



TECHNOLOGY INNOVATION IN OIL & GAS

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BRIAN RICHARDS

“Vision without execution is just hallucination” ~Thomas Edison



- Grew up in Mississippi, USA
- BS Electrical Engineering from The University of Notre Dame
- Joined Accenture in 2006 in Chicago
- Became Innovation Lead for Energy practice in 2012
- Moved to Houston in 2015 from Chicago
- Founder of Accenture’s Houston Innovation Hub in 2017
- Author of Innovation Strategy for Houston in 2017
- 2018 “40 Under 40” in Houston and Top 100 Young Executive Influencers in the US
- Entire Career focused on driving digital innovation
- Currently Innovation Lead for various elements of Accenture’s business
- 11 Patents in crowdsourced innovation, robotics, AR, etc.

#HTXHub

WHY INNOVATION?



TECHNOLOGY IS COMING EVEN FASTER...

Time to reach 25% of world population:

Electricity: 46 years

TV: 31 years

Internet: 13 years

Social Media: 5 years

Pokémon Go: 19 days



**DISTRIBUTED
LEDGER
TECHNOLOGY
(DLT)**



**ARTIFICIAL
INTELLIGENCE
(AI)**



**EXTENDED
REALITY
(XR)**

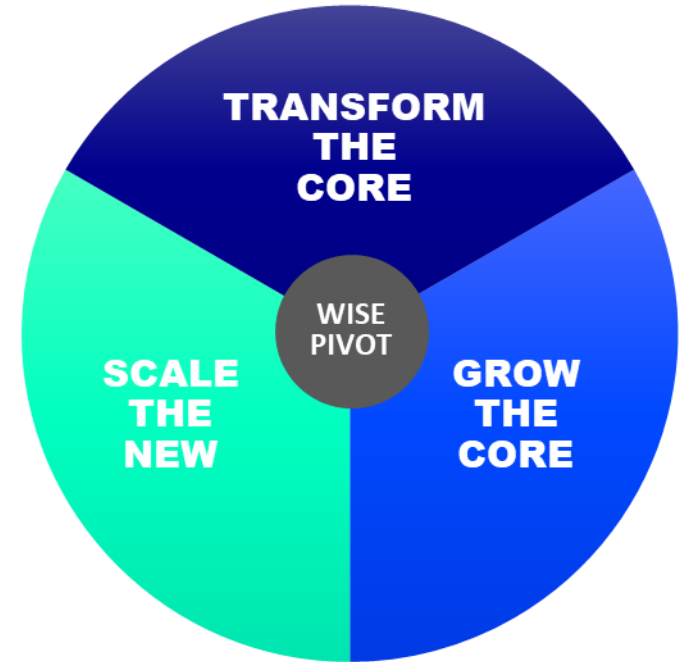
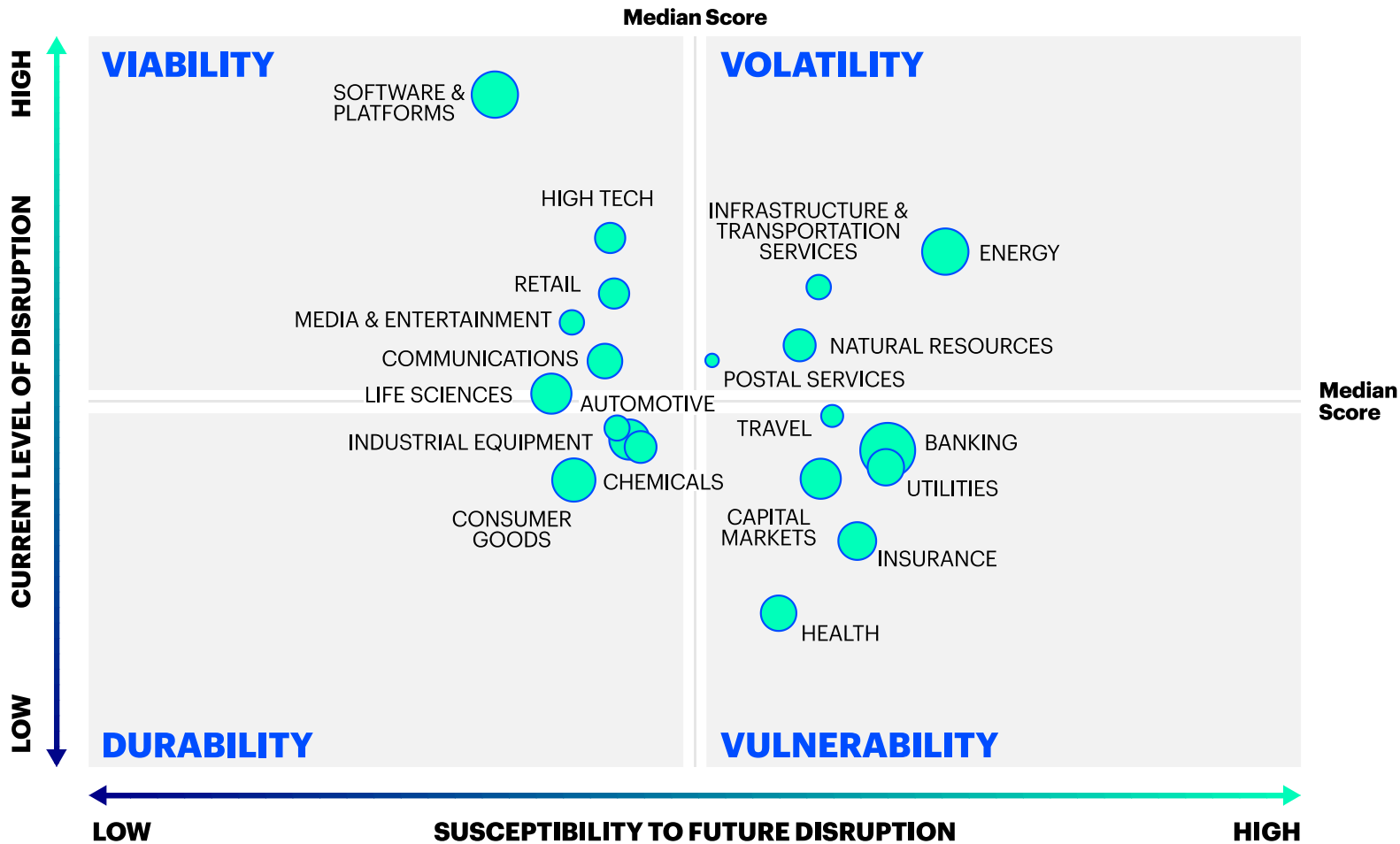



**QUANTUM
COMPUTING**

**TODAY IS THE SLOWEST DAY OF THE
REST OF YOUR LIFE!**

CHANGE IS DRIVING INDUSTRY VOLATILITY

Ability to change rapidly has not been a core competency of industry..



 Average Enterprise Value of companies in the study sample

WHAT IS THE BIGGEST BARRIER TO CHANGE AND TRANSFORMATION?

“**CULTURE** EATS
INNOVATION
FOR BREAKFAST”



Mandarin Goby

INNOVATION IS DRIVEN BY MANY INGREDIENTS THAT COLLECTIVELY FORM AN INNOVATION CULTURE

If any variable goes to zero, the whole equation goes to zero...

Im

Innovation
Impact

=

T

Talent

x

C

Collisions
Per Talent

x

R

Resources Per
Collision

x

I

Impact Per
Resource

Skillset

the right, technical skills

Mindset

interest in innovation

Diversity

exposed to different world views

Customers

critical insights

Space

in the right environment

Partners

connected to outside ideas

Capital

access to funding

Sponsorship

non-financial support

Infrastructure

tools needed to test ideas

Execution

project delivery

Scale

final solution roll-out

Communication

marketing innovation success

THE 5-4-3-2-1 INNOVATION MODEL



5 Skillsets

4 Phases

3 Methods

2 Outcomes

1 Team

HOUSTON INNOVATION HUB

LAUNCHED IN FEB 2017



1. Focused on driving digital innovation at Industrial companies
2. First of 10 new Accenture Innovation Hubs in NA
3. Grown from 4 people to 100+ today
4. Conducted over 400 visits since launch
5. Completed over 40 different innovation projects
6. Intense community engagement and support

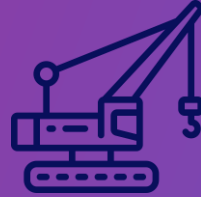
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EXAMPLE PROJECTS

HIGHLIGHTS FROM THE PAST TWO YEARS



**Video Analytics for
Worker Tracking**



**Ultrawideband for
Crane Safety**



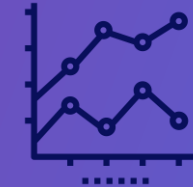
**Machine Learning for
Chemical Analytics**



**Data & Design for
Production Supervisors**



**Intelligent Applications for
Remote Operating Centers**



**Machine Learning for
Frac Optimization**



**Computer Vision for
Aerial Monitoring**



**Intelligent Alerting for
Blowout Preventers**



**New Alliances for
Business Reimagination**

SOME INSIGHTS FROM THE LAST 2 YEARS

1. Business challenges are generally all the same – so are the ideas
2. Everyone in the industry feels they are behind
3. New and different partners to leverage 100's of billions being invested by others
4. Pace is fast and accelerating – people, roadmaps and paper aren't as fast
5. Often forget that older technology is getting exponentially cheaper
6. Requires different skillsets (which are scarce) and mindsets (even scarcer)
7. Driving true re-imagination and scale continues to plague – as do the methods
8. Organizational home is everywhere and nowhere – strategic innovative technology
9. Culture continues to be listed as the biggest barrier – it's all about people
10. Culture, data, and pace of technology integration is the real differentiation