WHEN CULTURE MEETS INNOVATION

CULTURE AND INNOVATION

Main point: innovators need to be attuned to users' cultural beliefs when generating novel products and services

(Of course, culture is just one of many things to consider)

What is culture? shared meanings constituted by beliefs, values, symbols, language, hierarchies that are learned and transmitted by a group of people

CULTURE AND INNOVATION

But first, I want to make the case that cultural beliefs impact the **adoption** of products (and consumption more generally)

CULTURAL BELIEFS INFLUENCE PRODUCT ADOPTION (AND CONSUMPTION)

Clothes (suit v. tank top)

Restaurants (KFC v. Log Haven)

Cooking (Kraft Mac & Cheese v. prime rib)

Cars (pickup truck v. Tesla)

Sporting goods (yachting equipment v. hunting gear)

Consumer goods

- Chromebook v. Mac Pro
- Casio v. Bulova

Music (Drake v. Vivaldi)

Theater (Les Mis) v. movie theater (Avengers)

CULTURAL BELIEFS ABOUT GENDER INFLUENCE ADOPTION

Human-powered washing machine designed for Uros Islands, Puno, Peru (versus washing on rocks in lake water)

- 35-gallon drum inside 55-gallon barrel
- Smaller drum is perforated with opening for clothes
- Water is put in larger drum
- Smaller drum rotates to agitate clothes
  - Using bicycle crank

CULTURAL BELIEFS ABOUT GENDER INFLUENCE ADOPTION

Advantages of washing machine

- Parts obtained locally
- Keeps user dry, warm
- Cleans clothes well
- Saves time

However, women found it difficult to rotate, required a lot of force; inadequately wrung out clothes

- *Local gender beliefs about whom should wash clothes impacted success*

CULTURAL BELIEFS ABOUT WATER INFLUENCE ADOPTION

Water boiling campaign (Rogers 2005)

- Small village (Los Molinas) in Peru, 1950s
- Goal: prevent spread of infectious disease
- Two-year effort by public health agency

Effective for 11 out of 200 families in village

- Low adoption rate due to cultural beliefs
  - Custom: only the sick used cooked, hot water
  - Taste: villagers learned to dislike boiled water from early age (otherwise use flavoring such as sugar, cinnamon, lemon, herbs)

BELIEFS ABOUT TRANSPORTATION INFLUENCE ADOPTION

Gasoline Powered Automobiles in early 1900s

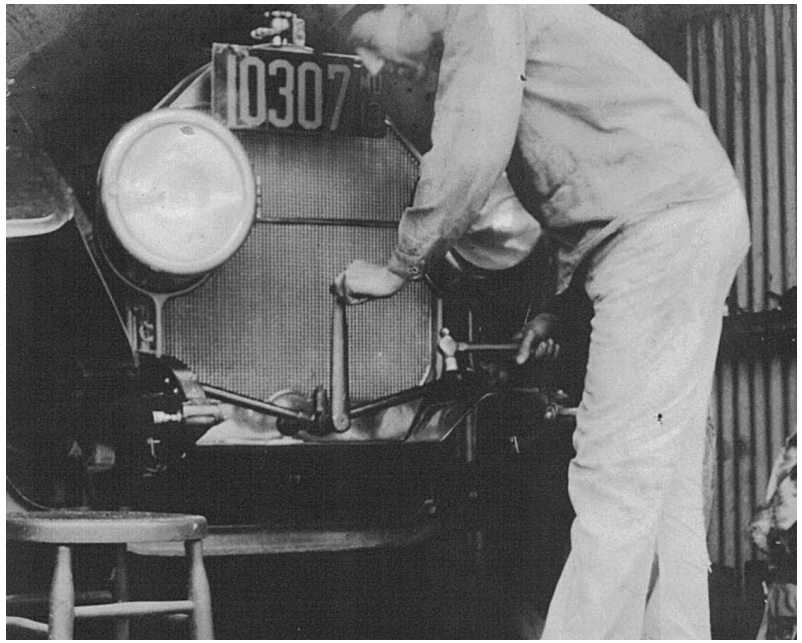
Success Was Not Foregone Conclusion

- Competing **types of engines**: electric, steam, gasoline
- Competing **terminology**: velocipede, motocycle, locomobile, electric runabout, electric buggy, horseless carriage, quadricycle

BELIEFS ABOUT TRANSPORTATION INFLUENCE ADOPTION

Internal combustion → dangerous

- Bicycle importer, Albert Pope from Boston: "You can't get people to sit on an explosion!"
- Not uncommon to break bones when turning hand crank to start car



CARS → DISTURBED COMMUNITY LIFE

(RAO 2009, PP. 24-25)

Opposition to speed existed in rural areas during the touring season when speeding automobilists threatened livestock and horse-drawn traffic, and raised dust that damaged crops.[10] The Farmer's Anti-automobile Society of Pennsylvania demanded, "Automobiles trav
night must send up a rocket every
utes for the road to clear. If a drive
is to pull to one side of the road a

a blanket or dust cover that has been painted to blend into the scenery. In the event that a horse refuses to pass a car on the road, the owner must take his car apart and conceal the parts in the bushes."[11] Some farming communities (as in Rochester, Minnesota) plowed roads to make them unusable by cars, and local businessmen in some counties were threatened with boycotts by farmers should they buy motor cars.

CARS → UNRELIABLE (FOR GOOD REASON)

Times-Herald Race (Thanksgiving Day, 1895)

- Chicago to Evanston (54-mile course)
- Six entrants: 4 gas, 2 electric, only 2 finished
  - Winner finished in 7 hours, 53 minutes, averaged 7 mph

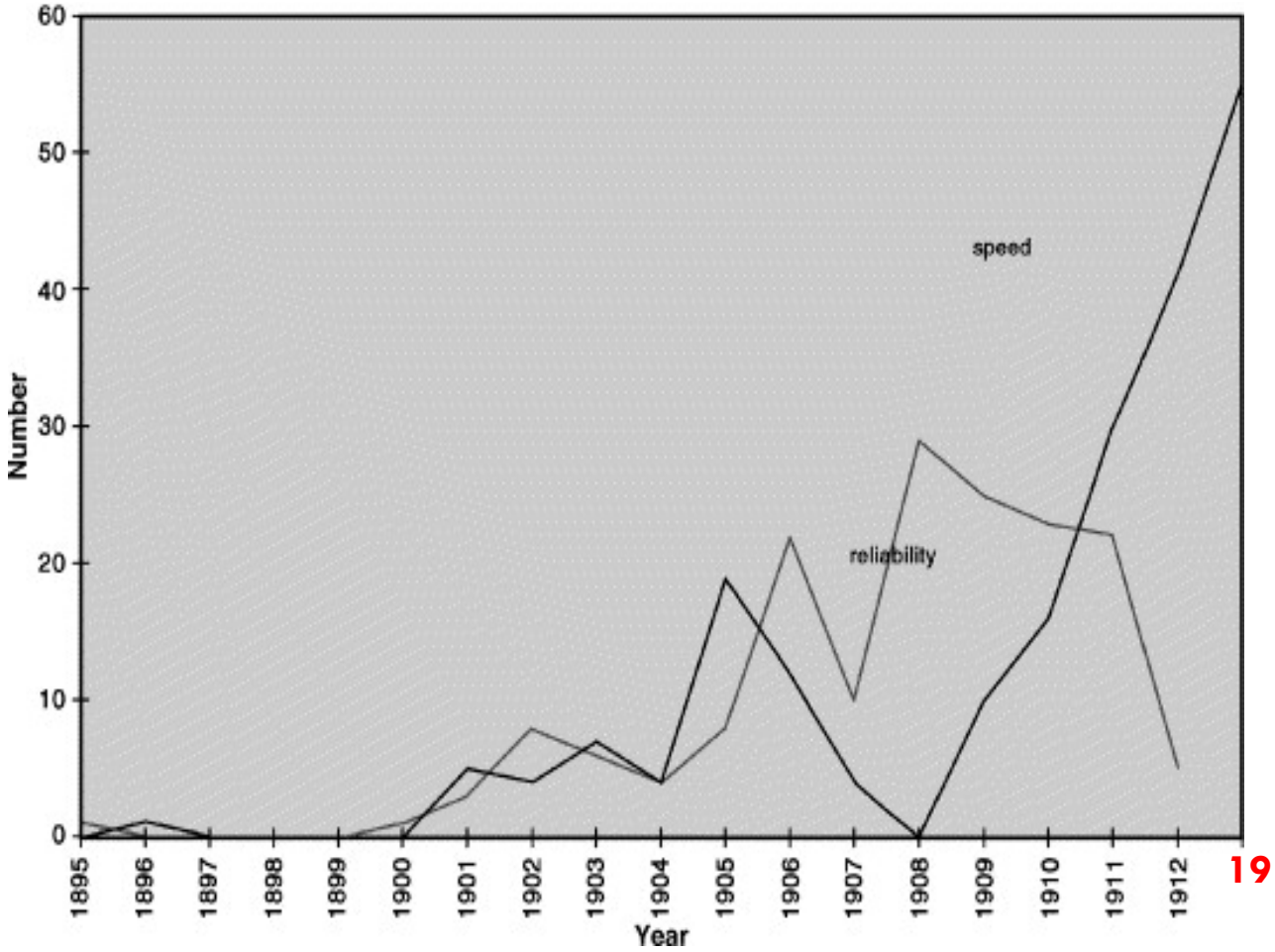
BUT AUTOMOBILE CLUBS ORGANIZED CONTESTS

Contests emphasized dependability, durability (Rao 2002)

- Included hill-climbing, fuel economy, endurance

Contests…

- "*Made the car comprehensible*"
- "*Told a plausible [cultural] story about the reliability and safety of the car*"
- Changed cultural beliefs about appropriateness of car (Rao 2009)



Rao, Hayagreeva. "Institutional activism in the early American automobile industry." *Journal of Business Venturing* 19.3 (2004): 359-384.

1913

Henry Ford's assembly line

Regression models predicting state car sales, 1895-1912 (Rao 2002)

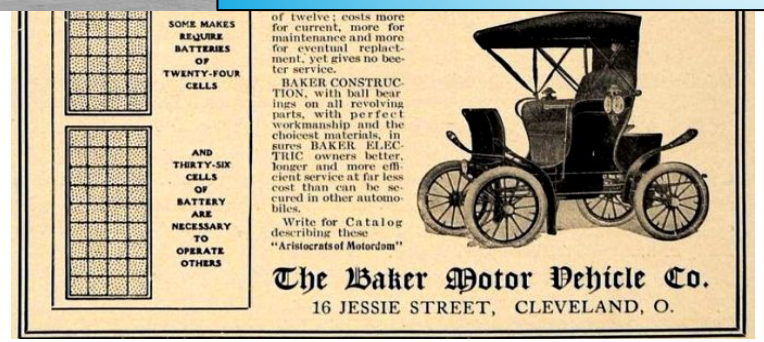
Constant	-7.85^{***}	-10.28^{***} –
	(3.70)	(3.52)
State Gross Product	0.323^{***}	0.228^{**}
	(0.130)	(0.123)
Urbanization	2.44	3.56^{**}
	(1.64)	(1.55)
No. of in-state firms	0.215^{***}	-0.151^{***}
	(0.049)	(0.059)
Advertising	−0.871	−1.25
	(1.47)	(1.38)
Time since legal recognition	0.139^{***}	0.006
	(0.045)	(0.047)
No. of SMO's (auto clubs)		0.960^{***}
		(0.095)
Evangelism (reliability contests)		0.188^{**}
		(0.085)

SIMILAR LESSONS APPLY TO ELECTRIC VEHICLES

Unsuccessful in 1900

Electric cab, London, bet. 1897-1900

PHOTO: ENGLISH HERITAGE/HERITAGE IMAGES/GETTY IMAGES



http://www.brightsideofnews.com/news/2012/6/28/1900s-electric-car-battery-gets-2012-update.aspx

Successful (acceptable at least) in 2021

How did the electric car become culturally accepted?

ENVIRONMENTAL PROTECTION BECAME A CULTURAL ISSUE

Legitimation of Environmental Protections in Pictures

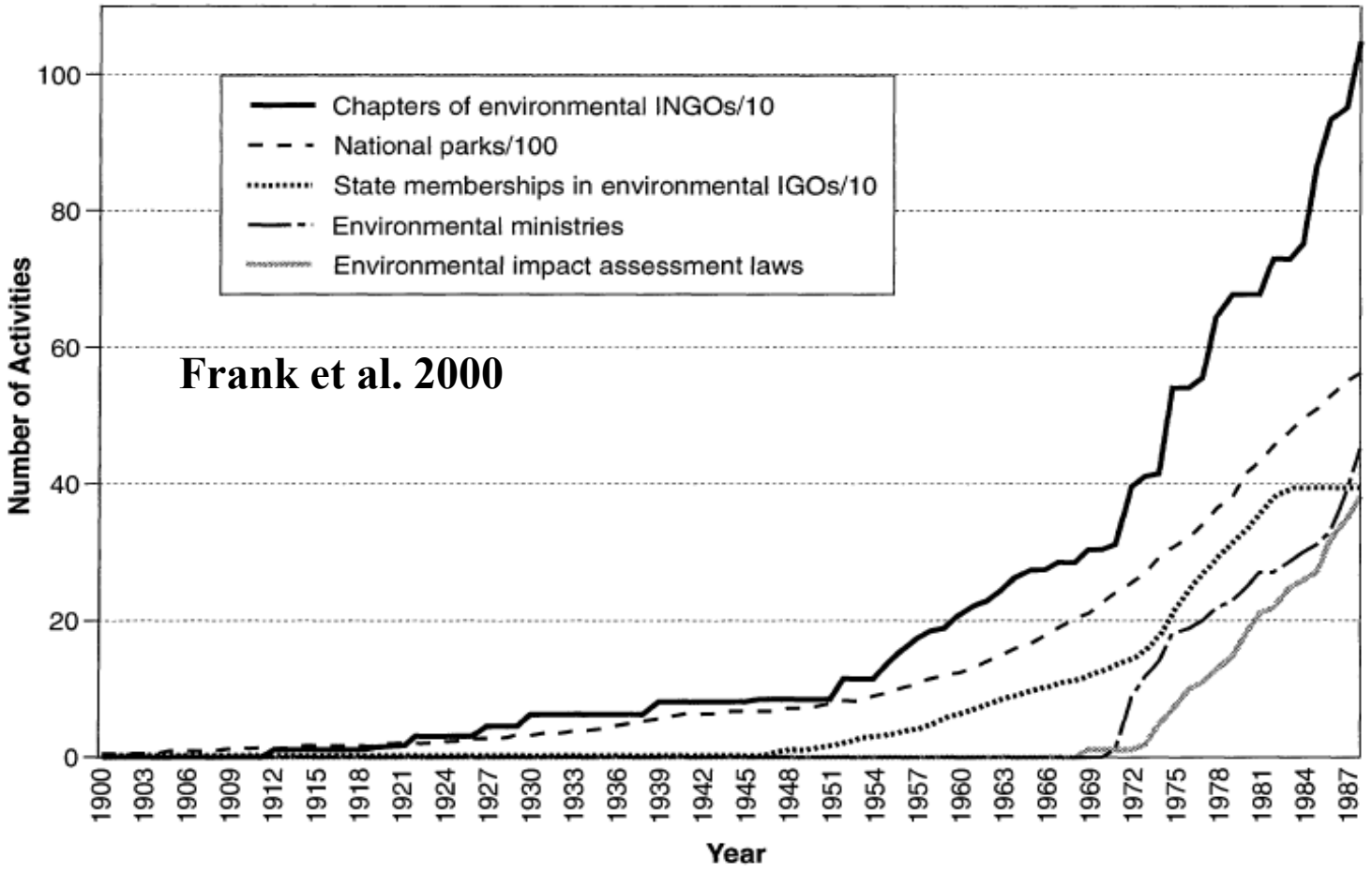


Figure 1. Cumulative Numbers of Five National Environmental Activities, 1900 to 1988

ENVIRONMENTAL PROTECTION BECAME A CULTURAL ISSUE

UN Global Compact
Voluntary initiative wherein corporations pledge commitment to human/labor rights and environmental protection practices

Global Reporting Initiative
NGO that certifies firms that voluntarily disclose their economic, environmental, and social activities

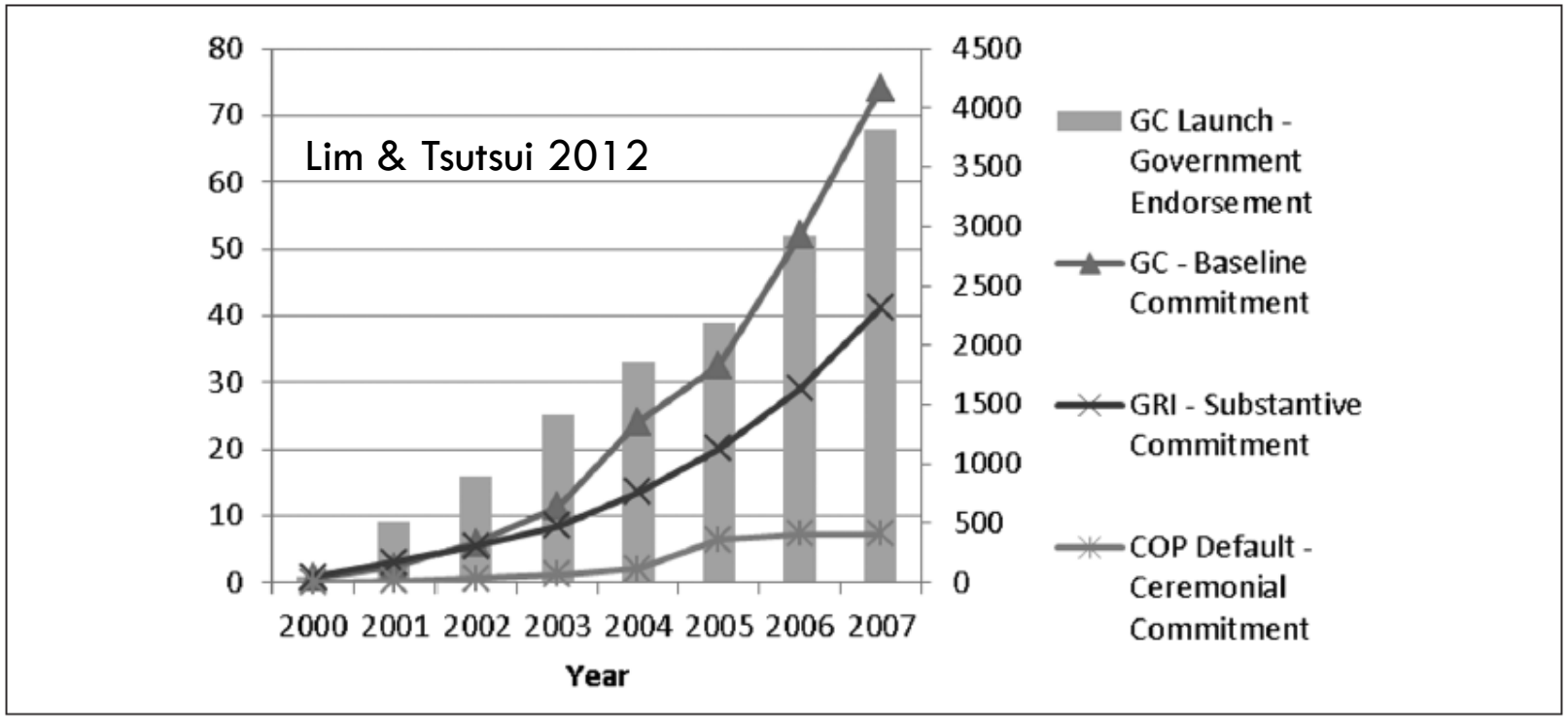
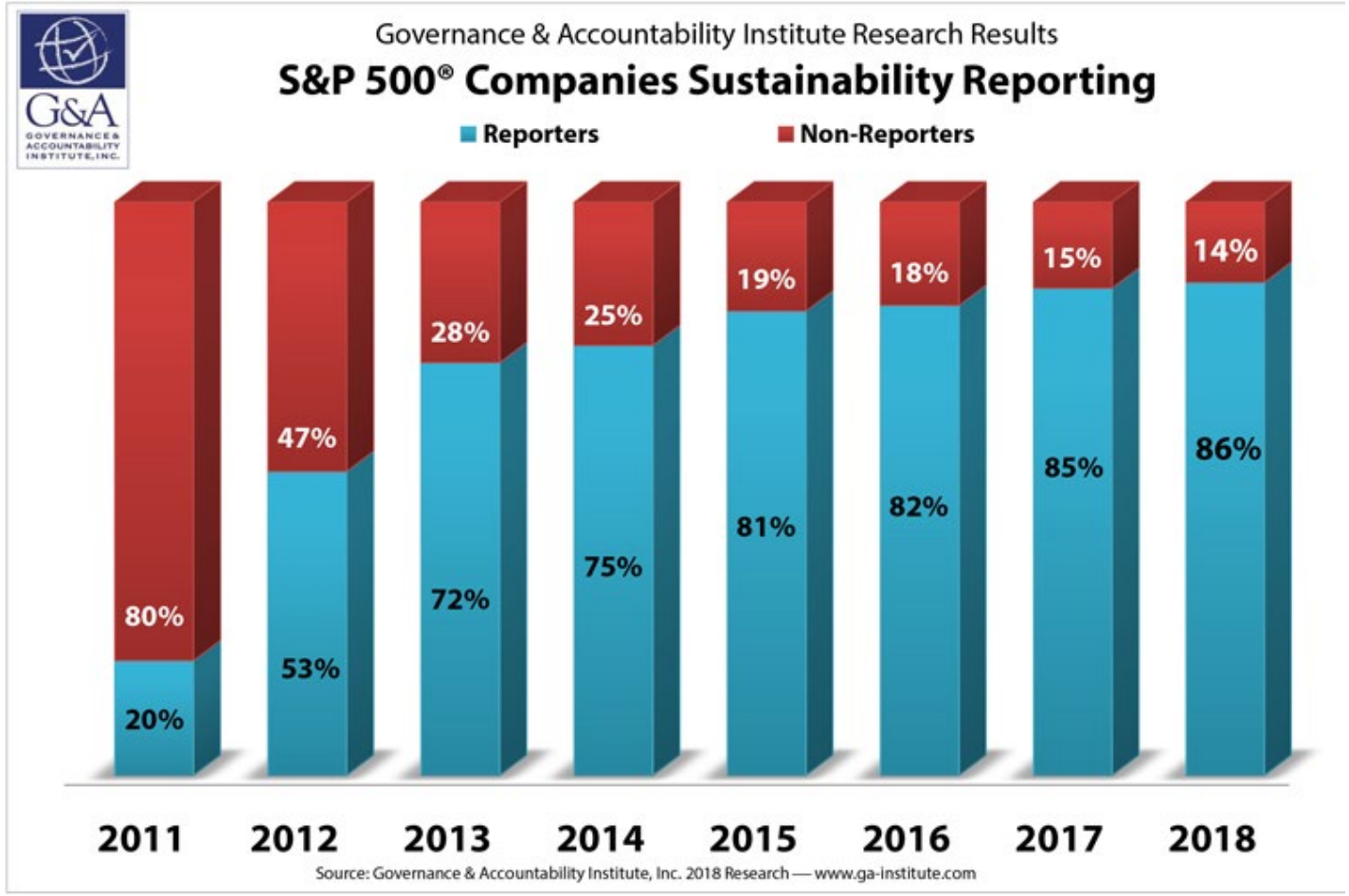


Figure 1. Cumulative Count of Global Compact Launches in All Countries, 2000 to 2007

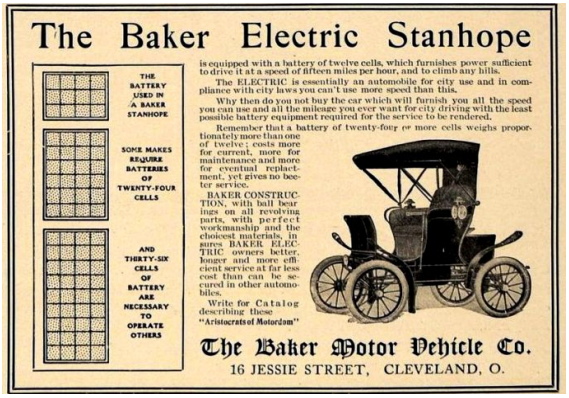
ENVIRONMENTAL PROTECTION BECAME A CULTURAL ISSUE



https://www.3blmedia.com/News/Flash-Report-86-SP-500-Indexr-Companies-Publish-Sustainability-Responsibility-Reports-2018

FROM 1900 TO 2020

Unsuccessful in 1910



The Baker Electric Stanhope

THE BATTERY USED IN A BAKER STANHOPE

SOME MAKES REQUIRE BATTERIES OF TWENTY-FOUR CELLS

AND THIRTY-SIX CELLS OF BATTERY ARE NECESSARY TO OPERATE OTHERS

is equipped with a battery of twelve cells, which furnishes power sufficient to drive it at a speed of fifteen miles per hour, and to climb any hills.

The ELECTRIC is essentially an automobile for city use and in compliance with city laws you can't use more speed than this.

Why then do you not buy the car which will furnish you all the speed you can use and all the mileage you ever want for city driving with the least possible battery equipment required for the service to be rendered.

Remember that a battery of twenty-four or more cells weighs proportionately more than one of twelve; costs more for current, more for maintenance and more for eventual replacement, yet gives no better service.

BAKER CONSTRUCTION, with ball bearings on all revolving parts, with perfect workmanship and the choicest materials, insures BAKER ELECTRIC owners better, longer and more efficient service at far less cost than can be secured in other automobiles.

Write for Catalog describing these "Aristocrats of Motordom"

The Baker Motor Vehicle Co.

16 JESSIE STREET, CLEVELAND, O.

+

Successful in 1915

Acceptable in 2015

Current/future success

WHAT'S NEXT? FLYING CARS?

https://www.wsj.com/articles/what-came-before-the-9-billion-bet-on-flying-taxis-11615566244

https://www.forbes.com/sites/bernardmarr/2020/06/29/introducing-the-mindboggling-flying-taxis-of-the-future/?sh=4b01864218dd

CULTURE AND DESIGN

If culture is constituted by shared values, beliefs, language, communication, and practices…

- How does culture matter for innovation? How should we innovate to gain cultural acceptance? (keep in mind that cultural beliefs help potential users make sense of products)

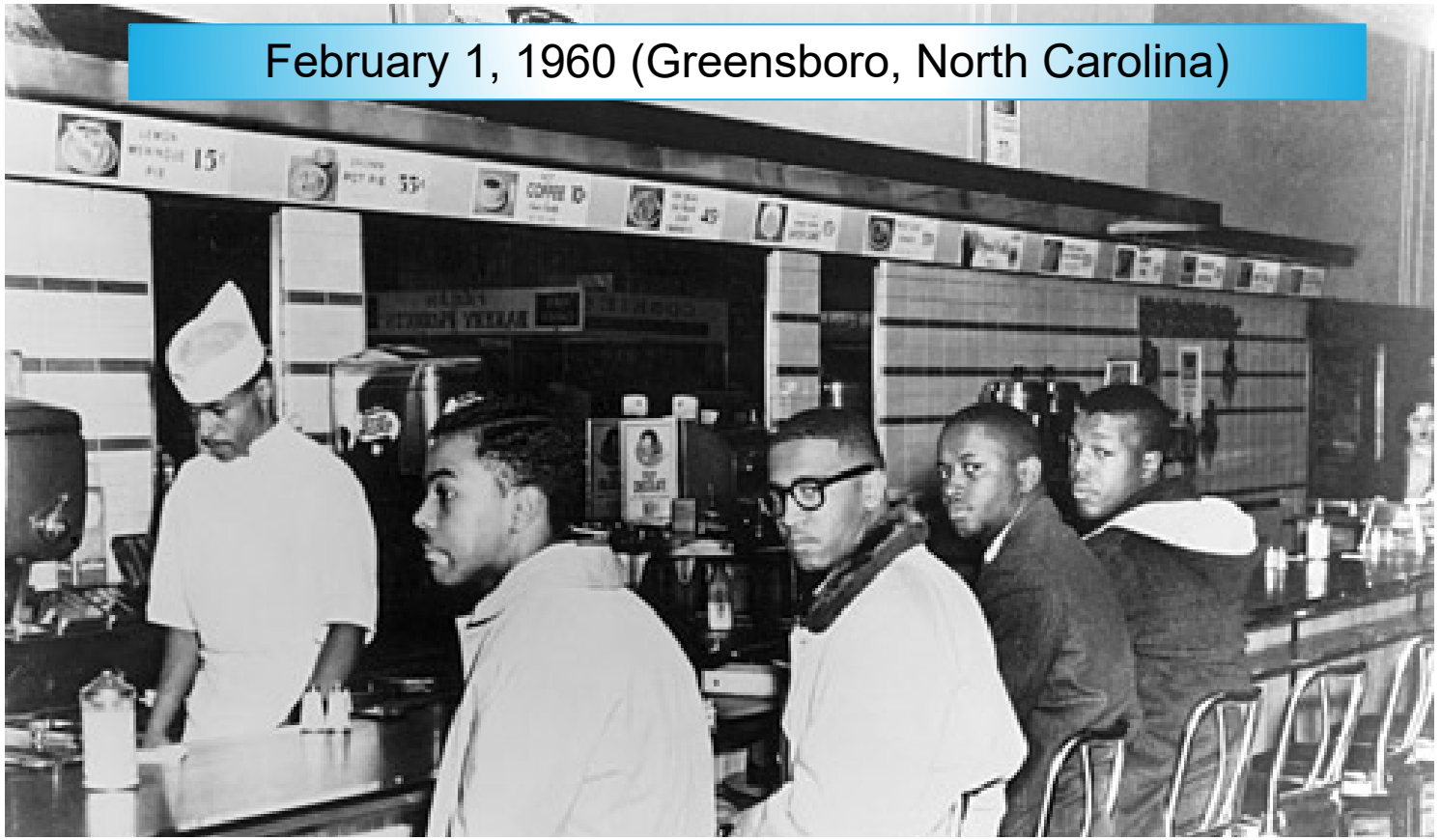
LESSONS FOR INNOVATORS

"Make [it] comprehensible", "tell a plausible story"

Lesson 1: stories from everyday people

Lesson 2: build on existing products and beliefs when designing new products

Lesson 3: allow users to create the products

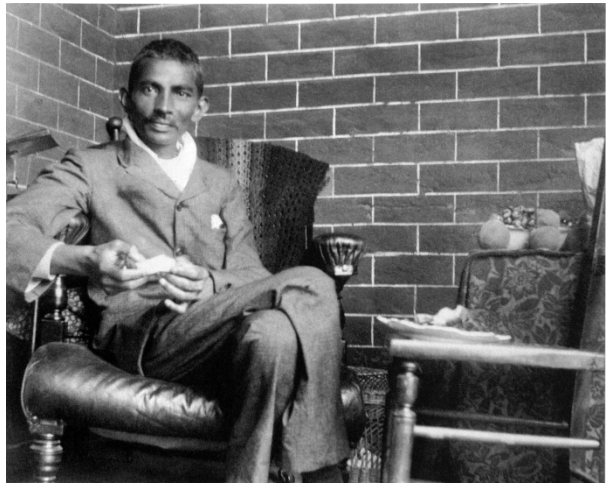

February 1, 1960 (Greensboro, North Carolina)

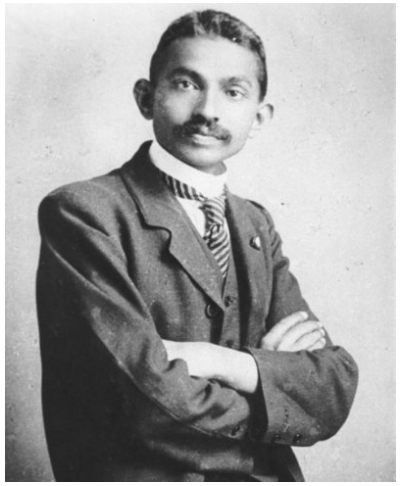
LESSON 1: IDENTIFY WITH OTHERS

Sit-in movement

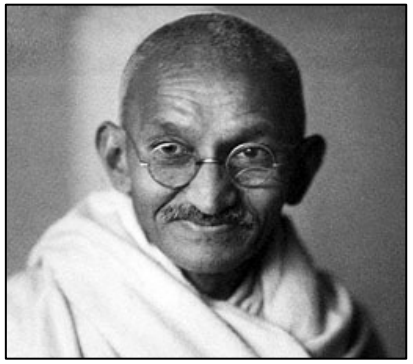
When a Midwestern college student saw images of the sit-ins he said "we were joltingly awakened to the fact that we must do our part as thinking African Americans, and take a definite stand in the fight for equal rights" (Polletta 1998:147)

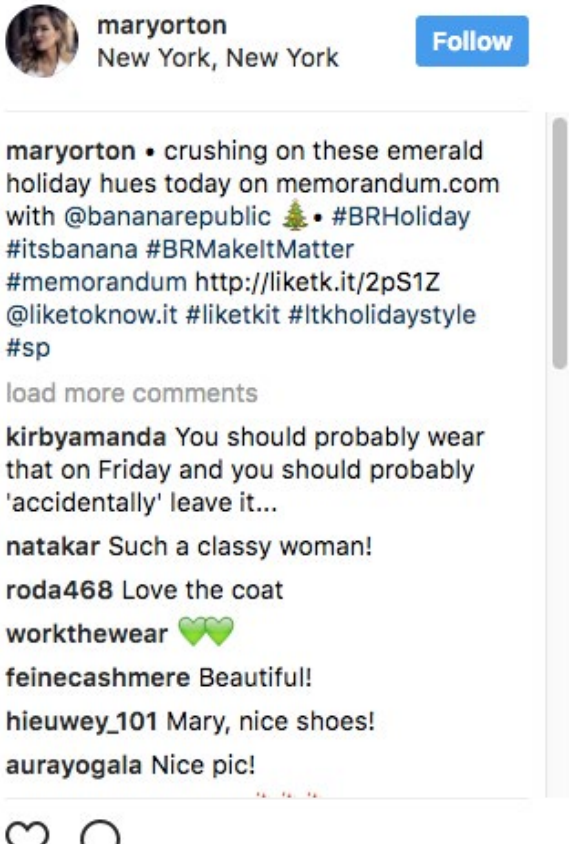
IDENTIFY WITH OTHERS





Gandhi studied law in London & practiced in South Africa for 21 years before leading India's fight for independence. Compare earlier pictures of Ghandi with these…





LESSON 1: USE MICRO INFLUENCERS

Social media users with 1k to 100k followers (including industry experts or topic specialists) who post favorable mentions of products,

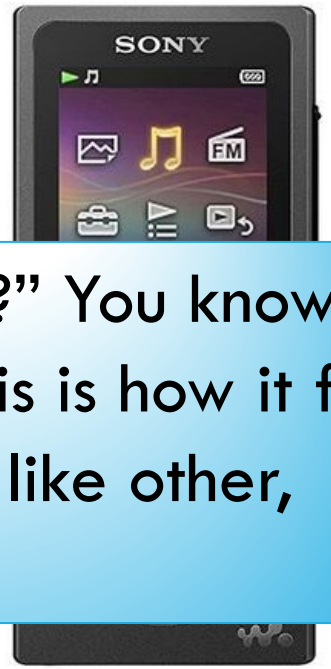
Example: Banana Republic worked with micro-influencers who modeled its clothing in a variety of settings.

LESSON 2: BUILD ON EXISTING PRODUCTS OR BELIEFS

Link new product/feature to existing products

- iPhone: voicemail + texting + ph… mobile intern…
- DVR: DVD + … technology
- MP3 player: … Walkman + MP3 files
- Hybrid car: gas car + beliefs about environment

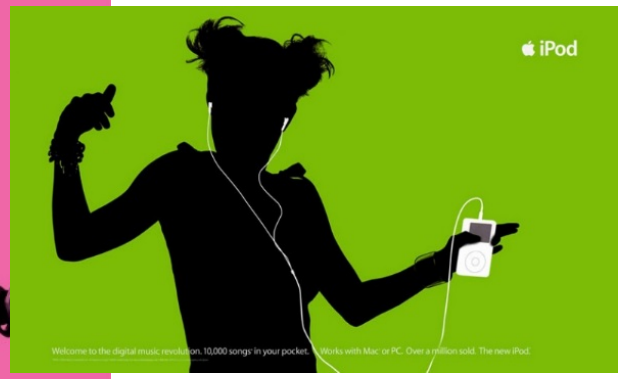
What's the "story?" You know how this works. This is how it fits into your life. Just like other, similar products.



FROM WALKMAN TO IPOD

Ads from the early 1980s

Ads from 2004-2008



DESIGN PRACTICE (HUMAN-CENTERED DESIGN)

Incorporate local cultural beliefs, practices in products/features (you already do this)

Learn about local community, users; feedback from users

- Visit, observe local communities
- Use technology mediated communication: phone, email, blogs, IM, FB

LESSON 3: ALLOW USERS TO CREATE THE PRODUCTS

Move beyond human-centered design

- (Learn about users, present prototype, solicit feedback)
- Great option, but can introduce bias thru order of presentation, etc.

Give potential users, local engineers, other practitioners autonomy to design, manufacture, market, distribute

- Admittedly, this is a radical approach (I have not done this)

THE PRODUCTIVE METHOD

"participants to work together to create a cultural object, some thing that did not exist" (McDonnell and Vercel 2019: 325)

1. Ask (multiple) groups to make a product that solves a problem
   - (Ensure group composition varies—e.g., by race, class, gender, age—to represent potential users)

THE PRODUCTIVE METHOD

Requires participants to work together to create a product

- Reveals participants' shared cultural beliefs (v. personal beliefs)
  - Participants must articulate beliefs, explain them to coordinate task
  - Reveals conscious and unconscious cognitive processes, shared beliefs
- First, group brainstorm (using nominal group technique or Method 635/brainwriting)
- Then, group deliberates about product & how to represent it

EXAMPLE: AIDS CAMPAIGN IN GHANA

McDonnell (2014, 2019) asked groups to make a poster with message about AIDS that their community needs to hear

- *He provided materials: paper, colored pencils*

- Sample
  - 7 groups: 5 HIV-negative, 2 HIV-positive
    - Mixed-gendered, varied by social class background

THE PRODUCTIVE METHOD

2. Observe and document interactions
   - What to observe?
     - Expressions of "acceptance, disgust, frustration, and excitement by nodding or shaking heads, raising voices, sitting forward in seats-all externalized, observable indicators of emotional states, coherence, or disagreement that do not require participants to have reflexive metacognitive self-observation. Emotional highs and lows can be incredibly revealing, suggesting when the group is motivated to act or frustrated by their inability to find a cognitive fit. Timing also matters-people may come to agreement quickly or slowly through reflection and deliberation" (McDonnell and Vercel 2019, p. 328)

EXAMPLE: AIDS CAMPAIGN IN GHANA

Revealed automatic cognitive processing

- "one group came to quick consensus that they should draw a skeleton, suggesting that this image was ready at hand. The association of AIDS and skeletons was offered without hesitation-suggesting it resulted from automatic, practical consciousness (DiMaggio 1997; Vaisey 2009). The rest of the group accepted this without reflection or criticism, suggesting this symbolic link was taken for granted" (McDonnell and Vercel 2019, p. 330)

THE PRODUCTIVE METHOD

3. Compare the process with the product
   - How was the ultimate object was selected, translated, and arranged? “Which schemas did the group embody in that object? How did they represent it? How do these ideas interact? The ultimate representation of these schemas can reveal unconscious associations that are not typically verbalized. Comparing the product to the process that created it can reveal a great deal about which schemas are widely shared or taken for granted, and which are contested” (McDonnell and Vercel 2019, p. 328)

EXAMPLE: AIDS CAMPAIGN IN GHANA

Revealed deliberative cognitive processing

"Another group faced the problem of how to represent the effects of the disease while acknowledging its invisibility *and avoiding [the] stigma [of living with HIV]*…. The creative solution that emerged out of this deliberation was to use the color red to depict HIV-positive stick figures and green to depict HIV-negative. [These colors allowed them to represent someone as healthy and asymptomatic, but infected, while also communicating the danger and warning that using a fear-based skeleton approach would permit.] The solution of using red (which Ghanaians strongly associate with HIV) clearly resonated, as the group expressed heightened emotions and excitement-raising voices and sitting up in their seats-and thus motivated the group to collaborate on how they could use red in their poster to solve this problem" (McDonnell and Vercel 2019, p. 330; see also McDonnell 2014, p. 264)

COMPARING ACROSS GROUPS REVEALED *HOW WIDESPREAD* CULTURAL BELIEFS ARE

"Looking across focus groups confirms how widely shared the skeletons and skulls and crossbones were, as these were the most commonly drawn symbols" (McDonnell and Vercel 2019, p. 330)

"Comparing across groups it became apparent that red was a common solution for how to represent AIDS. While some groups went right for the red pencil as if out of habit and practical consciousness, the example of this last group demonstrated how red became a resonant solution emerging from deliberation" (McDonnell & Vercel 2019, p. 330-331)

IN CONCLUSION

Culture matters for innovation success

Provides lessons for innovators about how culture can influence adoption and impact the day-to-day lives of users

QUESTIONS