Design Science in Tourism: Smart(er) Tourism Design

Daniel R. Fesenmaier
Director, National Laboratory for Tourism & eCommerce

1 the experience economy
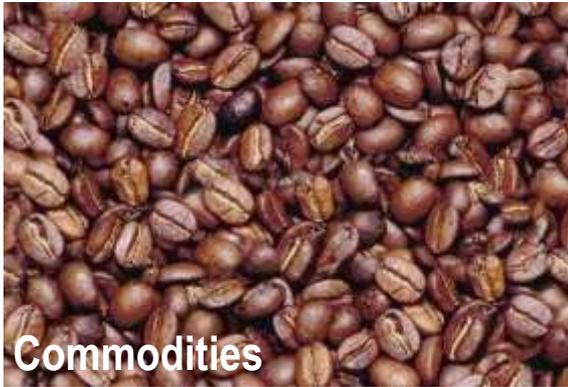
2 progress

3 smart tourism design

Presentation outline

Calle Florian Official Site
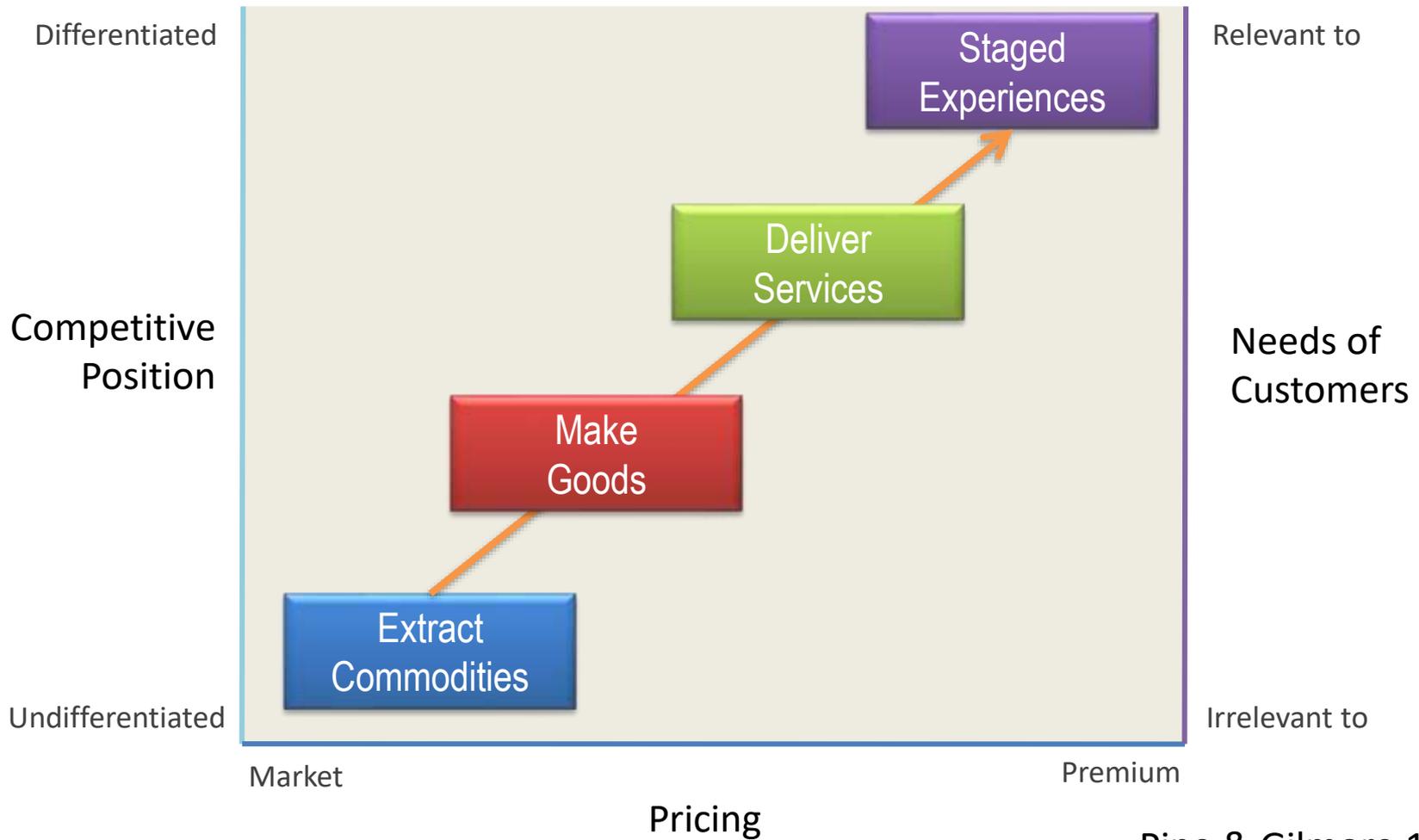Loading...

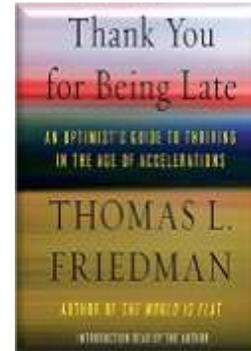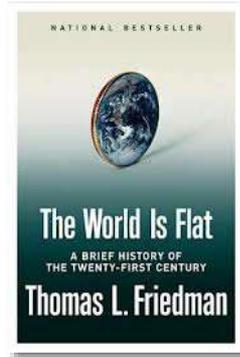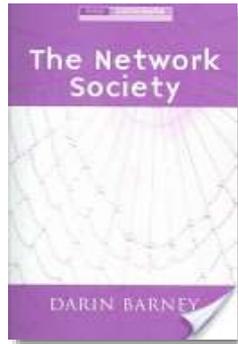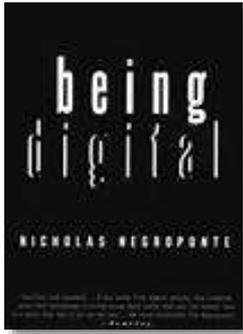# The tourism experience

1 **Commodities**

2 **Goods**

3 **Services**

4 **Experiences**

Change in value of economic offerings

The progression of value

The Classics

The Popular

The Emerging

being digital
NICHOLAS NEGROPONTE

The Network Society
DARIN BARNEY

The World Is Flat
A BRIEF HISTORY OF THE TWENTY-FIRST CENTURY
Thomas L. Friedman

Thank You for Being Late
AN OPTIMIST'S GUIDE TO THRIVING IN THE AGE OF ACCELERATIONS
THOMAS L. FRIEDMAN

Design Science in Tourism
Foundations of Destination Management
Springer

WIKINOMICS
How Mass Collaboration Changes Everything
Don Tapscott and Anthony D. Williams

The Long Tail

Competing on Analytics
The New Science of Winning

The International Bestseller
Thinking, Fast and Slow
Daniel Kahneman

Analytics in Smart Tourism Design
Concepts and Methods
Springer

Foundational reading

The beginning of Tourism Design

Clare Gunn –

Texas A&M University

1942 - Concepts for Designing Tourist Regions
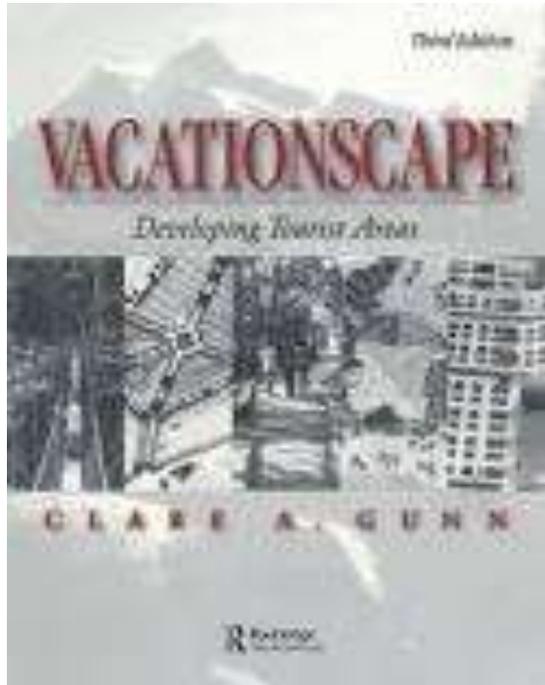
1968 - Vacationscape: A new concept for the design of a tourist recreation region

1972 - Vacationscape: Designing tourist areas

The foundations

Strong theory - Defining experience

What is experience?

"The aggregate and cumulative customer perception created during the process of learning about, acquiring and using a product or service" (Carbone & Haeckel 1994)

"..engage individual customers in a way that creates a memorable event" (Pine & Gilmore, 1999)

Components of experience…

Implies acquisition of knowledge and sensations

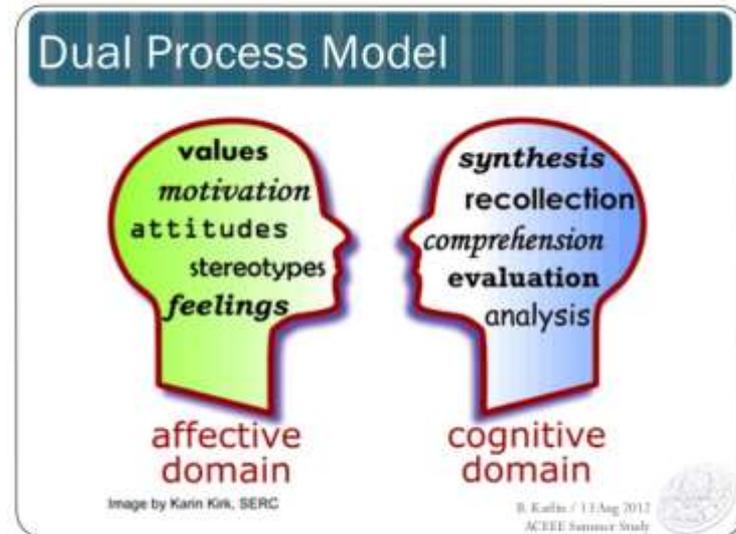Creates emotional connections
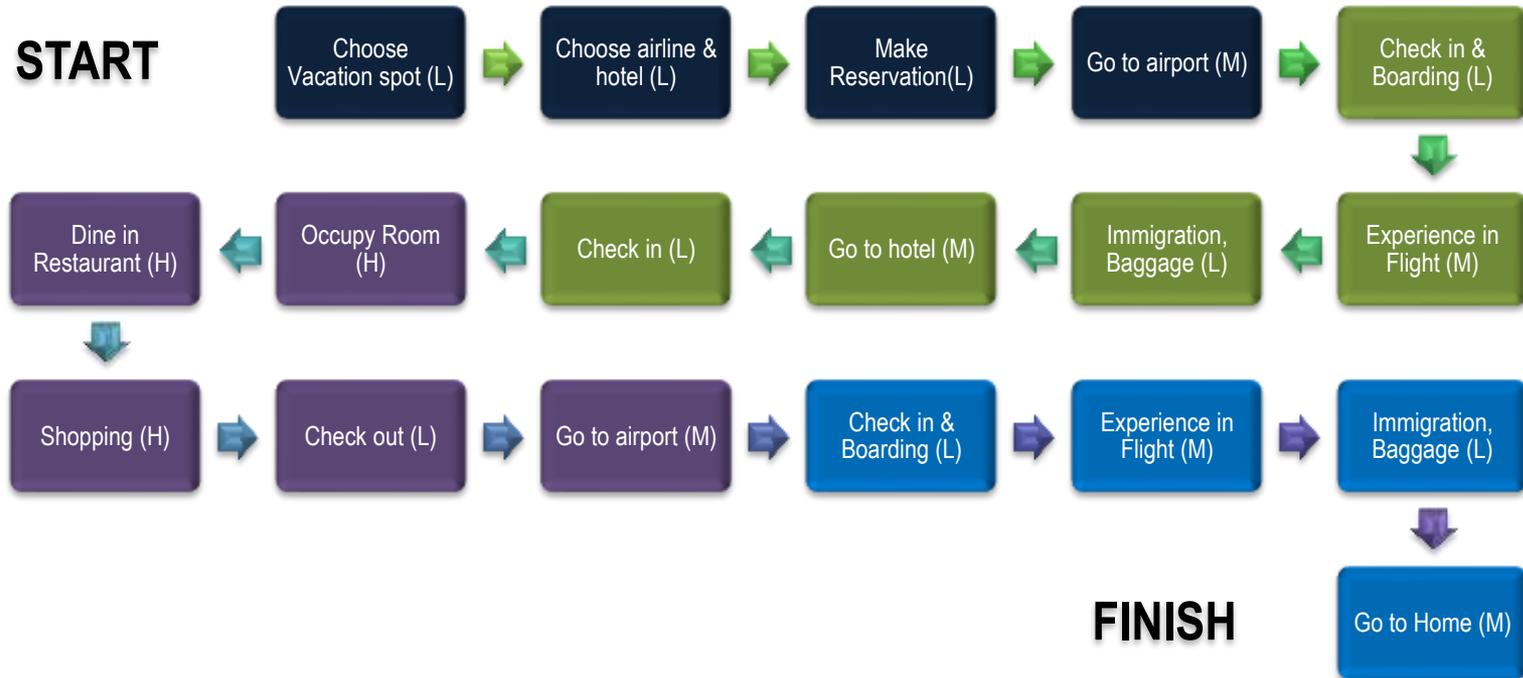
Supported by social settings and technology

Emotional Experience — Sensory Experience, Perceptual Experience, Cognitive Experience, Social Experience, Other Bodily Experience

Key developments over past 50 years

Strong theory – Decision making

- Dual Processing Theory

- Emotion

- Frames

- Cues

- Situation

Dual Process Model

values
motivation
attitudes
stereotypes
feelings

affective domain

Image by Karin Kirk, SERC

synthesis
recollection
comprehension
evaluation
analysis

cognitive domain

B. Karlin / 11 Aug 2012
ACEEE Summer Study

Key developments over past 50 years

Strong theory - Events and structure

START

| Choose Vacation spot (L) | → | Choose airline & hotel (L) | → | Make Reservation(L) | → | Go to airport (M) | → | Check in & Boarding (L) |

Dine in Restaurant (H) ← Occupy Room (H) ← Check in (L) ← Go to hotel (M) ← Immigration, Baggage (L) ← Experience in Flight (M)

Shopping (H) → Check out (L) → Go to airport (M) → Check in & Boarding (L) → Experience in Flight (M) → Immigration, Baggage (L)

FINISH

Go to Home (M)

Key developments over past 50 years

Strong theory – Touch points
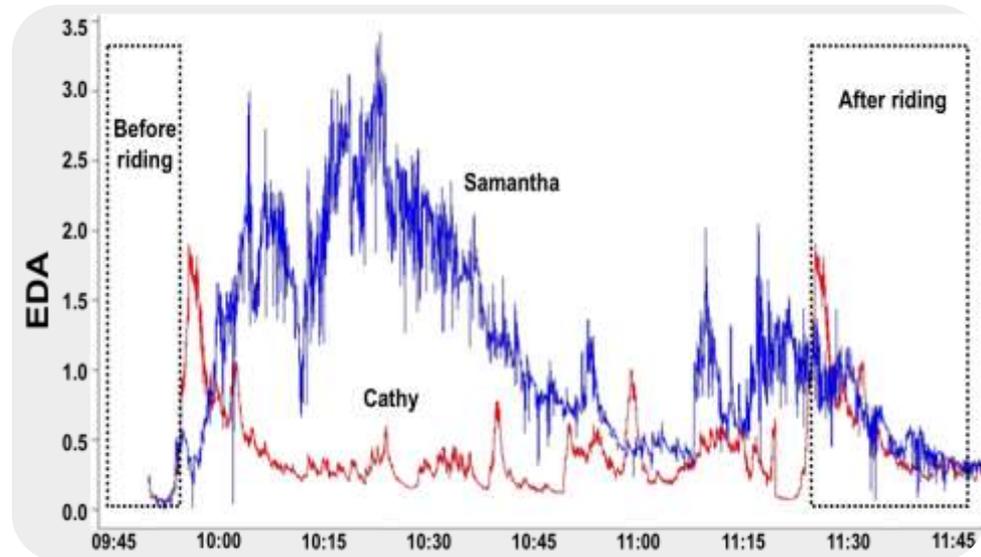
Mapping tourism
experiences
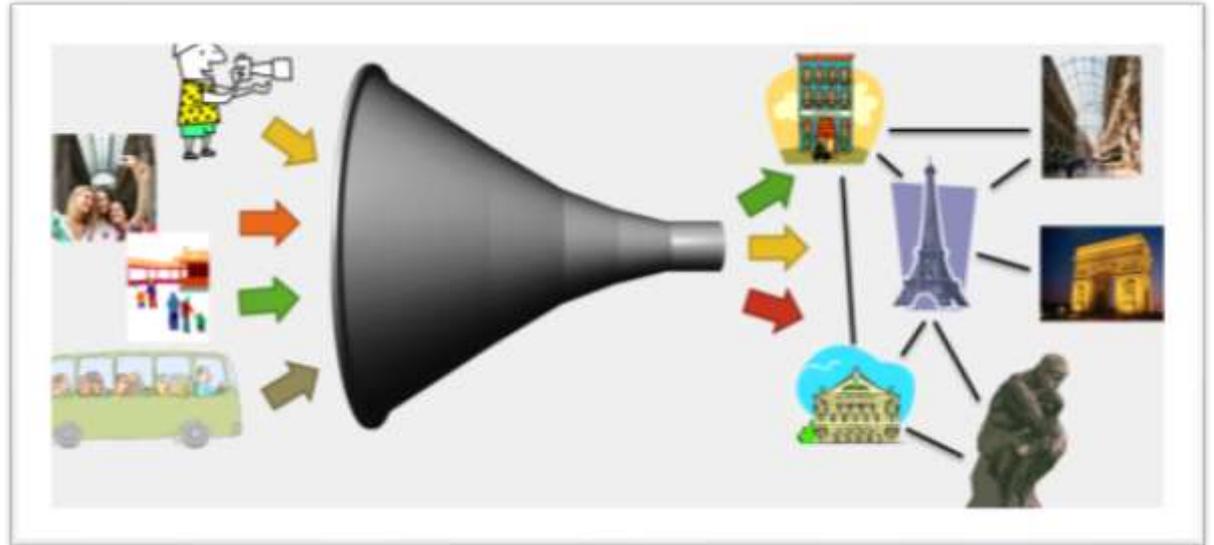
Strong theory - A bus trip through Philadelphia

Measuring human response to design in real time

Strong theory – the role of technology

Shaping travel behavior
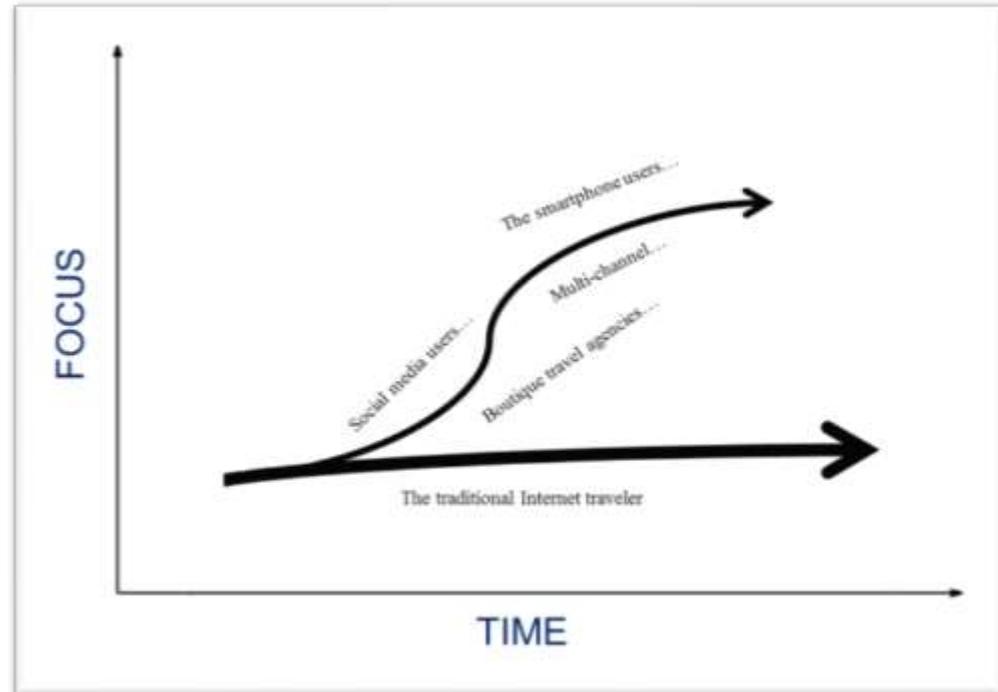
Strong theory - Key design factors

- **Themes**

- **Stories**

- **Atmospherics**

- **Affordances**

- **Co-creation**

- **Technology**

Key developments over past 50 years

Tools - science of data

Age of Big Data

"It's a revolution," says Gary King, director of Harvard's Institute for Quantitative Social Science. "We're really just getting under way. But the march of quantification, made possible by enormous new sources of data, will sweep through academia, business and government. There is no area that is going to be untouched."
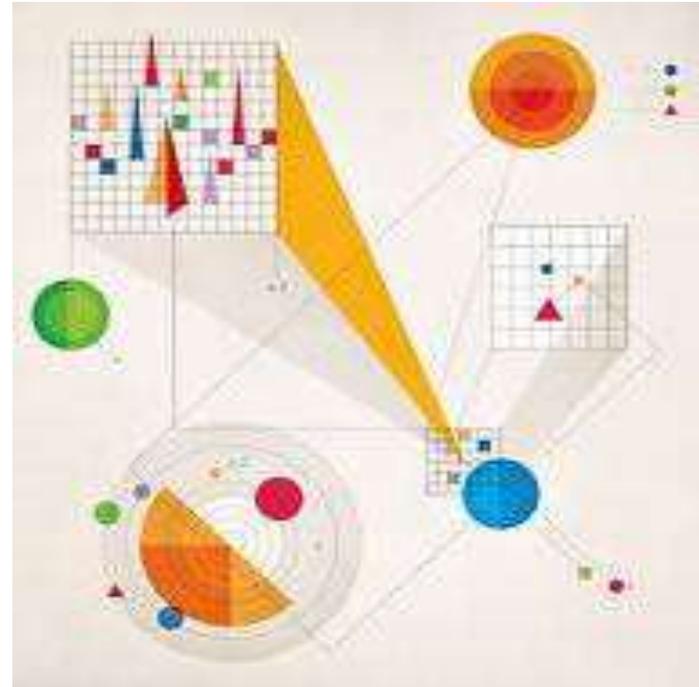
Tools - measuring technology

Emergence of technology, data and tools

Blogs, tweets, likes, etc.

Networks – facebook, 4square

Search, logfiles, purchases, surveys

Scanner data – RFID tags – QR codes

Mobile devices – systems

Cameras

Internet of things

Data mining tools

Emerging analytics – sentiment analysis
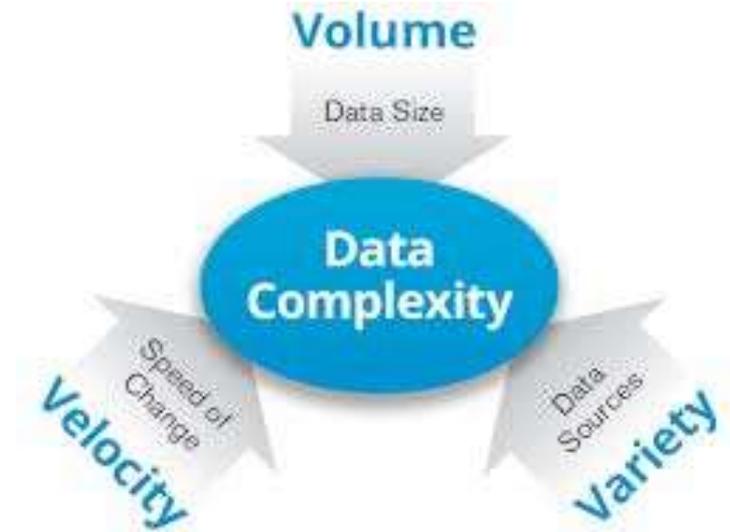
Key developments over past 50 years

Tools - defining big data

Three aspects of Big Data

- Big numbers
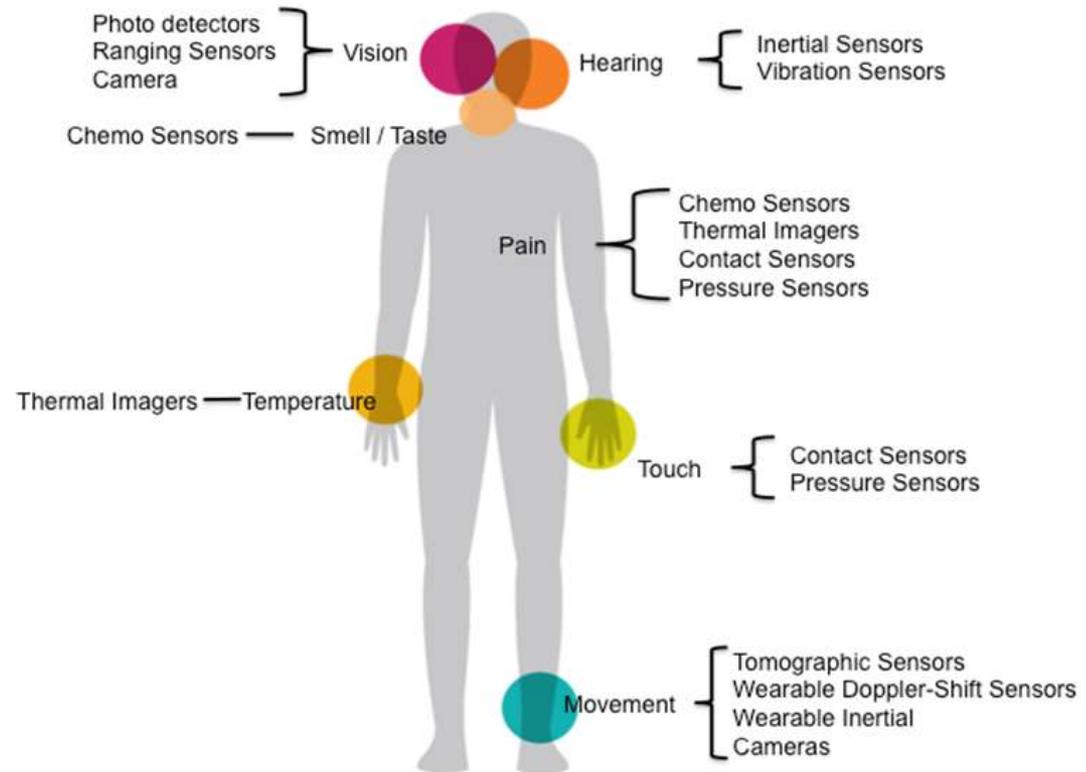- Lots of different data
- It happens often

New metrics - New tools

- Storage and management
- Analytics
- Nature of science ???
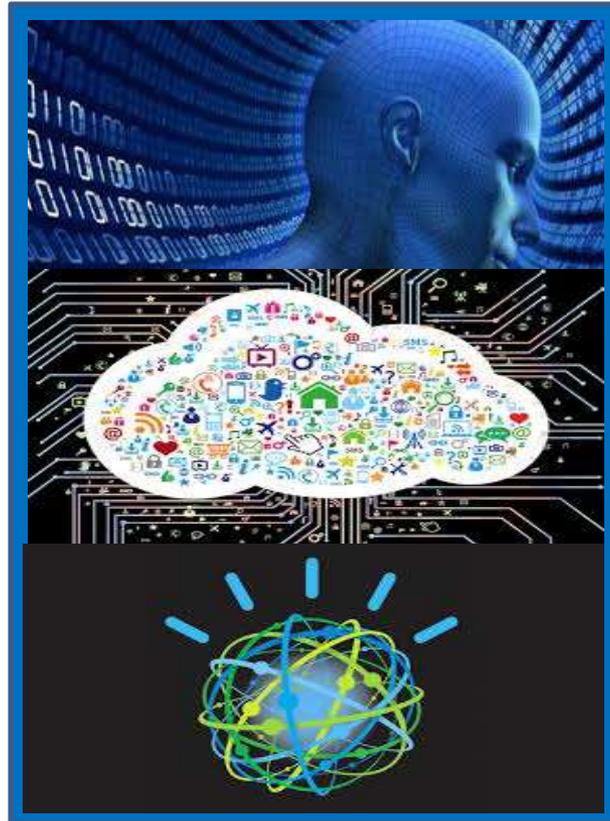

Key developments over past 50 years

Sensors in Tourism

Tools - The quantifiable world

Sensorizing, integrating
and AI (IBM's Watson)

Me
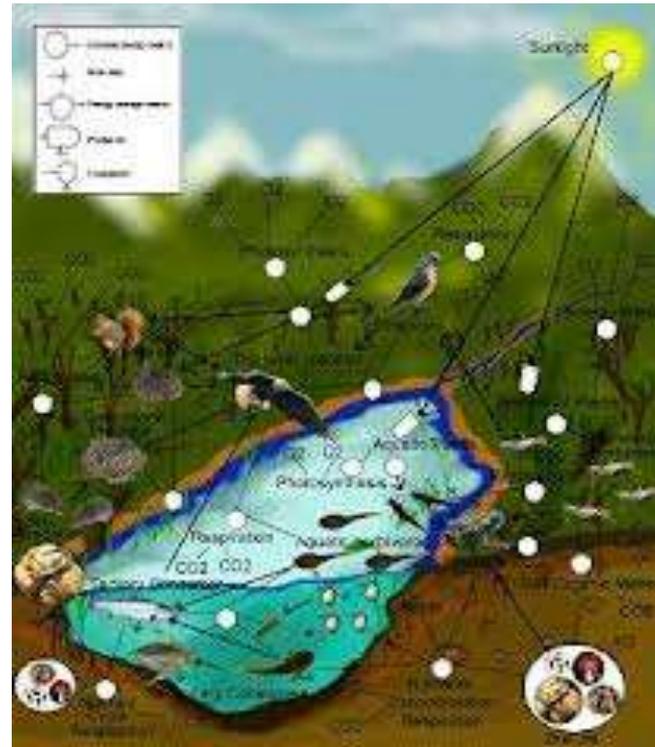
US

Them

Key developments over past 50 years

Tools – Three eras of analytics - Davenport, 2014

	Analytics 1.0	Analytics 2.0	Analytics 3.0
Types of companies	Large enterprises	Online & start-ups	All types – the data 'economy'
Analytics objectives	Internal decisions	New products	Decisions & products
Data type	Small, structured	Large, unstructured	All types combined
Creation Approach	Long-cycle batch	Short cycle, agile	Short-cycle
Primary technology	Software packages	Open source	Broad portfolio
Primary analytics	Descriptive	Descriptive, prescriptive	Prescriptive
Business relationship	Back office	"On the ridge"	Collaborative

Key developments over past 50 years

Systems thinking

- Ecological systems
- Organism
- Systems
- Dynamic
- Adaptive

Systems thinking

- Ecological systems
- Organism
- Systems
- Dynamic
- Adaptive

Key developments over past 50 years

Systems thinking

- Ecological systems
- Organism
- Systems
- Dynamic
- Adaptive

Key developments over past 50 years

Systems thinking

- Ecological systems
- Organism
- Systems
- Dynamic
- Adaptive

Systems thinking

- Ecological systems
- Organism
- Systems
- Dynamic
- Adaptive

Key developments over past 50 years

Logic of design in tourism

Design is…

- Design – noun

- Design – verb

- Design thinking – a way of understanding and/or seeing

- Design science – a systematic framework guiding tourism research and development
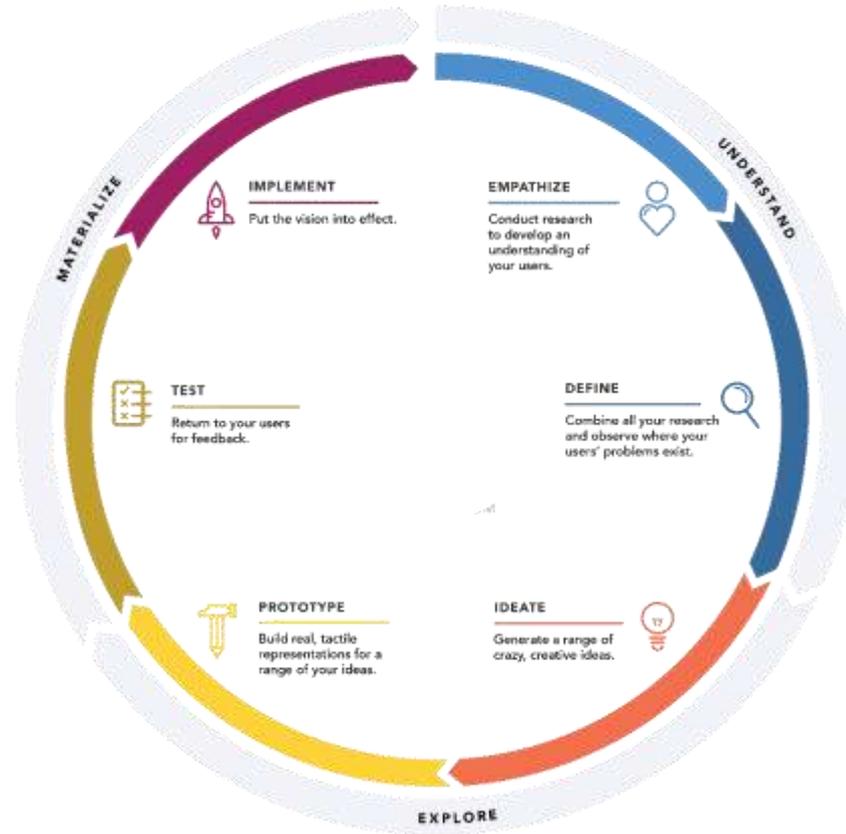

Key developments over past 50 years

Types of design

1. Spatial design

2. Digital design

3. Service design

4. Experience design

Smart(er) Tourism Design

Design Thinking Process

Key developments over past 50 years

Managing the system

Technology and the customer..

- Traveler controls much of the market place through social media

- Recommender systems continue to grow

- eCRM is the dominant paradigm for customer management and communication

1

Strong
Theory

2

Systems
Thinking

3

New
Tools

4

Design
Thinking

5

*e*CRM

Key developments over past 50 years

Designing tourism places/spaces/experiences

Seven Components

Design Science in Tourism

Seven Key Features

1. Better understanding of the world
2. Systems thinking
3. Becoming much more flexible – dynamic
4. Creating a deep commitment to measurement and strategy within the organization
5. New technology, new metrics & new tools
6. New paradigms for communicating with and managing travelers
7. Design orientation

Design Science in Tourism

Seven Central Tenets

1. Experience focused

2. Science based

3. Uses new tools – metrics

4. Systems oriented

5. Scalable from small to large settings

6. Adopts principles of design thinking

7. Action – constructive oriented

Design Science in Tourism

Applications in tourism

Range of applications of
Design Science in Tourism

Smart(er) Tourism Design

Seven key challenges in Smart(er) Tourism Design

1. Responding to the changing world

2. Building engagement and redefining the spectator

3. Supporting innovation and organizational change

4. Supporting communities, culture and change

5. Building dynamic systems to support travelers

6. Supporting health and everyday living

7. Supporting authentic and meaning making experiences

Smart(er) Tourism Design

Age of algorithms

Organisations in the age of algorithms
Towards a new Operating System for Organisations
State of the Net, Milan, October 2015
Lee Bryant
POST*SHIFT

Smart(er) Tourism Design

Age of algorithms

Smart(er) Tourism Design

Age of algorithms

Opinion >

We Built a (Legal) Facial Recognition Machine for $60

Using a public camera, we looked for prominent people walking through a New York City park. What we found shows the technology's promise — and perils.

1h ago

Smart(er) Tourism Design

Age of empowerment – Smart(er) Living

Smarter Living >

How to Improve Your Memory (Even If You Can't Find Your Car Keys)
Smarter Living   April 14

Putting Premium Gas in an Engine That Requires Regular? Stop It Now
Smarter Living   April 12

What to Cook This Week
Food   April 14

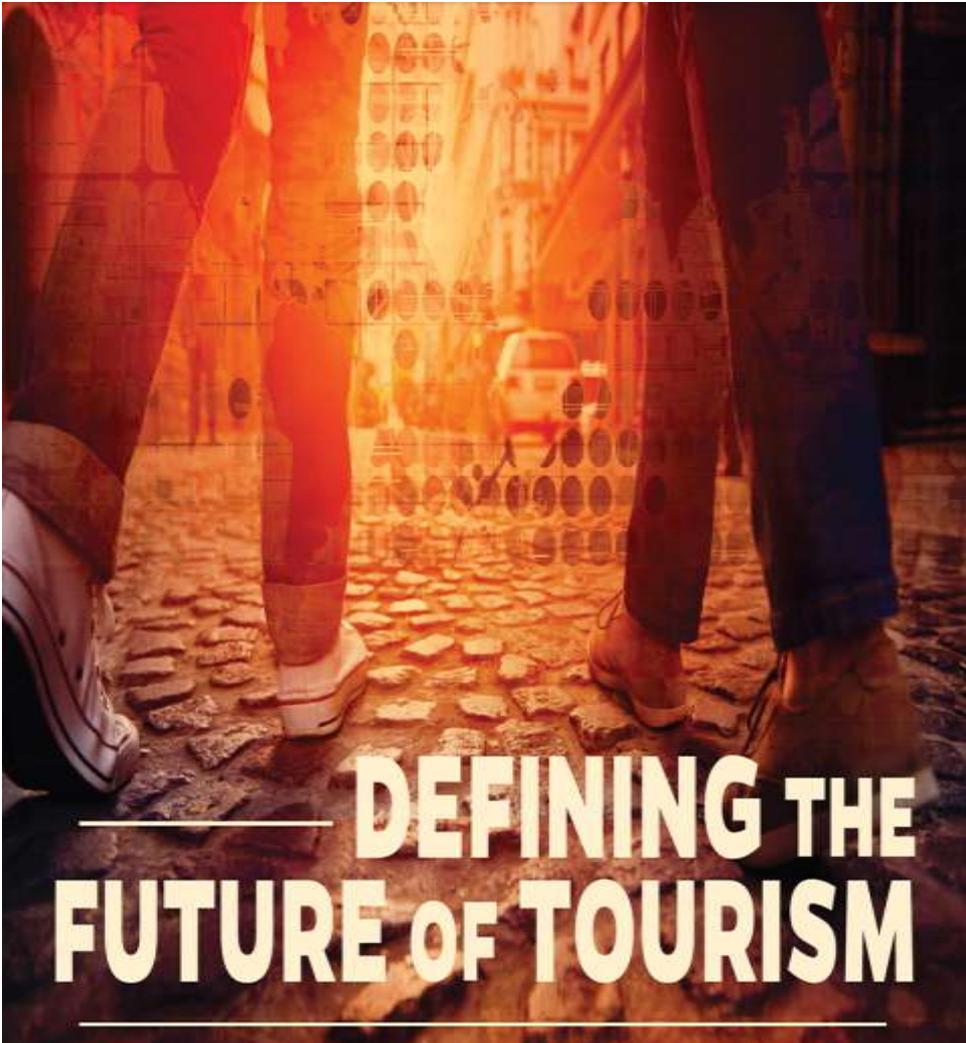**5 Cheap(ish) Things to Take on Your Next Long Flight**
Smarter Living   April 11

8 New Books We Recommend This Week
Book Review   April 11

Smart(er) Tourism Design

Questions???

Design Science in Tourism – Smart(er) Tourism Design