

# Emerging Information Technology (EIT) Strategic Analysis Framework

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## **Leading, Not Just Supporting, Business**

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## ***Emerging Information Technology (EIT) Strategic Analysis Framework***

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Emerging Information Technology (EIT) Strategic Analysis Framework

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## **Executive Summary**

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The Emerging Information Technology (EIT) Strategic Analysis Framework introduced in this White Paper enables a company's executive management team (e.g., CIO/CXO) and enterprise architects (EA) to systematically:

- Analyze the strategic impact of an EIT on a business
- Identify industry discontinuities and threats created by an EIT
- Create a strategic agenda to lead (rather than follow) industry changes caused by an EIT to a new business landscape
- Gain a competitive position benefiting the company most in the new landscape
- Create a new business model that would not be possible without the EIT

Thus, companies may win the present and create the future. Without realizing the strategic impact of an EIT, an industry-leading company may use the EIT as a support tool only to follow the industry change caused by the EIT into a new landscape that benefits competitors or newcomers more. The framework contains three components: EIT Five-Force Industry Analysis Framework, EIT Open System Company Analysis Framework, and EIT Win-Present-Create-Future Strategic Agenda Framework. A business case discussion is included to show how a company's CIO/CXO/EA can use the framework effectively.

This document contributes to The Open Group vision of **Boundaryless Information Flow** by providing a strategic analysis framework to assess and utilize an EIT systematically, integrate business, management, and technology, and utilize the EIT for creating strategic value.

### Background and Problem

Different Emerging Information Technologies (EIT) have different impacts upon a business. Some EIT should be used as technical tools for supporting business to make business more efficient or effective; others should be used as strategic tools for leading, not merely supporting, a business to make a difference (e.g., reinvent industries, regenerate strategies, create new business models, etc.). Without realizing the strategic power of EIT, a company is at risk of losing business in the present and of being pushed out of the market in the future.

The Internet is an obvious technology that has been effectively used as a strategic tool for changing industries. Companies that miss out on an emerging technology, such as the Internet, may drop from a leadership position to that of a follower, and may be pushed out of an industry altogether. Less obviously, Service-Oriented Architecture (SOA) and mobile technology are two additional examples of strategic EIT opportunities that should be used for leading business strategic change, not just supporting business.

Let's take the book industry as an example (refer to Figure 1). Amazon utilized strategic emerging technologies to create new business models and regenerate industry winning strategies.

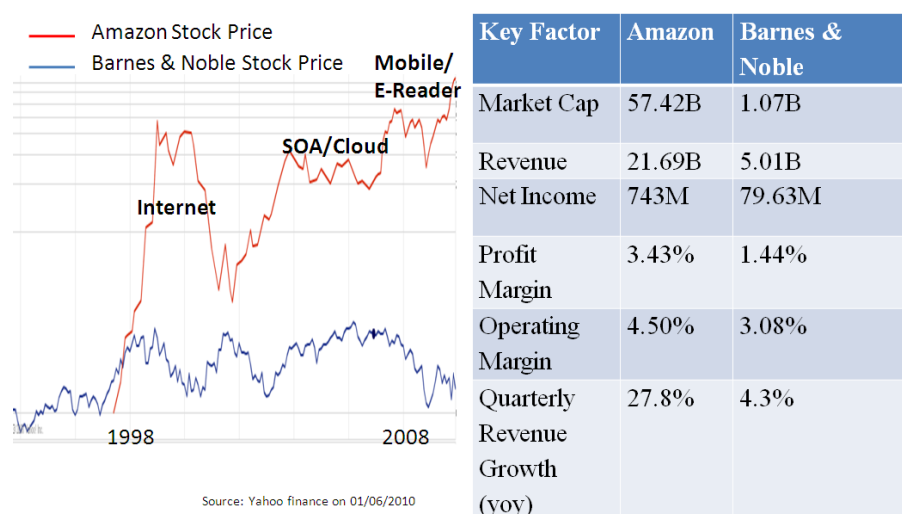


Figure 1: What's Wrong with Barnes & Noble?

- **Internet** – In the second half of the 1990s, Amazon.com used Internet technology as a strategic tool to revolutionize the book industry.
- **SOA/Cloud Computing** – In the mid 2000s, Amazon utilized SOA and Cloud Computing as strategic tools to create a new business model which enables other companies to access Amazon's business operation and computing resources to market and sell non-Amazon products/services.
- **Mobile Technology** – In recent years, Amazon utilized mobile technology to develop the Kindle, a wireless e-book/reading device, and related services for people and companies. Although many competitors have followed suit, Amazon has become a stronger leader in the new book and media landscape.

On the other hand, Barnes & Noble used to be a leader in the traditional book industry. It has adopted Internet, SOA, and mobile technologies as technical tools; however, rather than to drive strategic changes within Barnes & Noble and the book industry, the EIT has been relegated to a support role for its business.

## ***Emerging Information Technology (EIT) Strategic Analysis Framework***

Thus, Barnes & Noble merely follows the industry changes created by Amazon, applies emerging information technologies 12-24 months later, and, as a result, over the last eight years or so, the business performance of Barnes & Noble lags Amazon in all major factors, as shown in Figure 1.

### **Business Challenge and Solution**

The business challenge Barnes & Noble faces – to identify and utilize a strategic EIT – is quite common for a traditional industry leader; for example, Blockbuster *versus* Netflix. On 03/17/2010, Blockbuster, a pioneering leader in the traditional movie rental industry, warned that it might have to file for Chapter 11 bankruptcy protection (source: [www.huffingtonpost.com](http://www.huffingtonpost.com)).

The strategic business challenges a company's executive management and enterprise architects (EA) face are:

How can a CIO/CXO/EA systematically:

- Identify an emerging technology's strategic opportunity
- Create an executable strategic action plan to lead industry change, rather than passively follow it
- Lead business change, rather than just support it

To address the challenge, this paper introduces an Emerging Information Technology (EIT) Strategic Analysis Framework, which a CIO/CXO/EA can use to systematically:

- Identify business discontinuities, threats, and misfits created by an EIT
- Identify an EIT strategic opportunity
- Regenerate industry winning strategies
- Lead industry changes caused by an EIT to a new landscape, and gain a competitive position that benefits the company the most in the new business market
- Create entirely new business models or industries
- Design an executable strategic agenda to lead the industry change to win the present and create the future

The next section will introduce the EIT Strategic Analysis Framework, and the following section will discuss a case about applying the framework for a leading IT wholesale and logistics service company. The case discussion will show how the company's executives might use the framework to systematically analyze and identify business discontinuities, threats, misfits, or opportunities created by an EIT, as well as to utilize the EIT as a strategic tool to drive change. Through proactive preparation, a company may leverage the change with its existing strategic strengths, intelligently facilitate the connection between its business partners (suppliers and buyers), and transform the industry to that company's advantage. Rather than follow the industry changes, the company will lead the changes and become a stronger leader in the industry.

### EIT Strategic Analysis Framework

The EIT Strategic Analysis Framework is shown in Figure 2. A company may use it to systematically evaluate an EIT's strategic impacts on its industry and design a strategic action plan.

First, a company may use the EIT Five Force Industry Analysis Framework to systematically identify EIT-caused discontinuities in its industry and the threats the company may face in the present and future. Then the company may use the EIT Open System Company Analysis Framework to systematically identify EIT-related business “misfits” it may have. Finally, the company may use the EIT Win-Present-Create-Future Strategic Agenda Framework to systematically create an EIT strategic agenda to address current and future misalignments, strategic threats, and discontinuities in the industry identified by the first two EIT Analysis Frameworks.

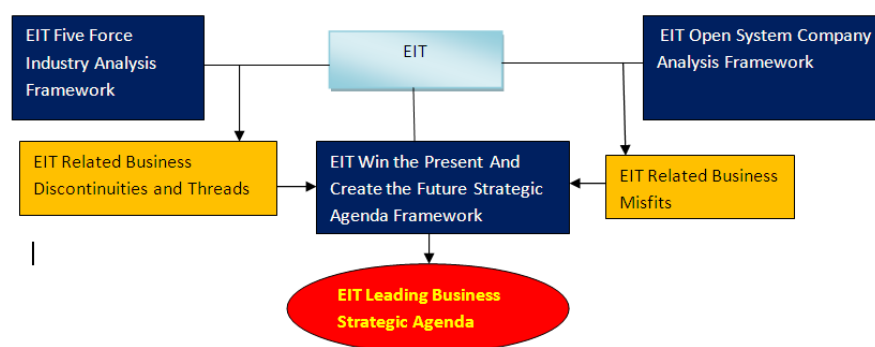


Figure 2: EIT Strategic Analysis Framework

The following sub-sections will present the three sub-frameworks of the EIT Strategic Analysis Framework (i.e., EIT Five Force Industry Analysis Framework, EIT Open System Company Analysis Framework, and EIT Win-Present-Create-Future Strategic Agenda Framework).

#### EIT Five Force Industry Analysis Framework

As shown in Figure 3, the EIT Five Force Industry Analysis Framework extends Michael Porter's Five Force Industry Analysis Framework. It will analyze EIT's impact and status in the whole industry from the following five perspectives: the Bargaining Power of Suppliers, the Bargaining Power of Customers, Barriers to Entry, the Threat of Substitutes, and Rivalry among Existing Competitors. For each perspective, there are certain criteria to consider listed within the diagram. The analysis will identify potential changes (discontinuities, value shift, etc.) caused by an EIT in the industry, and the threats created by the changes to a company in the present and future business landscapes.



## Emerging Information Technology (EIT) Strategic Analysis Framework

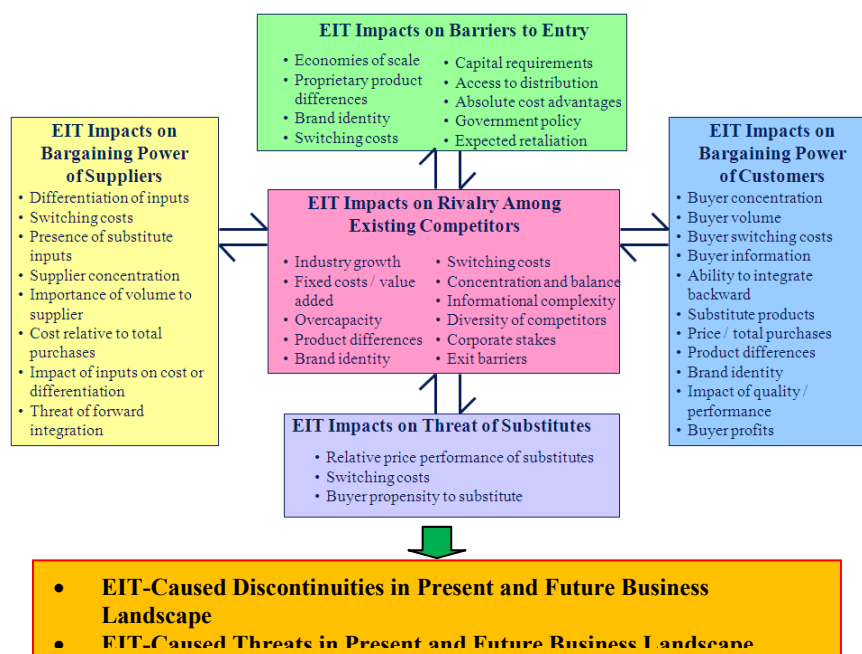


Figure 3: EIT Five Force Industry Analysis Framework

### EIT Open System Company Analysis Framework

Next, the analysis will shift from industry perspective to that of a specific company by using the EIT Open System Company Analysis Framework, which is illustrated in Figure 4 and Table 1. This framework embeds the business-driven EIT model and technology into a comprehensive analysis model containing eleven key business elements affecting a company's performance. For each of the business elements, there are related criteria as listed in Table 1. This framework will first analyze general business performance from the perspectives of the eleven business elements and then focus on an EIT's impact on these business elements. The arrow from one element to the other in the diagram indicates direct and indirect influence.

## Emerging Information Technology (EIT) Strategic Analysis Framework

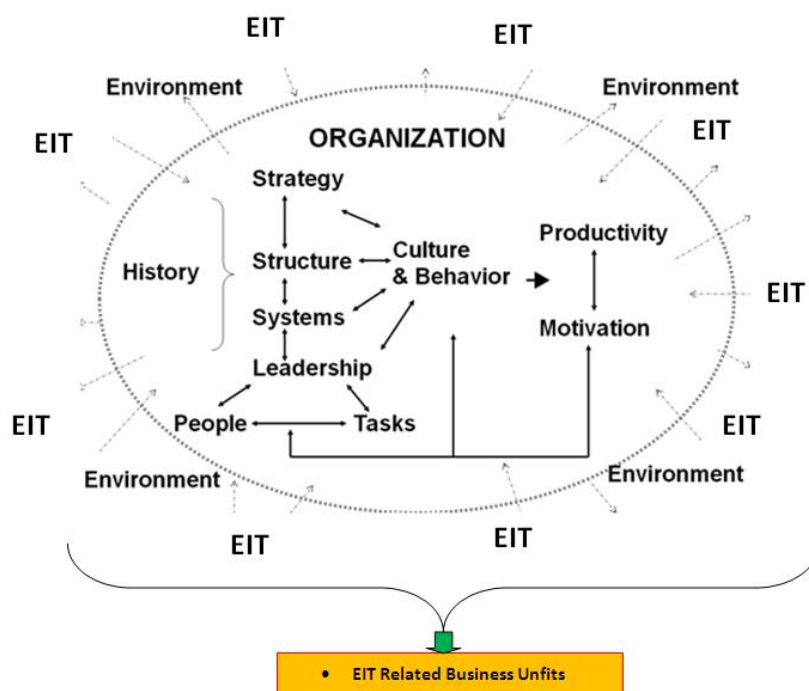


Figure 4: EIT Open System Company Analysis Framework

Table 1: EIT Open System Company Analysis

Key Business Elements	Business Analysis and EIT Status/Impact Items
History	<ul style="list-style-type: none"> <li>• Revenue/profit history</li> <li>• Founders</li> <li>• When the business starts</li> <li>• Major events in the business</li> <li>• Reputations</li> <li>• EIT history</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• Industry</li> <li>• Trend</li> <li>• Society</li> <li>• Politics</li> <li>• EIT status and impact</li> </ul>
Strategy	<ul style="list-style-type: none"> <li>• Corporate</li> <li>• Product</li> <li>• Governance/</li> <li>• Management</li> <li>• Marketing</li> <li>• Operation</li> <li>• Organization</li> <li>• Finance</li> <li>• EIT strategy, status, and impact</li> </ul>

## ***Emerging Information Technology (EIT) Strategic Analysis Framework***

<b>Key Business Elements</b>	<b>Business Analysis and EIT Status/Impact Items</b>
Structure	<ul style="list-style-type: none"><li>• Organization</li><li>• Operation</li><li>• Governance</li><li>• EIT status and impact</li></ul>
Systems	<ul style="list-style-type: none"><li>• Strategy</li><li>• Operation</li><li>• Compensation</li><li>• HR</li><li>• EIT status and impact</li></ul>
Leadership	<ul style="list-style-type: none"><li>• Company's management/business philosophy and culture</li><li>• Current CEO and management team</li><li>• Credo</li><li>• EIT knowledge and vision</li></ul>
People	<ul style="list-style-type: none"><li>• The number of employees</li><li>• Allocation of people resources</li><li>• EIT knowledge and skills</li></ul>
Task	<ul style="list-style-type: none"><li>• R&amp;D</li><li>• Product</li><li>• Service</li><li>• Value</li><li>• Social/society responsibilities</li><li>• EIT status and impact</li></ul>
Culture/Behavior	<ul style="list-style-type: none"><li>• Culture</li><li>• Norm</li><li>• Relationship among people and systems</li><li>• EIT impact</li></ul>
Productivity	<ul style="list-style-type: none"><li>• Revenues</li><li>• Net income</li><li>• Position in the industry</li><li>• Rank among Fortune 500</li><li>• EIT status and impact</li></ul>
Motivation	<ul style="list-style-type: none"><li>• Motivation for management team</li><li>• Motivation for employee</li><li>• EIT status and impact</li></ul>

### **EIT Win-Present-Create-Future Strategic Agenda Framework**

Finally, the EIT Win-Present-Create-Future Strategic Agenda Framework shown in Figure 5 will help a company to create strategic agendas to utilize an EIT to address misfits identified in the EIT Open System Company Analysis for short-term success as well as to seize strategic leadership to drive industry transformation and long-term success by addressing industry discontinuities, threats, and opportunities identified in the EIT Five Force Industry Analysis. To create each strategic agenda, there are certain strategic questions need to be addressed, as listed in Figure 5.

## Emerging Information Technology (EIT) Strategic Analysis Framework

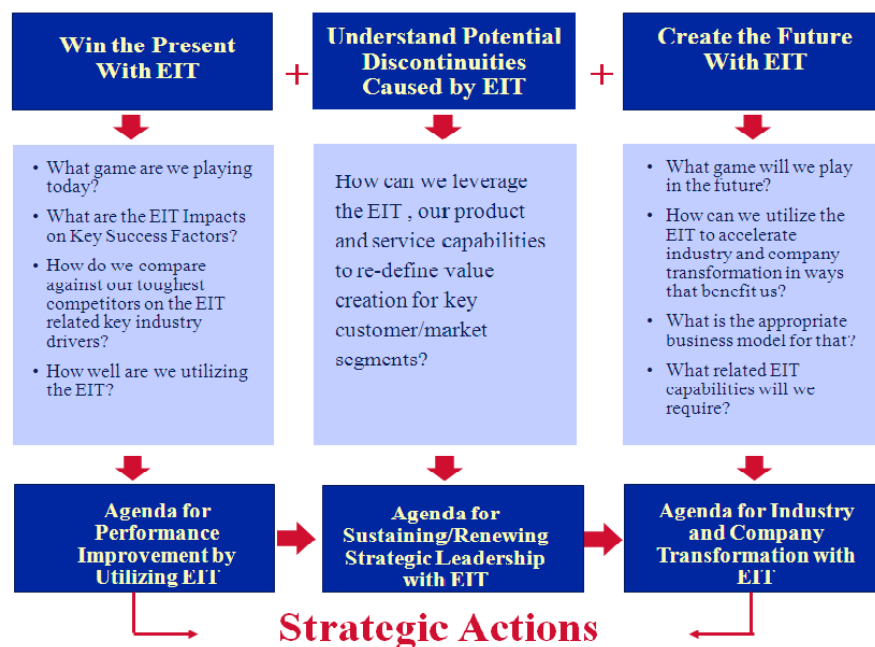


Figure 5: EIT Win-Present-Create-Future Strategic Agenda Framework

## Case: Strategic EIT/SOA Challenge & Solution for a Leading Logistics Company

### Introduction

This case shows how to use the EIT Strategic Analysis Framework to help a leading IT wholesale and logistics service company. First, the framework will identify potential industry disruptions caused by an EIT – in this case, an SOA and the SOA-related misfits to the company’s current business structure. Then the case will develop a strategic agenda to enable the company to use the SOA to thrive in the short-term while getting stronger in the long-term.

The IT wholesale and logistics service company distributes information technology products, offers logistics management service, supply-chain solutions, and other value-added services worldwide for connecting IT product vendors and resellers.

### Applying EIT Five Force Industry Analysis Framework

First, the EIT Five Force Industry Analysis on the SOA is conducted, which is shown in Table 2.

Table 2: SOA Five Force Industry Analysis

Five Forces in Industry	SOA Impacts
<b>Bargaining Power of Suppliers</b>	<p>SOA will strengthen suppliers’ bargaining power because:</p> <ul style="list-style-type: none"><li>• Suppliers may develop their own SOA systems to communicate with their customers’ SOA systems directly, and automate the management of both their logistics operation and supply chain.</li><li>• Open standard SOA systems implemented by suppliers and buyers decrease the cost of switching business partners.</li><li>• Open standard SOA systems enable a supplier to work with multiple wholesale and logistics companies as easy as working with one wholesale and logistics company.</li><li>• Large supplier – e.g., Dell, CISCO – may have multiple sales channels, each with their own sales force.</li><li>• A supplier can achieve a large sales volume easily by working with multiple wholesale and logistics companies by utilizing open standard SOA systems, rather than depending on a single large wholesale and logistic company to create a large sales volume.</li><li>• Open standard SOA systems decrease costs for information communication and logistics management among suppliers and buyers which will squeeze the profits of IT wholesale and logistics service companies.</li></ul>

## Emerging Information Technology (EIT) Strategic Analysis Framework

Five Forces in Industry	SOA Impacts
<b>Bargaining Power of Customers</b>	<p>SOA will strengthen buyers' bargaining power because:</p> <ul style="list-style-type: none"> <li>• Buyers may develop their own SOA systems to communicate with their suppliers directly, and manage their logistics operations automatically.</li> <li>• Open standard SOA systems implemented by suppliers and buyers decrease the costs for buyers to switch vendors.</li> <li>• Open standard SOA systems enable a buyer to work with multiple wholesale and logistics companies as easily as working with one of them.</li> <li>• Buyers – e.g., BestBuy, Frys, etc. – may have multiple purchasing channels. Some may have their own purchasing team and logistics and supply-chain management systems.</li> <li>• Buyers may take advantage of open-standard SOA systems to decrease their cost to switch between distribution partners to take advantage of lower prices or to obtain inventory from the most readily available source.</li> <li>• Open standard SOA systems will decrease communication, logistics, and supply-chain management costs for suppliers and buyers by allowing them to communicate with each other directly and depending less on logistics companies' services, which will reduce the revenue of IT wholesales and logistics service companies.</li> <li>• Large buyers may develop their own comprehensive logistics and supply-chain management systems based on SOA, which may allow them to eliminate the need to use wholesale and logistics vendors providing those services.</li> <li>• Open standard SOA systems will improve buyers' business performance by increasing flexibility, decreasing response-to-market trends, facilitating just-in-time information communication with suppliers, etc.</li> <li>• Some large buyers have such a dominant market position (e.g., WalMart), that the buyer may lead SOA changes in the industry for their benefit at the expense of competitors, distributors, and suppliers.</li> </ul>

## Emerging Information Technology (EIT) Strategic Analysis Framework

Five Forces in Industry	SOA Impacts
<b>Barriers to Entry</b>	<p>Traditionally high but SOA (particularly open-standard SOA systems) will make it lower.</p> <p>Traditionally high because:</p> <ul style="list-style-type: none"> <li>• The industry has a strong requirement for economies of scale, complicated and comprehensive distribution networks worldwide, high capital, market reputation, etc.</li> <li>• The industry is more relationship-oriented and labor-intensive, which makes switching costs high.</li> </ul> <p>SOA makes the barriers to entry lower because:</p> <ul style="list-style-type: none"> <li>• SOA makes the industry more intelligent information-service-intensive, instead of labor-intensive, or personal-relationship-intensive, because SOAs enable open-standard-based integration and create more transparency in the market that shifts the dynamics from personal-relationships to price, inventory availability, business information availability, and service competition.</li> <li>• A newcomer can develop an intelligent information-service-oriented wholesales and logistics company relatively quickly by developing open standard-based SOA middleware wholesale and logistics management systems to connect suppliers and buyers together through communicating with their SOA-based systems.</li> <li>• A company possessing a better open standard SOA system to communicate with suppliers and buyers will have competitive and cost advantages. Large IT wholesale companies may not have better SOA systems than newcomers.</li> </ul> <p>SOA adoption driven by powerful entities external to the distribution industry:</p> <ul style="list-style-type: none"> <li>• Government policy encourages open standard SOA systems to boost the efficiency of industry/economy, and to reduce the waste of resources.</li> <li>• Large IT wholesale/logistic companies may not like the SOA changes. However, suppliers and buyers like it, and they have more bargaining powers. The support from suppliers and buyers to newcomers with new, efficient, and effective SOA systems will be high.</li> </ul>
<b>Threat of Substitutes</b>	<p>SOA technologies may revolutionize the fundamentals of how companies communicate with each other and how they manage their business and operation with each other.</p> <p>SOA enables suppliers and buyers to communicate with each other and manage their business through their SOA systems in a much more efficient and effective way without or with limited help from middleware/wholesale/logistic service companies.</p> <p>A high tech startup company creates wholesale and logistics as services, instead of a physical company, to provide a strong SOA-based wholesale, logistics, and supply-chain management system working with suppliers and buyers of SOA systems. This company will have stronger cost advantages than traditional IT wholesale and logistics companies and will have better overall business performance due to lower operation cost, more revenue and profit by providing more value-added intelligent information service, better business relationship with suppliers and buyers by enabling flexible business partnership with lower switching cost to another wholesale and logistics company, etc.</p>

## Emerging Information Technology (EIT) Strategic Analysis Framework

Five Forces in Industry	SOA Impacts
<b>Rivalry Among Existing Competitors</b>	<p>Currently high:</p> <ul style="list-style-type: none"> <li>• Industry growth is slow; major leading wholesale and logistics service companies suffer negative net income problems.</li> <li>• Even those companies with positive net income have a very low profit margin – less than 2%.</li> <li>• There is little product/service differentiation among the major logistic companies.</li> <li>• The major competition is on price and personal-relationships.</li> </ul> <p>SOA impact:</p> <ul style="list-style-type: none"> <li>• SOA may make the Industry grow faster again by enabling a wholesale and logistics company to provide new and more intelligent information-based services (e.g., just-in-time sales information) to suppliers and buyers through developing standard-based SOA systems to link suppliers' and buyers' systems together.</li> <li>• Competition will be shifted from price to creative, value-added services, because SOA enables a wholesale and logistics company to develop an efficient, effective, and comprehensive SOA-based intelligent business information management and communication system to collect data from suppliers' and buyers' systems and analyze the data in real time and provide business-critical information to suppliers or buyers in a timely manner so that the suppliers or buyers can make critical business decisions faster and more appropriately.</li> <li>• SOA may transform the industry to an intelligent information-oriented service industry from the current labor-oriented service industry. A new business model for a wholesale and logistics company could be that outsourcing labor-intensive tasks and focusing on intelligent information-oriented services, which will have much lower costs, higher profit margins, and more revenue sources through providing the value-added, intelligent information services to suppliers and buyers, such as just-in-time market sales information to enable suppliers/buyers to make faster and smarter business decisions, etc.</li> <li>• The company that provides the most comprehensive, open-standard SOA systems that facilitate intelligent information management between suppliers and buyers will have differentiated competition advantage, and become a new leader.</li> <li>• SOA will intensify competition by lowering switching costs for suppliers and buyers, whose open standard-based SOA systems can communicate with any wholesale and logistics company's SOA systems.</li> </ul>

The above industry analysis shows that the industry landscape may be shifted from the current one shown in Figure 6 to the ones shown in Figure 7 and/or Figure 8, and that the potential discontinuities and strategic threats to the company are:

- Discontinuities:
  - The IT wholesale and logistics service industry will transform from a sales-labor-intensive business model to intelligent information-centered service business model.
  - The core competence for an IT wholesale and logistics service company will be gradually switched from a comprehensive relationship network with IT vendors and resellers to strong and comprehensive intelligent information systems connecting IT vendors and resellers and providing value-added business management services.



## Emerging Information Technology (EIT) Strategic Analysis Framework

- Strategic Threats:
  - IT vendors and resellers may utilize SOA technologies to develop intelligent information systems to communicate with each other directly to manage their wholesale/logistic-related business by themselves, without needing the help (or with limited help) from traditional wholesale/logistic companies. The industry landscape will look like the one shown in Figure 7.
  - A high tech startup company may develop an intelligent wholesale and logistic middleware service system based on SOA technologies to connect IT vendors and resellers through their SOA systems, to enable them to communicate with each other, to get business information faster, and to make business decisions smarter. The high tech company would not need the help of traditional wholesale and logistics companies to change the industry landscape to look like the one shown in Figure 8.

The industry landscape shown in Figure 7 shows some strategic advantages over the traditional wholesale and logistics industry landscape shown in Figure 6, because the landscape in Figure 7 enables IT vendors and resellers to communicate with each other directly through their SOA systems, so that they may get needed business information faster, reduce response time-to-market changes, reduce logistics costs, and decrease their cost of switching business partners having open standard SOA systems. The industry landscape shown in Figure 8 shows further strategic advantages over the traditional one shown in Figure 6. The SOA-based intelligent information-centered middleware wholesale and logistics service system shown in Figure 8 can provide suppliers and buyers with more comprehensive value-added services in a more efficient and effective way. For example, the SOA-based intelligent middleware system can provide just-in-time sales information and other key data because it collects real time data from suppliers' and buyers' SOA systems, consolidates that data, analyzes it in real time, and reports some critical business information back to suppliers and buyers so that the suppliers and buyers can make decisions faster and more appropriately.

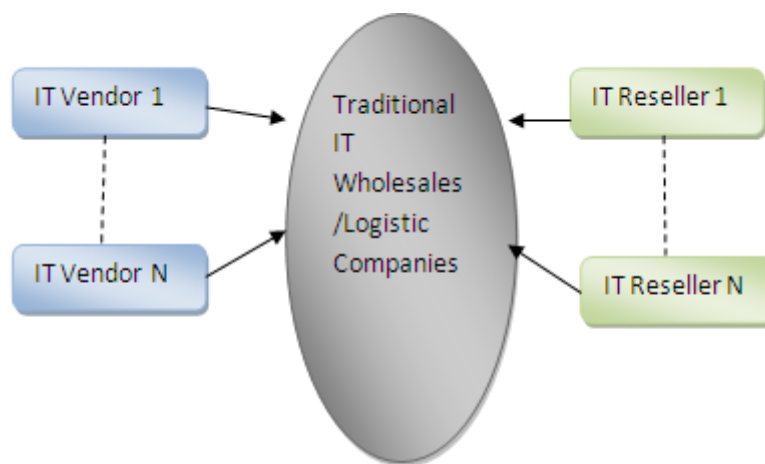
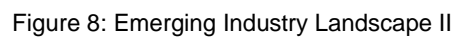
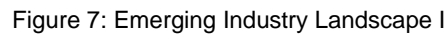


Figure 6: Traditional/Current Industry Landscape



Next, we will focus on the company and use EIT Open System Company Analysis Framework to analyze its business to identify the SOA-related misfits.

## Emerging Information Technology (EIT) Strategic Analysis Framework

Table 3: SOA Open System Company Analysis

Key Business Elements	Business and SOA Status/Impact Analysis Information
<b>History</b>	<p>Revenue (multi-billion dollars), a leader in its industry, low operating margin (e.g., 1%), low or negative profit margin (e.g., -1%)</p> <p>In business for more than 20 years</p> <p>Connect technology solution providers with resellers worldwide</p> <p>Prominent member of the industry trade groups</p> <p>A leading technology wholesales, marketing, and logistics service company</p> <p>Focus on developing business relationship and network via sales/marketing-centered business model</p> <p>Not an IT strong company; IT has supporting role in the company</p> <p>Limited SOA knowledge</p>
<b>Environment</b>	<p>Industry: information technology wholesale and logistics services</p> <p>High competition, low or negative profit margin</p> <p>Key success factors include: strong connections and relationships worldwide, innovative value-added services for IT vendors and resellers, etc.</p> <p>IT/Internet/SOA becomes more and more critical in the industry for a wholesale and logistics company to provide value-added service (e.g., just-in-time inventory or production information) for IT vendors and resellers to manage wholesale and logistics business operations; suppliers and buyers need intelligent business information (e.g., just-in-time sales information, etc.) in a faster, more efficient and effective way to make smarter business decisions</p> <p>Business community encourages open communication, open standards, standards-based SOA enterprise systems, and boundaryless information communication worldwide</p>
<b>Strategy</b>	<p>Corporate: be the industry leader and an essential link in the technology value chain</p> <p>Product/service: focus on IT products and services, supply-chain services, logistics services, financial, sales, marketing services, etc.</p> <p>Governance: conservative, hierarchy</p> <p>Management: IT supports business</p> <p>Marketing: sales representatives, resellers, and distributors, worldwide, comprehensive value-added service</p> <p>Operation: worldwide logistics and supply-chain management service network, provide service to large number of resellers and vendors</p> <p>Organization: worldwide, led by corporate headquarters with regional leaders having a certain level of autonomy</p> <p>Finance: negative net income, debt little less than cash, growth rate is low, operation margin is low around 1%</p> <p>No solid enterprise SOA strategy yet</p> <p>Start to think and use SOA as an IT tool to support business as other IT tools do</p>
<b>Structure</b>	<p>Organization: headquarter in North America with four regional business divisions: North America, Europe, Latin America, and Asia Pacific</p> <p>No enterprise-level SOA management team yet</p> <p>Operation: more than 80 distribution centers, connect more than 100,000 resellers with more than 1,000 IT industry suppliers in more than 100 countries</p> <p>No open-standard SOA system to communicate with resellers or suppliers information systems yet; there are some systems for point-to-point integration via Internet with a business partner's systems</p> <p>Governance: strong and clear corporate governance described in governance guidelines, code of conduct, etc. but lack of governance and management in SOA enterprise practice</p>

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Key Business Elements	Business and SOA Status/Impact Analysis Information
<b>System</b>	<p>Strategy: led by corporate headquarters and executive management</p> <p>Operation: people-oriented, labor/sales-intensive, localized, operation system with some IT support</p> <p>No SOA system yet</p>
<b>Leadership</b>	<p>CEO and management team members are professionals with strong industry experience</p> <p>Vision: to be the leader in delivering technology to the world</p> <p>Mission: to be the most valued business partner connecting vendors and customers</p> <p>Principle: to focus on enhancing the success of its business partners, employees, and investors</p> <p>Values: teamwork, respect, accountability, integrity, innovation</p> <p>Lack of SOA knowledge, has not realized SOA strategic importance yet</p> <p>Does not realize SOA is critical for its vision, mission, and principle in the present and the future</p>
<b>People</b>	<p>More than 9,000 employees in more than 90 countries</p> <p>Only some of IT staff have some knowledge in SOA, but not strong; most of them are not managers</p> <p>Business people and management team knowledge in SOA</p>
<b>Task</b>	<p>R&amp;D for providing new value-added services to business partners</p> <p>Product/Service: connect technical solution providers with resellers worldwide, identify markets and technologies opportunities, but the business is primarily conducted via labor-intensive operation, instead of strong, intelligent, and open standard-based SOA enterprise systems communicating with the systems of suppliers and buyers</p> <p>Value : creates sales and profitability opportunities for vendors and resellers via marketing programs, logistics services, and product aggregation and distribution, etc., but does not utilize SOA systems to provide efficient and effective intelligent information-centered value-added services, such as just-in-time sales information for supporting suppliers' business decisions</p> <p>Social/society responsibilities: the company provides volunteers and donations to support charities and initiatives with a focus on promoting technology and education; nothing regarding emerging SOA technologies yet</p>
<b>Culture/Behavior</b>	<p>Culture: honesty, fairness, high ethical standards, etc.</p> <p>Norm: responsibility and accountability, etc.</p> <p>Value: teamwork, respect, responsibility, and accountability to build professional relationship among employees and managers, etc.</p> <p>Risk-Averse: no strong motivation to try emerging technology/business, such as SOA</p>
<b>Productivity</b>	<p>Revenues: multi-billion dollars</p> <p>Net income: hundreds of millions but negative</p> <p>Operation Profit: around 1%</p> <p>Profit Margin: around -1%; some competitors have 1% profit margin but with less revenue</p> <p>Not a SOA or IT leader in its industry</p>
<b>Motivation</b>	<p>Motivation for management team: exceptional leadership and a diverse talented team; opportunity to make a difference in a progressive, high-performance culture</p> <p>Motivation for employee: teamwork, respect, accountability, integrity, and innovation</p> <p>Risk-Averse: despite distributing latest technology, does not invest in technology leadership</p> <p>Lack of motivation on SOA due to lack of SOA knowledge and vision and low margins for R&amp;D investment</p>

## Emerging Information Technology (EIT) Strategic Analysis Framework

Based on the above analysis, the following EIT/SOA-related business misfits can be summarized in Table 4.

Table 4: EIT/SOA-Related Business Unfits

Misfit Type	Business Objectives or Needs	Misfit
Value	To create value for shareholders.	The company had negative net income, which is destroying shareholders' value. The management does not fully realize that an SOA can systematically reduce cost by enabling more open and automated communication among business partners and improve revenue and profit by providing more value-added services (e.g., just-in-time sales information) through SOA-enabled intelligent middleware systems.
Vision/Mission/Principle	To be the leader in delivering technology to the world, the most valued business partner connecting vendors and customers, and focus on enhancing the success of its business partners, employees, and investors.	The company's management and IT staff lack an SOA strategy, knowledge, or skills, while SOA is changing its industry. Additionally, its business partners and customers (buyers and IT vendors) are developing SOA systems to create more efficient and effective business models.
Productivity	Industry leading revenue.	The company's leadership is not sustainable because of negative net income, and profit margin.
Leadership	Business leaders and management must recognize the strategic impact of SOAs upon the industry and design a strategic agenda to lead the industry changes through SOAs to improve the company's profit margin and create new core competency.	The company's management team and business people lack vision, knowledge, and skills regarding SOA as a strategic tool to enable the company to reduce operation cost by enabling more open and automated information communication among business partners, and improve revenue and profit by providing more value-added services (e.g., just-in-time sales information) through SOA-enabled intelligent middleware systems to communicate with the SOA systems of suppliers and buyers in real time for collecting data, analyzing data, and providing critical business information needed by business partners to make smarter business decisions.
Strategy	To be an essential link in the technology value chain.	The company lacks an SOA strategy even though suppliers and buyers are developing their own SOA enterprise systems to manage their logistics and information communication in a more efficient and direct approach.
Operation	To have SOA-enabled operation/organization/IT systems to support its business partners and customers who are building their own SOA-enabled enterprise practices.	The company does not have a strategic SOA-enabled enterprise practice and lacks SOA-enabled operation and IT systems. Its business strategy and operation still primarily focuses on the traditional relationship and labor-oriented approach, and lacks SOA-enabled creative IT solutions to improve business performance through new, value-added services.

## Emerging Information Technology (EIT) Strategic Analysis Framework

Misfit Type	Business Objectives or Needs	Misfit
Motivation	Motivated managers and staff to lead SOA development.	The company's managers and staff are not motivated due to a lack of vision, knowledge, and understanding regarding the probable impact of SOAs upon its industry and business.

### Applying EIT Win-Present-Create-Future Strategic Agenda Framework

Finally, based on the results from the above EIT/SOA industry and company analysis, we will use the EIT Win-Present-Create-Future Strategic Agenda Framework to create an executable strategy portfolio and plan.

Table 5: SOA Win-Present-Create-Future Strategic Agenda

Analysis	SOA Strategy Portfolio & Agenda	
<p>Game playing today: connecting IT vendors and resellers who are developing SOA systems but require more intelligent, value-added services.</p> <p>SOA Impacts Key Success Factors: Improve profit margin (e.g., reduce operation cost by enabling more open and automated information communication among business partners), create new revenue source by providing more intelligent value-added services.</p> <p>Position in Industry: Lack of SOA leadership in industry.</p> <p>Status: No SOA utilization.</p>	Win the Present	<p>Performance Improvement by Utilizing SOA:</p> <ul style="list-style-type: none"> <li>• CIO/CXO leads SOA initiatives and SOA enterprise practice development.</li> <li>• Cross-company SOA training to improve employees' SOA knowledge and skill.</li> <li>• Top-down approach to ensure leadership buy-in to SOA.</li> <li>• Create an SOA strategy.</li> <li>• Start design and develop/pioneer an SOA system.</li> <li>• Design and develop the SOA system to work with large IT vendors and resellers' systems to provide value-added information-centered services, and therefore improve revenue and profit margin through charging higher service premium due to providing services with higher business values (e.g., providing just-in-time sales information to enable business partners to make smarter decisions faster).</li> <li>• Operations should change to align systems and company structure with SOA best practices to reduce costs, improve profit margins, and increase flexibility.</li> </ul>
SOA will transform the industry from labor-intensive, relationship-centered wholesale and logistics business to information-centered intelligent wholesale and logistics service business.	Understand Potential Discontinuities Caused by SOA	<p>Sustaining/Renewing Strategic Leadership with SOA:</p> <ul style="list-style-type: none"> <li>• Analyze and identify how SOA may regenerate industry strategy and change the game.</li> <li>• Develop a winning strategy to combine traditional logistics with emerging SOA-based intelligent information services to create unique value for business customers.</li> <li>• Assign a CxO to lead SOA initiatives and SOA enterprise practices.</li> <li>• In three years, ensure the company becomes an SOA practice leader in its industry.</li> </ul>

## Emerging Information Technology (EIT) Strategic Analysis Framework

Analysis	SOA Strategy Portfolio & Agenda	
Game play in the future: connect IT vendors and resellers via open-standard SOA-based intelligent wholesale and logistics information management systems that provide just-in-time comprehensive business services to both suppliers and buyers, with support from traditional people interaction-oriented wholesale and logistics services.	Create the Future with SOA	Industry and Company Transformation with SOA: <ul style="list-style-type: none"> <li>• Lead industry SOA initiatives and development.</li> <li>• Create and lead an industry SOA council to lead and manage industry SOA practice.</li> <li>• Lead SOA standards development for the industry.</li> <li>• Participate in cross-industry SOA technology and standard development.</li> <li>• Continue to emphasize unique values from the traditional wholesale and logistics business model and continue to provide people interaction-oriented services.</li> <li>• Promote the winning strategy of combining traditional wholesale and logistics services with emerging SOA services-based intelligent information middleware.</li> <li>• Develop the SOA capabilities required; e.g., open standard-based SOA, virtual SOA wholesale and logistics middleware service system connecting IT vendors and resellers, SOA governance, SOA strategy, SOA system design and development, SOA intelligent business services, SOA service and price strategy, SOA business operation alignment with corporate structure, system, and organization, SOA-ready management team and people.</li> </ul>

According to the above analysis, a key strategic point for the traditional IT wholesale and logistics service company is to lead the industry SOA transformation illustrated in Figure 9 to gain a competitive position benefiting the company the most within the new business landscape. In the post-SOA industry landscape, an IT wholesale and logistics company combines traditional logistics capabilities with emerging SOA-based intelligent information middleware services to provide comprehensive services to IT vendors and resellers. This industry landscape is different from landscapes I and II described previously in Figure 7 and Figure 8 which may benefit newcomers or competitors the most. This new industry landscape III (Figure 9) will give this company the most competitive advantage against current and future competition.

### Case Summary

The EIT Strategic Analysis Framework enables the company's executive management and enterprise architecture leadership to identify a strategic challenge the company will face, and design a strategic solution it can implement to address the challenge.

- Identified Strategic Challenge: Following industry changes into the emerging post-SOA industry landscapes shown in Figure 7 and Figure 8 will deteriorate the company's market leadership and reduce market share, revenue, profit, etc.
- Identified Strategic Solution: Create the executable strategic agenda to lead industry SOA change to create an emerging industry landscape shown in Figure 9, which will enable the company to extend market leadership and grow market share, revenue, profit, etc.

## Emerging Information Technology (EIT) Strategic Analysis Framework

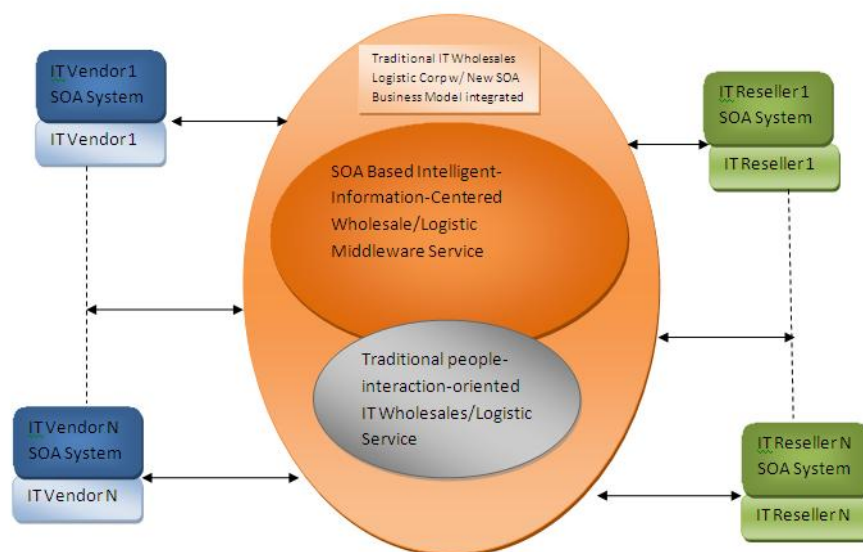


Figure 9: Emerging Industry Landscape III



### **Summary**

Some EIT can be used as strategic tools to lead business strategies, not just support them. A company's executive management (e.g., CIO/CXO) and enterprise architecture leadership (EA) can use the EIT Strategic Analysis Framework described in this document to, systematically, analyze the strategic impact of an EIT upon its business, identify the EIT-caused industry discontinuities and threats, and design a strategic roadmap to lead (rather than follow) the industry change. Following the roadmap, the company can gradually transform itself and then gain a competitive position with the maximum benefit for the company in the new business landscape, create new business models that would not be possible without the EIT, and win the present as well as create the future. Without recognizing the strategic impact of an EIT, an industry-leading company simply using the EIT as a supporting tool may become the follower in a new EIT-enabled industry landscape that benefits competitors and newcomers. Although the company may only lose market share, eventually it may be pushed out of the market.

### **References**

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### **About the Author**

Xijia (Frank) Chen is a value-driven principal enterprise architect, strategist, and senior manager in Cognizant Technology Solutions. He provides technology and strategy thought leadership and solutions through consulting services for Fortune 1000 companies. He has extensive experience and a proven track record in developing business-driven enterprise architecture and strategic solutions for a broad range of companies across various industries internationally. Frank was the lead consultant on six innovative industry-pioneer system developments. Utilizing emerging technologies, he architected creative strategic enterprise solutions, which have enabled companies to create new business models or regenerate industry winning strategies to address emerging challenges in business and technology so that the companies could win in the present and lead to the future.

Frank is a TOGAF Certified Architect, a Sun Certified Enterprise Architect, and a Sun Certified Java Programmer. Past experience includes Principal Consultant for PricewaterhouseCoopers. Frank earned his MBA from the University of Southern California, and his Masters in Computer Science from Louisiana Tech University.

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