Who is Doug Hall?

Doug Hall

Entrepreneur
Age 12

9 Products in 12 Months
16% of the time
10% of the cost
10% of staffing

College of Piping & Celtic Performing Arts of Canada
Prince Edward Island

I Love Small & Mid Sized Companies

• Trained 200+ NIST/MEP Coaches
Over 100 Events! and 100 one on ones

Our Purpose
To Develop & Deliver The World's Most Reliable Systems
for Creating, Communicating & Commercializing
Meaningfully Unique Ideas.
What is Innovation?

Creativity
Different

Invention
Technical
Creativity

Innovation
Creativity or
Invention with
Meaningful
Value

How we define Innovation...

Innovation is
MEANINGFUL UNIQUENESS

“Meaningful Uniqueness” means
Customers are willing to pay more money for your offering....
Your Product offering
Your Service offering
Your Non-Profit services/cause

What Makes This Presentation & Eureka! Ranch Meaningfully Unique?

1. SYSTEM Focus

“94% of failures are due to the SYSTEM
6% are due to the worker”

Create Communicate Commercialize
2. Systems Grounded in Data

“In God we trust, all others must bring data.”

2. Systems Grounded in Data

Innovation Success Factors
Discovered by REVERSE ENGINEERING
what separates winners from losers

4,000+ ideas were studied
Over 2,000 Academic Journal Articles Reviewed

3. Practical & Reliable Tools
“Engineering Mindset”

Innovation Control Chart

Process Success Factors
Discovered by Quality Control Charting of

6,000+ Innovation Teams

Basis for Interest In Innovation
(Meaningful Uniqueness)
Meaningfully Unique
Means Greater Profitability

Meaningfully Unique
Means Greater Survival

Meaningfully Unique
Drives Valuation

Meaningfully Unique
Keeps Companies in Business

Over Time

prices DECLINE
- 25% with each doubling of experience

Bottom Line

If you’re not Unique
you better be Cheap
Learn the TOOLS & Gain the CONFIDENCE to LEAD
the Creation, Communication & Commercialization
of MEANINGFULLY UNIQUE ideas.

Why the name?
Chemistry
“The science of dealing with the composition and properties of substances.”

Chemical Engineering
“The practical application of science to commerce or industry”

Why the Name?
Companies Pay More for “Engineers”

<table>
<thead>
<tr>
<th>Engineering Field</th>
<th>Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum Engineering</td>
<td>$86,220</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>$65,142</td>
</tr>
<tr>
<td>Mining &amp; Mineral Engineering (incl. geological)</td>
<td>$64,552</td>
</tr>
<tr>
<td>Computer Science</td>
<td>$61,205</td>
</tr>
<tr>
<td>Computer Engineering</td>
<td>$60,679</td>
</tr>
<tr>
<td>Electrical/Electronics &amp; Communications Engineering</td>
<td>$59,074</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>$58,392</td>
</tr>
<tr>
<td>Industrial/Manufacturing Engineering</td>
<td>$57,734</td>
</tr>
<tr>
<td>Aerospace/Aeronautical/Astronautical Engineering</td>
<td>$57,231</td>
</tr>
<tr>
<td>Information Sciences &amp; Systems</td>
<td>$54,038</td>
</tr>
</tbody>
</table>

Source: Winter 2010 Salary Survey, National Association of Colleges and Employers. Data represent offers to bachelor’s degree candidates where 10 or more offers were reported.

Why the Name?
Innovation searched 5X more often than Creativity or Entrepreneurship
3% of Students want to be Entrepreneurs
100% of Students Need to Be Able To Create, Communicate & Commercialize

It’s about an ENGINEERING MINDSET
Disciplined - Results Oriented
Why the Name?

To Help You Sell Yourself

“I see you majored in Art History and have a Minor in Innovation Engineering - what does that mean?”

“It means I know how to Create, Communicate and Commercialize meaningfully unique ideas in the field of Art History...my final project...”

Diversity of Teaching Wisdom

Create

INV 180
Liberal Arts
Engineering
Business

INV 282
Liberal Arts

INV 392
Engineering

INV 401
Business

Communicate

Commercialize

INV 405 - 406 In HOME Department
YOUR Degree, Career or Passion

Principles of Success

IMAGINE

Every Student or Every Company
Every Week

Thinking & Taking Action on Innovative Ideas

CREATE

COMMUNICATE

COMMERCIALIZATE
Meaningfully Unique Ideas = Explore Stimulus Drive out Fear

**Explore Stimulus**

- Uniqueness Mining
- Customer Mining
- Technology Mining

<table>
<thead>
<tr>
<th>Stimulus Available</th>
<th># of practical ideas invented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Stimulus</td>
<td>22</td>
</tr>
<tr>
<td>Medium Stimulus</td>
<td>38</td>
</tr>
<tr>
<td>High Stimulus</td>
<td>47</td>
</tr>
</tbody>
</table>

**Traditional Model**

- Individual Brainstorming
- Before: Brainstorming
- After: Suck Method: Uses Your Brain Like A LIBRARY

**COMPUTER**

Stimuli sets off a CHAIN Reaction!!!
Stimulus Mining

Fill your Brain

Tech Mining

Trend Mining

Market Mining

Insight Mining

Open Innovation

Innovation Supply Chain

Scenario

Anticipating the Future

SWOT

Borrowing Brilliance

Voice of the Customer

Observation

Tech Mining Made Easy

International Acceleration

It Works!

1 in 5

Example

D&E Machine - Ohio Job Shop

Responded to Need

Won Export Contract For Macallan & Brugal Ice Ball Machines

Kim & Kent Coomer

Invented Lobster Knuckle Crusher for Canadian Lobster Industry
**Superluminal - GT Fibre-Optic Glove**

Signed M.O.U. Took to Trade Show

**For those who say they can’t**

THINK ABOUT: A Business That Sells Flour, Water, Yeast & Salt...

**Stimulus Mining Is Fundamental**

Leverage Diversity

Diversity multiplies the impact of stimulus.

<table>
<thead>
<tr>
<th>Diversity of Thinking</th>
<th># of practical ideas invented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Diversity</td>
<td>19</td>
</tr>
<tr>
<td>Medium Diversity</td>
<td>30</td>
</tr>
<tr>
<td>High Diversity</td>
<td>46</td>
</tr>
</tbody>
</table>

**Clones Create Clones**

What is a rose?

“Beauty”

“Beauty”

“Beauty”

**Diversity Multiplies Stimuli**

What is a rose?

“Beauty”

“Vitamin C Tea”

“Rose Water”

“Tango”
Leveraging Diversity is not for WIMPS!

4 core thinking styles.

Miranda - Level Headed Lawyer
Charlotte - Conservative Rules Follower
Samantha - Strong Interpersonal Skills
Carrie - Big Picture Insights

Problem Solving
Visionary
Disciplined Process
Interpersonal

Miranda
Level Headed Lawyer
Carrie
Captures Big Picture Insights
Charlotte
Conservative Rules Follower
Samantha
Strong Interpersonal Skills

Diversification of Thinking

Whole Brain Stimulus Processing
Diversity Thinking Using Every Validated Innovation Method

Edward DeBono
Osborn Brainstorming
TRIZ Idea Engineering
Doug Hall
Focus Focus
Genrich Altshuller
Out of the Box INVENTING
CHECKLISTS
Check Lists
Matrix Mixing

George Prince
Synectics (Analogy)
Stimulating Subconscious

Andy VanGundy
Linear CREATIVITY

Doug Hall
Industrial Strength INVENTING

Alex Osborn
Classic CREATIVITY

Edward DeBono
Lateral Thinking (Po)

Casey DeBono
Linear CREATIVITY

Doug Hall
Industrial Strength INVENTING

Diversification of Thinking

Whole Brain Stimulus Processing
Diversity Thinking Using Every Validated Innovation Method
CREATE
COMMUNICATE
COMMERCIALIZIZE

COURSE OVERVIEW
Communications
1. Dramatic Difference
2. Overt Benefit difference
3. Real Reason to Believe difference

EXAMPLE
Overt Benefit Difference
You TRIPLE the effectiveness of your marketing efforts by OVERTLY communicating your customer benefit

<table>
<thead>
<tr>
<th>Probability of Success</th>
<th>Low Overt Benefit</th>
<th>Medium Overt Benefit</th>
<th>High Overt Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13%</td>
<td>26%</td>
<td>38%</td>
</tr>
</tbody>
</table>

Benefits are
WHY should I care?
I = the customer
“Our product will make you Smarter... Faster... Healthier...”

WHY should I care?

Different Kinds of Ideas for Growth

- NEW Customers & Markets
- ADAPT Promise & Product for Mutual Profits
- NEW - NEW START-UP
- CURRENT Customers
- IMPROVE Core Continuously
- LEAD WOW’s for Mutual Profits
- CURRENT Capabilities
- NEW Products & Services
The “New New” takes time

- 100 plus year survey of 31 Mega innovations
  - Color TV, Cars, VCR’s, Satellite TV
- Average of 6 Years to “take off”

The “New New” takes time

- 100 plus year survey of 31 Mega innovations
  - Color TV, Cars, VCR’s, Satellite TV
- Average of 6 Years to “take off”

Perpetual Profit Cycle

- NEW Customers & Markets
- ADAPT
- CURRENT Customers
- IMPROVE
- CURRENT Capabilities
- LEAD
- NEW Products & Services

Benefits are Relative to a Specific Customer

NEW Target Audience
Those who don’t compete

Target Audience = Those who compete in BBQ Competitions

Cookshack Cookers
Send You to The Winners Circle
1,000+ Wins

WARNING
This Electric Cooker is ILLEGAL in Competitions
It gives the user an UNFAIR ADVANTAGE as the even heating makes it too easy to Make Perfect BBQ Every Time
Real Reason to Believe PROOF

You DOUBLE your odds of Success when you Communicate a REAL REASON TO BELIEVE That your OVERT BENEFIT will be delivered.

<table>
<thead>
<tr>
<th>Real Reason To Believe</th>
<th>Probability of Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Real Reason to Believe</td>
<td>18%</td>
</tr>
<tr>
<td>Medium Real Reason to Believe</td>
<td>29%</td>
</tr>
<tr>
<td>High Real Reason to Believe</td>
<td>42%</td>
</tr>
</tbody>
</table>

93% of consumers do not have confidence in the advertising messages of major corporations. -Yankelovich

64% of consumers do not believe that the news media get their facts straight. -USA Today/CNN/Gallup

Overt Benefit PROMISE

Real Reason to Believe PROOF

gets customers excited

closes the sale

BY REDUCING UNCERTAINTY

It’s Simple

BE REAL

Tell the TRUTH & do what you promise.
CONFUSION is not a strategy for success

The Greater the CONFUSION

Clarity
Barrier compositions and articles produced with the compositions

A stable, aqueous barrier coating composition includes: (a) prolamine; (b) cold water insoluble polymer; (c) water; (d) water-soluble co-solvent; and (e) stabilizer. The composition, when applied to a substrate, produces an article having a high surface energy and resistance to oil and grease penetration. A method of producing the article involves applying the composition to a substrate...

Water Faucet

Specific

Our Industrial Water Faucet...

1. Provides 2 times greater flow
   19 vs. 6 gallons per minute at 25 psi

2. Installs in half the time
   Use a standard 1 3/8ths drill bit vs. Chiseling a 3 inch hole

The finest quality faucet available. Made from heavy cast brass patterns, copper tubing with stainless steel and aluminum accessories, these faucets are designed, built and tested to last for the life of your plumbing system.

They’re the BEST Available!

Research finds that you should

Write So That A 12 Year Old Can Painlessly Understand Your Idea

Shiny days have girds on their overcoats and in most cases, the events are over the Saugus and the east end of town.

Ask your wholesaler for details, or call Prier at 800-362-9055

Innovative design installs through single hole, eliminating the need to cut a 3” x 2” opening in the block, resulting in:

- Half the Time - Double the Flow
- Prier C-634 is 3rd Party Lab tested to flow 19 GPM at 25 psi, Double the Flow of any competitor. Operates equally effectively at full flow or a trickle.
- Triple Seal Stopper design ensures 100% water seal for the life of your faucet. The faucet will withstand over 250,000 cycles. That’s the same as turning the valve on and off ten times every day for the next 68 years.
- Heavy duty brass box that can be installed separately of the hydrant, let the mason install the box and let the plumber install the valve at a later date, no more problems with coordination.
- Heavy duty brass pipe on the insertion tube is more durable than the copper used by the competitors, virtually eliminating seize problems.
- ASSE 1052 Approved Double Check Backflow Preventor & Vacuum Breaker ensures foolproof protection of the potable water system.

C-634 Heavy Commercial Wall Hydrant

“The Contractors Choice”

Confusion

Barrier compositions and articles produced with the compositions

Clarity

Cancer Safe Fast Food Wraps

The first biodegradable fast food sandwich wrap that provides grease protection without the chemicals that have been found to cause cancer.
Said Another Way

A Message So Clear You Can Say it and be understood after 5 drinks!

Golden Rule of Clarity

Let a customer say NO because what you offer doesn’t apply to them.

But NEVER let a customer say NO because they don’t understand what you’re offering.

Meaningfully UNIQUE Ideas Require CHANGE

Change Causes CHAOS

CLARITY is especially necessary with TECHNICAL Offerings

Geek to Geek to Marketing & Accounting DROIDS

CREATE
COMMUNICATE
COMMERCIALIZE

Meaningfully Unique Ideas Spark FEAR
FEAR causes SHUT Down

<table>
<thead>
<tr>
<th>Fear Level</th>
<th># of practical ideas invented</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Fear</td>
<td>31</td>
</tr>
<tr>
<td>Medium Fear</td>
<td>34</td>
</tr>
<tr>
<td>Low Fear</td>
<td>42</td>
</tr>
</tbody>
</table>

“94% of failures are due to the **SYSTEM**
6% are due to the **worker**”

The Way to Make the Unknown Known
Is to Use the Deming Cycle/Scientific Method

1. Plan
2. Do
3. Study
4. Act

We Call This Development System

**Fail FAST Fail CHEAP**
*Dissolve Risks with Small Steps*

Old World

“Proper & Mature”
Business Innovation System

Expensive & Slow

New World

**Fail Fast - Fail Cheap**
Dissolve Risks with Small Steps

Key Principle
Simultaneous Engineering

**“Right Brain”**

Profit Formula

**Marketing Promise**

Product/Service Reality

Instead of a Silo Relay Race
Innovation is about “Whack-a-Mole”

**PROFIT**

**PROMISE**

**PRODUCT**
(or Service)

**Simultaneous Engineering Design Spiral**

Just DO IT! - Walk the COMPLETE SPIRAL Quickly By Yourself or With Your Team! NO SILO PASSING
- Identify Death Threats - Create Solutions - Plan Fail Fast Fail Cheap Tests and then DO, STUDY & ACT
- Keep repeating and refining. Success is a journey of continual improvement not a destination.

**Focus First On Project Death Threats**

Successful Entrepreneurs do this...
*They have a faster focus on what can “kill them” now*
- Finding Cash / Customers
- Validating Technology - Getting Regulatory Approval
- Finding Manufacturing Help

No Denial - 100% Take Responsibility

**P&G Does the Same Focus First On Project Death Threats**

“Teams like to address easy issues first. At P&G we have flipped the sequence. Teams must identify so-called ‘killer issues’ - problems that must be solved for the innovation to succeed.”

A.G. Lafley
Retired CEO

**“Fail FAST Fail CHEAP” Methods**

Dissolve Risks with Small Steps
Your Role

Management Coaching Role

- Be HELPFUL
  - Access Inside Resources
  - Encourage Open Innovation Resources
  - Skill & Industry Wisdom Training

- Be HONEST
  - Have an honest dialog not a grilling
  - Explain the “bigger picture” system

Richard Branson’s 5 Favorite Words

“Screw it, Let’s Do It!”

His Next 3 Favorite Words…

“Protect the Downside”

Key Words are

Fail FAST
Fail CHEAP

Top TEN Research Discoveries

Looking for Research & Publishing Partners

1. A System For Predicting Survival

- Correlation = .82

Merwyn is 7X Smarter than Humans

2. A System for Predicting Sales

The Most Important Question

How much will we sell?
Classic Approach

2,050 Inputs of what will happen Becomes Forecast of ONE #

$24,000

Innovation Uncertainty

Translate into Business Probability

$10 M

$2

50%

Forecast of ONE # based on what Cookshack estimates is the number of pizza places and

$234.6 M

150%

$80.5 M

$130,000

< $10k

Middle 40%

37%

10%

$54,000

$27.6 M

The product is patented and the first sale was completed over the years

$400,000

$10.2 M

$47.0 M

$890,000

$5 M

Current GOAL

$28.9 M

$12.5 M

$293.2 M

$76.3 M

100,000

$126.9 M

< $10k

$3.6 M

5%

$1

$195.4 M

$230,000

$3,100

#.##

#.##

#.##

#.##

#.##

#.##

Ultra High

High Support

Low Support

Ultra Low

A mobile wood-fired oven, incorporated as part of a self-contained cart that provides fast throughput, unique cooking

The cart's design is ideal for both public vending or private events in accommodating small or large venues, and can be efficiently staffed with

the operator(s). Based on this throughput, the average recognized gross revenue is dependent on the event size and pizzas produced.

The cart can cook 3-4 pizzas (up to 10" pizza) at one time as the overall throughput can be 30-50 pizzas per hour depending on the skill level of

the oven's unique design (40-inch diameter) has the ability to cook at high temperatures (800-1000 degrees) in maximizing heat retention and

Maintaining the highest food quality. Up to 4 pizzas (10" inch) can easily be accommodated in the oven at one time, cooking in

throughput while maintaining the highest food quality. Up to 4 pizzas (10" inch) can easily be accommodated in the oven at one time, cooking in

The Vengo/SOLO Mobile Wood-Fired Pizza Cart is the only patented, mobile wood-burning oven on the market. The cart is designed for ease-

of use, quality, and convenience.

Additional information, photos and testimonials can be found at the SOLO Pizza website at www.pizzacart.net.


FMRR = OM x I%WOW x WOWD +

OM x I%DS x DSD +

OM x I%PP x PPD

FMRR = Fair Market Royalty Rate
OM = Operating Margin (Earnings before Interest, Taxes, Depreciation)
NOTE: This is based on producer margin - not “retail” margin
I%WOW = INDUSTRY Weighting towards Wow
WOWD = WOW Discount (60% Purchase/40% New & Different)
I%DD = INDUSTRY Weighting towards Development Status
DSD = Development Status Discount Rate
I%PP = INDUSTRY Weighting towards Proprietary Protection
PPD = Proprietary Protection Discount Rate

Relative Value of Key Elements (Buyer Opinion)

Proprietary Protection

How protected from copying

34%

38%

Development Status

How ready to go to market is the idea.

28%

WOW Factor

Meaningful Uniqueness Vs. Competition

N= 500+

Industry Differences - Wow Factor

<table>
<thead>
<tr>
<th></th>
<th>Consumer</th>
<th>Industrial</th>
<th>Medical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wow Factor</td>
<td>45</td>
<td>37</td>
<td>34</td>
</tr>
</tbody>
</table>
4. Impact of Free Market on I.P. Sale Price
5. Variance in New Venture Estimates

Values shown as the standard deviation as a percentage of the mean, in order to show which variables have the most variance.

N=473

Not all cases had repeat numbers, because some concepts do not have a repeat business Data from the Merwyn Business Simulation Concept Database as of 4-3-2009

Note that data has large variances and is skewed due to extreme cases of large variances.

6. System for Predicting Word of Mouth Diffusion “q”

7. System for Predicting 5 year Sales “Take off” & “Reinvention” Time

<table>
<thead>
<tr>
<th>Marketing Support</th>
<th>“Take off” Time</th>
<th>Reinvention Time</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Marketing</td>
<td>1 Year</td>
<td>Year 2</td>
<td>$33</td>
<td>$48</td>
<td>$44</td>
<td>$31</td>
<td>$19</td>
</tr>
<tr>
<td>Medium Marketing</td>
<td>1 Year</td>
<td>Year 4</td>
<td>$12</td>
<td>$22</td>
<td>$20</td>
<td>$31</td>
<td>$29</td>
</tr>
<tr>
<td>Low Marketing</td>
<td>4 Years</td>
<td>Year 8</td>
<td>$2</td>
<td>$5</td>
<td>$4</td>
<td>$7</td>
<td>$10</td>
</tr>
</tbody>
</table>

8. Active Efforts To Ignite Innovation Driven Economic Development

www.MaineInnovationMarketplace.org

Idea
Use Regional Marketplace to Assemble Regional Needs & Inventions
IMAGINE The Potential

1,500 NEEDS

500 Innovation OFFERINGS

IDEA: Educate

Where Business & Government Leaders
Learn the TOOLS & Gain the CONFIDENCE to LEAD
the Creation, Communication & Commercialization
of MEANINGFULLY UNIQUE ideas.

Researched, Developed & Presented by

Leadership Institute

RESearched, Developed & Presented by

IDEA: Educate

leadership of the innovation system
is the job of the leader

Deming  Drucker  Franklin

9. Innovation Supply Chain

10. Leadership Transition Acceleration

GROWTH in Confidence in LEADING the
Creation, Communication, and Commercialization
of Meaningfully Unique Ideas
(Among Small/Mid Sized Business Owners/Leaders)

Very Confident

8

7

6

5

4

3

Nice All Confident

Before

After

www.InnovationEngineering.info

Passcode for ICSB = ER6547

Sold out 6 Events.

NEXT

Columbus Ohio: July 12-14
Wyoming: August 25-27
Maine: Sept. 27-29
“94% of failures are due to Management Because Only Management Can Change the System”

W. Edwards Deming

“The Bottle Neck is Always at the top of the Bottle”

Peter Drucker

“Fish Stink From the Head Down”

Ben Franklin

Highest & Best Use

COACHING the Company’s System for Continuous Innovation of More Profitable Products, Services and Business Models.

COACHING the Company’s Systems for Continuous Process Improvement of Manufacturing, Marketing & Selling.

Working IN not ON the Business Daily Problem Solving & Point Solutions

Advice from A True Change Agent - Bill Conway

• Former CEO of Nashua Corporation
• First to bring Deming to USA
• “If Japan Can Why Can’t We?” NBC White Paper
  “How did the quality revolution start?”

1. Absolute Conviction
• You don’t have anything more important to do

Lessons from Bill Conway - Age 84
2. Working on the Right Things
Tell and teach - if they don’t get it “then to Hell with them” -- move on to those who you can help...

3. Leaders Need to Get Close to the Work
Leadership has become separated from the challenges of the workers

4. Offer Amnesty & Admit Failures
I am the problem because I am responsible for the company’s systems and I’m working to change.

5. Target CEO’s & “Points of Light”
• You need to have a brutally honest conversation - seek eager learners

6. Don’t Waste Time on “Dippers” and “Oxygen Eaters”
- Keep a sense of urgency, work with willing.

7. People need more training & support than they think and you think
In Closing
I Bring You

Good News

I'm Optimistic

“As long as I have known the world
I have observed that Wrong is always
growing more Wrong, and that Right,
however opposed, comes Right at last.”

and on taking responsibility....

Innovation Success

1. **Overt** Benefit
2. **Real** R.T.B.
3. **Dramatic** Difference

1. Explore **Stimulus**
2. Leverage **Diversity**
3. Drive Out **Fear**