

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

در مسیر کارآفرینی دانش بنیان


جلسه ی دوم

رضا لطفی

استاد گروه مهندسی برق دانشگاه فردوسی مشهد

و رییس بنیاد نخبگان خراسان رضوی

تیر و مرداد ۱۴۰۰



إِنَّ اللَّهَ لَا يُغَيِّرُ مَا بِقَوْمٍ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ

سوره رعد

خدا حال هیچ قومی را دگرگون نخواهد کرد
تا زمانی که خودشان قوم حالشان را تغییر دهند

هدف از برگزاری این نشست ها

- هم می توانیم و هم باید «بیشتر» ارزش آفرین باشیم.
- مهمترین ضعف ما در این مسیر، عدم آشنایی کافی ما با «طرز فکر کارآفرین» و «مسیر کارآفرینی دانش بنیان» هست.

سرفصل مطالب این هشت جلسه ان شاء الله

1. طرز فکر و طرز فکر رشد
2. نوآفرینی و طرز فکر نوآفرینی
3. Design thinking
4. از ایده شروع کنیم یا از مساله؟ چه مسائلی ارزش حل کردن دارند؟
5. بوم کسب و کار و بوم نوآفرینی
6. خلاقیت و حل خلاقانه ی مسائل
7. ویژگی های یک تیم خوب / هنر جذب سرمایه
8. فرهنگ کار / آنچه در دانشگاه نمی آموزیم

سرفصل مطالب

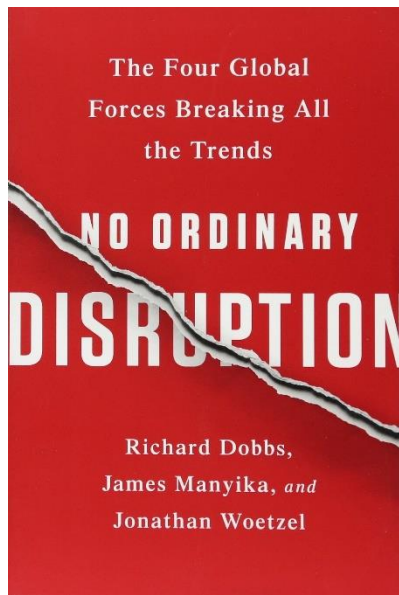
- ضرورت تغییر و نوآفرینی
- تعاریف نوآفرینی
- طرز فکر یک نوآفرین
- برای اصلاح طرز فکرمان چه کنیم؟
- جمع بندی

The Four Global
Forces Breaking All
the Trends

NO ORDINARY
DISRUPTION

Richard Dobbs,
James Manyika, *and*
Jonathan Woetzel

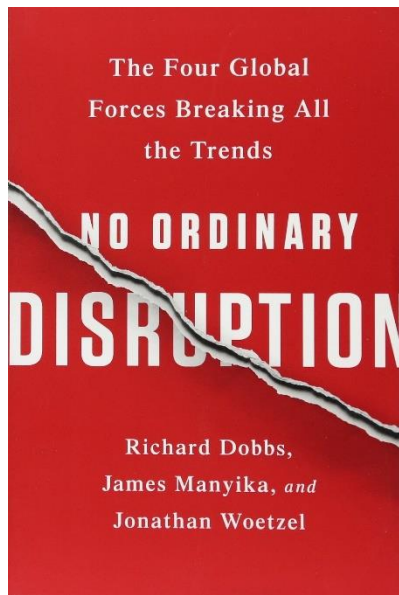
در مسیر کارآفرینی دانش بنیان



۱. جابجایی مرکز فعالیت‌های بزرگ اقتصادی

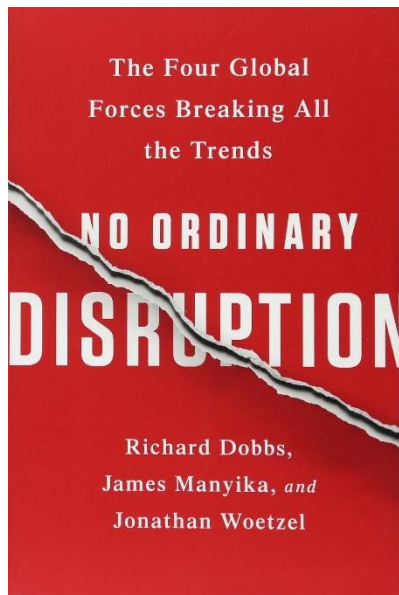
مثلاً: دفتر مرکزی کمپانی‌های بزرگ و بین‌المللی

- سال ۲۰۰۰: ۹۵ درصد در کشورهای توسعه یافته
- سال ۲۰۲۵: حدود ۵۰ درصد در بازارهای نوظهور و در کشورهای در حال توسعه



۲. سرعت تحولات فن آورانه مثلاً:

- ۵۰ سال طول کشید تا نیمی از مردم آمریکا دارای تلفن شدند.
- حدود ۳۸ سال طول کشید تا ۵۰ میلیون نفر از مردم آمریکا از رادیو استقبال کنند.
- اما Facebook در سال اول فعالیتش ۶ میلیون نفر را و در ۵ سال بعد ۶۰۰ میلیون نفر را جذب کرد.
- در سال ۲۰۱۴، اپلیکیشن های تلفنهای هوشمند حدود ۷۵ میلیارد بار دانلود شده بودند.

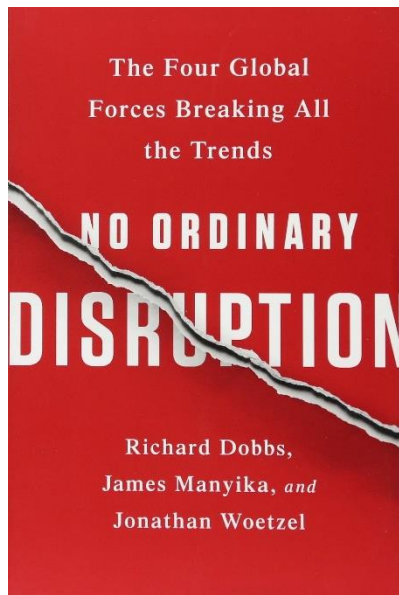


۳. پیری جمعیت جهان

مثلاً:

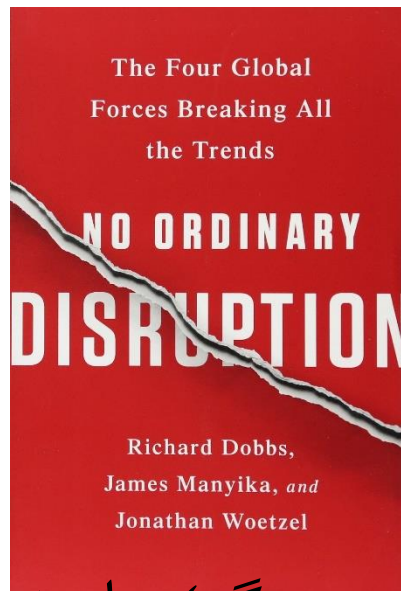
• برای اولین بار در تاریخ بشر، در اغلب مناطق دنیا جمعیت تقریباً ثابت است.

• در سال ۲۰۱۳، حدود ۶۰ درصد مردم دنیا در مناطقی زندگی میکردند که نرخ باروری پایین تر از نرخ جایگزینی بوده است.



۴. ارتباطات گسترده تر جهانی مثلاً:

- در سال ۲۰۰۹، یک میلیارد نفر از مردم دنیا از مرزها عبور کردند (پنج برابر سال ۱۹۸۰).
- بین سالهای ۱۹۸۰ تا ۲۰۰۷، Global Capital Flows رشدی ۲۵۰۰ درصدی را تجربه کردند.
- تجارت «مجازی» رشدی بی سابقه را تجربه می کند.



• وقوع همزمان این چهار واقعیت (در کنار روندهای متعدد دیگر)، باعث شده است که جهان نسبت به آنچه که ما در آن بزرگ شدیم، دستخوش تغییرات قابل توجهی شود.

در نتیجه

- درک شهودی ما از دنیا نیز نیازمند یک «بازنگری موشکافانه» است.
- اگر به دنیا تنها از آینه‌ی عقب خودرو نگاه کنیم و فقط بر اساس درک شهودی مبتنی بر تجربیاتمان تصمیم بگیریم، ممکن است دچار اشتباهات بسیار فاحشی بشویم.

• تغییر چیزی نیست که همراه با یک چک لیست بیاید. در دنیایی زندگی می کنیم که بادهای و دریا دائما در حال تغییر هستند و گنج دو بار در یک مکان پنهان نمی شود. در عوض، آنچه ما در اختیار داریم، یک قطب نما است.

• وظیفه ی ما ایجاد طرز فکر، فرهنگ و روابطی است تا انسانهای داخل سیستممان به گونه ای توانمند شوند که **بخواهند** و **بتوانند** که بادیانها را در هر شرایط آب و هوایی در جهت جدید و صحیح تنظیم کنند.



George Couros

از مقدمه ی ناشر در کتاب The Innovator's Mindset

نوآفرینی یا innovation چیست؟

Innovation

- “Successful exploitation of new ideas”
- “Commercial application of an idea, its introduction into a market”
- “Something new, which is presented in such a way that the value will be determined by the selectors”

Innovation

- Innovation is the creation of better or more effective products, processes, services, technologies, or ideas that are ***accepted by markets, governments, and society.***

Innovation

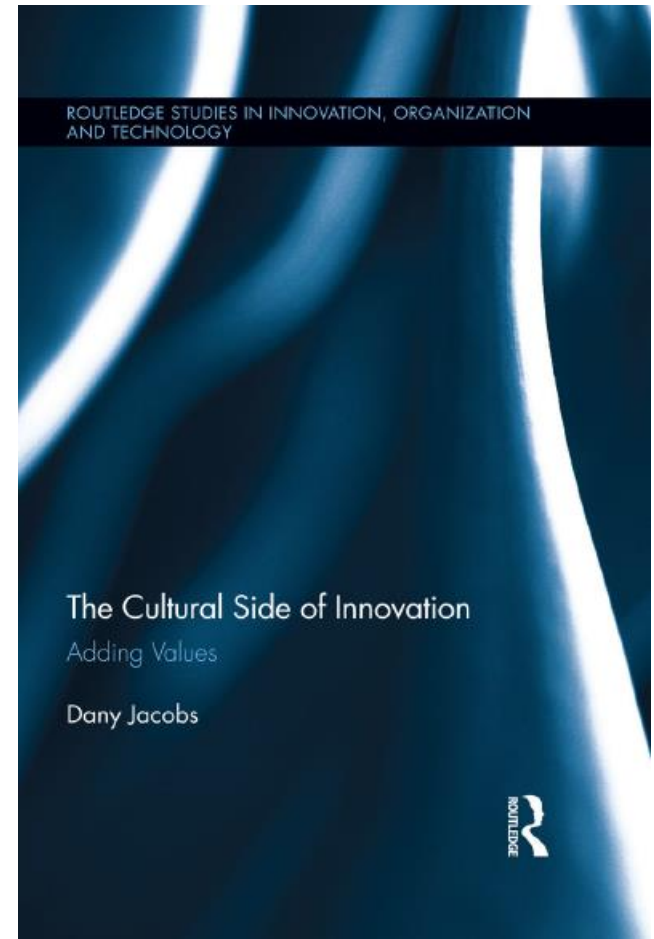
- Innovation can be an idea, a strategy, a process or a product, ***as long as it is solving a problem*** in a new and better way.

Innovation

- “Innovation distinguishes between a leader and a follower,” Steve Jobs.

Innovation

- Product Innovations
- Process innovations
- Transaction Innovations



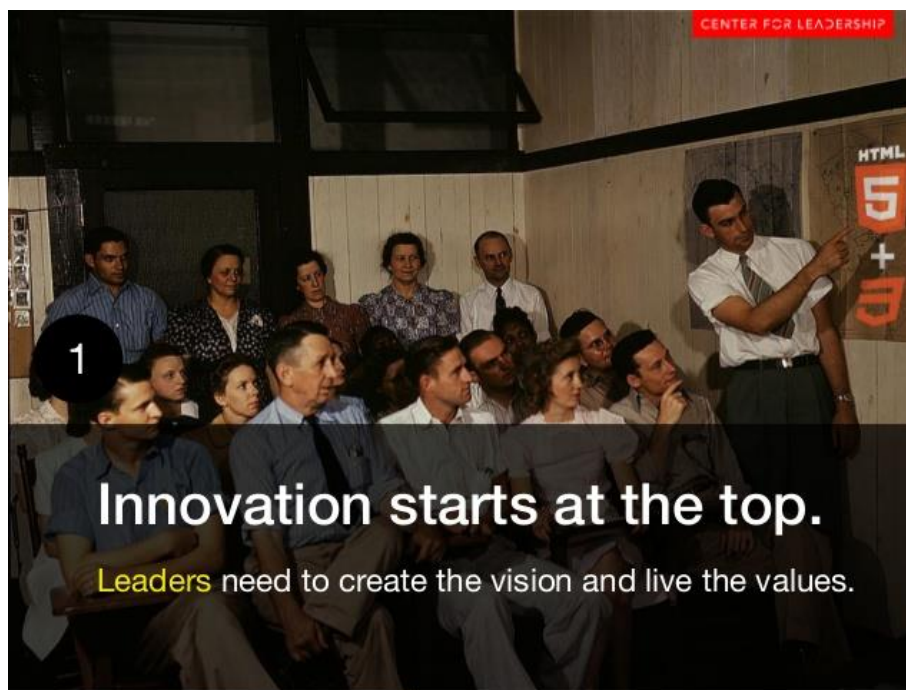
What is Innovation?

It's about looking at your customers
& seeing things from their viewpoint.
Not your own.

Innovation is a business affair.
It is about creating value by
challenging the culture and
"how we do things around here".



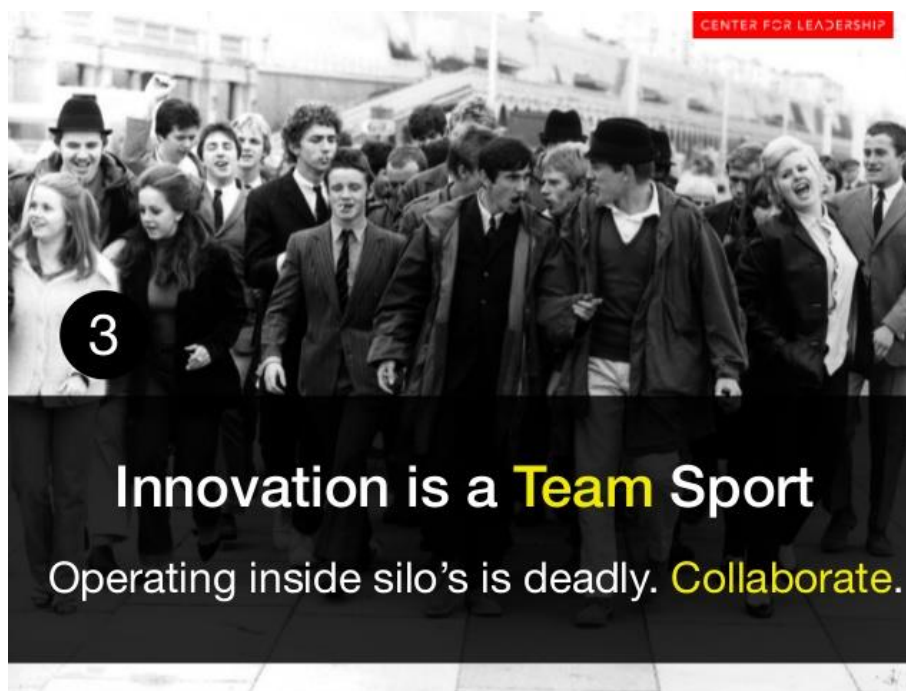
Innovation



Innovation



Innovation



Innovation




CENTER FOR LEADERSHIP

4

**Innovation is never easy.
But it is always possible.**

Step by step. Project by Project
Small ideas need room and time to grow
We need to see that we make progress

Innovation



CENTER FOR LEADERSHIP

5

**Innovation
relies on trust.**

- Listen to ideas
- Reward Bravery
- Embrace Risk
- Learn from Failure

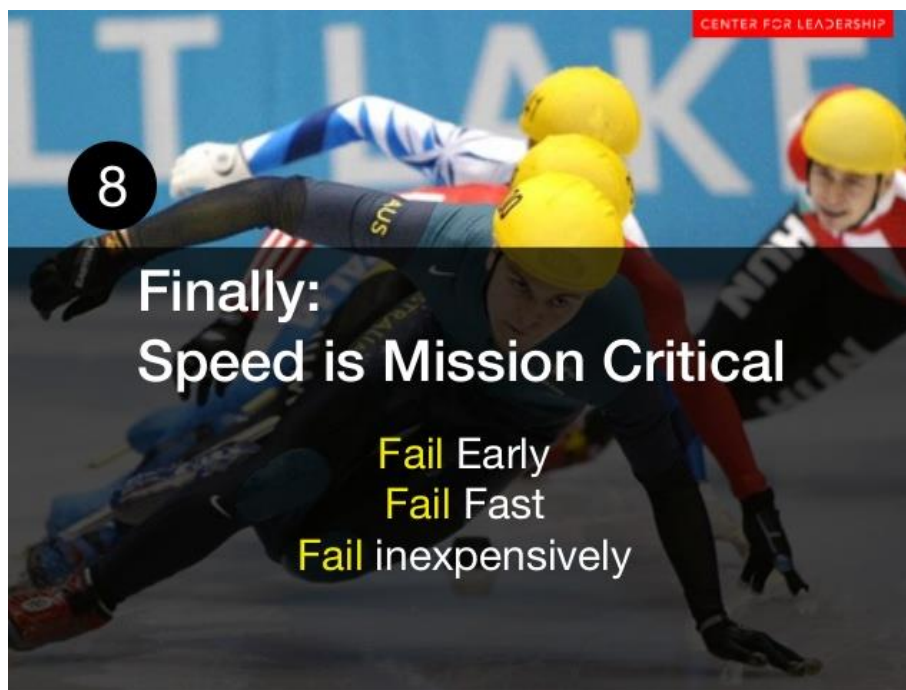
Innovation



Innovation



Innovation



Innovation Mindset

➤ زیاد به گوشمان می خورد که:
➤ چرا به فکر من نرسیده بود؟

یا
➤ من سالها قبل به این موضوع فکر کرده بودم؛ اما پول لازم برای
اجرای اون رو نداشتم...

➤ برای اینکه «نوآفرینی» تحقق پیدا کند، نیازمند تغییر قابل ملاحظه ای
در «طرز فکر»مان هستیم.

Innovation Mindset

- Definition: specific state of mind which orientates human towards innovation activities.
- People with innovation mindsets believe that:
 - innovation is needed and beneficial.
 - they can make a difference through innovation.
 - they have or can have abilities to innovate.
- ***Innovators share growth mindset.***

Innovation Mindset

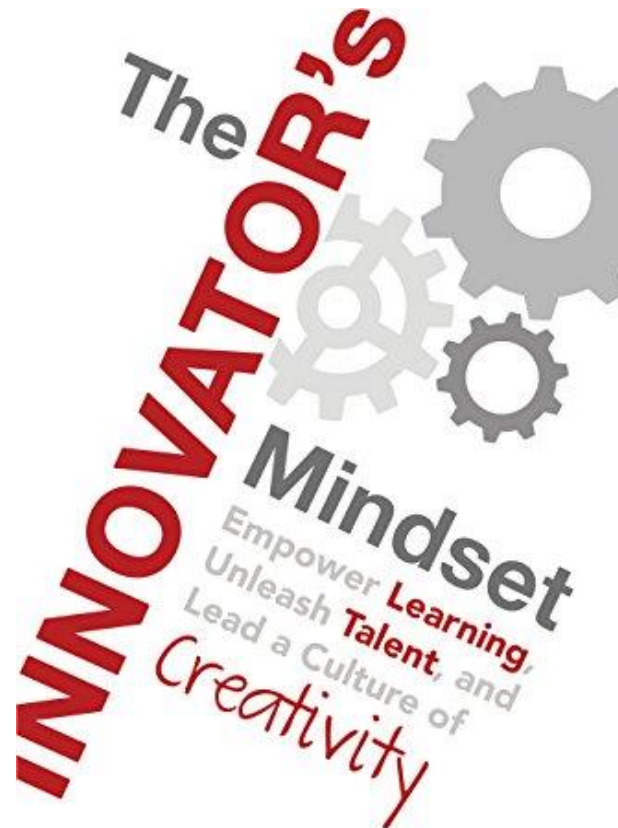
- Individuals with innovation mindsets:
 - are driven by willingness to create and/or challenging the status quo,
 - want to make a difference,
 - share resilience in achieving goals,
 - love change,
 - are open for failure and learning

Innovation Mindset



- Four essential principles of innovation mindset (Richard Wiseman):
1. Creating luck by noticing and acting on opportunities
 2. Expecting that one can create luck through perseverance
 3. Making decisions which are informed by the well-honed intuition
 4. Resisting the negative by finding and even creating the bright side of every situation

Innovation Mindset



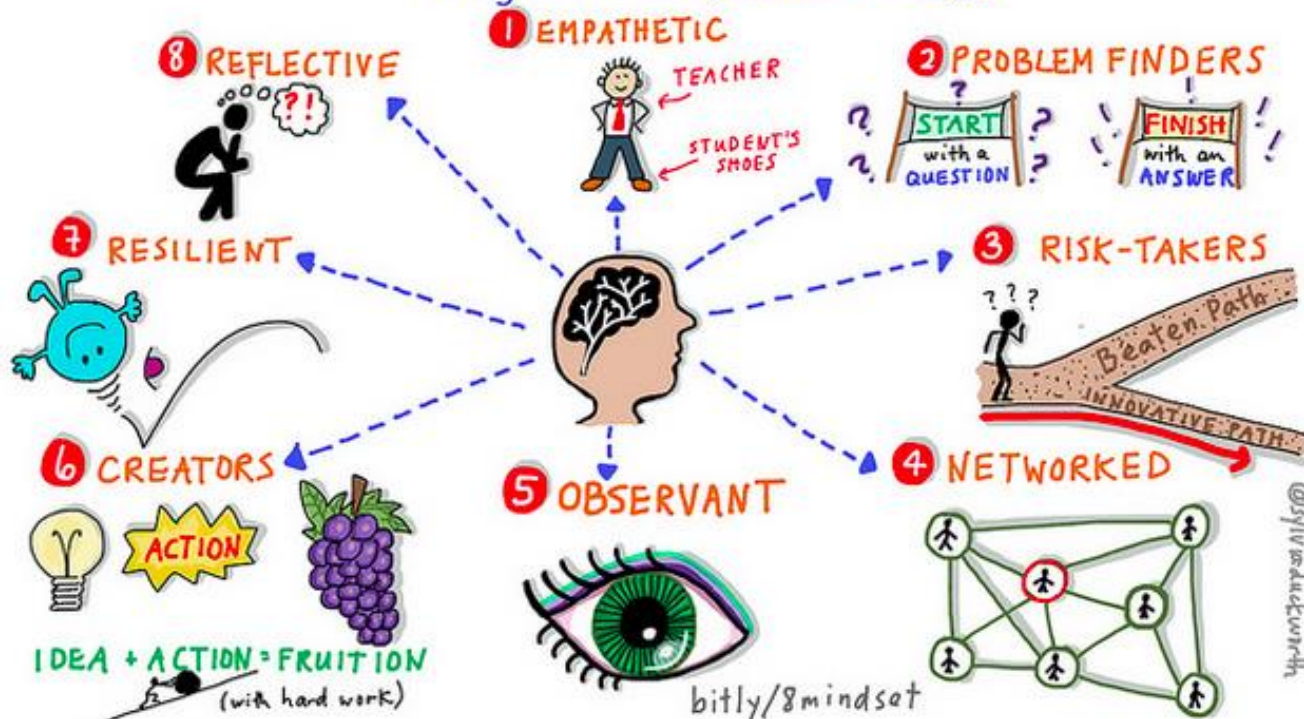
George Couros

Innovation Mindset

8 Characteristics of the Innovator's Mindset

By George Couros @gcouros

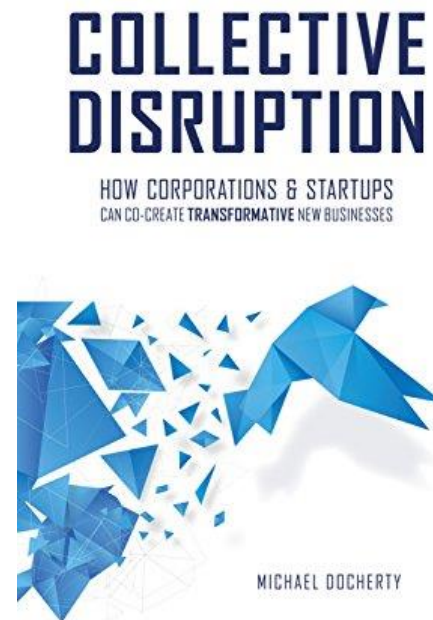
The innovator's mindset: The belief that abilities, intelligence and talents are DEVELOPED, leading to the creation of BETTER ideas. 💡



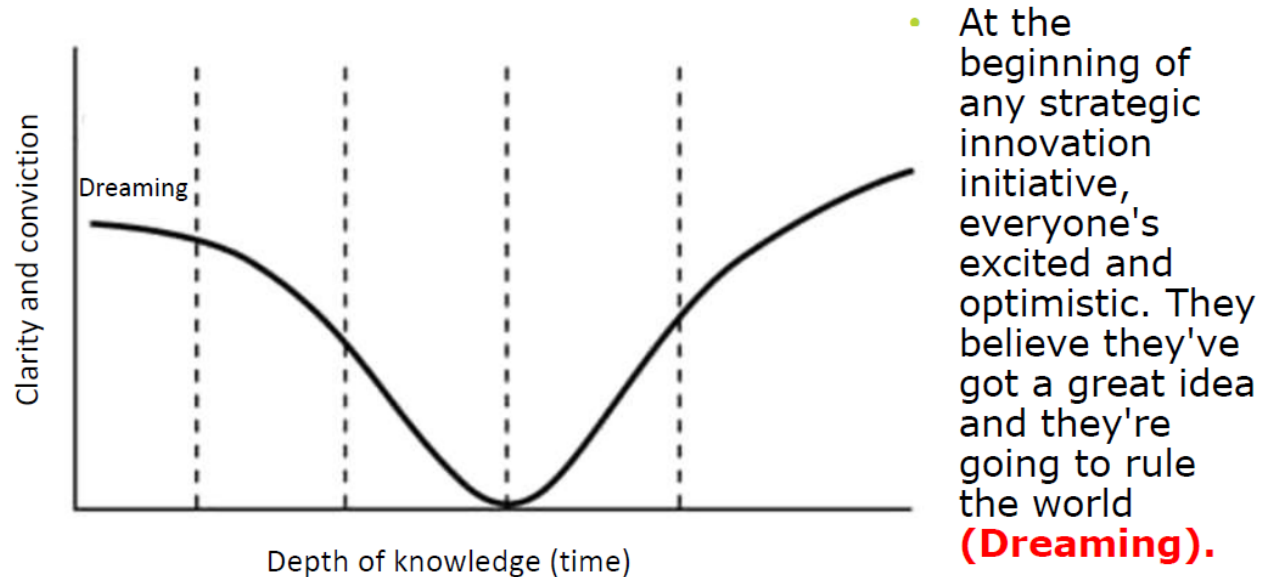
Situation	Fixed Mindset	Growth Mindset	Innovator's Mindset
Challenges	Challenges are avoided to maintain the appearance of intelligence.	Challenges are embraced stemming from a desire to learn.	Challenges are sought out and seen as an opportunity for growth and development.
Obstacles	Giving up in the face of obstacles and setbacks is a common response.	Showing perseverance in the face of obstacles and setbacks is a common response.	When obstacles arise, the thinking is shifted to look for opportunities and possibilities.
Effort	Having to try or put in effort is viewed as a negative. If you have to try, you're not very smart or talented.	Doing hard work and putting in effort paves the path to achievement and success.	Hard work and effort are continuous, and we look to make time to create new solutions and ideas for growth.

Situation	Fixed Mindset	Growth Mindset	Innovator's Mindset
Criticism	Negative feedback, regardless of how constructive, is ignored.	Criticism provides important feedback that can aid in learning.	Criticism provides important feedback which creates the opportunity to implement new and better ideas for learning from others.
Success of Others	Other people's success is viewed as a threat and evokes feelings of insecurity or vulnerability.	Other people's success can be a source of inspiration and education.	Other people's success is learned from, and something we modify and apply in our own context to create our own success.

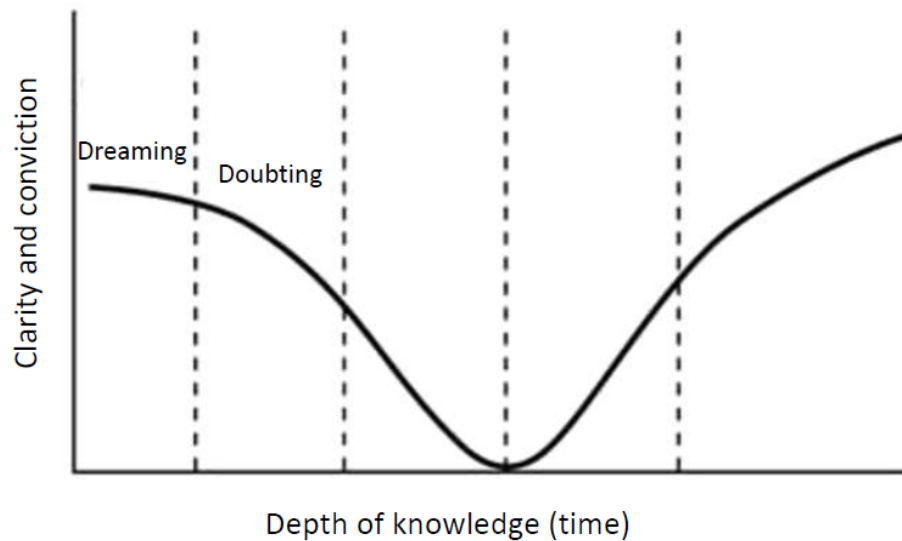
Docherty's Innovation Mindset Model



Docherty's Innovation Mindset Model

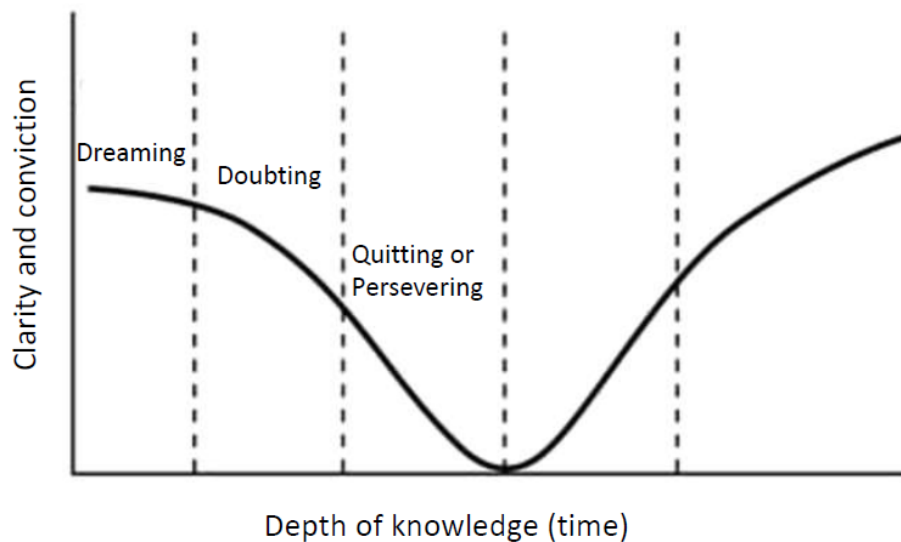


Docherty's Innovation Mindset Model



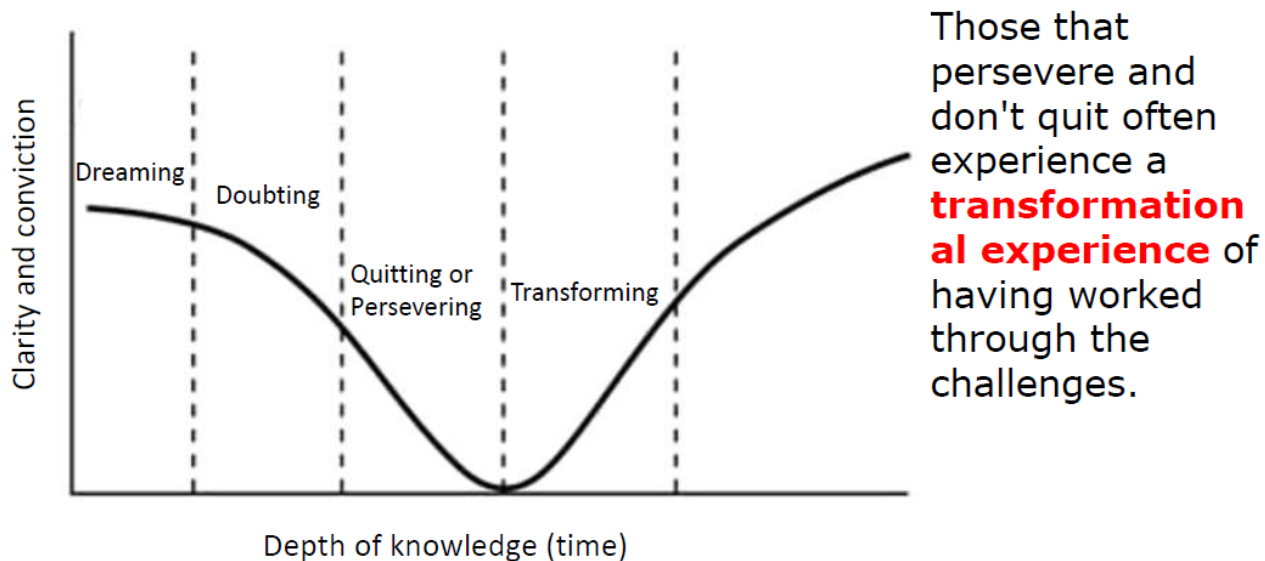
Then \$%^& happens as it always does and we face failure (**Doubting**). It's never as easy as we thought it would be. Failure is a natural and useful element of innovation... it's how we learn and adapt our solutions. Or determine it's time to try another challenge.

Docherty's Innovation Mindset Model

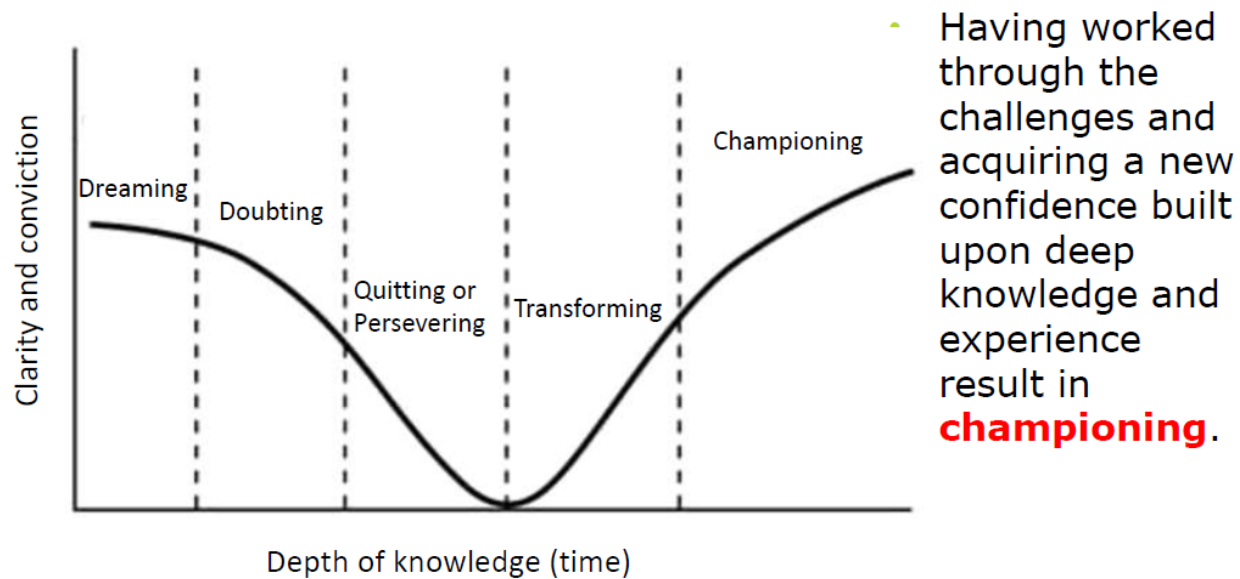


- As we develop innovative concepts into real-world practical solutions, we're learning more, the problem isn't as simple and we begin to truly understand the complexity of the challenge. It's this 3rd stage (**Quitting or Persevering**) that truly separates innovators from dreamers.

Docherty's Innovation Mindset Model



Docherty's Innovation Mindset Model



Academic and Behavioral Effort Rubric

Coalition School for Social Change

Name: _____

Class: _____

Measure of Effort	4	3	2	1
Asking Questions	You asked specific questions to make connections and push your thinking and asked for help as needed.	You asked questions to make connections and clarify your thinking and asked for help.	You asked few questions to make connections and sometimes asked for help.	You did not ask questions to make connections or for help.
Perseverance	You kept trying when the task was hard. You had stamina to work until the task was completed.	You kept trying when the task was hard. You asked for support, you asked questions to help you focus and move forward.	You almost stopped when the task became difficult. You needed to be prompted to use supports. When prompted you may have asked follow-up questions.	You did not stick with the task when you had difficulty and you did not ask for support.
Seeking and Applying Feedback	You frequently sought feedback during the task and applied it confidently, thoroughly, and thoughtfully. You asked for help up until you completed the task.	You acknowledged feedback during the task and applied most of it. You attempted to use feedback to make corrections. You asked follow-up questions when you got stuck.	You accepted feedback but were unable to apply it or only applied a few of the easier things. You did not ask for help and assumed you were done when you applied the feedback.	You were unable to accept feedback and didn't apply it.
Going Beyond the Minimum Requirements	You challenged yourself by extending far beyond the minimum requirements of the task.	You completed the task fully, going beyond the minimum requirements.	You completed the minimum requirements of the task.	You completed less than the minimum requirements of the task.

پنج توصیه

روی طرز فکر خودمان کار کنیم

*From the University of Virginia's Darden School of Business,
"Design Thinking in Business Innovation" Program*

از آنجا که مغز انسان می تواند بر اساس افکار تازه و رفتارهای جدید، مدارهایش را توسعه دهد و خودش را دوباره سیم بندی کند، اینگونه آغاز کنیم:

روی طرز فکر خودمان کار کنیم

۱. «هر روز» زمانی را به نوشتن افکارمان اختصاص دهیم؛
اینکه به چه می اندیشیم و چرا

Daily Reflections

*From the University of Virginia's Darden School of Business,
Design Thinking in Business Innovation Program*

روی طرز فکر خودمان کار کنیم

۲. هر گاه خودمان را در طرز فکر بسته و یا ثابت یافتیم، علتش را جویا شویم:

آیا با تغییر راحت نیستیم

و یا

از اینکه اشتباه کنیم میترسیم؟

*From the University of Virginia's Darden School of Business,
Design Thinking in Business Innovation Program*

روی طرز فکر خودمان کار کنیم

۳. این را اولویت خود قرار دهیم که هر روز مطلب جدیدی را یاد بگیریم یا چیزی جدید را امتحان کنیم.

*From the University of Virginia's Darden School of Business,
Design Thinking in Business Innovation Program*

روی طرز فکر خودمان کار کنیم

۴. بیش از آنکه پاسخ می دهیم سوال بپرسیم.

*From the University of Virginia's Darden School of Business,
Design Thinking in Business Innovation Program*

روی طرز فکر خودمان کار کنیم

۵. حداقل هفته ای یک بار کاری انجام دهیم که ما را فراتر از قابلیت‌های فعلی مان رشد دهد.

*From the University of Virginia's Darden School of Business,
Design Thinking in Business Innovation Program*

امام موسی کاظم (ع) می‌فرمایند:

مَنْ اسْتَوَى يَوْمَاهُ فَهُوَ مَغْبُونٌ وَ مَنْ كَانَ آخِرُ يَوْمِيهِ
شَرَّهُمَا فَهُوَ مَلْعُونٌ وَ مَنْ لَمْ يَعْرِفِ الزِّيَادَةَ فِي نَفْسِهِ فَهُوَ فِي نُقْصَانٍ
وَ مَنْ كَانَ إِلَى النُّقْصَانِ فَالْمَوْتُ خَيْرٌ لَهُ مِنَ الْحَيَاةِ.

کسی که دو روزش با هم برابر باشد، زیان کار است. کسی که امروزش بدتر از دیروزش باشد
از رحمت خدا به دور است. کسی که رشد و بالندگی در خود نبیند، به سوی کاستی‌های رود
و آن که در راه کاستی و نقصان گام برمی‌دارد، مرکبش برایش بهتر از زندگی است.

بحار الانوار (ط مؤسسه الوفاء)، جلد ۷۸، علامه محمد باقر مجلسی
صفحه ۳۲۷

یک مثال

Body-weight support system for CP children



Body-weight support system for CP children



Body-weight support system for CP children



Body-weight support system for CP children



Exercising in a physiotherapy clinic using the body-weight support system

Body-weight support system for CP children



Body-weight support system for CP children



After 18 sessions of exercising in a physiotherapy clinic using the body-weight support system, the child can walk


بیاندیشیم

- چقدر در تقویت ویژگی های هشت گانه ی یک نوآفرین در خودمان کوشا هستیم؟
- چه مسائلی در اطراف و در زندگی خودمان می بینیم که نیازمند راه حل های نوآفرینانه هستند؟

بیاندیشیم

- تغییر چیزی نیست که همراه با یک چک لیست بیاید. در دنیایی زندگی می کنیم که بادهای و دریا دائما در حال تغییر هستند و گنج دو بار در یک مکان پنهان نمی شود. در عوض، آنچه ما در اختیار داریم، یک قطب نما است.
- وظیفه ی ما ایجاد طرز فکر، فرهنگ و روابطی است تا انسانهای داخل سیستممان به گونه ای توانمند شوند که **بخواهند** و **بتوانند** که بادبانها را در هر شرایط آب و هوایی در جهت جدید و صحیح تنظیم کنند.

از مقدمه ی ناشر در کتاب **The Innovator's Mindset**

The background of the page is a soft-focus photograph of a flowering branch with pink and white blossoms. Several butterflies are scattered across the scene: a blue butterfly in the upper right, a purple and black butterfly perched on a flower, and two other butterflies in flight in the upper left. The overall color palette is light and natural, with greens, pinks, and blues.

إِنَّ اللَّهَ لَا يُغَيِّرُ مَا بِقَوْمٍ حَتَّىٰ يُغَيِّرُوا مَا بِأَنْفُسِهِمْ

سوره رعد

خدا حال هیچ قومی را دگرگون نخواهد کرد
تا زمانی که خود آن قوم حالشان را تغییر دهند

خیلی از توجه شما سپاسگزارم و التماس دعا دارم.

رضا لطفی

rlofti@ieee.org



در مسیر کارآفرینی دانش بنیان

Backup Slides

How to Get a Job at Google

The New York Times

Opinion

How to Get a Job at Google



By [Thomas L. Friedman](#)

Feb. 22, 2014



How to Get a Job at Google

- Google attracts so much talent it can afford to look beyond traditional metrics, like G.P.A.
- For most young people, though, going to college and doing well is still the best way to master the tools needed for many careers...
- Beware. Your degree is not a proxy for your ability to do any job.
- **The world only cares about— and pays off on— what you can do with what you know and it doesn't care how you learned it.**

How to Get a Job at Google

• *Five hiring attributes that the company desires in its employees:*

1. Cognitive Ability: *“The ability to process on the fly.”*

2. Leadership: *Emergent leadership vs. traditional leadership. As a leader, do you recognize the times when you need to relinquish power?*

3. Humility: *The ability to say, “I don’t know,” and be able to step back and embrace better ideas.*

4. Ownership: *Understanding that an organizational problem is also your problem, and working together to solve it is crucial.*

5. Expertise: *This is listed as the least important attribute, because thinking you already know the answer can keep you from exploring new options.*

How to Get a Job at Google

- Friedman closes with a note to which schools should pay close attention:
- “In an age when innovation is increasingly a group endeavor, it [Google] also cares about a lot of soft skills—leadership, humility, collaboration, adaptability, and loving to learn and re-learn. This will be true no matter where you go to work.”

How to Get a Job at Google



BLOG POST



How to Get a Job at Google: Rsp to NYTimes Tom Friedman #FutureEd

By [Cathy Davidson](#)
on April 20, 2014

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190

Usually when my blogs are a "response to the *New York Times*," it is to disagree, push back, emend, quibble, or rant. Today, I am reading Thomas Friedman's "[How To Get a Job at Google, Part II](#)," with enormous pleasure and satisfaction and a sense of confirmation. Friedman's interview with Laszlo Bock, the man in charge of all hiring at Google, confirms what I have learned from many workshops and interviews with both job recruiters and CEOs of Fortune 100 companies. They often share our #FutureEd vision for higher education: ***the single most important thing anyone can do in college is think deeply,***



Cathy Davidson

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Topic

Teaching & Learning Practices

How to Get a Job at Google

- ***The single most important thing anyone can do in college is think deeply, profoundly, and strategically about***
 - ***why you are there...***
 - ***what you want to take away from the most diverse, intense, rich learning opportunities you will ever be given the time to embrace***

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