Conversations as Transactions in the Future of Commerce
An Economy of Insight

Futurecom 2011
São Paulo, Brazil
12 September 2011

Paul Pangaro, Ph.D.
Global CTO, RedDrummer
pangaro@reddrummer.com

RedDrummer
MEDIUM OF EXCHANGE

Conversations as Transactions in the Future of Commerce
An Economy of Insight

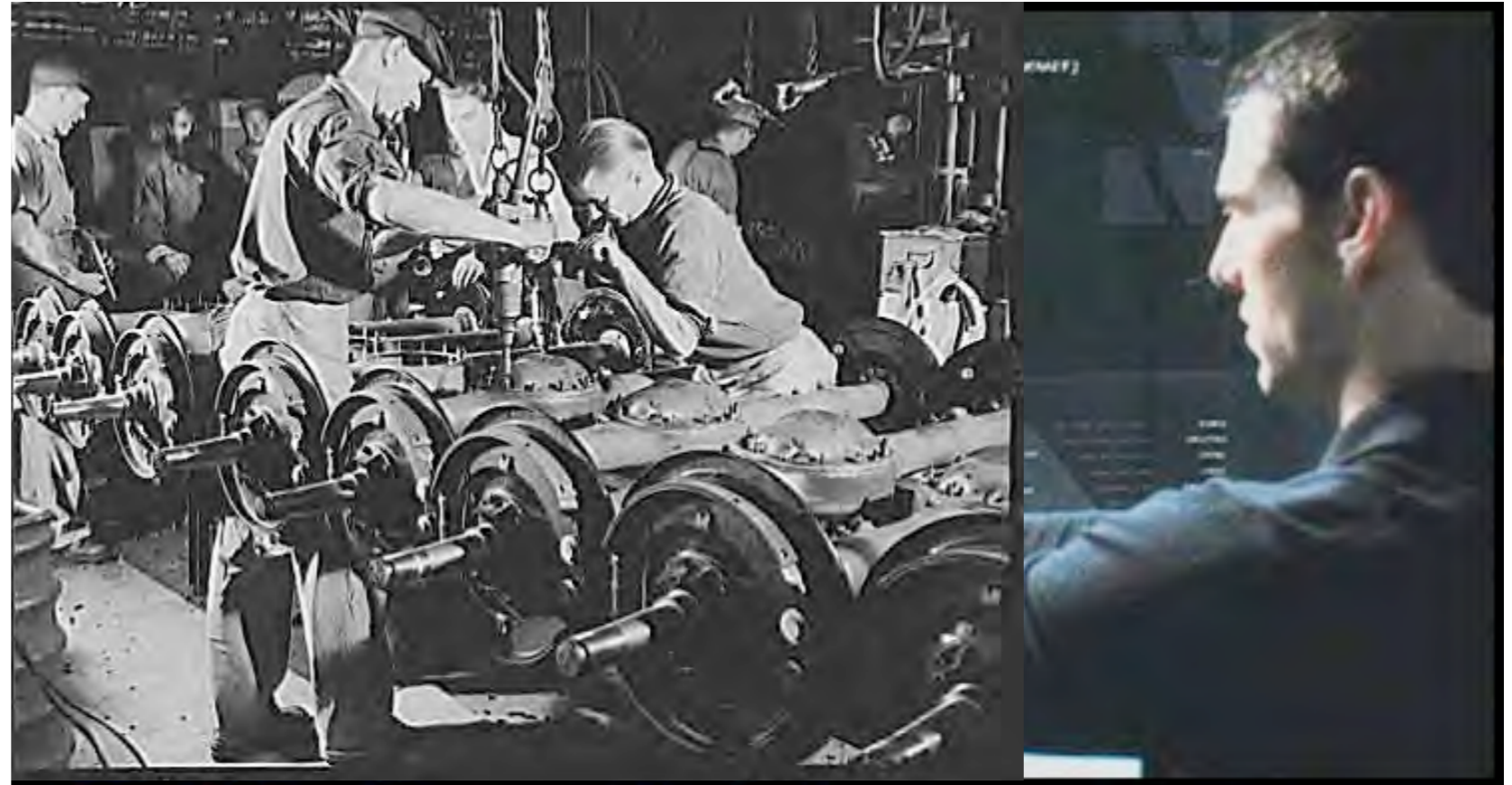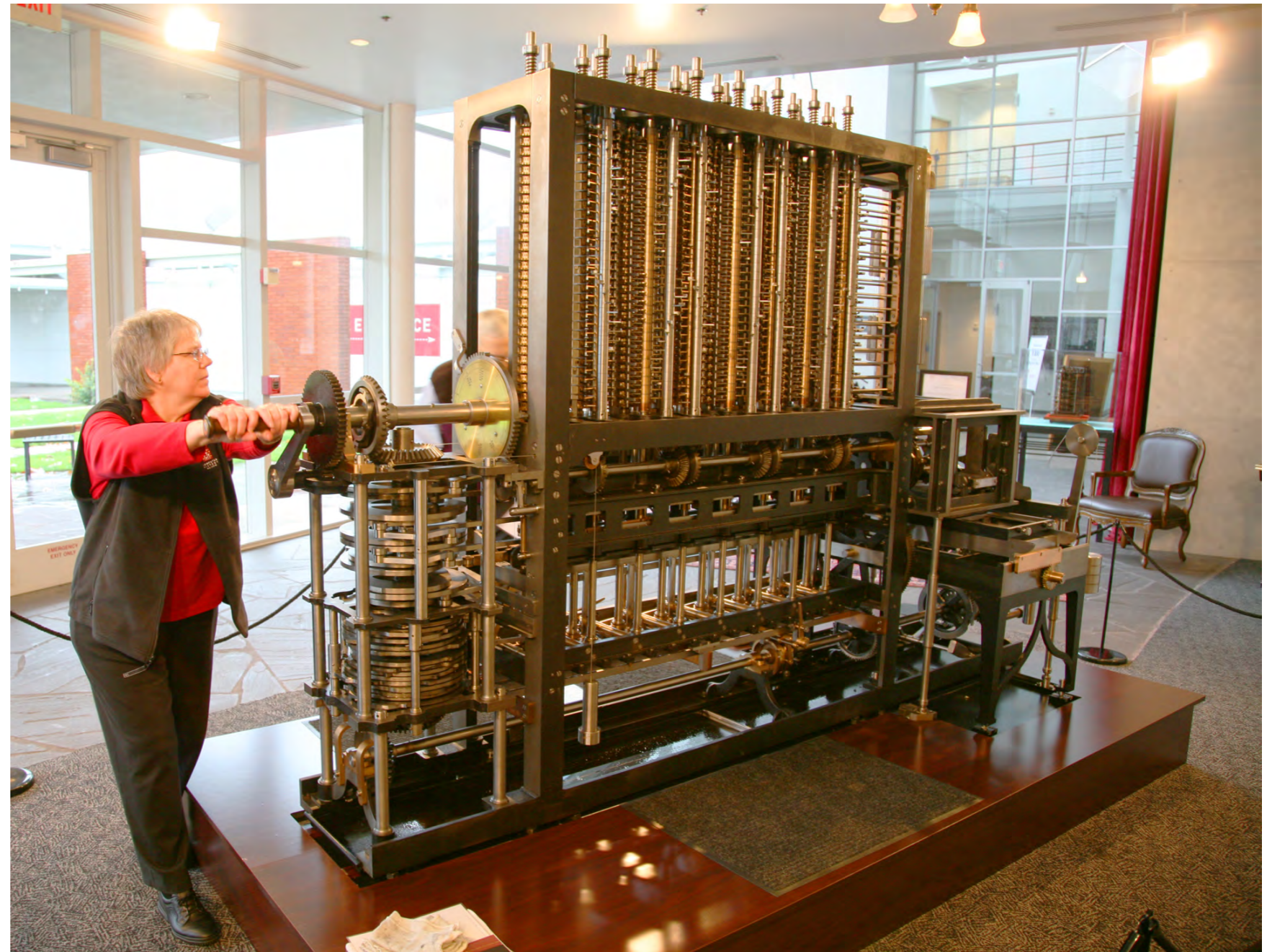# Conversations as Transactions in the Future of Commerce
An Economy of Insight

Conversations as Transactions in the Future of Commerce
An Economy of Insight

What age are we really in?

Conversations as Transactions in the Future of Commerce
An Economy of Insight

What age are we really in?

What did industrial technology bring?

Extensions of our muscles
- greater power to do work, locally
- ability to extend our might, globally

Economic result = lowering the cost
of performing physical work
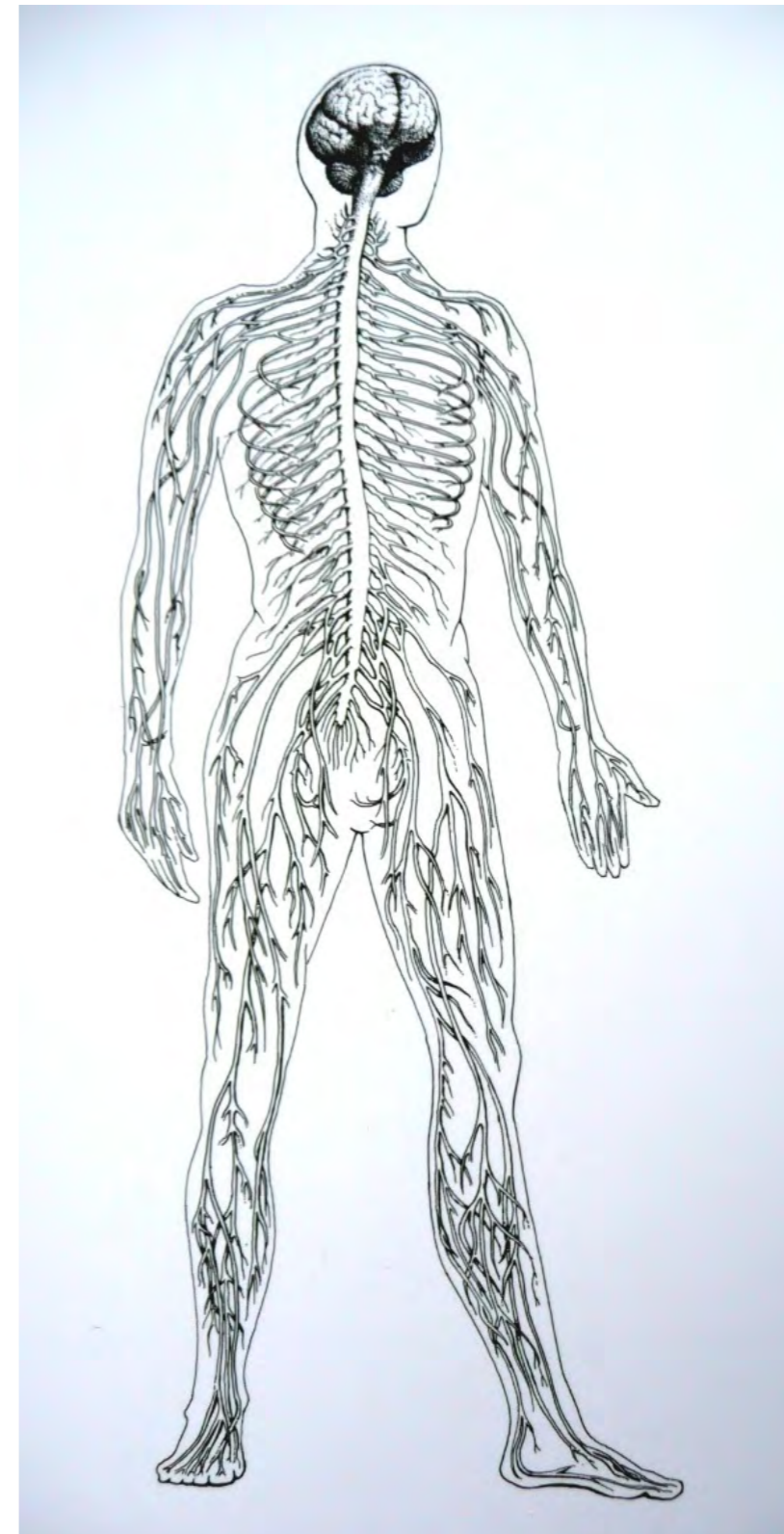
Human result = lessening of need
to perform physical work

What did digital technology bring?

Extensions of our nervous system
- sensing extended from greater distances
- acting extended to greater distances

Economic result = lowering the cost of
lowering uncertainty

Human result = lowering the effort
to achieve goals

Machines & Revolutionary Eras

	Industrial Revolution	Information Revolution	Next Revolution?
	1750—2010—?	1955—1995	
Machines...	amplify muscles	amplify nervous system	
... create wealth by lowering cost of ...	doing physical work	lowering uncertainty	

RedDrummer
MEDIUM OF EXCHANGE

Insight leads to solutions to problems.
(At least, valuable insights do.)

Insight is a necessary precursor
to creating new economic potential.

Therefore, business innovation relies on
a. speed-to-insight
b. quality-of-insight
c. economy-of-insight.

RedDrummer
MEDIUM OF EXCHANGE

Sources of Insight—A Single Mind

A single mind may generate insight.
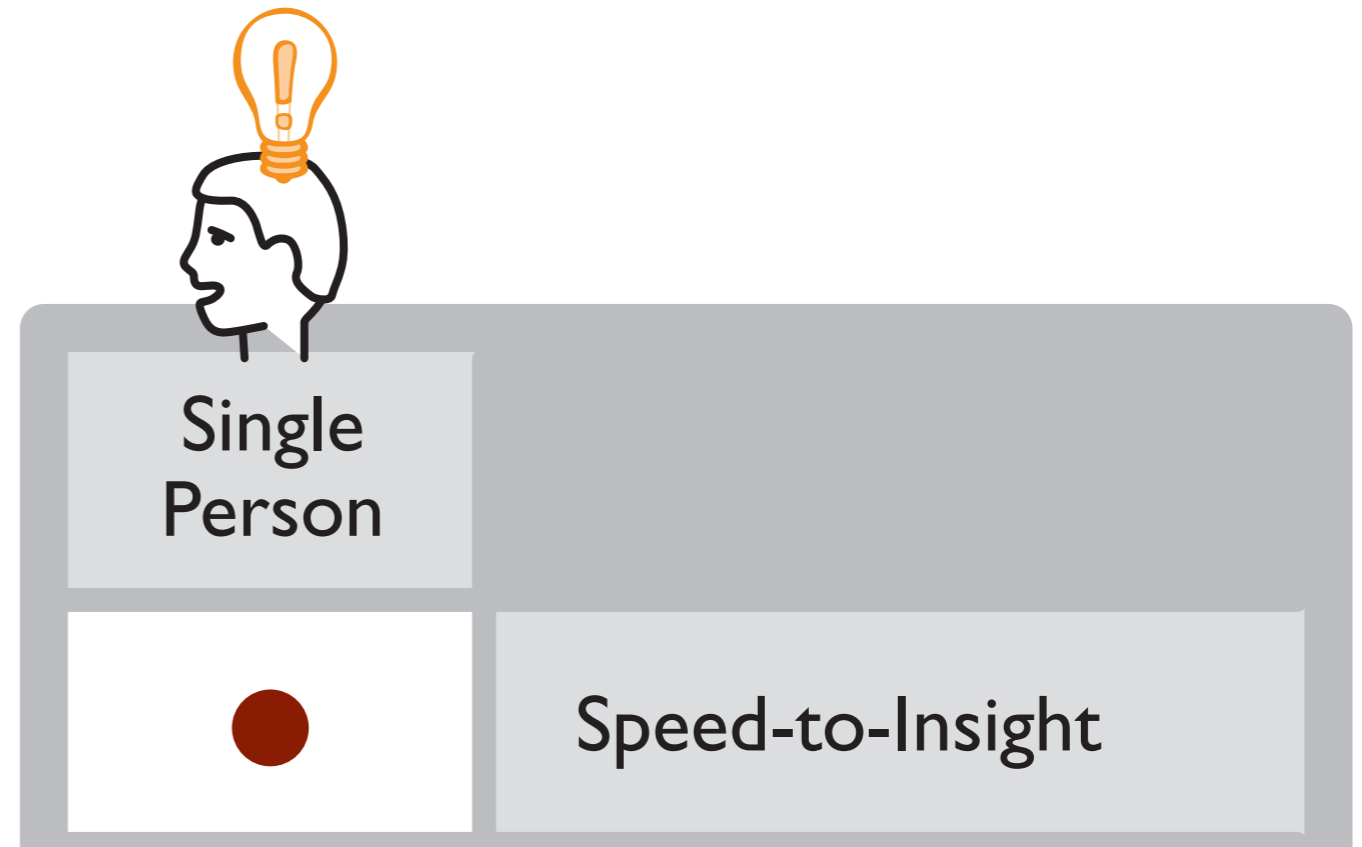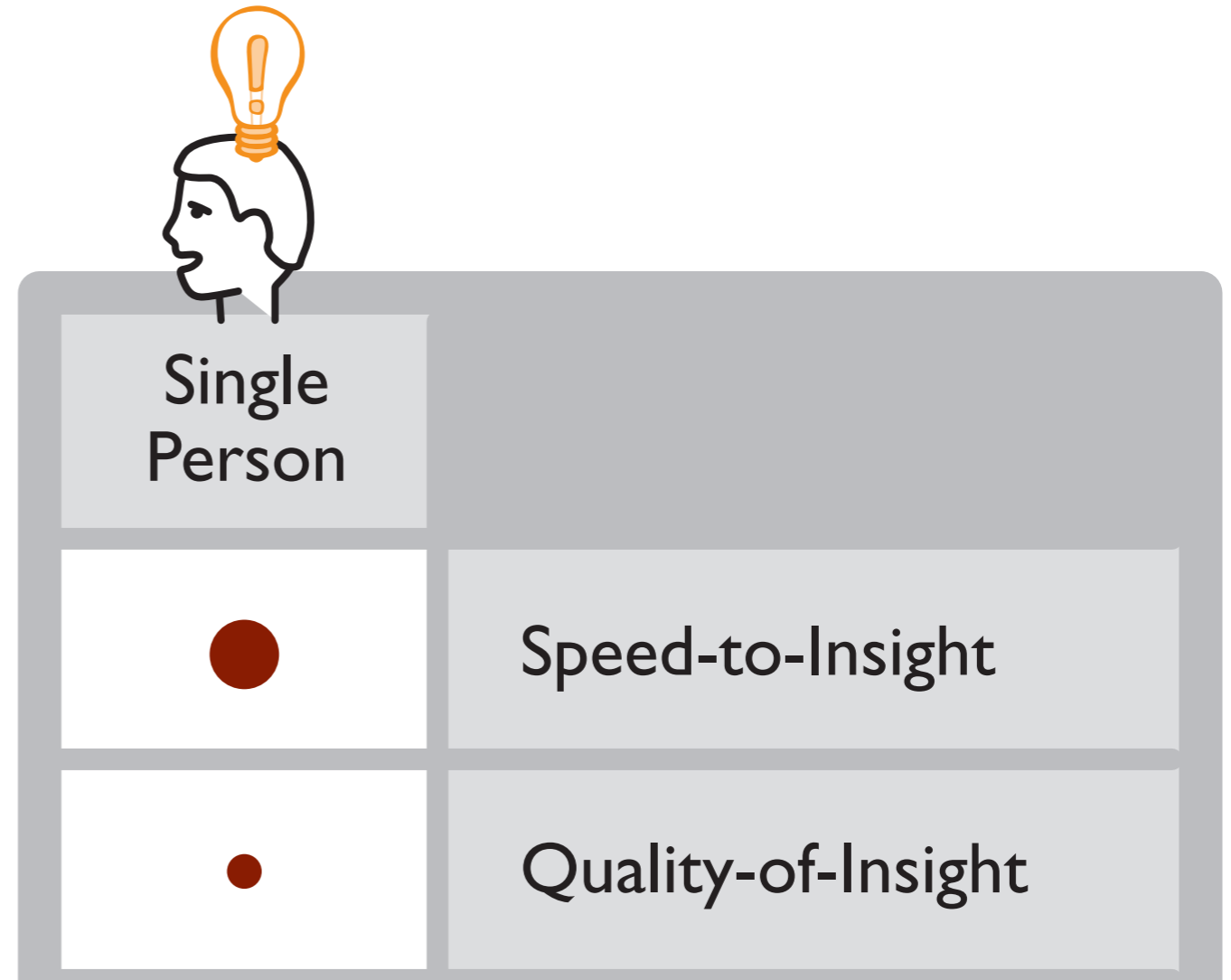
Single
Person

Speed-to-Insight

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Sources of Insight—A Single Mind

A single mind may generate insight.

Single Person	
●	Speed-to-Insight
•	Quality-of-Insight

Sources of Insight—A Single Mind

A single mind may generate insight.

But today's business problems are
"wicked"—hard to define, hard to crack.
And markets are evolving very swiftly.

A *single* mind is severely limited,
compared to that of a group of minds.

Single Person	
●	Speed-to-Insight
●	Quality-of-Insight
●	Economy-of-Insight

RedDrummer
MEDIUM OF EXCHANGE

Sources of Insight—Group of Minds

A group of minds—also called a team—may generate insight.

Economy-of-Insight

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Sources of Insight—Group of Minds

A group of minds—also called a team—may generate insight.

Teams generally possess greater variety of thinking, and therefore may get to insights faster.

They should also generate much higher quality-of-insight.

But, because so many more individuals are involved, teams are not economical.

Single Person	Team	
●	●	Speed-to-Insight
·	●	Quality-of-Insight
●	●	Economy-of-Insight

Conversations as Transactions in the Future of Commerce
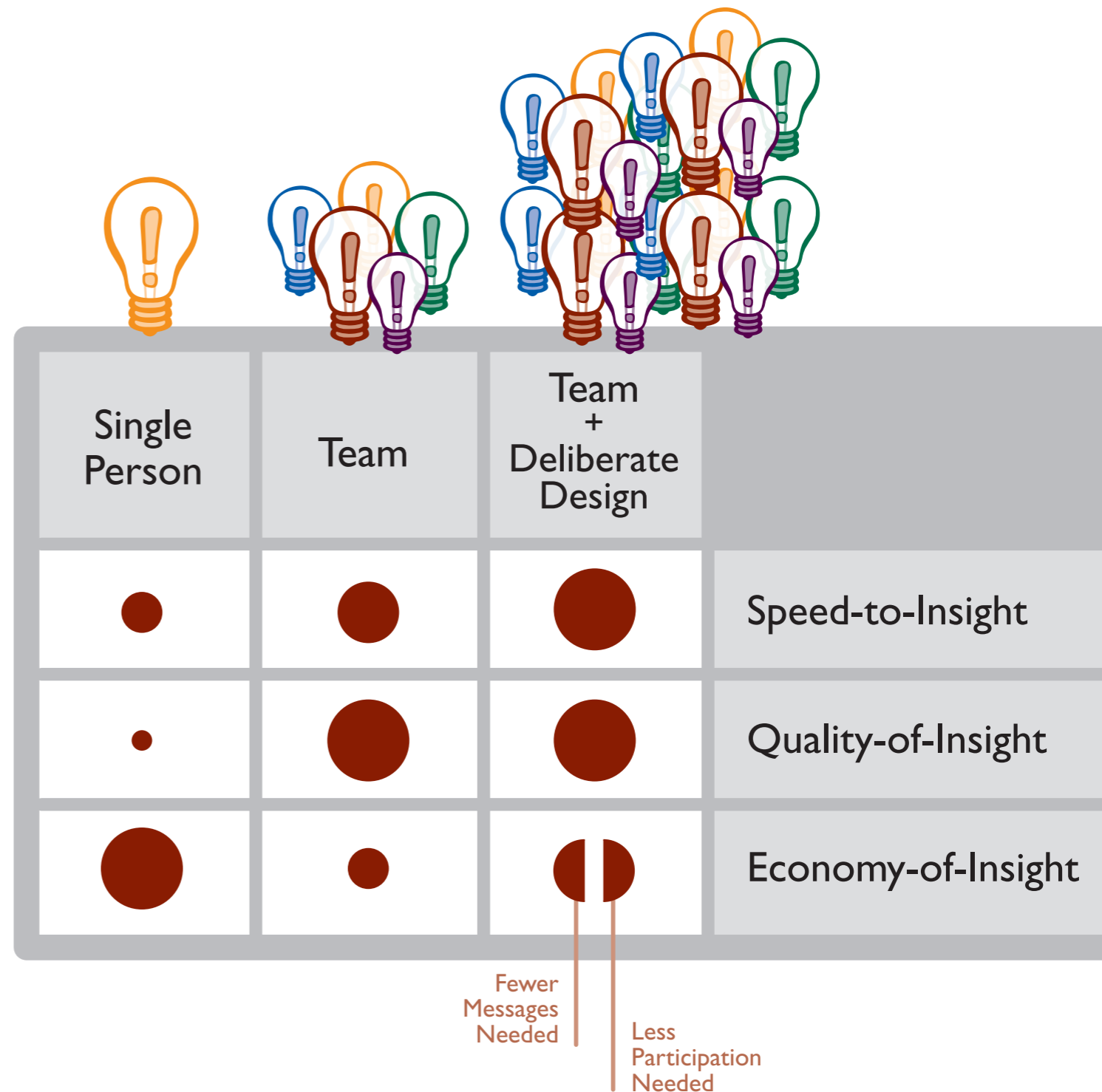## An Economy of Insight

Sources of Insight—Group of Minds

By deliberate design, insight processes may be significantly improved by
- choosing participants carefully, thus increasing the quality of insights and getting to insights faster
- lowering the cost of connecting participants together
- being careful about messaging, so fewer messages are needed
- reducing the number of participants without compromising anything.

How do we instrument this:
- what processes do we follow?
- what software do we design?

Single Person	Team	Team + Deliberate Design	
●	●	●	Speed-to-Insight
·	●	●	Quality-of-Insight
●	·	◖◗	Economy-of-Insight

Fewer Messages Needed

Less Participation Needed

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Processes for Insight—Group of Minds

Multiple minds are key to generating valuable insights
in complex situations and competitive markets.

Many methods for solving business problems are popular
- "Hyper-connected Organizations"
- "Open Innovation"
- "Crowd-sourcing".

They presume that the shallow exchange of messages
without context leads naturally to innovation.
(This is simply false.)

How do we harness multiple minds without these limitations
by deliberate design?

RedDrummer
MEDIUM OF EXCHANGE

Cost of Connection

We must connect with each other
- to exchange information
- to reach agreement
- to coordinate our actions.

But there is always a cost.

Of course, we want to minimize this cost,
without compromising outcomes.

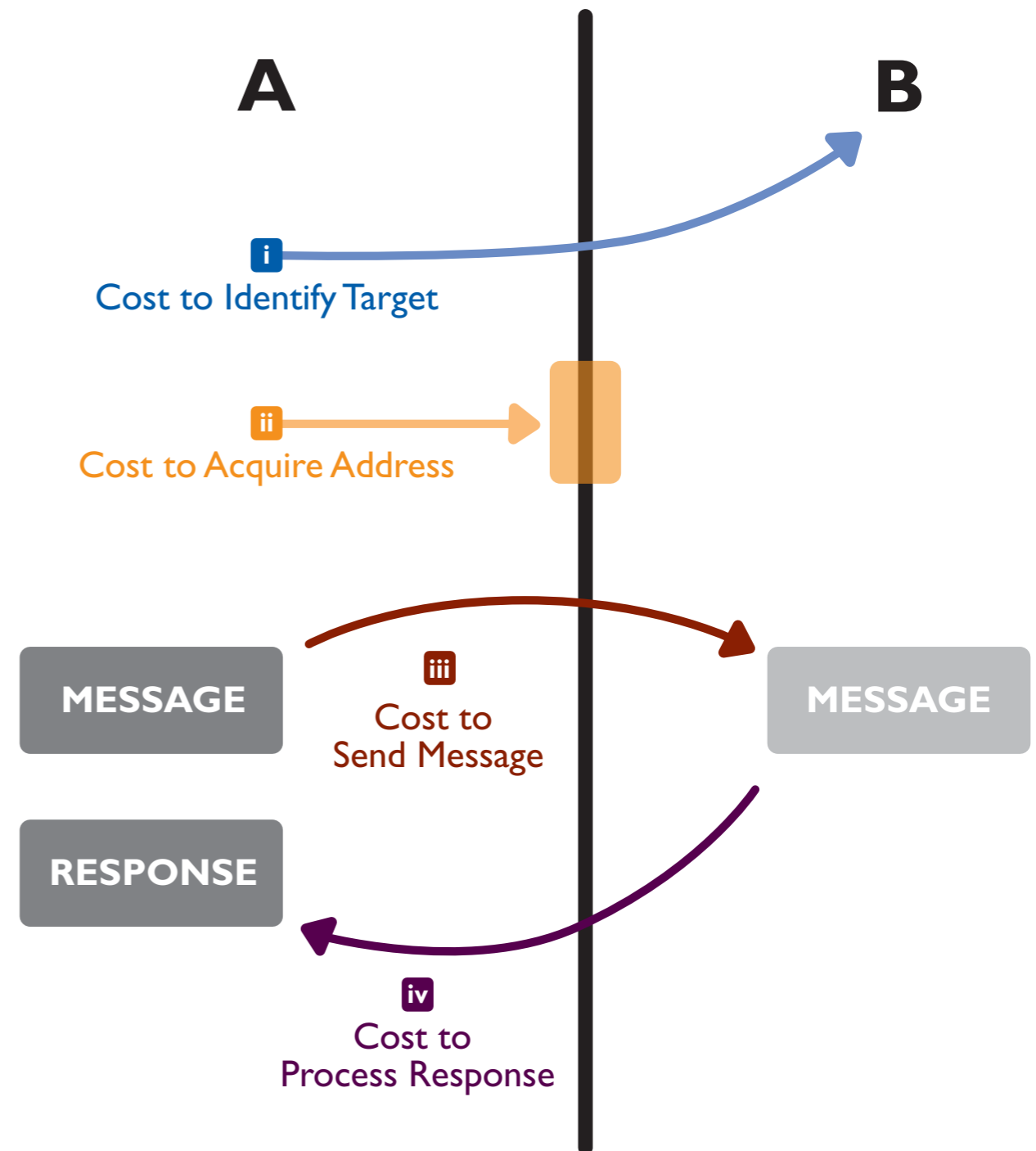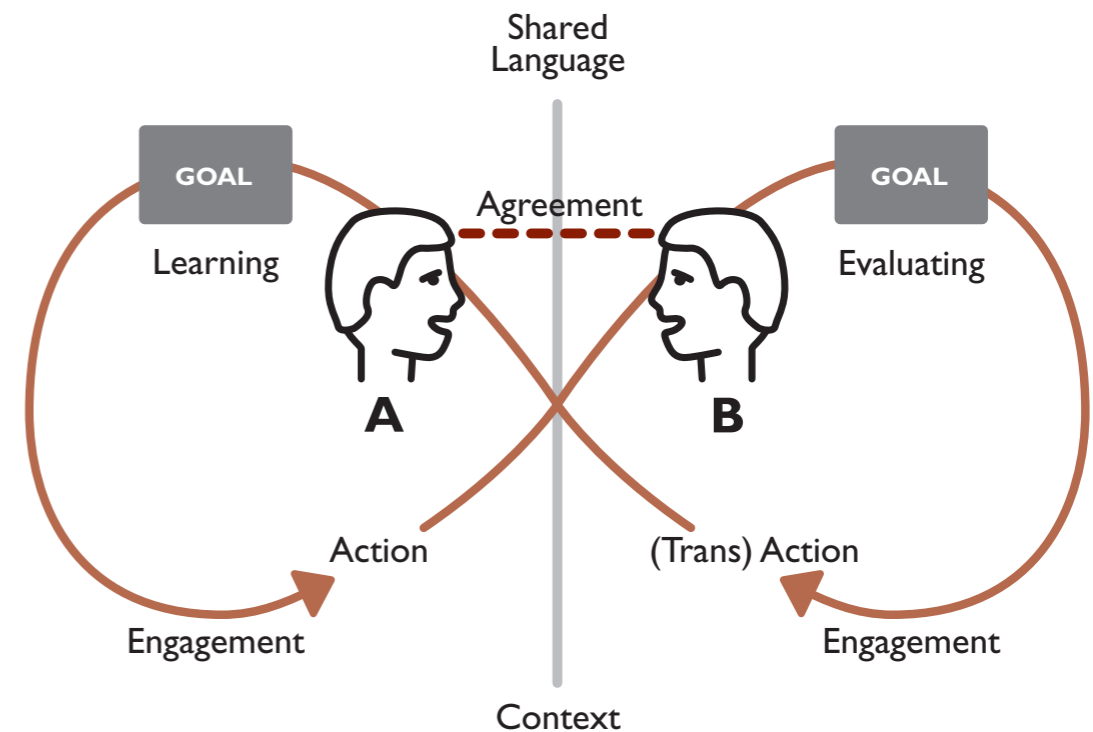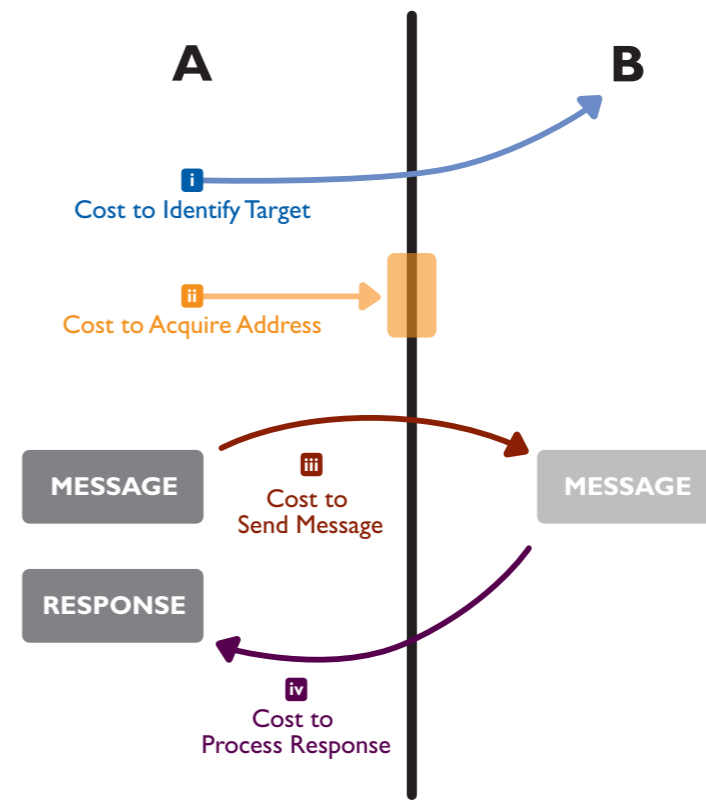# Conversations as Transactions in the Future of Commerce
An Economy of Insight

A

B

Models of Connection

A. Messaging Model / Shannon Information

Costs of connecting
i. cost to identify target for message
ii. cost to acquire address for sending message
iii. cost to send message
iv. cost to process message being returned.

What are success metrics—
message arriving to target?!?

Nothing about achieving a goal—
the reason for the message!!!

i Cost to Identify Target

ii Cost to Acquire Address

iii Cost to Send Message

iv Cost to Process Response

MESSAGE

RESPONSE

MESSAGE

RedDrummer
MEDIUM OF EXCHANGE

18

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Models of Connection

A. Messaging Model / Shannon Information
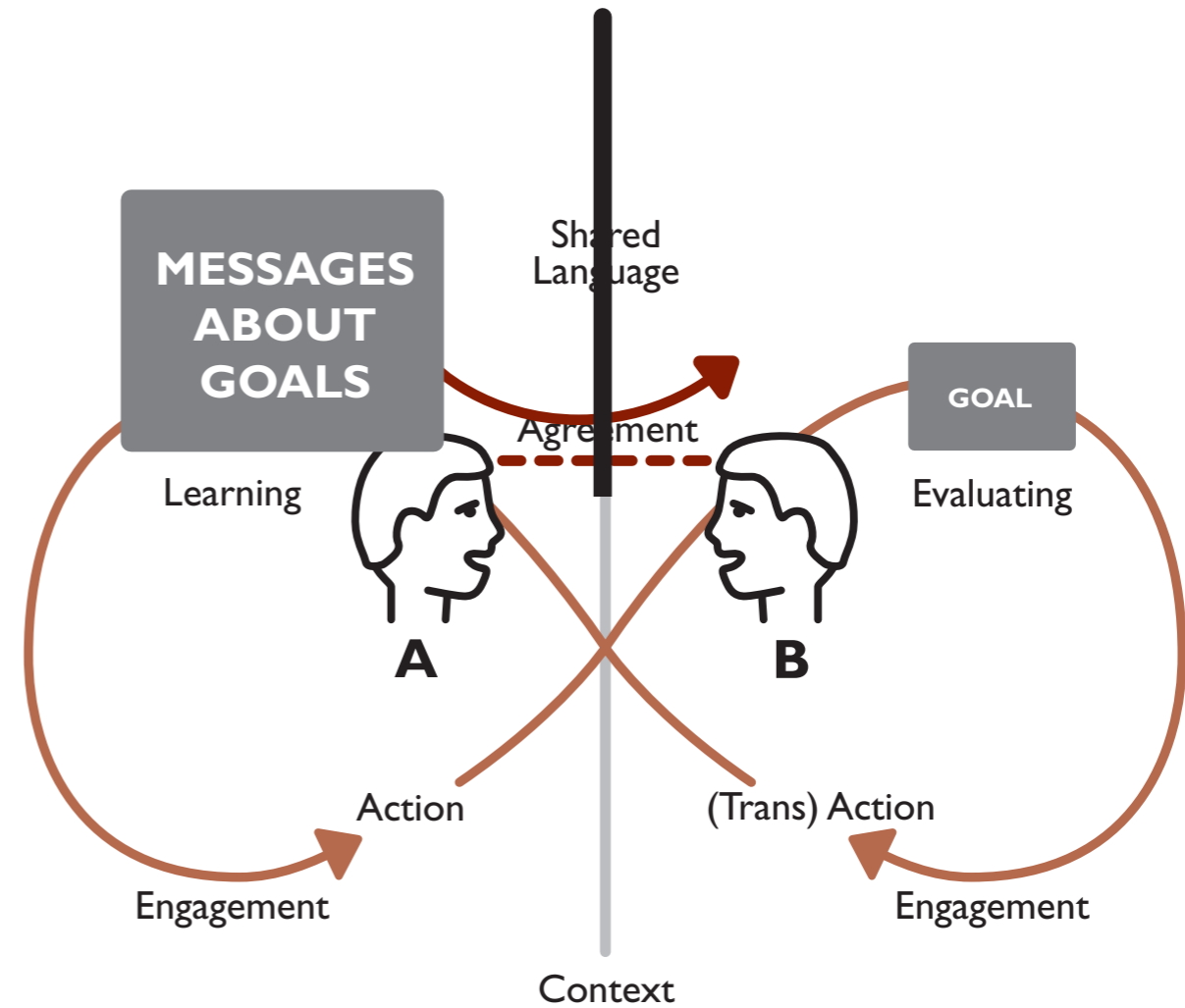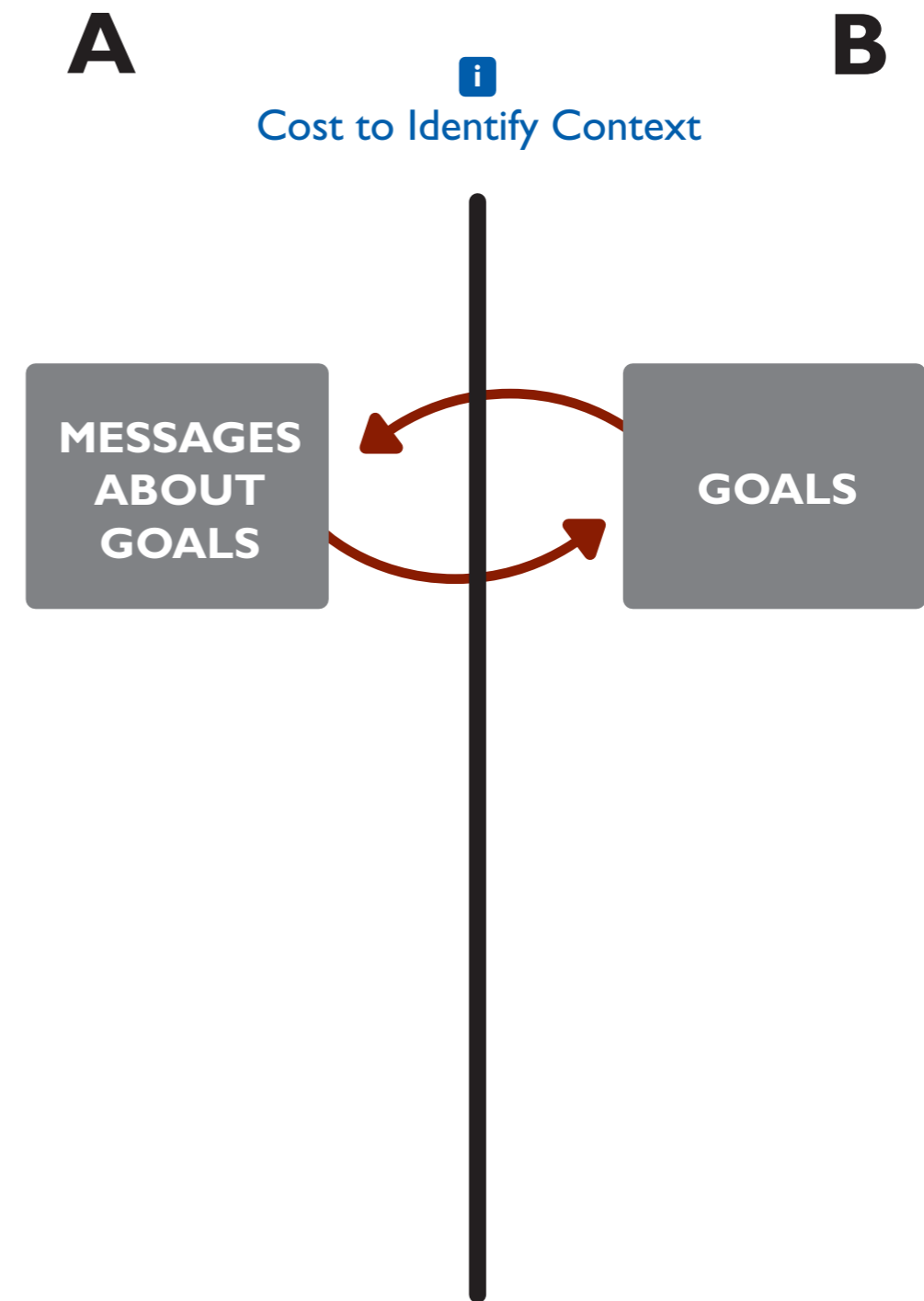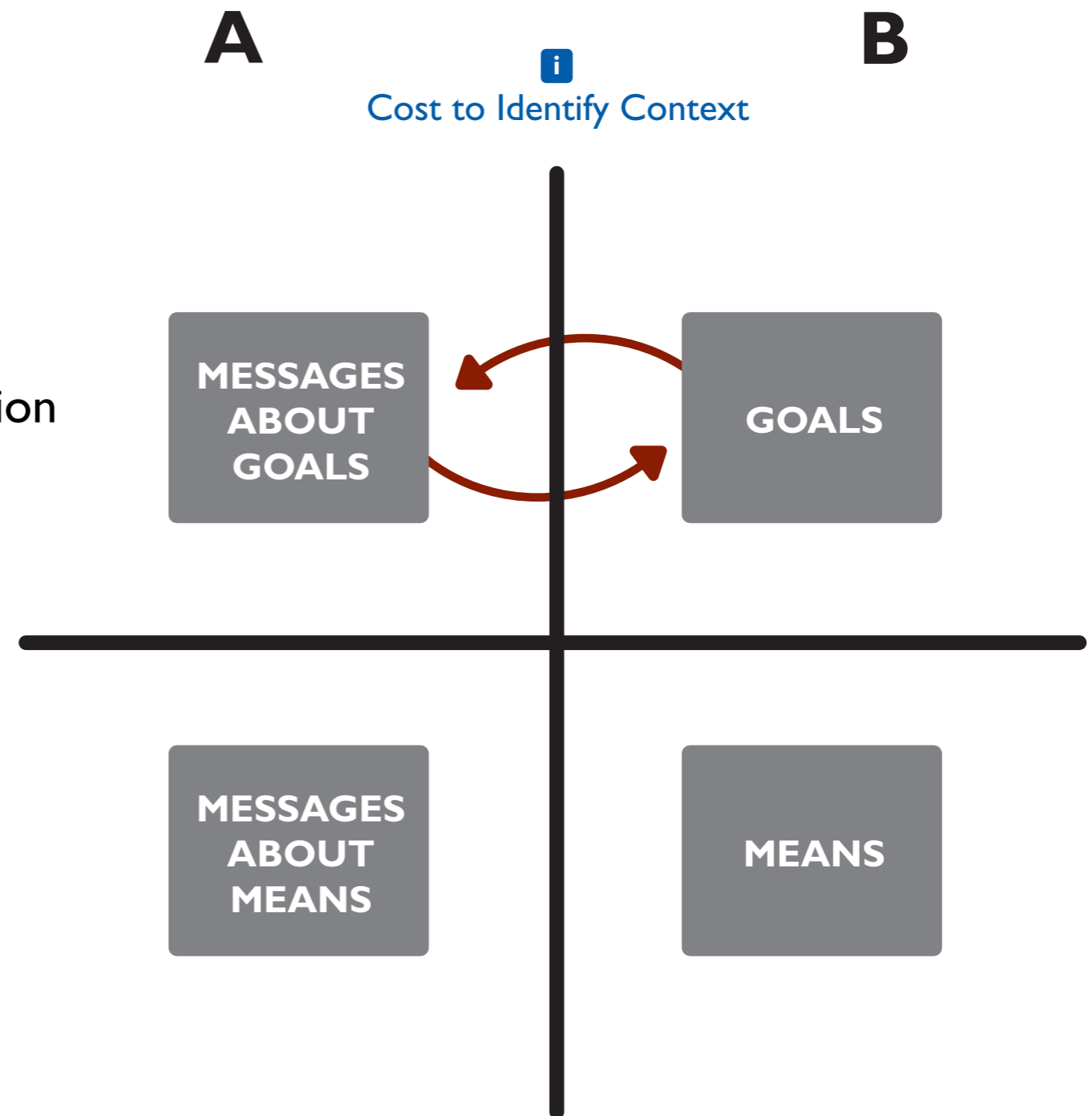
B. Conversation Model

A   B

i
Cost to Identify Target

ii
Cost to Acquire Address

MESSAGE   iii
Cost to
Send Message   MESSAGE

RESPONSE

iv
Cost to
Process Response

Shared
Language

GOAL   Agreement   GOAL

Learning   Evaluating

A   B

Action   (Trans) Action

Engagement   Engagement

Context

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Models of Connection

A. Messaging Model / Shannon

B. Conversation Model

Conversation = Synchronization

1. context
2. shared language
3. exchange or engagement
4. agreement
5. action or transaction.

C–L–E–A–T

Shared
Language

GOAL

Learning

Agreement

GOAL

Evaluating

A

B

Action

(Trans) Action

Engagement

Engagement

Context

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Models of Connection

A. Messaging Model / Shannon Information

B. Conversation Model

Costs of conversing

C–L–E–A–T

RedDrummer
MEDIUM OF EXCHANGE

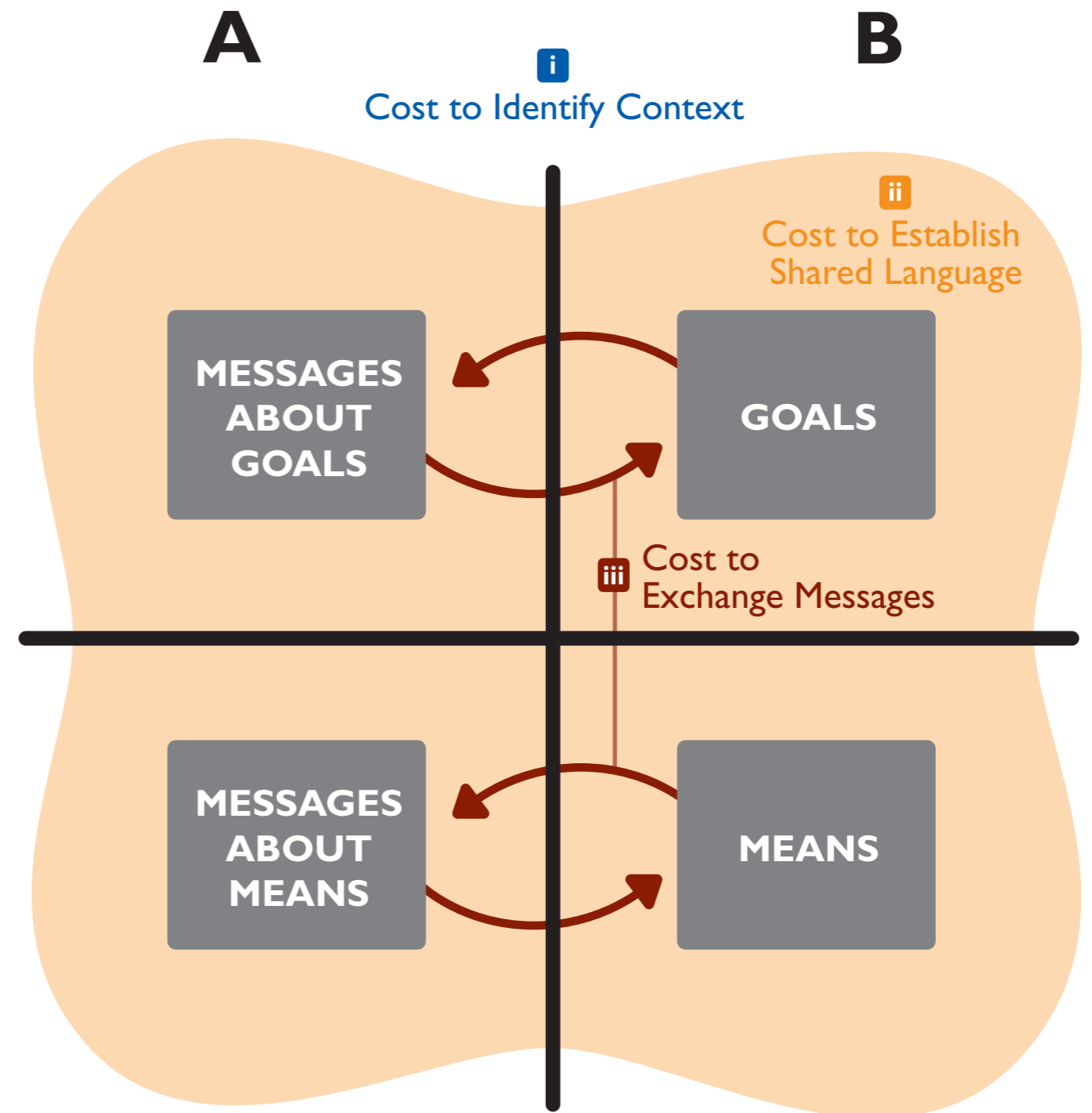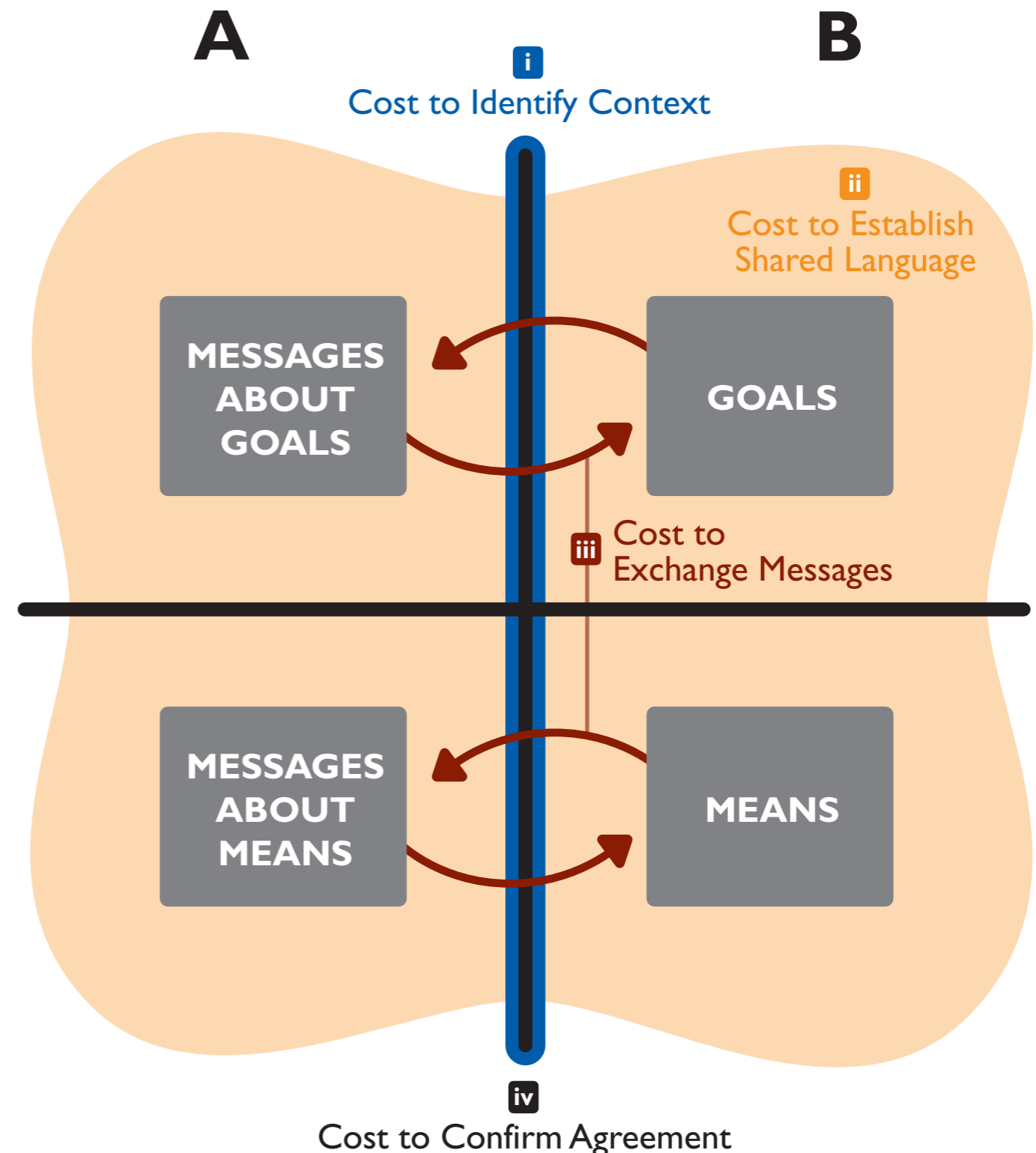**A**   **B**

i Cost to Identify Context

Models of Connection

A. Messaging Model / Shannon Information

B. Conversation Model

Costs of conversing

1. cost to identify context
   (interests + moment)

MESSAGES ABOUT GOALS

GOALS

C–L–E–A–T

RedDrummer
MEDIUM OF EXCHANGE

22

Conversations as Transactions in the Future of Commerce
An Economy of Insight
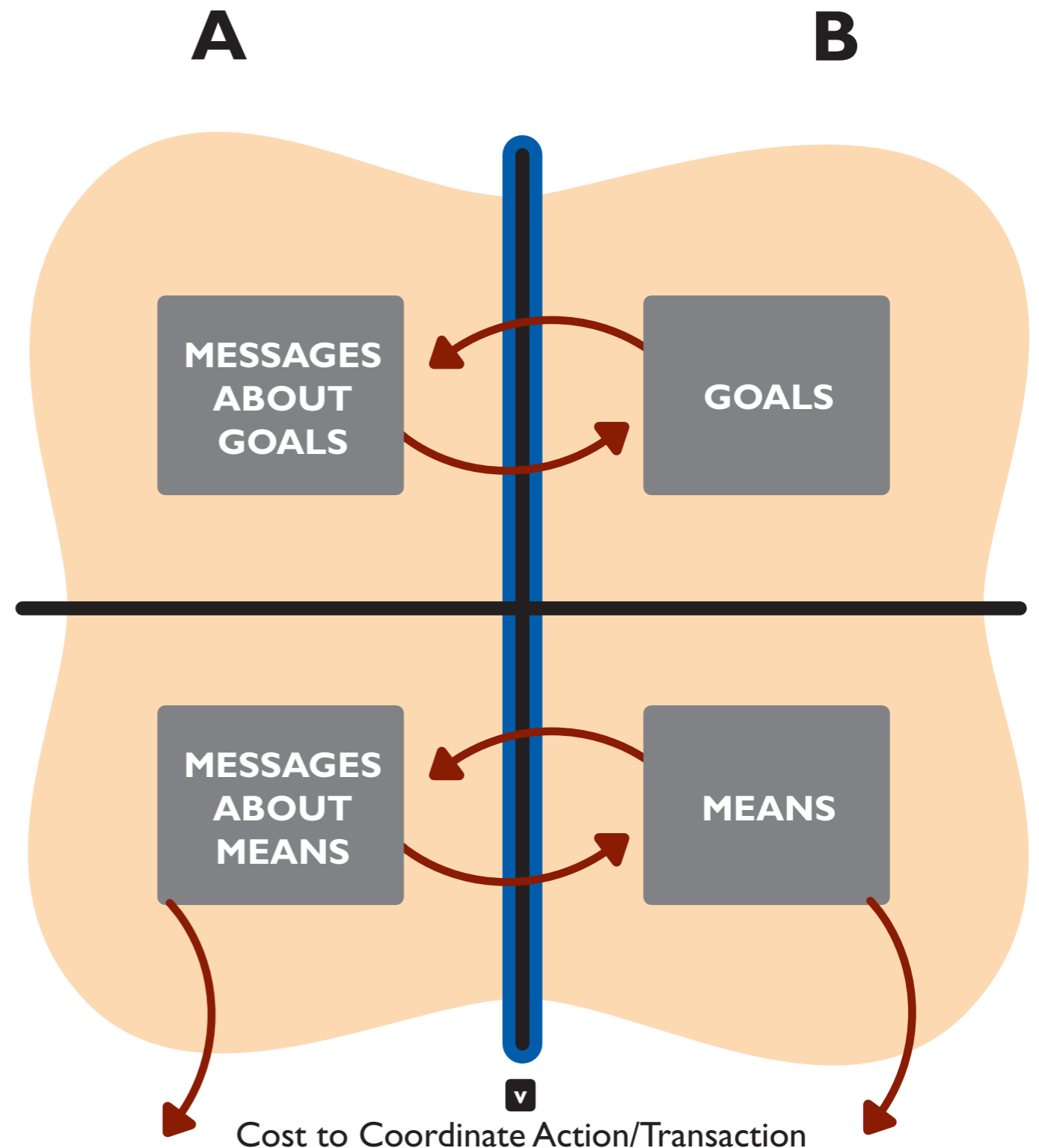
A

i
Cost to Identify Context

B

Models of Connection

A. Messaging Model / Shannon Information

B. Conversation Model

Costs of conversing

1. cost to identify context
   (interests + moment)

MESSAGES ABOUT GOALS

GOALS

MESSAGES ABOUT MEANS

MEANS

C–L–E–A–T

RedDrummer
MEDIUM OF EXCHANGE

23

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Models of Connection

A. Messaging Model / Shannon
B. Conversation Model

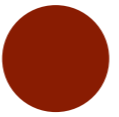Costs of conversing
1. cost to identify context (interests + moment)
2. cost to establish shared language

C–L–E–A–T

A **B**

i Cost to Identify Context

ii Cost to Establish Shared Language

MESSAGES ABOUT GOALS

GOALS

MESSAGES ABOUT MEANS

MEANS

RedDrummer
MEDIUM OF EXCHANGE

Conversations as Transactions in the Future of Commerce
An Economy of Insight

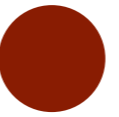Models of Connection

A. Messaging Model / Shannon

B. Conversation Model

Costs of conversing

1. cost to identify context
   (interests + moment)
2. cost to establish shared language
3. cost to exchange messages

A   **B**

i
Cost to Identify Context

ii
Cost to Establish
Shared Language

MESSAGES ABOUT GOALS   **GOALS**

iii Cost to
Exchange Messages

MESSAGES ABOUT MEANS   **MEANS**

C–L–E–A–T

RedDrummer
MEDIUM OF EXCHANGE

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Models of Connection

A. Messaging Model / Shannon
B. Conversation Model

Costs of conversing
1. cost to identify context (interests + moment)
2. cost to establish shared language
3. cost to exchange messages
4. cost to achieve agreement (shared understanding)

C–L–E–A–T

RedDrummer
MEDIUM OF EXCHANGE

A   **B**

i
Cost to Identify Context

ii
Cost to Establish
Shared Language

| MESSAGES ABOUT GOALS | GOALS |

iii Cost to
Exchange Messages

| MESSAGES ABOUT MEANS | MEANS |

iv
Cost to Confirm Agreement

Conversations as Transactions in the Future of Commerce
An Economy of Insight

A **B**

Models of Connection

A. Messaging Model / Shannon

B. Conversation Model

Costs of conversing

1. cost to identify context
   (interests + moment)
2. cost to establish shared language
3. cost to exchange messages
4. cost to achieve agreement
   (shared understanding)
5. cost to coordinate action/transaction.

C–L–E–A–T

MESSAGES ABOUT GOALS

GOALS

MESSAGES ABOUT MEANS

MEANS

v

Cost to Coordinate Action/Transaction

RedDrummer
MEDIUM OF EXCHANGE

27

CONVERSATIONAL POTENTIAL

	C	L	E	A	T
Face to Face	◖	●	●	●	●
Semaphores	·	◖	·	·	◖
Mail	●	●	·	◖	·
Telephone	·	●	●	●	◖
E-mail	◗	●	●	◗	◖
Instant Message	·	◗	●	·	◖
Twitter	·	◖	·	·	◖
Social Graph	●	●	●	●	●

RedDrummer
MEDIUM OF EXCHANGE

CONVERSATIONAL POTENTIAL

	C	L	E	A	T	Speed to Insight	Quality of Insight	Economy of Insight
Face to Face	◐	●	●	●	●	·	●	●
Semaphores	·	◐	·	·	◐	·	·	·
Mail	●	●	·	◐	·	·	●	●
Telephone	·	●	●	●	◐	●	●	●
E-mail	◐	●	●	◐	◐	·	●	●
Instant Message	·	◐	●	·	◐	●	·	·
Twitter	·	◐	·	·	◐	●	·	·
Social Graph	●	●	●	●	●	●	●	●

RedDrummer
MEDIUM OF EXCHANGE

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Today's enterprise software designers focus on impoverished technology and fragmented messaging ("Shannon information").

Effective conversation demands "Social Variety".

Metrics of success
1. sufficient context established
2. sufficient shared language established
3. flow and richness of engagement
4. degree of agreement
5. degree of coordination of action.

An enterprise cannot affect what it cannot talk about.

Social variety is the range of capabilities and capacities available to an enterprise that comes from individuals via conversation.

RedDrummer
MEDIUM OF EXCHANGE
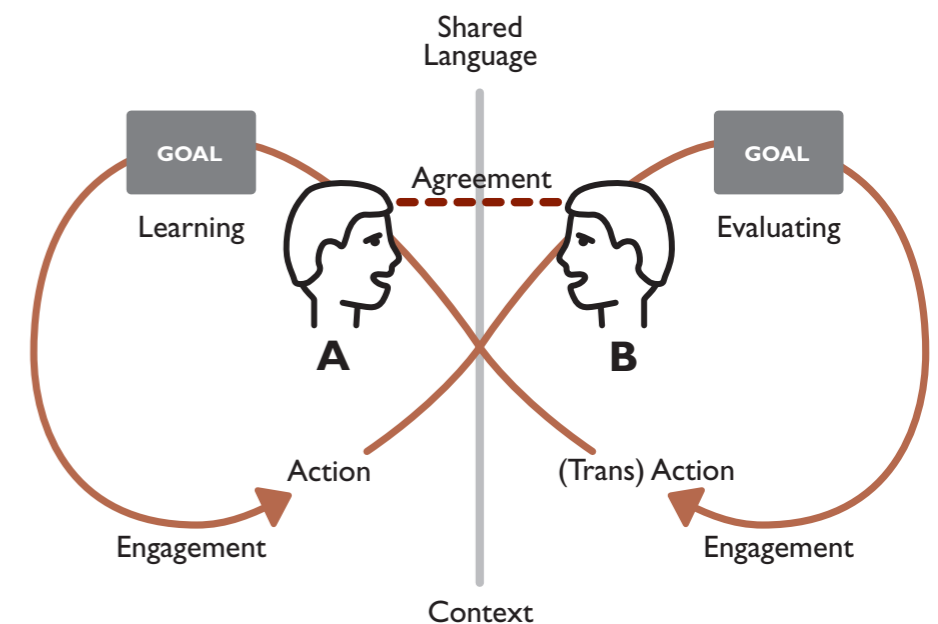
Conversations as Transactions in the Future of Commerce
An Economy of Insight

What does the enterprise need from conversations?

I.   Conversations for Trust

II. Conversations for Innovation

III. Conversations for Transactions

When an enterprise engages in design of conversations, outcomes are
- more reliable
- convergent
- lower risk
- more efficient
- more effective.

RedDrummer
MEDIUM OF EXCHANGE

Conversations as Transactions in the Future of Commerce
An Economy of Insight

1. Conversations for Trust

Trust creates a virtuous circle of interactions, that supports its current business—its current means of creating economic value.

When there is trust...

... team members are more open to responding to others

... which increases willingness to help each other

... which increases attention paid

... which increases the scale of resources invested

... which increases commitment to succeed

... which increases likelihood of success

... which is more likely to create economic value

... which provides new resources, to invest in new efficiencies (virtuous circle)

... which creates further wealth.

I. Conversations for Trust *continued*

Trust also supports innovation because it opens a safe space
in which new ideas can be explored with less fear of failure.

Conversation leads to relationship...

... which leads to trust

... which creates an open space to explore possibilities

... which leads to new insights

... which lead to new understanding and coherent worldviews

... which lead to new choices in decision-making

... which may lead to new businesses as well as
    new ways of doing business

... which lead to assessment of success

... which lead to new insights.

Conversations as Transactions in the Future of Commerce
An Economy of Insight

II. Conversations for Innovation

By conversations, we don't mean sending messages.
And we certainly don't mean searching for answers.

Even today's amazing web search software is primitive
compared to the kinds of help we really need, which
go far beyond just finding the information.

Google is not worth what it should be.
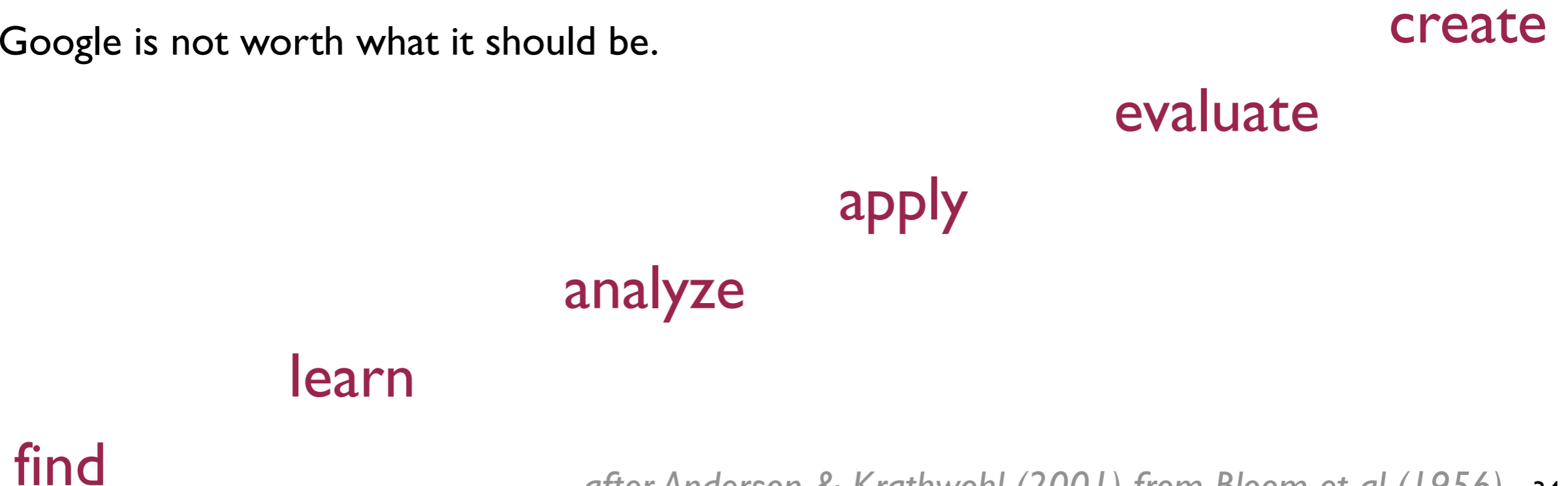
create

evaluate

apply

analyze

learn

find

after Anderson & Krathwohl (2001) from Bloom et al (1956)

III. Conversations for Transactions

New insights may create new value.
(Only new insights do.)

So, insights that create new value have direct impact
on the future of the enterprise.

Insights come from conversation.

So, conversations affect the future.

It is a simple, logical, and inevitable that conversations
will become transactions whose value is quantified.

Conversations = Transactions

RedDrummer
MEDIUM OF EXCHANGE

III. Conversations = Transactions

Future enterprise interactions will all be mediated by technology (they nearly are all today).

Therefore, a record can be kept that stipulates
- initiators of conversation and context
- participants and initial language
- contributions by whom and about what
- through-line of engagement to agreement
- actions/transactions taken or planned.

Let's outline a technology to support this vision.

C–L–E–A–T

RedDrummer
MEDIUM OF EXCHANGE
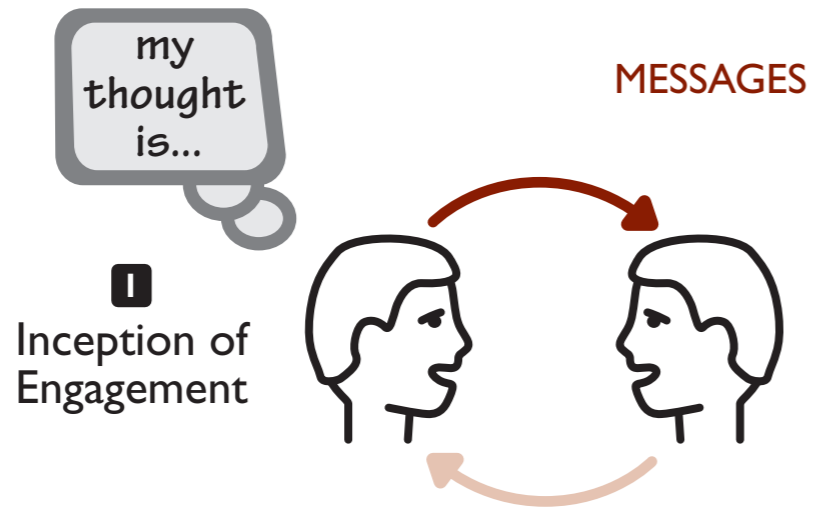
1. **Initiation of engagement**
   Who connects with whom, when, and about what.
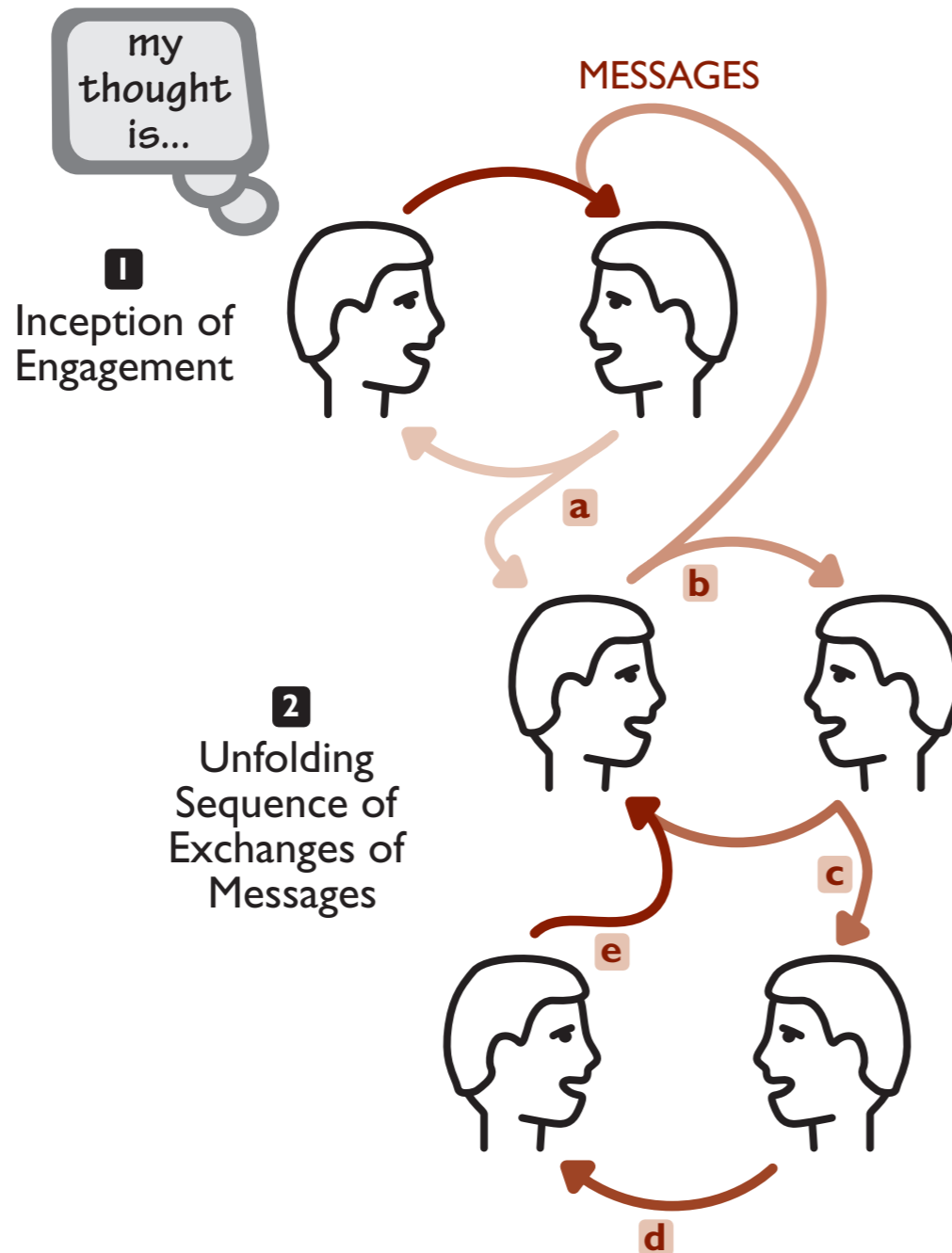
2. **Unfolding Sequence of Exchanges of Messages**
Who says what,
in response to prior messages,
and in what order.
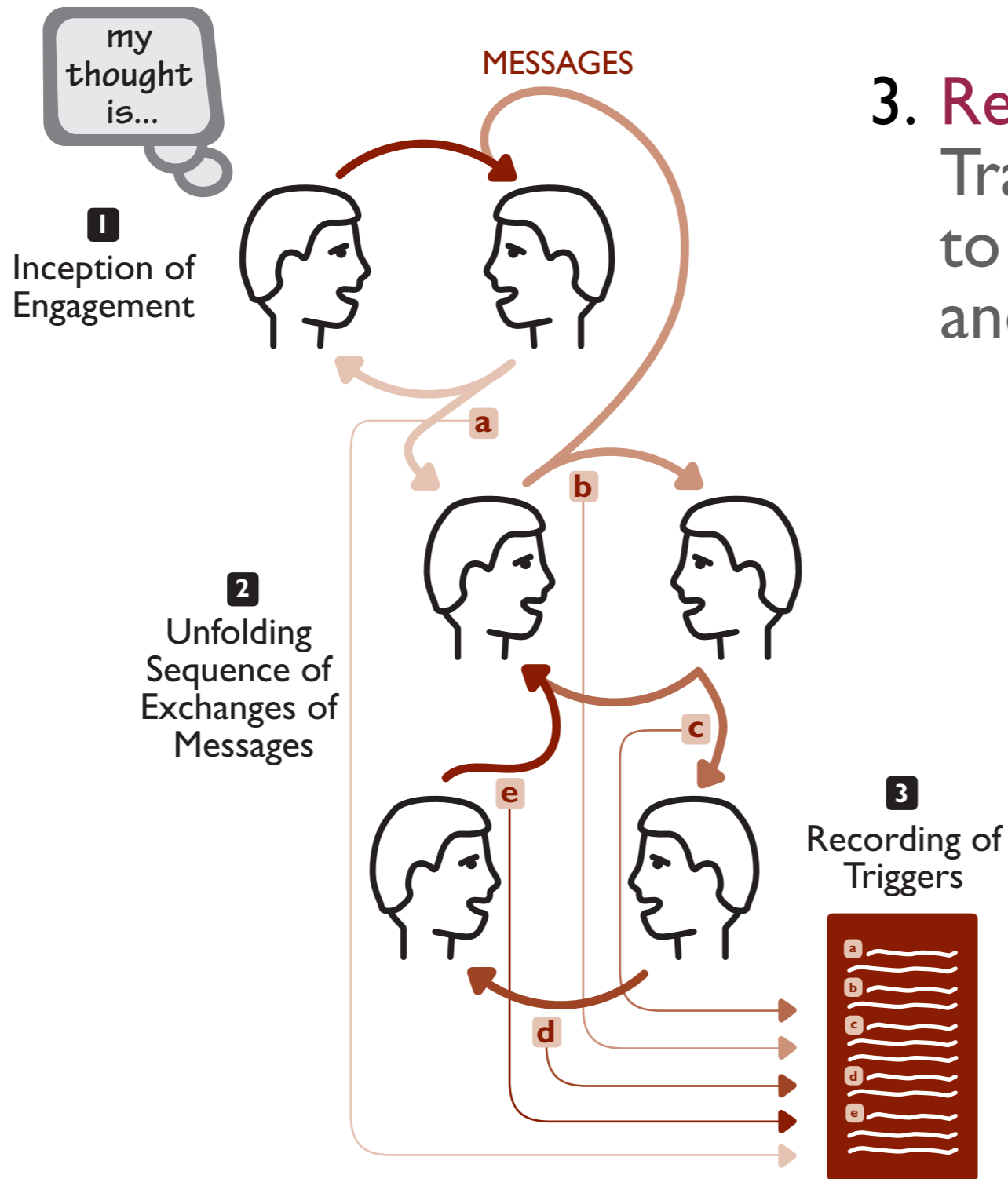
3. **Recording of Triggers**
Tracking which messages lead to expanded possibilities, and who makes them.
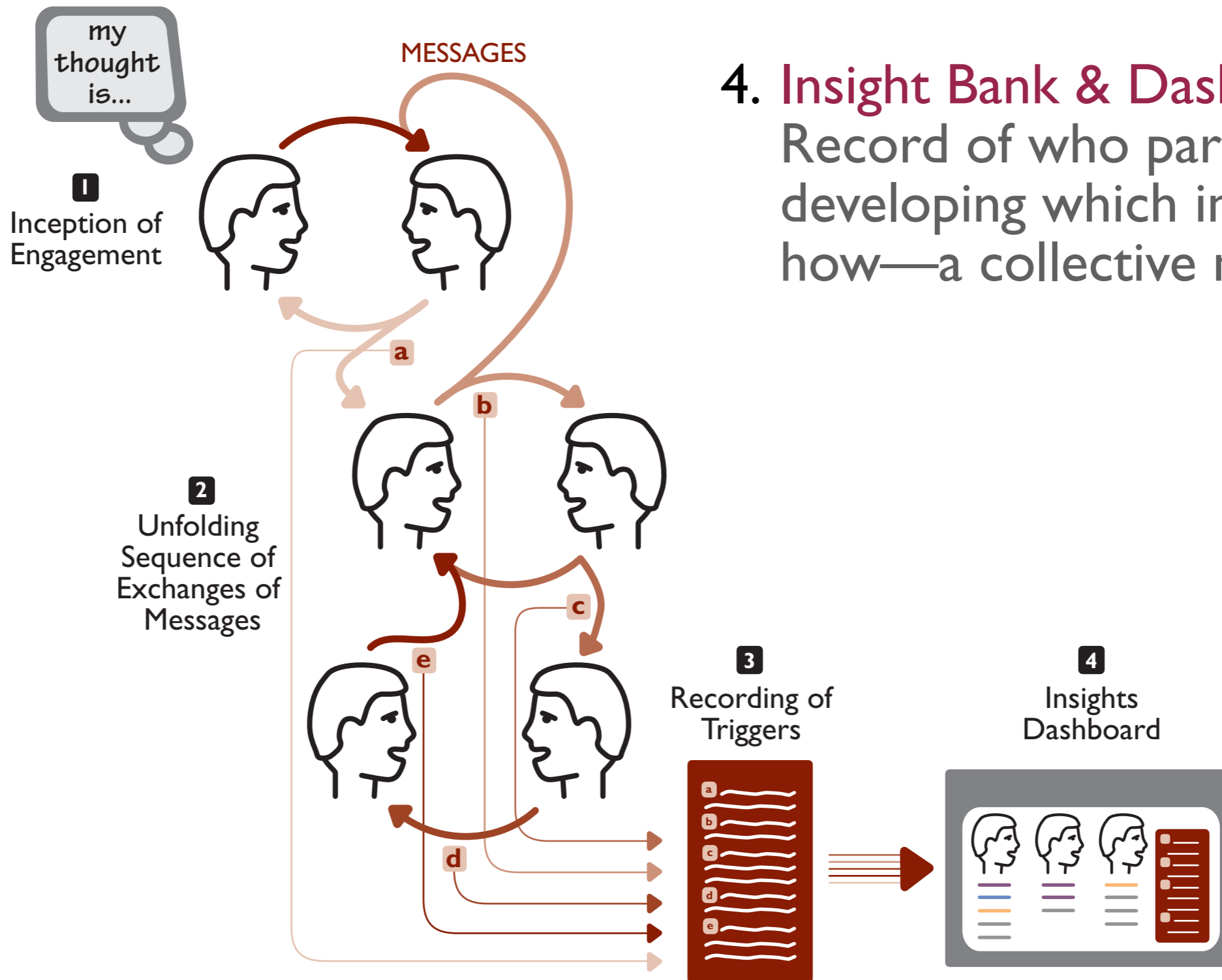
4. **Insight Bank & Dashboard**
Record of who participates in developing which insights, and how—a collective memory.

III. Conversations = Transactions

Enterprise software can accelerate the evolution of valuable insights.

User experiences must support trust, critical thinking, innovation, and conversation = transactions.

Services must be available seamlessly everywhere, on any device, continuously.

EXTERNAL SOURCES

Information Web

RedDrummer
MEDIUM OF EXCHANGE
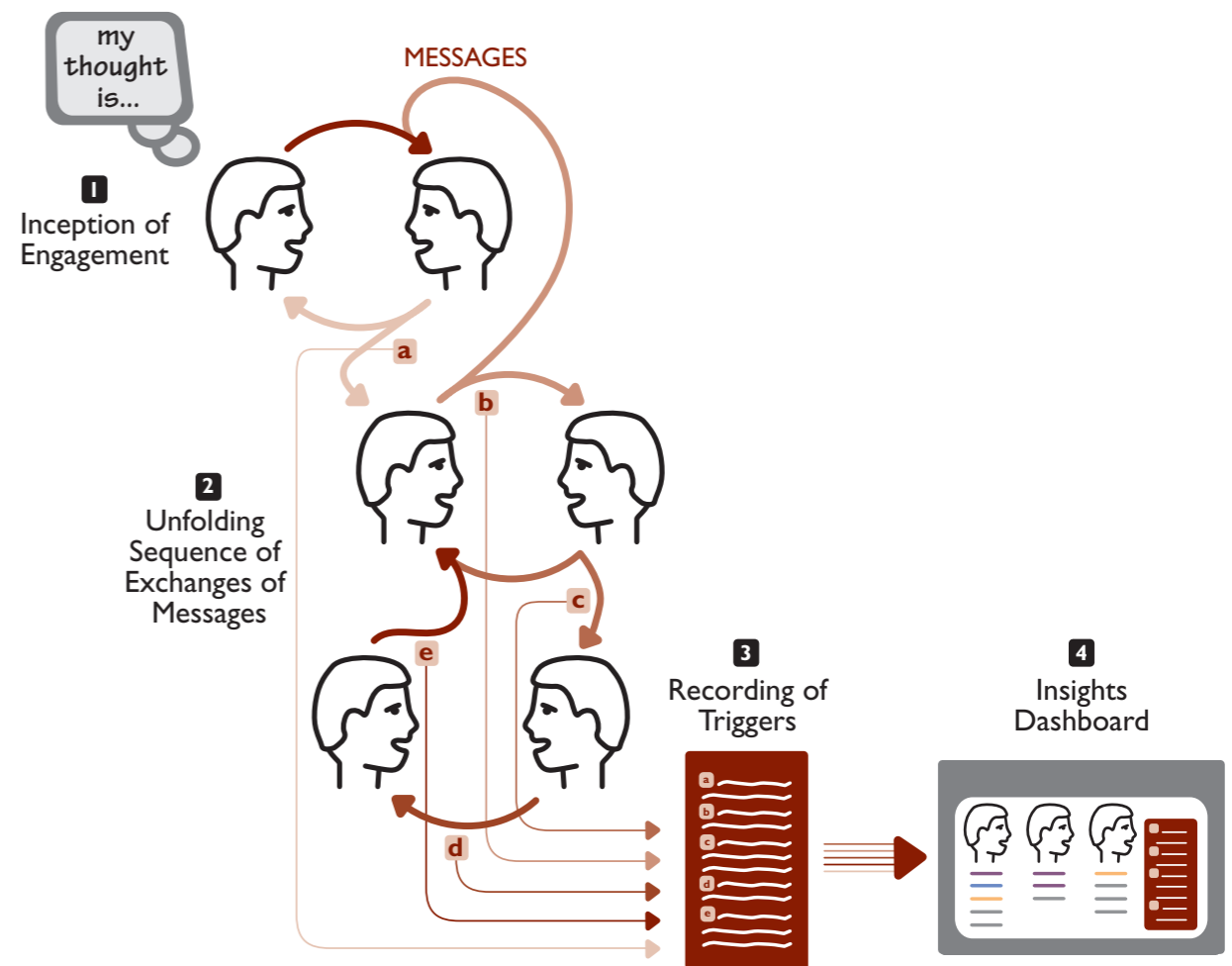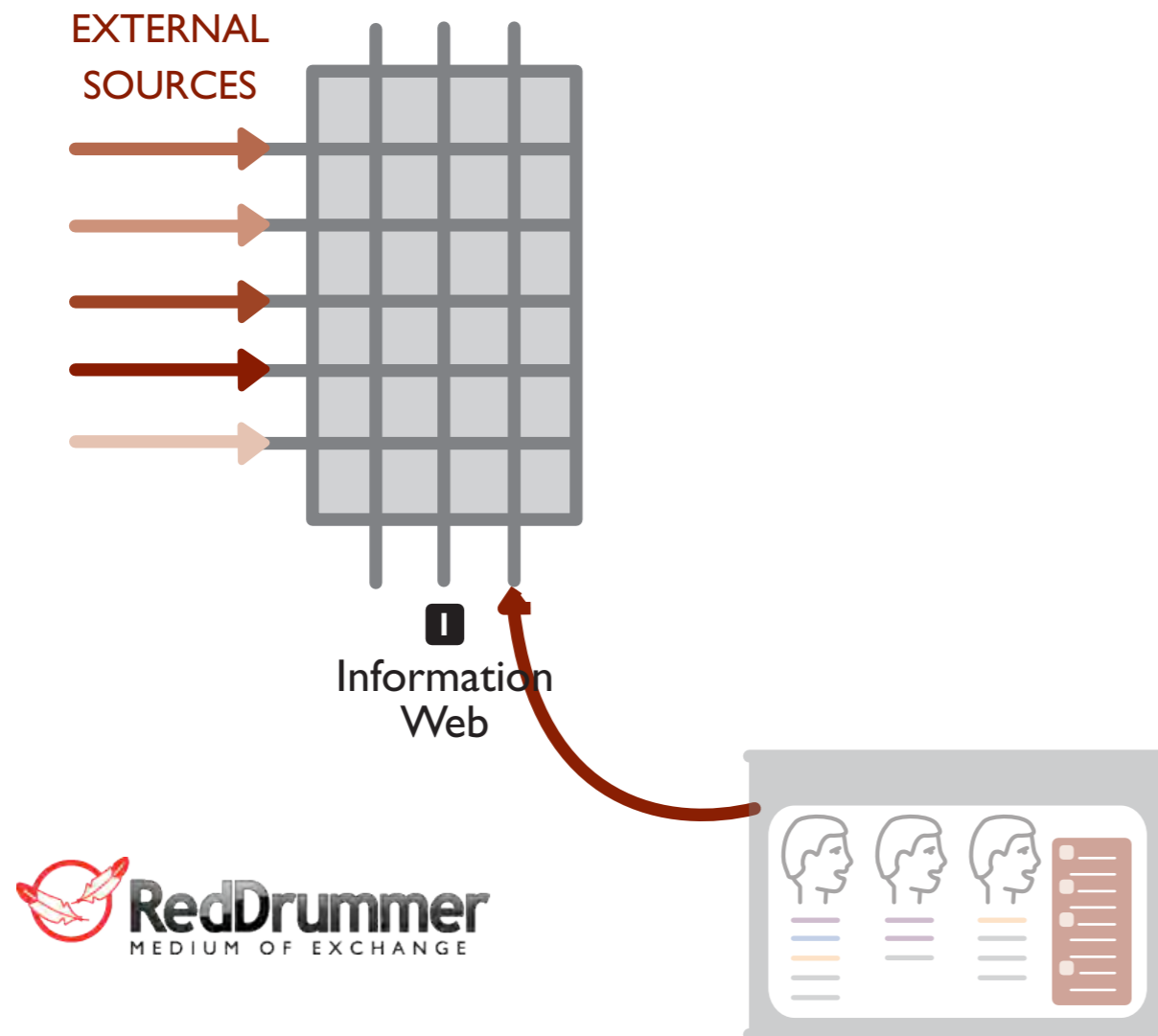
1. INFORMATION WEB
Automatically accumulates and manages internal and external content
of any media type under bank-like privacy and security.

EXTERNAL SOURCES

2 Relevance Services

1 Information Web

RedDrummer
MEDIUM OF EXCHANGE
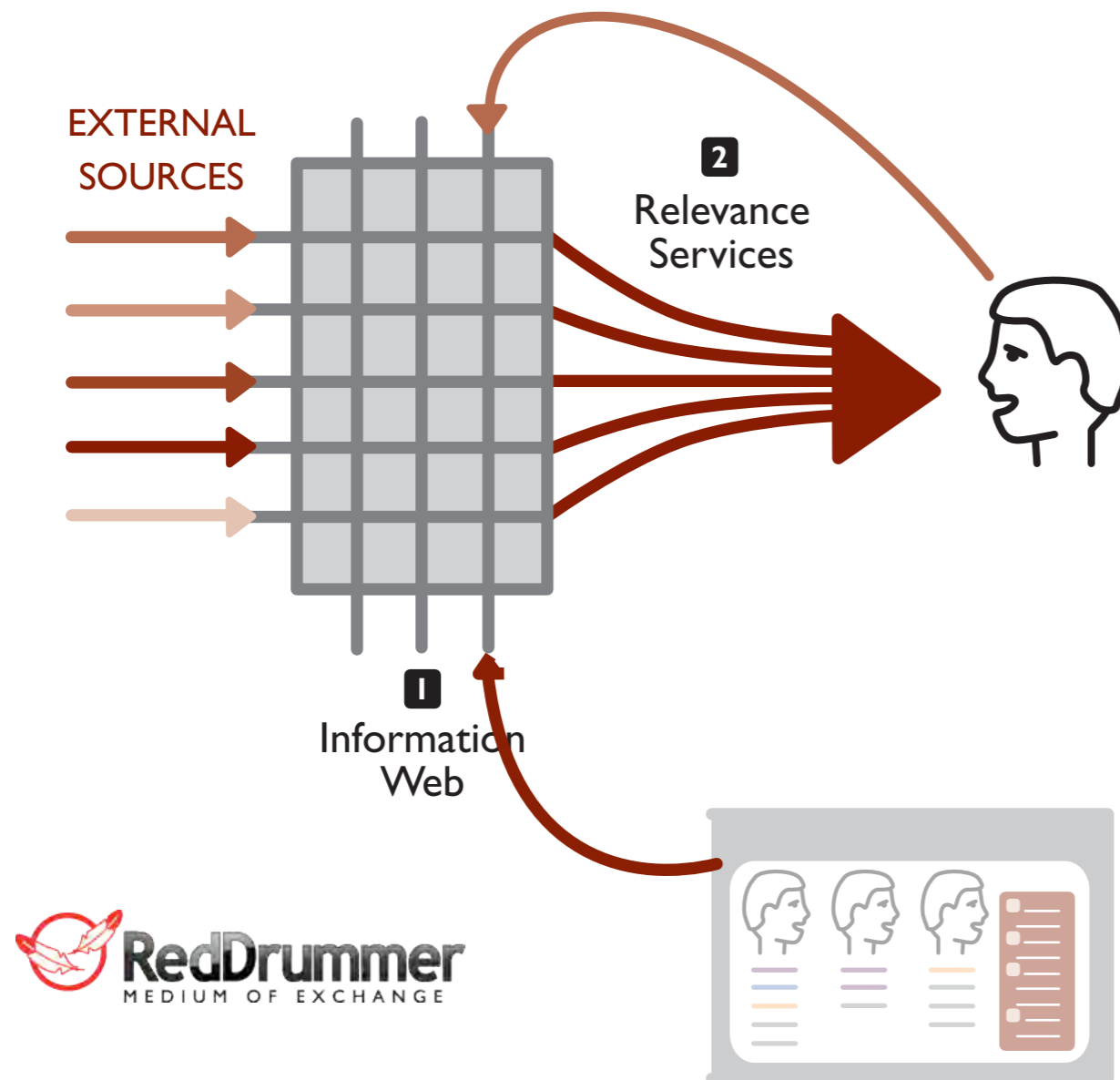
2. RELEVANCE SERVICES
   Highlights or attenuates content based current context,
   user focus and context, prior knowledge and learning style.

3 Conversation Web

USERS

EXTERNAL SOURCES

2 Relevance Services

1 Information Web

RedDrummer
MEDIUM OF EXCHANGE
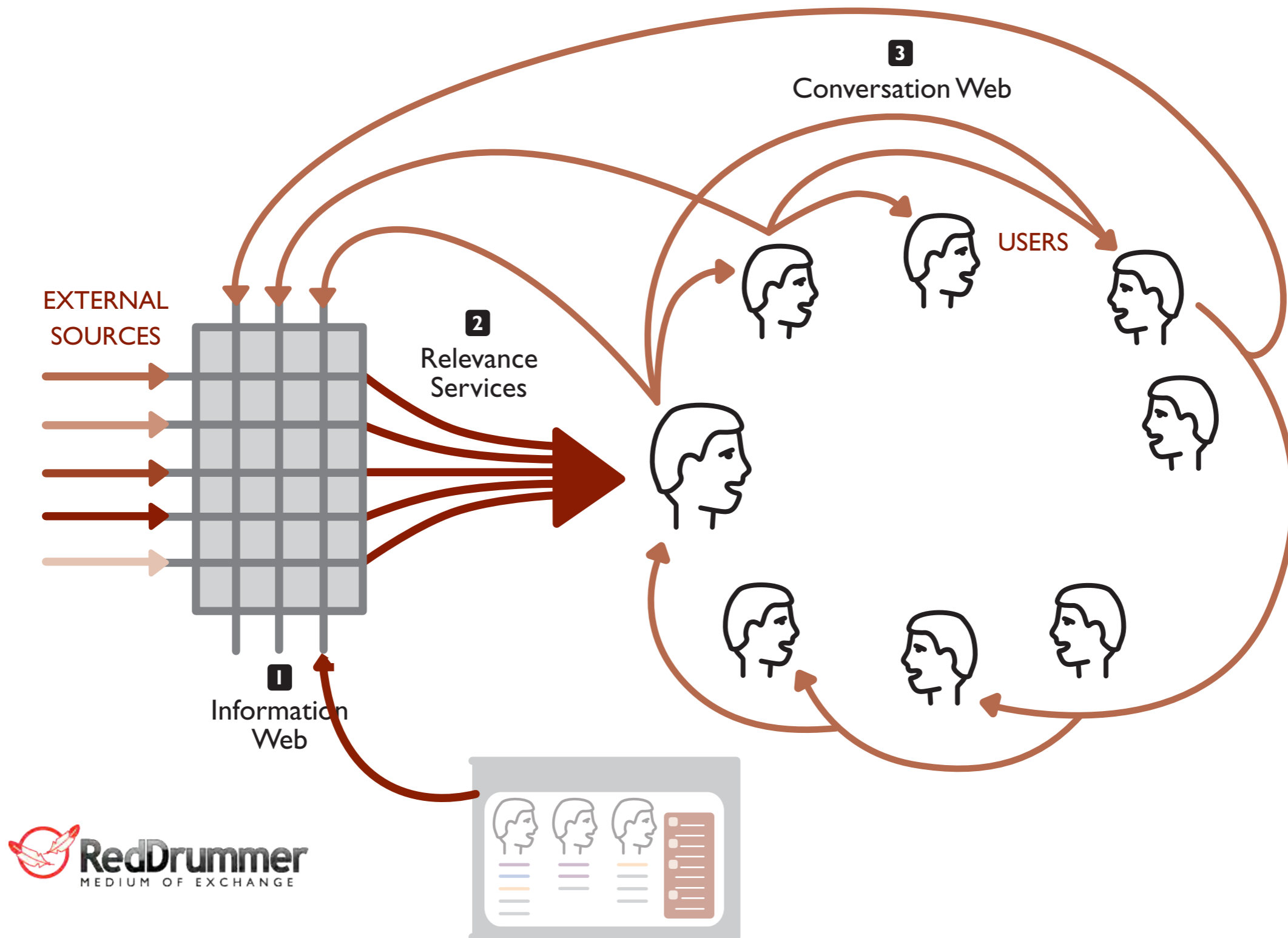
3. CONVERSATION WEB
   Identifies requisite expertise for conversation, from inside
   as well as beyond a user's social graph.

44

EXTERNAL SOURCES

1 Information Web

2 Relevance Services

3 Conversation Web

USERS

4 Shared Whitespace

RedDrummer
MEDIUM OF EXCHANGE
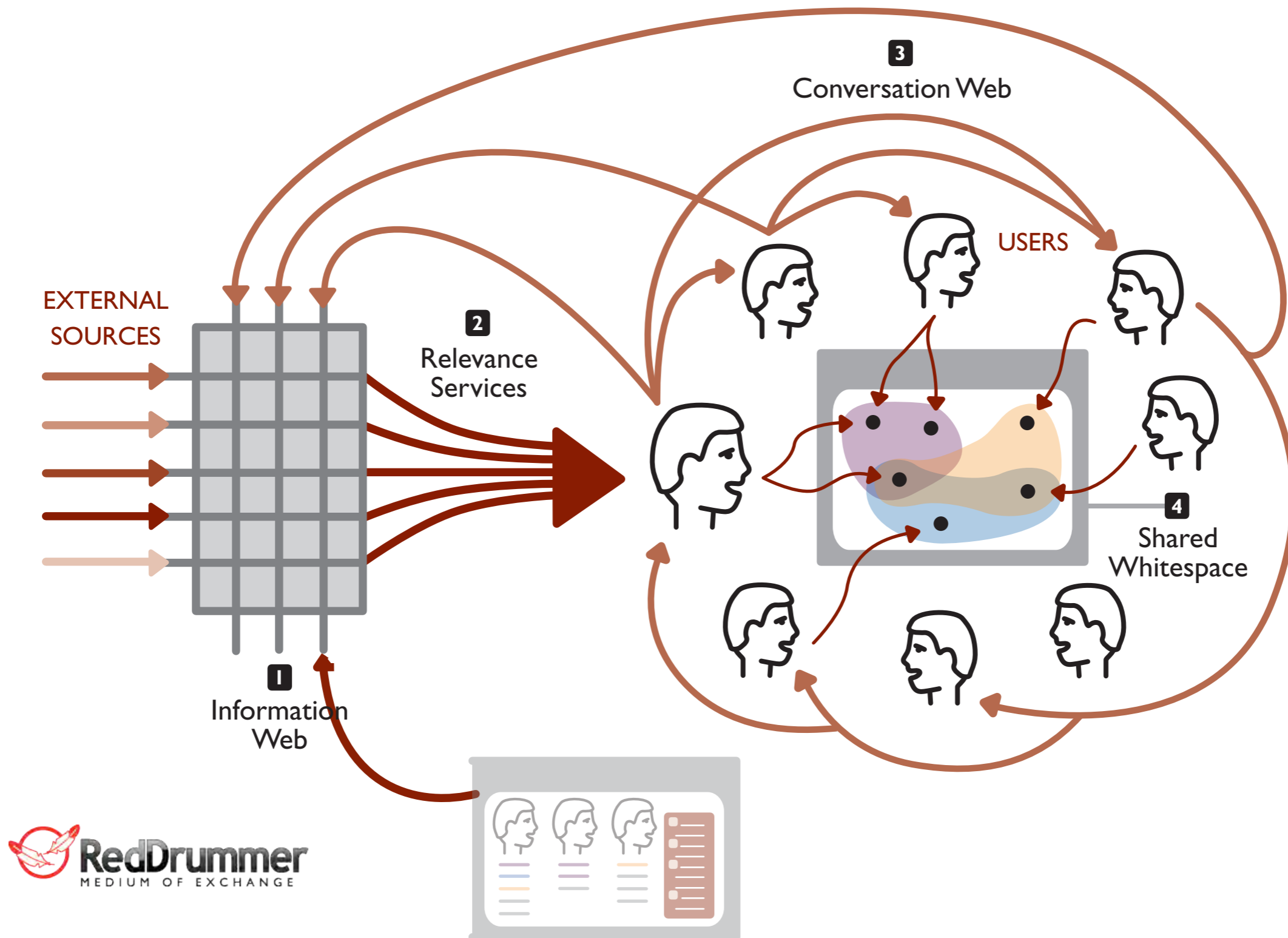
4. SHARED WHITESPACE
   Facilitates agreements by visualizing proposals, acceptances and modifications, not merely routing and recording messages.

45

EXTERNAL SOURCES

2 Relevance Services

3 Conversation Web

USERS

4 Shared Whitespace

1 Information Web

5 Insights Dashboard

RedDrummer
MEDIUM OF EXCHANGE
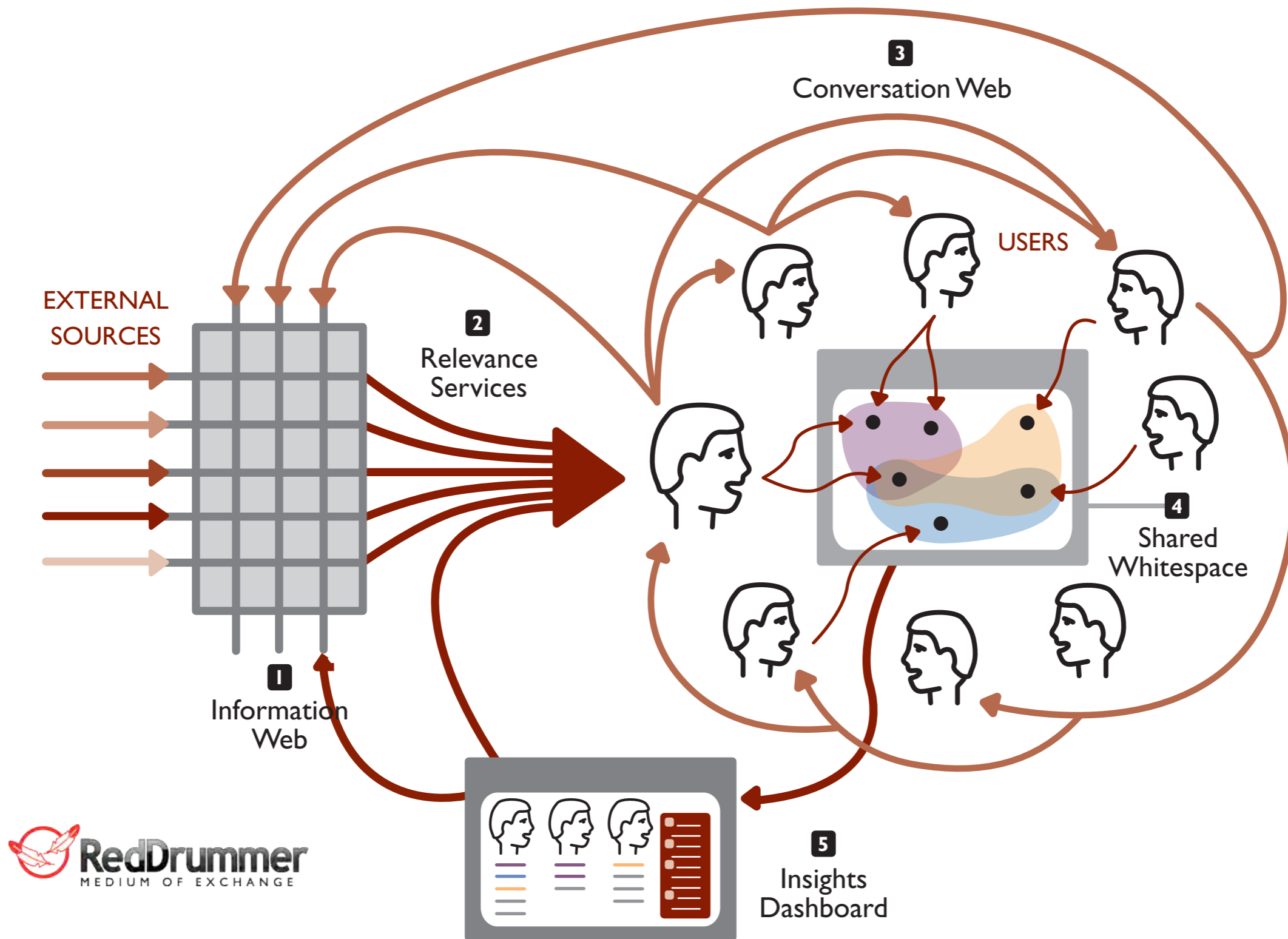
5. INSIGHT DASHBOARD & BANK
Tracks insight-generation, conversational participation, timing & triggers, and business consequences.

46

EXTERNAL SOURCES

2 Relevance Services

3 Conversation Web

USERS

4 Shared Whitespace

1 Information Web

5 Insights Dashboard

RedDrummer
MEDIUM OF EXCHANGE
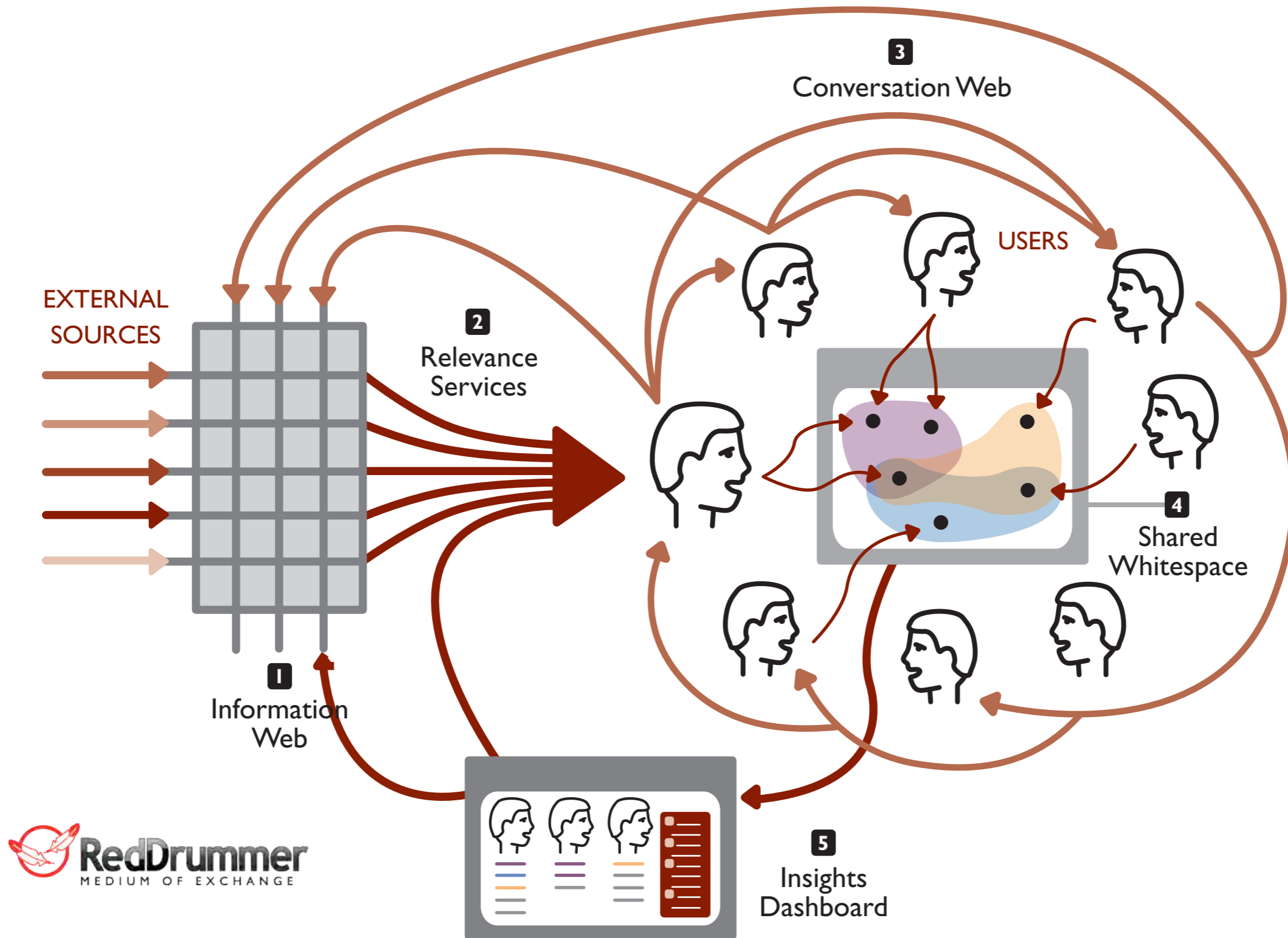
Integrated subsystems in platform for Conversations = Transactions

Summary

Organizations that rapidly evolve insights will grow faster than competitors in today's rapidly changing markets.

Innovation requires achieving
- speed-to-insight
- quality-of-insight
- economy-of-insight.

Wealth creation has shifted from prior knowledge to the ability to gain new-knowledge-in-action.

This means that it is more cost-effective to invest in processes for insight than in material possessions or present-day intellectual property (IP).

RedDrummer
MEDIUM OF EXCHANGE

Synthesis

In the future, the most important transactions
will not be exchange of money for goods.
(Next phase for "atoms to bits".)

In the future, the most important transactions
will be exchange of value for insights.

Investing in effective and convergent conversations
is to invest in wealth creation in the next era.

RedDrummer
MEDIUM OF EXCHANGE

What did industrial technology bring?

Extensions of our muscles

What did digital technology bring?

Extensions of our nervous system

RedDrummer
MEDIUM OF EXCHANGE
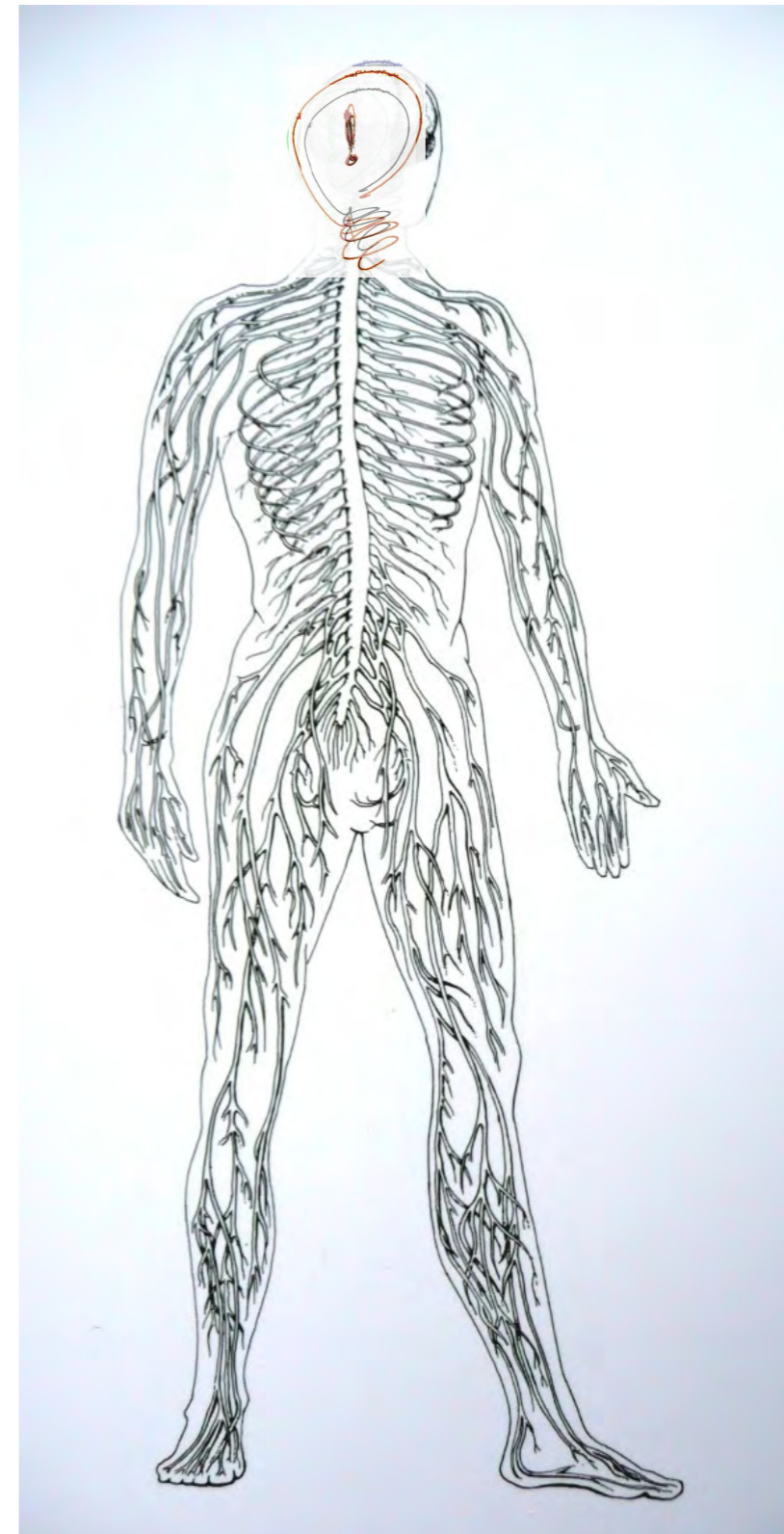
What did conversation technology bring?

Extensions of our collective minds
- social variety extended across the enterprise
- collective insight applied to wicked problems

Economic result = lowering the cost of
                          generating valuable insights

Human result = accelerating our economic and
                       social evolution
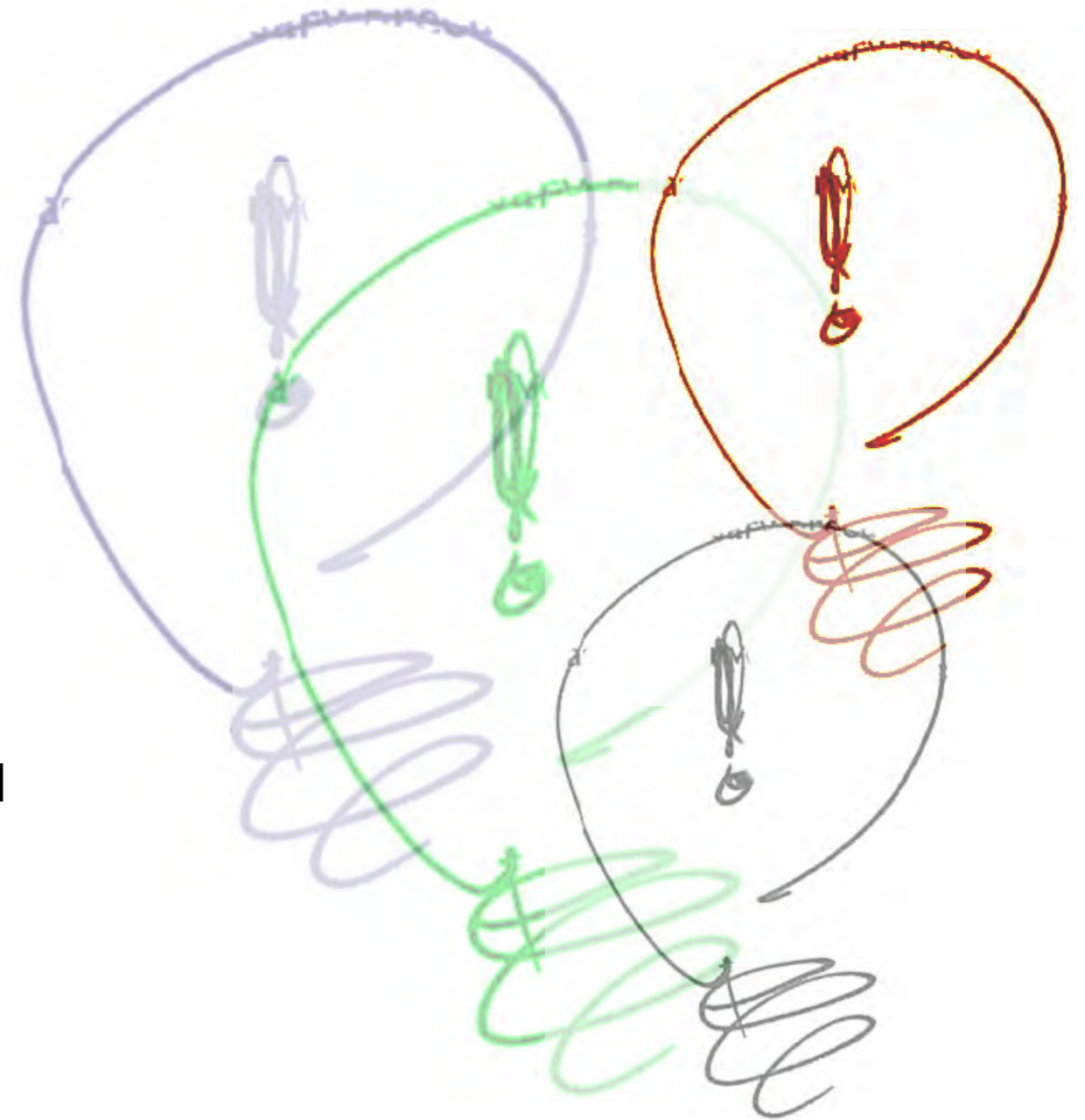
Machines & Revolutionary Eras

	Industrial Revolution	Information Revolution	Conversation Revolution
	1750—2010—?	1955—1995	1995—?
Machines...	amplify muscles	amplify nervous system	amplify our collective mind
... create wealth by lowering cost of ...	doing physical work	lowering uncertainty	evolving valuable insights

Conversations as Transactions in the Future of Commerce
An Economy of Insight

RedDrummer
MEDIUM OF EXCHANGE

Epilogue

From an industrial age
to an information age
to a conversation age.

The future we see holds
an economy of insight.

Do we know how far that takes us
into the future? No.

Are we sure we will see this future? Yes...

Because wealth comes from insight.

Economy of Insight comes from software
designed for Conversations = Transactions.

Conversations as Transactions in the Future of Commerce
An Economy of Insight

Thank you.

and with thanks to
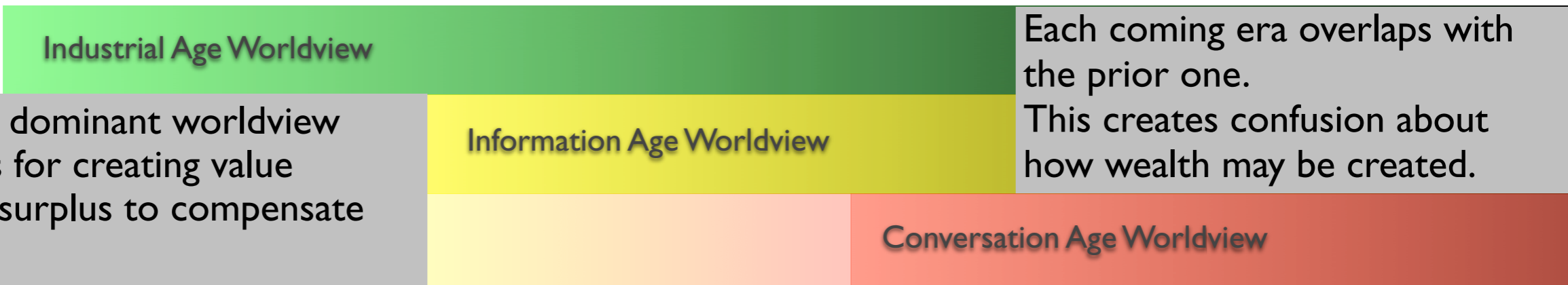André Vellozo, Global CEO, RedDrummer
Walter Lee, RedDrummer US

Paul Pangaro, Ph.D.
Global CTO, RedDrummer
pangaro@reddrummer.com

RedDrummer
MEDIUM OF EXCHANGE

Eras

Every era has a dominant worldview that is the basis for creating value by exploiting a surplus to compensate for a scarcity.

Each coming era overlaps with the prior one.
This creates confusion about how wealth may be created.

|	Industrial Age Worldview	Information Age Worldview	Conversation Age Worldview	
years	1760 to	1970 to ...	2010 to ...	???
constraint / primary cost	labor = time + effort	information processing	reaching insight	converging on effective plans
efficiencies sought...	save = break work into time smaller pieces save = machine extension labor of muscles	break information into smaller pieces: DB records & fields, message packets coordination by message passing	evolving insights faster & cheaper via just-in-time conversations using the social graph	just-in-time design: faster & cheaper agreement through dialectic
abundance	energy from fossil fuels	Moore's Law in computer hardware	Metcalfe's Law of social networks	tracking of evolving agreements
means of wealth creation	mass production of product	mass production of data	demand-activated production	demand-activated innovation
technology of commoditization	hardware = machines + assembly lines	software = DBMS queries + messaging	services = agreement + trusted nets	services = bank of insights
new constraint created	lack of flexibility	reaching coherence	creating new designs	insight inflation

Barriers

Shifting from an messaging / Shannon Information
to a conversation model will be difficult.

This is because systemic change is difficult.

There are many barriers to change
- current processes and plans
- current thinking, beliefs, hidden paradigms
- current spending patterns
- current expectations
- current desires.

These barriers must be managed through
a conversation about personal fears,
social roles, and a future in which individual
self-interest is valued and protected.
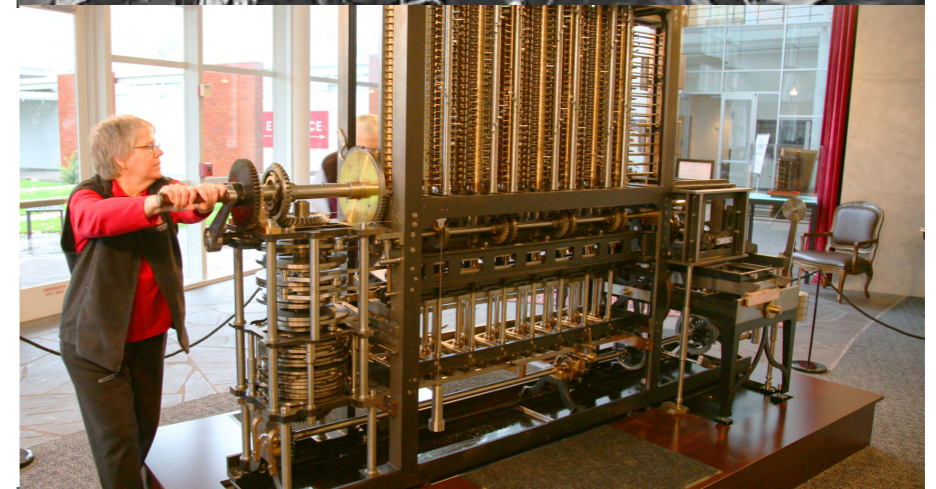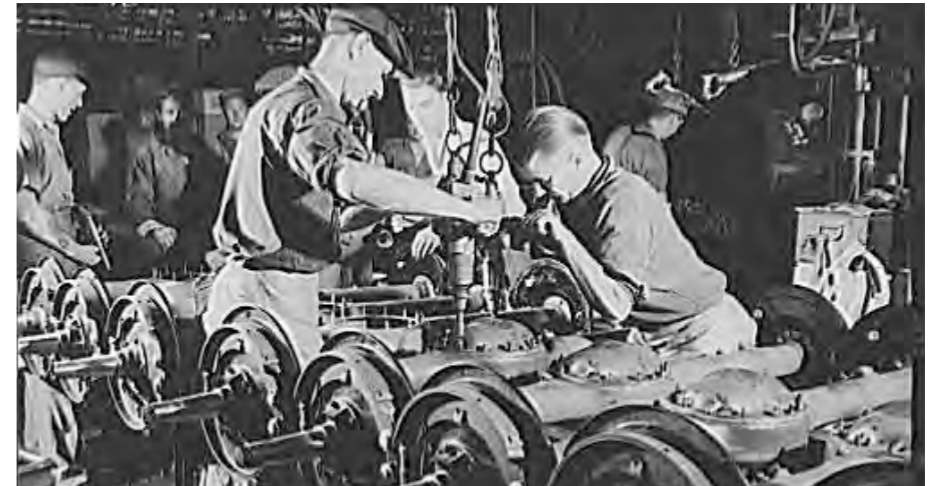
Communication vs. conversation

	communication	conversation
theory	information theory	conversation theory
focus	reliability of channel	reliability of understanding
atom	message	distinction
molecule	message repertoire	coherence
objective + metric	correctness of message	degree of agreement
strength	disambiguating	evolving knowledge
limitation	not about new messages	takes effort to quantify