Unless otherwise noted, the content of this course material is licensed under a Creative Commons Attribution - Non-Commercial - Share Alike 3.0 License.
http://creativecommons.org/licenses/by-nc-sa/3.0/

Copyright 2008, Jeffrey K. MacKie-Mason

You assume all responsibility for use and potential liability associated with any use of the material. Material contains copyrighted content, used in accordance with U.S. law. Copyright holders of content included in this material should contact open.michigan@umich.edu with any questions, corrections, or clarifications regarding the use of content. The Regents of the University of Michigan do not license the use of third party content posted to this site unless such a license is specifically granted in connection with particular content objects. Users of content are responsible for their compliance with applicable law. Mention of specific products in this recording solely represents the opinion of the speaker and does not represent an endorsement by the University of Michigan.
Playlist

“Conflict of Interest”, Binky Mack

“Disagree”, Chantal Kreviazuk

“Hide and Seek”, Ani di Franco

“Did You Get My Message?”, Jason Mraz

“Joint Venture”, Staffan William-Olsson

“Silent Agency”, Silent Agency
Hidden Action I
Information professionals need to manage many resources to succeed.
Information professionals need to manage many resources to succeed. Including people.
Agents use your expensive resources, but you can’t always monitor what they do.
You must learn to manage without control.
You succeed if your independent agents *want* to solve your problems.
Design agreements that motivate agents to self-monitor.
You can keep your job for another day.
Perfect contracts with perfect information can solve this problem.
Contract

The party of the first part and the party of the second part hereby agree that:

If $x_1$ happens, do $y_1$, get paid $z_1$;
If $x_2$ happens, do $y_2$, get paid $z_2$;
If $x_3$ happens, do $y_3$, get paid $z_3$…

Elmer Fudd

Elmer Fudd, Esq.  Alfred E. Newman
Death penalty for parking violations

<example>
Do you trust this seller?
Error 554 HVU:B1

- 554 HVU:B1
  http://postmaster.info.aol.com/errors/554hvub1.html

EXPLANATION:
There is at least one URL in your email that is generating substantial complaints from AOL members.

SOLUTION:
If you own all the domains linked to in your e-mail, please contact us to discuss more effective management of your complaint levels. You can start by setting up a free complaint loop through this form. This will allow you to receive AOL member complaints against your domain.

If you do not own the domain, please have the owner of that domain contact us.
OFFICIAL CHECK

145879334

**FEBRUARY 3, 2003***

***** $9,650.00**

National City
National City Bank of Michigan/Illinois

******GLOBAL COMM. INC******

Pay to: ***Targeted victim's name deleted***

Order of

NATIONAL

$9,650.00

Drawer: National City Bank of Michigan/Illinois

Authorized Signature

$9,650.00

NATIONAL

$9,650.00

Dollars

$9,650.00

}
The information requirements for perfect contracting are prohibitive.
bounded rationality
memory
communication
computation
silicon-based
What are some solutions?
reputation
commitment
Xiang Yu
Photo tour of factory: http://forums.vwvortex.com/zerothread?id=1837641
contracts
Are you applying to...

Select One:

- College
- Business School
- Graduate School
- Law School
- Medical or Health Program
- Private High School

THE NET'S BEST AND BIGGEST EDITING RESOURCE

Named "the world's premier application essay editing service of the best essay services on the Internet" by The Washington Post.
Gabor Varszegi
pay 4x the market wage
Canonical contracting problem

*Principal* contracts with *agent* to carry out some type of action or make some decision

- *principal* designs and offers the contract(s)
- *agent* freely chooses whether to accept (IR)
- *agent* performs, but has some information not available to *principal*
Mount-Reiter diagram

Environment → Objective function → Outcome

Message space

messages, actions

payoff function
Canonical contracting problem

Principal contracts with agent to carry out some type of action or make some decision

NB: Fundamental conflict of interest:
Cost for one is benefit for other.

NB: Verifiability is critical issue:
What is enforceable?
1. Agency cost

When principals and agents have conflicting objectives, and asymmetric info...

- ...Can’t expect the organization or community (etc.) to function as well as it would with full information or aligned objectives

Shortfall: *agency cost*
2. Information rent

Principal transfers part of surplus to agent to overcome agency cost: this is the agent’s compensation.

Compensation = reservation utility + information rent
<example>
Dissolving a joint venture
How to agree on price for a departing participant?
2 agents, self-regarding, monotonic preferences: prefer $x_i$ to $y_i$ iff $x_i > y_i$

Message space: $v_i$, announced valuation for share.

Problem: How to decide payment given the $v_i$?
What’s wrong with the following mechanisms?
Departing partner announces her \( v_i \) at departure date.

Partner has to buy her out at that price.
Agree on buyout price at contract commencement date.
Departee announces $v_i$ at departure date.

Partner chooses to buy at that price, or sell his half to departee at same price.
Proof of incentive compatibility

Suppose share is worth $w$ to both partners (but they don’t know the value to the other)

- If you announce $v > w$, partner will sell to you for $v$, you will lose
- If you announce $v < w$, partner will buy from you for $v$, you will lose
- Announce $v = w$: partner willing to buy from you, get full value
Pareto optimal

Everyone at least as well off as before, no one worse

No other result is Pareto superior

Cf. Pre-nuptial agreements
But, not so fast…

What if the partners have different beliefs about the true value?

- Suppose $w_1 \in [a,b]$, and $w_2 \in [c,d]$ with $a < c < b < d$ (overlapping intervals)

- What problem occurs with proposed mechanism?
But, not so fast…

What if the partners have different beliefs about the true value?

- Suppose \( w_1 \in [a,b] \), and \( w_2 \in [c,d] \) with \( a < c < b < d \) (overlapping intervals)

- What problem occurs with proposed mechanism?

- Depending on beliefs about \( w_2 \), seller might want to bid \( v > w_1 \), risking having to buy other share at higher price, but hoping to sell own share at higher price
Discussion

• In this setting (bilateral trade with overlapping value supports) *no mechanism can guarantee* that its outcome will be:
  – efficient
  – budget balanced
  – individually rational

• For example, for any mechanism there might be cases where \( w_2 > w_1 \), so there is some price at which both parties are better off if one partner sells to the other, but for which trade will not occur: Myerson-Satterthwaite (1981)
Humans are crucial devices in any system.
They are autonomous and (generally) at least somewhat self-interested.
Most tasks that require cooperation or agency (effort on behalf of someone else) have intrinsic conflict of interest.
Conflict of interest
Not swear words.
Learn to love them.
They create an opportunity for smart ICD professionals: Problems to solve.