

# Insights on Studying History of Information Ecosystems

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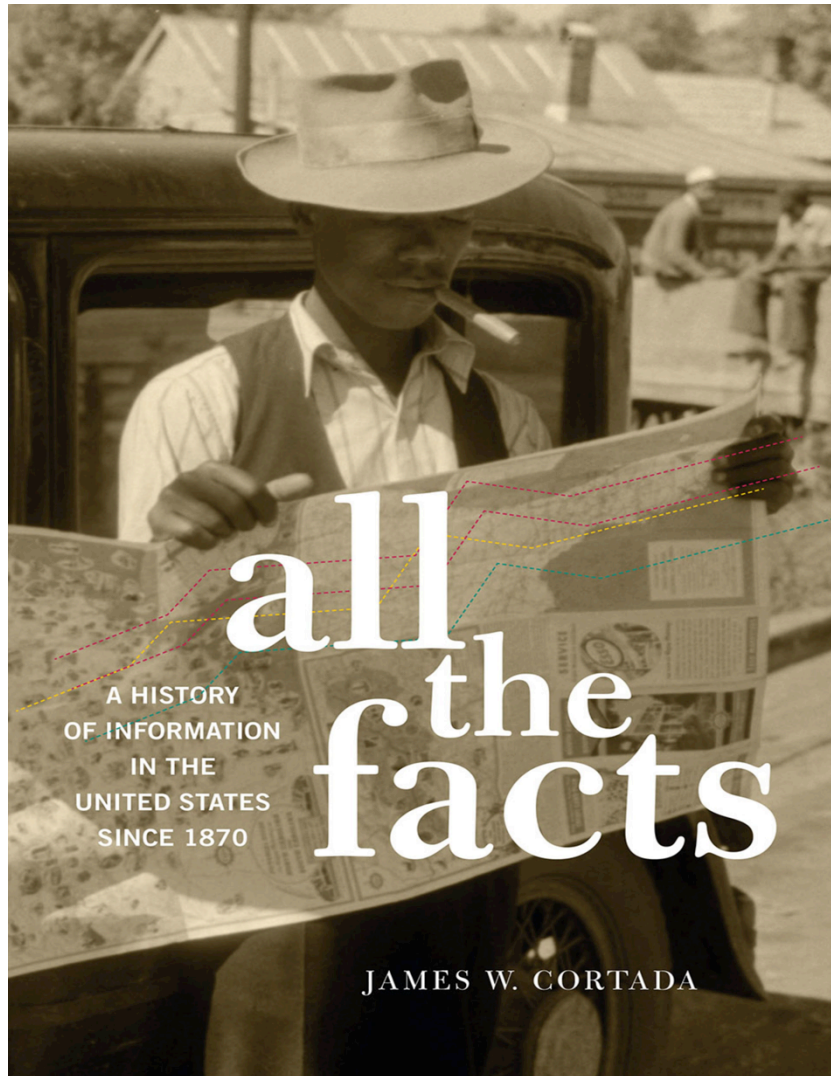
University of Minnesota

Colloquium in History of Management and Organization

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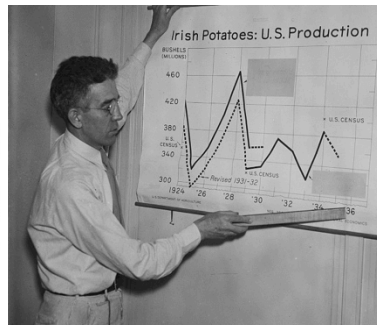
I wrote the first broad national history of a nation's experience with information. It yields lessons useful to societies today.



- ✓ Covers all aspects of a nation's experiences: Business, Government, Private Life
- ✓ Identifies national patterns of behavior over multiple generations
- ✓ Links role of ICTs and older information artifacts to the use of information
- ✓ Puts into context contemporary uses of the Internet and other forms of IT

Americans have been extensive users of information since the 1600s, more so during the Second and Third Industrial Revolutions.

- Built a massive, complex *information infrastructure*
- Used every form of *information handling tools* available
- Resulting in a thick *information ecosystem*
- No aspect of American life was immune from the process
- Their dependence on information is increasing
- Included business, government, private life
- Europe had a similar experience, most in the North, least in the South, most to the West least to the East



What has prior research on information to teach us about studying the issues faced by today's conference?

- ✓ How do you study the evolution in uses of information by organizations?
- ✓ How do you understand the role of scientific knowledge and its diffusion in management and operations?
- ✓ How do you identify and understand information as an asset of an organization?
- ✓ To what extent are today's digital transformations part of a longer history of computer science and of management information systems?
- ✓ How do you study information's history in accounting, finance, marketing, training, knowledge, and ICT?

Begin by doing what historians have always done when confronted with new topics, themes, and conditions.

- Begin by deciding what questions to ask
  - Why examine information's role in a particular company or government agency?
  - What should I look for?
  - What was the role of information in XYZ?
- Define what you mean by information
  - Accounting? Process descriptions? Statistics?
- Document existing information and its role in area of your interest
  - Old accounting records, process steps, laws, etc.
- Explain the context in which information flourished and existed
  - Role of regulations, economic conditions, role of individuals

My favorite general questions to ask about information are . . .

- What media were used to collect and store information in xyz enterprise, industry, economy
- By profession or job, what information was collected, used, and shared?
- What patterns of adoption and use of information emerged over time?
- How did the use of information influence the work and lives of specific people and groups?
- What other historical discourses should be viewed as information history?
- What are the intrinsic features of facts and how did those affect the creation and use of other facts?

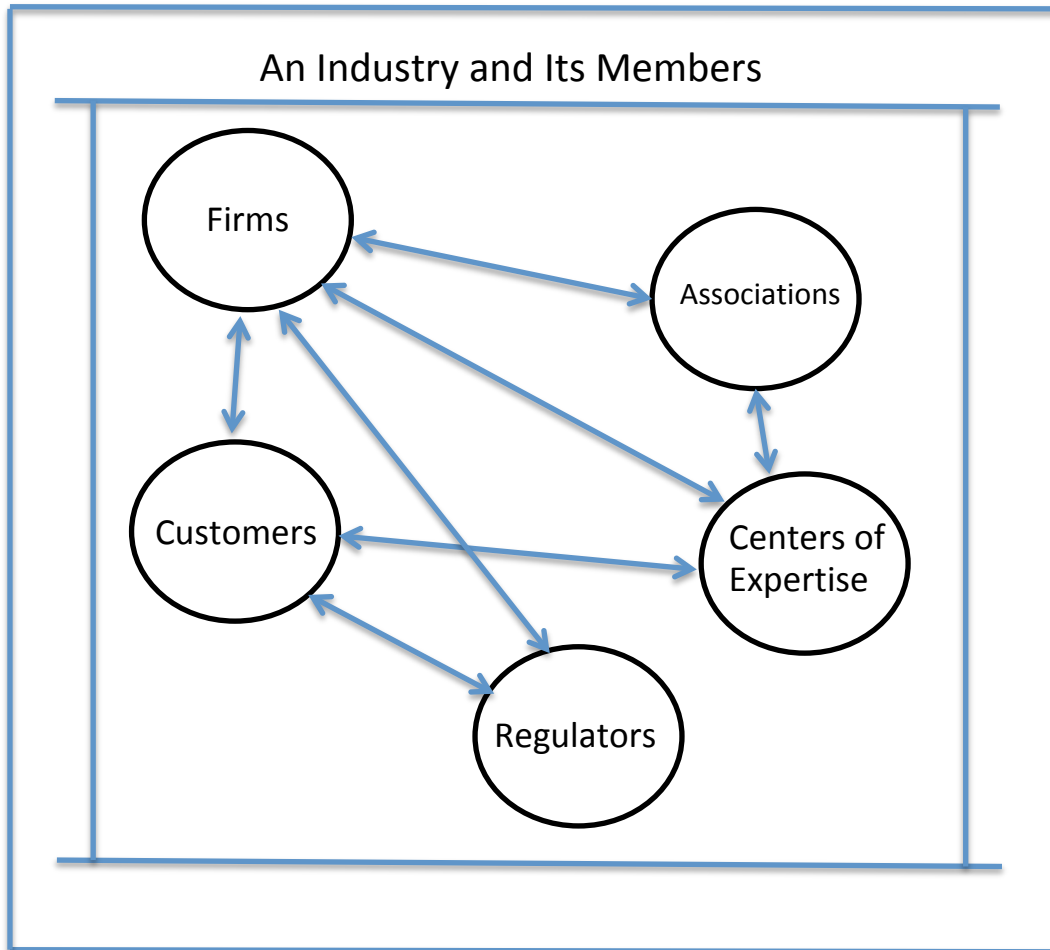
Treat these questions within a context useful for the study of information.

- Think about *frameworks*
- Describe *information infrastructures*
- Document *information flows*
- Do all of this to describe *information ecosystems*:

***“An information ecosystem is a collection of knowledge, experts and users much as academics think of a discipline, but with the important difference that this body of knowledge and associated communities were far broader/larger than an academic discipline.”***

***“Information flows is the movement of information from one place to another for different purposes and consequences.”***

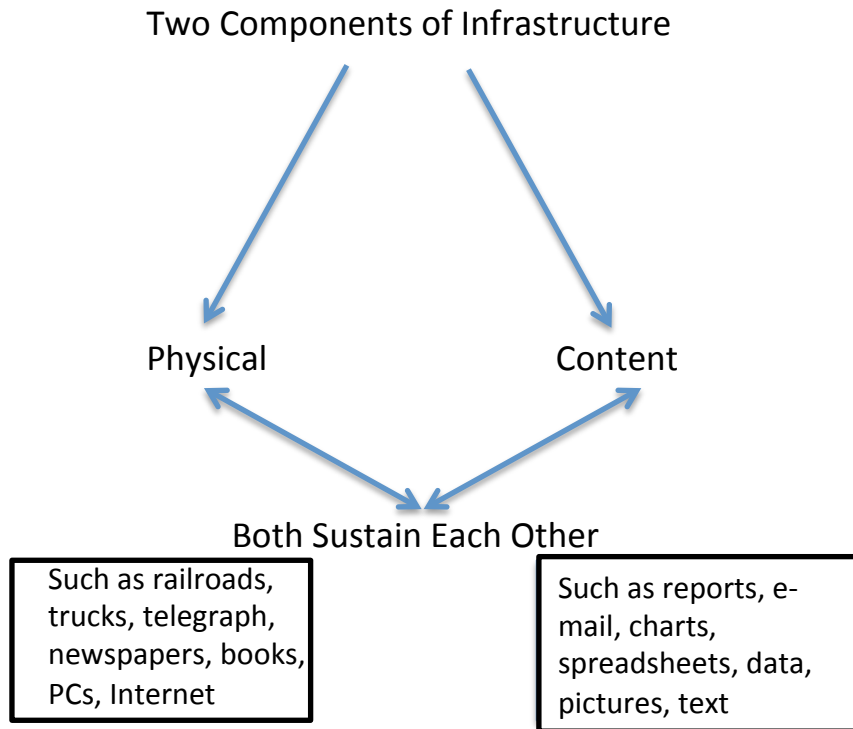
The central strategy for studying information's role is to reconstruct an information ecosystem—they always exist, are always hidden.



- Includes all participants
- Involves more than you originally thought
- Evolves over time
- Usually leaves behind documentation
- Applies to any firm, society, economy, association, or group of people
- Everyone & everything acts like a biological jungle of plants, weather, and animals co-dependent for survival

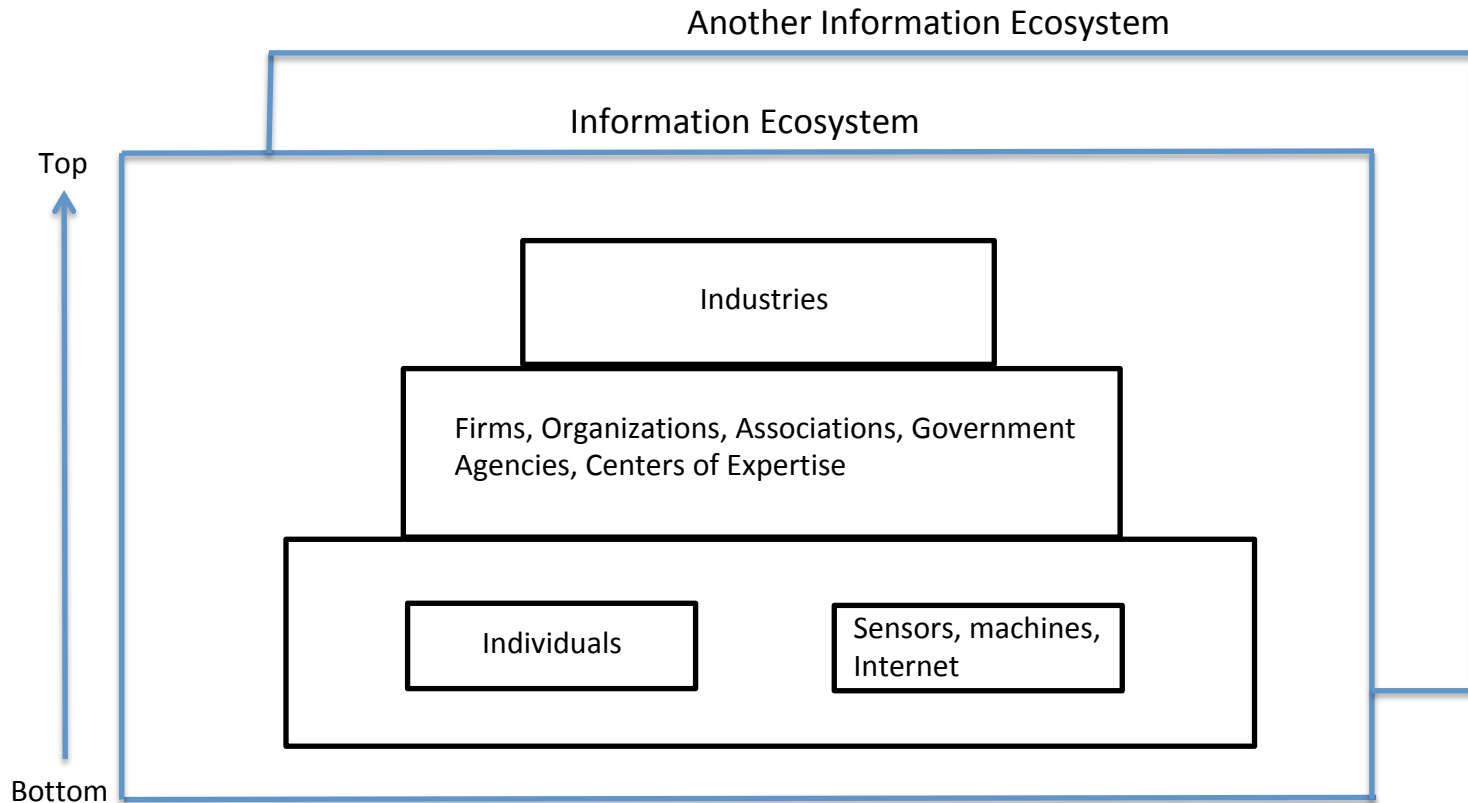


But, you must also study the information infrastructure that supports the ecosystem for your subject.

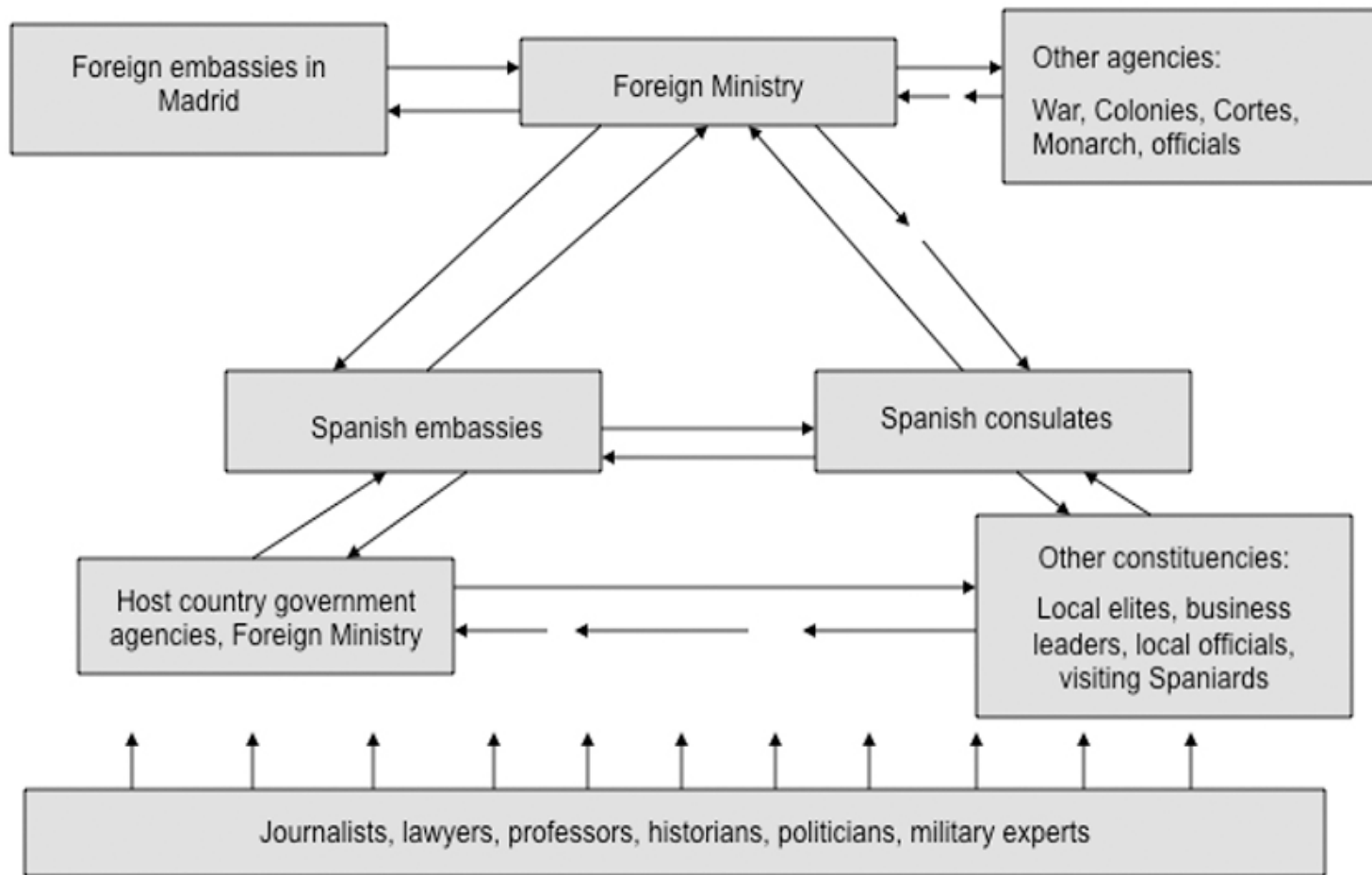


- Networks of physical items that make movement and use of information possible
- Includes postal services, email, Internet, company manuals, roads, airplanes
- Networks of publications & reports used regularly
- Information that is informal but influential used regularly, such as gossip, personal friendships, contracts
- ICT systems
- They are physical **AND** content

You learn quickly there are hierarchies of firms, people, industries, and information in information ecosystems.

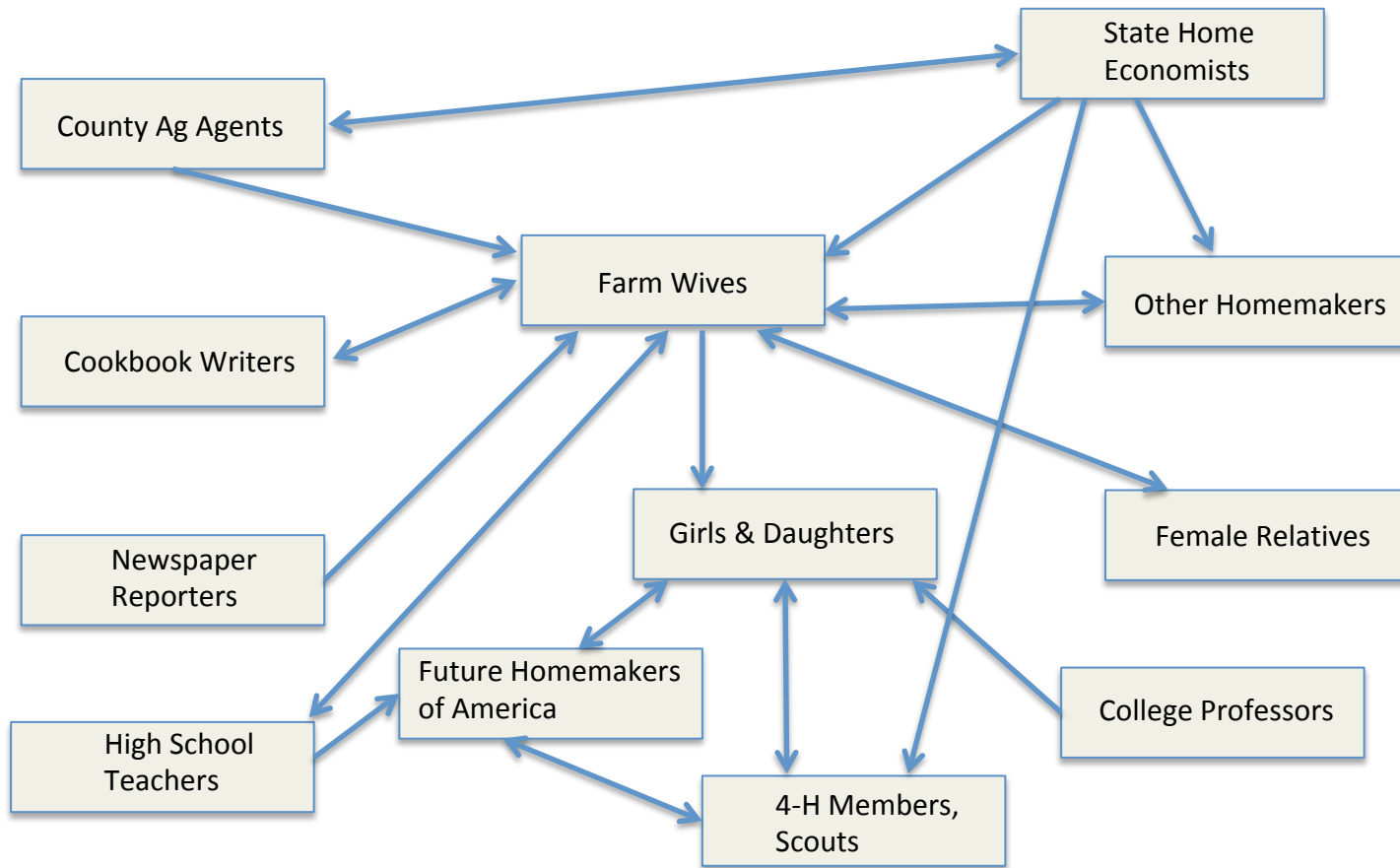


Building graphs of these help you and your audiences understand the unseen roles of information. For example . . .

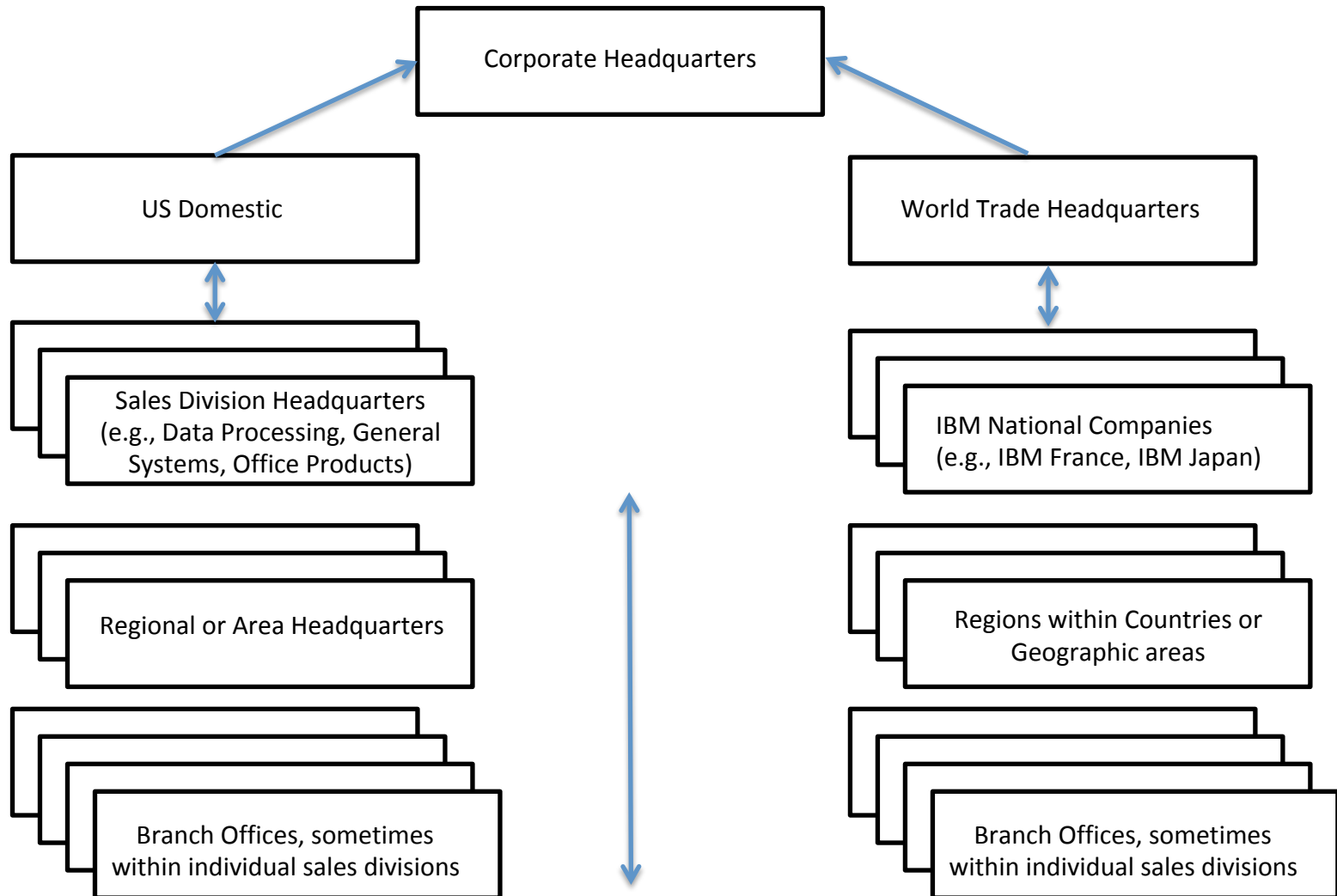


Spanish diplomatic information ecosystem, 1815-1936

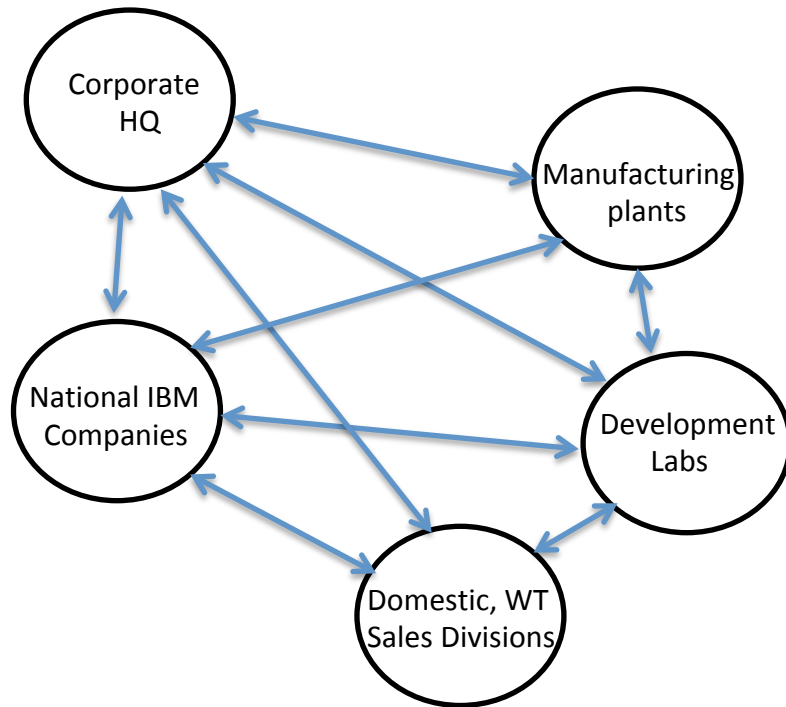
Graphically documenting activities this way works in any information ecosystem. For example, with farm wives . . . .



# An example from business . . . IBM sales organization, 1940s-1980s.



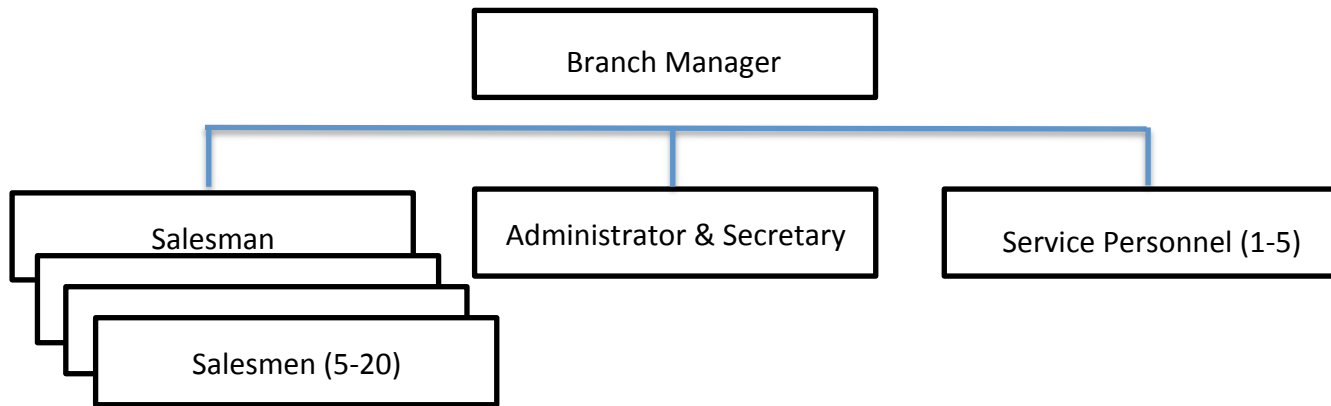
You can even define a corporate structure within to place your findings about information. IBM again . . .



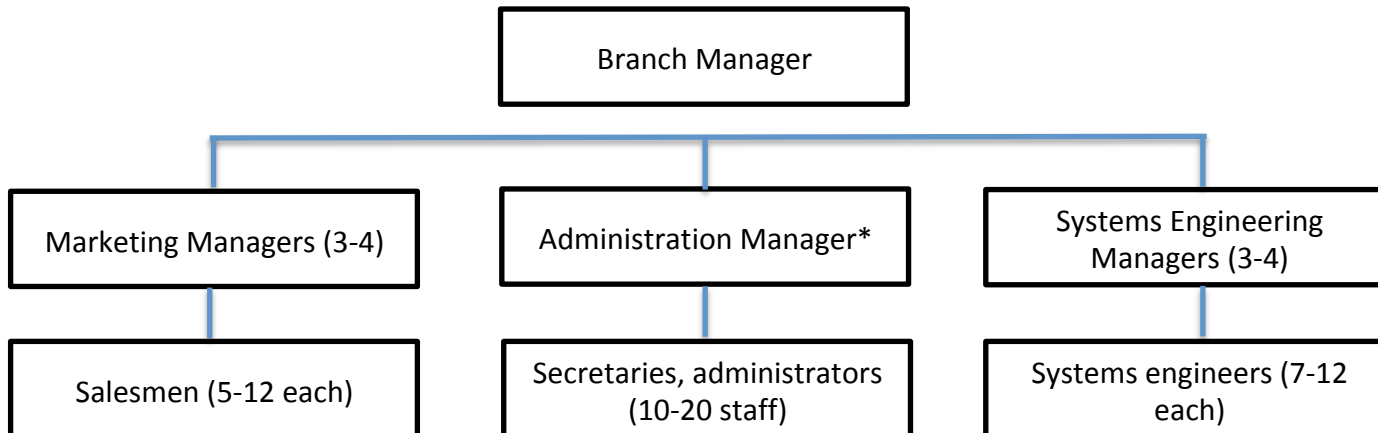
- IBM's corporate structure, 1920s-1980s
- IBM's internal information flows
- Notice how hierarchy is less important to where information moves back and forth
- This behavior changes less than the organization or administrative processes
- Always ties to the actual mission of the organization

Organizations do not change as much as we are told because ICTs and information act as constraints on changes for good reasons. An example from IBM sales organizations:

### IBM Sales Branch Office Organization, circa 1920s-1930s

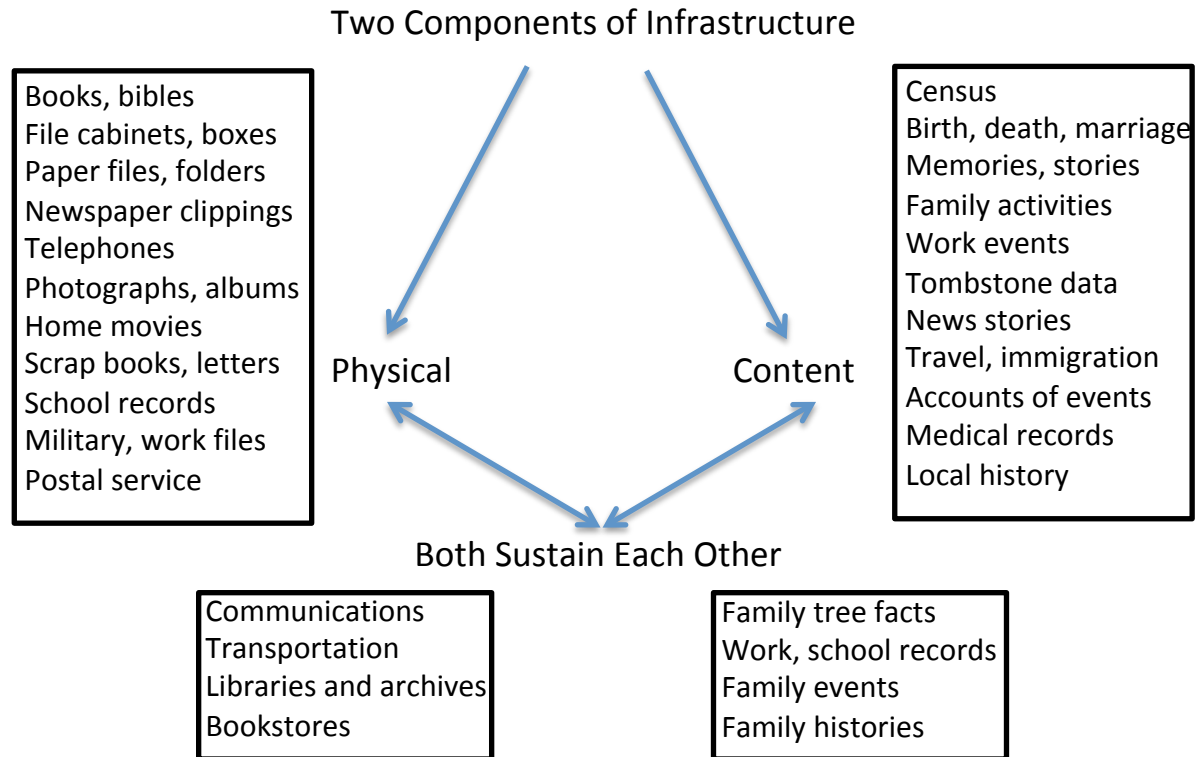


### IBM Sales Branch Office Organization, circa 1970s-1980s



You can document before and after information ecosystems based on the influence of ICTs. An example from your family.

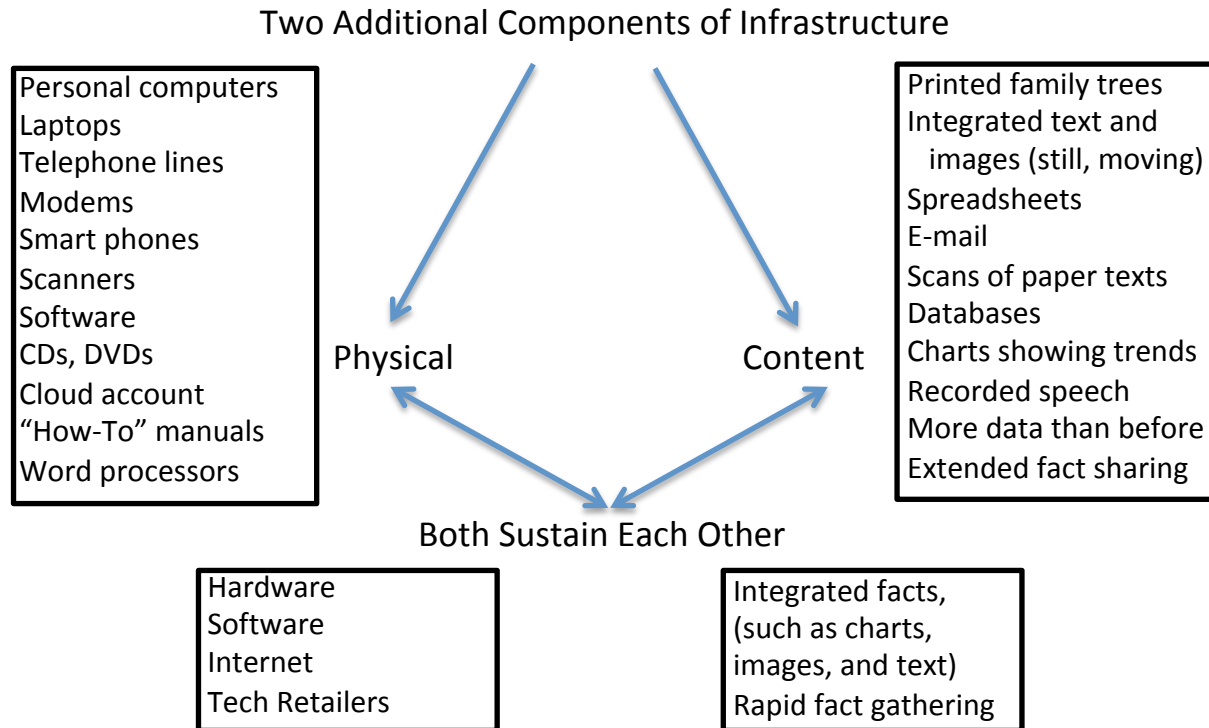
## Studying Family History *before* the Internet





. . . And after the arrival of ICTs, especially the Internet.

## Studying Family History *after* the Internet's arrival



- Notice that as information infrastructures change older infrastructures and practices remain
- New infrastructures, tools, and information are added to the ecosystem

So, where are we today in the study of information history?



Mamie, c'est facile. Tu vas dans Paramètres, tu sélectionnes Wi-Fi . . . Vas-y, sélectionne-le! Touche-le avec ton doigt. . .Un doigt !!!! Grrrrr!

- We are defining the subject, childlike but starting . . .
- We are describing what we see
- We then can turn our attention to context & significance

Do you have any questions?



If you do later, contact me at [jcortada@umn.edu](mailto:jcortada@umn.edu). And for the book, check out <http://www.amazon.com/All-Facts-History-Information-United>