

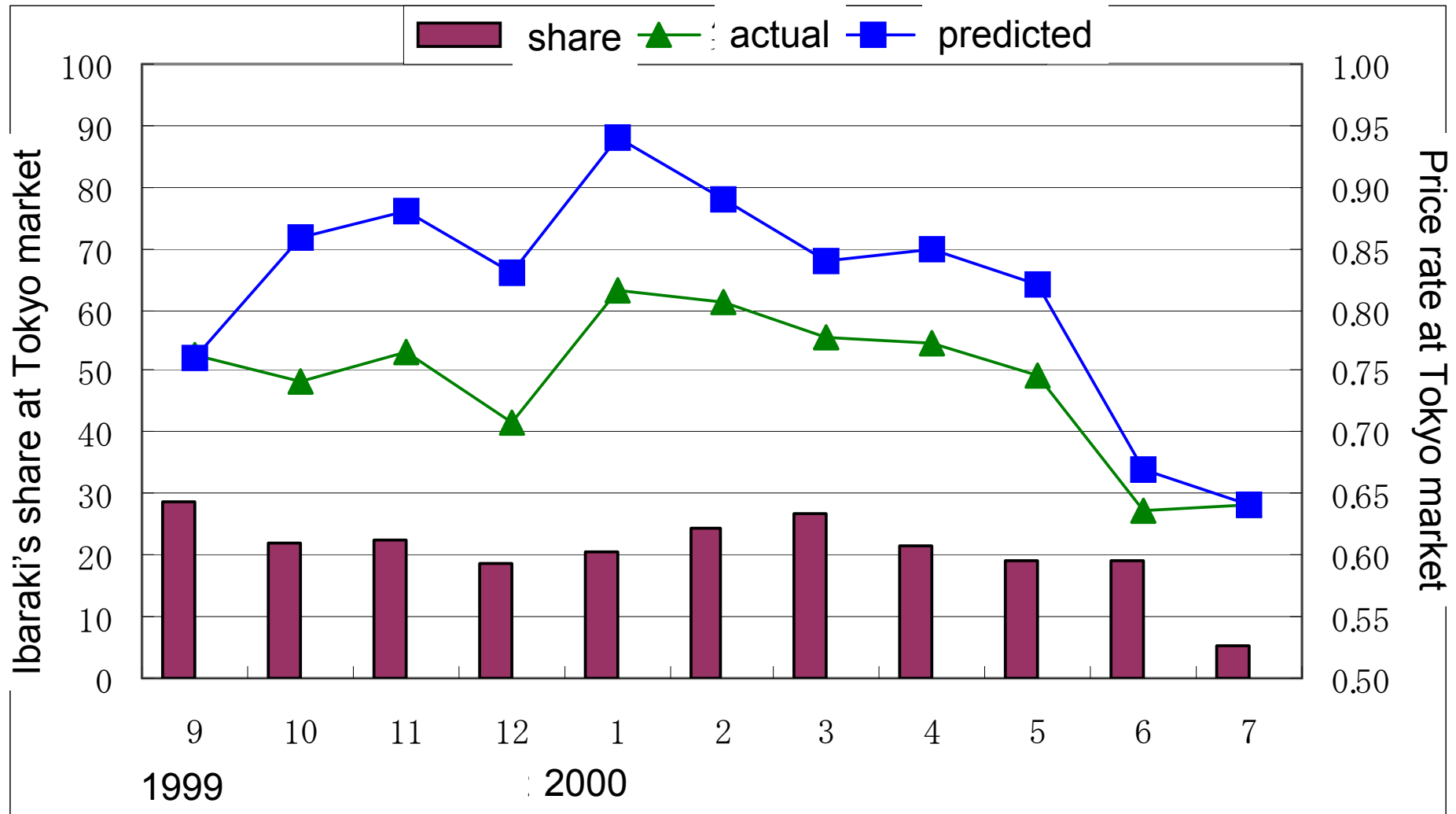
# Toward Information Management for Reducing “Damage Caused by Rumor”

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“Damage caused by Rumors (DR)”  
or “image contamination” (Sekiya, 2004)

- Secondary effect of a disaster, accident or trouble due to people’s “fear” of contamination of products
  - The criticality accident in 1999  
Products from Ibaraki were rejected even though they are completely safe
- The damage is sometimes huge
  - Farmers in Tokaimura asked the company to pay 686 billion JPY to compensate the damage
- The effects remains very long time
  - Sep. 30 The criticality accident occurred.
  - Oct. 2 Safety of foods were declared by the government.
  - But,.....

# Sweet potato from Ibaraki prefecture (Kikuchi, Kumagai, 2002)



# How can we reduce the damage?

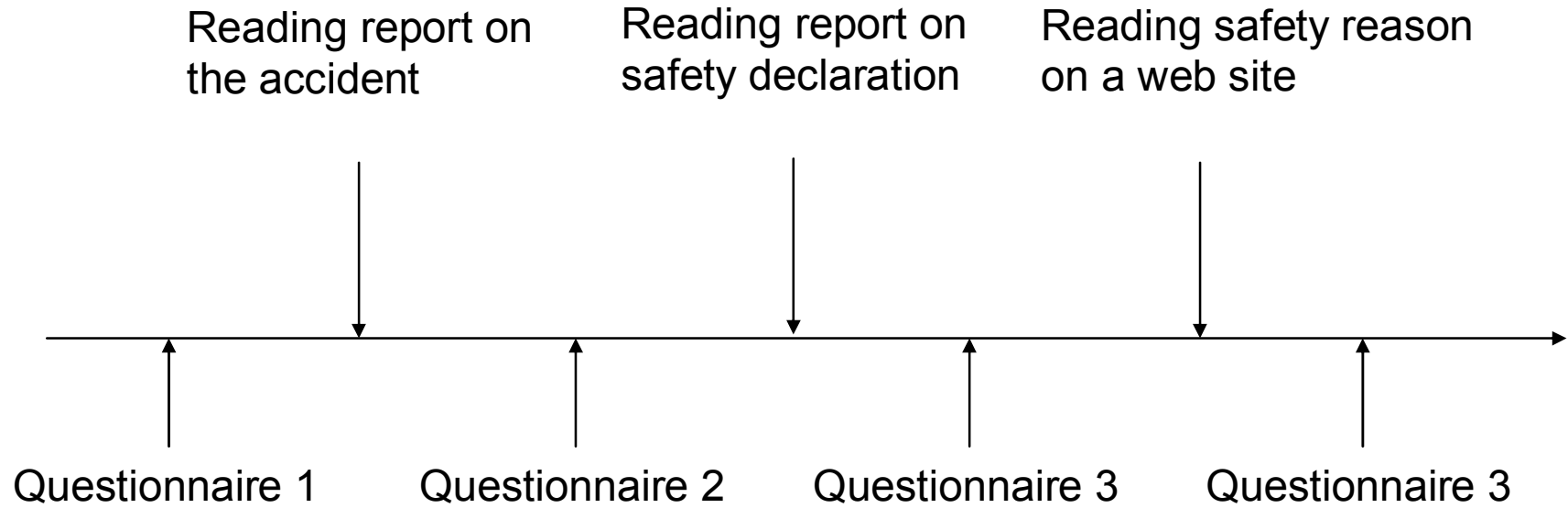
- Problem
  - People do not accept the declaration of the safety of the products.
  - How we can make the products to be trustworthy?
- The notion of “trust in a machine” (Lee & Moray, 1992) is useful
  - **Purpose**: the underlying motives or intents
  - **Process**: understanding of the underlying qualities or characteristics that govern behavior
  - **Performance**: the expectation of consistent, stable, and desirable performance or behavior
  - **Foundation**: the fundamental assumption of natural and social order

Information on how the safety is attained would be helpful. Also, it might be better that people access this info from a third party.

# Experiment

- Purpose
  - to investigate effectiveness of providing information on the reason of the safety of the worried products from a third party.
- Participants:
  - Fourteen graduate and undergraduate students, and
  - fifteen administrative staffs in the University of Tsukuba
- Method
  - An experimenter visits office (or lab) of a participant.
  - A participant is asked to read written materials on an event and to fill out questionnaire sheets.

# Procedure



# 1. Report on an (imaginary) accident

- A tanker run ashore near a port in Town A, Russia.
- Heavy oil is leaking from the tanker. Some of animals, fishes, and plants living near the accident site have been contaminated as shown in pictures in the news report.
- This area is famous for crabs. The crabs have been imported to Japan.

## ロシアでタンカー座礁、重油流出

ロシア北部の港町ダッソウで、重油運搬用タンカーが操舵手の運転ミスにより座礁する事故が発生した。この事故により、船底が岩礁にえぐられタンカーに積んでいた重油が漏れだし、辺り一帯の海に重油が漂っている状況となっている。流れ出した重油はドラム缶 三万1千本分。

## 静かな漁港に突然の災難。海産物への被害懸念



ダッソウの周辺の近辺の住民の多くは漁業を営んでいる。特にトビウオ漁やカニの養殖が盛んで、日本にも多くを輸出している。

今回の事故により、海岸に生息するアサリや海鳥などは油まみれになり、アサリは呼吸困難のためほぼ全滅、海鳥は重油を飲み込んでしまい中毒に陥り、その多くが死亡。海産物への被害が懸念されている。日本政府は、ロシア産の海産物を安全が確認されるまで永久輸入禁止とした。



## 2. Report on safety declaration given by a government

- This news report shows that the Russian and Japanese government issued safety declaration on the crabs from the town A.
- The news report does not mention about how the safety is assured.

### ロシア政府と日本政府、カニの安全宣言を出す

事故から3週間後、ロシア政府はあらかじめ除去されたと発表した。海産物への被害についても、ロシア政府はダッソウ周辺のカニを分析、カニを食べても人間の健康に影響はないと発表した。日本政府も安全宣言を出し、目視と鼻による臭気検査により異常が認められなければ、ダッソウ周辺のカニを販売して良いとした。しかし、関係者の中から「風邪などで鼻がつまり、臭いに気づかないことがある。」と懸念の声も上がっている。



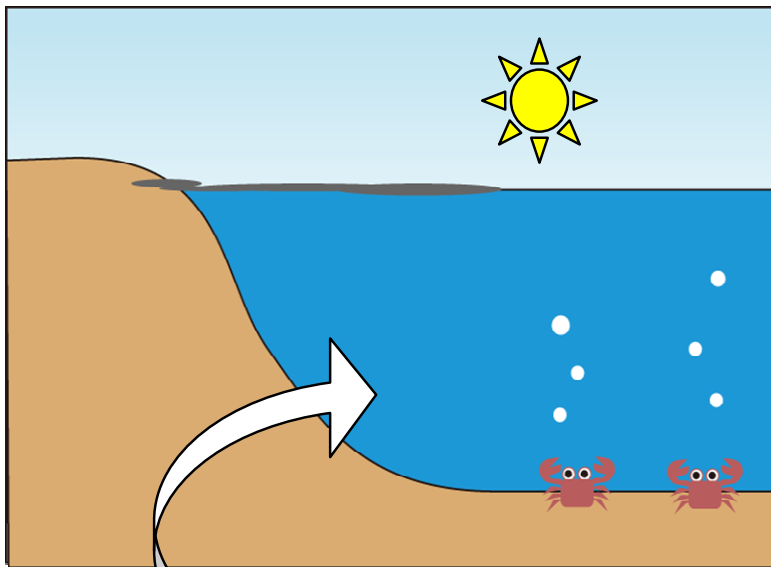
### 市場の声、反応様々

事故からわずか3週間で出されたカニの安全宣言に市場の反応は様々。「価格の安いロシア産のカニをお客様に提供できなかつたが、これで提供できるようになる。」(飲食店経営)「いくら安全宣言が出されても、(ダッソウ周辺のカニを)消費者は気味悪がって買わない」(魚屋経営)など、ロシア産カニの輸入解禁をめぐり市場は混乱している。



### 3. A web site which explains how the crabs are safe

- It is assumed that participants find a web site by chance. The web site explains why the safety of the crabs near town A is not contaminated.



実は左の図のとおり、重油は水よりも比重が軽いので重油は海面に浮きます。また、カニは海の底で生活しています。

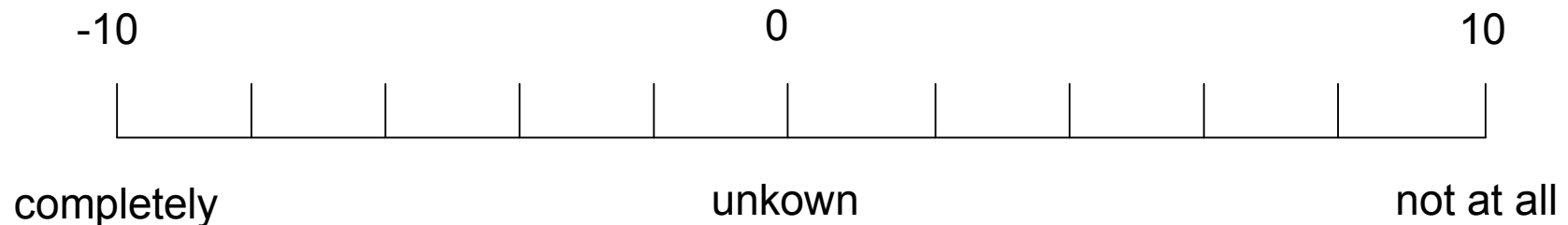
そのためカニは重油に接触することは物理的にあり得ず、カニは重油に汚染されることは、そもそもあり得ないことなのです。

重油（海面）とカニの住処（海底）には大きな隔たりがある！！

## Questions to be discussed

- **Question 1**

To what extent do you think the crabs in town A is dangerous?



- **Question 2**

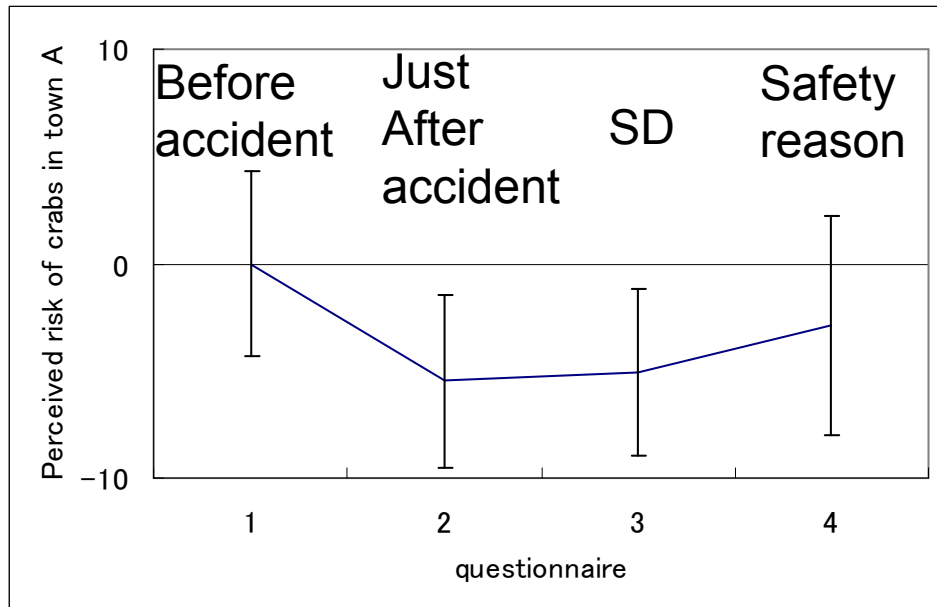
You have to buy some crabs for a party.

In the supermarket you usually do daily shopping,  
you found several types of crabs.

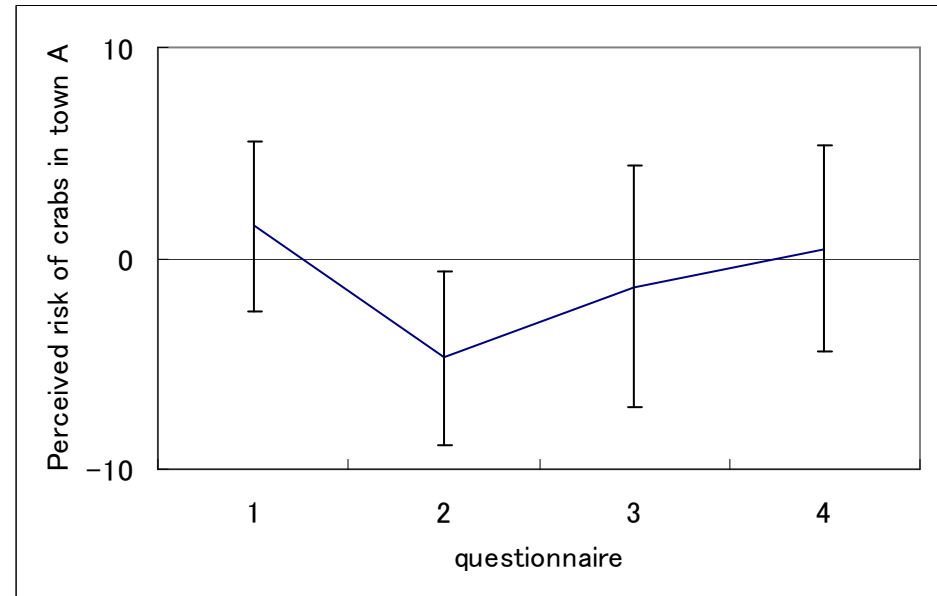
Which one would you like to buy?

- a. From a Japanese port. 2480 Japanese Yen for each.
- b. From an American port. 1980 Japanese Yen for each.
- c. From a Russian port. 1800 Japanese Yen for each.

## Result: Perceived risk



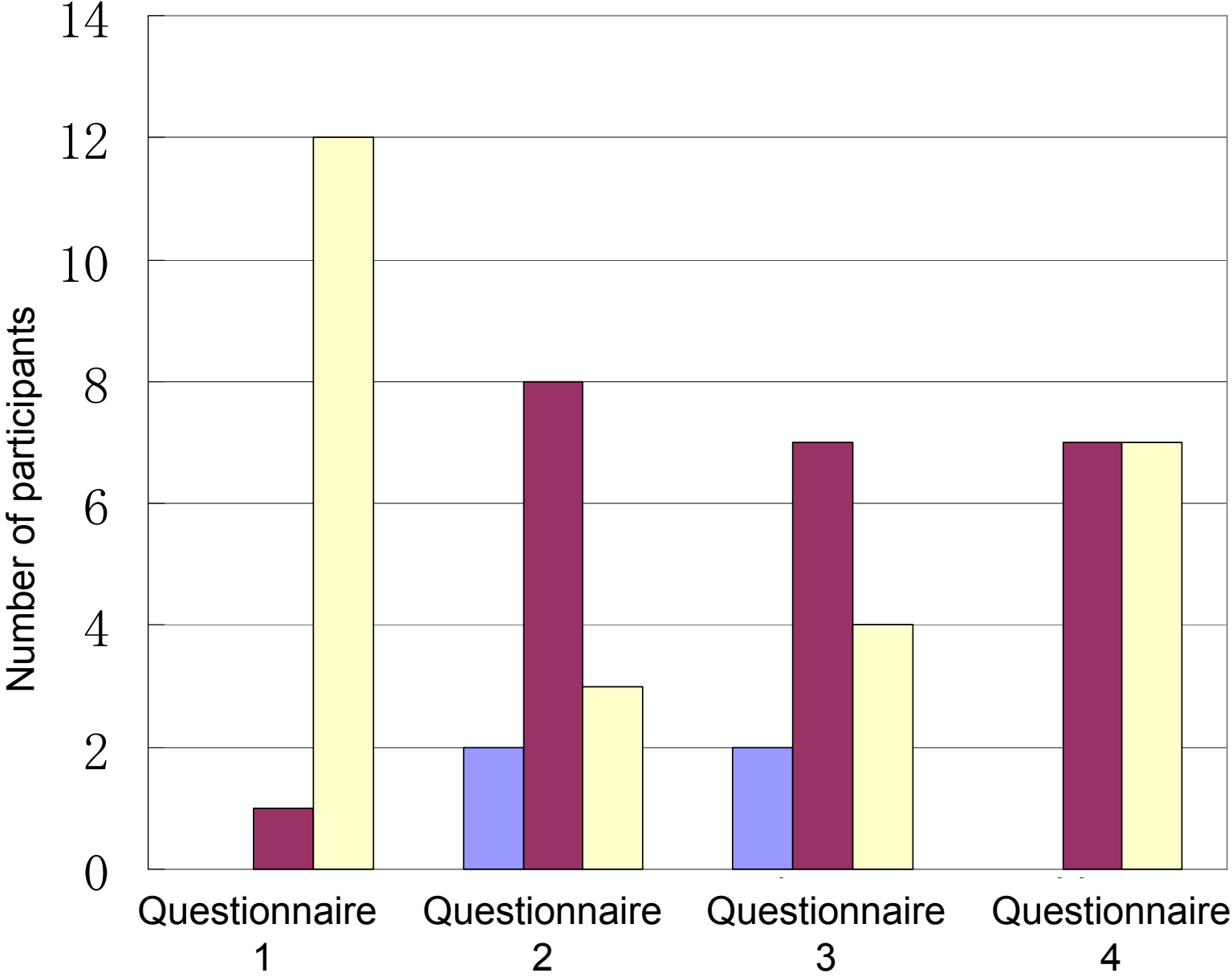
Administrative staffs



Students

- Difference between #1 and #2 was significant ( $p < 0.05$ )
  - Participants felt the crabs danger at #2
- Difference between #2 and #4 was significant ( $p < 0.05$ )
  - Their safety feeling recovered after receiving the safety reason
- Difference between #2 and #3 WAS NOT SIGNIFICANT
  - Safety declaration itself did not effective for the recovering
- Difference between #1 and #4 was nearly significant ( $p = 0.092$ ).
  - The recovery might not be enough

# Students' willingness to buy



## Concluding remarks

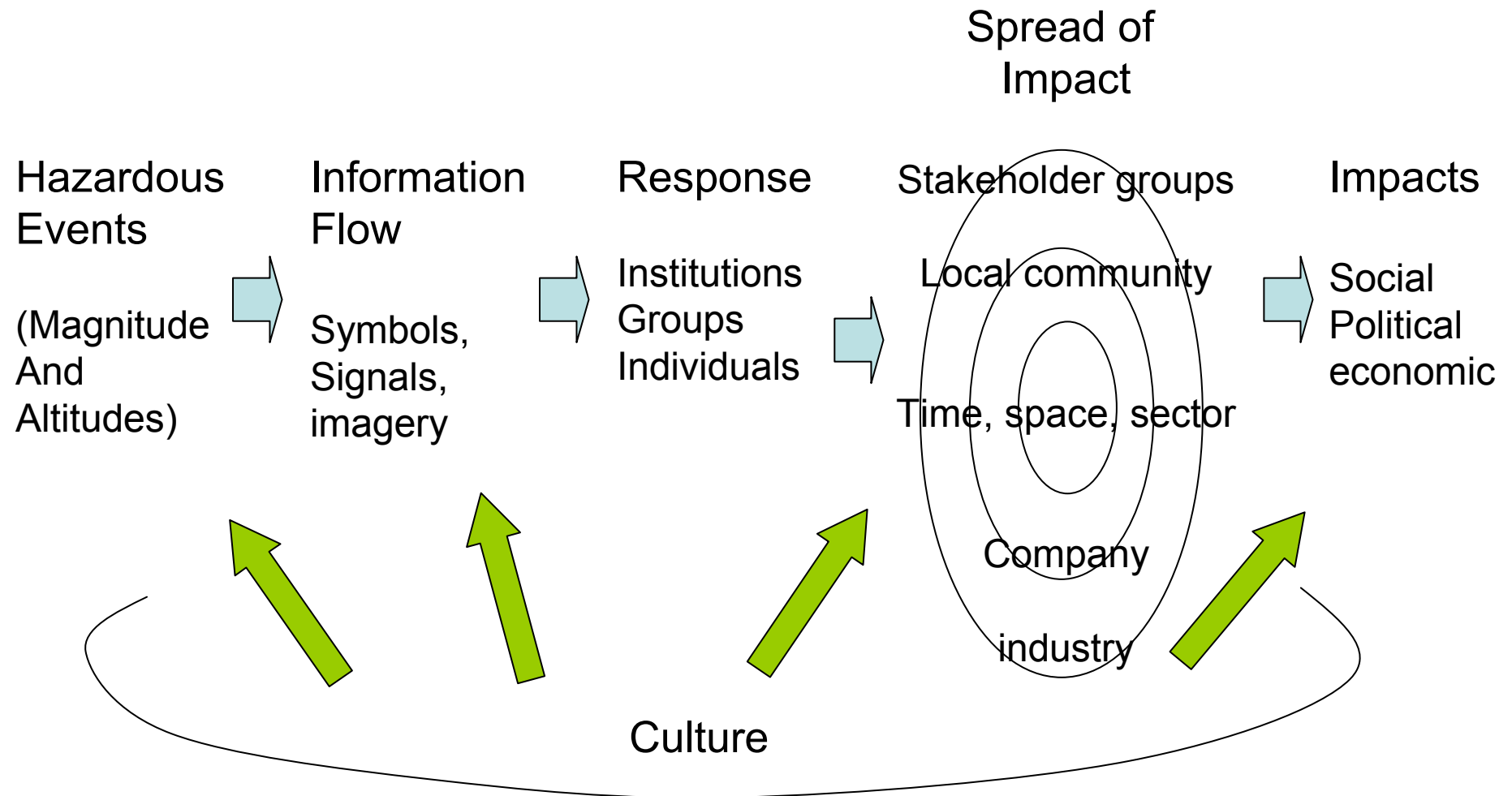
- It is necessary that
  - people understand the reason why the products are safe (i.e., issuing a safety declaration may not be enough)
  - in order for the people to recover their perceived risk on the products
- Unfortunately, it was not enough to recover the willingness to buy the products to the original level
  - Further studies are necessary in this sense



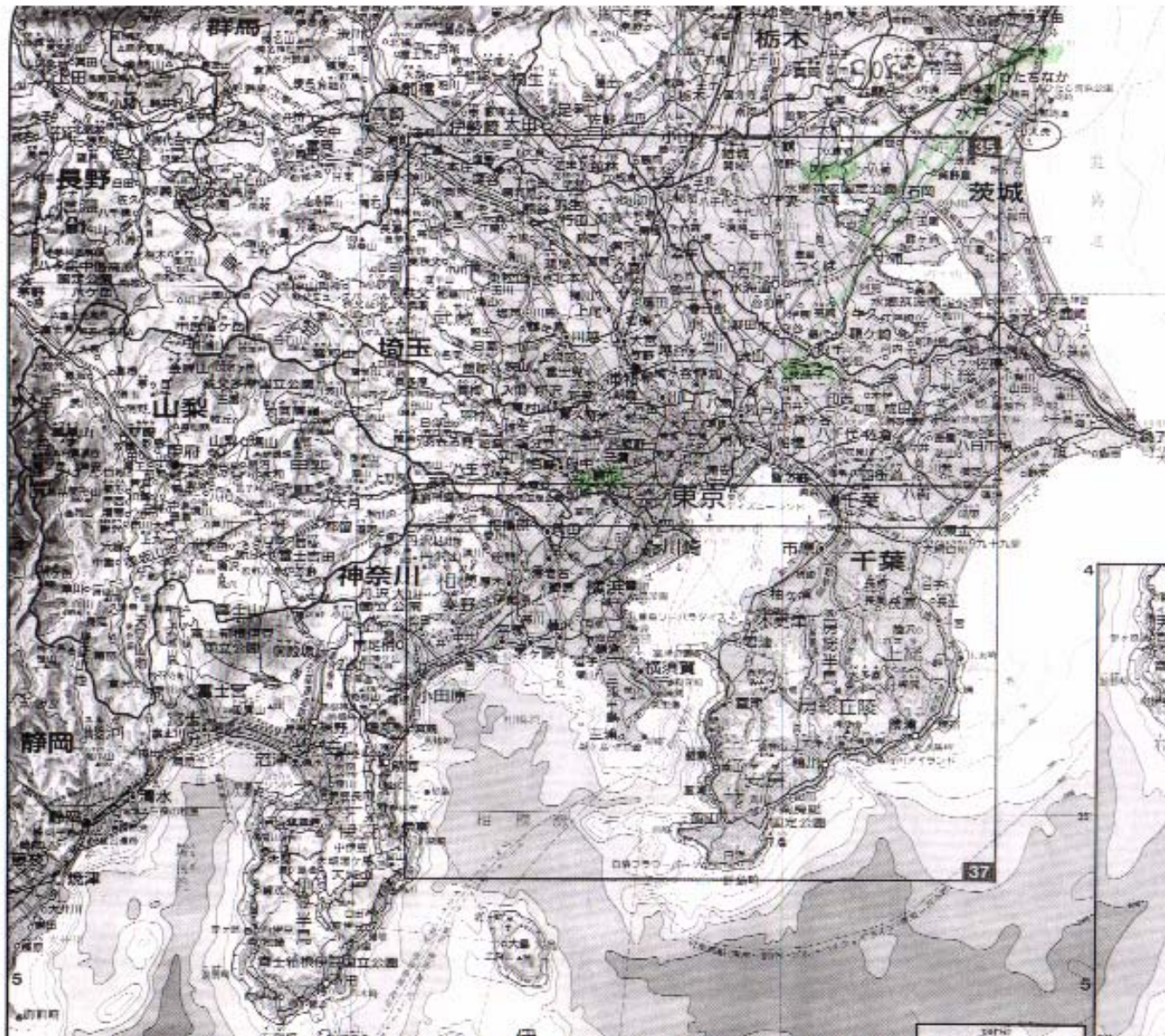
# Social Amplification or Risk Framework (SARF)

(Kasperson, et al., 1992)

- “DR” is a kind of social amplification of risk (SAR)
- Mass media play an important role on SAR



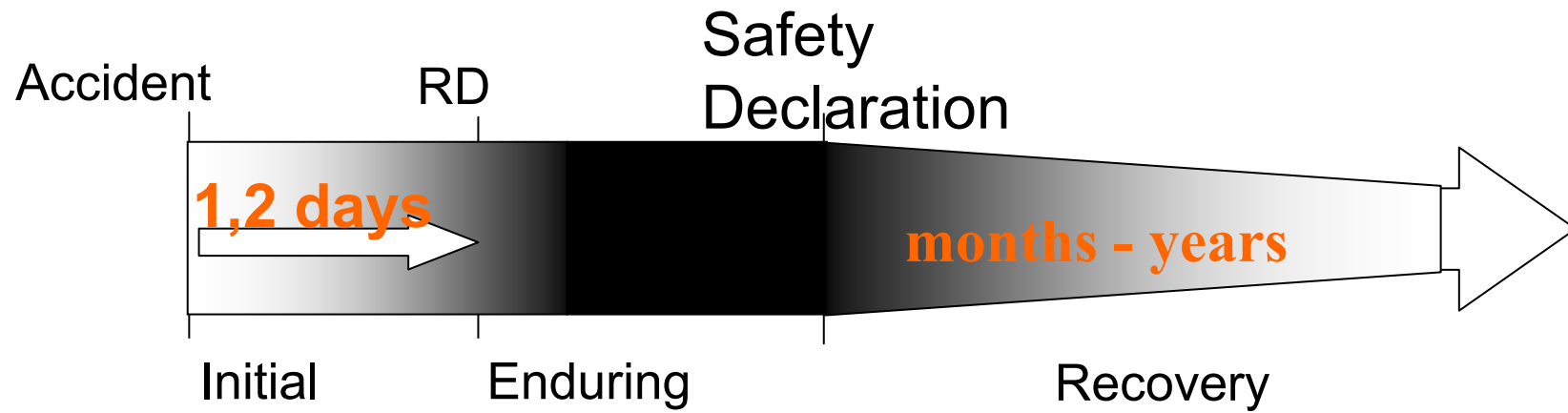




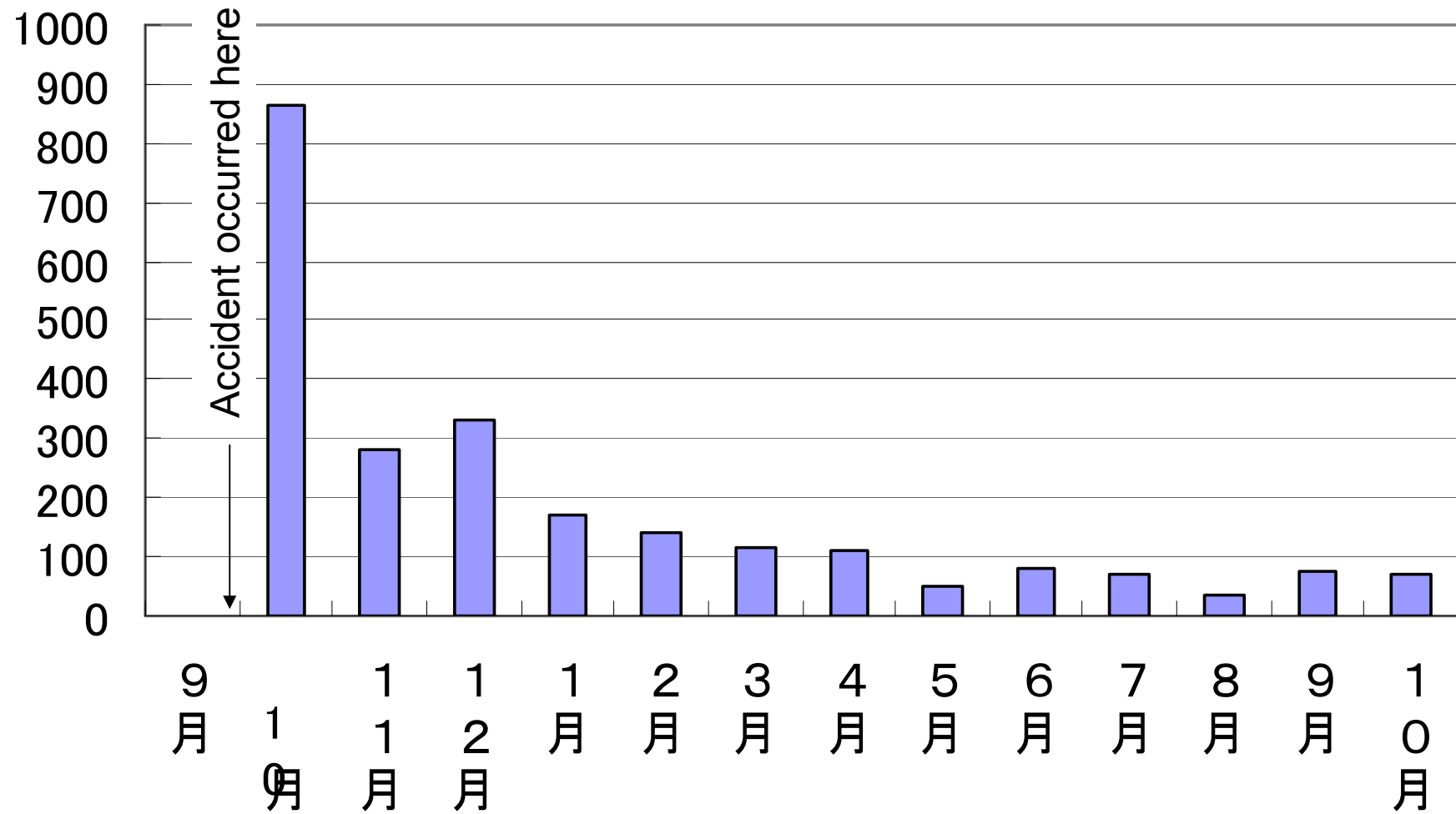


### 3. Modeling of RD

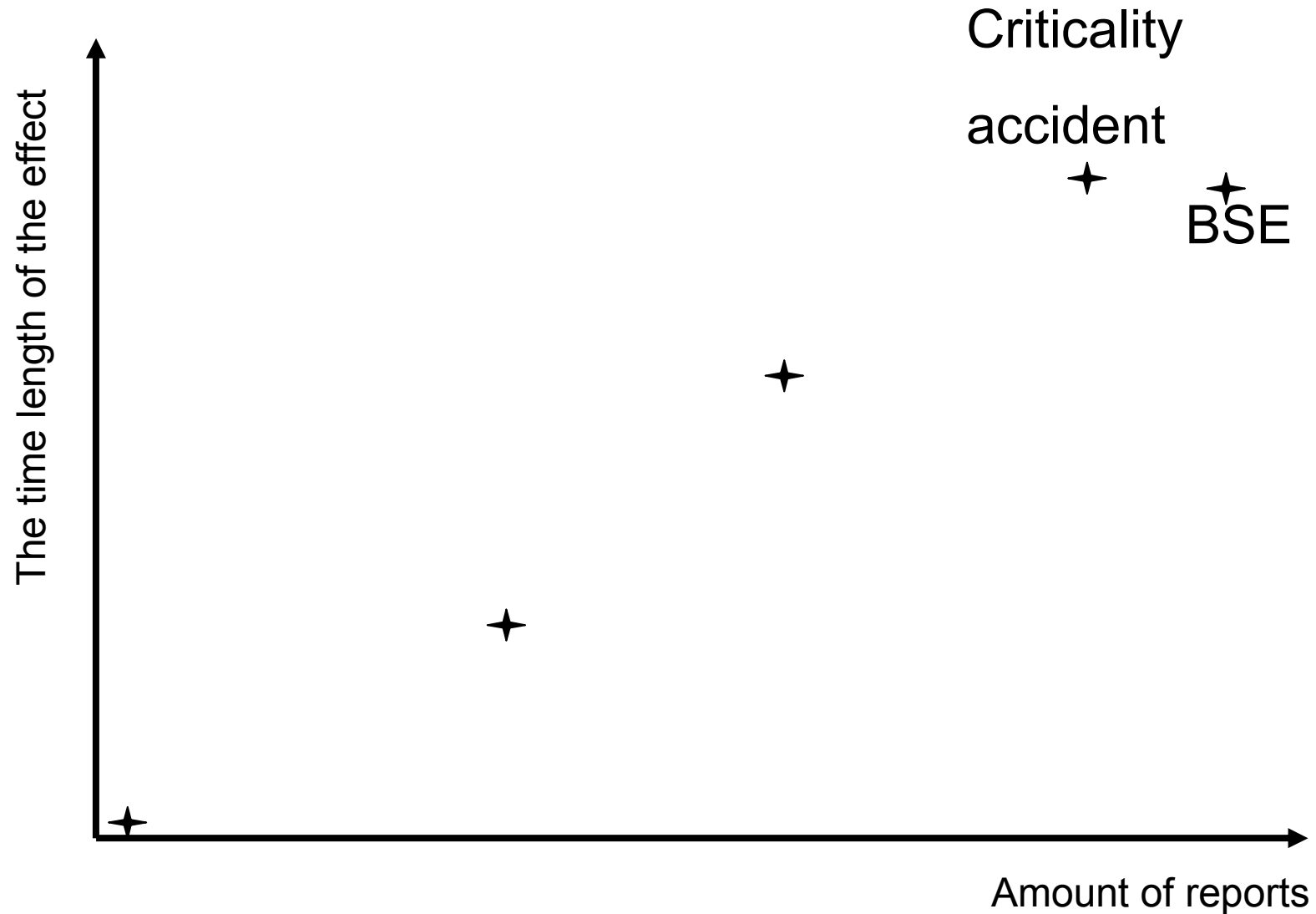
#### Process of RD



# Amount of reports in newspapers on the criticality accident in 1999 (in case of the Asahi Shimbun)



# Correlation between amount of reports on a newspaper and the length of the effect (Itoh, et al., 2006)



# Admin

