



Customer Relationship Management Security & Controls

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Contact Information:

Peter Rosenzweig
Deloitte & Touche LLP
Enterprise Risk Services
Los Angeles, California
Phone: (213) 996-4838
Email: prosenzweig@deloitte.com



CRM – The Security and Controls Challenge – Introduction


The integration of *Customer Relationship Management* (CRM) strategies has traditionally posed a great challenge for internal and external auditors, security professionals, and other security stakeholders.

While security and controls always have to be carefully balanced between the value of protected information and the cost of control measures, it is often ignorance about CRM in general, which prevents the implementation of effective security solutions.

The following three factors are commonly underestimated when organizations fail to properly articulate their risk exposure within a CRM environment:

WHAT...?

Tangible




Intangible

Example: How does the customer's perception of our service delivery impact the CRM strategy and profits.

WHEN...?

Operational




Strategic

Example: What are the implications of compromised customer data on future funding, product design, etc.

HOW MUCH...?

Quantifiable



Non-Quantifiable

Example: What is the value of a customer, brand image, increased product liability and risk of litigation, etc.



A CRM Primer – The Birth of Customer Relationship Management

The rise of the Internet and falling geographic and regulatory barriers have empowered customers and increased the competitive pressure on organizations. In many cases, the abundance of suppliers has transformed products and services into commodities, resulting in severe price wars and declining profitability.

CRM strategies acknowledge that customers *ARE NOT* equal and require personalized communications and customer-centric sales strategies. As a result, customers are not simply presented with products, but receive customized solutions that address specific needs and help the organization to build long-lasting relationships. This strategy shifts the customer focus from pricing to brand/firm loyalty.

- **Who is our customer ?**
- **What does the customer value ?**
- **What are our results ?**
- **What is our plan ?**

Source: "The First Action Requirement of Leadership", Peter F. Drucker

CRM applications provide the technological platform to support the dialogue with customer and find answers to the questions stated above.



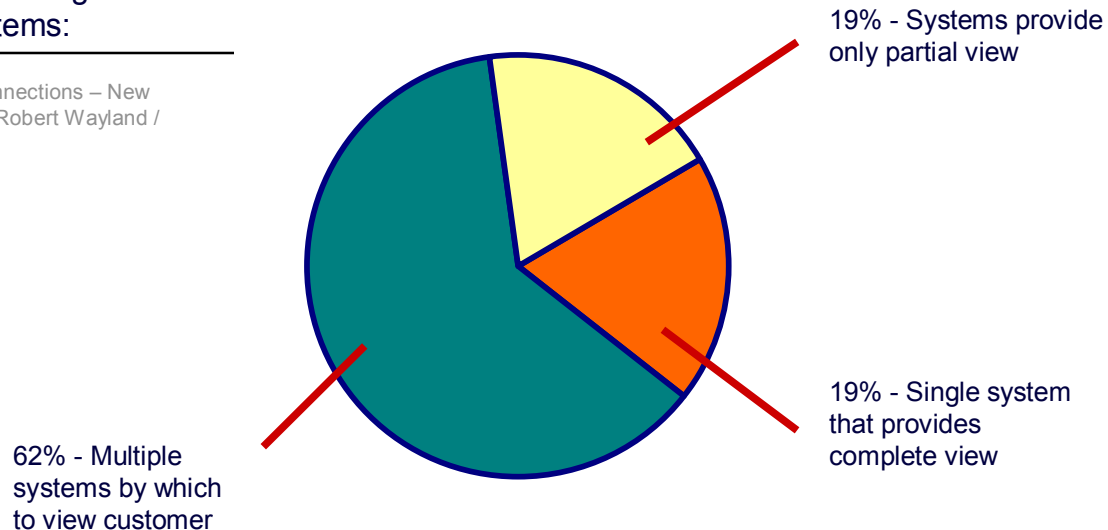
A CRM Primer – Centralization of System Resources and Data

At the core of each customer-centric business strategy, a 360-degree view of customers and markets has to be developed to personalize the interaction based on particular needs. CRM applications provide the platform to support the collection, analysis, and distribution of customer information, while integrating multiple data entry points.

A study among Fortune1000 companies revealed that many organizations still lack integrated systems to consolidate knowledge about customers (see graph). However, the integration itself can pose significant risks to an organizations due to the increased potency and dependency of processed information.

Organizations Lacking Unified Customer Knowledge Systems:

Source: "Customer Connections – New Strategies for Growth", Robert Wayland / Paul Cole



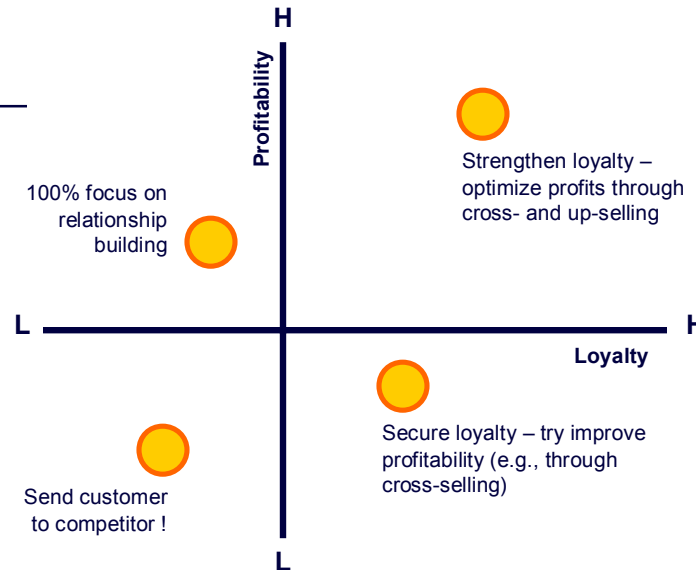


A CRM Primer – Customer Segmentation & Knowledge Management

Organizations should differentiate new and existing customers based on loyalty and profitability (see graph below). The 80/20 rule, stating that 20% of all customer generate 80% of company's revenues, increases the need for customer segmentation and allows an organization's resources (e.g., sales and marketing budgets, staffing, acquisition of assets, etc.) to be better allocated:

Customer Profitability / Loyalty Matrix:

Differentiation of Customer Strategies

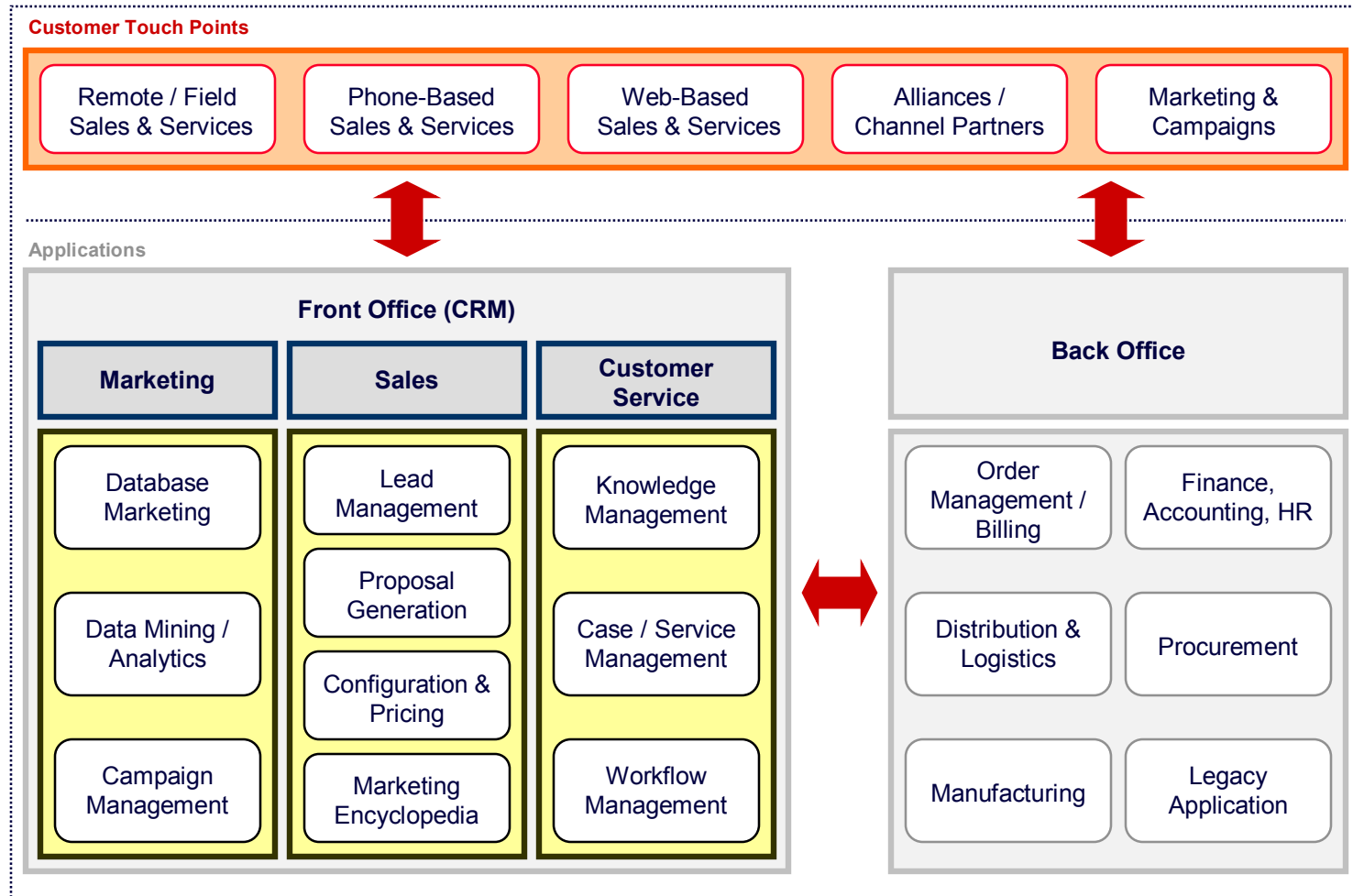


To support different customer strategies and personalization, information not only has to be gathered and analyzed, but also shared and acted upon. CRM applications provide a comprehensive suite of tools to support the creation, harvesting, sharing, and leveraging of customer information.



A CRM Primer – CRM Processes in the Overall Enterprise

The generic CRM model supports multiple business processes and customer touch points:



Source: "The CRM Handbook – From Group to Multi-Individual", PricewaterhouseCoopers



A CRM Primer – Known Failure Points

Studies revealed that up to 70% of all CRM implementations fail to deliver the expected results. Some of the identified key reasons can easily be avoided if integration steps are carefully evaluated:

Missing CRM Strategy / Plan

Solutions are implemented without long-term planning and an understanding how the technology will support corporate strategies and business process. Benchmarks to assess the ROI of CRM efforts are ignored.

Lack of Data Quality

Bad input – bad output; CRM initiatives are dependent on the integrity of data (i.e., data being accurate, complete, consistent in definition and treatment). Missing data quality impacts the reliability and success of CRM systems.

Key Stakeholder Aren't Involved

CRM integrations require a coordination between IT and business teams to identify business requirements and the appropriate technology to support it. In addition, the CRM systems have to account for external constituencies that have a stake in the CRM process (i.e., customer, partners, etc.). Change Management becomes a critical factor to ensure alignment, collaboration, and user acceptance.

Flawed Processes Are (Just) Automated

Due to the lack of a strategy, business processes are often not re-evaluated. By simply automating them, obsolete and ineffective processes are ignored, further manifesting operational weaknesses.



CRM Security & Controls – Business Process Integrity

Business Process Integrity (BPI) defines a framework for security and control strategies, which is intended to address four major objectives:

- ✓ **Effectiveness and Efficiency of Operations:** BPI ensures adequate access to system functionalities (based on roles and responsibilities), and leverages automated controls to enforce business best practice, as well as, policies and procedures (i.e., rules).

CRM Exposure (examples): Users being “lost” due to excessive access rights, resource allocations and business rules (e.g., workflow) are not automated or utilized, etc.

- ✓ **Reliability of Data and Reporting:** BPI protects the integrity of data and its relevance for operational and strategic decision making.

CRM Exposure (examples): Unauthorized or unintended data manipulations occur, compromising the value of processed data and competitive advantages, etc.

- ✓ **Compliance with Laws and Regulations:** BPI protects organizations from violating legal and regulatory requirements, which apply to the collection and distribution of data.

CRM Exposure (examples): Violation of national and international privacy standards and industry regulations, resulting in fines, negative publicity, increase insurance premiums, etc.

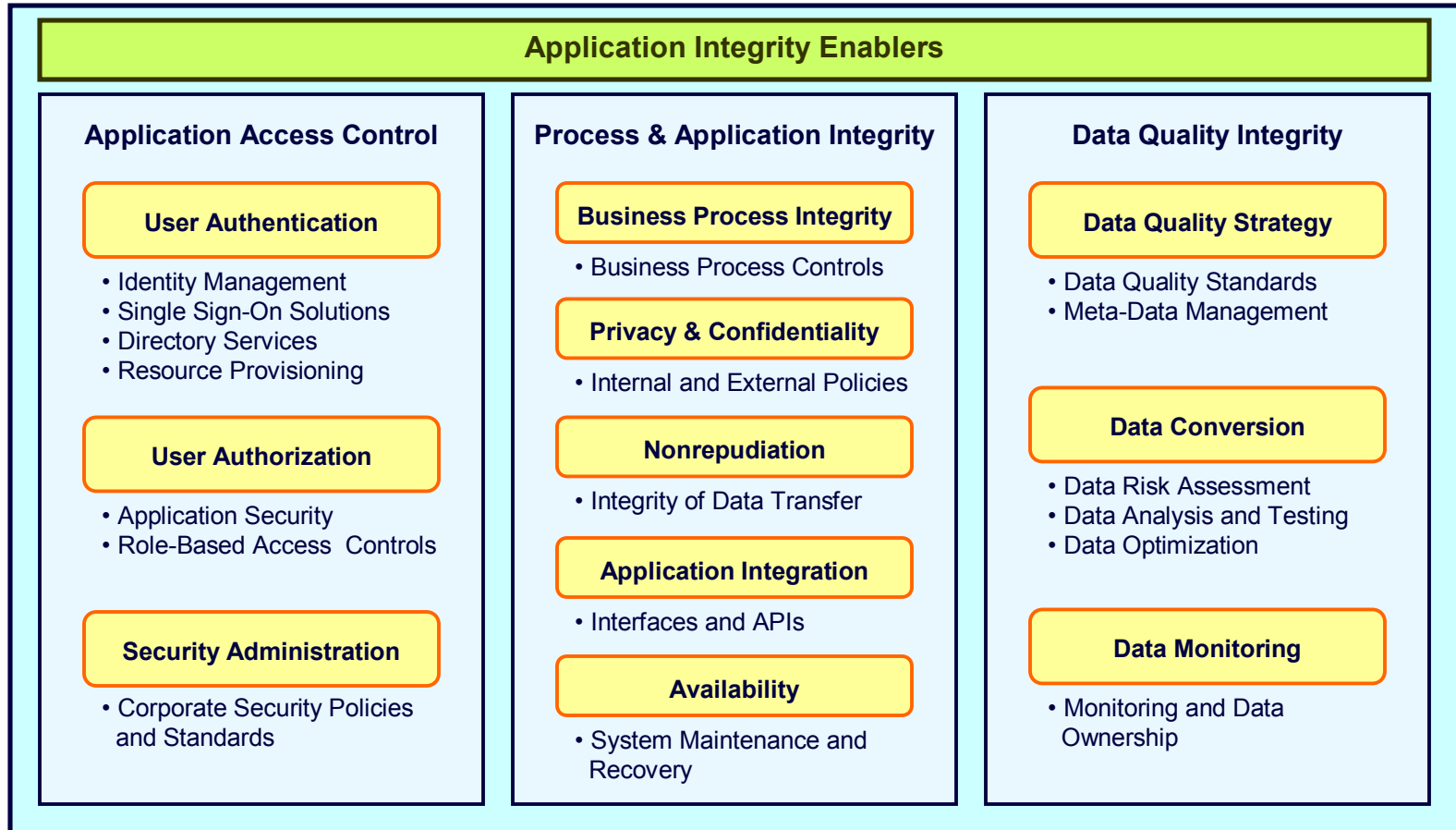
- ✓ **Prevention of Loss of Assets:** BPI is intended to protect tangible and intangible corporate assets from loss and excessive write-offs.

CRM Exposure (examples): Fraudulent sales transactions, inaccurate pricing of services & products, lack of user acceptance resulting in under-utilization of CRM investments, etc.



CRM Security & Controls – Application Integrity

Application Integrity (AI) focuses on system-enabled security and control features to provide end-to-end integrity of business transactions.

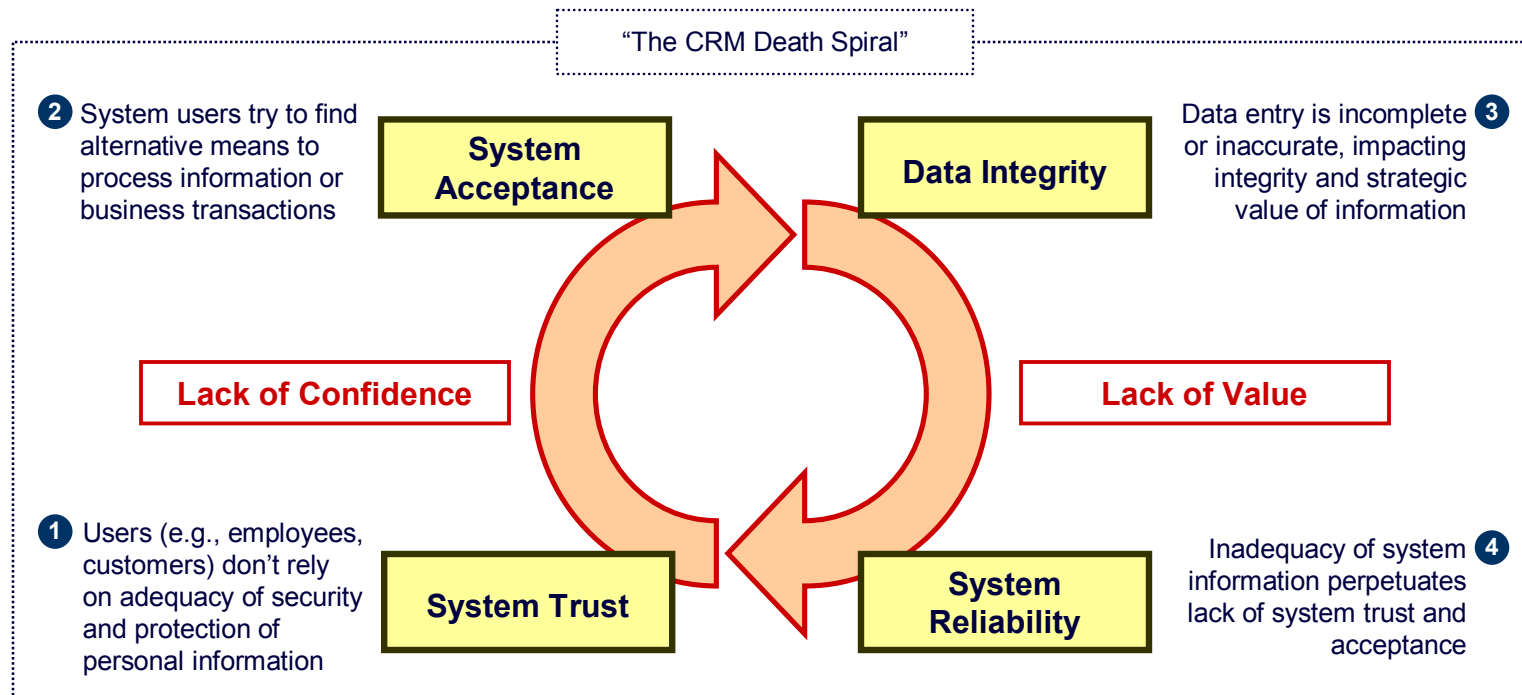




CRM Processes and Inherent Risks – User Acceptance & Data Integrity

The integration of CRM systems into strategic and operational corporate processes, has increased concerns about the integrity of CRM applications supported business processes and related data. This increases the significance of security and control failures.

In addition, a lack of confidence, coupled with eroding user acceptance, leaves a strong impact on the utilization of and success of CRM implementations, as well as the targeted *Return on Investment*.





CRM Security & Controls – Business Process Controls (Sales)

Control weaknesses within the Sales business processes, traditionally, have the most immediate impact on an organization’s financial performance:

Function	Business Process	Integrity Objectives *	Risk Exposures *
Sales	Lead Management	Ensure that lead information is complete and adequately reflects status and outcome of pursuits, helping to identify the nature of wins and losses.	Inadequate forecasting and resource allocation (budgets, personnel, etc.) Wrong decision making in respect to sales and product strategies
	Proposal Generation	Ensure that quotes include accurate pricing information, and that terms and conditions are in line with corporate policies.	Release of unauthorized proposals and pricing/product information Increased product liability due to the use of non-standard contracts
	Configuration & Pricing	Ensure that price lists and product configurations are approved and adequately reviewed and updated.	Unauthorized updates to price lists Compromised product configuration, leading to increased product liability and wrong pricing options/strategies
	Marketing Encyclopedia	Ensure that the sales force can base its initiatives and resource allocations on adequate marketing information.	Inaccurate information adversely impacts forecasting, resource allocation, strategic decision making, and user/system acceptance

* Integrity objectives and risk exposures are non-conclusive



CRM Security & Controls – Business Process Controls (Customer Service)

Security and control failures within Customer Service processes negatively impact customer relationships, product design, and resource allocations:

Function	Business Process	Integrity Objectives *	Risk Exposures *
Customer Service	Knowledge Management	Ensure that the information on particular customers is accurate, correctly updated, complete, and adequately protected.	<p>Outdated customer information diminishes value of CRM investment and adversely impact interaction with customer</p> <p>Accidental release of customer information and violation of privacy standards can impact brand recognition and system acceptance</p>
	Case / Service Management	Ensure that SRs are handled in a timely fashion, can be immediately related to known solutions, and are considered in product designs.	<p>Inaccurate information negatively impacts response to customers and product design</p> <p>Incomplete and inaccurate solutions can increase product liability</p>
	Workflow Management	Ensure that corporate processes and resources respond to customer requests (i.e., sales and/or service requests) using the most efficient and effective means.	<p>Long response times to customer requests, negatively impacting customer satisfaction and brand recognition</p> <p>Inappropriate resource allocation</p>

* Integrity objectives and risk exposures are non-conclusive



CRM Security & Controls – Business Process Controls (Marketing)

Marketing processes rely on the integrity of collected information and the meaningful analysis of it. Control weaknesses impact data quality and resulting campaigns:

Function	Business Process	Integrity Objectives *	Risk Exposure *
Marketing	Database Marketing	Ensure that categorization and segmentation of customer data is in line with marketing and sales strategies, allowing the organization to present personalized solutions for customers.	<p>Wrong segmentation or corrupt data negatively impacts communication with customer, resulting in hostile reactions or indifferences</p> <p>Ineffective campaigns waste corporate resources and can adversely impact brand recognition</p>
	Data Mining / Analytics	Ensure that methods for forecasting and reporting follow standard procedures and that data is adequately protected.	<p>Wrong or incomplete information results in inaccurate forecasting, impacting resource allocations</p> <p>Exposed marketing data might impact competitive advantage</p>
	Campaign Management	Ensure that campaign strategies follow approval procedures and are adequately protected.	<p>Unauthorized release of campaigns can result in financial losses and impact product liability</p> <p>Premature release of campaign information can impact competitive advantage</p>

* Integrity objectives and risk exposures are non-conclusive



CRM Security & Controls – Privacy Overview

Privacy, or the lack of it, can have a strong impact on the successful implementation of new technologies and the related benefits (e.g., cost savings, additional sales channels, etc.).

Concerns about privacy and confidentiality often prevent users (e.g., customers, employees, channel partners) from taking advantage of self-service functions, while relying on traditional, cost-intensive, and – quite often – ineffective practices.

Privacy requirements should be carefully evaluated for the following classes of organizations:

- **Companies processing personal data relating to citizens**
- **Companies processing any personal data that operate in countries that have adopted similar privacy laws to those of Europe (e.g., New Zealand, Hong Kong, and Canada)**
- **Companies processing personal data that wish to enhance their data warehouse solutions [...] without negative government, media, and/or consumer responses**


Source: "Accelerating Customer Relationships – Using CRM and Relationship Technologies",
Ronald Swift




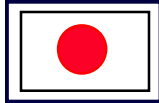
Privacy breaches can have significant financial ramifications, including regulatory penalties, legal fees, marketing expenses to combat negative public perception, customer retributions, increased insurance premiums, and loss of market share.



CRM Security & Controls – Proliferation of Privacy Standards

Corporate privacy initiatives ought to focus almost exclusively on risk avoidance. Awareness of regional and industry-specific requirements is critical to identify potential exposure. The list below highlights some of the most significant national and international standards:

Region	Standards
	The Children’s Online Privacy Protection Act (COPPA)
	Gramm-Leach-Bliley Act (GLB)
	Health Insurance Portability and Accountability Act (HIPAA)
	FTC Enforcement of Deceptive Trade Practices
	Proposed Consumer Legislation in Congress and Multiple States

Region	Standards
	EU Data Protection Directive
	Safe Harbor Principle
	Personal Information Protection and Electronics Document Act
	Guidelines for the Protection of Computer Processed Personal Data

Privacy initiatives should evolve beyond just risk mitigation, and be considered as a strategic platform for value creation and competitive positioning.



CRM Security & Control Failures – Case Studies

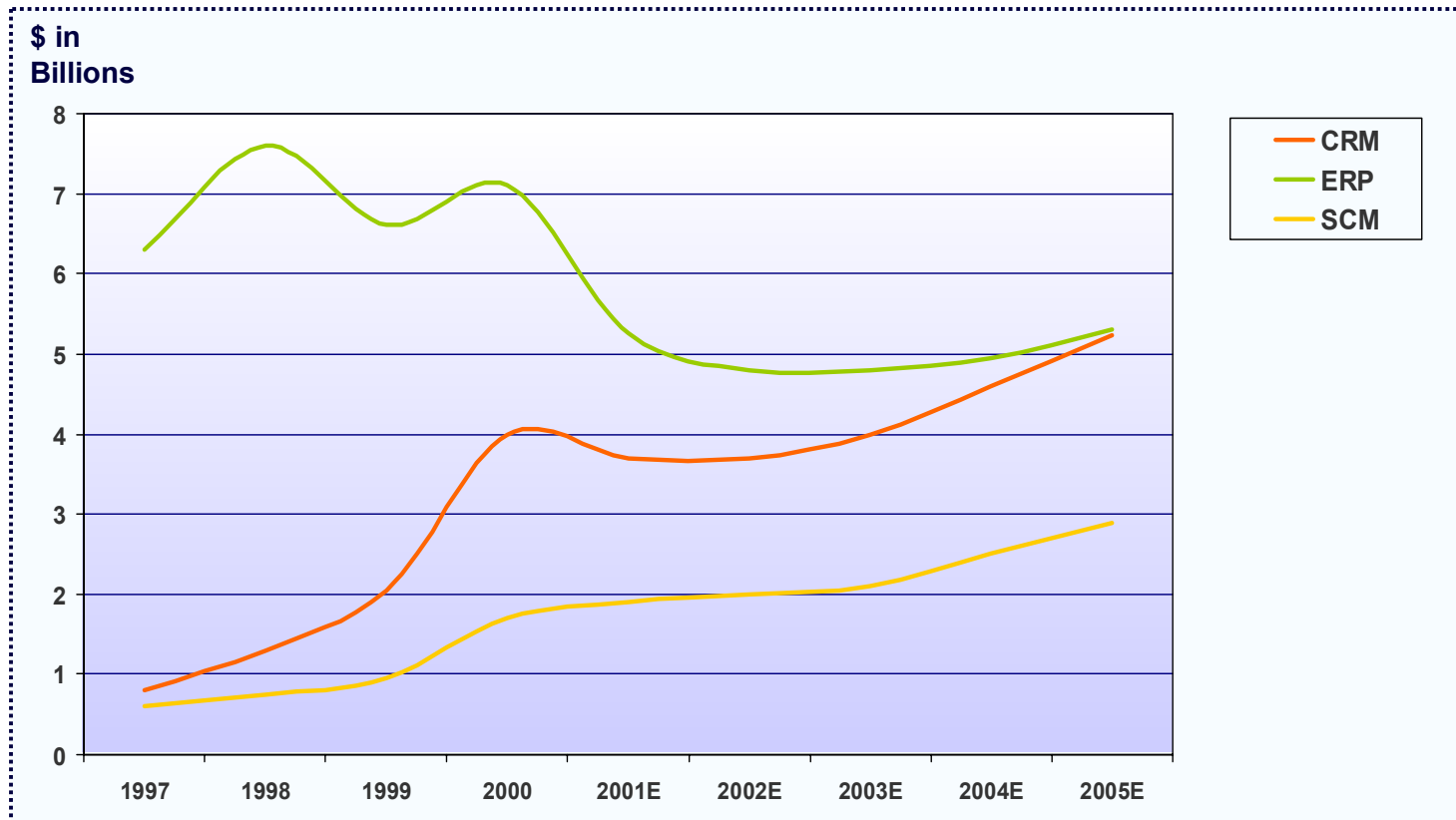
The case studies below are intended to illustrate the need for end-to-end protection to maintain the integrity of eBusiness solutions, and protect an organization's investments and competitive advantage:

Process(es)	Risk Assessment
Service Management <i>(Business Process Controls)</i>	Client fails to utilize system-enabled functions to match incoming service requests with service level agreements. The lack of tracking results in a loss of revenue exceeding \$6 mil. per year.
Proposal Generation / Pricing <i>(Business Process Controls)</i>	While client uses sophisticated control features to prevent pricing information from being updated, 'proxy products' are available that bypass these controls. Excessive use of these particular products is not monitored, resulting in unauthorized price manipulations and incorrect sales statistics.
Proposal Generation / Pricing <i>(User Authorization / Business Process Controls)</i>	Employees abuse control weaknesses, allowing them to bypass pricing policies and execute fraudulent sales transactions. The annual damages are estimated to exceed \$ 3 mil.
Lead Management <i>(Privacy / User Authorization)</i>	Concerns about confidentiality of lead information discourage Sales Reps to enter accurate data (some leads are tracked with a value of \$1). This not only impacts forecasting, budgeting, and fulfillment, but also renders the investment into a new lead management tool obsolete (i.e., diminished ROI).
Knowledge Management <i>(Privacy)</i>	A pharmaceutical company accidentally releases the email addresses of individuals using an anti-depressant. The company is subject to fines (FDA and FTC) and negative publicity.
All <i>(CRM Strategy)</i>	The lack of a clear CRM plan results in uncoordinated development and integration activities, resulting in excessive costs and lack of collaboration across business teams.



Appendix A – CRM Market Growth

While the market for CRM applications is maturing and subjected to economic pressure and spending constraints, spending will continue to grow and reach levels for ERP investments.



Source: "2002 CRM Survey Points to Solid Demand and Modest Growth", Gartner



Appendix B – CRM Vendors – Overview

SIEBEL

Company : Siebel Systems, Inc (NASDAQ: SEBL)
 Headquarters : San Mateo, CA
 Product / Release : Siebel 7.5
 2001 Sales : \$2,048 (mil)
 2001 Employees : 7,403

SAP

Company : SAP Aktiengesellschaft (NYSE: SAP)
 Headquarters : Walldorf, Germany
 Product / Release : SAP CRM 3.1
 2001 Sales : \$6,534 (mil)
 2001 Employees : 28,878

PeopleSoft®

Company : PeopleSoft, Inc (NASDAQ: PSFT)
 Headquarters : Pleasanton, CA
 Product / Release : PeopleSoft CRM (former Vantive)
 2001 Sales : \$2,073 (mil)
 2001 Employees : 8,436

ONYX SOFTWARE

Company : Onyx Software Corp. (NASDAQ: ONXS)
 Headquarters : Bellevue, WA
 Product / Release : Onyx Enterprise CRM 4.0
 2001 Sales : \$97 (mil)
 2001 Employees : 449

ORACLE®

Company : Oracle Corporation (NASDAQ: ORCL)
 Headquarters : Redwood City, CA
 Product / Release : Oracle CRM 11i
 2002 Sales : \$9,673 (mil)
 2001 Employees : 42,006

Amdocs

Company : Amdocs Limited (NYSE: DOX)
 Headquarters : Chesterfield, MO
 Product / Release : Amdocs ClarifyCRM
 2001 Sales : \$1,534 (mil)
 2001 Employees : 8,600

E.PIPHANY™

Company : E.piphany, Inc. (NASDAQ: EPNY)
 Headquarters : San Mateo, CA
 Product / Release : E.piphany E.6
 2001 Sales : \$126 (mil)
 2001 Employees : 696

KANA

Company : Kana Software, Inc. (NASDAQ: KANA)
 Headquarters : Menlo Park, CA
 Product / Release : Kana iCare
 2002 Sales : \$87 (mil)
 2001 Employees : 409