

UiO : **Institutt for informatikk**

Det matematisk-naturvitenskapelige fakultet

IN5430 IT and Management Governance Frameworks




January 23 2019



Bendik Bygstad



Current research projects

Topic	What I am trying to find out	Organization
Digital innovation in airlines	<i>How do airlines deal with digital innovation?</i>	SAS Norwegian 
Large eHealth systems	<i>What IT architecture and governance is suited for large eHealth infrastructures?</i>	Helse Sør-Øst 
Lightweight IT	<i>How can heavyweight and lightweight IT interact?</i>	Kalnes Hospital
Travel intermediaries	<i>How can hotels chains compete with online travel agencies, such as booking.com and Expedia?</i>	Nordic Choice 
Critical realism	<i>Which mechanisms can explain observed phenomena within IS?</i>	

Learning outcomes today

1. A changing business landscape

- Understand the change from “IT” to “digitalisation” in organisations and society

2. Governance

- Appreciate the difference between governance and management
- Can use the Weill and Ross governance framework
- Small exercise

A paradigm shift in research after 2007...

- From IT to digitalization
- From IT strategy to digital business strategy
- From innovation with IT to digital innovation

What happened in 2007?

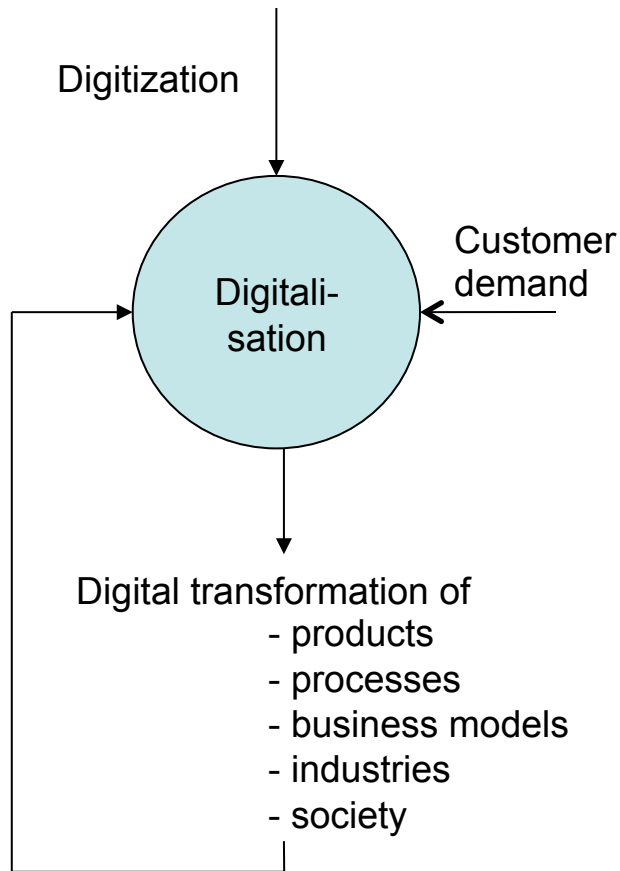
A paradigm shift in research after 2007...

- From IT to digitalization
- From IT strategy to digital business strategy
- From innovation with IT to digital innovation

What happened in 2007?



Digitalisation: An organisational view



Digitization: Creating digital information (Negroponte 1995)

Digitalisation: A set of self-reinforcing organisational and societal processes based on the particulars of digital technology (Yoo et al., 2010; Henfridsson and Bygstad, 2013):

- Digital innovation
- Algorithms

Digital transformation: The transformation of products, processes, and organizational aspects through digital technologies. (Hess et al, 2015; Loebbecke and Picot, 2015)

Digital innovation: The recombinations of digital, layered components (Huang et al 2017)

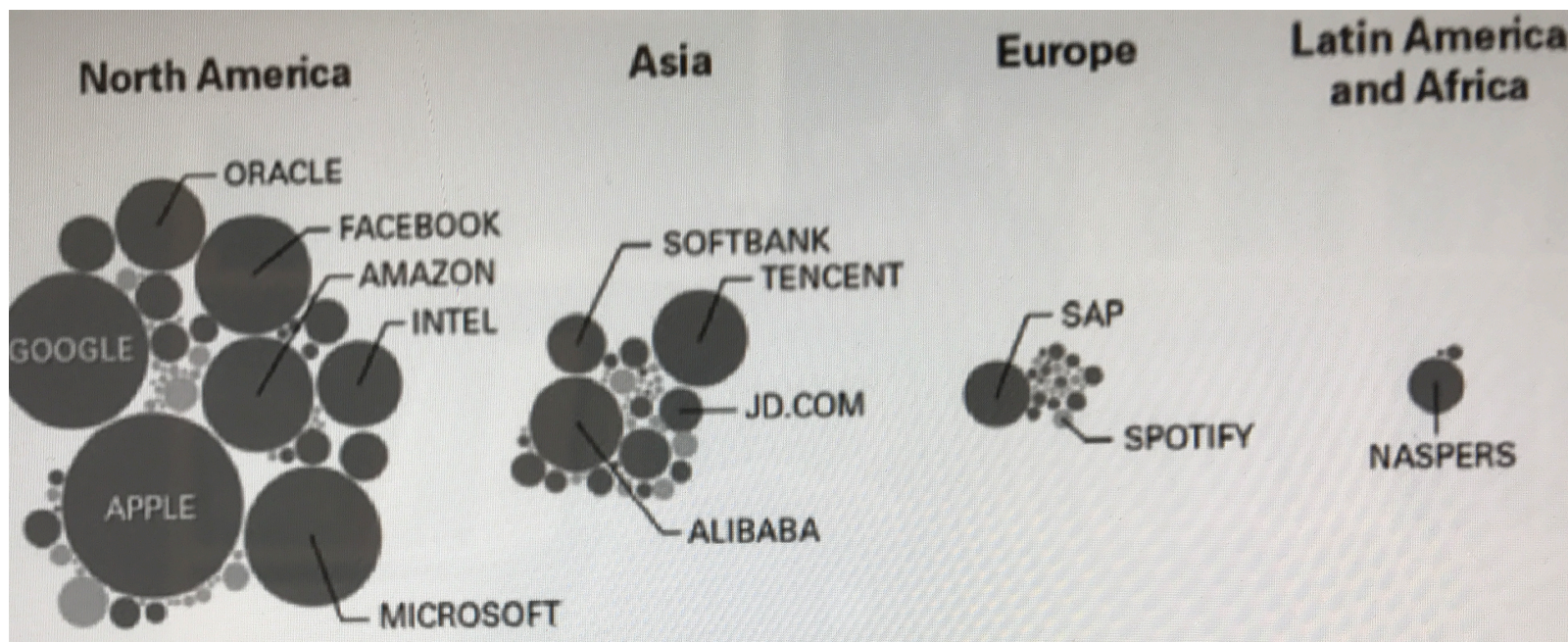
From Pipelines to Platforms (Alstytne, Parker, Choudary, 2016)

Pipeline company: Value chain (Volvo, Hydro, Choice Hotels)

Platform company: Ecosystem with n-sided markets (Uber, Airbnb, Finn, Booking.com)

1. From resource control to resource orchestration.
2. From internal optimization to external interaction.
3. From a focus on customer value to a focus on ecosystem value.

Plattformers og Ecosystemer



Market Capitalization. (Parker, Alstyne, Choudary, 2016)

Platform Ecosystems

ECONOMIC PERSPECTIVE

(Parker, van Alstyne, Choudary 2014)

Plattform

“A business platform is a nexus of rules and infrastructure that facilitate interactions among network users..”

Økosystem

Two or n-sided markets grow by network effects, not on traditional economies of scale.



TECHNICAL PERSPECTIVE

Tiwana 2013.

Plattform

“A platform is the extensible codebase of a software-based system that provides core functionality shared by apps that interoperate with it.”

Økosystem

A digital ecosystem consists of the collection of platform and the apps specific to it.



Digital Business Strategy

MIS
Quarterly

SPECIAL ISSUE: DIGITAL BUSINESS STRATEGY



DIGITAL BUSINESS STRATEGY: TOWARD A NEXT GENERATION OF INSIGHTS

Anandhi Bharadwaj

Goizueta Business School, Emory University,
Atlanta, GA 30332 U.S.A. {abharad@emory.edu}

Omar A. El Sawy

Marshall School of Business, University of Southern California
Los Angeles, CA 90089-1421 U.S.A. {elsawy@marshall.usc.edu}

Paul A. Pavlou

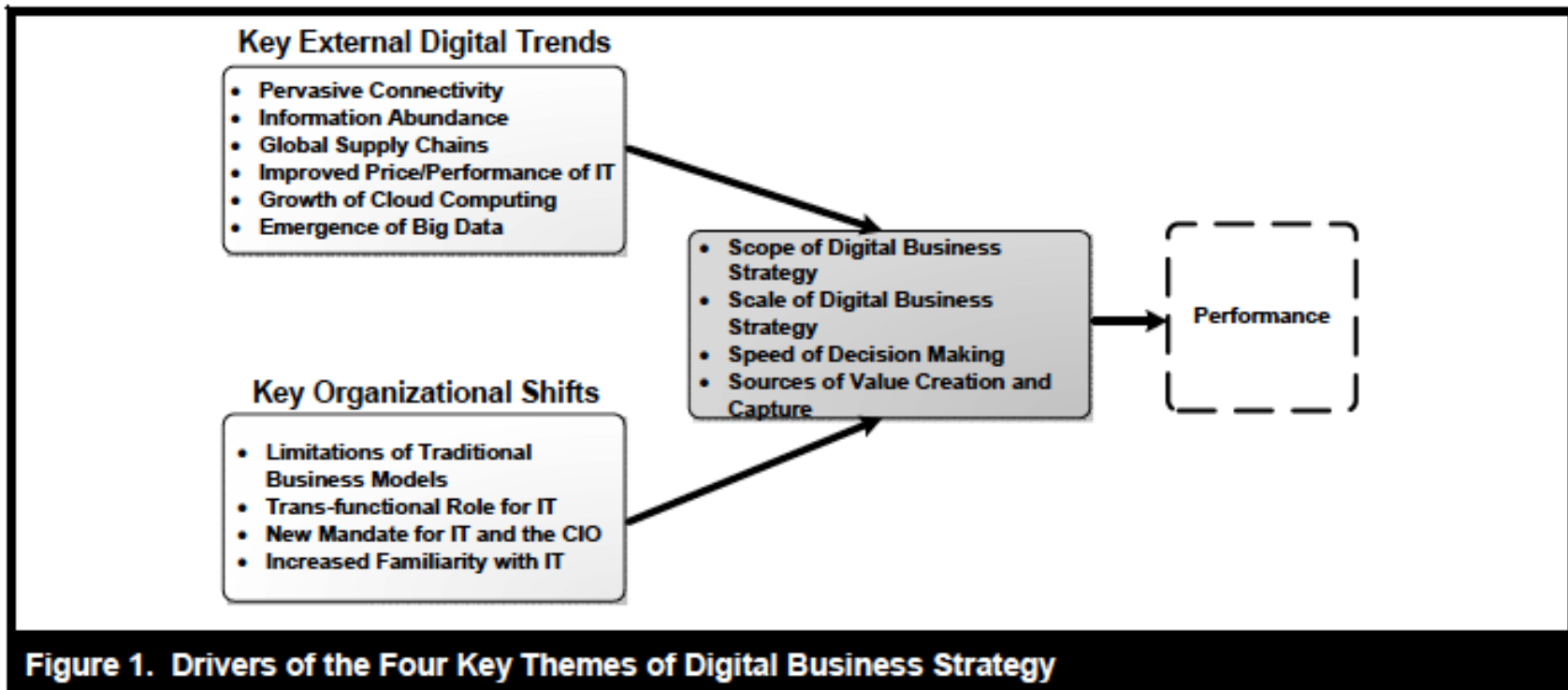
Fox School of Business, Temple University,
Philadelphia, PA 19122-6083 U.S.A. {pavlou@temple.edu}

N. Venkatraman

School of Management, Boston University
Boston, MA 02215 U.S.A. {venkat@bu.edu}

Over the last three decades, the prevailing view of information technology strategy has been that it is a functional-level strategy that must be aligned with the firm's chosen business strategy. Even within this so-called alignment view, business strategy directed IT strategy. During the last decade, the business infrastructure has become digital with increased interconnections among products, processes, and services. Across many firms spanning different industries and sectors, digital technologies (viewed as combinations of information, computing, communication, and connectivity technologies) are fundamentally transforming business strategies, business processes, firm capabilities, products and services, and key interfirm relationships in extended business networks. Accordingly, we argue that the time is right to rethink the role of IT strategy, from that of a functional-level strategy—aligned but essentially always subordinate to business strategy—to one that reflects a fusion between IT strategy and business strategy. This fusion is herein termed digital business strategy.

Digital Business Strategy

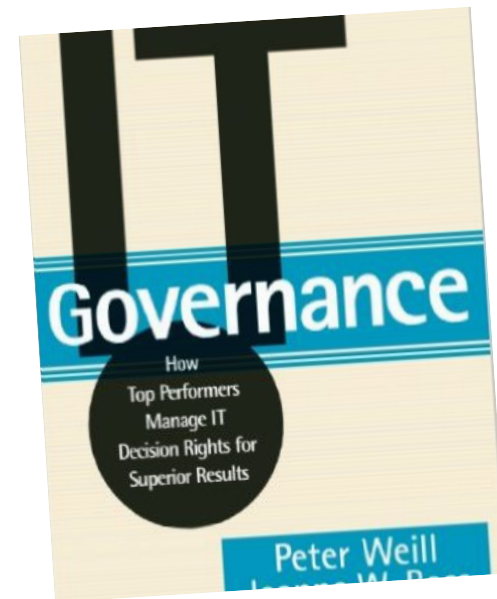


Digital Business Strategy

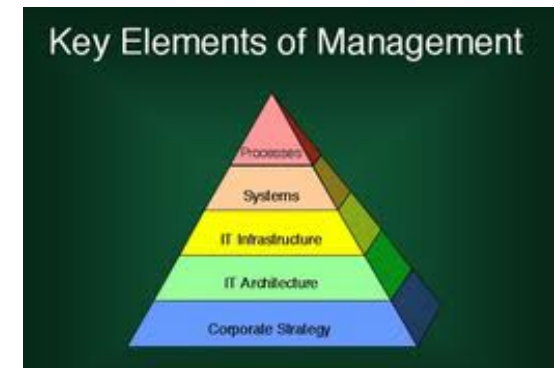
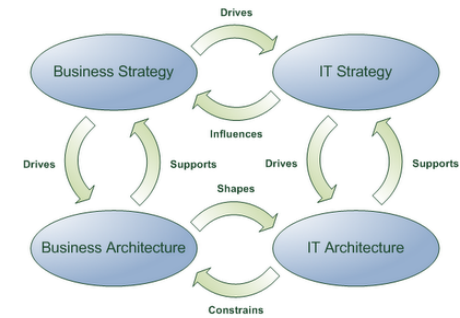
Dimension	Description
Scope of Digital Business Strategy	<ul style="list-style-type: none">- Digital Business Strategy Transcends Traditional Functional and Process Silos- Digital Business Strategy Includes Digitization of Products and Services and the Information Around Them- Digital Business Strategy Extends the Scope Beyond Firm Boundaries and Supply Chains to Dynamic Ecosystems That Cross Traditional Industry Boundaries
Scale of Digital Business Strategy	<ul style="list-style-type: none">- Rapid Digital Scale Up/Down as Strategic Dynamic Capability- Network Effects Within Multisided Platforms Create Rapid Scale Potential- Scale with Digital Business Strategy Will Increasingly Take Place under Conditions of Information Abundance- Scale Through Alliances and Partnerships
Speed of Digital Business Strategy	<ul style="list-style-type: none">Speed of Product LaunchesSpeed of Decision MakingThe Speed of Supply Chain OrchestrationSpeed of Network Formation and Adaptation
Sources of Value Creation and Capture	<ul style="list-style-type: none">- Increased Value from Information- Value Creation from Multisided Business Models- Value Capture through Coordinated Business Models in Networks- Value Appropriation through Control of Digital Industry Architecture

IT governance in organizations - models and frameworks

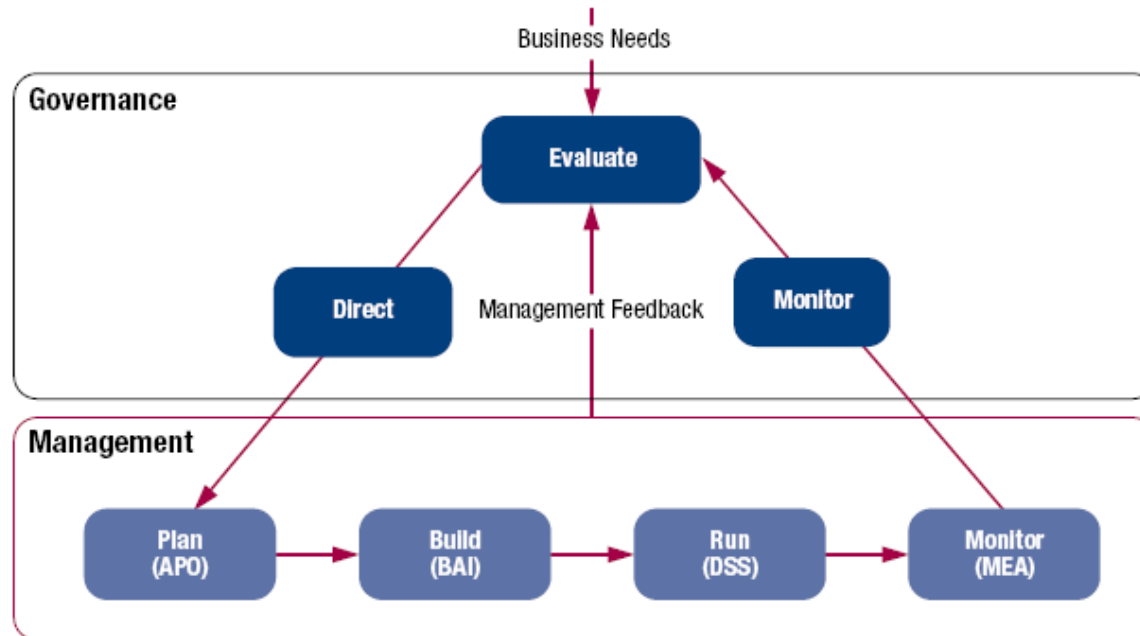
- Governing digitalisation processes
 - In organisations
 - Between organisations
 - Ecosystems
- Governance and management
- Learn to use a framework



IT Governance frameworks...



Governance and management



- **Governance** ensures that stakeholders needs, conditions and options are **evaluated** to determine balanced, agreed-on enterprise objectives to be achieved; setting **direction** through prioritisation and decision making; and **monitoring** performance and compliance against agreed-on direction and objectives (**EDM**).
- **Management plans, builds, runs and monitors** activities in alignment with the direction set by the governance body to achieve the enterprise objectives (**PBRM**).

Weill: Don't just lead, Govern



Five central IT decisions

1. IT principles
2. IT architecture
3. IT infrastructure
4. Applications and systems
5. IT Investments

Five central IT decisions

1. IT principles
2. IT architecture
3. IT infrastructure
4. Applications and systems
5. IT Investments

Governance models

- Business monarchy
 - Top management group takes decisions
- IT monarchy
 - CIO takes decisions
- Feudalism
 - Some strong middle managers dominate
- Federalism
 - Decisions are taken jointly by central and local managers
- Duopol
 - A two-part cooperation between IT managers and key business managers
- Anarchy
 - Groups and strong individuals take decisions from local needs

Governance Matrix

	IT principles	IT architecture	IT infrastructure	Applications	IT investments
Business monarchy					
IT monarchy					
Feudalism					
Federalism					
Duopoly					
Anarchy					
Don't know					

Exercise

- Chose an organisation you know
- Fill in the suitable IT decision rights in the Weill&Ross matrix

Figure 4: How do enterprises govern?

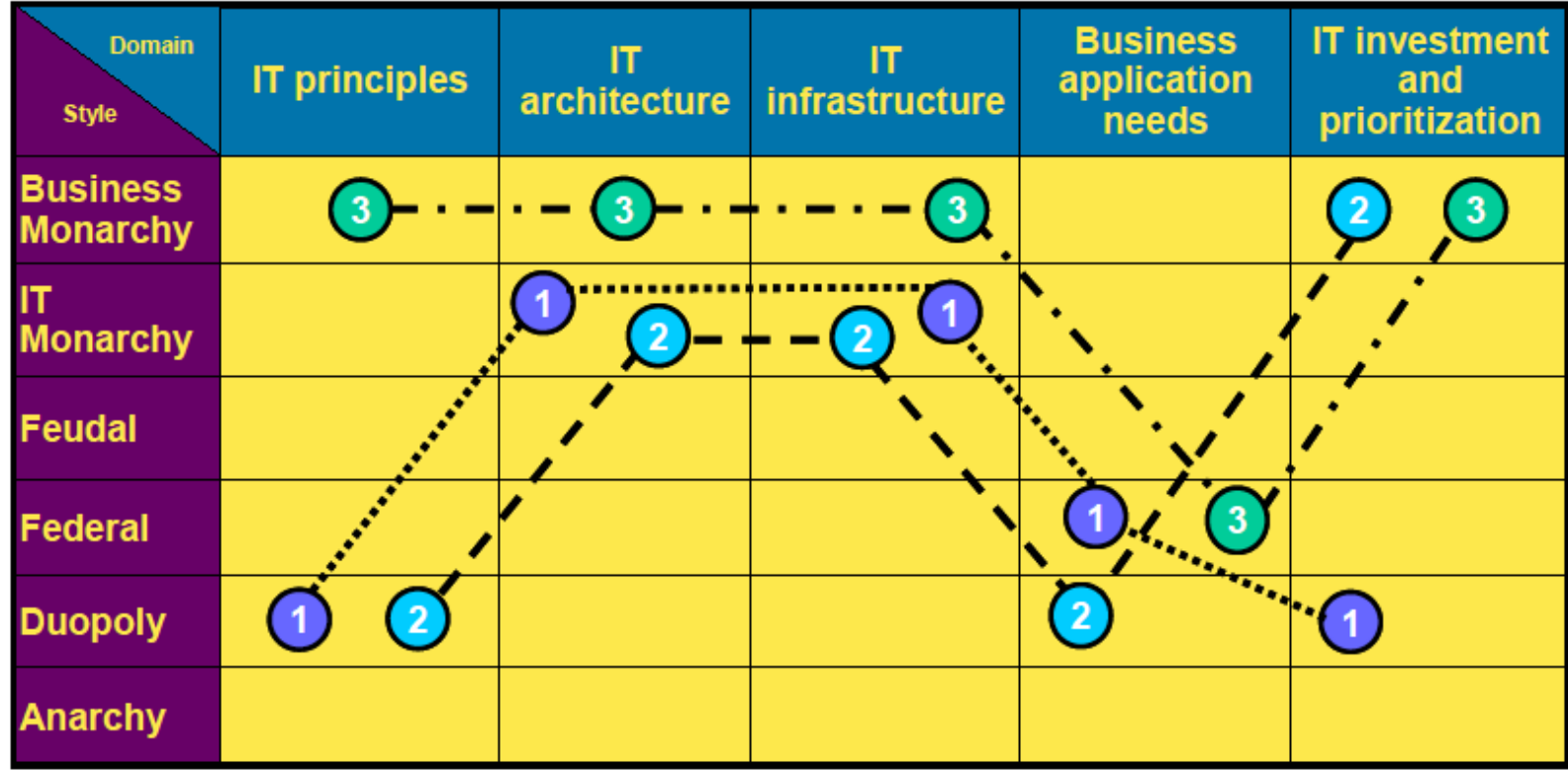
		Decision Domain									
		IT Principles		IT Architecture		IT Infrastructure Strategies		Business Application Needs		IT Investment	
		Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
Governance Archetype	Business Monarchy	0	27	0	6	0	7	1	12	1	30
	IT Monarchy	1	18	20	73	10	59	0	8	0	9
	Feudal	0	3	0	0	1	2	1	18	0	3
	Federal	83	14	46	4	59	6	81	30	93	27
	Duopoly	15	36	34	15	30	23	17	27	6	30
	Anarchy	0	0	0	1	0	1	0	3	0	1
	No Data or Don't Know	1	2	0	1	0	2	0	2	0	0



Most common pattern for all firms

The numbers in each cell are percentages of the 256 enterprises studied in 23 countries. The columns add to 100%.

Figure 6: Top Three Overall Governance Performers



Top Three Performers –
 Governance performance is the effectiveness of governance assessed by the CIO to deliver four IT objectives weighted by importance: cost effective use of IT & effective use of IT for asset utilization, revenue growth & business flexibility. Governance performance has statistically significant positive relationship with several measures of financial performance (i.e. ROA, ROE, market cap growth).