The Evolution of Risk Management and Enterprise Risk Management

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Global Association of Risk Professionals
The views expressed in the following material are the author’s and do not necessarily represent the views of the Global Association of Risk Professionals (GARP), its Membership or its Management.
The Evolution of Risk Management: before 1960s

- Insurance and insurance management

Referring New York City,

“This has only been made possible by insurers. They are the ones who really built this city. With no insurance, there would be no sky-scrapers. No investor would finance buildings that one cigarette butt could burn down to the ground.”  – Henry Ford
The Evolution of Risk Management: 1960s-

- From insurance management to Risk management
  - by Robert Mehr and Bob Hedges
  - Four step risk management
    - Risk identification, risk evaluation, risk management technique, monitor
  - Risk management technique
    - Risk avoidance, risk reduction, risk transfer, risk retention
  - Pure risk
The Evolution of Risk Management: financial risk in 1970s

- Exchange rate risk
  - End of Bretton Woods agreement in 1972

- Commodity price risk
  - Oil shock

- Interest rate risk
  - Federal Reserve Board (US) policy shift – late 70s
Exchange rate risk

Fig. 9.7  Exchange rates: Dollar vs. various currencies

Oil price risk

Interest rate risk

Source: http://www.crestmontresearch.com/interest-rates/
Derivative market development- 1980s

- 1970s: Black & Scholes option pricing model
- "Risk management" at wall street
Failures -1990s

- Derivative failures
  - Gibson Greetings
  - Proctor and Gamble
  - Barings Bank
  - Orange County

- Model failures
  - Long Term Capital Management

- Accounting failures
  - Enron
  - WorldCom
  - Arthur Andersen
Emerging risks—2000s and after

- CAT risks
- Terrorism
- Environmental risks
- Cyber risks
- Reputational risks
Catastrophic events 1970-2012

Figure 3

The cost of catastrophes
Insured losses, $bn, 2012 prices

Source: Swiss Re
Source: Swiss Re Economic Research & Consulting

Economist.com/graphicdetail
'갑을논란' 남양유업 불매운동에 적자로 추락

중점적 요음을 증고, 재고 크게 늘어

유희석 기자 (xiidlife@ajunews.com)  |  등록 : 2013-09-01 08:00  |  수정 : 2013-09-01 08:00

[표] 남양유업 요약 재무제표

(단위 : 백만원)

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(자료 : 경영정보 전자공시)

아주경제 유희석 기자= 폭력적인 '갑을 논란'의 대형사가 된 남양유업 실적이 소비자 불매 운동 등의 압박으로 크게 나빠졌다. 제품의 시장점유율도 낮아지면서 주가도 추락을 멈추지 못했다.

1일 금융감독원 전자공시에 따르면 남양유업의 올해 2분기(4~6월) 영업이익은 약 28억원으로 작년 같은 기간의 111.1억원보다 78% 줄었다. 매출액도 작년 2분기에는 367.7억원에 달했으나 올해는 308.9억원으로 50.4억원 감소로 조그라들었다.

[뉴스쇼 판] '갑의 횡포' 남양유업, 벌금 1억2천만원
Private information leakage
S&P 500 firms average time in index (unit : 10 years)

Enterprise Risk Management

"The process by which organizations in all industries assess, control, exploit, finance and monitor risks from all sources for the purpose of increasing the organization’s short and long term value to its stakeholders."
Traditional approach – Silo approach

- Hazard risk
  - Risk and safety management department

- Financial risk
  - Derivative traders
  - Chief Financial Officer (CFO)

- Operational risk
  - Line managers

- Strategic risk
  - Chief Executive Officer (CEO), board of directors
ERM (Enterprise Risk Management) : **Integrate** all risks business faces, treat the risk as one risk portfolio, and manage the firm risk.
Risk and return

Zone 1
Insufficient
Risk Taking

Zone 2
Optimal Risk
Taking

Zone 3
Excessive
Risk Taking

Risk-Adjusted Return

Risk
Toyota to pay $1.2B settlement in vehicle acceleration lawsuit

By Bob Fredericks and Post Wires

March 19, 2014 | 9:19am

A Toyota Camry that crashed as it exited I-80 at Utah State 100 in Wendover, Utah, in 2010.

Photo: AP
Consumer complaints, unintended acceleration per 312,000 vehicles sold. 2008 MY

Please do not cite.
- YouTube video in 2009:
  http://www.youtube.com/watch?v=03m7fmnhO0I
Toyota reaches $1.1 bln gas-pedal settlement

By Mike Ramsey

DETROIT (MarketWatch) — Toyota Motor Corp. agreed to pay about $1.1 billion to settle a class-action lawsuit stemming from complaints of unintended acceleration in its vehicles that soured its reputation for quality and undermined its sales globally.

* Breaking-news alerts: Get free email alerts the instant news breaks

The settlement, filed in a federal court in California Wednesday, will result in a $1.1 billion pretax charge to earnings this quarter, Toyota (TM +0.10%) said. Owners of some 10 million Toyota, Lexus and Scion vehicles would be eligible for payments and safety updates that would vary depending on their vehicle and its age.

The settlement includes no admission of fault or unlawful conduct by Toyota and allows the company to avoid the risks associated with battling a lengthy trial. “One of our overriding goals has been to vigorously defend the safety of our vehicles, and we believe we have done that,” said Mike Michels, a Toyota spokesman.

After Recall, Toyota Seeks Consumer Confidence

Toyota Is Fined $1.2 Billion for Concealing Safety Defect

By BILL VLASIK and MATT APUZZO  MARCH 19, 2014

Attorney General Eric H. Holder Jr. announced that Toyota had reached a $1.2 billion deal with the Justice Department to settle a four-year criminal investigation.

Eric H. Holder Jr., the United States attorney general, talked in impassioned tones on Wednesday about Toyota’s behavior in hiding safety defects from the public, calling it “shameful” and a “blatant disregard” for the law. A $1.2 billion criminal penalty, the largest ever for a carmaker in the United States,
- Operational risk (product defect and recall)
  → legal charges (the criminal charges! Very unlucky – during the recession) and reputational cost
  → demand shock (used car price goes down as well)

  and.. Hyundai smiles 😊

- The result: stock price plummet – over 20 percent within 20 days.
Toyota recall

Hyundai
http://www.npr.org/2012/04/18/150502434/rough-patches-behind-it-toyota-tries-to-accelerate
Problems of Silo approach

1. Unclear risk boundaries
   – Domino effect, gray risks, multiple categories

2. Risk does add up – portfolio effect ignored (e.g. BHP Billiton)

3. Difficult communication – different terms

4. Inconsistent risk strategies
ERM components

1. Corporate Governance:
   - RM committee and CRO
   - Set risk appetite
   - Build risk culture (e.g. A blaze in Albuquerque desert in 2000)

2. Business strategy alignment and line management (communication and communication!)

3. Portfolio management

4. Measure – VaR, CFaR, EaR

5. Data and Technology
ERM organization example

Board of Directors

CEO

Enterprise Risk Management Committee

Enterprise Risk Manager (CRO)

Business Unit

Business Unit

Business Unit

Business Unit

Business Unit
Results

- Ericsson lost $2 billion
- Stock price plummet by 14% in a few hours, 50% in a few days
- Nokia market share 27% → 30%
- Motorola market share 9% → 12%
Heinrich Triangle

Figure 3 — Heinrich Triangle [Ref. 6].
运七技三

"Whatever you do, something unprepared will happen."
세월호: The worst crisis of this decade

VS.

작년 가장 기적적인 항공사고는 7월 아시아나 사고

당시 아시아나항공의 보잉777기는 착륙 도중 사고를 당해 기체의 절반 이상이 불에 타는 참사를 당했지만 307명의 승객과 승무원 가운데 사망자는 3명에 그쳤다
ERM 6 – Systemic response to risk

- Crisis management
  - NOT ad-hoc
  - Develop best practices and provide guidelines
Johnson and Johnson Tylenol

- 7 dies from taking Tylenol capsule in 1982
- Response
  - "How do we protect the people?"
  - "How do we save this product?"
A Special Announcement from the makers of TYLENOL

We want you to replace your TYLENOL capsules with TYLENOL tablets.

And we'll help you do it at our expense.

As a result of recent tampering with TYLENOL capsules in certain areas of the country, the makers of TYLENOL, are voluntarily switching all TYLENOL capsules. This includes Regular Strength and Extra Strength Peppermint capsules. TYLENOL tablets and capsules of these, only and Maximum Strength TYLENOL® Sauce Medications capsules.

We are doing this to help protect you against the risk of further capsule tampering. We want all TYLENOL capsules to pass our TYLENOL tablets and new tamper-evident capsule packaging as well.

So, if you have any TYLENOL capsules, do one or all of the following:

1. Return the bottle, with the unused portion taken together with your name and address on the label, to either a local TYLENOL retailer or TYLENOL tablets, Ltd., P.O. Box 2895, Minneapolis, MN 55440.
2. Return the unused portion of your current dispensation of TYLENOL tablets, Ltd.
3. If you purchase, you can return a refill note for the second refill, by sending the bottle to us along with a letter regarding the refill.

We're taking this step because, for the past 20 years, our 90 million American homes have used TYLENOL products as a part of their health care. We're continuing to do everything we can to keep you safe.

TYLENOL Exchange
PO. Box 2895
Minneapolis, MN 55440

Please send your coupon for new replacement TYLENOL capsules.

Name:
Address:
City:
State:
Date:

(TYLENOL by Johnson & Johnson of New Brunswick, N.J.)
“Johnson & Johnson has effectively demonstrated how a major business ought to handle a disaster”

Does your organization have an integrated ERM program or equivalent?

- Yes, program in place: 36%
- Yes, currently implementing one: 18%
- No, but plan to create one: 23%
- No, and do not plan to create one: 23%