What is Business Intelligence and Performance Management

And Why Should I Care?

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Topics

- What is Business Intelligence (BI)?
- What is Performance Management (PM)?
- Case Studies



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IT – Driven by Four Major Business Challenges

- Businesses are putting increasing pressure on IT to:
  - Improve business processes – more effective, more integrated, more workflow-oriented
  - Increase operational proficiency – create a world-class technology infrastructure, data management
  - Monitor risk and ensure compliance – better alert system for vagaries, faster detection
  - Boost employee productivity – do more with less, ensure collaboration

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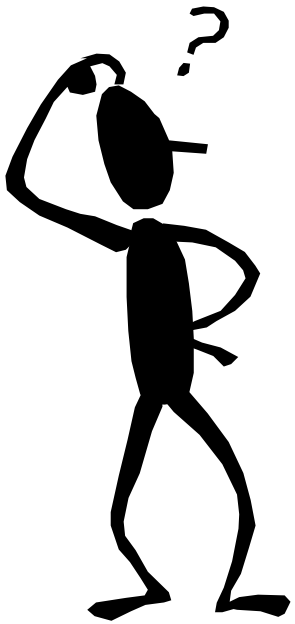
What IT Has To Deal With…

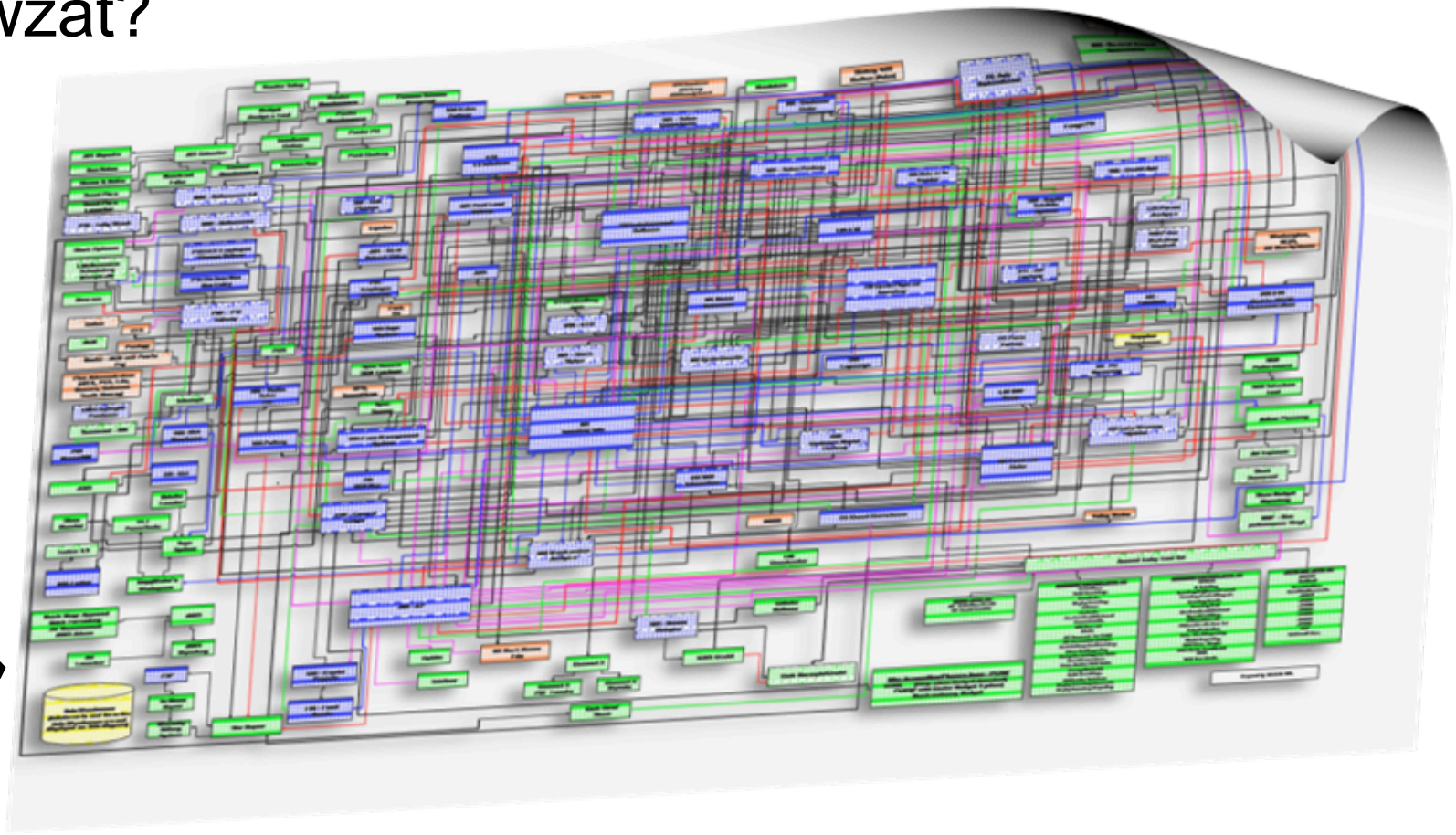
- IT systems organically evolved over time
  - Separate operational systems for AP, AR, GL, order entry, billing, reporting, etc.
  - Each duplicates (almost) core data to perform its tasks
- Many companies have multiple, duplicate systems
  - Mergers and acquisitions
  - Independent subdivisions
  - International versus domestic

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What IT Has To Deal With…

- Howzat?





Source: IBM Corporation

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These Result in Chaos

- Reports from multiple operational systems do not match
  - Sales figures don't match
  - Financial figures are in disagreement
  - Detail reports don't add up to summary reports
- Management has trouble accessing a corporate wide picture:
  - What kinds of customers do we have?
  - Why do customers buy our products – or our competitors'?
  - Are we losing money?

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The Result: Business Intelligence

- An environment in which business users receive data that is:
  - Reliable
  - Consistent
  - Understandable
  - Easily manipulated
- For analyses that yield an overall understanding of:
  - Where the business has been
  - Where it is now
  - And where it will be in the near future

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Topics

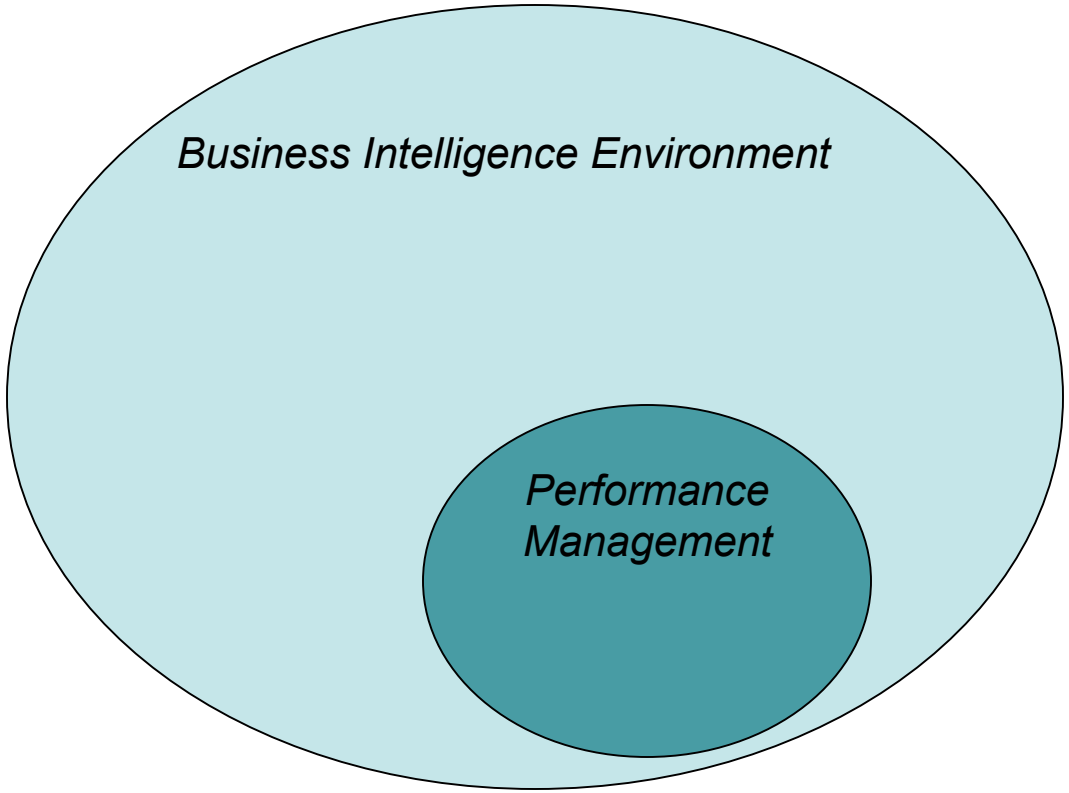
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BI and PM

- BI encompasses the entire analytic environment
- PM is a subset of BI:



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Performance Management (PM)

- PM – a set of processes that enable businesses to define strategic goals, then measure and analyze performance against those goals
  - "Framework for organizing, automating, and analyzing business methodologies, metrics, processes, and systems that drive business performance" Source Wikipedia
  - Also known as business PM (BPM), corporate PM (CPM), enterprise PM (EPM), operational PM (OPM)

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Performance Management

- Enables companies to better understand their business
  - Determine business processes that are key to success
  - Identify activities and rules associated with key processes
  - Identify inefficient activities associated with key processes
- Puts business intelligence into a business context
  - Business plans and budgets and forecasts
  - Marketing campaigns
  - Historical information and patterns
- PM provides key performance indicators (KPIs)
  - “You cannot manage what you cannot measure”

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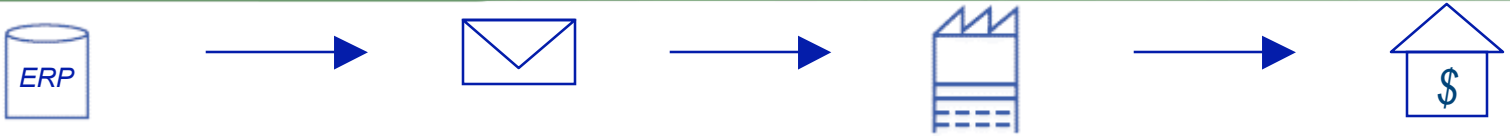


What Do You Measure?

- KPI examples include:
  - Customer-related metrics – new customers, customer churn, status of existing customers
  - Financial metrics – outstanding balances, bad debt collection
  - Profitability metrics – products, customers, channels
  - Marketing channel metrics – campaigns, channel effectiveness
  - Call center metrics – call time, number of calls per hour
  - Click stream metrics
  - Manufacturing metrics – production, logistics, shipping metrics

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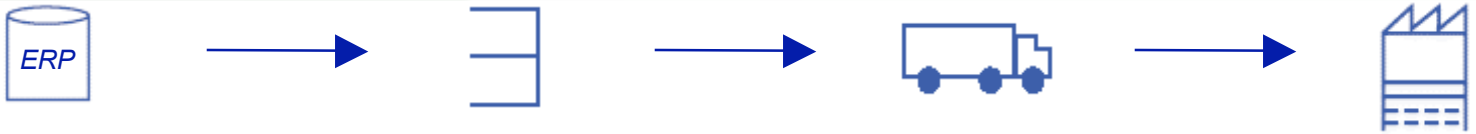
Invoice to Cash



Invoice Metrics	*Mail Metrics*	*Customer Metrics*	*Receipt Metrics*
No. of Invoices Created *Value of Invoices Created* *No. of Invoices in Error* *Value of Invoices in Error*	*No. of Invoices Sent* *Value of Invoices Sent*	*No. of Invoices in Dispute* *Value of Invoices in Dispute* *No. of Customers with Invoices in Dispute*	*Cash Received* *AR DSO – 30* *AR DSO – 60* *AR DSO – 90* *AR DSO – >90*
Dimensions	***Dimensions***	***Dimensions***	***Dimensions***
Division / Product Line	*Division / Product Line*	*Division / Product Line*	*Division / Product Line*

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Order to Fulfillment



Customer Orders	Distribution Center	Transport	Customer
Metrics	**Metrics**	**Metrics**	**Metrics**
# Orders (New) Value of Orders (New) # Orders (Open) Value of Orders (Open) # Orders with Errors Value of Orders with Errors # Backorder Lines Value of Backorders	# Orders Ready to Pick # Orders Picked # Order Lines - 0 Picked # Orders Shipped On Time #Orders Shipped Complete # Order Lines Late # Units Returned Value of Units Returned	# Order Lines Shipped – UPS # Order Lines Shipped - Freight # Packages Shipped # Order Lines Shipped by Freight to Secondary W/house	# Units Returned – Error Value of Units Returned - Error # Units Returned – Rejects Value of Units Returned – Rej.
Dimensions	**Dimensions**	**Dimensions**	**Dimensions**
Division / Product Line Order Type Order Promise Time	Division / Product Line	Division / Product Line Shipping Category	Division / Product Line

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Using BI Throughout the Enterprise

- Sales and Marketing – understand customer needs and respond to new market opportunities, gauging the effects of pricing and promotions, analyzing buying behaviors to cross sell, targeting customer segments
- Product Development – access to critical customer and market data, as well as supplier information, to determine solid cost-benefit analyses about features and materials
- Operations – a mechanism to analyze quality control, inventory management and production planning performance
- Customer Service – accurately assess value of market segments and individual customers plus determine retention strategies for most profitable customers



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Examples

- BI at work:
  - Fraud detection
  - Customer churn
  - Online promotion optimization
  - Location-based offers
  - Contact optimization
  - Supply chain improvements

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Fraud Detection

- Retail fraud: detect thieves picking up new merchandise in store and “returning” it for cash
- Insurance fraud: detect fraudulent claims BEFORE they get paid
- Telecom fraud: detect fraudulent phone calls in real-time
- Credit card fraud: detect fraudulent transactions within seconds

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Customer Churn

- Determine potentially churning customer and intervene (offer coupons, special products, new service plans, etc.)
- Offer VIP service to high value customer having bad experiences
  - Disrupted travel / baggage missing flight
  - Major losses at gaming tables
  - Numerous dropped calls
  - Order out of stock or delayed delivery

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Online Promotions

- Real-time campaigns
  - Adjust pricing and offers every few minutes
  - Customer retention increased
- Faster reaction to supply-demand imbalances
- Immediate customer metrics
  - New customer, retention, repeat buys
  - Average revenue, profit, etc.
- Faster operational (merchandizing) reports
  - Better insights for category managers on demand creation effects and price elasticity

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Location-based Offers

- Empower local stores to do own special events and promotions
  - Means non-technical, in-store personnel must be able to select customer groups based on local criteria
- Appropriate reminder and incentive offers
  - Help busy Mom manage her responsibilities (favorite meal options, etc.)
- Exclusive invitations, coupons, etc., pushed to mobile devices based on consumer history, proximity to store

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Contact Optimization

- Improve effectiveness through customized coupons
- Improve traffic in stores, through call centers, etc.
- Reduce “mixed signals” from different channels
- Dialogues drive individualized next-best-offer recommendations *during* the call
- Perform constant campaign and response rate testing and refinements

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Supply Chain Improvements

- Dynamically optimize inventory levels – reduce “out of stock” situations
- Alter production based on real demand
- Handle queries about customer and order statuses immediately
- Decrease order-to-delivery time significantly
- Single view of entire supply chain
- Manage supplier deliveries to obtain “just-in-time” inventory and production

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A Cautionary Note!

- BI and PM adoption struggles due to problems with people or process – not technology
  - Non-collaboration across departments
  - Involvement of only executives – not all employees
  - Misunderstanding or lack of understanding of operational processes
  - Mismatched goals and metrics
- These must be resolved at people and process level – not at technology level
  - Increases complexity of implementing this environment

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Recommended BI References

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Books

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- Building the Customer Centric Enterprise: Data Warehousing Techniques for Supporting Customer Relationship Management
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