via a workflow notification upon completion of production (taking place in the organization’s MES) for which an unacceptable ISO production yield is recognized.

Due to the need to maintain auditable records for ISO purposes, the BAM notification must be implemented seamlessly via a workflow request supported by the organization’s BPM system and not via informal email communication. The importance of the notification method cannot be overstated, as integration with the organization’s workflow engine is paramount to developing accountable corrective actions within the system.

The organizational compliance adherence and efficiency gains from the scenario outlined above are significant. Many of the organization’s administrative processes related to this one ISO compliance example no longer detract from overall employee productivity. Phone calls, voice mails, faxes, and emails are replaced with BAM process enablement. As a continuation of the above example, once the Customer Service

Representative acknowledges the production yield variance indicated on the customer order in the core ERP system, BAM immediately identifies this action as a signal to perform three additional actions: 1) send a copy of the organization’s variance waiver form attached to an email to the appropriate customer contact, 2) send a text message to the Sales Representative’s mobile phone notifying him/her of the variance incident, and 3) create a follow up action in the organization’s workflow system for the Customer Service Representative to ensure that the accepted waiver is received and attached to the customer’s digital archive prior to shipment. It is now evident that additional efficiency gains could be accomplished by the extension of BAM to this expanded and more challenging BAM implementation scenario.



# SUMMARY

In order to remain competitive, organizations are fine-tuning and streamlining every aspect of their business. Software systems are no longer the lone exception. Customers don't care about processes or the hurdles that must be cleared to fulfill their order on time and within budget. These rising customer expectations along with other competitive pressures make speed and agility a key component for success in today's economy. The quicker a company can respond to changing markets, correct problematic transactions, or develop an alternative game plan when the original game plan goes awry, the more effective the company will be in delivering the products and/or services that set it apart from the competition. Implementing the right technology can help position companies to prosper under these demanding conditions.

A tool like BAM can be particularly effective for organizations seeking to increase business value along with worker productivity. Because BAM solutions monitor mundane (although highly necessary) business processes by searching for important exceptions or triggers, employees can focus more on identifying trends, building effective strategies, improving profits, and examining any patterns associated with key performance indicators.

Modern business systems make it possible to capture incredible quantities of actionable information quickly. This provides many tangible benefits (improved understanding of historical trends and actual business performance, enhanced flexibility when adjusting to changing market demands on the fly, etc.), but it also comes with its share of challenges. No human being can digest the amount of information that's processed by a computerized business system in a single day. So, while computers have helped businesses become more productive, a computerized system of checks and balances has become necessary to fully leverage the opportunities offered by modern technology. BAM provides the platform for that success by ensuring the integrity of the information and the business processes that support the organization's success.

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