










Taking the Surprise out of Surprise: The Power of Experience and Pattern Recognition

Eric K. Clemons © August 2018








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Review Course Intent

-  This course as a different way of seeing the world
-  This course as a different way of thinking about strategy, especially information-based strategy
-  Focus on **Diagnosis** before **Intervention**
-  What really is the problem?
-  This really is what executives get paid to do!
-  This really is going to be the hardest thing to automate!
-  Problems do not come clearly labeled!
-  Solution is not possible before diagnosis
-  Project and personnel management system at a small Boston-based consulting firm







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Review Course Intent

-  This course as a different way of thinking about strategy, especially information-based strategy
-  Management Science is about seeing patterns to guide thinking
-  Management is principally about *thinking*
-  Like most of my faculty colleagues I have degrees in science and engineering
-  Why did I revise this course so completely?
 -  You can't solve anything until you learn to see and learn to recognize the pattern
 -  And that is what managers and executives really do




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Review the Introduction

-  Information changes everything!
-  This requires a different way of thinking about strategy
-  You came to business school to learn a different way of thinking, not just to learn algorithms and techniques
 -  What if your initial assumptions were wrong?
 -  What if they were right once; what would make them wrong now?
 -  Information in securities trading? Information in insurance?





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Review the Introduction

-  Information changes everything!
-  No, robots won't take away all of our jobs
-  But as more and more quant because automated, more and more of executive's roles will be judgmental

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Let's Start with the Fun Stuff

-  Why focus on **information** and not **information technology**?
-  Why focus on **information-based strategy** and not on **information technology**?
-  Is **digital transformation** the **first** major technological disruption?
-  Is **digital transformation** the **most important** technological disruption?

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Information, not Information Technology

- The Law of the Irrelevant Alternative — Roast Beef or Halibut?
- The Monty Hall Problem
 - You pick 1 door out of 3
 - Then he **must** open exactly one other (of course **losing!**) door
 - Should you stay with your choice or switch?
 - Does it **matter** if you switch?
 - Did he provide **any new information** about where the Genie **is** by opening a door where the Genie **isn't**?



- How many ways to win if you stand pat? One!
- How many ways to win if you switch?
- Let's find out!

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Information, not Information Technology










- How many ways to win if you stand pat?
One in three
- How many ways to win if you change your choice?
Two in three
- So your chances of winning are doubled if you switch your choice after he shows you a door
- Do you believe it?
- Can you explain it?
- How would you test it?



- And of course it does not matter which doors we call 1, 2, or 3





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Strategy vs. Shop Class

-  Rutherford on Science
 -  Physics vs. Stamp Collecting
 -  The nature of matter and the universe
 -  Vs. *“How many arms does a ape have?”*
-  Clemons on the role of senior executives
 -  Strategy vs. Shop Class
 -  Someone can manage your marketing research
 -  Someone can make Gorilla Glass for your smart phones
 -  But, ultimately, no one else can take responsibility for your strategy!


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Why Focus on Theories?

-  Good theories are like good maps
 -  They help you diagnose or recognize problems quickly
-  Bad theories are like bad maps
 -  They get you into endless difficulty

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Maps: New Worlds Need New Maps

 Why we all need mental maps to guide our problem solving — speed

 Cook's first map of Hawaiian Islands

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Maps: New Worlds Need New Maps

 Cook died in Hawaii!



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
Maps: New Worlds Need New Maps

-  Cook died in Hawaii!
-  **A better map might have helped**



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Maps: New Maps Cause Mistakes

-  The very compelling power of a wrong map:
 -  Imagine the mistakes that you could make with this one!
 -  How wrong is this?
 -  How detailed and how convincing is this?



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Maps: New Maps Cause Mistakes

- As information cost and availability change, need new maps for strategy
 - PCs, DOS, and the Fall of IBM
 - Sabre and the fall of Braniff
 - Orbitz and the fall of Rosenbluth Travel
 - Facebook and the fall of Mubarak



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Importance of Theories

- Gremlin-based theory of friction
 - Complete, extensible explanation
 - No predictive power
 - No falsifiability
- Boldness-based theory of success in online markets
 - Amazon succeeded because it was **bold**
 - Ford, J&J failed online because they were **not** bold
 - Tesco? Peapod and Fresh Direct? United Airlines?
 - Neither explanation nor predictive power

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Importance of Theories

- What is the problem, really?
- Problems do not come clearly labeled!
- Solution is not possible before diagnosis
- Theories are derived from patterns
- Theories and patterns enable rapid diagnosis
- Diagnosis tells you which game you are playing
 - You have two jacks, and the dealer wants your bet **now!**
 - You don't even know what game you are playing
- Turn strategic ambiguity into a known problem with quantifiable risk

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Introduction — Patterns

- Patterns form the basis of most practical education
 - We learn from experience
- Military academies study classic battles
- Medical students serve as interns
- Business schools developed the case method to study classic forms of business competition
- But most case-based instruction is too old to teach digital transformation

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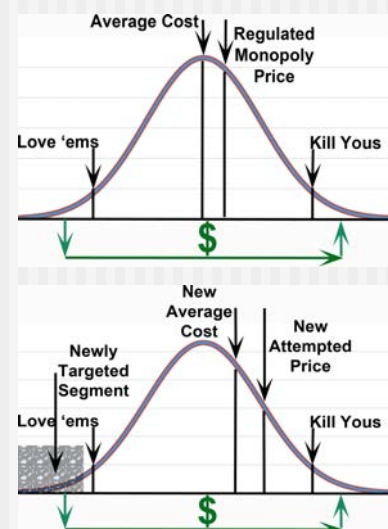
Importance of Patterns

- Converting **unknowable uncertainty** into **knowable risk**, allowing modeling and mitigation
- The role of previous experience and pattern recognition in solving problems
- Physicists** and symmetries and conservation laws
- Engineers** and previous construction
- Mathematicians** and previous solved problems
- Ken Dryden**, penalty shots, and “rewinding the video” till he finds the right shot
 - Conn Smythe **before** Calder Trophy
 - (Playoffs MVP **before** Rookie of the Year!)

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Importance of Patterns

- Identifying our first pattern, step by step
- Developing a theory and a pattern to identify the game
- First Charles Brown, Chairman of the old AT&T, describes the slow collapse of AT&T under attack by MCI
 - I’m not sure I understand it, but it looks like a **“death spiral”**
 - He struggles to improve his profitability, but it just makes things worse



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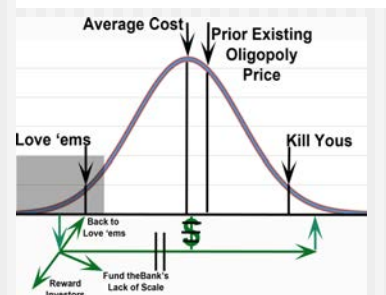
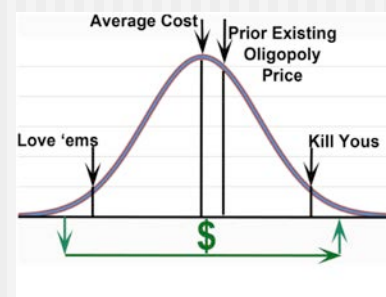
Importance of Patterns

- Identifying our first pattern, step by step
- Developing a theory and a pattern to identify the game
- Next, two SVPs from Hong Kong Shanghai Bank describe their problems
- They have **love 'ems** and **kill yous**, good accounts and bad
- They know who the good and bad accounts are, but they are not allowed to respond
- Their hands are tied by the need to keep Beijing happy
- So we see two parts of the puzzle:
 - Good accounts and bad
 - Restrictions on your ability to respond

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Importance of Patterns

- Identifying our first pattern, step by step
- Developing a theory and a pattern to identify the game
- Next, I get two mailings from Capital One
- They're making a targeted move on potential love 'ems
- How can they afford to offer lower prices? They have higher costs!
- **Well, um, how?**



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Theory of Newly Vulnerable Markets

- Identifying our first pattern, step by step
- Developing a theory and a pattern to identify the game
- So, do we have all the pieces of our theory now?
- Newly Easy to Enter***
 - Why ***newly***? Why was this true for Capital One?
- Attractive to attack?***
 - Needs a CPG or Customer Profitability Gradient
 - Why was this true for Capital One? Why was there a CPG?
- Difficult to defend?***
 - Why was this true for Capital One?
- We have a theory!









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Theory of Newly Vulnerable Markets

- So, is the theory of Newly Vulnerable Markets a “real theory?”
- Could we make predictions?
 - Insurance
 - Securities brokerage
 - Even stock exchanges
- Was it testable and falsifiable?
 - Capital One in other markets
 - Capital One in other industries
 - Same management team, different results






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Finding New Patterns: Role of History

-  Learning from history and experience
-  Business history offers patterns
-  Finding the patterns has been the basis of my teaching, my research, and my consulting for three decades
-  You're never too **young** to start — Gretzky
-  You're never too **old** to start — Churchill
-  **How** do you start?
 -  Pay attention!
 -  And don't die too soon!








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Using Patterns: Role of Reframing

-  Often the appropriate pattern is not immediately obvious when you confront a problem
-  Business history offers patterns, but sometimes you have to work to find the right one
-  Reframing and transformation
-  Terrible, Horrible, No Good, Very Bad Day in Lincoln Towers in New York
-  ***The power of transformation and patterns!***






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In Conclusion

-  Only a fool learns from experience
-  History gives us a chance to learn from the experience of others
-  Pattern recognition and previous experience
-  Patterns come from everywhere, are useful in a wide range of domains
-  Newly vulnerable markets, from Hong Kong to New York, from credit cards to insurance
-  Set of frequently occurring paradigms, which you will encounter throughout your careers
-  **Impose structure, convert unmanageable uncertainty to manageable risk**

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In Conclusion

-  Executives make strategy
-  Strategy deploys the firm's resources in an environment of **uncertainty and hostile intent**
-  Often strategy can be developed reframing a problem to exploit a familiar pattern
-  Even in the presence of uncertainty, **patterns** emerge and can be anticipated
-  Rapid recognition and preparation lead to **rapid response**

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