

Breakthrough Performance Improvement: A Case For Enterprise Optimization Technology In Management Consulting

by Stephen J.L. Page, Carlos Centurion and Philip Higginbotham



"River Logic's Enterprise Optimizer® (EO) technology delivers unique and breakthrough market cap improvement insights for consultants and their clients. EO creates a unified model of a business, detailing rationale for the best strategic, tactical and operational decisions that optimize financial performance. EO provides a platform to codify proprietary insights. Consultants seeking better ways to serve their clients and leverage their IP should embrace EO."

- Stephen J. L. Page, Board Director and Senior Advisor, River Logic Inc., former CEO of Page-Wheatcroft & Co., Ltd.

For 23+ years, Page built leadership teams for professional services companies.

"The ability to identify and quantify the opportunities with the best financial impact quickly and to use the same information to gain commitment and focus from the organization will revolutionize performance. Enterprise Optimizer® is a must-have technology for senior management and for any consultant advising senior management on important issues."

- Jeff Rich, Board Director, River Logic Inc.

Under Rich's leadership, ACS delivered a 25%+ compound annual return to shareholders over 11 years from the company's IPO in 1994.

"Our consulting environment is fast-paced and complex and the stakes are very high for our clients. We needed to find a technology beyond the conventional spreadsheets and reporting type to enable us to make crucial decisions quickly. Enterprise Optimizer® was a stand-out because of its ability to quantify the financial outcomes of a wide variety of scenarios quickly and accurately."

- Dave Scouler, Partner, Scouler Andrews



RIVERLOGIC™

A River Logic White Paper

CONTENT

INTRODUCTION - NEW INSIGHTS	3
THE CASE FOR HOLISTIC ENTERPRISE OPTIMIZATION TECHNOLOGY	5
CONSULTING WITH RIVER LOGIC'S ENTERPRISE OPTIMIZER®	9
CONDUCTING AN ENGAGEMENT WITH ENTERPRISE OPTIMIZER®	11
WHY ENTERPRISE OPTIMIZER® IS UNIQUE AND BETTER	12
MODELING IN ENTERPRISE OPTIMIZER®	13
CONCLUSION	15



INTRODUCTION - NEW INSIGHTS

- Unique and high-impact Market Cap improvement insights.
- The ability to codify and leverage proprietary firm insights across multiple functions and industries.
- Client trust (and long term relationships) earned by the demonstrated ability to add value and increase market cap in multiples of fees charged.

These are key attributes of successful management consulting firms.

To better serve clients and deepen trusted relationships, consultants are constantly seeking ways to deliver increased value to their clients.

This paper explores a revolutionary technology that enables consultants to move client companies closer to optimal financial performance. Insights that have never before been possible!

The consulting market is increasingly competitive, making it harder for firms to capture growth opportunities and improve their economics. Through its work with consulting firms, River Logic has identified three new market developments:

1) The consulting market is becoming increasingly competitive as established players expand, new firms enter the market (primarily from Asia), and former Tier 1 consultants open cost advantaged boutiques, taking knowledge and client relationships with them.

2) Client organizations are smarter, driven by an increasing supply of qualified MBAs and Ph.D. and stronger use of modeling and analytics technologies.

3) Globalization of supply chains across regions and multiple companies makes analytical modeling almost impossible with traditional tools.

Management is becoming apathetic to “conventional” insights developed by consulting firms - they’re viewed as less unique and therefore less valuable.

The usual consulting firms responses - new investment in talent and creation of new “knowledge” products to communicate new perspectives have been commoditized.

Talent is less unique as all firms recruit from the same MBA and Ph.D. schools and increasingly from places like India and China, resulting in “commoditized” capabilities. Knowledge development to include articles and books, coupled with significant branding efforts are more difficult to differentiate, especially with the advent of lower cost communications technologies. In addition, consulting firms experience turnover rates of 15-20% per year, further watering down current benefits they get from mature talent or turning consultants into “gurus”.

Few firms are looking at modeling technology as an option, and those that have ventured beyond MS Excel and MS

PowerPoint have done so in point solution cases, such as pricing.

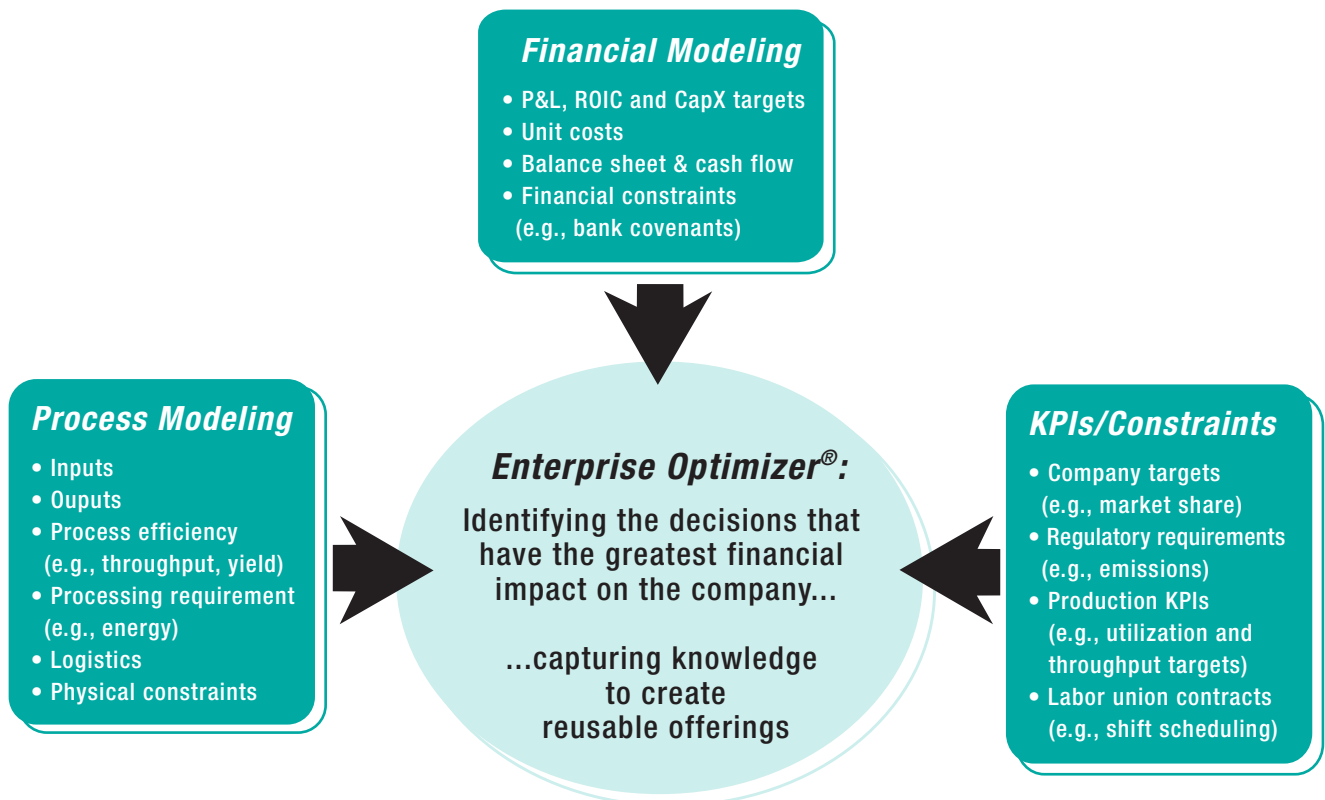
What is needed is an agile holistic modeling solution that can capture intellectual knowledge. A solution that is sophisticated enough to provide insights and answers to client problems within the timeline of a client project.

What if this tool provided insights that fundamentally changed the way management thinks about their business?

Consultants using insights from such a technology could transform businesses, even industries, and significantly increase market capitalization.

After more than a decade of development and field-testing, River Logic has developed such a tool. Enterprise Optimizer® (EO) delivers powerful insights that can double a client's profitability, reduce operating capital and more than double market capitalization, all within a unified model of the business. How?

EO is the only technology that can model operations, key performance indicators (KPIs), constraints and financials within one holistic model. EO identifies and quantifies the decisions that have the greatest impact on financial performance. The graph below illustrates EO's modeling capability.



THE CASE FOR HOLISTIC ENTERPRISE OPTIMIZATION TECHNOLOGY

Consulting firms focus on talent and knowledge development as primary ways of developing new perspectives and creating market advantages.

As the consulting market becomes more competitive and complex, consulting firms need new ways of providing insights that lead to higher impact. While few firms have focused on it to date, holistic modeling technology enables consulting firms to move their business models to higher level of performance. *A strong consulting firm can optimize a client's performance – even change an industry – with the insights provided by holistic enterprise optimization technology.*

HIGHER IMPACT

Client organizations are increasingly smarter and more complex. Today, most companies use some level of analytics to make decisions and improve performance. Companies have also hired more talent as more MBAs and consultants have become available since 2001.

At the same time, globalization, outsourcing, off-shoring and the need to offer customized options to clients have resulted in increasing complexity that current technologies cannot optimize. Consulting firms can maximize their impact if they properly understand and optimize the financial complexities and interdependencies of strategy, supply chain and client company operations. However, consultants and management need more sophisticated technologies to better quantify situations, identify the best opportunities and drive implementation.

- **Holistic view of the business:**

Understanding a client's business end to end, including operational and financial factors, is critical to properly assessing the opportunities and threats facing a client. For example, a strategy might call for a significant investment to market a product, but the logistics network might not be able to satisfy the projections without prohibitive investments, turning what appeared to be a solid strategy into a bad choice. In today's fast world, mapping how all the silos work together and understanding the impact of different scenarios from every perspective, is vital to maximize the value of advice to clients.

- **True financial impact of decisions before they are made:**

Most modeling exercises today focus on either financials or operations. Because they focus on one or the other, modelers are forced to use heuristics and average cost factors to assess the financial impact of different decisions. Using heuristics, however, ignores discrete costs such as adding an afternoon shift to the operating room in a hospital or a weekend shift to a manufacturing plant. Using average factors means that changes in raw material costs, end-user prices, processing or logistics costs stay constant with volume, which is most often not the case. At River Logic, we have observed that modeling in these situations can lead to answers that are *off by as much as 200%*; answers that can lead to significantly lower cash flow or profits. Consultants should adopt technologies that can model both operations and financials together, and which represent costs, cash flow, and operational factors as they are

incurred. When consultants model decisions on marginal economics, they get not only a trustworthy answer, but also significant insights on optimal performance improvement strategies for their clients.

- **Optimization across multiple, interactive scenarios:** Consulting firms today make limited use of optimization technologies, yet most of their engagements involve decisions across multiple options that impact each other. For example, suppose a steel-maker client is considering investing in making a new steel grade at their mini-mill. To make the grade, a series of machine rebuilds are required. Alternatively, the client has the option of adjusting product mix in a variety of other ways by taking on new contract opportunities. The client makes 9 different grades today which result in 3 different end products. The client has customers all over North America, with different shipping modes and price levels. At the same time, each grade and shape takes a different time to produce, and impacts not only its own yield but also the yield of the subsequent product. How can a consultant help the client optimize its product portfolio to maximize cash flow?

Optimization often yields insights that wouldn't/couldn't have otherwise been considered, leading to the best answer for the client. To have a substantial, positive impact on financial performance, optimization must include operational and financial data (per example above), and must be based on a financial objective function (e.g., profits, cash flow, NPV) and opportunity costs. Consultants that are able to adopt optimization as described here would be able to provide unprecedented insights to

their clients, potentially leading to “game changers” for entire industries.

- **Stronger implementation linked to strategy:** It is not enough to find the answers that lead to the best financial performance - to achieve impact, consultants must help their clients through execution. A holistic, end-to-end enterprise optimization model that bridges operations and financials at the strategic, tactical, and operational level, can translate the strategic “answers” (e.g., the best scenario) into investment requirements (e.g., marketing, capital expenditures), financial goals (e.g., cash flow by product, by plant), and operational targets (e.g., factory yields, inventory days, patient/customer satisfaction levels). A unified model can perform analytics for every function of the organization and at every level of detail. A unified model ensures that strategy links to execution and that performance can be tracked and managed to ensure impact. A unified model *communicates* the right information, metrics and goals to managers across all relevant departments.

INCREASED PRODUCTIVITY

Efficiency and price are the primary drivers of profitability for consulting firms. While consultant rates might go up as a firm increases impact and reputation, efficiencies are typically gained by getting more hours out of consultants. Holistic modeling technology offers a rare opportunity to increase the utilization and efficiency of consultants.

- **Template models:** Consultants can use optimization technology to build reusable

models for use in multiple client situations, increasing margins on fees and time. These models alleviate the need to build spreadsheet models “from scratch” in every engagement, thus freeing up resources to focus on other areas enhancing engagement quality and impact.

- **Faster insights on execution:**

A holistic model of a client’s business that yields the best profit improvement recommendations will automatically yield significant insights into requirements for execution. There is less need to spend resources negotiating targets. There is more time to spend gaining client commitment to the recommendations and implementation plan.

BETTER INSIGHTS AND REPUTATION

Consulting firms that harness the power of technology to capture, build and leverage their knowledge will be more effective at shaping their clients’ agendas (and entire industries). With holistic modeling, a consulting firm can accurately represent an enterprise value chain end to end - from the supplier’s supplier to the customer’s customer. Consultants gain insights that lead to significant profit improvement and can scale to industry changes. These insights generate high impact client relationships, greater engagement profitability and stronger firm reputations.

- **Institutionalized knowledge development:**

Today, consulting firms find it difficult to disseminate knowledge that resides within their best consultants. In addition, firms lose precious firm knowledge when consultants

leave. Holistic modeling technology offers an unprecedented opportunity to codify best practices, knowledge and insights by capturing the best consultant’s operational processes, financial mapping tactics, problem-definition strategies for multiple industries and functional topics.

- **Better Insights:** Client engagements and knowledge capture through advanced modeling technology results in significantly better insights that position consultants as thought-leaders within an industry or a function.

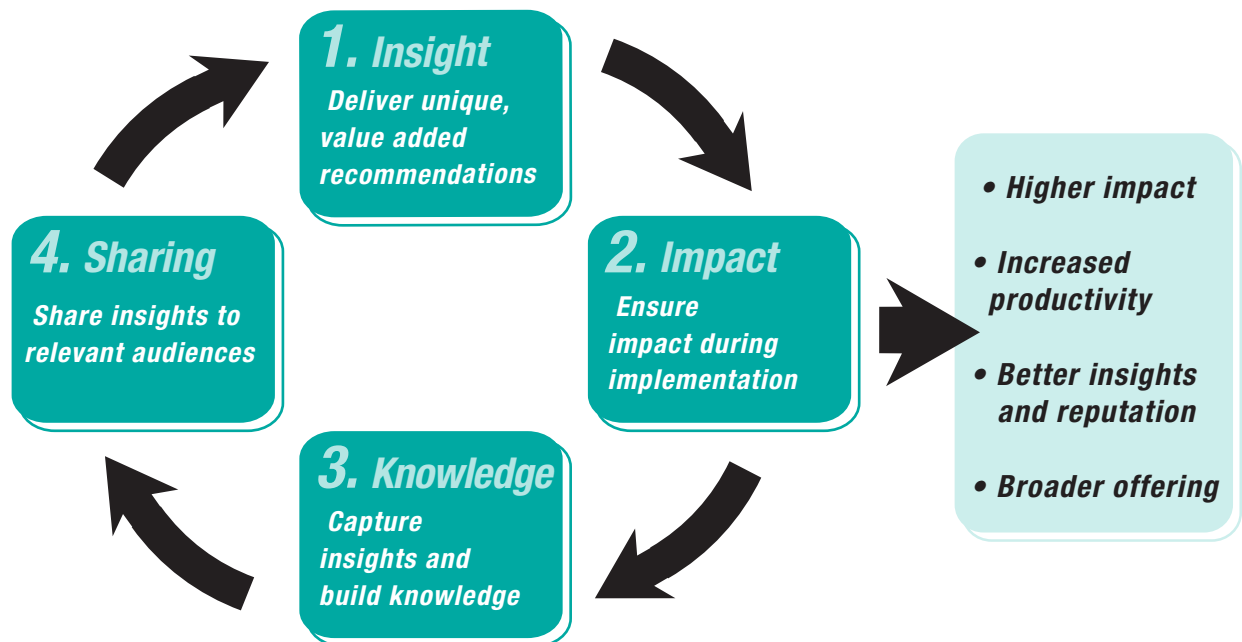
BROADER OFFERING

The insights, template models, higher efficiencies and reputation resulting from better use of technology enable consulting firms to expand their offerings. For example, a firm could develop new service lines around specific functional topics, e.g., optimized CapX implementation; war games; open/close; distribution optimization, etc.

River Logic has developed the perfect tool to help management consulting partners improve their performance. In fact, over the past 5 years, River Logic partners have used its Enterprise Optimizer® product in dozens of engagements with great success. They can attest to the tremendous value that EO has added to their engagements.

The graph below summarizes the “Performance Improvement Cycle”:

Performance Improvement Cycle



1. River Logic’s Enterprise Optimizer® technology enables consulting firms to deliver stronger, better insights during client engagements and to develop a robust implementation plan.
2. Consultants use EO to help clients increase impact through program management and operational decision-making, while ensuring a continued link to strategy.
3. Insights and key learnings can be codified, captured and shared internally.
4. Consultants using EO develop insightful perspectives on an industry and/or function, which build brand reputation and lead to further client engagements.

CONSULTING WITH RIVER LOGIC'S ENTERPRISE OPTIMIZER® (EO)

Enterprise Optimizer® is the only tool that enables consultants to quickly identify decisions that have the greatest impact on their clients' financial performance. EO creates a unified model of the business, detailing rationale for the best strategic, tactical and operational decisions that optimize financial performance.

EO delivers unique insights across a wide range of issues, ranging from corporate strategy to operations and go-to-market decisions.

Questions that Enterprise Optimizer® has been used to answer:

Corporate & Business Unit Strategy

- What are the strategic alternatives and their financial implications if a competitor changes the game? How should the client respond (e.g., investments, pricing, etc.)?
- Should the client enter a new market and/or a new geography? What are the investments required and financial implications under different scenarios?
- Should the client acquire Company X? What is the highest price the client should pay?
- Should the client increase or rationalize capacity? How and where?

Operations & Supply Chain Management

- How should the client redesign their supply chain to improve profitability, decrease capital invested, and increase flexibility?
- What production facilities should the client expand, reduce or close? How should existing orders be reallocated to optimize enterprise profits?
- How does moving production to a low-labor cost location affect supply and distribution costs? What will be the impact on service level to the clients' customers?
- [Healthcare] How should a hospital optimize work-flow, shift scheduling and physician recruitment?

Sales & Marketing

- How should the client manage its product portfolio to maximize short and long term cash flow? What is the client's most profitable product mix?
- What is the client's most profitable customer segment? How much marketing and sales investment should the client deploy against each segment?
- Where should the client raise prices? How does lowering prices affect the profits of the business?
- What are the key drivers of customer care & call center cost and profitability? Which levers should the client pull? How much are highly productive employees worth?

Corporate Finance & Asset Management

- What should synergy targets and pro-forma financial statements be from a proposed merger? What should post merger integration targets be? What operational changes are required to achieve them?
- Where should the client (or a hospital) allocate capital across multiple projects to maximize cash flow given a fixed budget and existing external commitments?
- What are the opportunities to reduce working capital while maintaining current levels of profitability and cash flows?
- How can the client optimize taxes across multiple divisions and locations?

Corporate & Business Unit Strategy:

Enterprise Optimizer®'s ability to model a business holistically and optimize financial outcomes is ideal for modeling strategic decisions. EO not only provides the financial impact of alternative scenarios, it identifies options that could not previously be considered.

EO identifies new options that were previously not feasible due to the inability to model the interdependencies of operational, regulatory or other constraints, (e.g., bank covenants). EO has been used for war-gaming competitive responses, acquisition decisions, profit improvement programs and open/close decisions that affect long term capacity.

Sales & Marketing: EO has the unique ability to model true profit and cash flow impact from different products and customer segments. EO models not only profit and cash flow impact, but also the opportunity cost of each unit of product and the opportunity value of selling one more unit of a given product to a given customer segment.

Understanding these trade-offs enables consultants to help clients optimize go-to-market and pricing decisions, both short and long-term and ultimately drives investments into key areas of opportunity.

EO is used for product and customer-mix optimization, assessment of new product opportunities, bid-support/pricing and within a Health Care institution, deciding how to market specific doctors and procedures.

Operations & Supply Chain Management:

EO models physical processes and financials. It offers consultants an unprecedented opportunity to truly improve a client's

operational performance. Clients no longer need to guess whether increasing throughput or reducing inventory actually improves financial performance, or whether off-shoring production will actually have a positive impact on cash flow.

EO accurately maps the financial impact of all these decisions. EO optimizes across a myriad of interdependencies and options that all impact each other to find the best course of action. EO is used to optimize supply chain networks, rationalize capacity, allocate production and raw materials to manufacturing plants, schedule shifts, optimize physician staffing and workflow at a hospital, and optimize logistics and inventory. Consultants using EO to improve a client's performance see a significantly higher impact in their engagements.

Corporate Finance & Asset Management:

EO is the only technology that can model operations, cash flow and balance sheet, optimizing not only for profit and cash flow, but also for NPV or return on investment (ROI).

EO can model and optimize the interaction of multiple decisions. For example, a River Logic client using EO to optimize hundreds of CapX decisions across multiple operations found that the ROI of an isolated investment is almost always different when considered as part of a group of investments, sometimes turning from negative to positive, and vice-versa.

Consultants use EO to help clients optimize asset management decisions, and implement them, as in the case of post-merger integration (PMI). EO has been successfully used in CapX allocation

decisions, tax planning, post-merger integration and inventory management. With EO, answering complex questions correctly leads to a significantly higher

impact at client organizations. EO enables consultants to move their offering to a new, higher level.

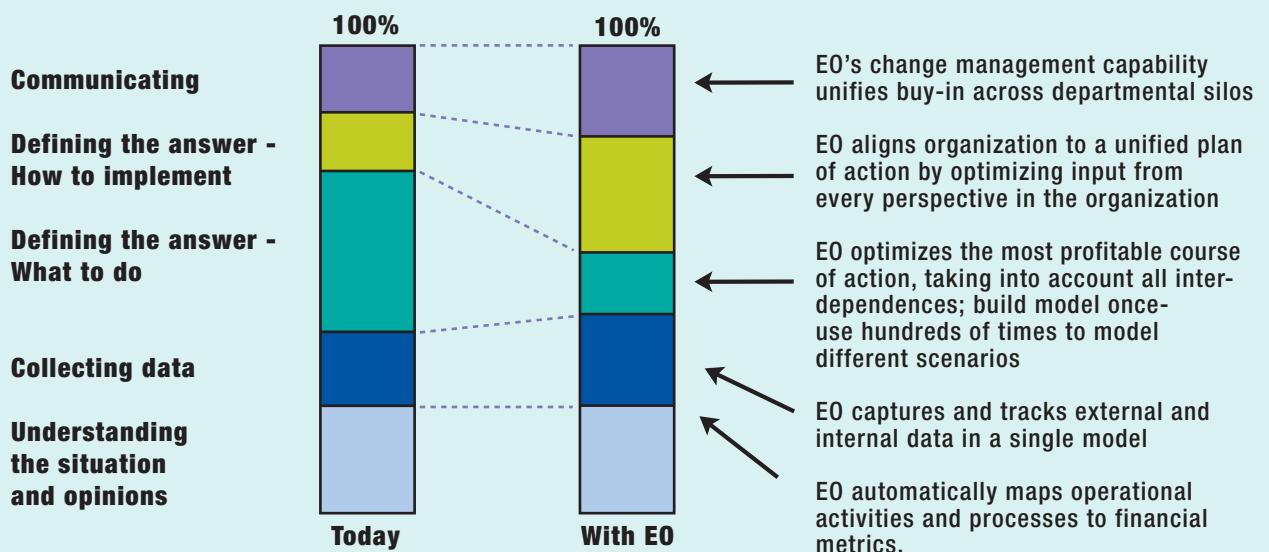
CONDUCTING AN ENGAGEMENT WITH ENTERPRISE OPTIMIZER®

What if you could create better answers to a project in 60% of the time?

Undoubtedly, a portion of this time might generate higher margins for the engagement. More likely, the consulting team would shift focus to emphasize implementation planning and syndication. The results are more insightful strategic answers and a more robust implementation plan. These qualified targets illustrate rationale that change owners understand - tangible information to lead clients forward.

This figure illustrates the impact using Enterprise Optimizer® has on a typical consulting engagement - more time to align and commit management to the change agenda.

Consulting team time allocation in a typical strategy project



Consultants that use EO in client engagements consistently find that their clients look to them to answer new questions at an accelerated pace. Each unique insight leads to 3 more client questions, eventually leading to greater change and a deeper partnership between the consulting firm and the client.

WHY ENTERPRISE OPTIMIZER® (EO) IS UNIQUE AND BETTER

Enterprise Optimizer® is the only technology that can present a unified model of a business from a financial and operational perspective simultaneously. EO radically changes the way consulting firms help clients make decisions because consulting firms can now determine the optimal financial impact to the entire organization before action is taken. In addition, EO yields these results in very short time.

Below is a summary of what makes EO unique and valuable for consultants:

1) EO is the only tool capable of accurately determining the financial impact of any business decision or scenario. EO can model profit, cash flow and balance sheet items, all validated to a company's financials. To do this, EO models opportunity values (true economic values) and marginal costs. In comparison, alternative technologies are incapable of calculating true economic values and instead use assumptions and averages to estimate costs and profits. Furthermore, all other technologies are unable to model balance sheet items and therefore cannot establish the impact of capital expenditure decisions.

2) Because of its architecture, EO has the flexibility to address any situation without coding mathematical equations. In comparison, alternative technologies require extensive coding or writing of equations to adapt to every situation.

This difference is critical:

- a. EO scales to situations more complex than alternative systems and therefore is a better solution for consulting firms.
- b. EO is configured and deployed in weeks with minimal resources and minimal change management.
- c. EO can address any problem that can be mapped and measured.

3) EO has a powerful solver engine that can optimize for any financial metric (e.g., profit, cash flow, EVA, ROIC) or operational variable (e.g., throughput, inventory days). EO is the only system that will optimize based on true financials, often revealing possibilities that wouldn't/couldn't otherwise have been considered.

4) Moving from decision to execution is simpler. EO creates a fact-based roadmap to execution. Whether financial or operational, consulting firms can show each manager his or her own data and the impact it has on the rest of the organization. Every time the user hits "solve", EO generates a series of operational, KPI/ ratios and financial reports. These reports tell the complete story of what happened in the solve. For example, EO reports include raw materials usage by plant and for which products, production and inventory build-up, logistics by route, production allocation and resource utilization, labor schedule, etc. In addition, EO reports the financial impact of the run at the plant, division, and corporate levels. EO can also report key ratios, such as throughput, process speeds, inventory days, ROI, ROA, or anything the user wants to see.

By using EO, consulting firms help clients not only set appropriate and aligned targets throughout the organization, but also communicate the strategy in a way that generates buy-in and commitment from all relevant stakeholders.

EO is highly mobile, runs on a laptop, and can port from/to any MS application or core Enterprise application. EO is very non-intrusive to the client and processes its powerful analytics from a laptop.

After a decade of technology development, River Logic has codified a best practice methodology for modeling in EO. This methodology mirrors consulting firms' established and proven engagement processes.

From all angles, including total value delivered, time to value, risk and ROI, EO is the best technology to improve a consulting firm's client service and financial performance.

MODELING IN ENTERPRISE OPTIMIZER®

Consultants use EO in four primary ways:

- 1. Simulation or “what if” scenario analysis:** Consultants enter the specific values of a set of variables and ask the model to provide the financial impact of the scenario, including profits, cash flow and ROI. This approach is used to rapidly analyze the impact of CapX decisions, bidding on a project at a certain price, or shutting down a fixed asset.
- 2. “Optimization” analysis:** Consultants ask EO to optimize across multiple potential scenarios. For example, a company can use EO to decide which mill should manufacture a given customer order. In this case, EO provides the best order allocation scheme from a financial perspective. EO's opportunity value calculations are especially useful in this situation as EO runs through millions of alternative scenarios to find the answer with the best financial impact for the company.
- 3. “Next best alternative” analysis:** Consultants are sometimes asked to assess scenarios that are not feasible given a company's KPIs, existing commitments and external constraints. EO helps companies identify these situations and provide the next best alternative. For example, a company may want to fulfill a specific order from a valued customer, but there is not enough capacity. EO identifies the bottlenecks and recommends the next best solution, be it sub-contracting the order, investing to de-bottleneck a process or machine, or other alternatives.

4. EO is used as a **Knowledge Development tool** by consultants, significantly enhancing the capabilities of Excel models and PowerPoint as repositories of a firm’s knowledge. EO’s ability to capture knowledge is very comprehensive. With EO, a firm can capture operational details, key problem definitions, unique industry observations and valuable, quantified insights. EO helps analyze new industry or client developments to quickly provide an intelligent perspective that consultants use to win new clients.

Using Enterprise Optimizer® as a Knowledge Development Tool:

$$\text{VISUAL MODEL} + \text{SOURCE DATA} + \text{CAPTURED KNOWLEDGE} = \text{INSTANT INSIGHT}$$

<u>Company Specific:</u>	<u>Company Specific:</u>	<u>General to EO</u>	<u>Financial Impact to Client:</u>
<div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> Unique needs and problems definition Flow mapping Captured differentiation Data requirements identification </div>	ERP/Data Warehouse General Ledger Business Intelligence & Analytics Excel/Access Other sources	Data Integration Operational analyses Optional solution Financial statements and detail <u>Situation Specific:</u> <div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> Key performance indicators & targets Regulatory & contractual obligations Client company practices & culture </div>	EVA, NPV & ROI Income statement Cash flow statement Balance Sheet <u>Operational Impact to Client:</u> Capacity & output Employment Logistics Inventory <u>KPI impact (examples):</u> Price level Market share
<u>Industry Specific:</u>	<u>Industry Specific:</u>		
<div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> Industry opportunities Industry flow mapping </div>	<div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> Consulting firm data External data providers </div>		

 = Consulting firm-specific knowledge development opportunities.

CONCLUSION

River Logic's Enterprise Optimizer® helps consulting firms increase the value they deliver to clients. EO is a revolutionary technology that, when combined with the knowledge and experiences of consultants, provides unprecedented results for clients as well as new insights and efficiencies for consultants. The ultimate objective gets accomplished: Proprietary insights leading to the best possible financial performance for the client.

EO is currently used by consultants to find and implement cost reduction opportunities, maximize profits, make the best CapX and M & A decisions, optimize the entire value chain, etc. EO's modeling process always uncovers unrecognized opportunities and reveals information and data that lead to further questions.

We look forward to working with your firm to develop an EO capability.

The future is here. Embrace it.

For more information

EO Implementation: www.riverlogic.com/product.php?ContentID=1026

Case Studies: www.riverlogic.com/solutions_success.php

Contributors to this Article:

Stephen J.L. Page

*Board Director and Senior Advisor
for River Logic, Inc.
spage@riverlogic.com
(214) 393.4662*

Carlos Centurion

*Vice President of Marketing
for River Logic, Inc.
ccenturion@riverlogic.com
(214) 393.4663*

Philip Higginbotham

*Vice President of Services
for River Logic, Inc.
phigginbotham@riverlogic.com
(214) 393.4655*



River Logic, Inc.

4144 N. Central Expressway, Suite 1010
Dallas, Texas 75204
Phone: (214) 393.4650
Fax: (214) 393.4651



RIVERLOGIC™

www.riverlogic.com