Scale, Scope, Speed

ABI Focus Series: The Leaders' Edge -- Innovating to Create Customer Value

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IBM Advanced Business Institute
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What will be the focus for the next 90 minutes?

How should we understand the initiatives and investments driven by e-business?

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influencing ...
e-business solutions architectures

How should we understand the initiatives and investments driven by e-business?

informed by ...
ideas from Adaptive Enterprise / Sense & Respond

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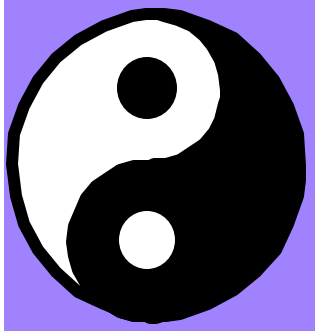

Facing issues in the "Business-I/T Gap"

- Business⇔Information Technology
- Business Operations⇔Business Economics
- (Model⇔Variation) and (Model⇔Change)

Agenda

A. Economics foundations
with exercise 1

B. Capacity and capabilities
with exercise 2

C. Application in the "dialogue"

Appendix: References

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Why invest, as a firm?

Related to:
"Theory of the Firm"; "Institutional Economics"; "Transaction Cost Economics"

"The Visible Hand"	*"The Invisible Hand"*
Management	Markets
Intent	Emergence
Development	Efficiency
Investment	Self-Organization

Source: David Ing,
IBM Advanced Business Institute

Management should be motivated by at least one of the economies

economies of scale

the visible hand can decrease costs more rapidly than the invisible hand through ...

- larger plants
- division of labor

economies of scope

the visible hand can decrease costs more rapidly than the invisible hand through ...

- joint production or distribution
- knowhow reapplied
- intensity with customers

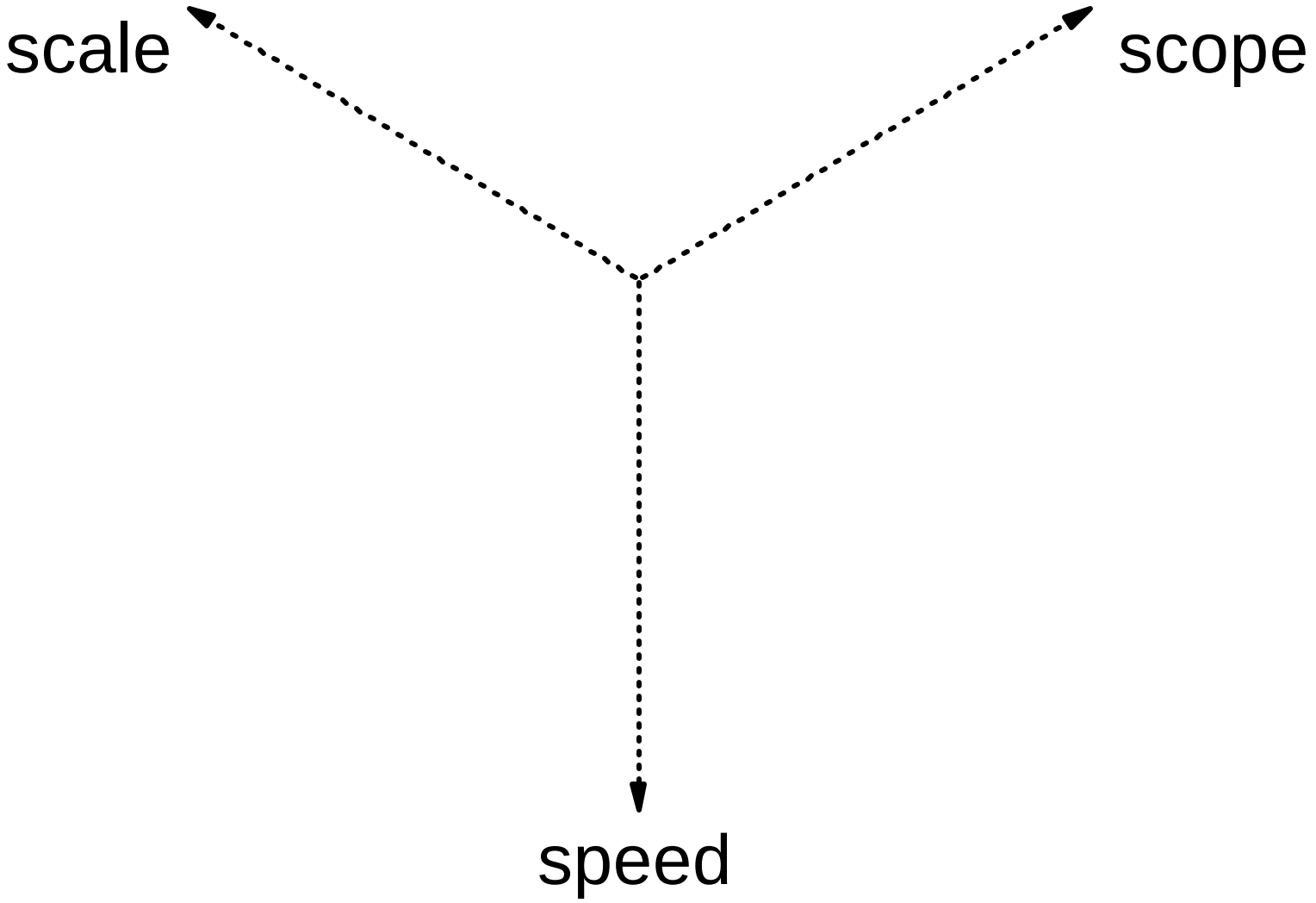
economies of speed

the visible hand can decrease costs more rapidly than the invisible hand through ...

- integration of work
- coordination of work flows

See Appendix for references.

These economies can "pull" the business in three different directions



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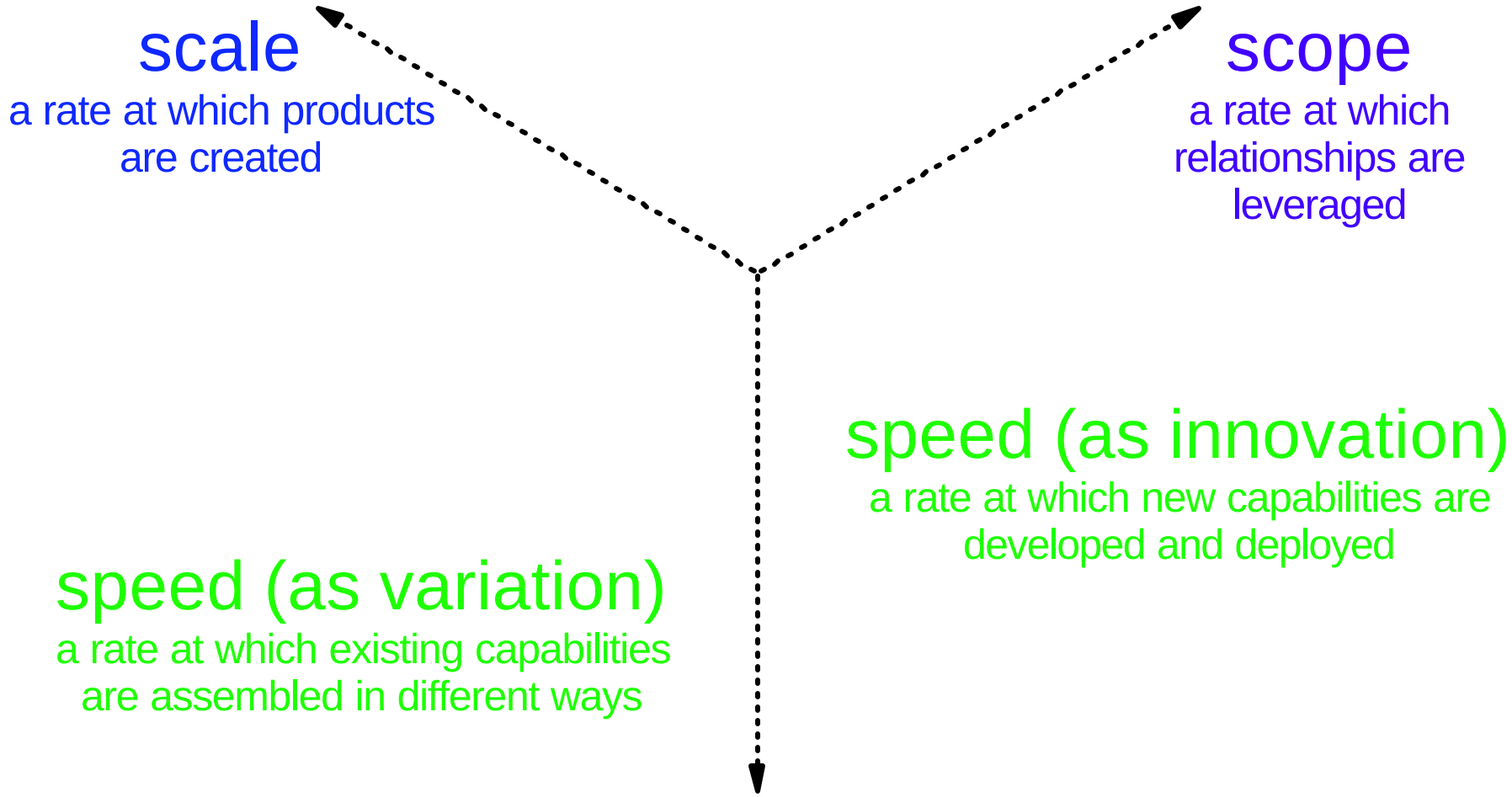
Research into defining metrics has resulted in reconsidering speed as two separate ideas



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Exercise 1 ...

What metrics for scale, scope, variation and innovation make sense for your e-business?

Examples

	metric for scale	*metric for scope*	*metric for variation*	*metric for innovation*
a B2B e-market	# of orders per week	# of persons per B2B customer served per week	# of catalogs customized per week	# of new RfPs (Requests for Proposals) or RfQs (... for Quotations) per month
a portal	# of web pages served per week	# of categories viewed per profile- holder per week	# of profiles self-configured by users per week	# of new sponsors per month

In a continued discussion on economics, questions would include ...

In your industry, what would be considered ...

- (small, moderate and large) scale?
- (narrow, moderate and wide) scope?
- (focused, moderate and broad) variation?
- (slow, moderate and quick) innovation?

At what scale, scope, variation and innovation are you currently operating?

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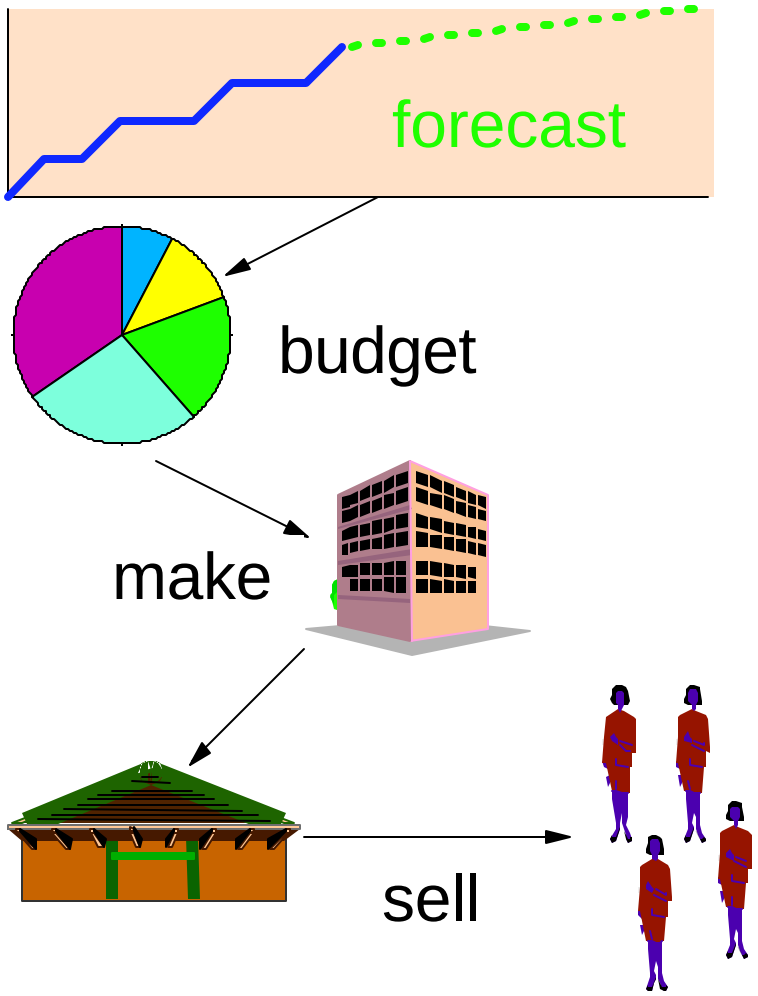
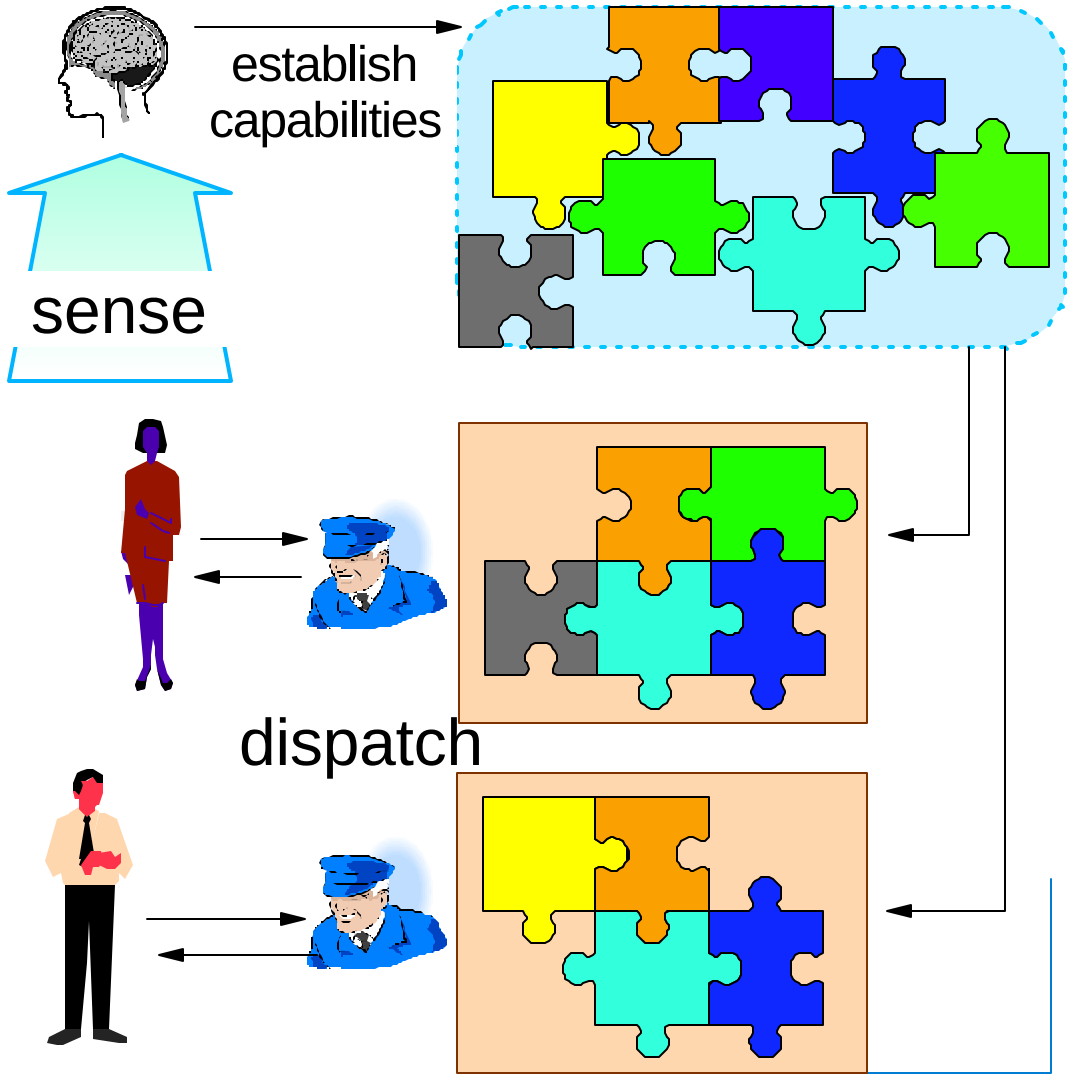
Why invest in capacity?

Forecast, Budget, Make, then Sell



Sense Customer Value, Establish Capabilities, Dispatch Unique



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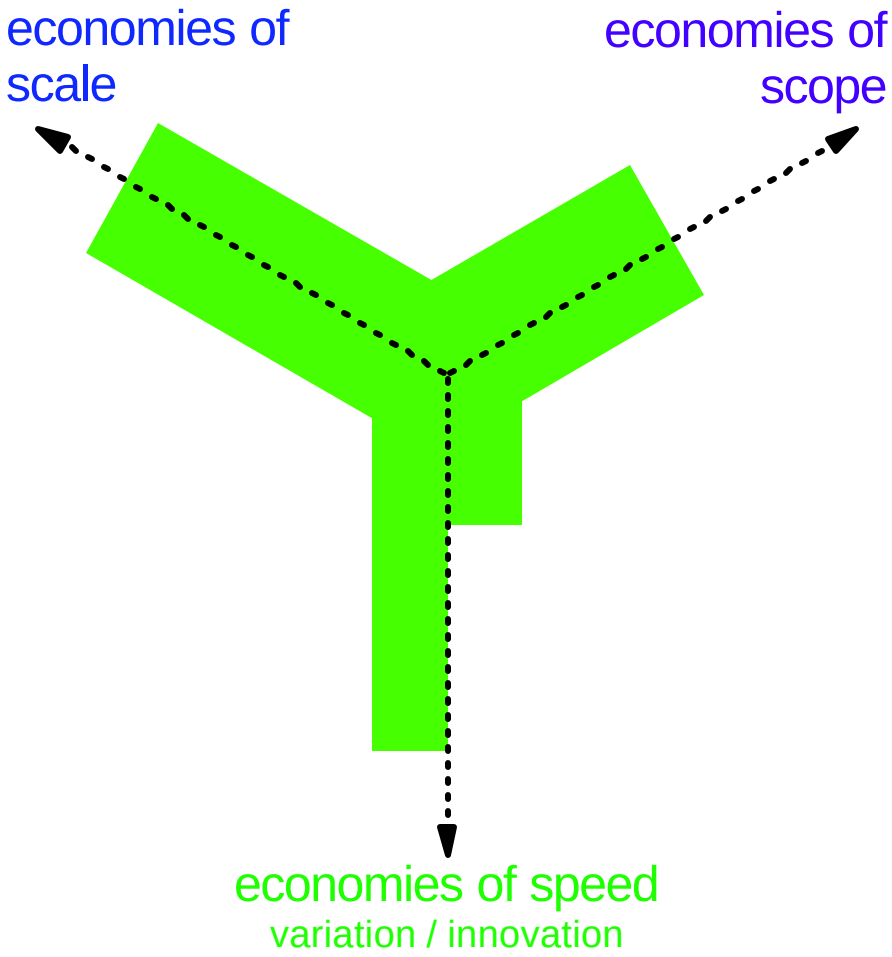
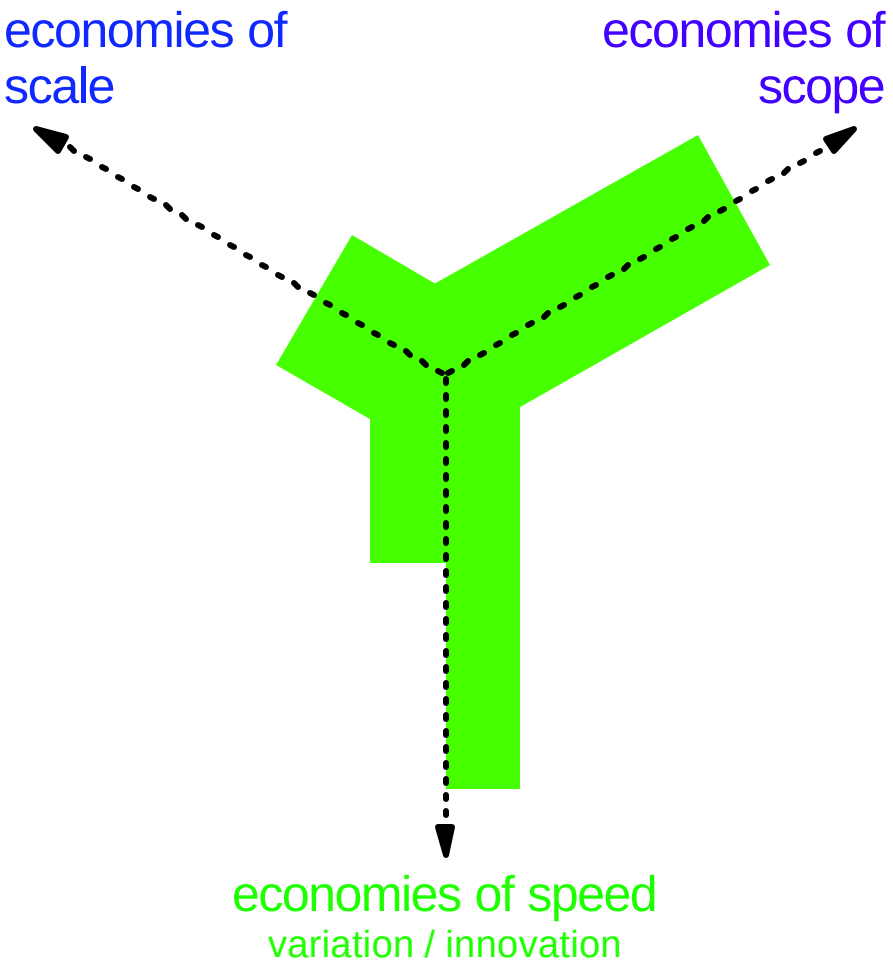
The portion invested toward each of the economies reflects e-business direction



Example: Mass Producer
large scale, moderate scope, rapid speed in variation, slow speed in innovation



Example: Custom Inventor
small scale, broad scope, slow speed in variation, rapid speed in innovation

The motivation behind e-business initiatives can be categorized by the four economies

An investment in *physical plant* can result in

economies of scale

e.g. faster servers, more storage, application functionality

An investment in *customer relationships* or *physical distribution* can result in

economies of scope

e.g. e-marketing, global presence

An investment in *coordination, personalization or workflow* can result in

economies of speed through *adaptive variation*

e.g. instant messaging; self-service production configurators / bots; inter-enterprise integration with procurement systems

An investment in *collaboration, business intelligence* or *knowledge management* can result in

economies of speed through *adaptive innovation*

e.g. purchase pattern recognition / data mining, collaborative design of new products, e-community development

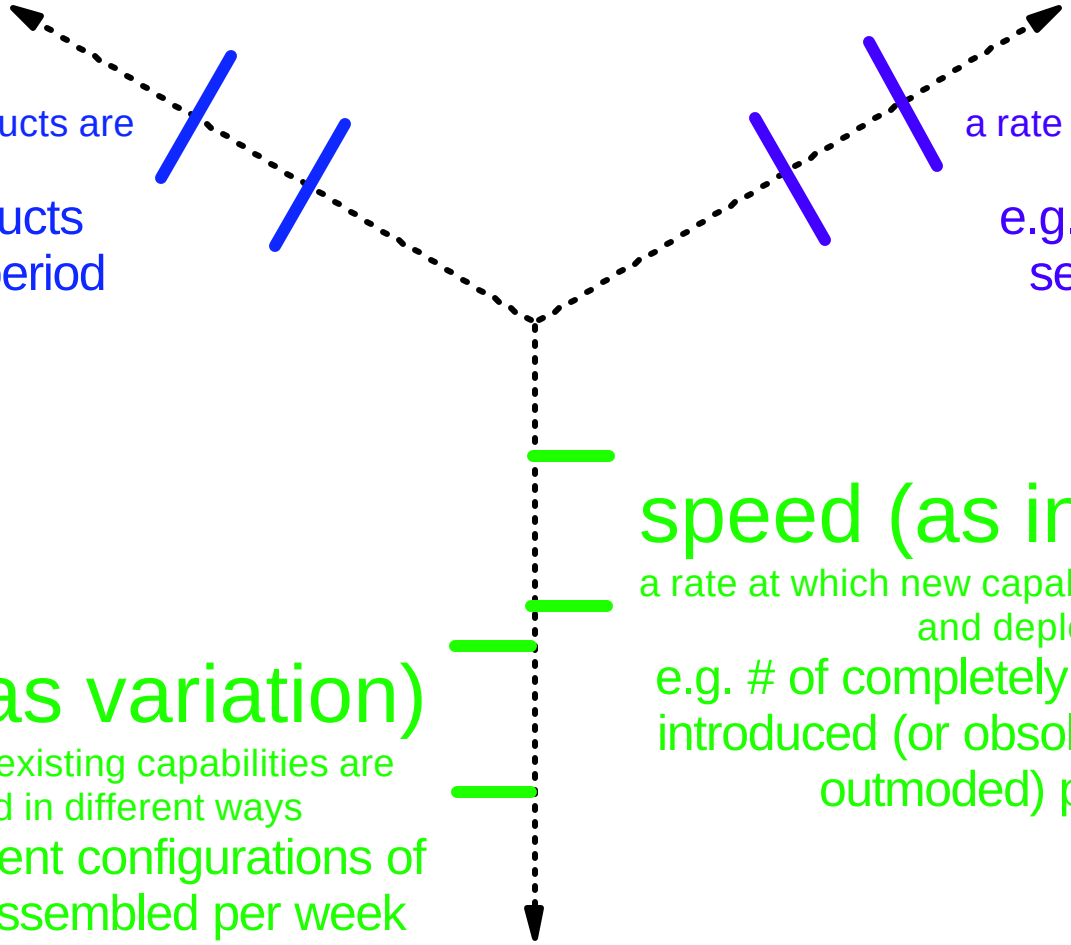
Exercise 2 ...

What portion of your investment primarily enables scale, scope, variation or innovation in e-business?

Examples

	previous investment	investment period forward
% of investment primarily towards scale-oriented capabilities	50% (infrastructure)	10%
% of investment primarily towards scope-oriented capabilities	10%	40% (trade show)
% of investment primarily towards variation-oriented capabilities	10%	15%
% of investment primarily towards innovation-oriented capabilities	30% (new function)	35% (new function)
Total	100%	100%

In foresight, designing for ranges of scale, scope and speed involves trade-offs between the three



scale

a rate at which products are created

e.g. # of products delivered per period

scope

a rate at which relationships are leveraged

e.g. # of customers served per week

speed (as innovation)

a rate at which new capabilities are developed and deployed

e.g. # of completely new capabilities introduced (or obsoleted capabilities outmoded) per week

speed (as variation)

a rate at which existing capabilities are assembled in different ways

e.g. # of different configurations of capabilities assembled per week

Source: David Ing,
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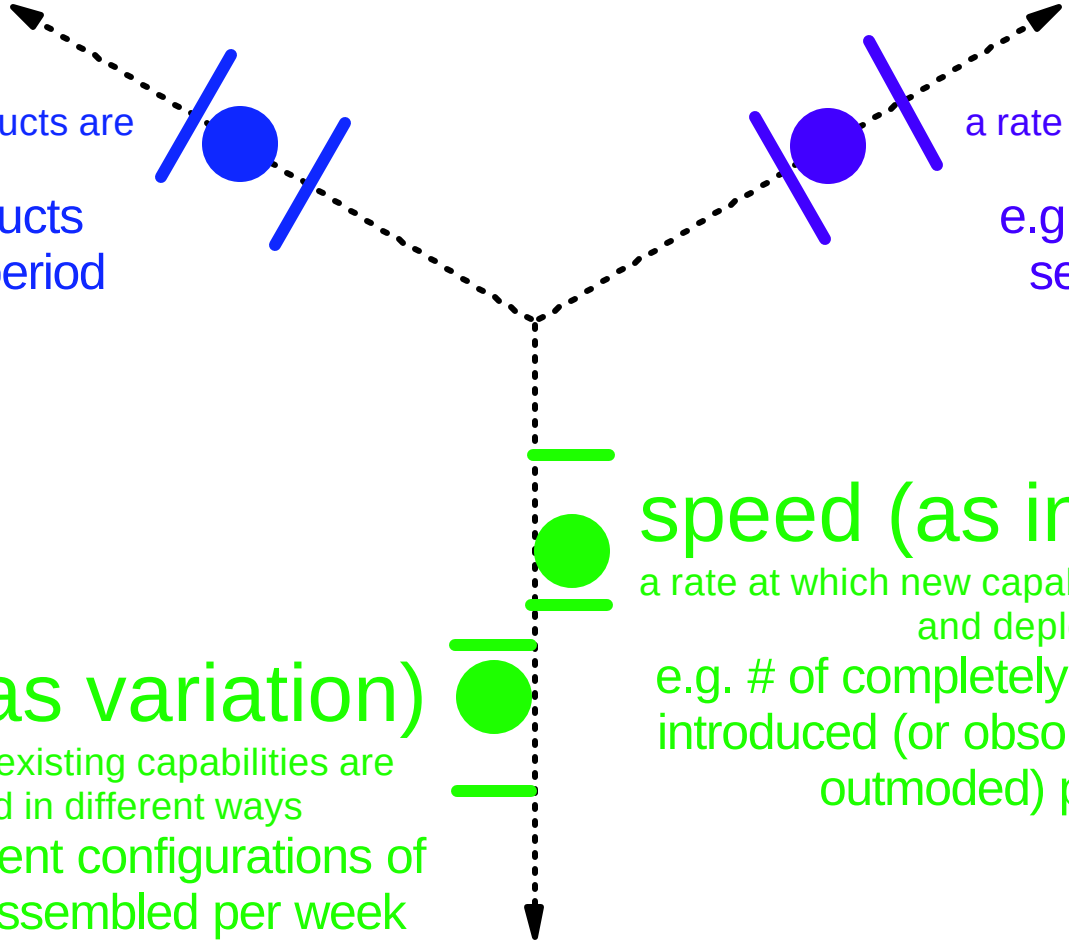
In hindsight, scale, scope and speed may be observed within or outside expectations



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In a continued discussion on capabilities, questions would include ...

Which are the most important capabilities requiring investment and deinvestment, to support the enablement of ...

- scale,
- scope,
- variation, and
- speed?

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"Capacity and capabilities" is part of a two-day dialogue to convert "unknown unknowns" to "known unknowns"

Capacity & Capabilities

The containing context includes the design environment and business direction

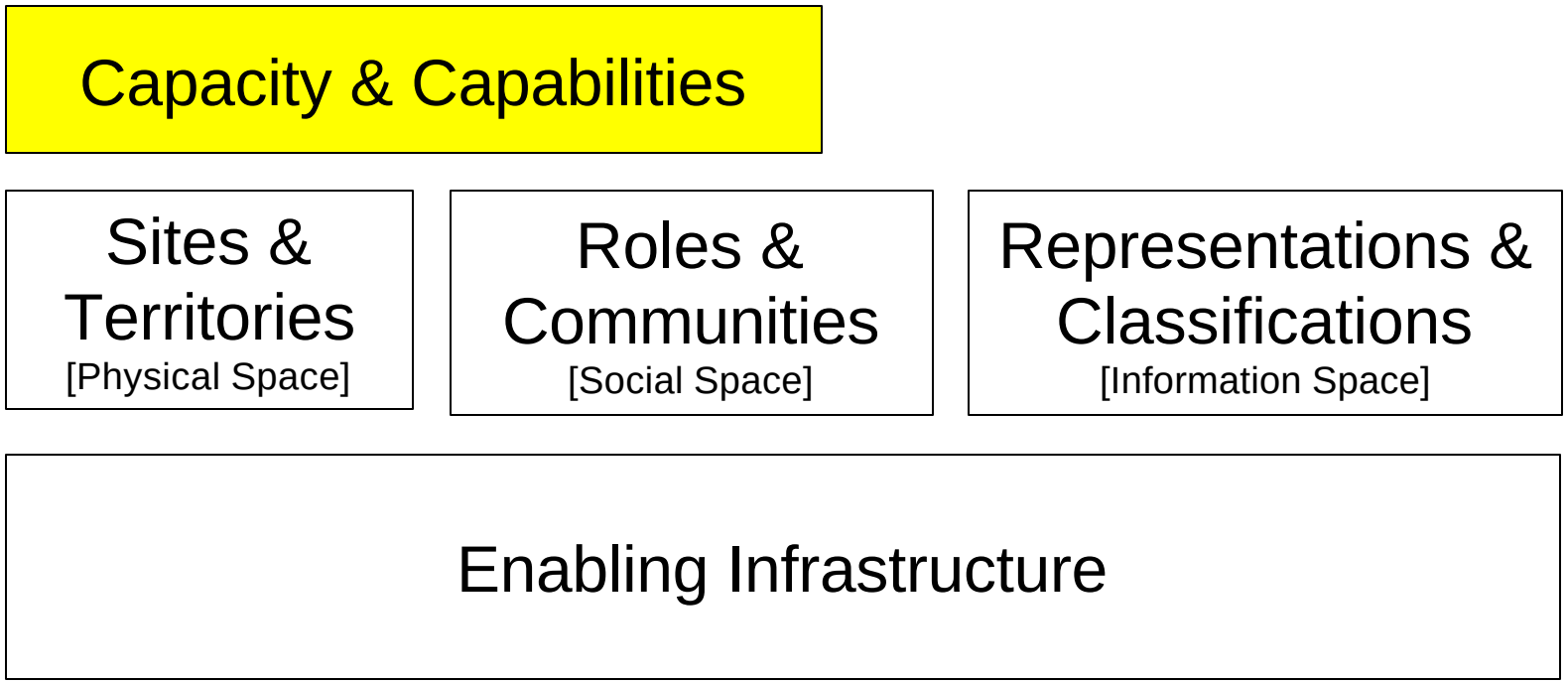
Customer Set(s)	Influencers
Organizational Purpose & Bounds	Strategic Control
Capacity & Capabilities	

Capability investment also requires understanding viability of capital flows

Capacity & Capabilities

Capital Flows

The deployment of capabilities is different when compact than when expansive



Capacity and capabilities is a key component in the understanding of e-business

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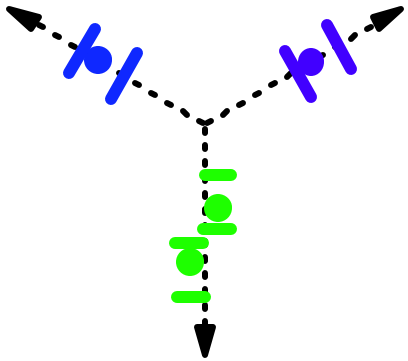

Customer Set(s)	Influencers
Organizational Purpose & Bounds	Strategic Control
Capacity & Capabilities	Capital Flows

Sites & Territories [Physical Space]	Roles & Communities [Social Space]	Representations & Classifications [Information Space]

Enabling Infrastructure

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Why the "visible hand" of management, when there's an "invisible hand" in markets?

economies of **scale**	economies of **scope**	economies of **speed**
.. in the size of plant, and in division of labor • Economies of scale ... result when the increased size of a single operating unit producing or distributing a single product reduces the unit cost of production or distribution. [Chandler, p. 17]	**.. in joint production or distribution** • Economies of joint production or distribution are those resulting from the use of processes within a single operating unit to produce or distribute more than one product. [Chandler, p. 17] **.. in knowhow** • Knowhow ... represents a shared input which can find a variety of end product applications .... The transfer of proprietary information to alternative activities is likely to generate scope economies if organizational modes can be discovered to conduct the transfer at low cost. [Teece, p. 226] **.. in customers** • "Economies of scope" ... derive from "knowhow" about individual customers. The more expertise any single enterprise has with respect to meeting the needs of an particular, individual customer, the greater that enterprise's economies of scope will be for selling that individual a series of products -- both in terms of different products and the same products sold repeatedly over an extended period of time. [Peppers & Rogers, pp. 407-408]	**.. in integration and coordination of work** • Increases in productivity and decreases in unit costs ... resulted ... from the increases in the volume and velocity of throughput.... Such economies came more from the ability to integrate and coordinate the flow of materials through the plant .... [Chandler, p. 281]

Sources: Alfred D. Chandler, Jr., *Scale and Scope: The Dynamics of Industrial Capitalism,* Belknap Press, 1990; David J. Teece, "Economies of scope and the scope of the enterprise", *Journal of Economic Behavior & Organization*, Volume 1, No. 3, September 1980; Don Peppers and Martha Rogers, *The One-to-One Future: Building Relationships One Customer at a Time,* Currency-Doubleday, 1993.

