Achieving Coordination under Privacy Concerns

Wioletta Dziuda  Ronen Gradwohl

Kellogg School of Management
Northwestern University
A joint venture

Two firms wish to engage in a joint venture.
A joint venture

Two firms wish to engage in a joint venture.

- They exchange proprietary information: financial statements, contracts with other firms, revenues, may visit each other’s factories, “open the books,” etc.

- If exchanged evidence suffices, firms profitably coordinate on joint venture.

- However, some firms are unviable – they are not interested in joint venture, but only want information of other firm.

- Firms have privacy concerns: They incur a cost from the revelation of evidence to unviable firm.

Question: What is the structure of optimal equilibrium communication?
A joint venture

Two firms wish to engage in a joint venture.

- They exchange proprietary information: financial statements, contracts with other firms, revenues, may visit each other’s factories, “open the books,” etc.

- If exchanged evidence suffices, firms profitably coordinate on joint venture.
A joint venture

Two firms wish to engage in a joint venture.

- They exchange proprietary information: financial statements, contracts with other firms, revenues, may visit each other’s factories, “open the books,” etc.
- If exchanged evidence suffices, firms profitably coordinate on joint venture.
- However, some firms are unviable – they are not interested in joint venture, but only want information of other firm.
A joint venture

Two firms wish to engage in a joint venture.

- They exchange proprietary information: financial statements, contracts with other firms, revenues, may visit each other’s factories, “open the books,” etc.
- If exchanged evidence suffices, firms profitably coordinate on joint venture.
- However, some firms are unviable – they are not interested in joint venture, but only want information of other firm.
- Firms have privacy concerns: They incur a cost from the revelation of evidence to unviable firm.
A joint venture

Two firms wish to engage in a joint venture.

- They exchange proprietary information: financial statements, contracts with other firms, revenues, may visit each other’s factories, “open the books,” etc.
- If exchanged evidence suffices, firms profitably coordinate on joint venture.
- However, some firms are **unviable** – they are not interested in joint venture, but only want information of other firm.
- Firms have **privacy concerns**: They incur a cost from the revelation of evidence to unviable firm.

Question: What is the structure of optimal equilibrium communication?
A joint criminal venture

Two shady characters wish to engage in a less-than-legal venture.
A joint criminal venture

Two shady characters wish to engage in a less-than-legal venture.

- They exchange information: reference criminal connections, describe activities to which only the criminal underworld is privy, etc.

- If after discussion both characters are convinced that the other is criminally-minded, proceed with venture.

- However, some characters are undercover cops – they are not interested in joint venture, but only want information from criminal characters.

Criminal characters have privacy concerns: They incur a cost from the revelation of information to undercover cops.

Question: What is the structure of optimal equilibrium communication?
A joint criminal venture

Two shady characters wish to engage in a less-than-legal venture.

- They exchange information: reference criminal connections, describe activities to which only the criminal underworld is privy, etc.
- If after discussion both characters are convinced that other is criminally-minded, proceed with venture.
A joint criminal venture

Two shady characters wish to engage in a less-than-legal venture.

- They exchange information: reference criminal connections, describe activities to which only the criminal underworld is privy, etc.
- If after discussion both characters are convinced that other is criminally-minded, proceed with venture.
- However, some characters are undercover cops – they are not interested in joint venture, but only want information from criminal character.
A joint criminal venture

Two shady characters wish to engage in a less-than-legal venture.

- They exchange information: reference criminal connections, describe activities to which only the criminal underworld is privy, etc.
- If after discussion both characters are convinced that other is criminally-minded, proceed with venture.
- However, some characters are undercover cops – they are not interested in joint venture, but only want information from criminal character.
- Criminal characters have privacy concerns: They incur a cost from the revelation of information to undercover cops.
A joint criminal venture

Two shady characters wish to engage in a less-than-legal venture.

- They exchange information: reference criminal connections, describe activities to which only the criminal underworld is privy, etc.
- If after discussion both characters are convinced that other is criminally-minded, proceed with venture.
- However, some characters are undercover cops – they are not interested in joint venture, but only want information from criminal character.
- Criminal characters have privacy concerns: They incur a cost from the revelation of information to undercover cops.

Question: What is the structure of optimal equilibrium communication?
The main message of this paper
The main message of this paper

Gradual communication

- may arise in equilibrium and may be optimal.
The main message of this paper

Gradual communication

▶ may arise in equilibrium and may be optimal.

Non-gradual communication

▶ may arise in equilibrium and may be optimal.

Which one is true depends on

▶ which pieces of evidence are most harmful (first or last),

▶ whether or not unviable types can be discovered quickly,

and

▶ whether all types have privacy concerns, or only the viable types.
The main message of this paper

Gradual communication

- may arise in equilibrium and may be optimal.

Non-gradual communication

- may arise in equilibrium and may be optimal.

Which one is true depends on
The main message of this paper

Gradual communication

- may arise in equilibrium and may be optimal.

Non-gradual communication

- may arise in equilibrium and may be optimal.

Which one is true depends on

- which pieces of evidence are most harmful (first or last),
The main message of this paper

Gradual communication

► may arise in equilibrium and may be optimal.

Non-gradual communication

► may arise in equilibrium and may be optimal.

Which one is true depends on

► which pieces of evidence are most harmful (first or last),
► whether or not unviable types can be discovered quickly,
The main message of this paper

Gradual communication

▶ may arise in equilibrium and may be optimal.

Non-gradual communication

▶ may arise in equilibrium and may be optimal.

Which one is true depends on

▶ which pieces of evidence are most harmful (first or last),
▶ whether or not unviable types can be discovered quickly, and
▶ whether all types have privacy concerns, or only the viable types.
Thank You!

😊