

# How X-Act can Optimize Business Performance by Managing the Unknown

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An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) White Paper

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# How X-Act can Optimize Business Performance by Managing the Unknown

## Table of Contents

- Executive Introduction ..... 1
- X-Act OBC: A Market Perspective ..... 1
  - It Takes an Ecosystem ..... 2
  - Transformational Analytics ..... 2
- The X-Act Platform: Critical Points of Design ..... 3
  - The OBC Database for Optimal Business Control ..... 4
  - Some Key Metrics ..... 4
- X-Act Deployment: A Closer Look ..... 5
- Where and How X-Act Achieves Benefits ..... 6
  - Insights from the Head of Infrastructure Operations and at a Global Financial Services Company ..... 7
  - Insights from an IT Architect at a Large European Bank on IT Optimization ..... 7
- EMA Perspective ..... 8
- About the URM Group ..... 8



# How X-Act can Optimize Business Performance by Managing the Unknown

## Executive Introduction

In a technology industry consumed by promises that too often turn out to be hyperbole, URM Group's X-Act® platform stands out for delivering beyond its customers' expectations. Moreover, its promise is in no way a small one. X-Act produces critical predictive insights and correctional guidance to minimize risk and optimize business performance across complex business and IT ecosystems. Furthermore, it can often do this with surprising speed and cost efficiency.

The X-Act platform maps infrastructure and application architectures and IT service performance interdependencies to critical business systems, such as an in-house payment system or customer-facing credit approval system. X-Act's breadth and depth in emulating both business processes and IT infrastructure is unique, allowing customers the choice of taking a top-down (business process first) or bottom-up (IT infrastructure first) approach. As such, X-Act is in a category by itself—in many respects, it's a step beyond BI, big data, AIOps, and other IT analytic investments. EMA defined this new category as Transformational Analytics.

This report, based in part on X-Act deployment conversations and broader EMA industry research, will first introduce X-Act in market context, followed by a look at the X-Act platform's design, deployment experience, and proven benefits.

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## X-Act OBC: A Market Perspective

EMA actively researches<sup>1</sup> the growing role of advanced analytics for IT as an area of significant potential innovation. However, the industry overall still remains awash in confusion. The salient terms applied to advanced IT analytics—AI, AIOps, machine learning, big data, IT operational analytics, and business intelligence—can become more of a distraction than a useful map of what's currently available.

Nevertheless, there are some proven benefits that EMA documented from effective IT analytic investments. These include:

- Unifying IT for improved operational efficiencies
- Supporting more effective problem and incident (availability and performance) management, including dramatic reductions in mean time to repair (MTTR)
- Support for managing and optimizing infrastructure and application change, or introducing new application releases
- Toolset consolidation
- Improvements in incident response for SecOps teams
- Improved business outcomes (both internal and external revenue-related)

Currently, these benefits are rarely delivered within the same single analytics investment, or even within the same suite. The X-Act platform has the breadth of design to answer all these requirements, as well as others. Most of all, it stands out for being *proactively prescriptive* in minimizing risk and optimizing both IT and business performance.

<sup>1</sup> EMA Research: "Advanced IT Analytics: A Look at Real-World Adoptions in the Real World," March 2016; "Leaders in Advanced IT Analytics: A Buyer's Guide for Investing in Innovation," September 2017.

# How X-Act can Optimize Business Performance by Managing the Unknown

***“I do not believe that there is any other solution in the market that offers a single consistent model for business processes and the application/infrastructure when you seek to optimize both effectively. Only X-Act does that, and it does so with unique levels of accuracy.”***

***EMA interview with the Head of Infrastructure Operations at a global Financial Services Company.***

## It Takes an Ecosystem

In some respects, the difference between what X-Act does and what the rest of the analytics market does is the difference between managing an ecosystem and predicting the direction of a dotted line. Most analytics solutions today leverage various statistical models that can predict linear trajectories—e.g., CPU utilization trended over time, or else recognize event-driven specifics that historically correlated with a corrective action. Moreover, a growing number can discover unexpected factors that can impact CPU utilization based on learned behaviors. These might be sensitive to time of day, day of week, and annual trends. Finally, linkages with application performance and business outcomes might also be modeled into the analytics tool.

**In some respects, the difference between what X-Act does and what the rest of the analytics market does is the difference between managing an ecosystem and predicting the direction of a dotted line.**

The X-Act platform does this and more through its design based on predictive emulation, including emulation that can call out risks emerging from unexpected sources. URM Group refers to this patented capability as “generative intelligence.”

The power of X-Act’s unique predictive emulation capability might best be understood by comparing a business ecosystem with an ecosystem in nature. A business ecosystem has many dependencies, such as those involving business and IT infrastructure, macroeconomic conditions, business process changes, changes in leadership, and mergers and acquisitions, among other factors. An ecosystem in nature might include mountains and lakes, trees, grass and bushes, animals and weather, human intrusion, and risks of disease, as well as its own evolutionary changes. Even the most sophisticated linear trending or rules-driven correlation cannot meaningfully anticipate future conditions. It can only be approached by emulating all the participating elements, whether they are animal, human, geological, or meteorological, until the full landscape becomes alive, dynamic, and more effectively understood.

***“X-Act’s analytics are both unique and uniquely powerful, but this is puzzling to a great many people. The greatest challenge is to communicate the value before proof of concept or deployment. Once deployed, X-Act works and quickly shows value. However, X-Act’s capabilities stretch across many existing siloed buckets, from business analytics to IT performance analytics. People find it hard to grasp how X-Act’s mathematical models can be so effective when most are accustomed to more statistical models for analysis that function very differently.”***

***EMA interview with an IT architect at a large European bank.***

## Transformational Analytics

There is, in fact, no adequate market category that currently exists to define what X-Act can do. Given X-Act’s unique predictive strengths and balance in addressing business realities, business infrastructure and IT infrastructure, EMA is proposing a new category: Transformational Analytics.

X-Act can be used to anticipate and enable three outcomes: *optimization*, *transformation*, and *disruption* (when the current business or IT environment needs to be generally rethought or replaced). By targeting the middle ground, EMA is also deliberately linking X-Act with digital transformation quite appropriately.

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The following core components make up Transformational Analytics has the following core components:

- It addresses IT, business infrastructure, and business behaviors and processes with equal depth, balance, and resilience
- It leverages predictive mathematical emulations to recreate entire business IT ecosystems
- It evolves with changing factors to anticipate otherwise unknown risks
- It provides ongoing, active guidance (it is proscriptive), as well as insights
- It can dynamically assimilate data from multiple sources to stay current with business and IT behaviors

## The X-Act Platform: Critical Points of Design

The X-Act platform's predictive emulation is enabled through a **knowledge library** of more than 10,000 dynamic patterns for modeling IT and business risks across a broad range of industries, from financial services, to retail, entertainment, transport, telecommunications, and government—as just a few examples—with more than 350 proven deployments. These dynamic patterns are created from mathematical emulation of business and IT ecosystems through algorithmic models that encapsulate behaviors, dependencies, and surrounding rules for ecosystem behaviors so they can perform predictive analysis.

Moreover, each model stores remedial options to support prescriptive actions for risk avoidance. They become, in effect, dynamic Legos modeling entire business ecosystems with IT and business infrastructure interdependencies.

When the modeling is complete, these “dynamic Legos” make up the X-Act platform's **emulator**. The emulator is tested for optimal results and points of degradation in terms of business process outcomes. Once established, it is kept current dynamically to predict potential issues and risk factors that often arise from initially unexpected sources.

The breadth and scope of the knowledge library is best understood in terms of tangible examples of model categories as shown in Figure 1:

- Industry Processes:
  - Banking
  - Retail
  - Telecommunications
  - Energy/utilities, etc.
- Industry Components (Banking, Retail):
  - Billing
  - Collections
  - Payment processing
- Business Processes (Payment Processing):
  - Post payment
  - Receive payment
- Business Component (Receive Payment):
  - Match customer
  - Verify account status
  - Payment association
  - Post payment
- Infrastructure Processes:
  - DMBS (DB2, Oracle...)
  - Messaging
  - Security
  - Workload management
- Infrastructure Components:
  - Server
  - Router
  - Data store
  - Mainframe
    - Manufacturer
      - Model
      - Configuration

The X-Act platform's predictive emulation is enabled through a knowledge library of more than 10,000 dynamic patterns

Figure 1: X-Act's growing knowledge library spans more than 10,000 models with in-depth awareness of business processes, business infrastructures, and IT environments.

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*“If you talk to a DB2 or a CICS expert about X-Act, they complain that, ‘You can’t modelize our system, it’s way too complex.’ They’re right, the way models are traditionally done via statistics. For X-Act’s analytics based on more advanced, predictive mathematical modeling, the models really do work. I remember telling the DB2 manager who was resistant to X-Act at first that she had a problem with her system with bottlenecks blocking performance. She said she was aware of it, but she never had the data to convince her management of the problem. Now she did.”*

*EMA interview with an IT architect at a Large European Bank.*

## The OBC Database for Optimal Business Control

Another core feature of the X-Act platform is the **Optimal Business Control Database** (OBC database). The OBC database works with models in the knowledge library to help predict risk and prescribe action. It leverages analytics, machine learning, and automation so the emulator can support what-if analysis, covering all possible models to enable forward-looking decision making. This includes diagnostics and remediation plans for the optimal treatment of risks, and in parallel, the optimization of business outcomes.

The OBC database works with models in the knowledge library to help predict risk and prescribe action.

## Some Key Metrics

At the core of understanding the predictive and prescriptive power of the X-Act platform is a series of carefully thought-out metrics that evolved with the X-Act deployments over time. The following list represents some of the X-Act’s most critical metrics.

- **Dynamic Complexity** or **Dycom** arises from unforeseen changes, such as market shifts, time of day behaviors, and any number of fluctuating interdependencies across enterprise and IT infrastructures. As these unforeseen changes continue to grow, they can lead to negative side effects impacting the efficiency and effectiveness of IT and business initiatives. A high Dycom score indicates that dynamic complexity is exerting a significant strain on a business or IT ecosystem.
- **Risk Index** exposes risk due to the presence of dynamic complexity and/or lack of resources.
- **Productivity Index** shows the maximum, ideal throughput that would be delivered if the environment were free of dynamic complexity-related issues.
- **Cost Variation** shows the optimal cost in a stable, ideally loaded environment. It can also support what-if analysis to show improved cost reduction with a more favorable mix of business and infrastructure components.
- **Efficiency Ratio** shows how demand, productivity, and resource consumption impact each other.
- **Complexity Gradient** captures the non-business-related activities that consume additional resources and impact quality and throughput.

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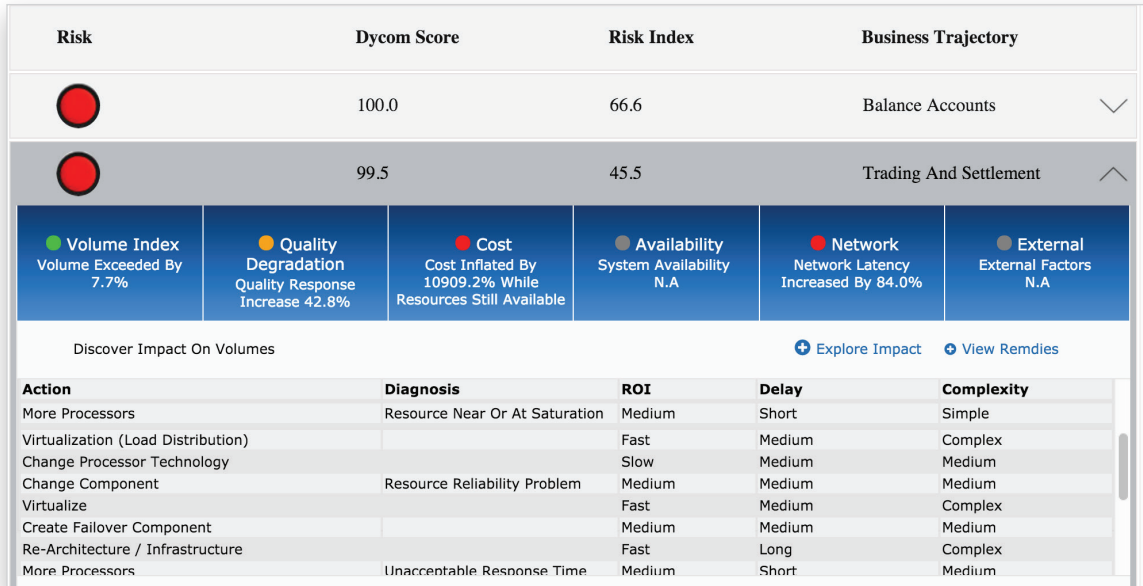


Figure 2: The X-ACT platform offers a rich list of prescriptive options directed at business and IT-to-business risk and outcomes. Here, higher volumes are inflating costs for business processes directed at “balancing account” and “trading and settlement.” Recommended options for correction are evaluated in terms of “ROI,” “Delay,” and level of “Complexity.”

## X-Act Deployment: A Closer Look

Deploying the X-Act platform involves a combination of well-structured interviews with versatile and dynamic data capture. A summary of core deployment steps is presented in Figure 3.

1. Conduct interviews and analyze the environment to scope out business dynamics and IT-related data required.
2. Capture and prepare data for dynamic emulation, create a unique emulator for the environment, and validate outcomes with the stakeholders.
3. Calculate the impacts of volume-driven behaviors to show the point where demand may cripple performance.
4. Evaluate and validate emerging or possible issues.
5. Introduce recommendations for improvement. Create an action plan working with the stakeholders.

Figure 3: A five-step process for X-Act deployment.

# How X-Act can Optimize Business Performance by Managing the Unknown

URM Group conducts a successful set of interviews for deploying X-Act across a wide range of industry verticals. After collecting corporate information through these interviews and existing documentation, infrastructure components and metrics are automatically collected and populated into the emulator. A subset of information is continuously collected in real time to keep the emulator current.

The X-Act platform includes a versatile and proven capability for assimilating IT and other infrastructure data through X-Act extractors via its Unified Collector Framework (UCF). The UCF includes agent-based data collectors, as well as XML import for a variety of sources, from business data to configuration-related data as in a configuration management database (CMDB).

The X-Act platform includes a versatile and proven capability for assimilating IT and other infrastructure data through X-Act extractors via its Unified Collector Framework (UCF).

*“While X-Act has XML-enabled capabilities for importing information from other sources, it also has its own agent collectors for systems and its own capabilities for interrogating log files. We run a set of measurements every month to calibrate the variations in infrastructure performance and help assess where latencies and disruptions are emerging. X-Act provides a very small piece of code to run on servers to help calibrate their model. It’s completely non-disruptive, by the way. This helps to make it much more popular.”*

*EMA interview with an IT architect at a Large European Bank.*

In terms of modeling, assets contained in the X-Act knowledge library are used whenever possible. However, new models are sometimes needed and can usually be created in a matter of days. Once the X-Act platform is deployed, time to value can be as little as a day or a few days, once incidents arise. For more complex emulation-driven decision making, it can range from several weeks to several months.

*“One of the reasons we looked to X-Act is that we were unable to manage the performance of our infrastructure proactively and effectively. When incidents occurred, too often we were at a loss for why, and how we should best remediate. In our first deployment, within 24 hours we discovered an incident issue that we hadn’t been able to diagnose before. It turned out to be an SQL-related problem.”*

*EMA interview with the Global Head of Infrastructure Operations at a Global Financial Services Company.*

## Where and How X-Act Achieves Benefits

Benefits achieved via the X-Act platform consistently reflect its unique ability to model both business and IT interdependencies with equal depth, while providing predictive and actual guidance to minimize risks and optimize performance.

The examples that follow are taken from EMA interviews, as well as data provided to EMA by URM Group.



# How X-Act can Optimize Business Performance by Managing the Unknown

## Insights from the Head of Infrastructure Operations at a Global Financial Services Company

*In summing up, the following benefits come to mind:*

- 1. The speed of analysis—There is nothing else like it. X-Act can deliver results for complex planning and decision making in just one or two weeks.*
- 2. A solution that customers can use directly—X-Act is tool-driven, with a strict methodology so the customer can use it directly if that's preferred.*
- 3. The unique ability to link business processes down to infrastructure—This enables much better risk management. If you change a part of the infrastructure, you know how it will impact business outcomes, and vice versa.*
- 4. Comparatively low cost given scale and complexity—X-Act has delivered on projects at sometimes nearly ten times less the cost that it would have taken us had we gone another route.*
- 5. Real results and real prediction—X-Act's emulation offers actionable plans with tangible specifics versus just guesswork. This includes what-if analysis, if you want to evaluate new IT or business initiatives.*

Some other highlights from multiple verticals worldwide in X-Act's benefits include:

- A \$30 million gain in cost avoidance and controlled ROI for a car manufacturer seeking market expansion.
- Cancelling an ineffective investment in supply chain management saved a large retail food chain \$170 million in risk avoidance.
- Optimizing maintenance windows for a large, European airline by more than 25 percent improved service quality and minimized costs.
- Creating a strategy for sorting center consolidation saved a large postal organization \$120 million.

## Insights from an IT Architect at a Large European Bank on IT Optimization

*"We are developing some international service capabilities for digital banking and we wanted to have X-Act help us evaluate which system platforms would be most effective for this particular deployment. Not surprisingly, none of the other vendors involved were optimized to do this. X-Act can provide unified mathematical modeling and analytics across both business and IT, including applications and infrastructure. It does this in order to evaluate whether a business-related or IT-related component is performing as it should, as well as what the tradeoffs would be if you made a specific change to one or multiple components.*

*"Once we began the deployment, we found a number of specific issues. For instance, we found that we were running into serialization with one of our Java components—which had before this gone unnoticed by the people reviewing the code. Catching this also provided a clear way of assessing where we were between planned outcomes and current reality as it mapped to the planned evolution of the digital service.*

*"X-Act tells you where the problems are, where they are likely to materialize in the future, and how planned changes on all fronts may affect the outcome one way or another. This makes investments in new resources, if they're needed, a fact-based discussion with a clear business context, for instance. Not surprisingly, this is one of the reasons for IT executive enthusiasm."*

# How X-Act can Optimize Business Performance by Managing the Unknown

## EMA Perspective

EMA interviews and EMA market research help confirm that no other solution in the market today is designed to bring IT and business components and processes together in a single, unified model as deeply and as efficiently as X-Act. The sophisticated algorithms used in its modeling place it in an advantaged position vis-à-vis other, more operations-centric analytic tools that typically rely more on statistics. Likewise, X-Act's Transformational Analytics offer a virtually unlimited array of prescriptive actions, including both immediate insights into incidents, as well as long-term predictive and what-if planning.

As such, X-Act is designed for enterprises looking to optimize business performance and minimize risks across a variety of interdependencies, including unexpected factors that turn out to be disruptive and risk-producing. It is not intended to replace, but rather complements, individual toolsets focused on the specifics of component remediation and automation.

Nevertheless, it's easy to be skeptical of a solution that delivers as many benefits as URM Group's X-Act platform, even if it already brought proven results to more than 350 accounts across a growing range of verticals. The challenge that URM Group continues to face is one of communication and understanding. However, EMA is optimistic that as the X-Act platform continues to evolve into a yet more extensive range of deployments, the worlds of business and IT will increasingly come together to harvest the unique rewards of Transformational Analytics. With that, the industry will have achieved a new level of awareness in understanding how analytics can unify both business and IT organizations for more effective, dynamic, and business-relevant decision making and planning.

## About the URM Group

URM GROUP provides the technology and consulting services many of the world's most recognizable brands depend on to optimize opportunities and comprehensively control risks across diverse business and IT systems. With patented generative intelligence technology, X-Act platform provides a revolutionary way to quickly and predictively pinpoint hidden sources of risk within business ecosystems and know which actions should be taken to meet business goals. Leaders within financial services, retail, manufacturing, transportation, healthcare and governments use X-Act to ensure the continuous efficiency and cost effectiveness of operations and make informed decisions relating to a wide range of strategic objectives—from digital transformation, cost management, mergers and acquisitions to supply chain management and production performance. For additional information, visit [URMgrp.com](http://URMgrp.com) or connect with us on Twitter [@URMgroup](https://twitter.com/URMgroup).

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## About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at [www.enterprisemanagement.com](http://www.enterprisemanagement.com) or [blog.enterprisemanagement.com](http://blog.enterprisemanagement.com). You can also follow EMA on [Twitter](#), [Facebook](#), or [LinkedIn](#).

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