

Great by Choice

Research Results:

The Keys to Building a Dynamic and Sustainable Firm



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A 4-Year Study of the Industry

PHASE #1 – Analyzed 40 years of ENR 500 data for A/E industry trends & changes to learn...

WHAT'S REALLY GOING ON?

PHASE #2 – Dig deeper into Phase #1 findings to learn...

WHY?

PHASE #3 - Focused on top performing firms and what they did going into, during & out of the recession to learn...

WHO WEATHERED DIFFICULT TIMES THE BEST & HOW?

Phase 1 was Data-Driven Research

Who

- Research done by the University of Colorado
- Four independent sponsors
- Goal – Maintain independence of the findings



What

- Data came from public information:
- *Engineering News-Record*
 - US Economic Census Data
 - US Bureau of Labor



Phase #1 Fun Research Facts

Used 40 years
of overall data
from 1977 to
2017

...with sector
diversification data
in the last 31 years

Encompassed
multiple economic
cycles

ENR
Engineering News-Record

THE TOP
500
DESIGN FIRMS

Entered 450,000+
data points into
database

108,000
engineering
firms in
census data

Over 1,750 firms
of ENR data
included in the
study

That Was Then...This Is Now

ENR Top 10

1986

- Morrison-Knudsen
- CRS Sirrine
- Sargent & Lundy
- Gibbs & Hill
- CH2M Hill
- Gilbert/ Commonwealth
- Holmes & Narver
- Black & Veatch
- Sverdrup
- Louis Berger

2017

- AECOM
- Jacobs
- CH2M Hill
- Fluor
- Tetra Tech
- CB&I
- AMEC
- HDR
- KBR
- Stantec

Firms Still On The ENR 500 List & Their Current Rankings

ENR Top 10

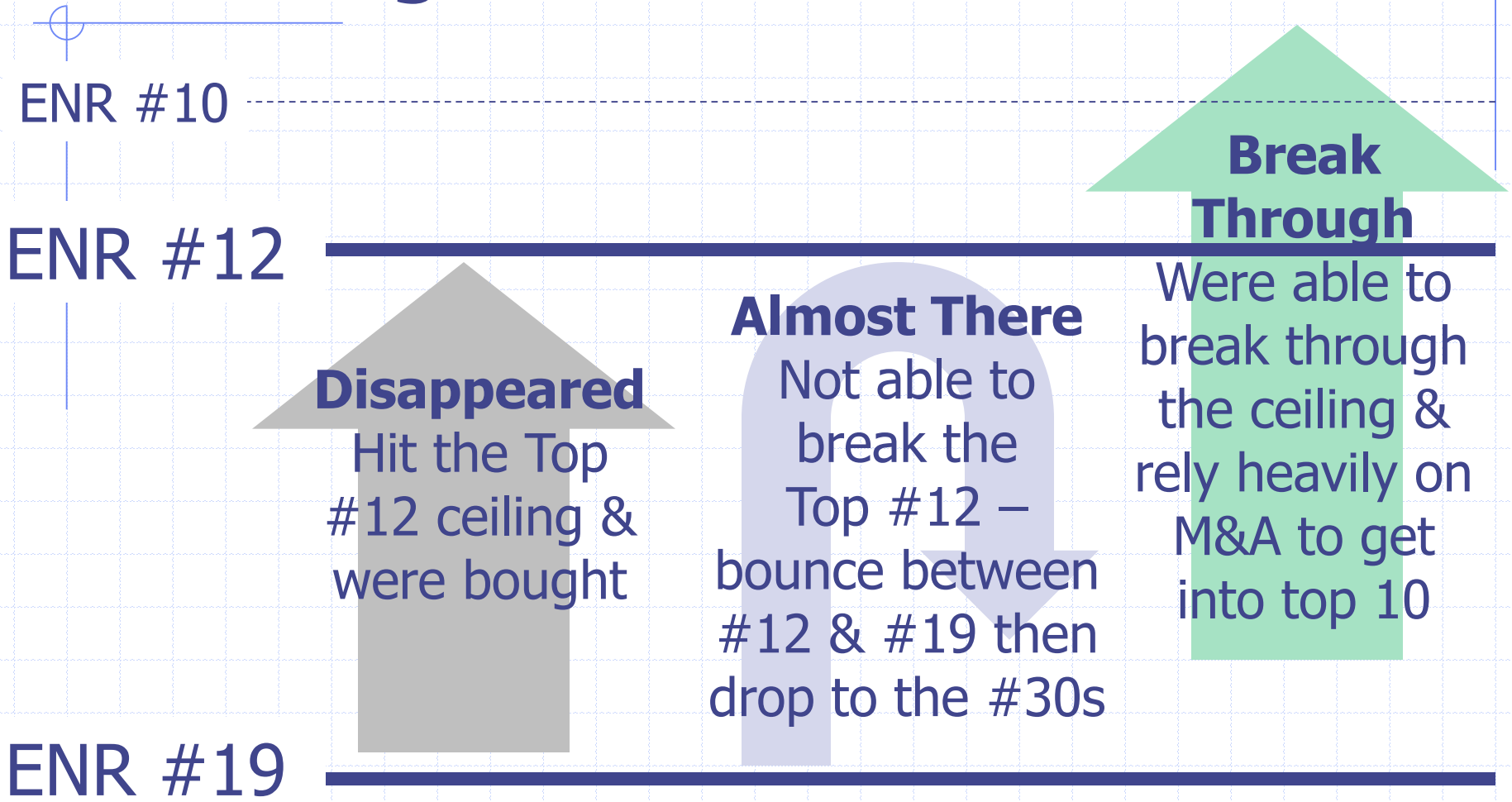
1986

- Sargent & Lundy (36)
- ~~CH2M Hill (3)~~
- Black & Veatch (15)
- Louis Berger (26)

2017

- AECOM
- Jacobs
- CH2M
- Fluor
- Tetra Tech
- CB&I
- AMEC
- HDR
- KBR
- Stantec

Very Large Firms Face The “Endangered Zone”



Study Categories for Data Analysis As Of 2017*

Category	ENR Ranking Range	% of 2017 Total Revenue	2017 ENR Revenue Range
Small	Not on ENR Top 500		<\$22.5M
Midsize	ENR 500 to ENR 101		\$22.5 to \$145M
Large	ENR 100 to ENR 31		\$146 to \$562M
Very Large	ENR 30 to ENR 11		\$602M to \$1.6B
Mega	ENR Top 10		\$1.62 to \$7.43B

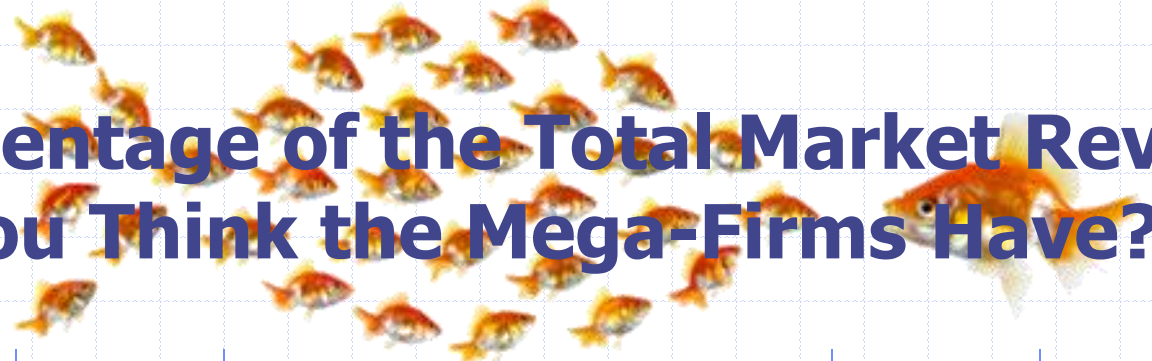
** 2016 data reported in Engineering News-Record in 2017*

What Percentage of the Total Market Revenue Do You Think the Mega-Firms Have?

Percentages Of Total Market Revenue

Category	ENR Ranking Range	% of 2017 Total Revenue	2017 ENR Revenue Range
Small	Not on ENR Top 500	60%	<\$22.5M
Midsize	ENR 500 to ENR 101	10%	\$22.5 to \$145M
Large	ENR 100 to ENR 31	8%	\$146 to \$562M
Very Large	ENR 30 to ENR 11	8%	\$602M to \$1.6B
Mega	ENR Top 10	14%	\$1.62 to \$7.43B

2016 data reported in Engineering News-Record in 2017



What Percentage of the Total Market Revenue Do You Think the Mega-Firms Have?

Changes In Percentages Of Total Market Revenue

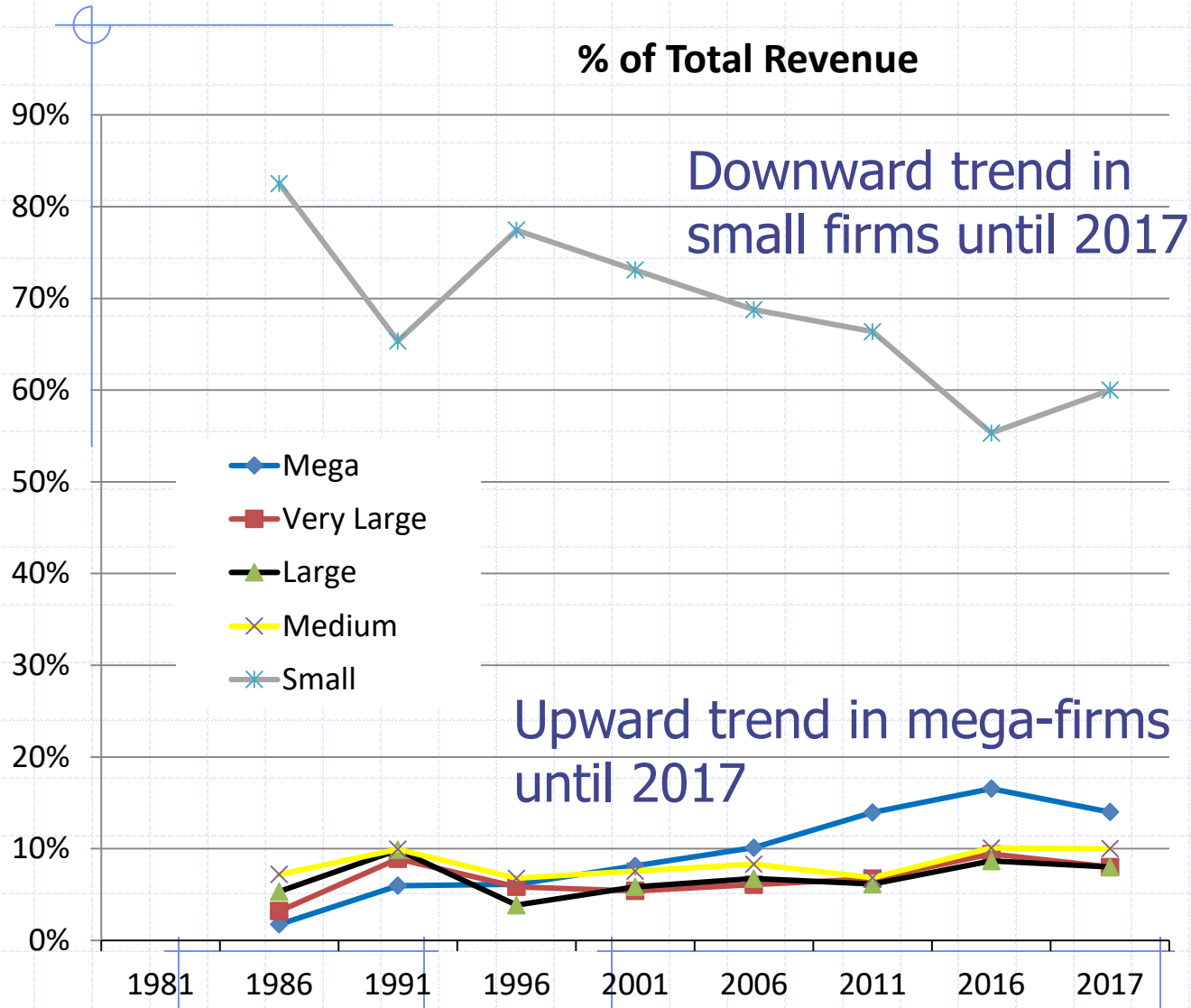
Category	ENR Ranking Range	% of 2017 Total Revenue	2017 ENR Revenue Range
Small	Not on ENR Top 500	60% (55%)	<\$22.5M
Midsize	ENR 500 to ENR 101	10% (10%)	\$22.5 to \$145M
Large	ENR 100 to ENR 31	8% (9%)	\$146 to \$562M
Very Large	ENR 30 to ENR 11	8% (9%)	\$602M to \$1.6B
Mega	ENR Top 10	14% (17%)	\$1.62 to \$7.43B

2016 data reported in Engineering News-Record in 2017



2017 List (2016 results) – First time Mega firms revenue range decreased

Change in Percentage Of Total Revenue For The Last 31 Years



Mid-sized firms' percentage of total revenue has stayed the same over the last 31 years

An iceberg floating in the ocean, with the tip above the water and a much larger portion submerged. The image is used as a metaphor for the study's focus on uncovering hidden insights.

ENR Study Phase #2 - Why?

Three industry leaders performed over 75 interviews of C-suite executives to find out:

- What does it takes to prosper?
- What does it take to sustain success?
- What might have contributed to firms who are no longer around?

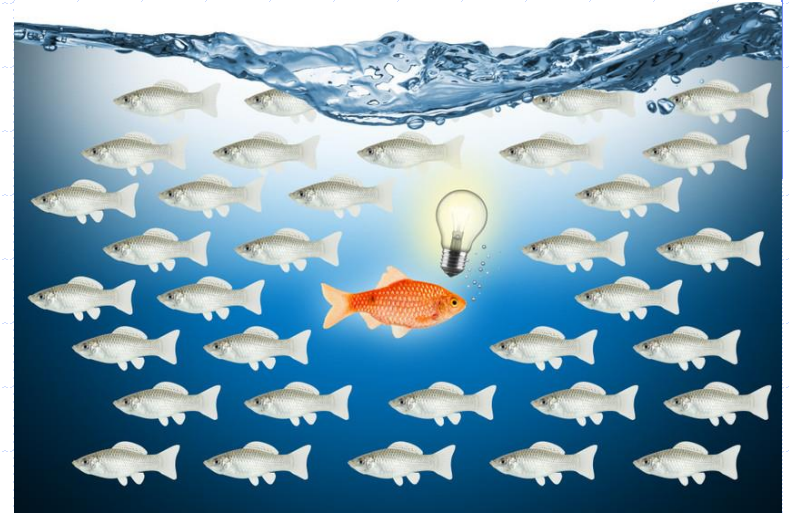
Phase #2 – Our Research

Research Focus: Included and compared...

- The 18 firms that stayed on the list and outperformed their peers
 - Selected “sustaining” firms (out of the other 42 who stayed on the list)
 - Other firms who are “living company” examples
 - Post mortems on firms not around today
- (> 50 firms represented in the study)

How We Organized Our Phase 2 Findings

5 Key Success Factors



Fatal Flaws – Counter characteristics of comparison firms no longer on the list

Key Success Factor #1

Factor #1

It's all
about
the
people



Fatal Flaw #1

Losing
sight of
what
makes
up the
firm –
PEOPLE

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“I don’t think the term ‘human resources’ is degrading. Our last boss classified us as ‘perishable supplies’.”

Key Success Factor #2



Factor #2

Have a
clear
“client
focus”
strategy

Fatal Flaw #2



"Carson, this is the new organizational chart and this is you."

Too internally focused - change & corporate complexity

Key Success Factor #3

Factor
#3

“Smart” diversification
is key to growth



Fatal Flaw #3

Being a mile wide and an inch deep with their diversity strategy – spread too thin



Key Success Factor #4



Factor #4

You gotta deliver
financial performance

Fatal Flaw #4



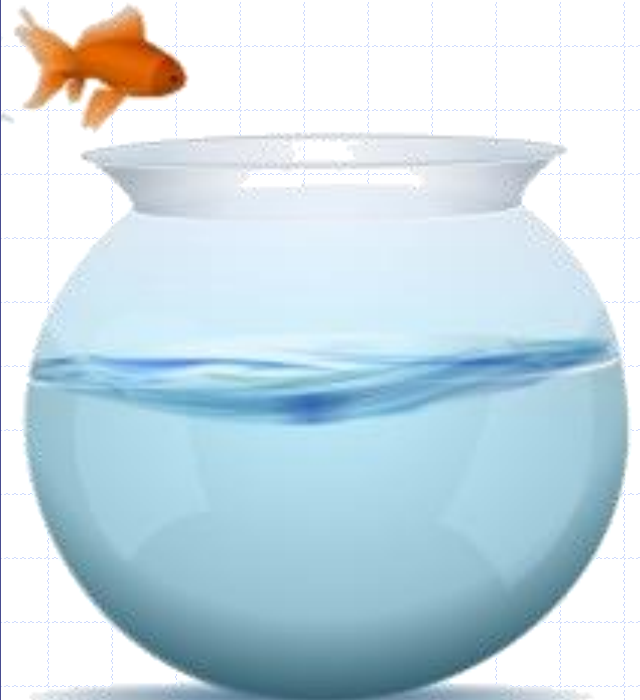
"What if we don't change at all... and something magical just happens."

Poor financial performance combined with high debt &/or triggering event

Key Success Factor #5

Factor #5

Ownership/
leadership
succession
taken very
seriously



Fatal Flaw #5



No
preparation
for the
future,
especially
ownership &
leadership
transition (I
will live to
100!)

*"Eventually son,
you'll be in
charge of this –
assuming of
course that I
can't come up
with any better
alternative."*

Phase #3 Findings

**WHO WEATHERED DIFFICULT
TIMES THE BEST & HOW?**



Phase #3 – Our Research

Three industry leaders interviewed C-suite executives in over 50 firms focused on:

1. Looked at changes in the ENR 500 firms from 2006 to 2017: How firms fared going into, during and coming out of the recession
2. We asked questions around their approach to external business, internal firm management, and looking ahead
3. Identified 18 firms that did well in all phases

What Else The Data Revealed – Major Themes

Common Actions & Strategies Used By Successful Firms

Going Into Hard Times

Building a Resilient & Long-Lived Firm

During The Recession

Weathering the Storm

Climbing Out Of the Downturn

Emerging as a STRONGER Living Company Looking Ahead

Going In – Building a Resilient and Long-Lived Firm



Financially conservative balance sheet management

Resisted chasing “shiny things”

Focused on their core & invested in adjacencies that complimented the core

High repeat business, relationship-driven, and strong client focus

“This is a Marathon – NOT a Sprint”
(pace yourself accordingly)

During – Weathering the Storm

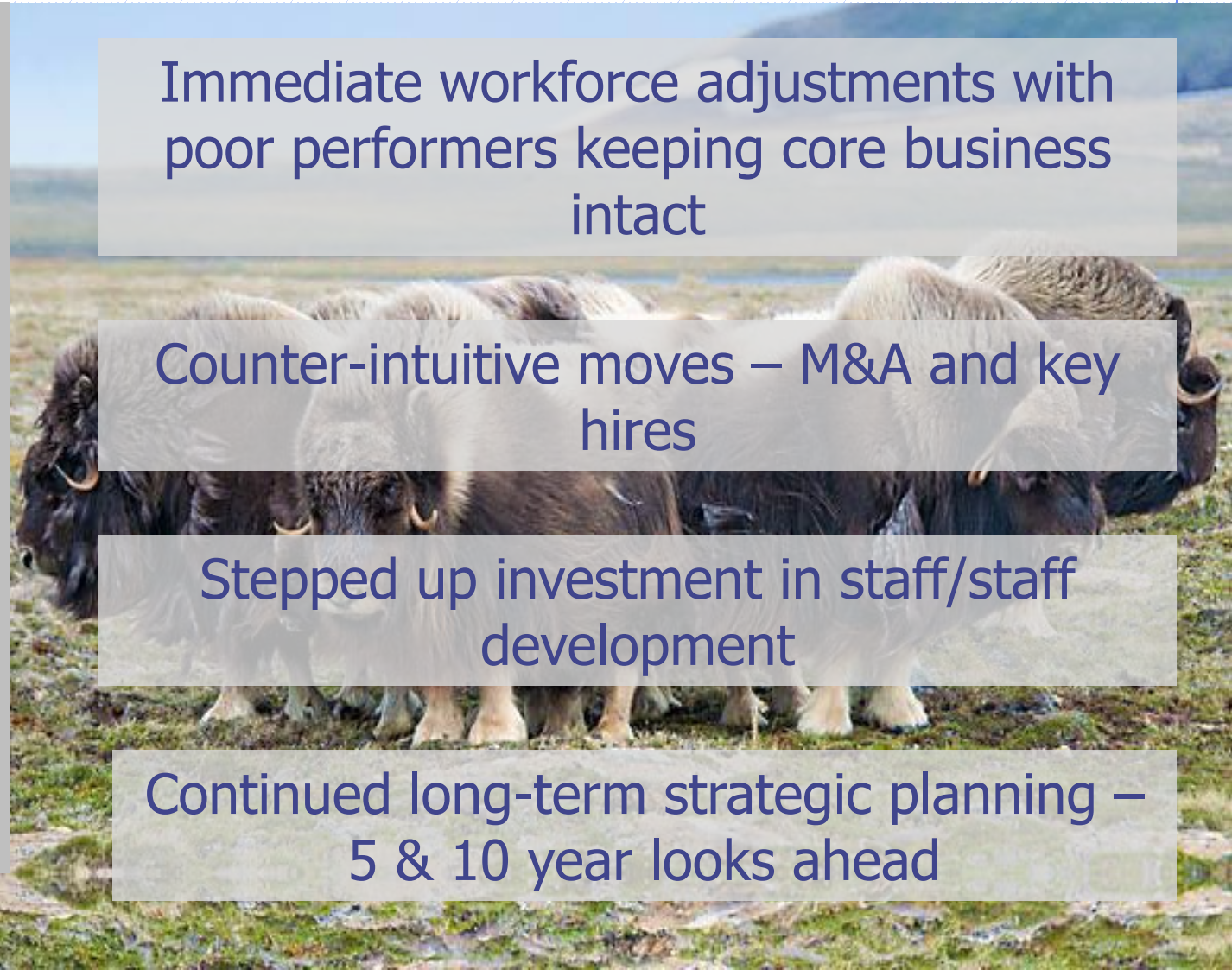
“We are
ALL in
this
Together”

Immediate workforce adjustments with poor performers keeping core business intact

Counter-intuitive moves – M&A and key hires

Stepped up investment in staff/staff development

Continued long-term strategic planning – 5 & 10 year looks ahead



Climbing Out – Emerging as a Living Company Looking Ahead

Continued fiscal discipline using profitability as a growth governor

Continued and leveraged a laser focus on key clients and strong relationships

Recognized staffing gap – Developed emerging leaders & hired graduates ahead of the curve

Kept social contract with staff – “We will invest in you so you can be your best, and we expect you will work hard and do your best to help the firm be its’ best.”

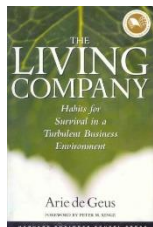
“We are Stewards of a Legacy Company”

General Advice from Best Performers

“Bigger isn’t Better – Better is Better”
(if you are better you will get bigger)

Reinforce a “living company” culture

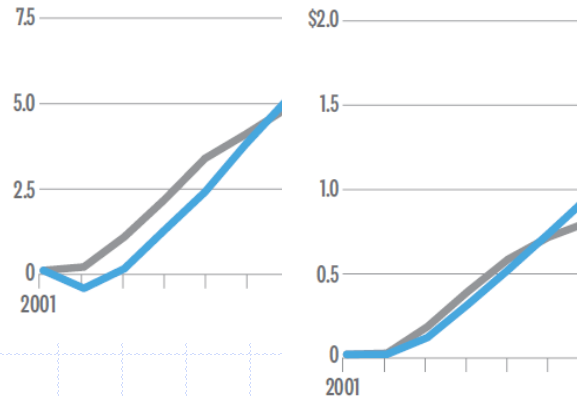
- Curious, continually learning, generous leaders
- Fiscal responsibility, be profitable, do not get leveraged
- Encourage new ideas
- Decentralized – corporate control low/front line control high
- Strong “sense of self” as a firm and be “purpose driven”



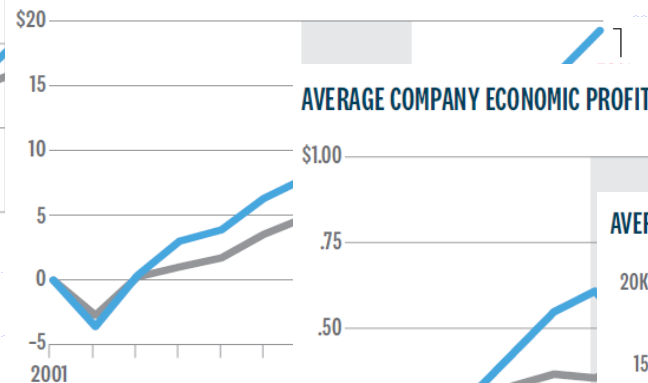
And Harvard Business Review Agrees...

Managing For The Long Term Pays Off

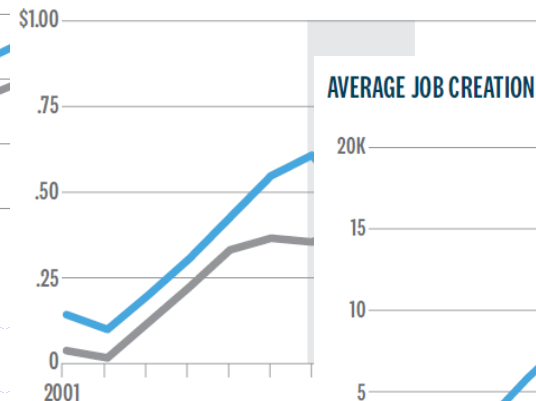
AVERAGE COMPANY REVENUE



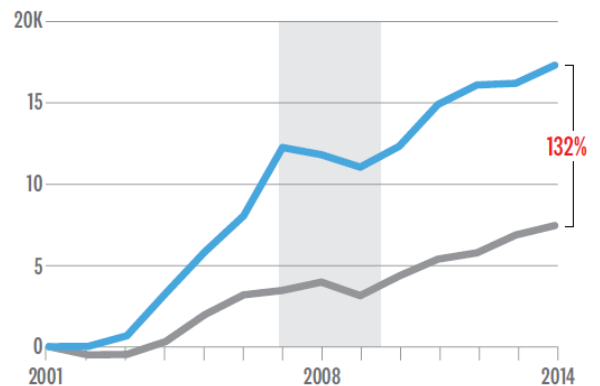
AVERAGE MARKET CAPITALIZATION



AVERAGE COMPANY ECONOMIC PROFIT



AVERAGE JOB CREATION



LONG TERM
ALL OTHERS

NOTE ALL FIGURES US\$ BILLIONS INDEXED TO 2001

Some Of You May Be Thinking...

Well...duh!

However, in the words
of a wise man....

“Greatness is not a function
of circumstance but of
**conscious choice &
discipline.**” -- Jim Collins

