

LECTURE 17

VIRTUAL AND AUGMENTED REALITY IN MARKETING

Aim: To provide a basic introduction to the use of virtual and augmented reality in marketing.

Outline: Behavioral economics and marketing. Virtual reality and experiments. Virtual and augmented reality in marketing.

Readings:

Bainbridge, W. S. (2007). "The scientific research potential of virtual worlds." *Science* 317, 472–476.

Harrison, G. W., E. Haruvy, and E. E. Rutström. (2011) "Remarks on Virtual World and Virtual Reality Experiments." *Southern Economic Journal* 78, 87–94.

Rosenberg R.S., S. L. Baughman S.L., and J. N. Bailenson (2013) "Virtual Superheroes: Using Superpowers in Virtual Reality to Encourage Prosocial Behavior." *PLoS ONE* 8(1).

Blogs, Videos and Websites:

Blog Laboratory of Virtual Reality and Economic Behavior

<http://lavreb.wordpress.com/>

Behavioral Economics and Marketing

Tips for supermarket

<http://www.bonappetit.com/test-kitchen/how-to/article/supermarket-psychology>

Behavioral economics and marketing

<http://economiecomportamentale.wordpress.com/la-memetica/>

Marcatori somatici

<http://economiecomportamentale.wordpress.com/il-cervello/>

Marketing Virale

<http://economiecomportamentale.wordpress.com/marketing-virale/>

Neuro Marketing

<http://economiecomportamentale.wordpress.com/i-neuroni/>
<http://www.neurosciencemarketing.com/blog/>

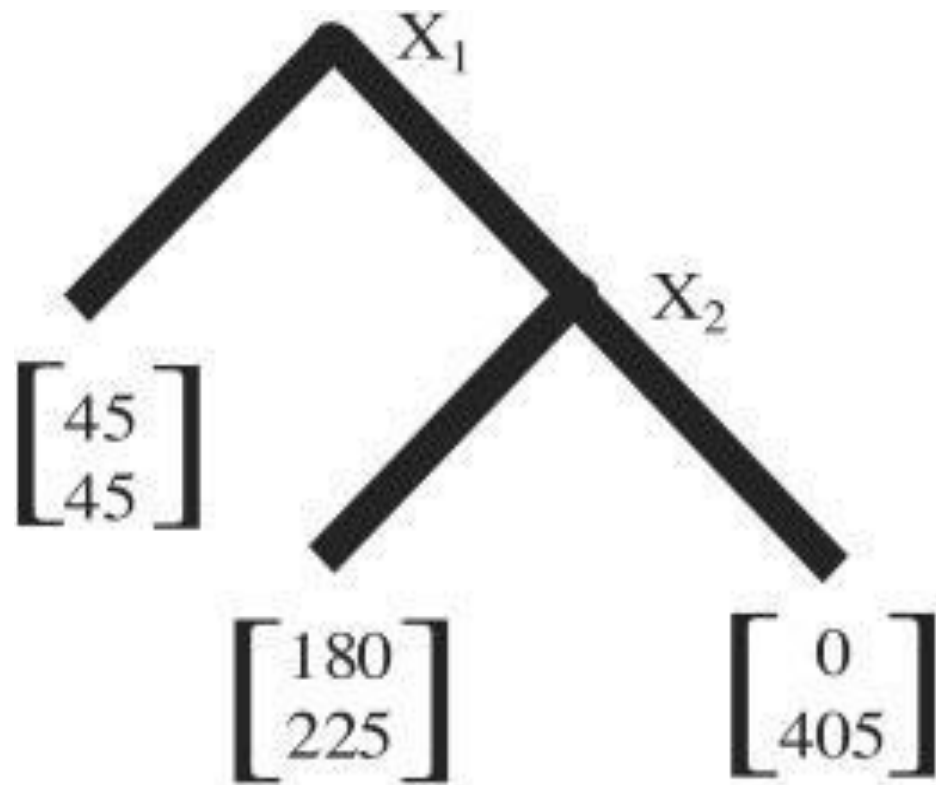
VIRTUAL EXPERIMENTS

Many experimental economists seem to view their enterprise as akin to silicon chip production. Subjects are removed from all familiar contextual cues. Like the characters 'thing one' and 'thing two' in Dr. Suess' Cat in the Hat, buyers and sellers become 'persons A and B', and all other information that might make the situation familiar and provide a clue about how to behave is removed.

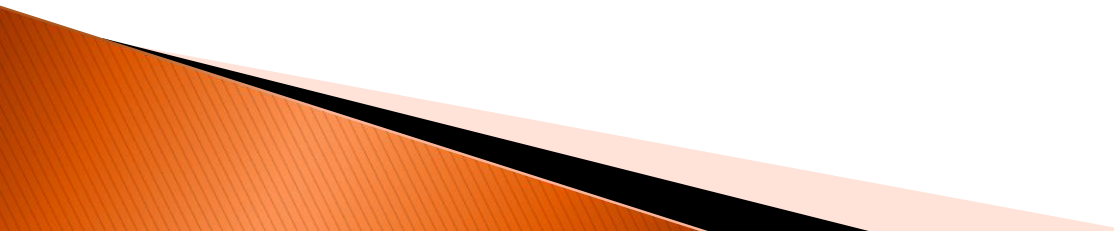
George Loewenstein (1999)



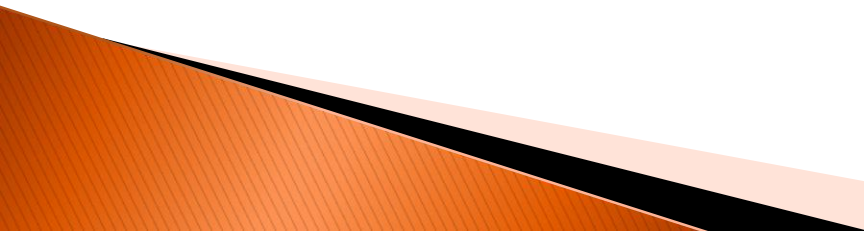
Trust Game



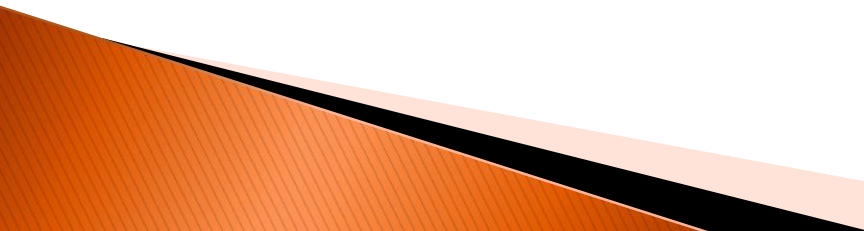
The context free experiment

- ▶ The context-free experiment is an elusive goal and not necessarily a good thing
 - ▶ Games in the laboratory are usually played without labels but subjects inevitably apply their own labels
 - ▶ A major discovery of cognitive psychology is how all forms of thinking and problem solving are context-dependent (language comprehension)
 - ▶ The laboratory is not a socially neutral context, but is itself an institution with its own formal or informal, explicit or tacit, rules
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Internal vs. External Validity

- ▶ Internal validity - ability to draw confident causal conclusions from one's research
 - ▶ External validity - ability to generalise from the research context to the settings that the research is intended to approximate
 - ▶ Experiments have the reputation of being high in internal validity but low in external validity
 - ▶ Field studies of being low in internal validity but high in external validity
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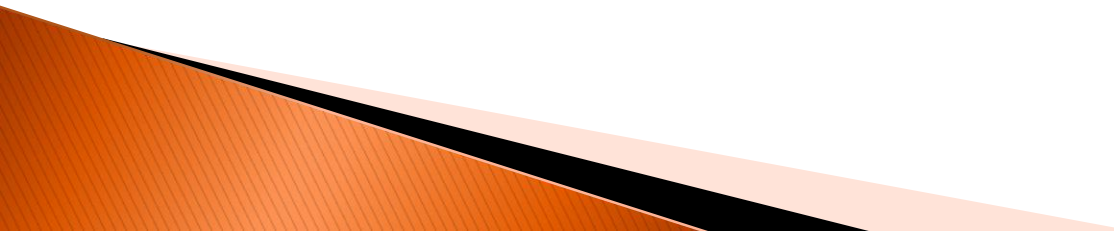
Methodological Biases

- ▶ One of the basic tenets of laboratory methodology is that the use of non-professional subjects and monetary incentives allows making subjects' innate characteristics largely irrelevant
 - ▶ In some experiments, it is as if subjects take into the lab the preferences applied to real choices and stick to them with high probability
 - ▶ These biases or inclinations tend to override the incentives effect
 - ▶ Labels may give subjects clues to become less and not more rational
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The power of labels

- ▶ Subjects' behavior depends more on prior learning outside the laboratory than on expected gains in the laboratory
- ▶ Labels have the power to increase external validity with a minimal sacrifice of the internal validity
- ▶ To test learning and cognitive models, it is necessary **to remind** and **to evoke contexts** which may activate emotions, association, similarities in the laboratory
- ▶ The use of presentations with virtual reality (VR) visualisations can convey objectively this kind of information
- ▶ A Virtual Experiment combines insights from virtual reality (VR) simulations in computer science, naturalistic decision making (NDM) and ecological rationality from psychology, and field and lab experiments from economics

Virtual Experiments

- ▶ The methodological objective of Virtual Experiments is to combine the strengths of the artificial controls of laboratory experiments with the naturalistic domain of field experiments or direct field studies
 - ▶ In a virtual experiment the internal validity of controlled lab experiments is joined with the external validity of field experiments
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Head Mounted Display



Oculus Rift



Tuscany Demo Oculus



Cave



Virtual Simulations



Applications - ALBO Project

ALBO research programme aims at exploring the emergence and the dynamics of **psychosocial risks** among the employees of these organisations, as well as to develop **virtual and immersive work environments** for the assessment and management of those risks according to the provisions of country specific laws and regulations.

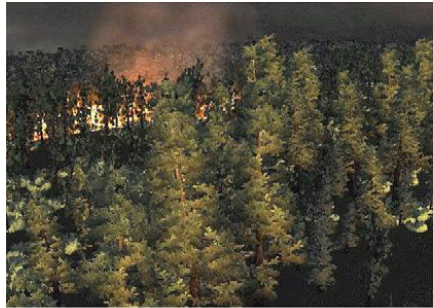
- ▶ <http://www.progettoalbo.it/>
- ▶ <http://www.youtube.com/user/alessandroinnocenti1>

Applications – Risk Perception

Fiore et al. 2009

- ▶ Virtual Experiment to elicit subjective risk perception from wild fires and the opportunity cost of public funds allocated to prescribed burns
- ▶ Subjects experience four dynamic visual simulations of specific wild fires, with varying weather and fuel conditions. Simulations are selected to represent high and low risk of fire damage
- ▶ Participants experience a sense of presence, a psychological state of “being there” and take decisions closer to real behavior (with cognitive constraints)

Applications – Risk Perception



Applications- Virtual Superheroes to Encourage Prosocial Behavior

Background

Playing prosocial video games leads to greater subsequent prosocial behavior in the real world.

Thesis

In immersive virtual reality occupying an avatar with the superhero ability to fly increases helping behavior.

Methods

(two-by-two design) participants were either given the power of flight and were assigned one of two tasks, either to help find a missing diabetic child in need of insulin or to tour a virtual city.

Findings

The results indicate that having the “superpower” of flight leads to greater helping behavior in the real world

Figure 3. Virtual Child After Being Found and Saved.



Rosenberg RS, Baughman SL, Bailenson JN (2013) Virtual Superheroes: Using Superpowers in Virtual Reality to Encourage Prosocial Behavior. PLoS ONE 8(1): e55003. doi:10.1371/journal.pone.0055003
<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0055003>

VIRTUAL REALITY AND MARKETING

Experiencing is believing

<http://www.theguardian.com/media-network/media-network-blog/2014/aug/28/marketing-virtual-reality-facebook-oculus-rift>

In movie VR has the power to utterly disrupt the passive film viewing experience.

BBC has already [opened the floodgates](#). During its recent coverage of the Commonwealth Games, Oculus Rift headsets could be used to submerge viewers into 360-degree videos and three-dimensional audio.

“We used to say seeing is believing. Now we have to say experiencing is believing.”

This means we can no longer solely rely on consumers' inert viewing as a means of convincingly communicating marketing messages.

Brands could also use VR to improve personalised advertising.

VIRTUAL REALITY FOR MARKETERS

<https://www.youtube.com/watch?v=BUuJiEs1sKU>

<http://www.fastcocreate.com/3037109/virtual-reality-for-marketers-5-ways-to-succeed-with-oculus-rift>

1. TARGET CONSUMERS WITH MOBILE FIRST
2. IT'S NOT JUST ABOUT THE TECHNOLOGY, IT'S ABOUT THE CONTENT
3. GIVE USERS THE ABILITY TO CREATE CONTENT
4. GREAT CRAFT IS ESSENTIAL; POOR CRAFT WILL MAKE YOU SICK
5. ENGAGE AS MANY SENSES AS POSSIBLE

AUGMENTED REALITY FOR MARKETING

<http://www.augmentedrealitytrends.com/augmented-reality-retail/retail-campaign.html>

Strategic Goal

When you are adding AR for promoting your retail brand, there should a clear goal which is measurable.

Integrating with Real World

With AR, you can smoothly connect the physical and the digital world. Web services that you provide can thus be connected with physical content.

Custom AR Experience

If you are able to create a unique and personalized AR experience for your consumers nothing can be better.

Surprising the Consumers

You need to provide something unique to your consumers if you want to draw their attention.

AUGMENTED REALITY FOR MARKETERS

<http://wedu.com/blog/index.php/augmented-reality-bringing-3d-virtual-reality-to-real-world-marketing-campaigns/>

Product Packaging- Starbucks Uses AR to Show Some Holiday Love

Online Commerce- Bella Luce's AR App Lets You Try a Ring on Before You Buy It

Print Advertising- Blippar Tricks Out Virgin Media Magazine Using AR

Product Packaging – LEGO Uses AR to Show Products in 3D

The future of augmented reality