

FROM THE BACK OF THE NAPKIN TO THE WORKSITE

Moving innovations along the
occupational safety and
health value chain

DISCLAIMER

The findings and conclusions in this report are those of the author and do not necessarily represent the views of the National Institute for Occupational Safety and Health.



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National Institute for Occupational Safety and Health, USA

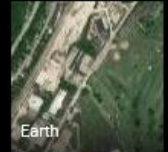
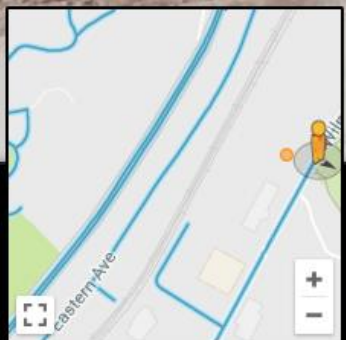
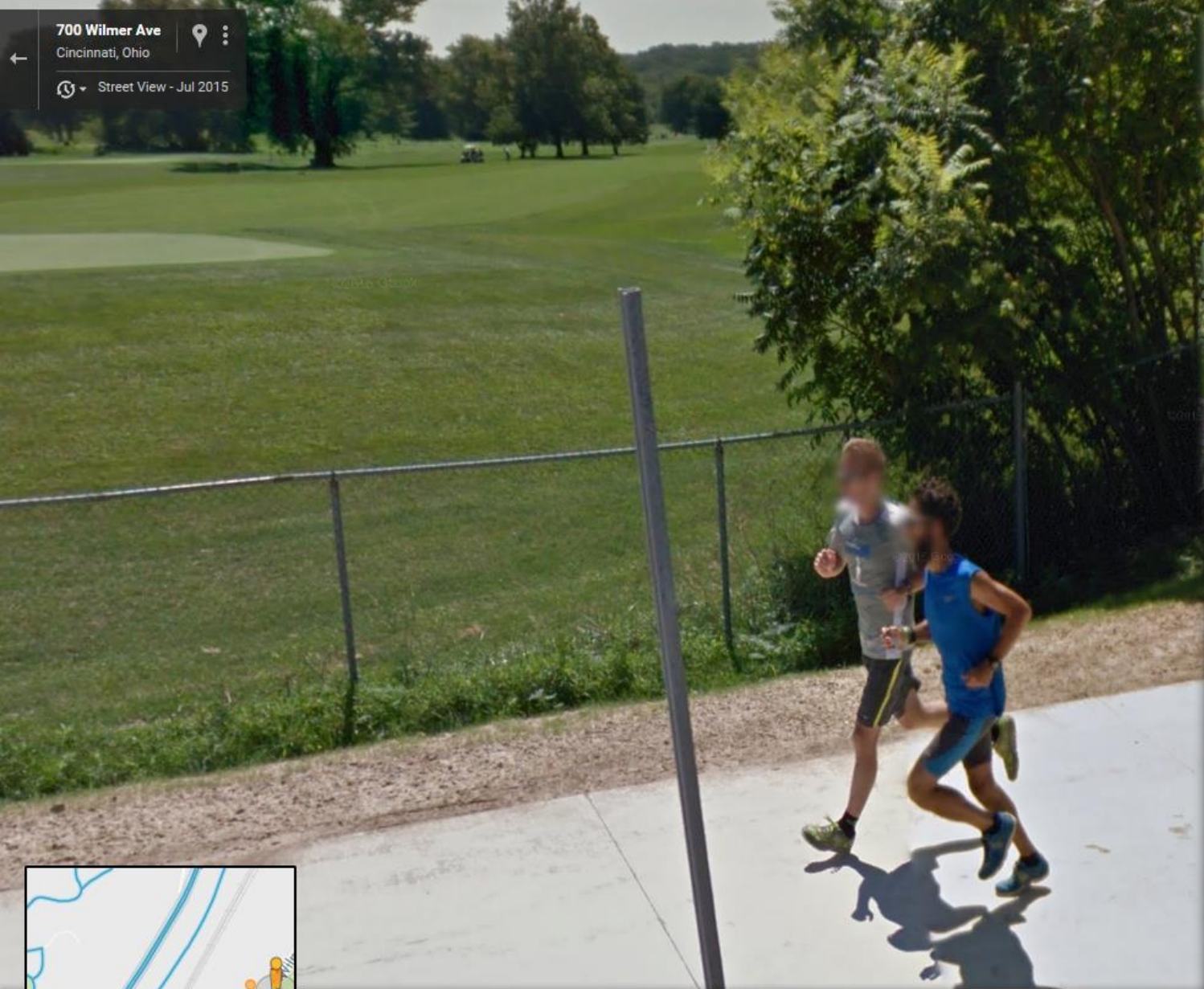
Small Business Program Co-coordinator

Research to Practice Office

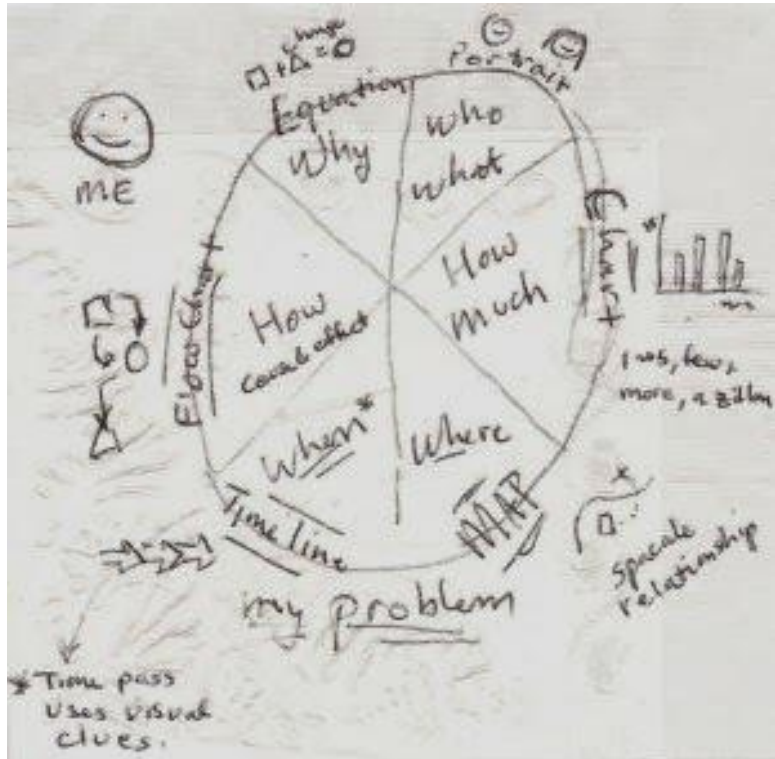
Special thanks to Christy Forrester (NIOSH) for assistance with this presentation



700 Wilmer Ave
Cincinnati, Ohio
Street View - Jul 2015

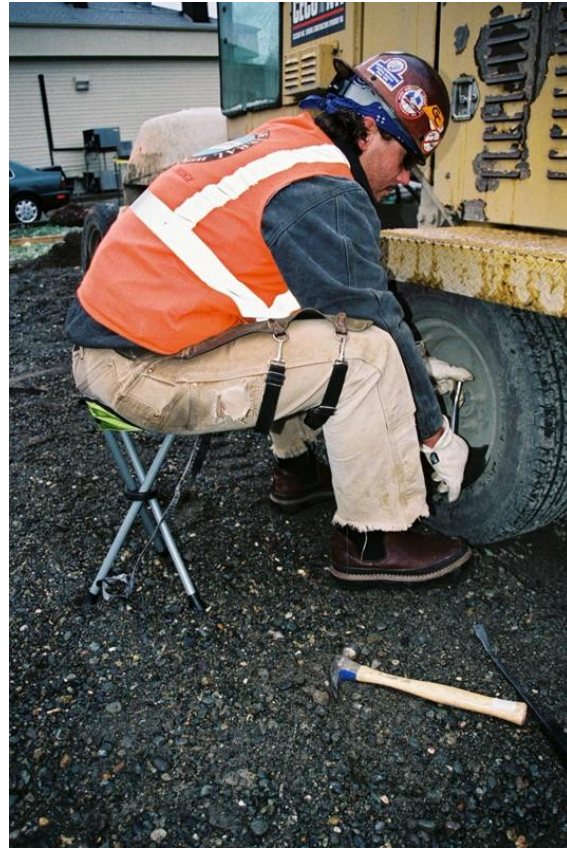


BACK OF THE NAPKIN...TO THE WORKPLACE





WORK STOOL: EXISTING TECHNOLOGY

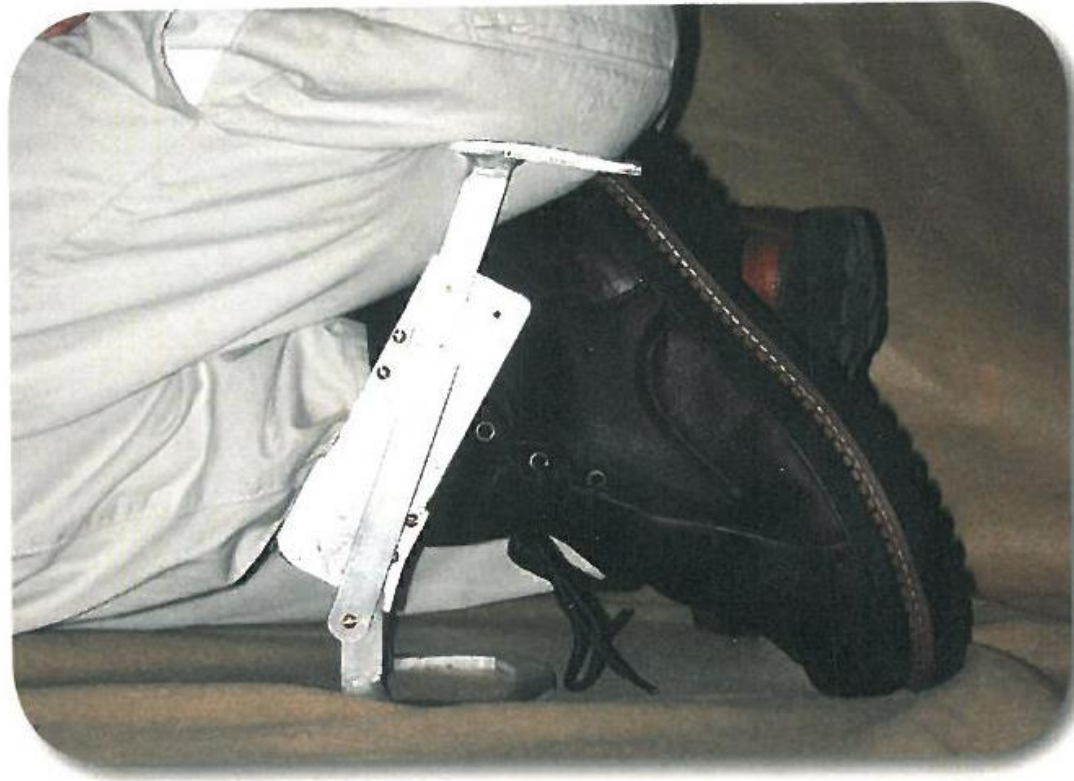


KNEE-SAVER: EXISTING TECHNOLOGY

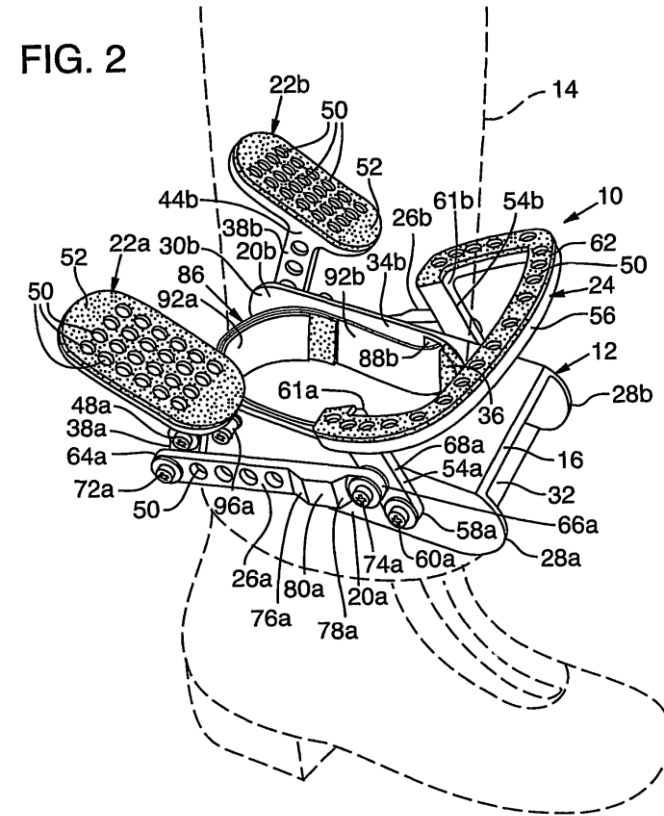
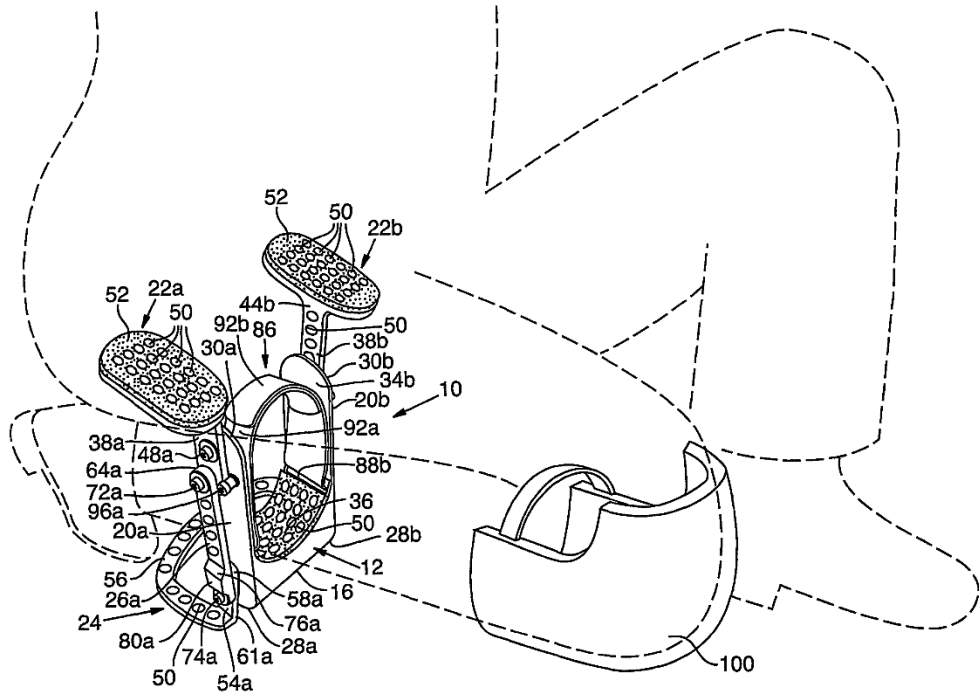




THE KNEEL-SIT: NEW TECHNOLOGY

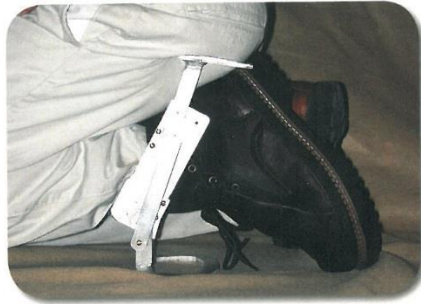


THE KNEEL-SIT: NEW TECHNOLOGY



**Working with Your Hands
Doesn't Mean You Have
to Sacrifice Your Knees.**

Wearable Kneel Sit Device



Wearable Kneel Sit Device

- **REDUCES FLEXION** of the knee joint during kneeling activities
- May reduce contact pressure and strain on the knee
- **SUPPORTIVE**, moves with the user
- Durable and nonflammable

Many people spend considerable time kneeling or squatting during work. The **Wearable Kneel Sit Device** offers a convenient way to reduce stress on the knees during these activities. The device is worn on the lower calf just above the user's boot or shoe. When kneeling, the device supports the user's body weight. Since the device is worn by the worker, when the worker moves, the device automatically moves with him to a new position.

Be the first to partner with NIOSH to commercialize this patented technology (U.S. Patent No. 7,152,919)!



Did you know?

- Prolonged kneeling may increase a person's risk of developing knee disorders.
- The discomfort from prolonged kneeling may decrease worker productivity.

With the **Wearable Kneel Sit Device** workers are more comfortable when they kneel and squat.

Intended Users

Workers in many occupations can benefit from using the **Wearable Kneel Sit Device**. Such as:

- Shipbuilding
- Construction
- Plumbing
- Carpet and Flooring Installation
- Auto Repair
- Mining

The **Wearable Kneel Sit Device** also has many recreational applications such as gardening.

Contacts

For additional information on this innovation or licensing opportunities, please contact:

Scientific Contact

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Licensing Contact

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KGoedel@cdc.gov

Learn more about other partnering opportunities with the National Institute for Occupational Safety and Health (NIOSH) at <http://www.cdc.gov/niosh/r2p/>



EVERETT M. ROGERS

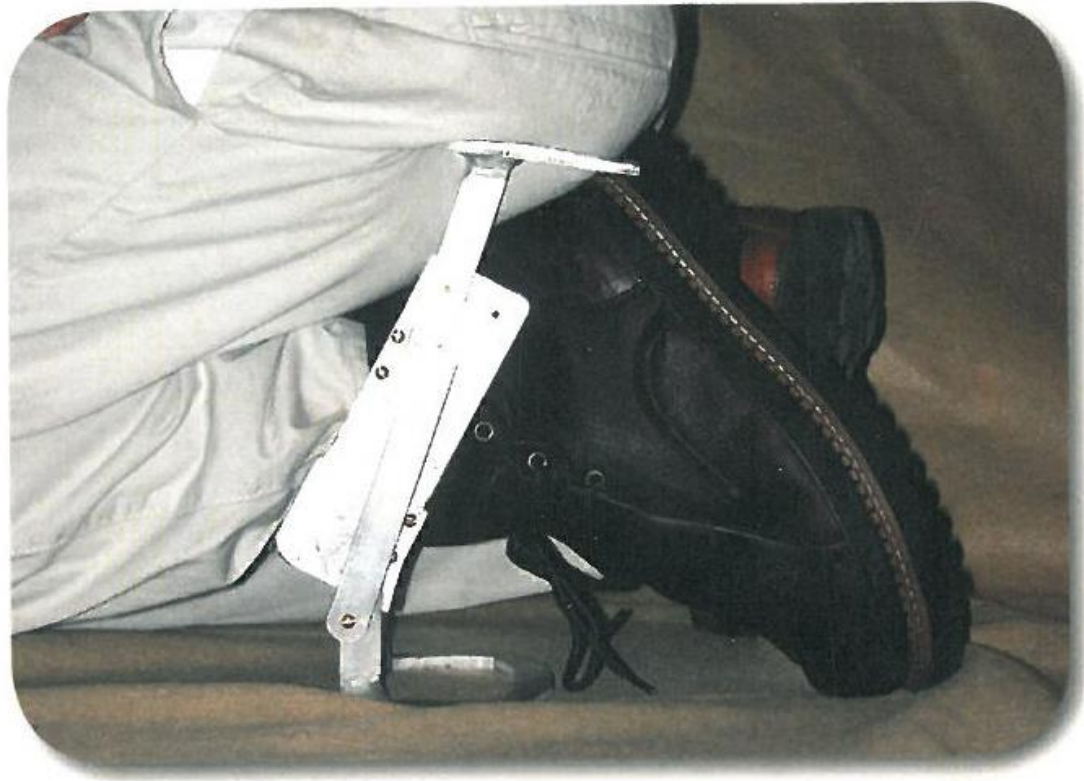
“If the idea **seems new** to the individual, it is an innovation.”



GARRETT BURNETT

“An innovation **solves a problem.**”





EDWARD BULLARD: FROM HOBOKEN...



...TO FRANCE



HOT RIVETS IN SHIP BUILDING



THE RIVET BUCKET

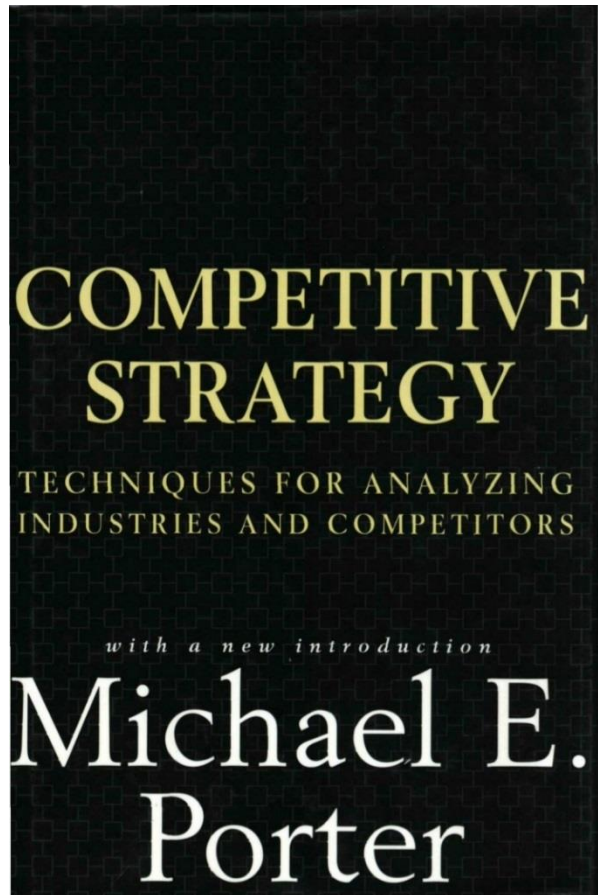




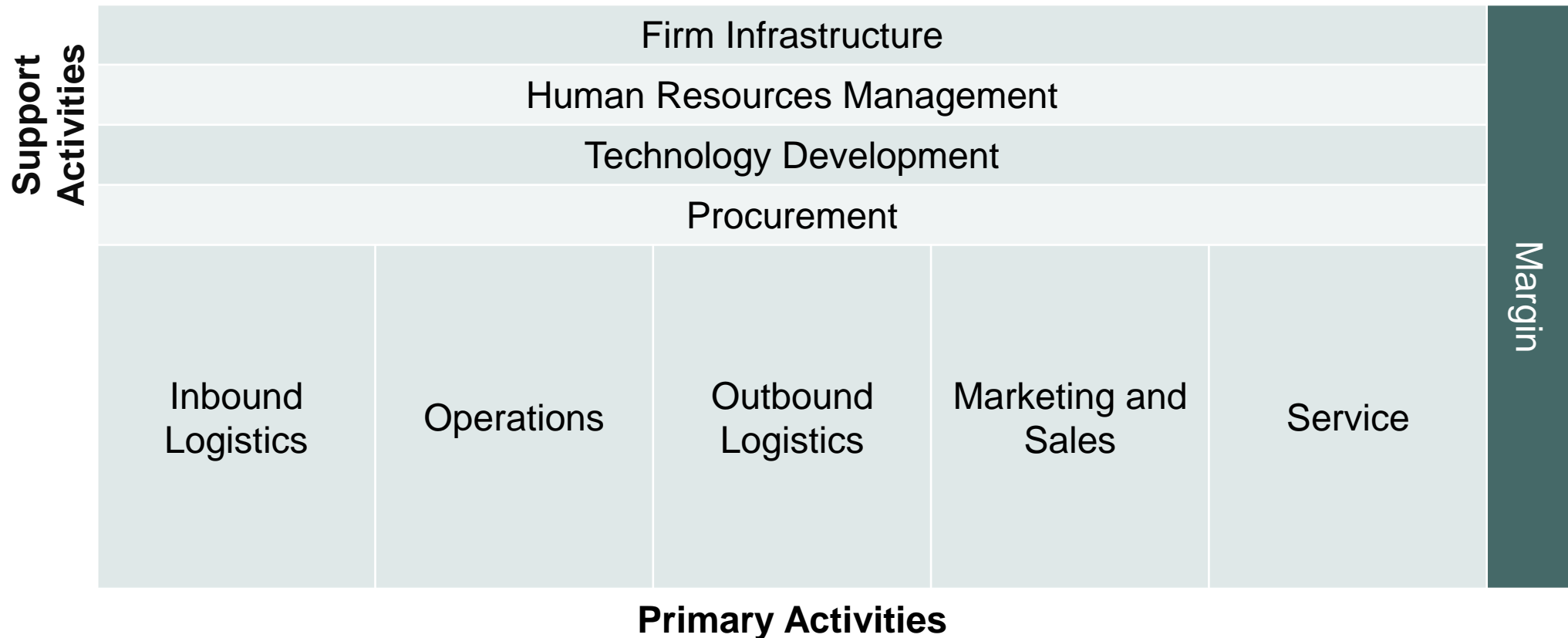
BULLARD'S "HARD BOILED HAT"



MICHAEL E. PORTER



PORTER'S VALUE CHAIN

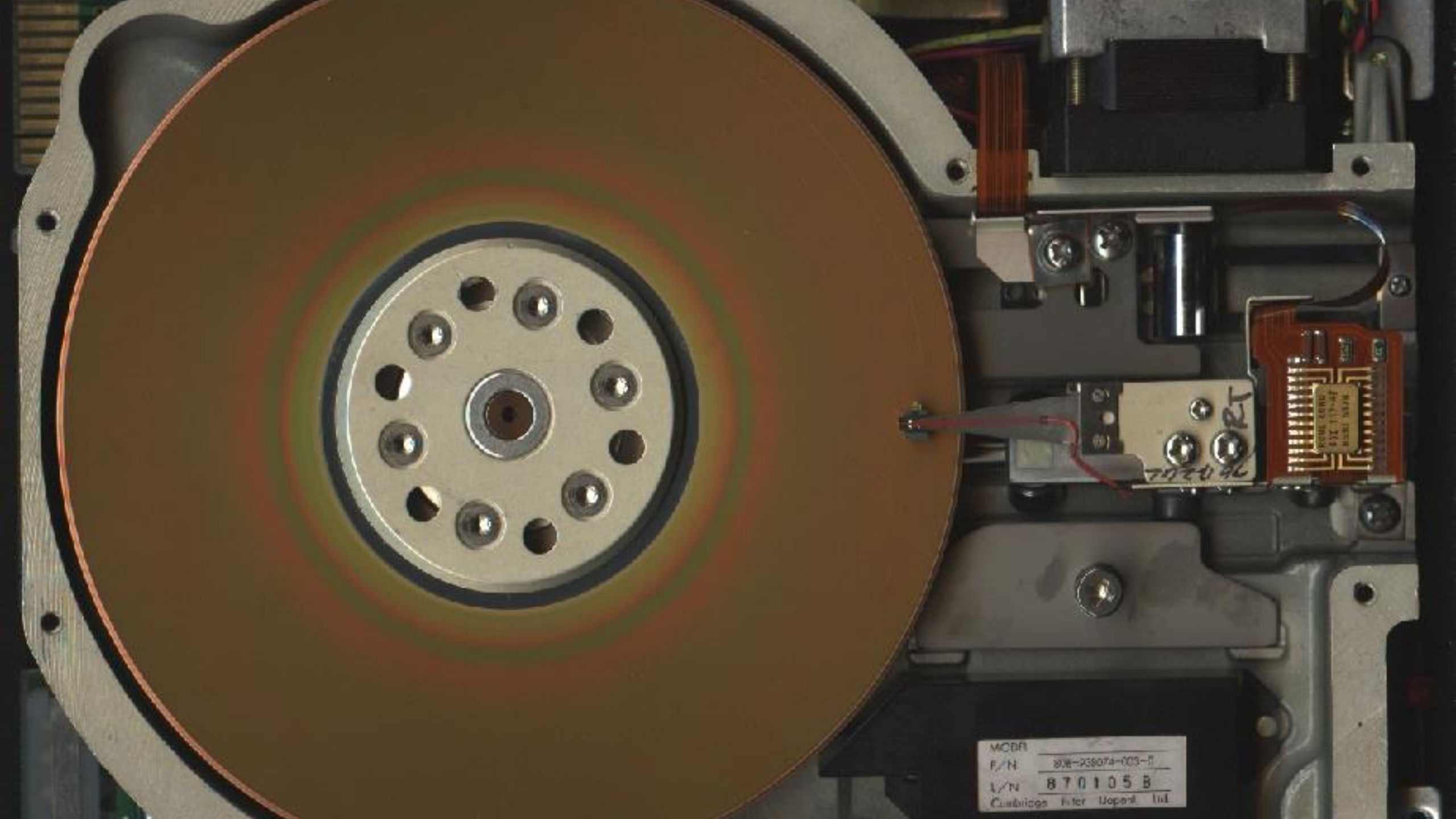


CLAYTON CHRISTENSEN

“**Sustaining** technologies improve the performance of an established product. They already have a base of paying customers.

“**Disruptive** technologies usually underperform existing products, but they are typically cheaper, simpler, smaller, or more convenient to use.”





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Cartridges Filter Uopent Ltd



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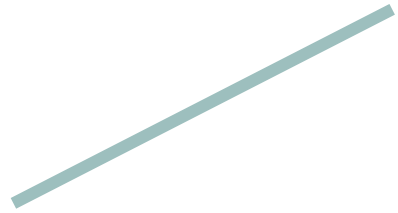
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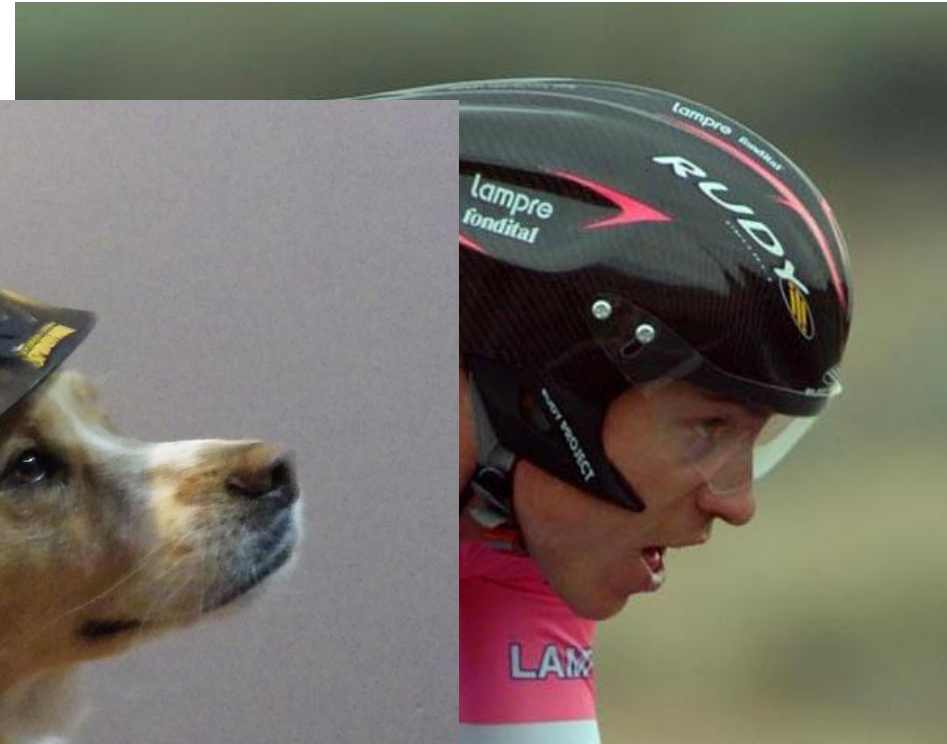
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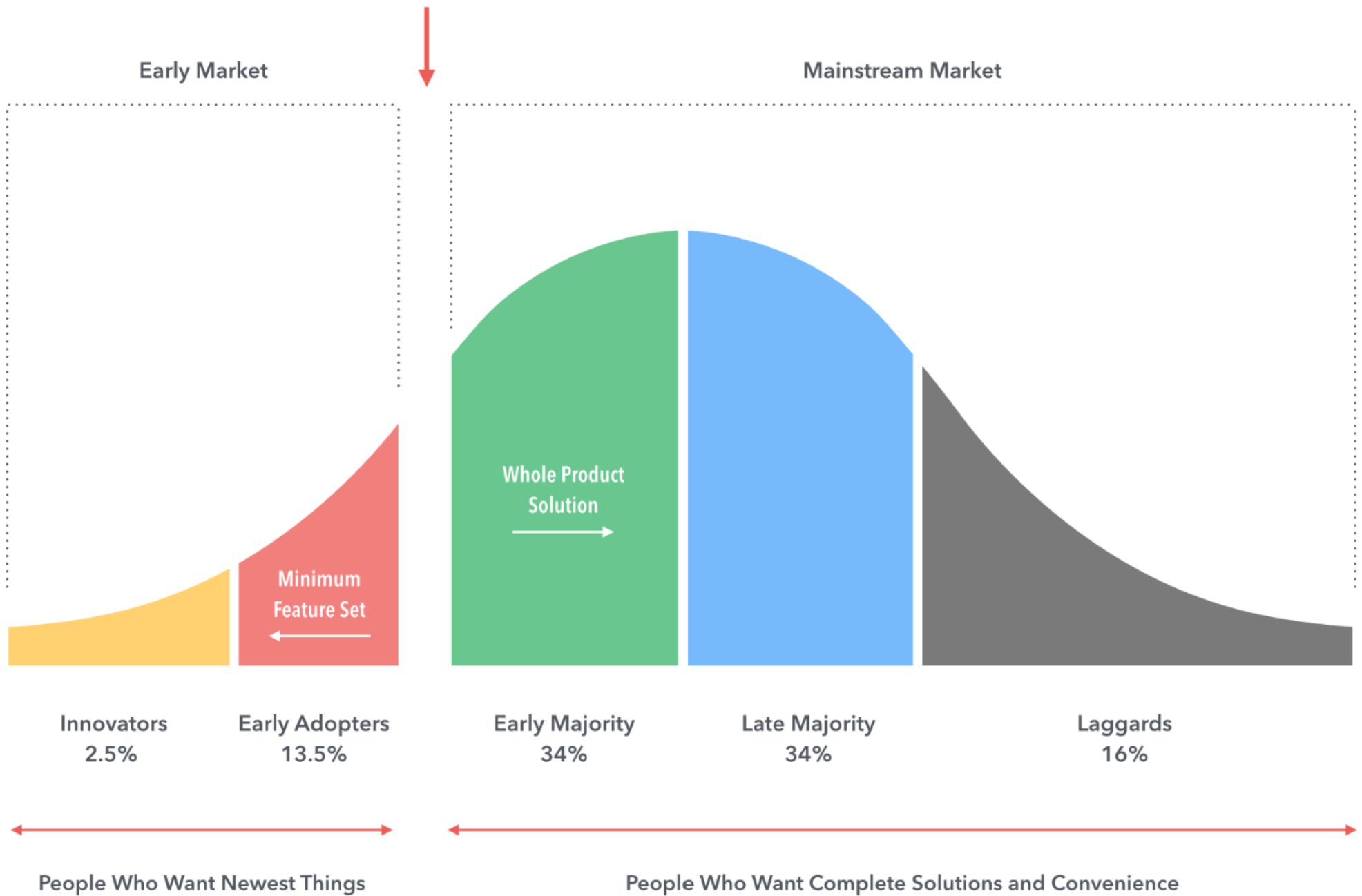
SUSTAINING INNOVATION



DISRUPTIVE INNOVATION

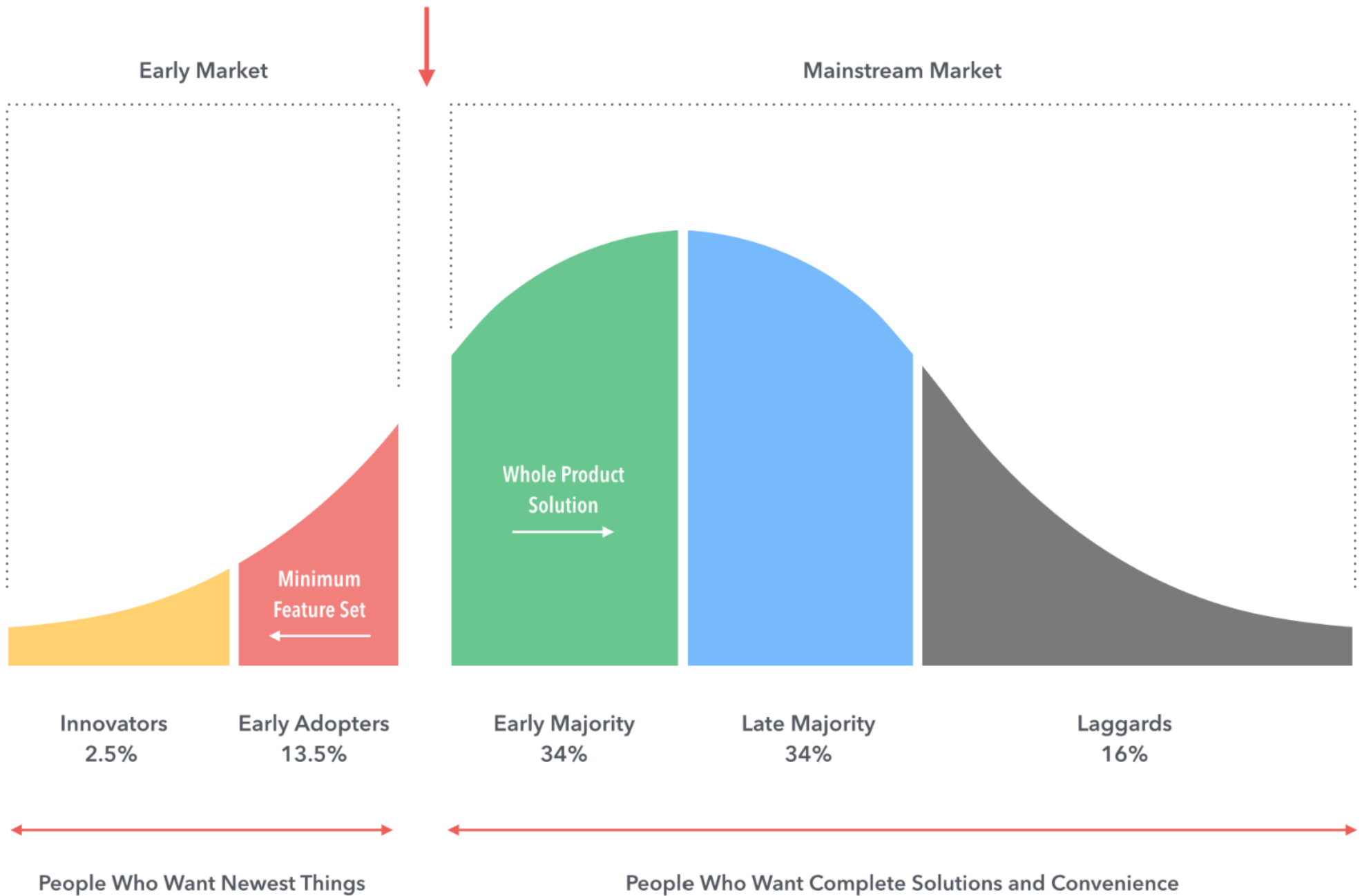


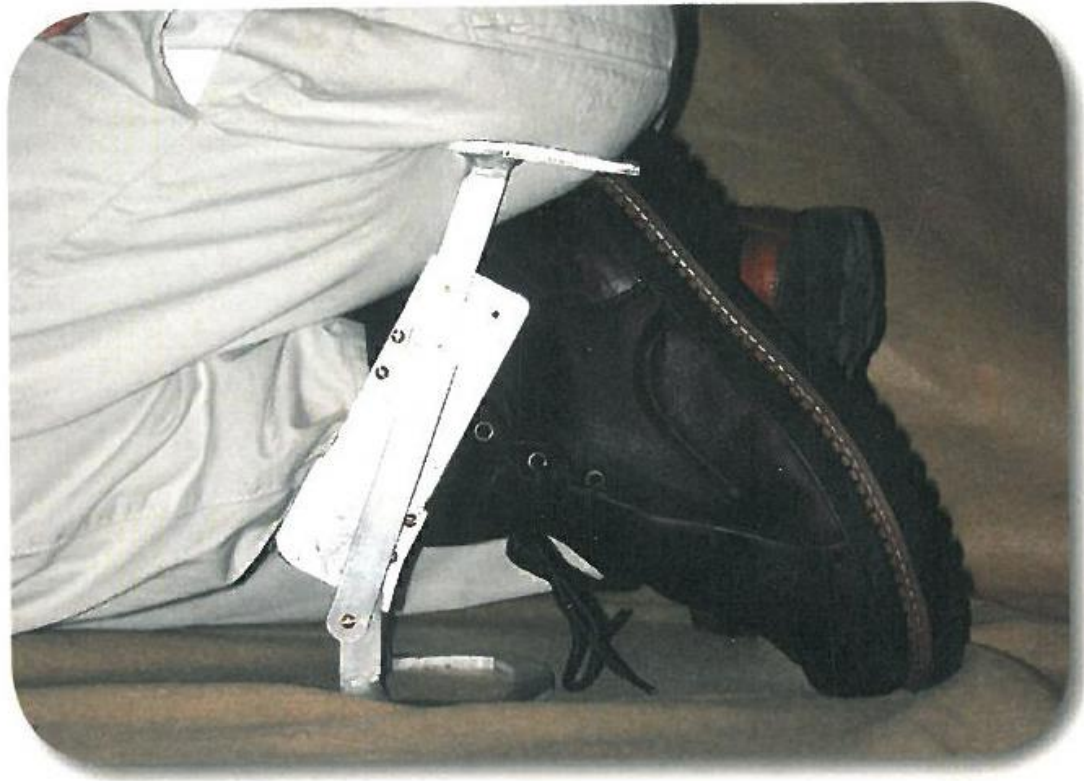
THE CHASM



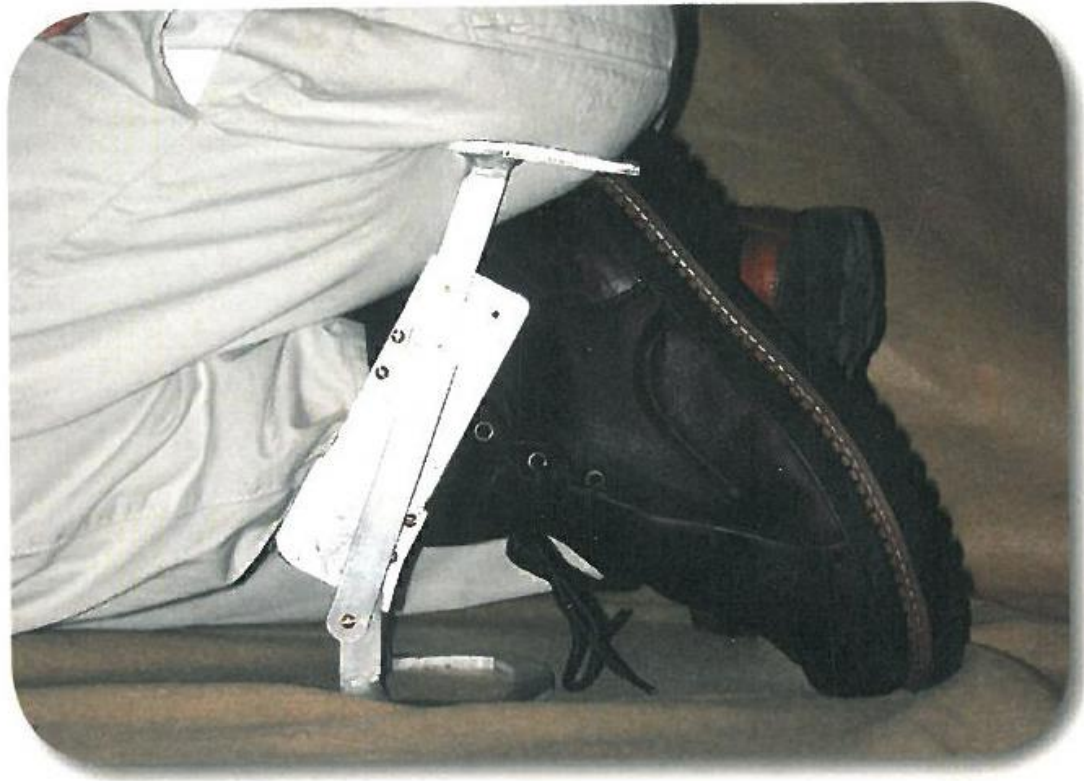


THE CHASM

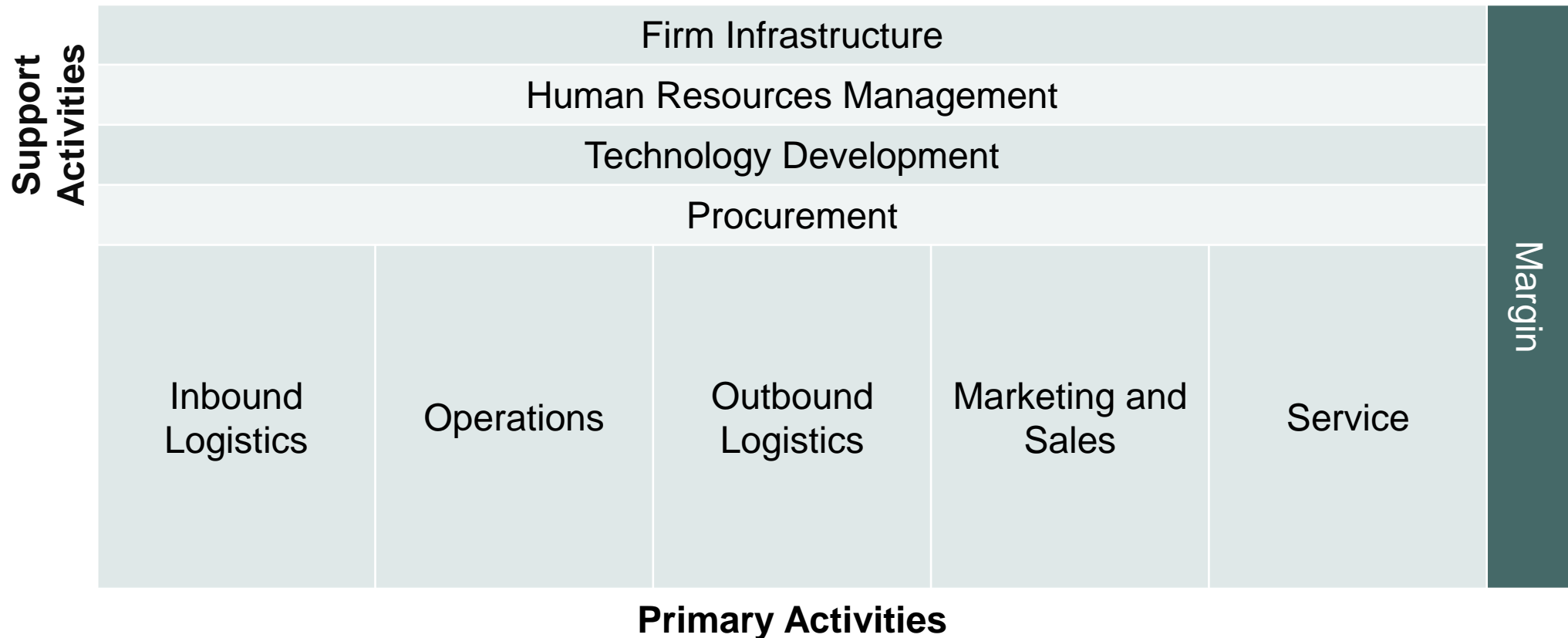








PORTER'S VALUE CHAIN



CLAYTON CHRISTENSEN

“Value networks **provide the context** within which a firm identifies and responds to customers’ needs, solves problems, procures input, reacts to competitors, and strives for profit.”



BASIC SUPPLY CHAIN MODEL



VERNA ALLEE

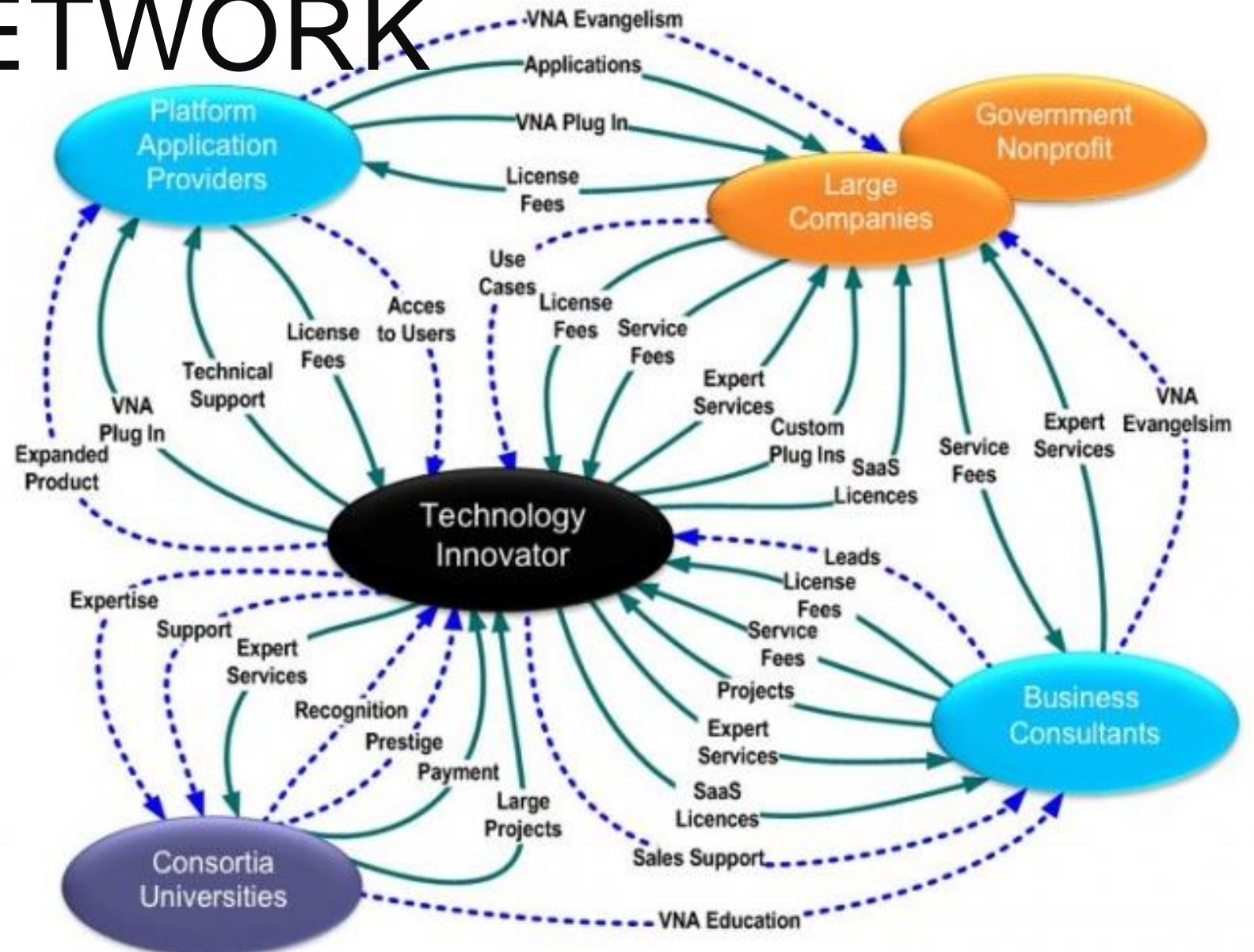
“Direct revenue exchanges are only part of the picture. **Knowledge and intangible value** are of equal importance, and success depends on building a rich web of **trusted relationships.**”



BASIC SUPPLY CHAIN MODEL



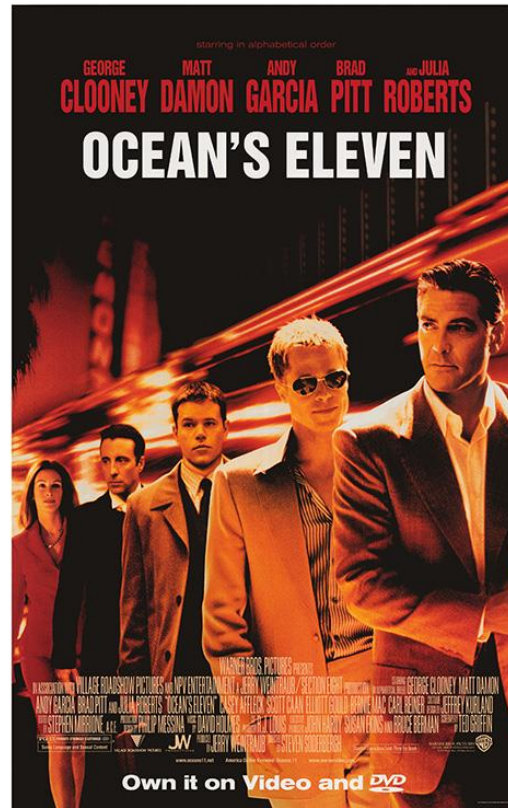
VALUE NETWORK



DAVID RICARDO AND COMPARATIVE ADVANTAGE



THE OCEAN'S ELEVEN THEORY

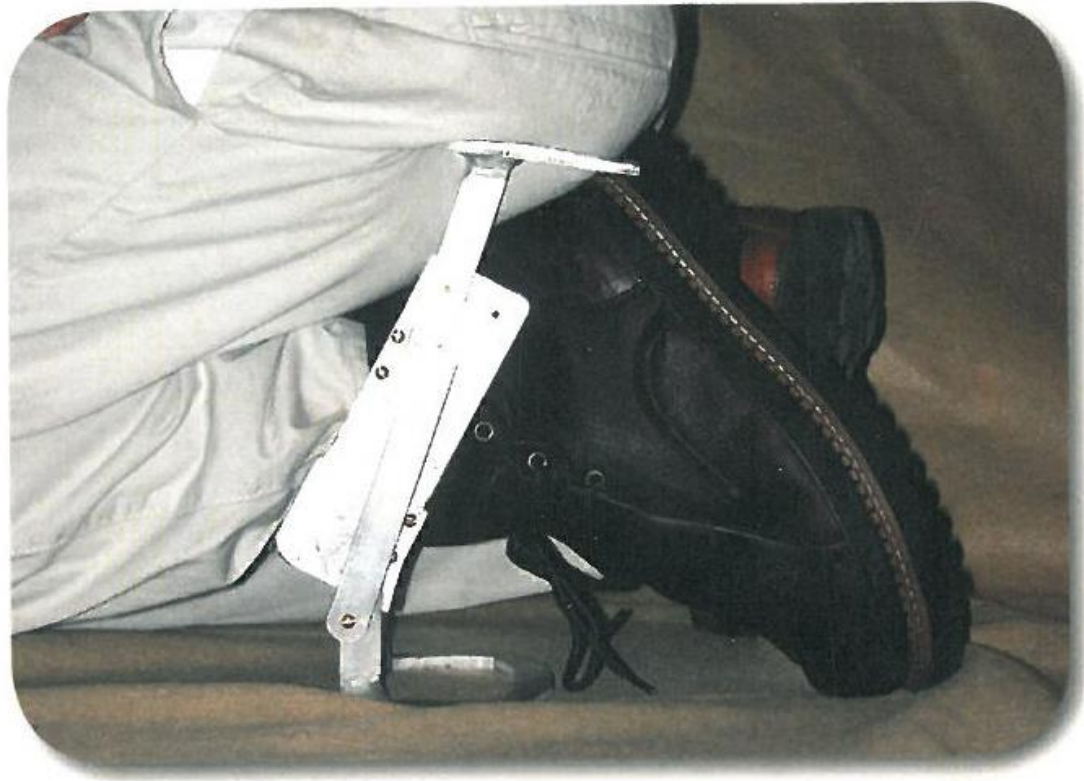


THREE CASINOS



COORDINATED EXPERTISE FOR MUTUAL GAIN



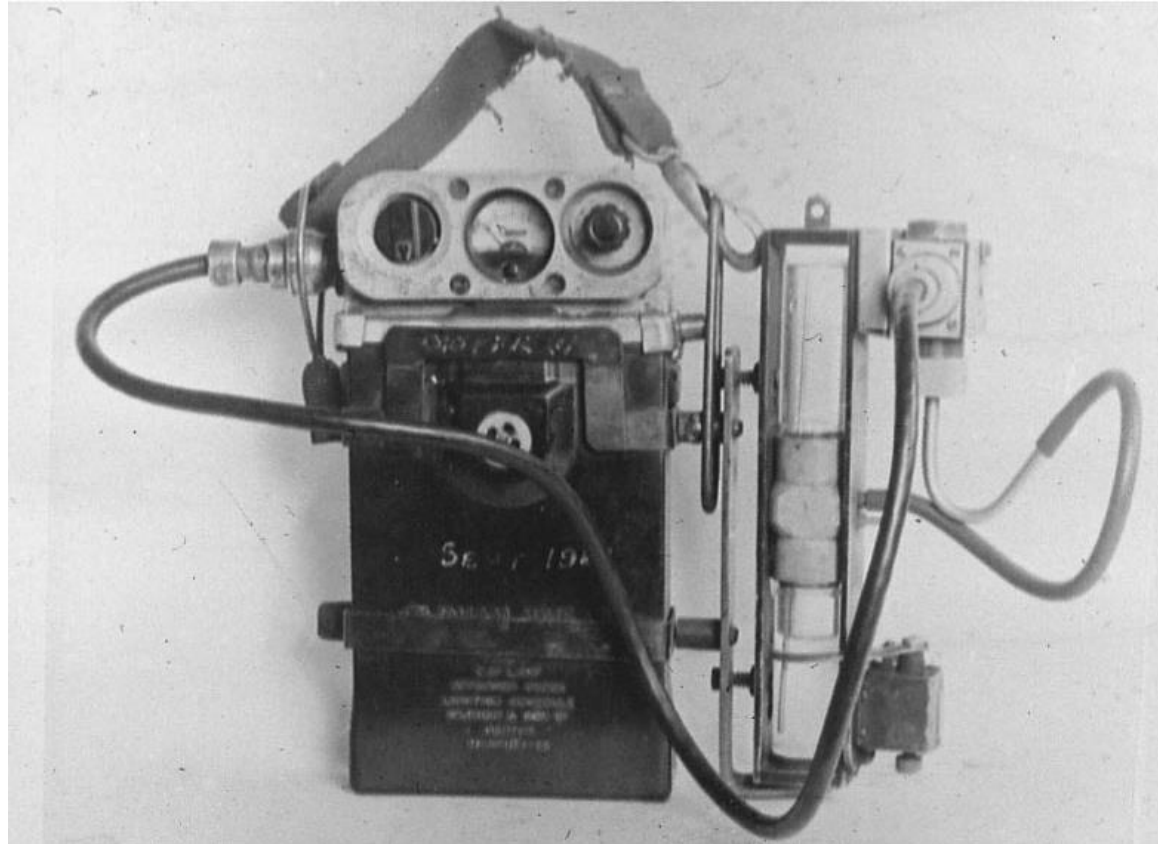




“THE ATOMIC”: JERRY SHERWOOD’S RESEARCH HOME



THERMAL PRECIPITATOR

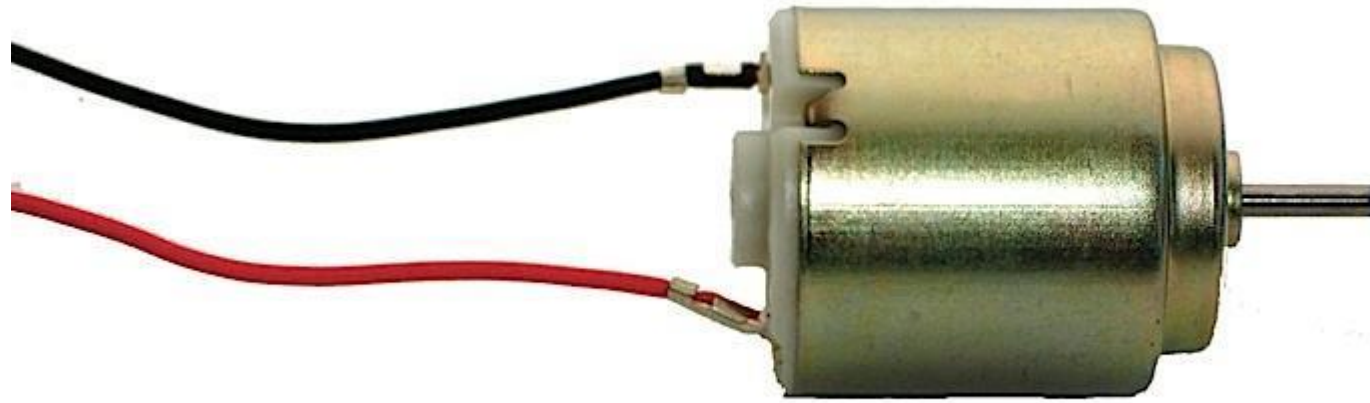


PROBLEM STATEMENT

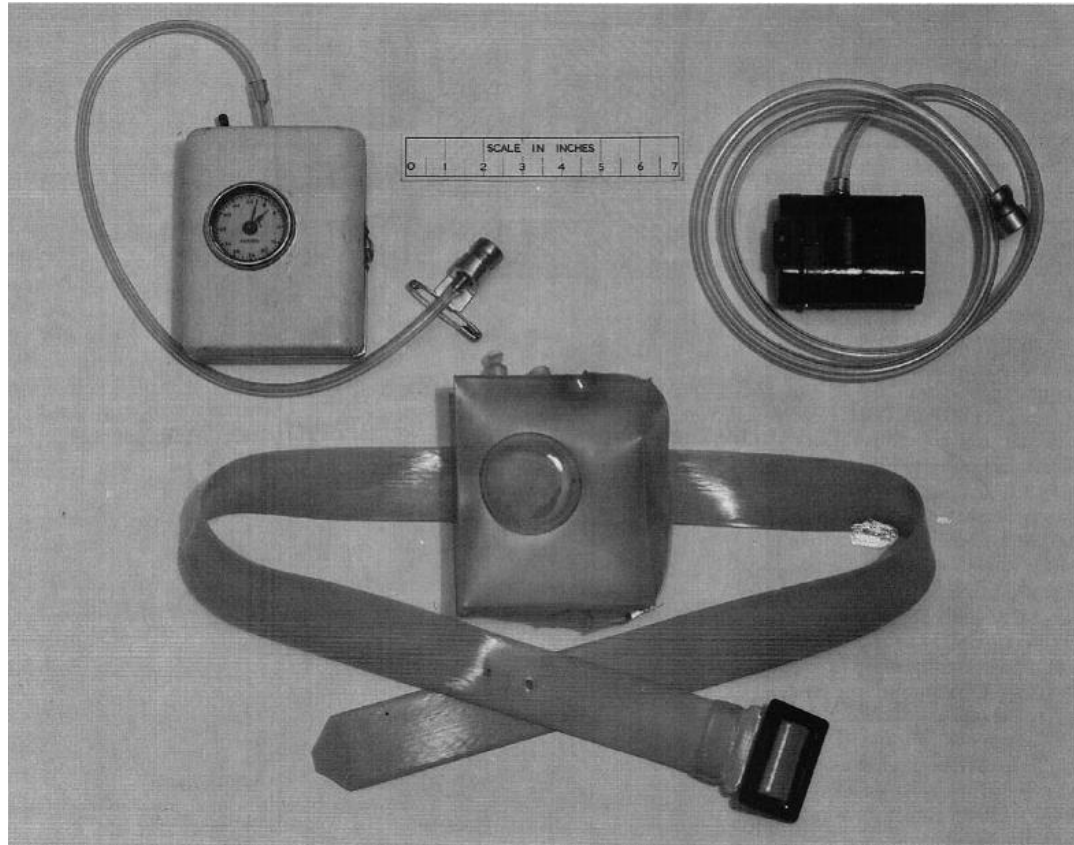
An air sampler must be

- **Portable** so it can accurately measure throughout the worksite
- **Small** and **light** enough to be portable

MINIATURE DC MOTOR



SHERWOOD AND GREENHALGH'S SAMPLER PROTOTYPES

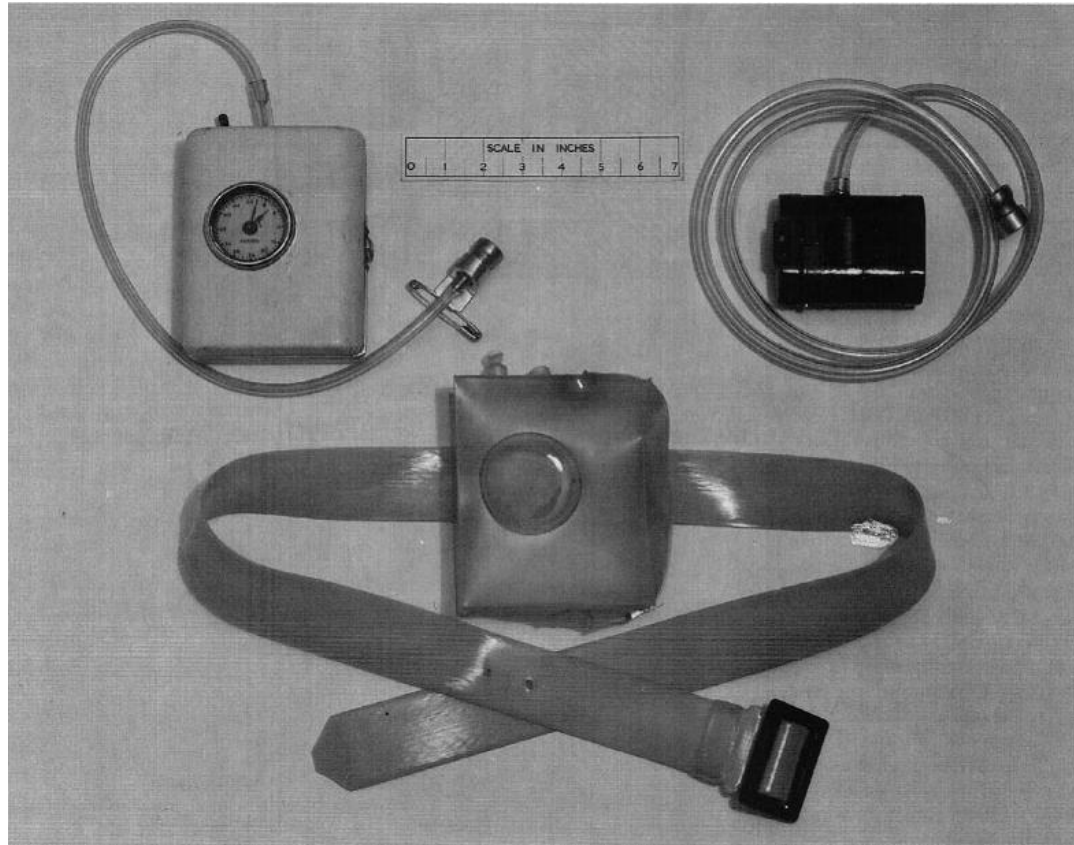


VERNA ALLEE

“Success depends on building a rich web of **trusted relationships.**”



SHERWOOD AND GREENHALGH'S SAMPLER PROTOTYPES



CF CASELLA'S THERMAL PRECIPITATOR



**THERMAL PRECIPITATOR
FOR
AIRBORNE DUST SAMPLING**

Suitable for counting solid particles in any aerosol, this instrument has an efficiency approaching 100% for particles from 0.16μ up to 5.0μ and not much lower for particles of 10.0μ .

For use in laboratories, factories or mines.

Write for leaflet 776.

Also available
Jet Dust Counter
Cascade Impactor
Settlement Dust Counter

C. F. CASELLA & CO LTD
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LONDON, W.1
Telephone: ★ EUSton 3944





JERRY SHERWOOD

“We embarked on **a long, cooperative program** of commercial instrument development that incorporated many of our basic design requirements.”

THREE KEYS FROM SHERWOOD AND THE ATOMIC

1. Protect the intellectual property
2. Validate the science
3. Maintain the relationship



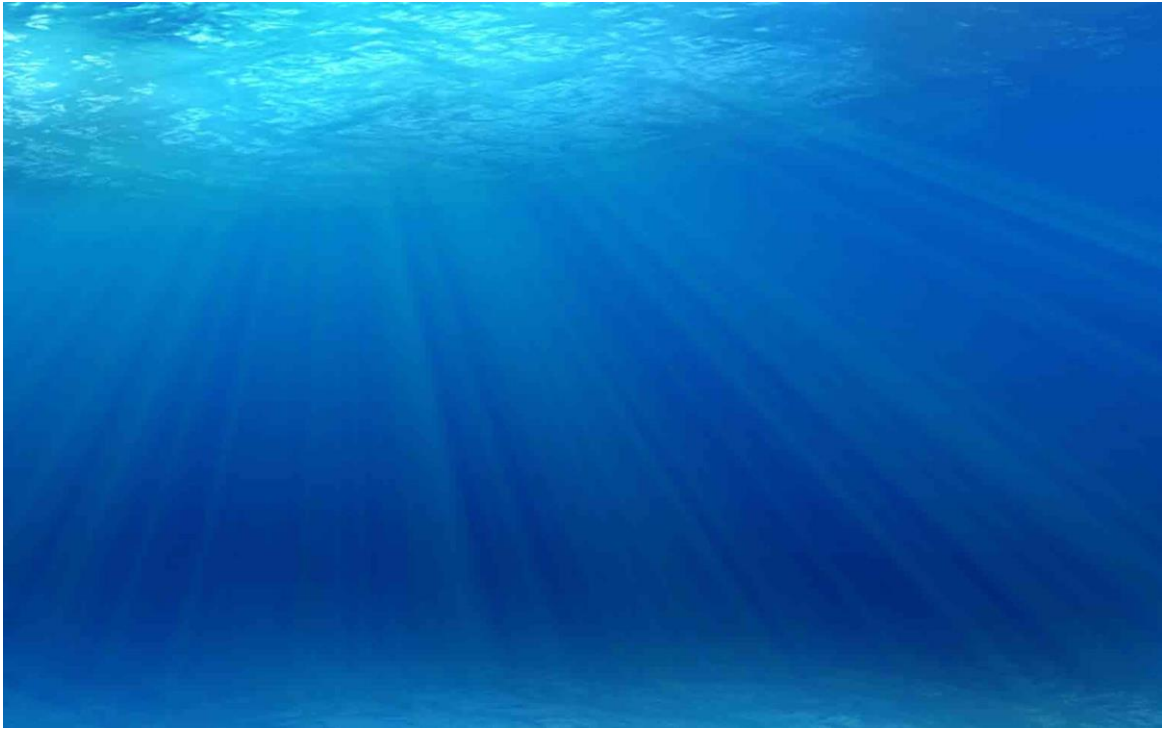
W. CHAN KIM AND RENÉE MAUBORGNE

Blue Ocean Strategy

"Competing in overcrowded industries is no way to sustain high performance. The real opportunity is to create blue oceans of **uncontested** market space."



BLUE OCEAN



RED OCEAN



OSH OCEAN



ENTERING THE OSH OCEAN

1. Identify what you do well.
2. Decide what you can contribute.
3. Improve your own value chain.
4. Notice what you don't do well.
5. Build relationships in your network.

A WISE PHILOSOPHER ONCE SAID...

“If you want to move an innovation from the back of the napkin to the hands of workers, **know yourself** and **make a few friends.**”



MERCI, INRS

