Contemporary developments in information-based entrepreneurship in the United States

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Outline

- Historical development

- Background

- Contemporary developments

  – Explosive growth in data: big data

  – Making data available: open data

- Skills

- Associations

- IIPs speak

Historical development

- ## 1935
  - SVP answers Parisians' questions over the phone for a fee

- ## 1950s
  - for the next 30 years after WWII SVP expanded worldwide in 23 countries

Historical development

- Meanwhile in the US:
  - Matthew Lesko turns a home-based newsletter on how to get free information from federal government into a $750K per annum business (now called Washington Researchers)

  - Roger Summit began operations culminating in the online database industry (Dialog)

Background

- Information

  - became a commodity, an economic good

  - is now a corporate asset with financial value

    - Basis for M&A

    - Sold in bankruptcy

  - has unique characteristics as an economic good:

Experience good	An information good must be used or consumed in order to determine its value as well as the nature of the value that can be derived from the consumption.
Non-rival good	Consumption by one person does not diminish another's ability to consume the same information good.
Non-excludable good	Consumption by one person does not exclude another person from consuming the information.

(Ponelis, 2014)

Background

- Content separated or unbundled from a physical conduit increases the **reach** and **richness** (Evans & Wurster, 1997)

    – Internet enables the global distribution of unbundled, digitized information goods

    – Information goods can be a product and/or a service

        • An information service usually results in an information product

Background

Encyclopedia Britannica
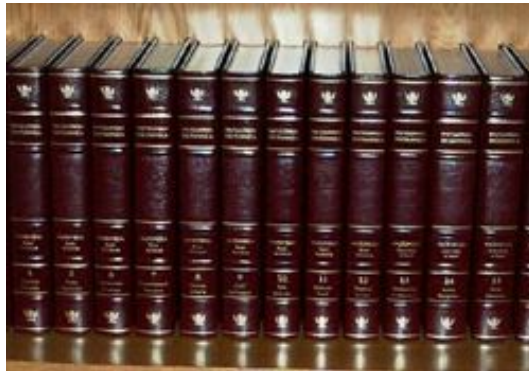
- $1500+

- High reach

- Low richness

Encarta Encyclopedia
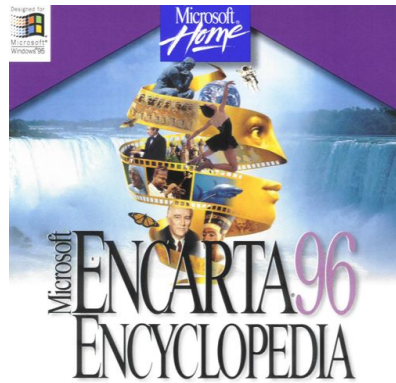
- $0 - $70

- Higher reach

- Higher richness

Wikipedia

- Cost of device used for access and bandwidth to download

- High reach

- High richness

Background

- 3D printing now also makes it possible to turn physical goods into information goods:

  - 'Pattern' or 'recipe' to print a product, in plastic, in metal, even medicine can be printed with special printers, is turned into an information good

-10
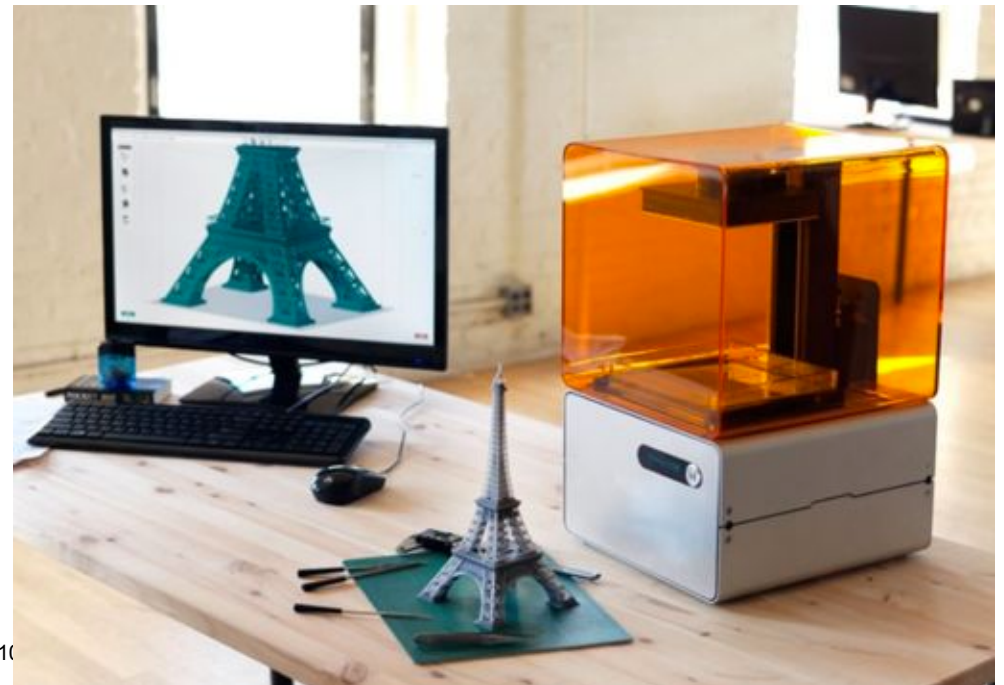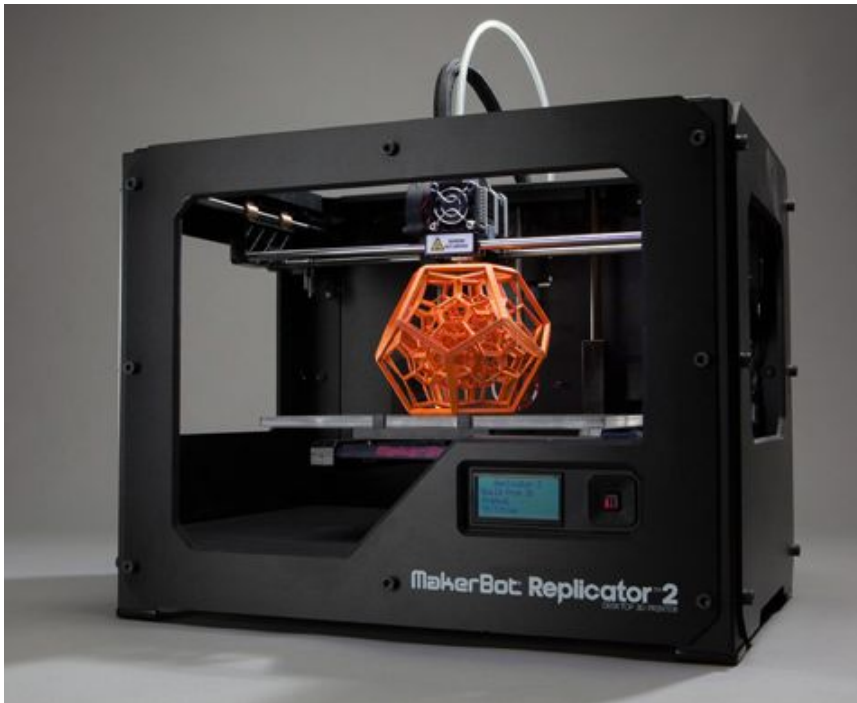
Background

- 3D printers can print low-cost soft-tissue prosthetics and medical supplies like customized tracheal valves, umbilical cord clamps, and splints. Efforts are underway to print things like solar panels, greenhouses, dental implants, and more (https://www.techchange.org/online-courses/3d-printing-social-good/)

  - UWM prints 3-D hands for Mexican children's hospital http://www5.uwm.edu/news/2015/03/05/uwm-prints-3-d-hands-for-mexican-childrens-hospital/#.VdQh9UWaRek

© UWM

Background

- "Customized information products and services"

- "Ethical for-profit individuals/companies that sell their expertise in information management, research and retrieval of relevant information for clients"

- Find and deliver information to clients

- Select and compile relevant and quality information to meet a client's need

= Independent information professional (IIP) = information entrepreneur = info-entrepreneur = infopreneur = engaged in business with information products and services = deals in information goods

Background

- **Nature of service**

  – Information broker

  – Information consultant

- **Nature of focus**

  – Generalist

  – Specialist

Background

- **Information broker**

    – Finding information for a fee

    – "… an individual who searches for information for clients. Information brokers use various resources including the Internet, online services that specialize in databases, public libraries, books and CD-ROMs. They also make plain old-fashioned telephone calls" (Kassel, 2008).

    – A.k.a. researcher, research analyst, research consultant, information retrieval consultant, business research consultant

Background

- **Information consultant**

    - Apply skill/expertise beyond finding and packaging information

    - Provide value-added services that include writing reports that summarize, analyze, synthesize information and make recommendations

    - Can also assist in applying information to effect change

    - A.k.a. management consultant, writer, document delivery provider, public record researcher, freelance librarian

- Convergence between information brokerage and consulting

Background

- **Generalists**

  - "A generalist wants to be a specialist in many areas; a generalist is a person with knowledge in several specialty areas"—Dialog founder Roger Summit

  - Provide all kinds of information but ...

    - can be difficult to maintain up-to-date skill set and knowledge

    - you cannot market generally—you must target particular markets, and

  - Can be combined with other services such as technical writing, journalism, or translation services

Background

- ## Specialists

  – Easier for specialists to determine their market and implement marketing plans

  – Examples:

    - Patent, chemical, legal or public records research

    - Specific industries such as telecommunications or aviation

    - Library consulting, document delivery, indexing, or database design

  – But …

Background

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  - Examples:

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  - But if your area becomes obsolete you will need to reposition yourself quickly

Contemporary developments

Availability, accessibility, volume and speed of data and information has changed

Then:
- data and information was scarce and hard to access

- ability to collect, extract, analyze and interpret limited → IIP

Now:
- data is abundant and (relatively) easy to access
  - Open data
  - Big data

- but reliable, relevant information is scarce

- ability to collect, extract, analyze, make sense of and interpret → IIP

Contemporary developments

Information brokers/consultants and technologies they introduce/use are disruptive

Then:

- Librarians searching on specialized databases

- Travel agents book flight ticket using GALILEO

- People phone or hail a taxi cab on the street

Now:

- Users can search directly using engines like Altavista, Yahoo! and Google

- Travellers can book directly using travel websites and mobile apps of airlines and online travel services

- Mobile apps like Uber connects people with available private drivers

Explosive growth in data: BIG data

- **Data brokers**

  - Buying and selling personal information for marketing purposes

  - **Then:** Public records, loyalty cards

    - Very large databasese (VLDB), knowledge discovery in databases (KDD), data mining

  - **Now:** then + social media (e.g. Facebook) and mobile apps

    - Big data, data analytics, data science

- Privacy? Data/information security? Copyright?

Making data available: OPEN data

- "Open data and content can be freely used, modified, and shared by anyone for any purpose" (opendefinition.org)

- Major sources:

  - Government

    - Federal / national

    - State / provincial

    - Local

  - Science

    - Grant funding, e.g., NIH, USAid

Making data available: open data

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

THE DIRECTOR

May 9, 2013

M-13-13

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Sylvia M. Burwell
          Director

          Steven VanRoekel
          Federal Chief Information Officer

          Todd Park
          U.S. Chief Technology Officer

          Dominic J. Mancini
          Acting Administrator, Office of Information and Regulatory Affairs

SUBJECT: Open Data Policy—Managing Information as an Asset

Information is a valuable national resource and a strategic asset to the Federal Government, its partners, and the public. In order to ensure that the Federal Government is taking full advantage of its information resources, executive departments and agencies (hereafter referred to as "agencies") must manage information as an asset throughout its life cycle to promote openness and interoperability, and properly safeguard systems and information. Managing government information as an asset will increase operational efficiencies, reduce costs, improve services, support mission needs, safeguard personal information, and increase public access to valuable government information.

Making data available: open data

- "…information is a valuable asset that is multiplied when it is shared"

- US Open Data Policy empowers federal agencies to promote an environment in which shareable data are maximally accessible

- Supports broad access to government data in order to promote entrepreneurship, innovation, and scientific discovery

Making data available: open data

NIH National Institutes of Health — Office of Extramural Research || http://grants.nih.gov/grants/policy/data_sharing/

– "Data sharing is essential for expedited translation of research results into knowledge, products and procedures to improve human health."
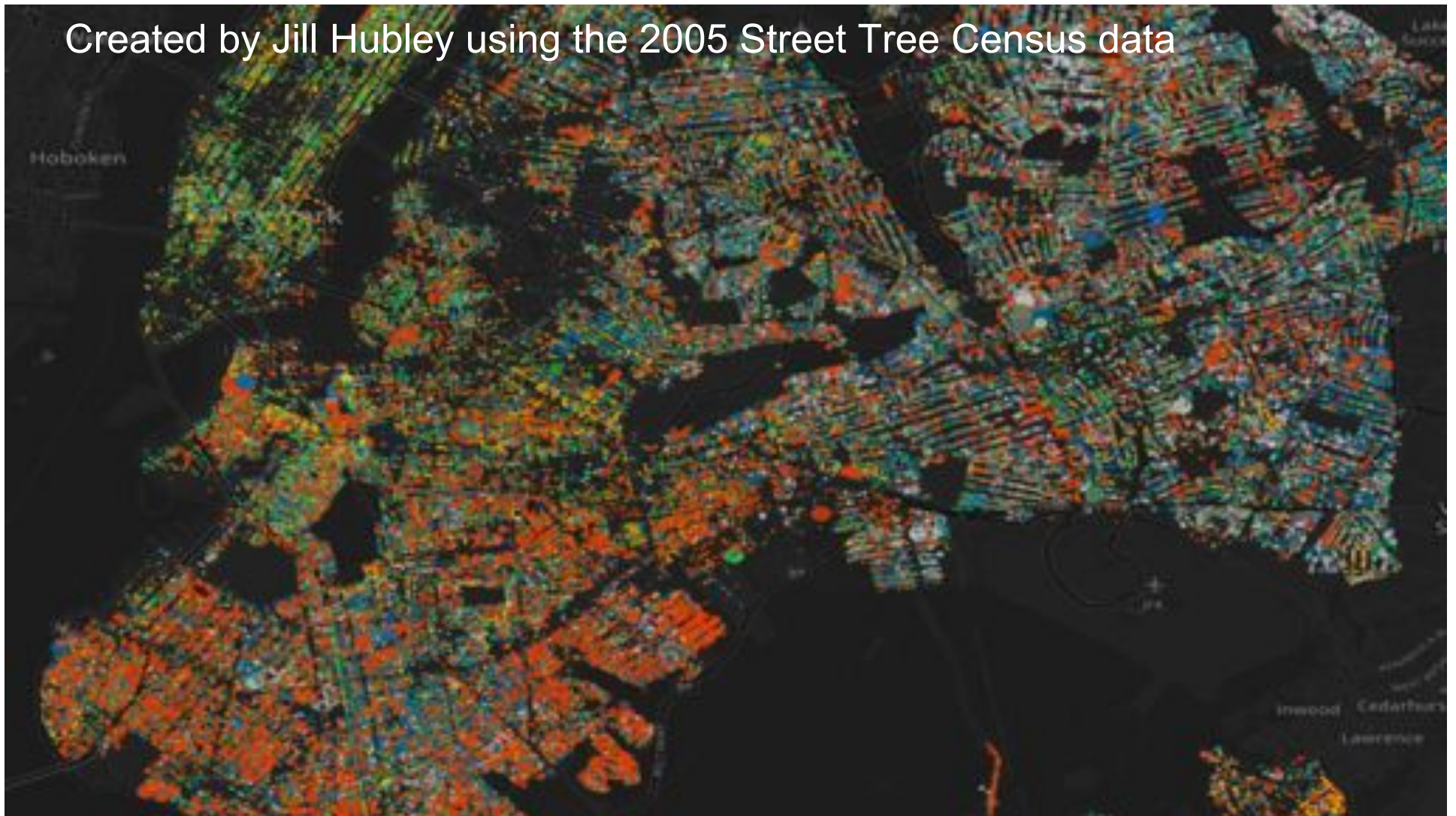
Making data available: open data

NYC OpenData ‖ https://nycopendata.socrata.com/

- "The Mayor's Office of Data Analytics (MODA), the Department of Information Technology and Telecommunications (DOITT), and NYC Digital work together to collect, analyze, and share NYC Data, to create a better City *supported by data-based decision making, and to promote public use of City data* [own emphasis]."

- "*Anyone can use these data sets to participate in and improve government by conducting research and analysis or creating applications*, thereby gaining a better understanding of the services provided by City agencies and improving the lives of citizens and the way in which government serves them [own emphasis]."

Making data available: open data

Created by Jill Hubley using the 2005 Street Tree Census data

Making data available: open data

Mashup of NYC parking ticket data with parking fines by Alihan Polat/ Studio M+

Making data available: open data

UNdata || https://data.un.org/

– "The UN-system has accumulated over the past 60 years an impressive amount of information. UNdata, developed by the Statistics Division of DESA, is a new powerful tool, which will bring this unique and authoritative set of data *not only to the desks of decision makers and analysts, but also to journalists, to students and to all citizens of the world* [own emphasis]."

– Watch Hans Rosling's TED Talk called 'The best stats you've ever seen'

(Re)packaging data into information

- Data analysis = *statistics, data mining, programming*

- Visualization of information = *design, programming*

    - Data visualization is the 21st century's photojournalism
      - Moritz Stefaner

    - "a representation of data that helps you see what you otherwise would have been blind to if you looked only at the naked source" (Nathan Yau, 2013, "Data Points")

- Making the invisible visible

    - translate a set of data into something accessible for a general audience

Skills required

- Independent information professionals possess:

  – high-level skills in finding, managing, analyzing, and communicating information, and

  – undertake this with an entrepreneurial spirit

- Blend of skills from various careers amongst others:

  – librarian, private investigator, journalist, database searcher, market researcher, competitive intelligence specialist, writer, and indexer amongst others

Skills required

- Educational background
  - Information technology, computer science (CS), coding, web and mobile app development

  - Statistics, data mining

  - Research methods

  - Information/graphic design (packaging and presentation)

  - Library and information science (LIS)

  - Verbal and written communication skills

  - General business management skills to run a business

Acknowledgements

- This presentation is based on a keynote I presented at an a seminar on information brokers and new entrants to the profession held by the Faculty of Management and Social Communication of the Andrzej Frycz Modrzewski Krakow University in Poland on April 23, 2015.

Thank you for your time

Questions? Comments?

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Insight question

What is the potential for an information business in South Africa based on

     a) 3D-printing?

     b) open data?

     c) big data?

In your answer consider the availability and accessibility of data, the size of the potential market, and the willingness and ability of potential customers to pay for the resulting information products/services.