



Network 2000

# Benchmarking EC Solutions for Procurement Applications

**Richard Medina**  
**Doculabs**





# ***Objectives & Agenda***

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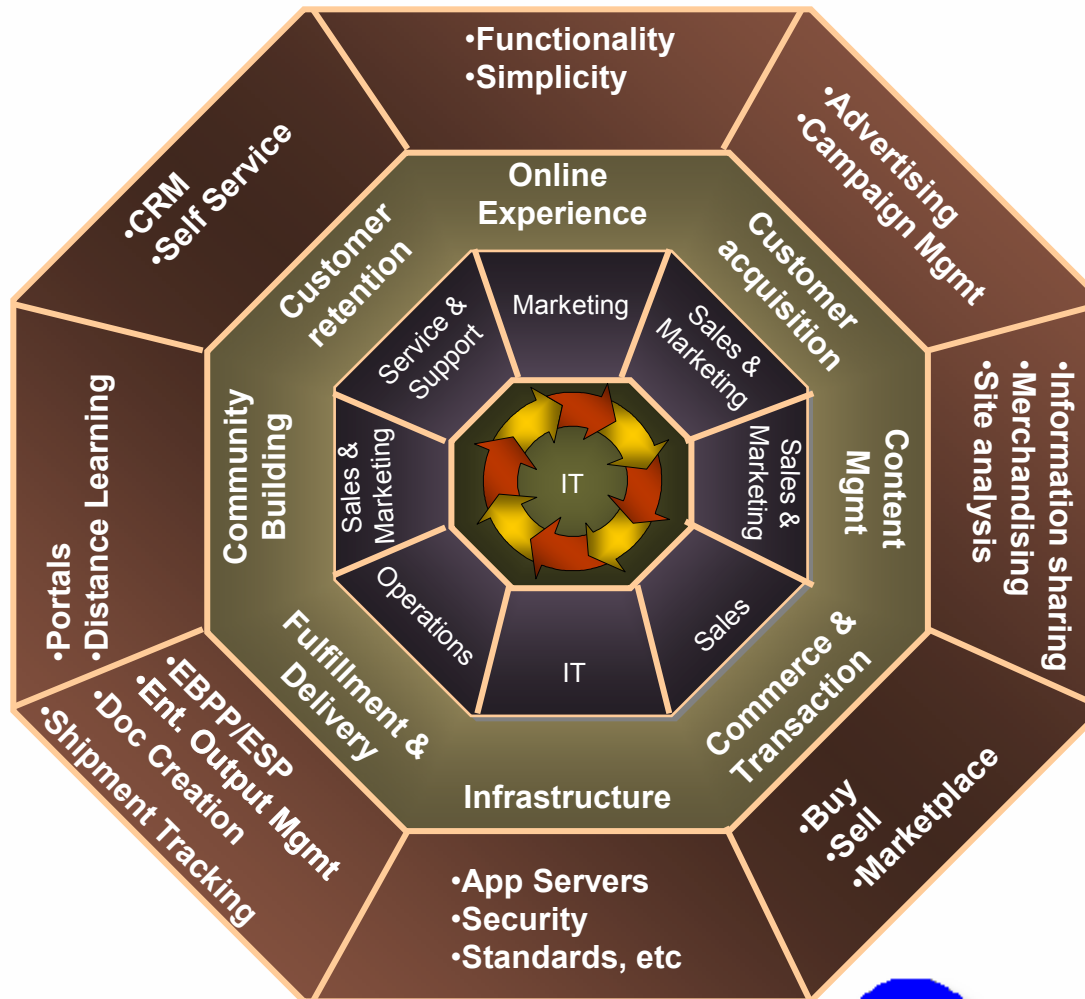
- **1) Introduction**
- **2) EC Overview**
- **3) EC Segmentation**
- **4) Approaches to EC**
- **5) Suggested Evaluation Methodology**
- **6) Some Observations & Conclusions**



## ***More Info***

- This presentation
- Ask me for info on EC, Web Application Development, CRM, ASPs, DM, Workflow, Imaging, Input, Storage, COLD, etc.
- “Helper Docs” to get you started (survey samples, “enabling conditions”, methodology material)
- Articles on (almost) all aspects of eBusiness
- Call or write: 312-433-7793x627,  
[rmedina@doculabs.com](mailto:rmedina@doculabs.com)

# eBusiness

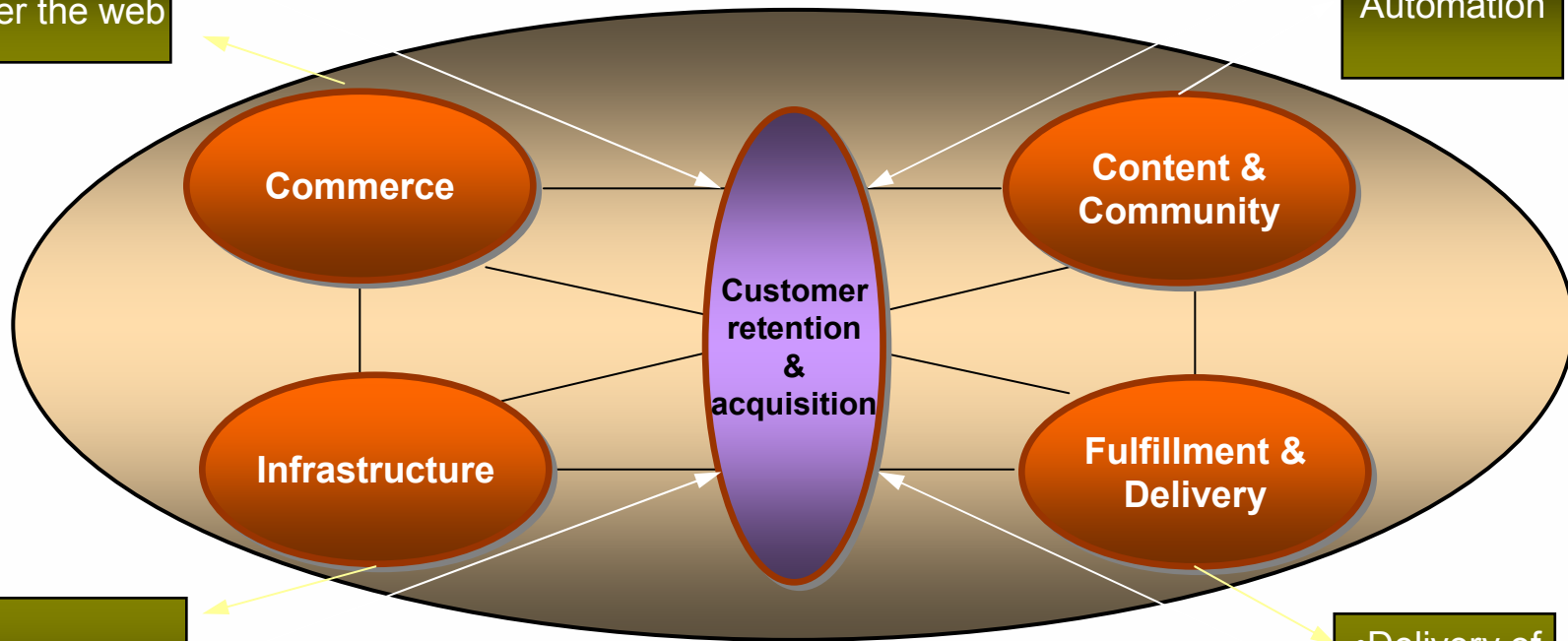


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# eBusiness

Buy and sell  
goods and  
services  
over the web

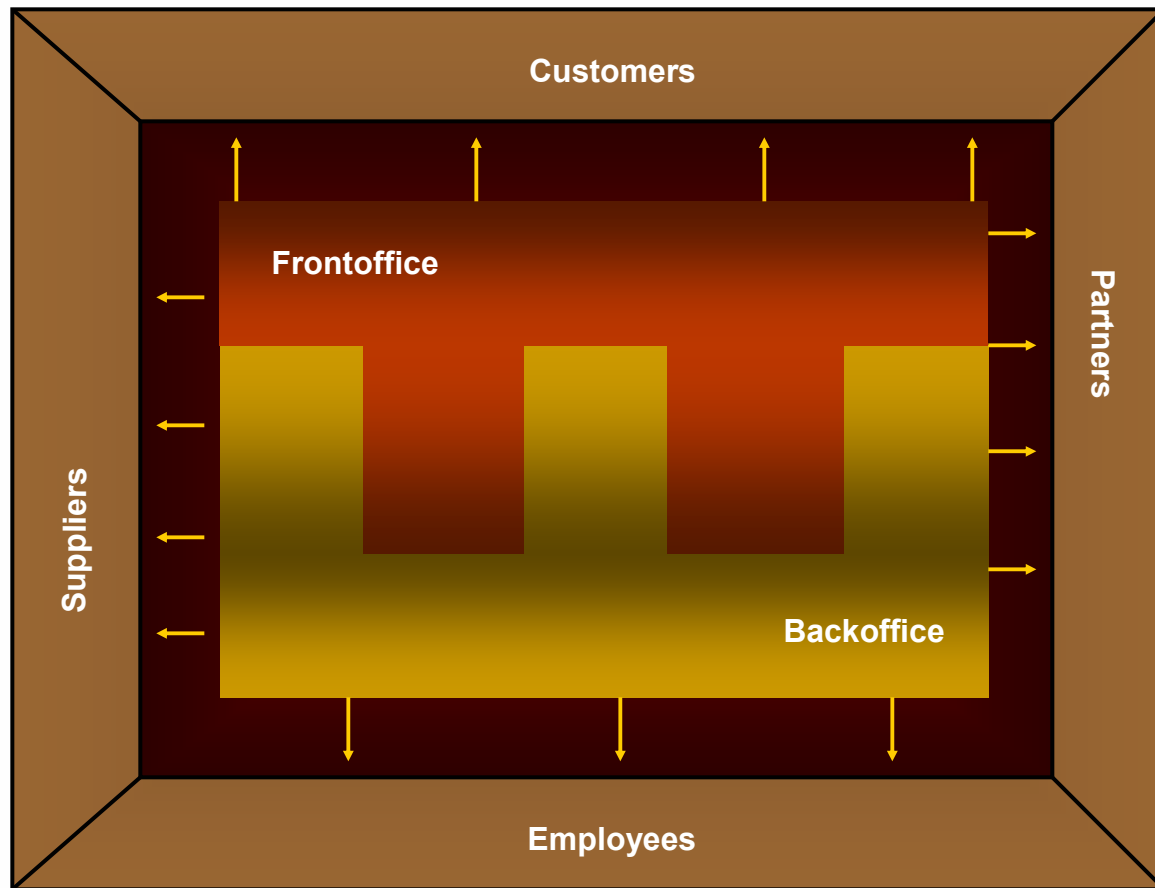
Information  
and  
Automation



Reliability  
•Availability  
•Scalability

•Delivery of  
information,  
goods,  
services &  
payments

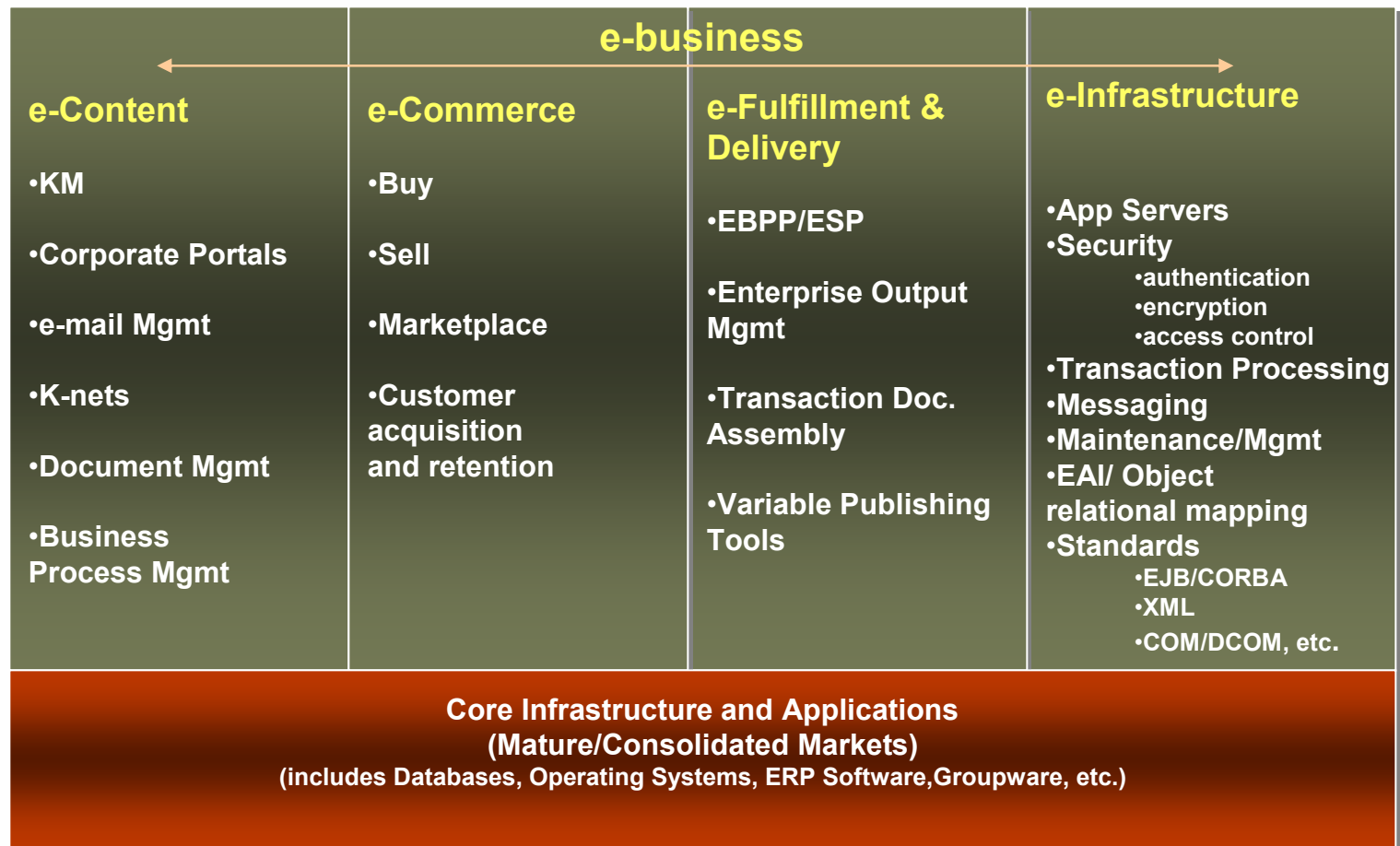
# eBusiness



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# E-Business Taxonomy



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# ***EC Applications***

- \*Internal Procurement
- Selling & marketing over the web
- Creating a new marketplace
- \*Trading Partner Management
- \*Supply Chain Management
- Customer Relationship Management
- \*Business Process Reengineering
- Electronic Publishing
- Sales Force Automation
- HR Interaction





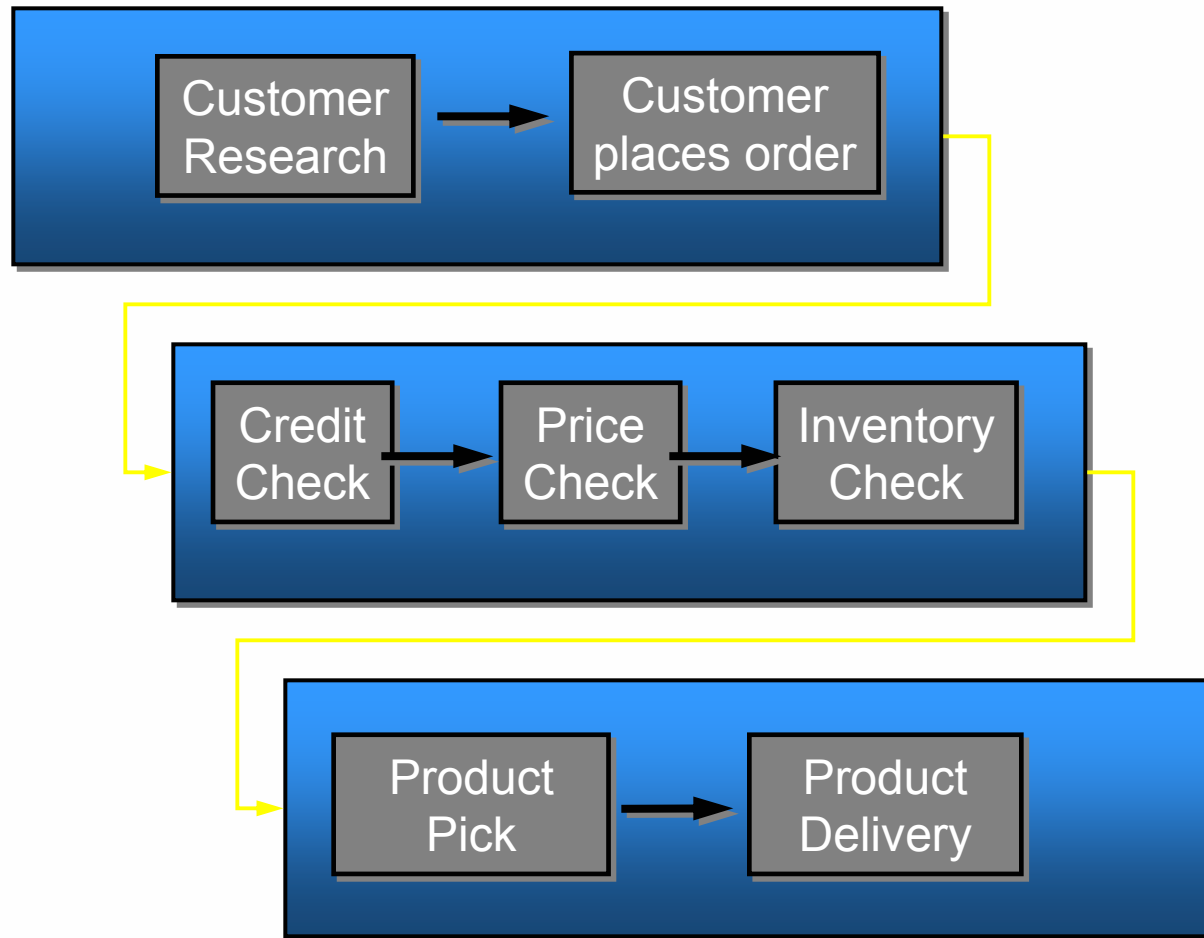
# ***EC Impact***

- **1) More effective performance**
  - improved quality, increased customer satisfaction
- **2) More rapid exchange**
  - high speed, accelerated or real-time interaction
- **3) Increased revenue opportunities**
  - new markets for old products
  - new service delivery channel
- **4) Reduce operations costs**
  - better coordination in sales, production, distribution
  - consolidate operations & reduce overhead



# The Sales Cycle

# Sales Cycle



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# 1) *Product Selection*

- **a) Research**
  - **Traditional** - Find printed catalogs, browse the catalog, call the merchant
  - **Electronic** - logs onto the net, searches a portal, browses an online catalog
- **b) Placing the Order**
  - **Traditional** - Fill out order form by hand, calculate tax, shipping then fax or mail form
  - **Electronic** - Click on products to add to the shopping cart



## ***2) Order Processing***

- **a) Inventory Check**
  - Availability of product
- **b) Credit Check**
  - Status of B2B customer or CC authorize
- **c) Price Check**
  - Re-calculate price with discounts



## 3) *Fulfillment*

- **a) Fulfillment**
  - **Traditional** - Merchant receives mail, authorizes, check inventory & ships
  - **Electronic** - EC system communicates w/ other ERP systems, order shipped, status is available online
- **b) Payment**
  - **Traditional** - Write a check or fill out CC information on the order form & wait
  - **Electronic** - Fill out information online, verified immediately & order processed





# EC Categories



# ***Broad Categories of EC***

- **1) Business to consumer (B2C)**
  - traditional retail model
- **2) Business to business (B2B)**
  - trading partners, companies, customers`
- **3) Intra-organizational (B2E)**
  - within a single corporate entity



# 1) *B2C EC*

- **Marketing**
  - Deliver company information, technical specifications
- **Membership capture & maintenance**
  - Identify customers, buying preferences
- **Online sales**
- **Electronic payment**
- **Customer service**



## 2) ***B2B EC***

- **Catalog maintenance**
- **Procurement, purchasing, MRO**
- **Inventory management & control**
- **Distribution & logistics**
- **Supplier / channel management**
- **Trading partner management**
- **Billing & payment management**



### **3) B2E**

- **Workgroup communications**
  - Messaging & collaboration
- **Sales Force Automation**
  - integrate sales with rest of organization
- **Electronic publishing**
  - dissemination of documents
- **Human Resource management**
  - insurance, taxes, benefits

# Application Orientation

<b><i>E-Commerce Applications</i></b>	<b>Business to Business</b>	<b>Business to Consumer</b>
Supply Chain Management	X	
Electronic Bill Presentment & Payment (EBPP)	X	X
Corporate Procurement	X	
Digital Goods	X	X
Customer Service	X	X
Financial Services (Trading)	X	X
Financial Services (Banking)	X	X
Online Store Front	X	X



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# EC Applications



# ***EC Applications***

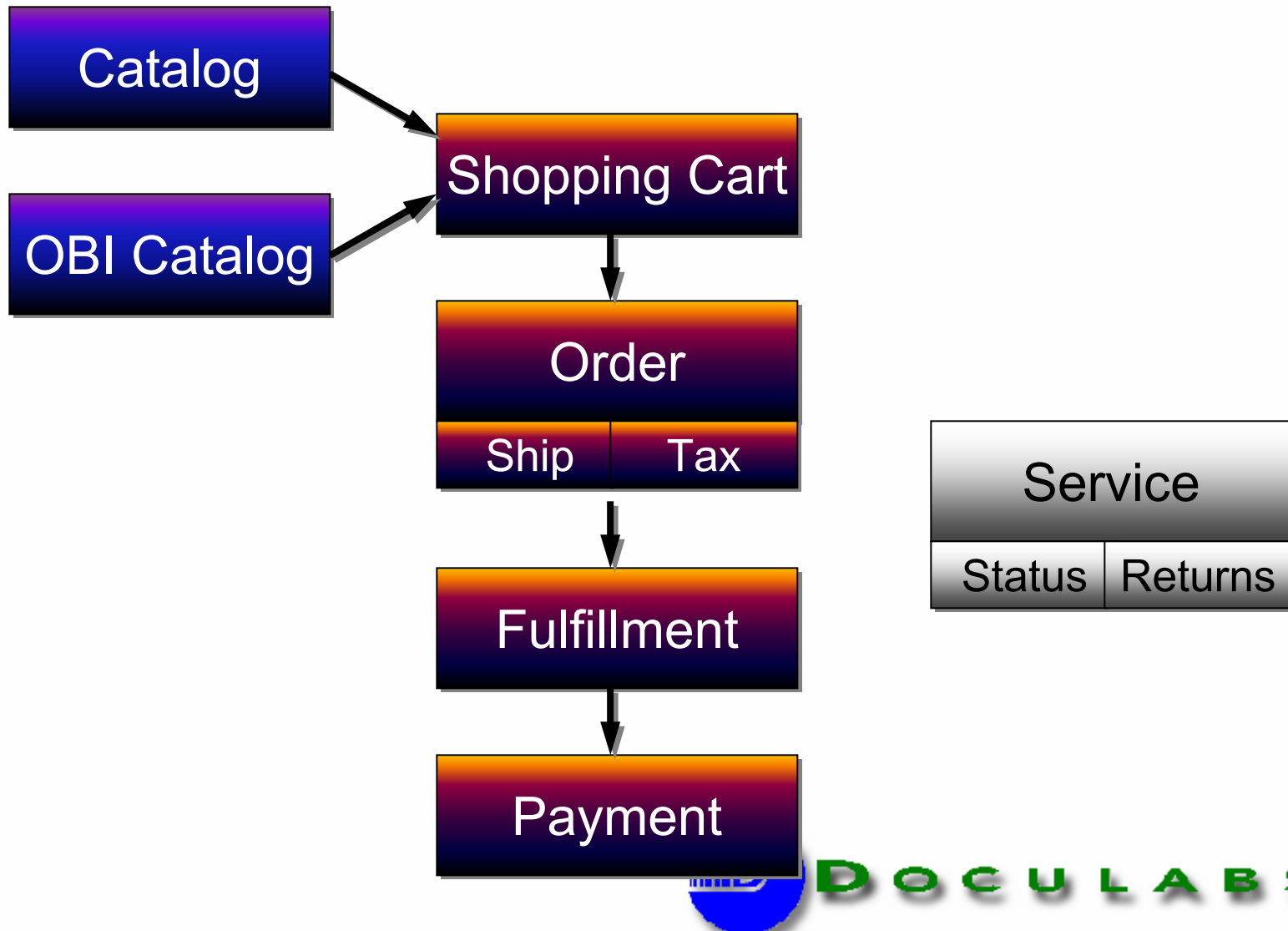
- **1) Sell-side**
  - Online advertising / marketing
  - Publishing
  - Customer Service
- **2) Buy-side**
  - Procurement
  - Supply chain management, TPM
  - Billing & payment
- **3) Marketplace**
  - Multi-buyer / multi-seller



# ***1) Sell-Side***

- **A new avenue for round-the-clock direct sales**
- **Comprised of**
  - **An online catalog**
  - **Order processing & fulfillment**
  - **Payment**
  - **Customer Service**

# Sell-Side Components





# ***Benefits of Sell-Side***

- Products are **available** for sale 24 hours a day, 365 days a year
- Decreased **cost** of sales & cost of billing
- Opportunity to create a **relationship** with customer
- Ability to **change** quickly

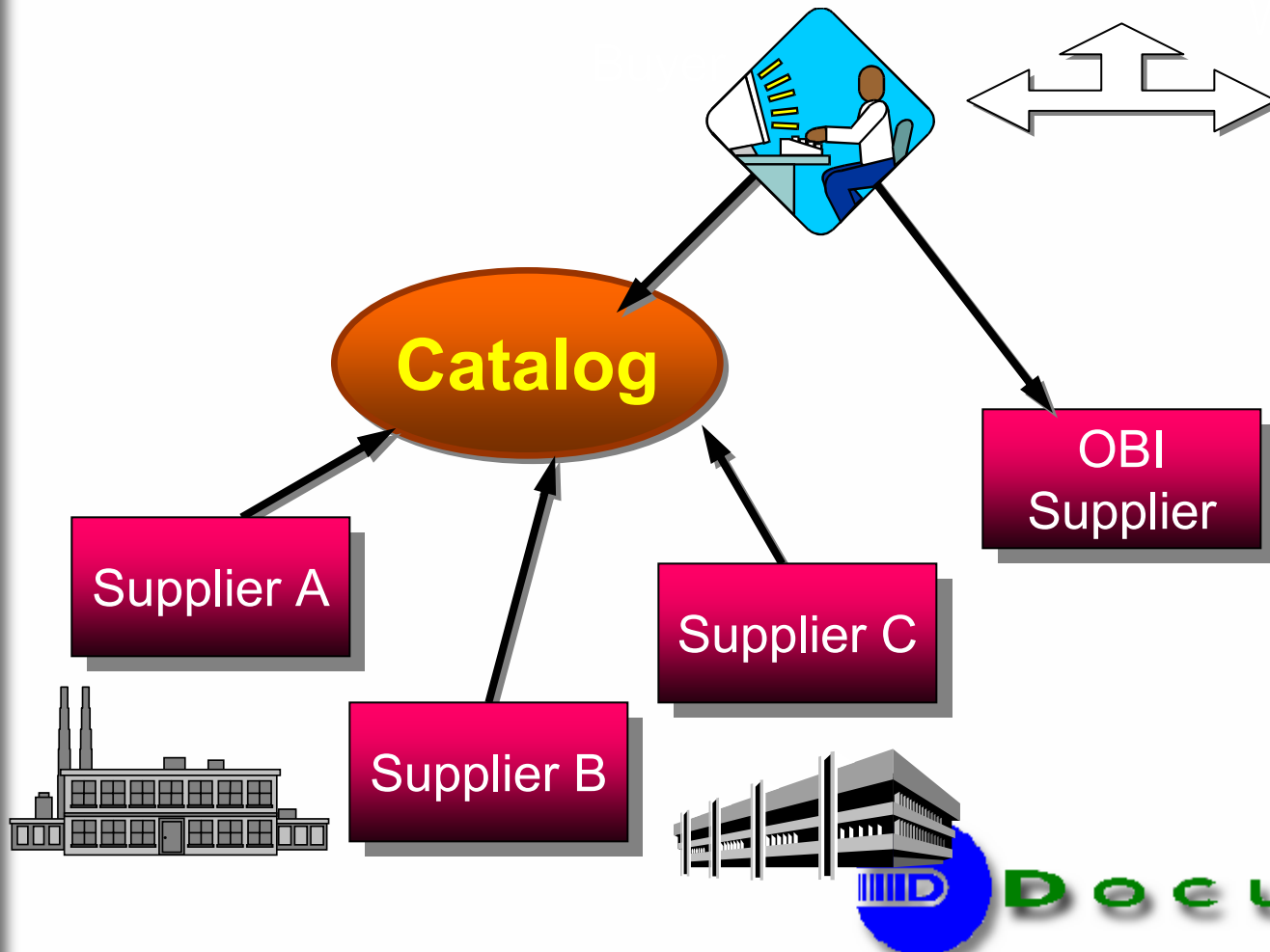
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## 2) *Buy-Side*

- Internal **procurement** of indirect resources
  - The acquisition of goods & services that do not directly affect what the organization manufactures
- **Workflow** process controls the creation of the requisition & approval cycle

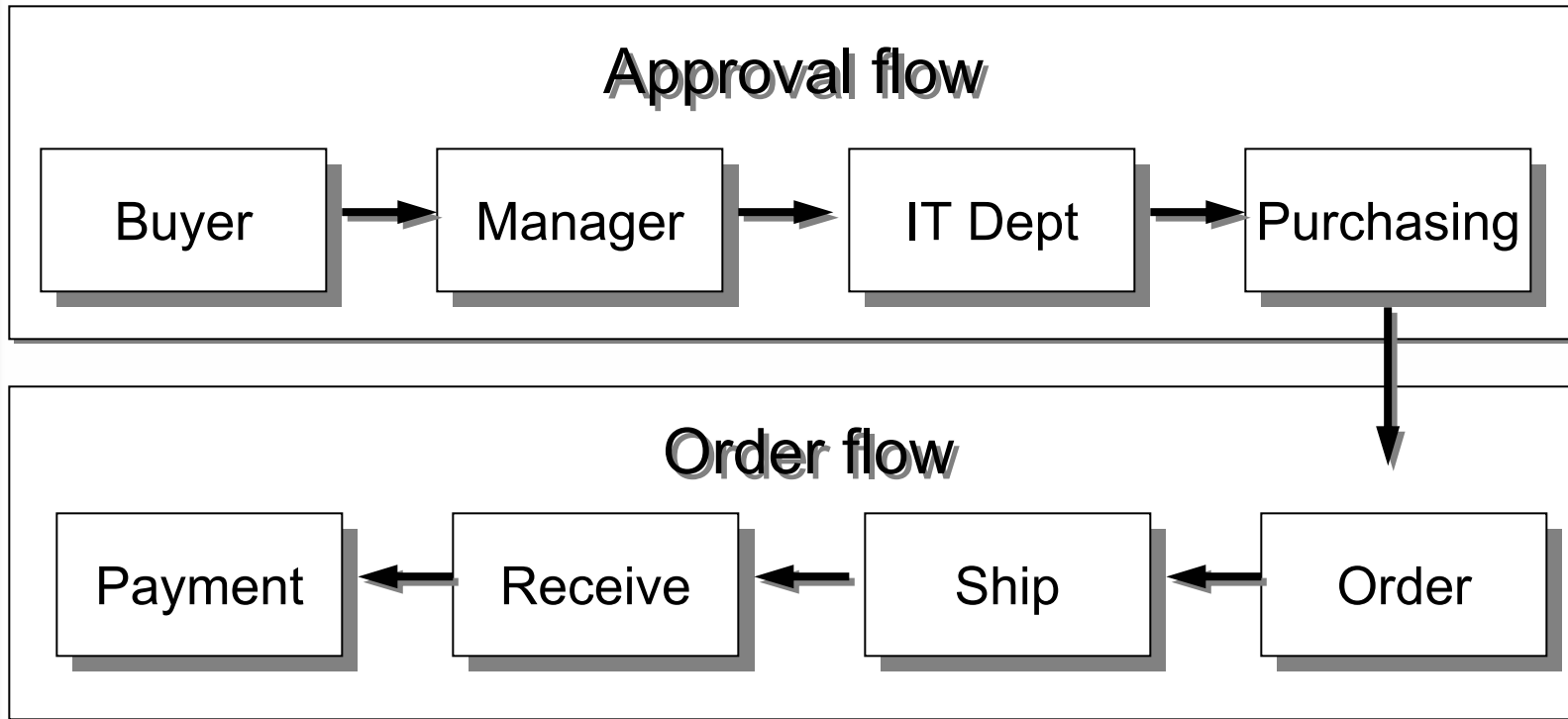


# *Buy-Side Flow*



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# Workflow





# ***Benefits of Buy-side EC***

- Reduce the number of **suppliers**
- Negotiate greater **discounts**
- Reduce maverick or **rogue** purchasing
- Reduce purchasing **staff**
- Possible to **re-cycle** goods in other areas of the company
- Streamline **purchasing** process & obtain necessary approvals
- Bottom line **profitability**



### 3) *Marketplace*

- A **virtual** market that does not have a physical counterpart
- **Connects** multiple buyers & sellers in a single marketplace
- Similar to an **auction** in concept but developing along **vertical** market lines

# Market Place



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# ***Benefits of a Marketplace***

- Brings together **buyers & sellers** in a single market
- **Outlet** for selling excess inventory or making specialty purchases
- Potential for creating **virtual** organizations





# Approaches for E-Commerce



# ***Approaches for E-Commerce***

- **1) Internal Development**
  - a) Build from scratch
  - b) Leverage middleware (WAD)
  - c) Develop using toolkits
- **2) Use packaged applications**
- **3) Outsource E-Commerce**

# 1) *Build from Scratch*

## Payment

**Admin &  
Maintenance**

**Analysis**

**Marketing**

**Other...**

**Inventory**

**Catalog/  
Order**

**Shipping**

**Other...**

## System Services

	Homegrown		Purchased
	Outsourced		Toolkit

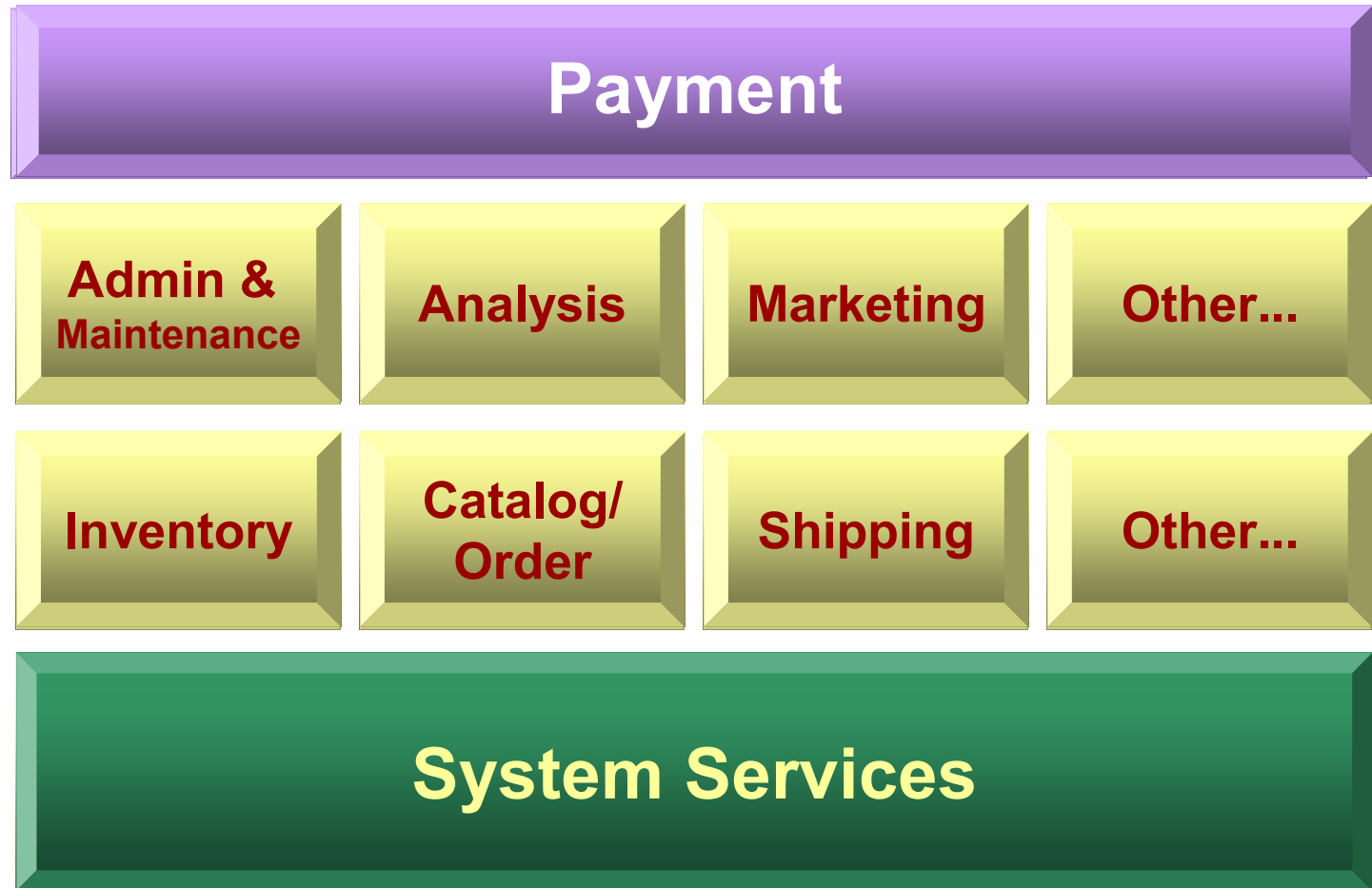




# ***Approaches for E-Commerce***

- **Build from scratch**
  - **Pros**
    - Fully **customizable**
    - Meets specific business **requirements**
    - Ensure **interoperability** with existing infrastructure
  - **Cons**
    - **Resource** intensive
    - Hard to keep up with **innovation**
    - High cost of **maintenance**
    - **Time** consuming

## 2) *Leverage Middleware*



 Homegrown    Purchased  
 Outsourced    Toolkit



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# *Approaches for E-Commerce*

- **Leverage middleware**
  - **Pros**
    - Reduce development **costs**
    - Still a **flexible** solution
    - **Scalability, reliability & availability** (attained at a much lower cost)
  - **Cons**
    - **Resource** intensive, development talent
    - **Innovation** for vertical E-Commerce areas
    - **Time** consuming

### 3) *E-Commerce Toolkits*

#### Payment

Admin &  
Maintenance

Analysis

Marketing

Other...

Inventory

Catalog/  
Order

Shipping

Other...

#### System Services

	Homegrown		Purchased
	Outsourced		Toolkit



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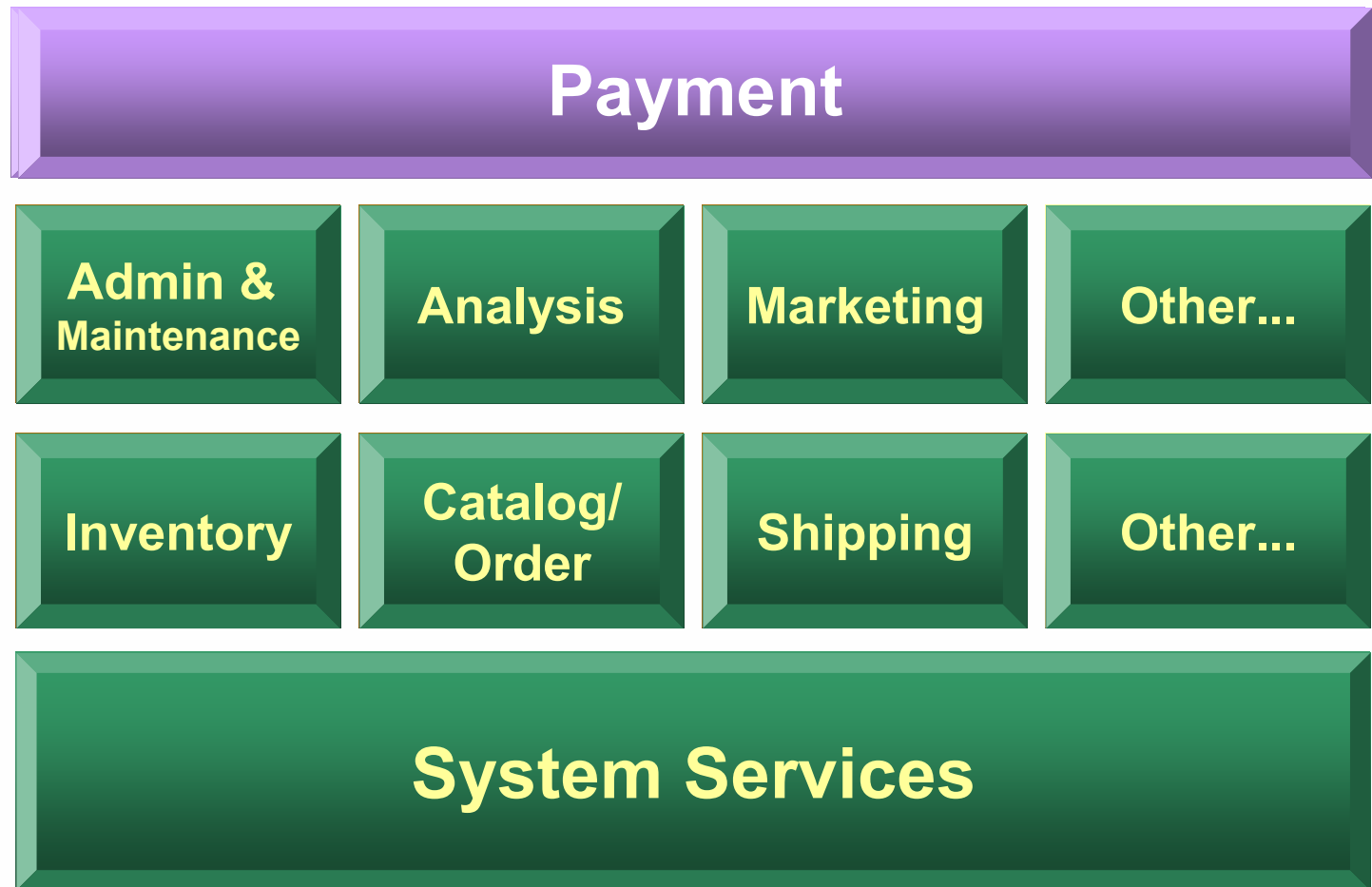




# ***Approaches for E-Commerce***

- **Develop using toolkits**
  - **Pros**
    - Further reduce development **costs**
    - **Leverage** E-Commerce innovations
    - Maintain great degree of **flexibility**
  - **Cons**
    - **Resource** intensive, development talent
    - Sometimes, **scope** can be too limited & not suit your specific business needs

## 4) *Packaged Applications*



 Homegrown  Purchased  
 Outsourced  Toolkit





# ***Approaches for E-Commerce***

- **Use packaged applications**
  - **Pros**
    - Potentially **fastest** time to market
    - Doesn't require extensive programming **expertise**
    - Provides a **roadmap** of how to proceed
  - **Cons**
    - Can prove to be **inflexible** for specific business requirements
    - Software **costs** can tend to be high

## 5) *Outsource*

### Payment

Admin &  
Maintenance

Analysis

Marketing

Other...

Inventory

Catalog/  
Order

Shipping

Other...

### System Services

	Homegrown		Purchased
	Outsourced		Toolkit





# ***Outsource Characteristics***

- **Multi-merchant** platform - unique domain name
- **Division of maintenance** between host & merchant (self-provisioning)
- Ability to **charge** for services in a variety of ways
- Highly **detailed** packaged capabilities



# *Approaches for E-Commerce*

- **Outsource E-Commerce**

- **Pros**

- Don't need to build & maintain an **infrastructure**
    - Ideal for **SME's**
    - **Reliability/availability** issues are outsourced

- **Cons**

- Pricing model can tend to get **expensive**
    - Fundamental approach might conflict with large organization's **philosophy**
    - Lack of total **control**



# EC Benchmark Study





# ***Participants***

- **Ariba**
- **ConnectInc.Com**
- **IBM**
- **Microsoft**
- **Netscape**
- **Open Market**
- **TRADE'ex**



## ***Doculabs' EC Test Team***

- **Business Analyst(s)**
- **Technology Analyst(s)**
- **Database Designer/Programmer**
- **Network Technician**
- **InformationWeek Editor**
- **Network Computing Editor**
- **End-users**



# ***Our Methodology***

## **■ 1) Market Positioning Comparison**

- General Product Approach**
- General Product Category**

## **2) Low Level Comparison**

**Commerce Capabilities (buy side, sell side)**  
**System Services**

## **3) High Level Comparison**

**Commerce Requirements**  
**Business Requirements**  
**Resource Requirements**  
**Technical Requirements**

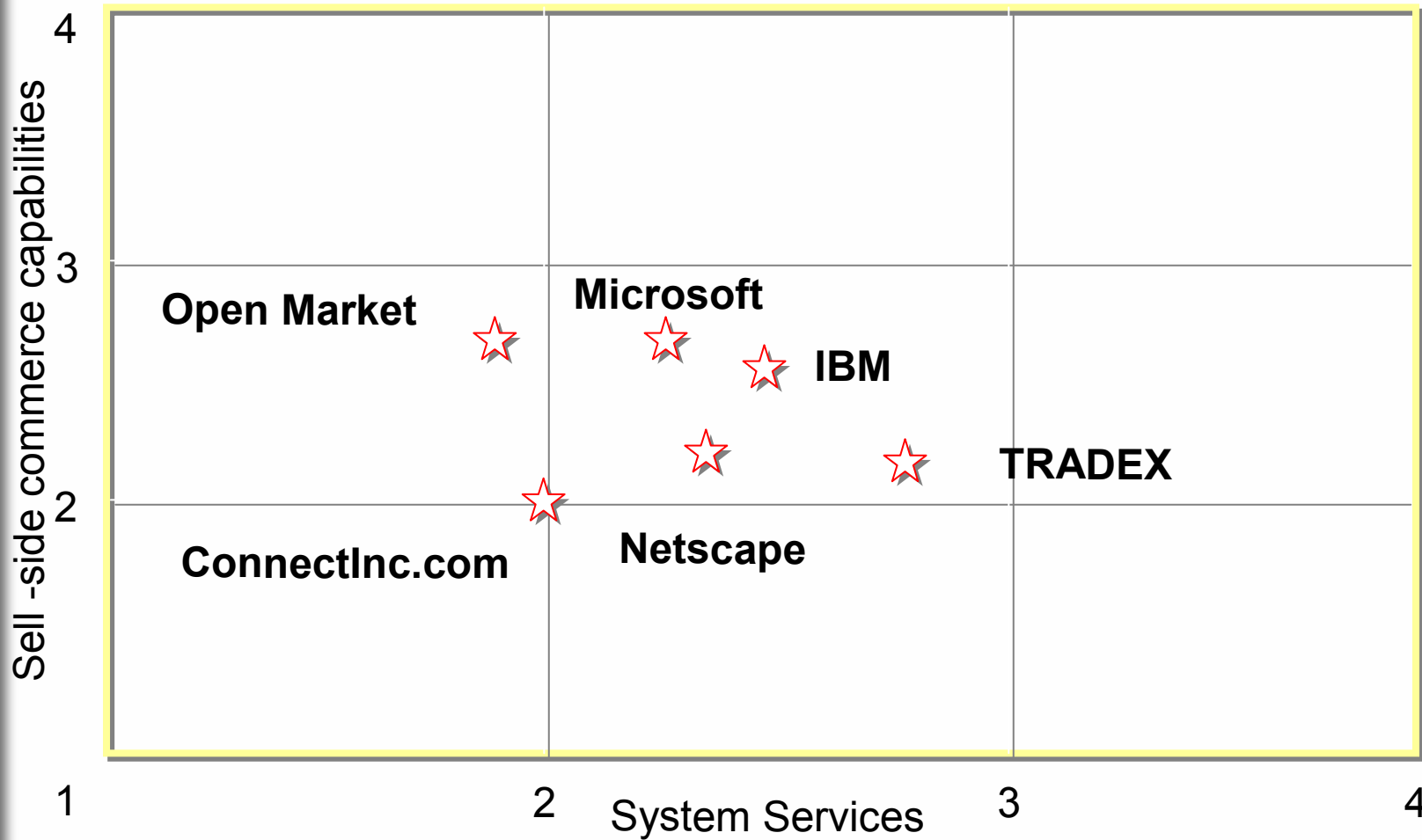
# Combined Market View

Host	Netscape	TRADEX	IBM, Netscape, Open Market
Packaged	Ariba, TRADEX, Netscape	TRADEX, ConnectInc.com	IBM, TRADEX, Open Market, Netscape
Toolkit	Microsoft, ConnectInc.com	ConnectInc.com	IBM, ConnectInc.com, Microsoft
	Buy	Marketplace	Sell



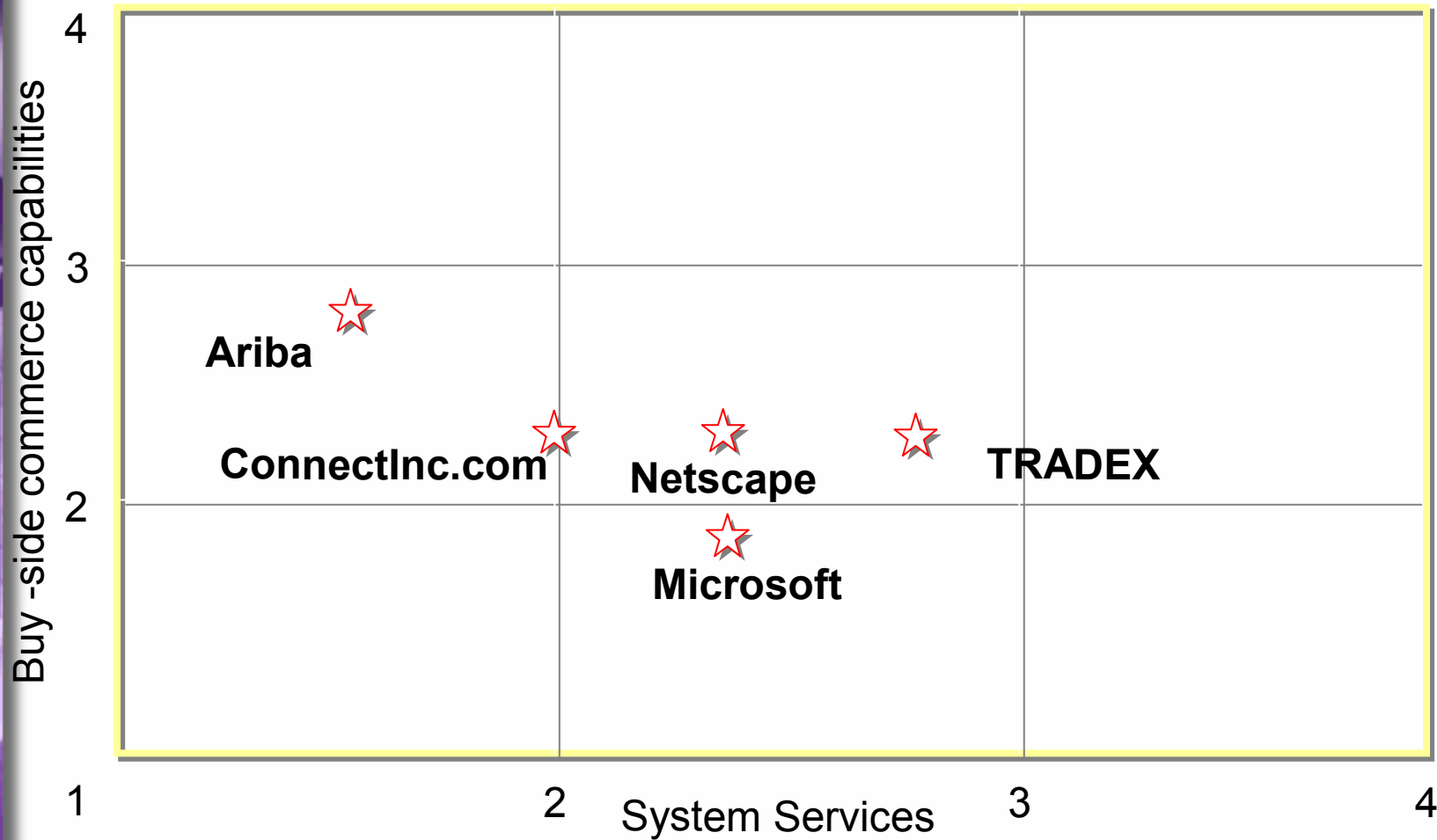
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# Low-level Criteria - Sell



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# Low-level Criteria - Buy



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# *High-level Criteria*

- **1) Commerce Requirements**
  - **Ease** of use
  - **Merchandising** (Sell Side)
  - **Extended** services (Buy Side)
- **2) Business Requirements**
  - **Integration**
  - Order processing and **reporting**





# *High-level Criteria*

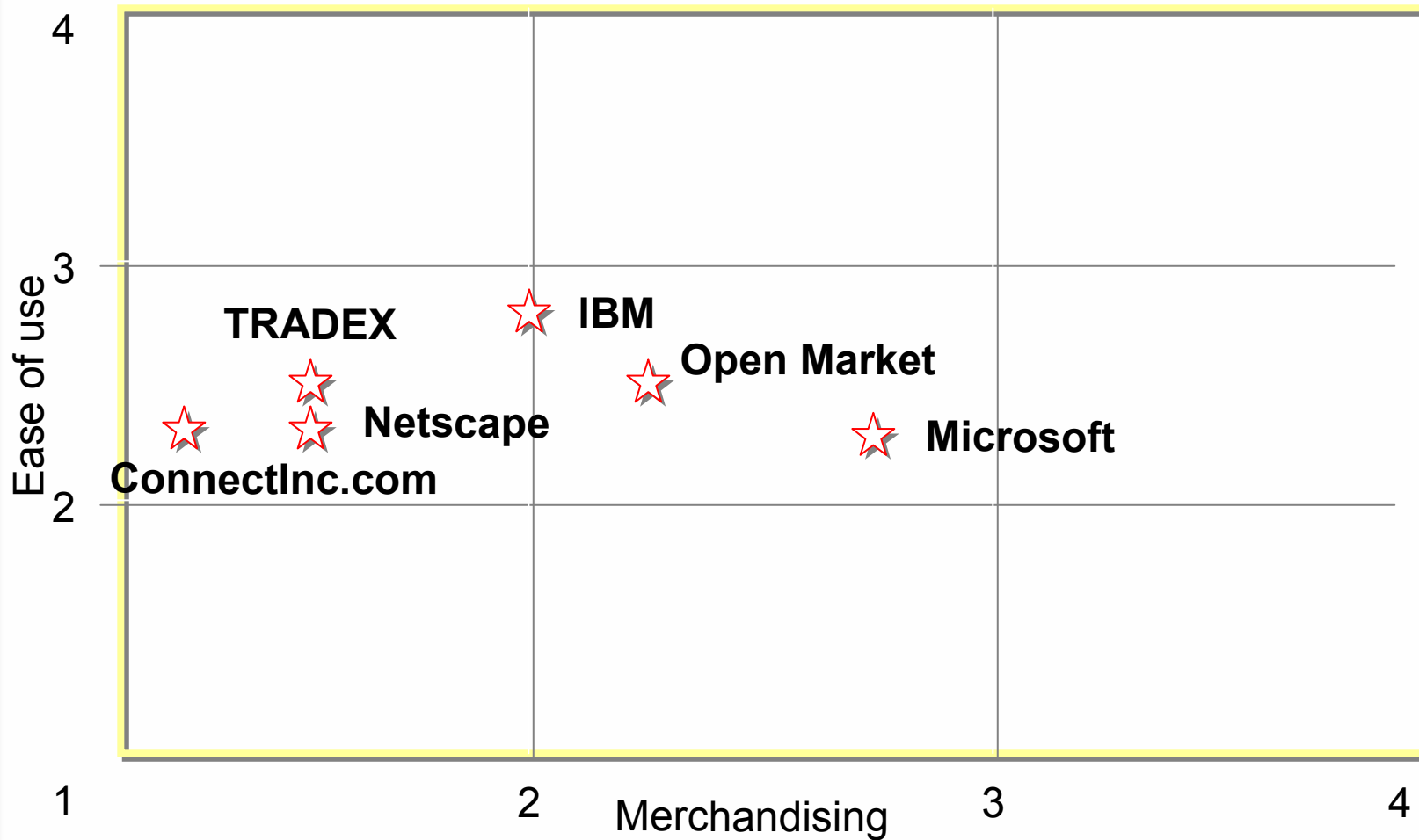
- **3) Resource Requirements**
  - Ease of **deployment**
  - **Development and administration capabilities**
- **4) Technical Requirements**
  - **Flexibility and standards**
  - **Robustness**



# Commerce Requirements (Sell)

- 1) Ease of use
  - Membership services
  - Catalog searching
  - Catalog presentation
  - Personalization
  - Customer service
- 2) Merchandising
  - Discounting, pricing
  - Coupons and gift
  - Cross-, up-, substitute-sell
  - Sales assistance
  - Sales configuration

# Commerce Requirements (Sell)



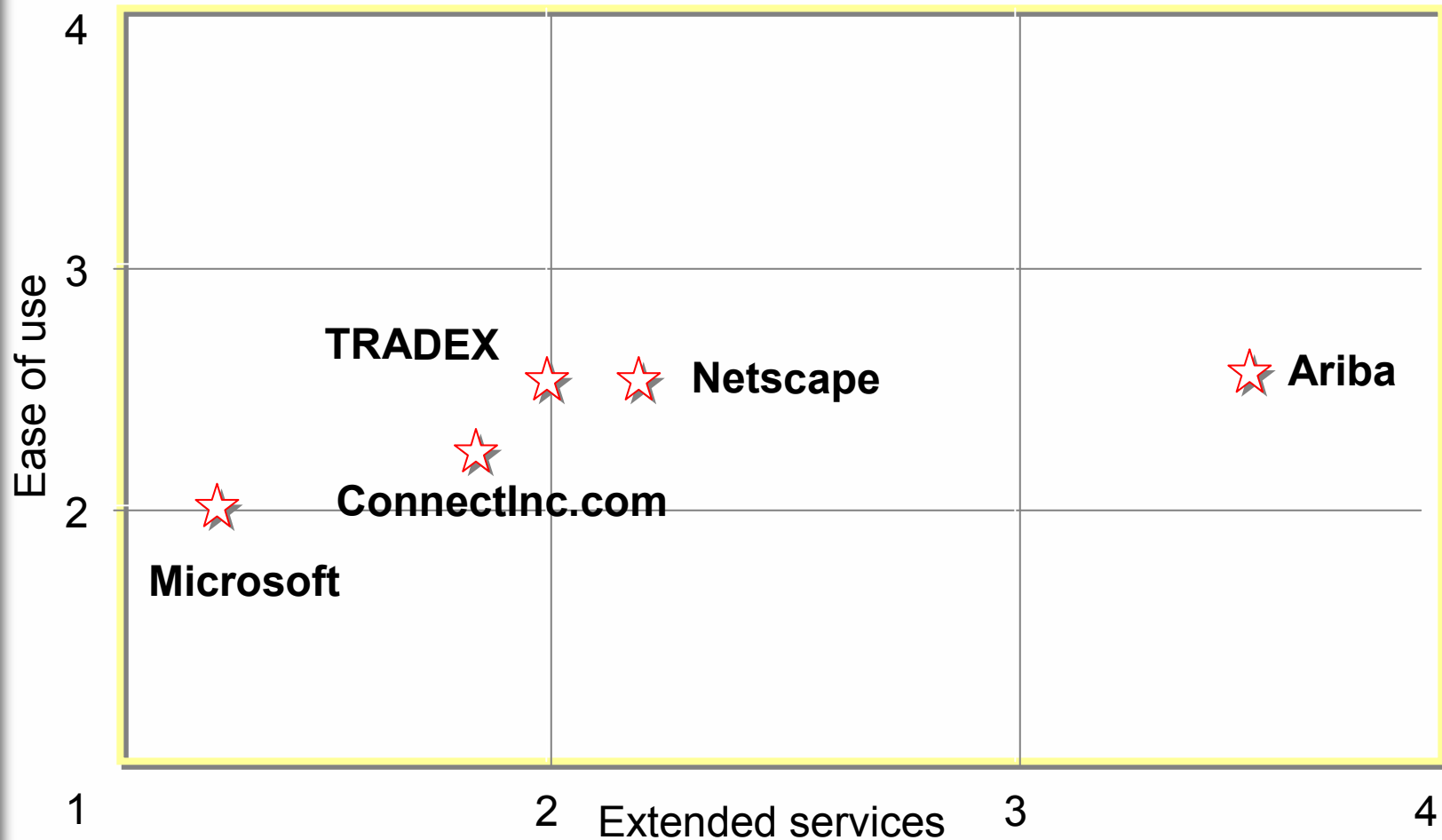
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# *Commerce Requirements (Buy)*

- Ease of use
  - Membership services
  - Catalog searching
  - Catalog presentation
  - Customer service
- Extended services
  - Contract services
  - Travel and expenses
  - Recycled goods
  - Cost accounting

# Commerce Requirements (Buy)



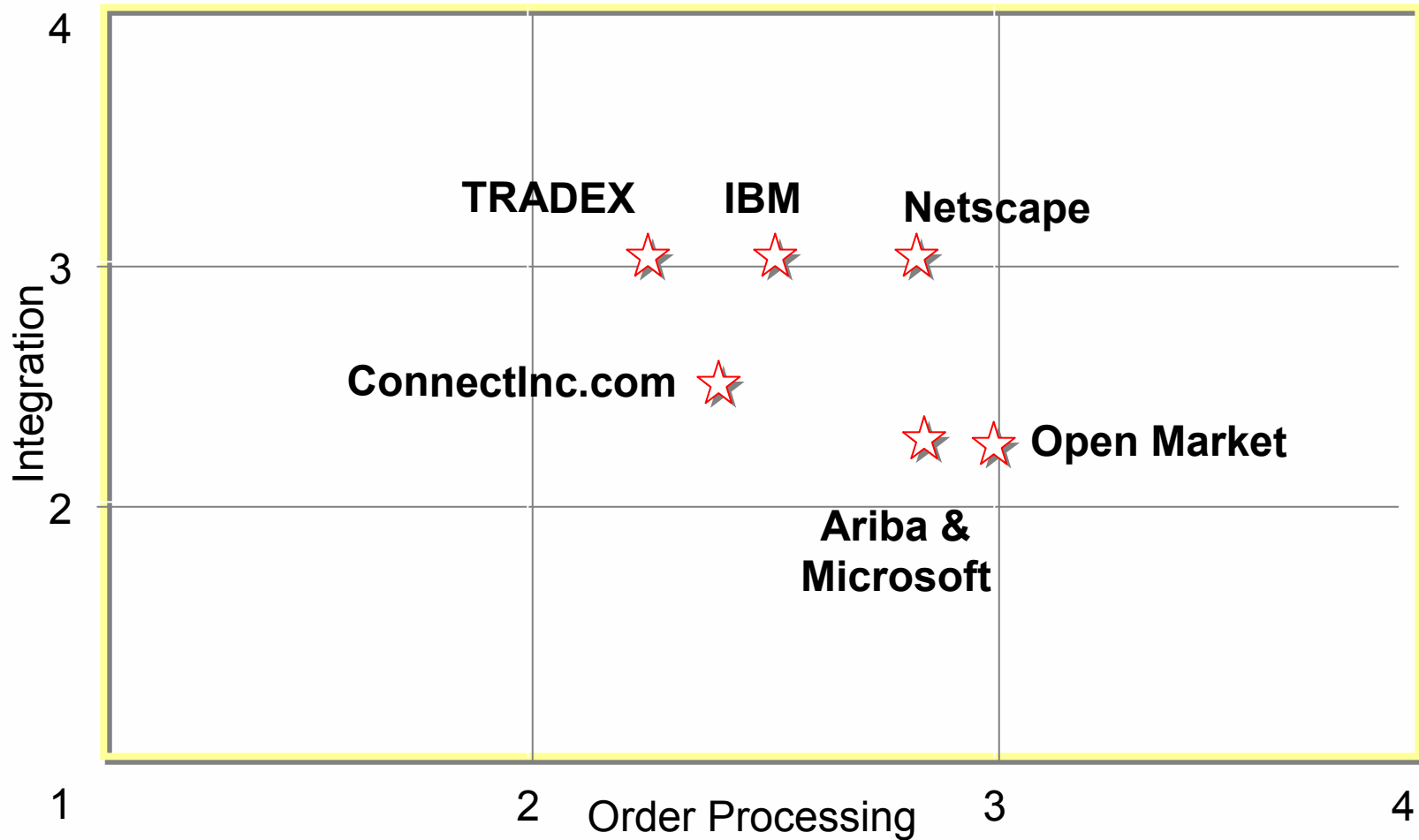
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# ***Business Requirements***

- Integration
  - **Connect** to legacy
  - Connect to apps
  - Catalog maintenance
  - Connect to partners
- Order processing
  - **Workflow** processing
  - Order processing
  - Freight and tax
  - Order **fulfillment**
  - Payment methods
  - **Reporting**

# ***Business Requirements***



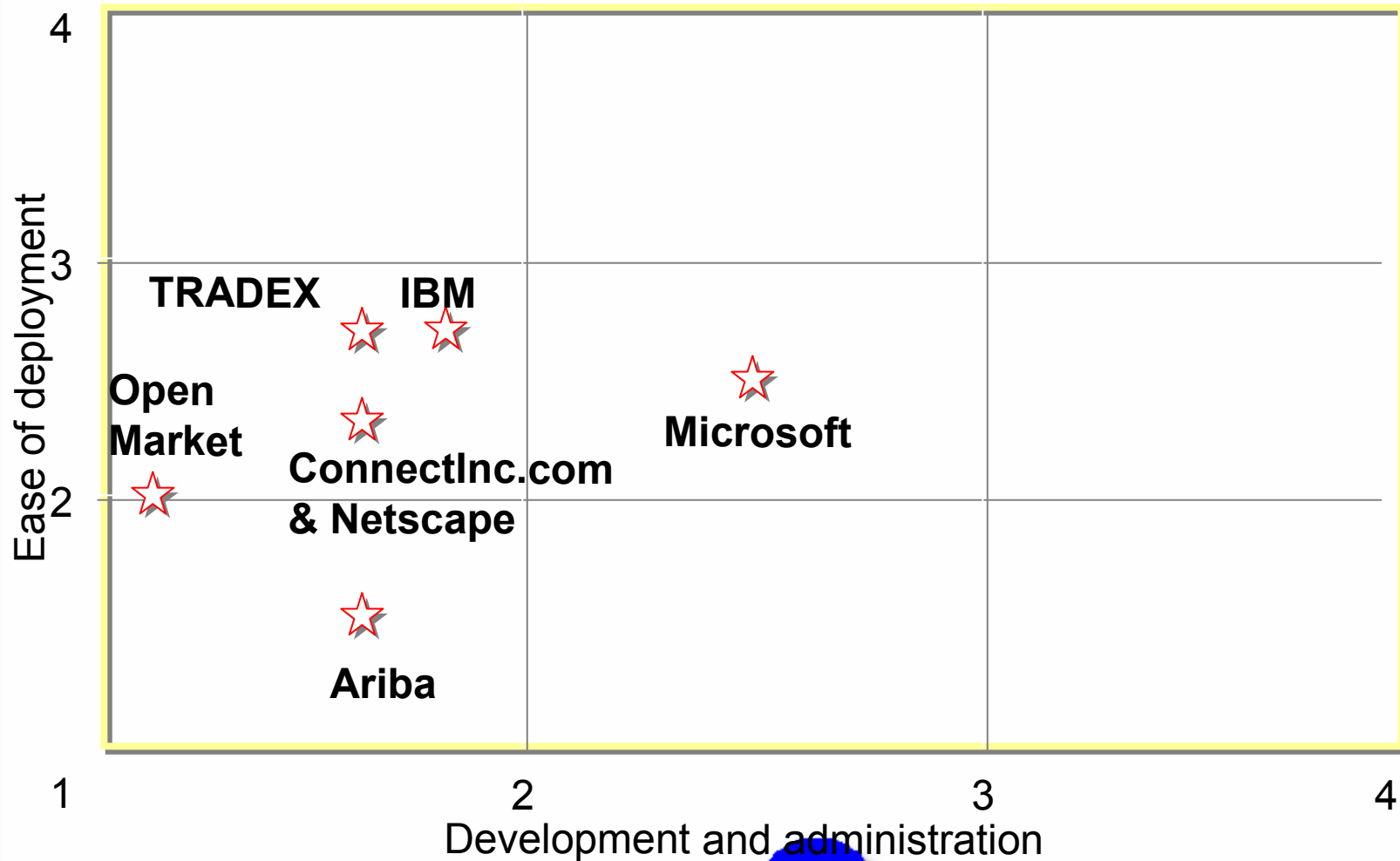
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# Resource Requirements

- Ease of deployment
  - Setup, configuration
  - Developer assistance
  - Support for skill levels
  - Support components
  - Project management
- Development and administration
  - IDE
  - Code analysis, debug
  - Source control
  - Administration
  - Site usage analysis

# Resource Requirements



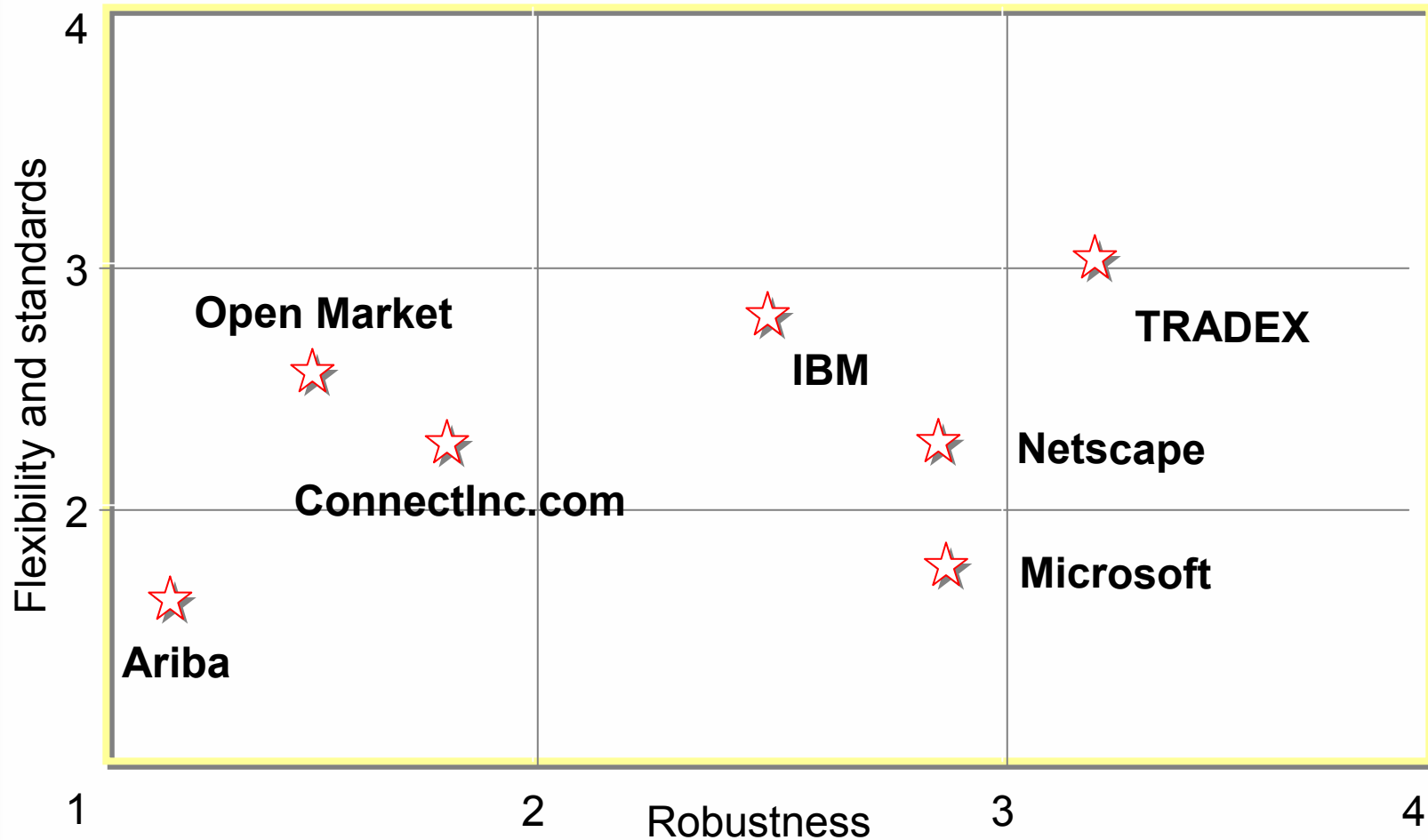
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# *Technical Requirements*

- Flexibility and standards
  - Database **support**
  - Browser support
  - Server support
  - Client standards
  - Catalog standards
  - Foreign language
- Robustness
  - **Load balancing**
  - Transaction processing
  - Security
  - **Scalability**
  - Fault tolerance
  - **Distributed model**

# Technical Requirements



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# High Level Observations

***EC Vendors***

# 1) *Ariba*

- **Packaged buy-side application**
- **Rich interface, extensive functionality**
- **MRO, expenses, travel**
- **Robust workflow implementation**
- **Architecture is a single UNIX application server**

## 2) *ConnectInc.Com*

- **Packaged applications for sell, buy & marketplace**
- **Short implementation time**
- **Open commerce framework**
- **Transitioning from product vendor to services**



### 3) *IBM*

- **Toolkit approach for sell-side applications**
- **Powerful integration methodology**
- **Unique catalog searching capabilities**
- **Scalable, distributed architecture**
- **Not integrated with WebSphere**

## ***4) Microsoft***

- **Site Server Commerce Edition**
- **Toolkit approach, sell & buy side with extensive setup wizards**
- **Heavy development requirements**
- **Pipeline architecture - extensible**
- **All-Microsoft platform**



## 5) Netscape

- **Packaged applications**
- **Buy, sell, marketplace & EDI**
- **Support for low-tech trading partners**
- **Great standards support**
- **Scalable, distributed architecture**
  - **CORBA**



## ***6) Open Market***

- **First EC vendor package solution**
- **Rich functionality**
- **Robust catalog functionality**
- **Publishing solution - Folio**
- **Commerce service providers**
- **Single server architecture**



## 7) *TRADE'ex*

- **Package applications for sell, buy & marketplace**
- **Java client - 350k**
- **Great marketplace functionality**
- **Robust architecture**



# Summary



# ***Summary***

- **1) Categories**
  - B2C
  - B2B
  - B2E
- **2) Applications**
  - Buy
  - Marketplace
  - Sell
- **3) Approach**
  - Toolkit
    - WAD
    - EC
  - Package
  - Host





# ***Summary***

- **Apply Anna's Principle**
- **To determine the best fit for you, you must evaluate the technology in detail**
- **You must not consider EC implementations in isolation, but rather as a strategic direction**
- **Tell us what vendors you want us to Benchmark!!**



# ***Exploit Us***

- This presentation
- Ask me for info on EC, Web Application Development, CRM, ASPs, DM, Workflow, Imaging, Input, Storage, COLD, etc.
- “Helper Docs” to get you started (survey samples, “enabling conditions”, methodology material)
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