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Write the Rules of eBusiness[®]

Government Online Instead Of People In Line[®]

Why Systems Fail

Types of systems we're talking about

Complex, interconnected, vital systems:

- Computer system
- Business system (Corporation/Enterprise)
- Voting system
- National security/defense system
- Transportation system
- Banking system
- Economic system
- Stock market system
- Global financial system

Why systems fail, cannot adapt, and do not last

- No architecture → It falls down like a house of cards
- No engineering → No reuse, integration, traceability
- Doesn't work → Doesn't do what was intended, no quality
- Doesn't change → System is too hard to change, no flexibility,
- Doesn't last → System is obsolete before it's built, no durability
- No alignment → System is not aligned to strategy...

Business and IT alignment



Accounting errors



Fannie Mae Finds \$10.8 Billion in Accounting Errors stemming from its derivatives and hedging activities

Nov. 2005

Terminology errors

Salomon Brothers trader who single handedly caused a 15 point drop in the Dow Jones Industrial Average in the last 5 minutes of trading due to misunderstanding the units of a "sell" order.

He mistakenly sold 11 million shares (\$500,000,000) of stock instead of 11 million dollars of stock. The Wall Street computers did the rest.

No standards (i.e. rules)

*Metric mishap caused loss of NASA orbiter - NASA lost the \$125 million Mars Climate Orbiter because a Lockheed Martin engineering team used **English** units of measurement while the agency's team used the more conventional **metric** system for a key spacecraft operation.*

Sept. 30, 1999

Break the rules

Don't follow the rules or don't comply



AT&T fined \$780,000 by FCC for violating Do Not Call List. AT&T broke the rules by calling 29 consumers 78 times after they asked not to be called. The proposed fine is \$10,000 for each violation.

Nov. 2003

Conflicting rules



Confusing rules



<http://www.popular-pics.com/pictures.aspx?photoid=519>

Contradictory rules



Bad judgment
Wrong decisions



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No coordination or integration among departments



Forgot lessons learned

“By Mother’s Day, we forgot all our lessons learned from Valentine’s Day”

CIO, One of the world’s largest producers and marketers of high-quality fresh cut flowers

System doesn't handle exceptions

System doesn't keep track of everything or everyone

May 13, 2008: Parents board Air Canada flight, forget 23-month-old toddler at airport

Aug. 4, 2008: Couple remember their duty free and 18 suitcases, but forget 3-year-daughter at airport

Because they were so young, they were not issued boarding passes, they were "lap children", and airline personnel did not notice a passenger was missing



System mistakes affect or alienate customers



Jan. 31, 2001

\$25 roundtrip US to Paris?

**143 tickets were sold during
a 55-minute period**

**Will United Airlines honor the
"fantasy fares"?**

***"It was a glitch. We fixed it...
Customers should have
realized you don't get
something for nothing."***

Feb. 15, 2001

**United won't honor bogus
prices posted on its site**

United spokesman Chris Brathwaite

Repeat the same mistakes over & over again



Feb. 20, 2001:

United Airlines decides to honor the \$25 tickets 'accidentally' offered online

2-3 months later:

*It happened again... \$25 roundtrip US to Paris!
It was the same programming "glitch"*

No rules, or rules were not enforced

Sept. 12, 2008 Los Angeles

a Metrolink commuter train
blew through a red stop signal
and slammed head-on into a
Union Pacific freight train

24 people were killed, and 135
were injured in the worst U.S.
train collision in 15 years.

The engineer of the Metrolink
commuter train, **received a text
message 1 minute and 20
seconds before the crash... he
sent a cell phone text message
22 seconds before the crash**



***Rules did not
prevent cell phone
use by rail workers***

Rules issued/clarified too late

Sept. 23, 2008, Wash. D.C.

**Metrolink Chairman and
Union Pacific Railroad Executive VP
of Operations testify on Capitol Hill**

Oct. 3, 2008

***federal regulators
issue new rules
to ban cell-phone use by
railroad workers on duty***

No coordination or integration among departments

The system is too complex



INTERNATIONAL
Herald Tribune | Business with Reuters
THE GLOBAL EDITION OF THE NEW YORK TIMES

[iht.com](#) Business Culture Sports Opinion

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TRAVEL PROPERTIES BLOGS DISCUSSIONS SPECIAL REPORTS AUDIOWEBS

Germany's 'dumbest' bank criticized for Lehman deal

By **Nicholas Kulich** Published: September 18, 2008

BERLIN: Just as the rest of the financial community was scrambling to get its money out, a state-owned German lender gave Lehman Brothers what might be called a parting shot in the arm, transferring €300 million to the investment bank on the same day it declared insolvency.

The \$426 million payment, described by the bank as an "automated transfer," provoked an outcry across the political spectrum, and earned the lender, KfW Bankengruppe, the dubious title of "Germany's dumbest bank," which the largest-circulation German newspaper, Bild, splashed across its front page Thursday.

- E-Mail Article
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No one knows how the whole system works; and there are no blueprints or models that show the connectivity

A bank spokesman, Wolfram Schweickhardt, said the transaction was part of a regular currency swap.

"It's a complex process," Schweickhardt said. "It has to be approved by several parts of the bank."

BANKING | 18.09.2008

Berlin Suspends KfW Managers Over Banking Blunder



Two KfW executives may have to look start looking for new jobs after the bank lost millions

The German government's own bank, KfW, suspended two top executive officers from their duties Thursday after blunders that lost KfW 536 million euros in the Lehman Brothers failure.

In the worst blunder, KfW deposited 350 million euros (\$503 million) with Lehman on Monday, just hours before Lehmann declared itself insolvent, although the Lehman failure had been Sunday's top world news story. The sum was increased from the originally reported 300 million euros after taking changes in the dollar-euro exchange into account.

KfW, which holds government stock portfolios and makes soft loans to home-owners and students, suspended executive board members Detlef Leinberger and Peter Fleischer, said German Economics Minister Peter Glos.

Glos chairs the supervisory board of KfW, dubbed "Germany's dumbest bank" by the mass-circulation paper *Bild* on Thursday. A more junior manager was also suspended.

The two "board members responsible" at the KfW development bank were suspended with immediate effect until the incident is cleared up, Glos and German Finance Minister Peer Steinbrueck said in a joint statement.

Bad memory Lost knowledge Misjudgment Weakness in procedures Weakness in organizational structure

Frankfurt, 22 September 2008

Comments by KfW Bankengruppe on article "KfW transfer was apparently intentional" in Frankfurter Allgemeine Zeitung of 22 September 2008

"Neither the documents nor the minutes suggest that the transfer to the investment bank Lehman Brothers would have been a deliberate decision. Rather, in retrospect it was the result of misjudgment on the part of the responsible departments regarding the insolvency risk at Lehman Brothers. On the Supervisory Board meeting of 18 September 2008 Dr Schröder reported in detail on how the swap transaction was conducted. He also referred to the meeting of the responsible departments which was held on 12 September 2008 and said that the risk assessment had been wrong and the settlement risk had not been treated. This is why there was no intervention in the automatic payment transaction. Dr Schröder assessed the overall situation in the supervisory board as follows. The way the swap transaction with Lehman Brothers was handled reveals professional misjudgment of the risk situation as well as fundamental weaknesses in the organisational structure and procedures within KfW, as well as structural deficiencies in risk management."

The following are excerpts from the interview Dr Schröder, Chairman of the Managing Board of KfW Bankengruppe, gave the business newspaper Handelsblatt on 22 September 2008.

"On 10 July we conducted a currency swap with Lehman Brothers. Standard procedure in transactions of this kind is an exchange of currencies that is linked to a forward transaction for the reconversion. At KfW conversion and reconversion are entered into electronic systems. The conversion was done properly on 14 July 2008 and the reconversion was contractually scheduled for 15 September 2008.

When the situation at Lehman worsened the departments in charge held a meeting on 12 September 2008, that was Friday, to analyse the situation. The first error committed there was that the open settlement risk was overlooked. The second error was that the data referring to Lehman should have prompted the decision to monitor the situation over the weekend and to intervene if appropriate. This did not happen.

The situation was then not monitored over the weekend. The follow-up meeting was scheduled for Monday morning, 9:30 a.m. The payment, however, had left the bank at 8:37 in the morning. This means the execution of the payment should have been stopped on the weekend or early Monday morning. In this regard the accusations are justified."



2. The Supervisory Board expressly supports the initiative of Managing Board Chairman Dr. Ulrich Schröder to submit the business procedures and organisational structure of KfW, especially of the risk management, to an in-depth audit. Dr. Schröder will report to the Supervisory Board on the first results at the next meeting.

**What the global financial crisis tells
us about the future of business...
and the urgent need for rulebased
and knowledgebased systems now**

Trust lost

- **What are the rules? Did people break the rules, bend the rules, or ignore the rules?**
- **What were the rules for deciding to bail out Bear Stearns... to bail out Fannie Mae... to let Lehman Brothers fail... to let AIG fail one day... then give AIG an \$85 billion line of credit the next day?**
- **Confidence in Wall Street went down the drain last month.**
- **The credit crisis gave business a bad name, and it gave government a bad name for not doing anything about it.**
- **Trust disappeared.**
- **It's time to rebuild trust in business and government.**

Rules are coming

- To restore trust in the financial system, the government is moving towards ***more rules and exceptions, and rules-based regulation***
- Regulatory reform is coming back - That means more rules and regulations than ever before.
- Management will have an obligation to ***follow the rules and laws*** when making decisions. Companies will need to implement systems that follow the rules and ***make rule-based decisions***.
- ***Rulebased systems and business rules management are the answer.***

Rule-based systems are the answer

- It's time to adopt the business rules approach and business rules management
- It's time to build rulebases and embed rulebase technology into operations and existing systems
- Rulebased systems that are engineered and architected properly:
 - follow the rules
 - automate management's decisions
 - ensure compliance
 - and deliver trust. Rule engines can be trusted because they implement the decisions management intended
- ***Rulebased systems and business rules management are the solution for rule-based-compliance***

Principles and judgment are coming

- But Accounting and tax is moving towards *fewer rules & exceptions, and more principles-based regulation*
- Under this principles-based approach, management will have a mandate and obligation to exercise its own best judgment when making decisions
- IFRS relies on *professional judgment* rather than detailed rules and exceptions
- Companies will need to implement systems that use *expert judgment to make principle-based decisions*
- *Knowledgebased systems and knowledge management are the answer*

Knowledge-based systems are the answer

- It is time to adopt knowledgebase technology and knowledge management. It's time to build knowledge bases and embed knowledgebased technology into operations and existing systems
- Knowledgebased systems that are engineered and architected properly can
 - follow principles and guidelines
 - automate management's best judgment
 - ensure compliance
 - and deliver trust. These expert systems can be trusted because they use expert judgment to make the same decisions top experts would make, thus improving the quality, accuracy, and consistency of decision-making
- I don't believe there is any other practical or proven way of automating human judgment, other than building intelligent, knowledge-based systems
- ***Knowledgebased systems are the solution for principles-based compliance.***

Rebuilding trust

- Here are ten rules for restoring trust in business and government.
- These rules apply to everything from the global financial system, to Wall Street; from federal governments to local jurisdictions; from global corporations, to organizations and small businesses.
- Companies that learn to define transparent rules that are sensible, consistent, easy to understand, and easy to follow will be easy trust.
- On the other hand, companies that rely on opaque rules that are complicated, confusing, illogical, inconsistent, or deceptive will be hard to trust. They will go out of business.

Ten Rules for Business

Rule 10

Have guiding principles.
**Act on principles, independent of
influence by greed or friends.**

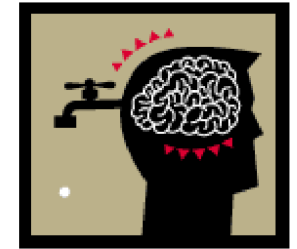
Rule 9

Follow policies and guidelines about what is permissible and what will not be tolerated.

Rule 8

Establish rules of behavior concerning what is right and wrong.

Success in business depends on understanding the rules. The rules of the business are the way the business really operates. Design transparent rules that are logical, sensible, easy to understand, and easy to follow.



Rule 7

Leverage knowledge and judgment.

Know what you know, and know what you don't know. Document and retain what your experts know and how they think so their knowledge can be shared with those who need to know. Use wise judgment. Know when to follow the rules, when to bend them, and when to forget them.

Rule 6

**Make smart decisions informed
by facts, rules, knowledge,
principles, and judgment.**

Decide using clear, logical, and unbiased rules that explain each decision clearly. Use sound reasoning to make rules-based, principles-based, and knowledge-based decisions.

Rule 5

Create enterprise architecture to deal with change and complexity.

Use architecture to simplify complexity, and to understand how the whole business and the whole system works; Understand who, what, when, where, why, and how.

Design the architecture to ensure that all the parts fit (interoperability), connect (integration), work (quality), work as intended (alignment), last (reliability), and can be shared (reusability). Design the architecture so the business can handle increases in complexity and increases in the rate of change (flexibility). Design the architecture to reduce time-to-market and reduce operating costs. Design the architecture to support rules-based and principles-based compliance.

Rule 4

**Do the engineering,
to design systems that work,
change, and last.**

Apply architecture and engineering design principles to ensure alignment, flexibility, quality, interoperability, integration, reusability, reliability, compliance, reduced time-to-market, and reduced costs. Build in risk management safety factors so the business and the systems can handle extreme stresses and excessive loads.

Rule 3

Have a clear vision.
Stand for brand.

Rule 2

Instill confidence.

Improve the quality, consistency,
and accuracy of decisions and
actions.

Rule 1

Build trust.

**Align actions, decisions, and transactions with management's intentions. Align execution to goals, strategy, and mission. Align systems to business.
Align implementation to intention.**

Thank you

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