

**ATP**  
Innovations  
in Testing  
Orlando, FL

**2019**

**Challenge.  
Transform.  
Evolve.**



# Eyes on the Future

Alpine Testing Solutions, Inc.  
Platinum Session

# The Future Will Arrive...

0.00000018626%  
doubles every day

How much of the lake will be covered on  
day 20? Day 30?

**...Faster Than We Think!**



Challenge. Transform. Evolve.



20	21	22	23	24	25	26	27	28	29	30
0.10%	0.20%	0.39%	0.78%	1.56%	3.12%	6.25%	12.50%	25.00%	50.00%	100.00%

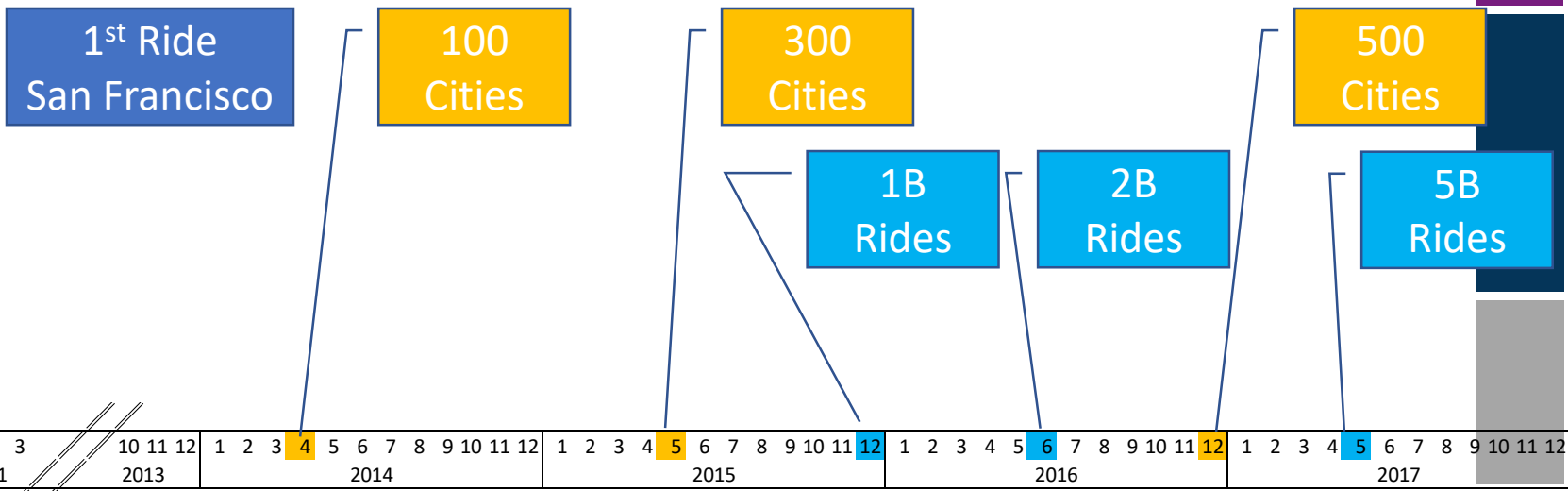


# The Future Arrives...

December 2008 Travis & Garret can't get a cab in Paris

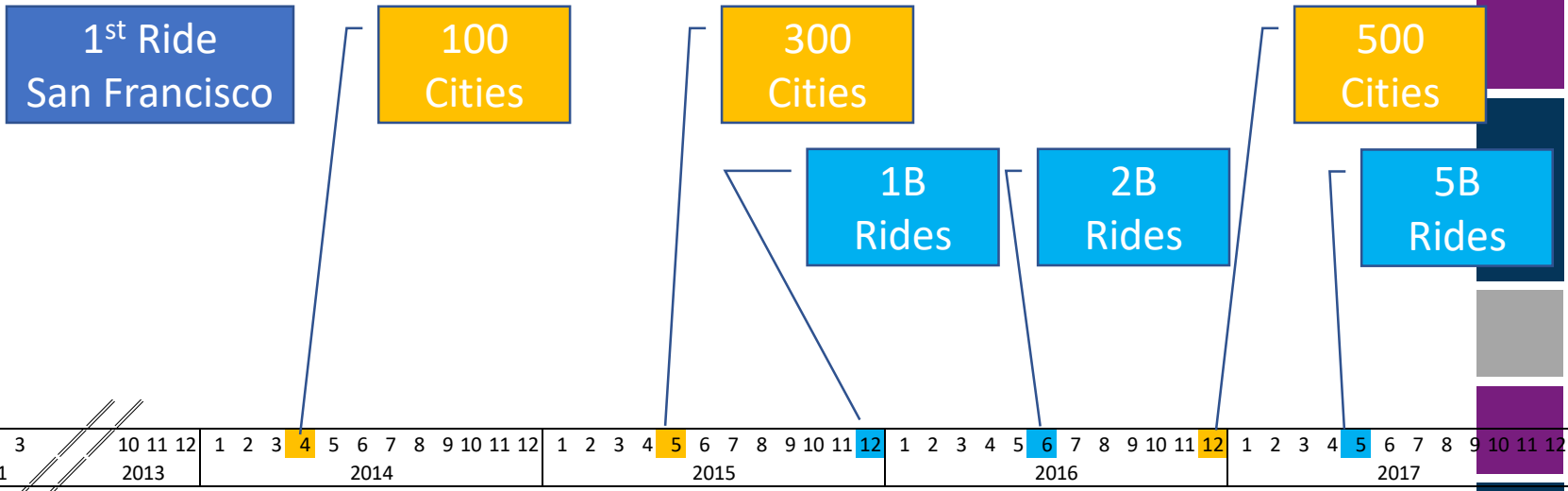
March 2009 UberCab launched in San Francisco

Challenge. Transform. Evolve.



# The Future Arrives...

Challenge. Transform. Evolve.



- 9+ products (including freight & food)
- 9/2016 first public autonomous ride
- 12/2017 2M miles of autonomous rides
  - 1M in previous 100 days



# The Future Arrives...

## ■ Impact

- Taxis
- Rental Cars
- Public Transportation
- Parking
- Auto Manufacturers
- Steering Wheel Providers

Challenge. Transform. Evolve.

Do we know what we will be credentialing?

# Data, Validity, and The Future of Test Development

Russell W. Smith, Ph.D.

VP Assessment Services

Alpine Testing Solutions

## Using Data To Create A Customer-Centric Strategy

“... if you’re paying people to perform tasks that can be automated, you’re losing margin...

Plus, it can free up your employees’ time to perform more valuable, strategic work.”

**The same is true in test development!**

Challenge. Transform. Evolve.

**“We are living in  
the dinosaur age.”**

**“Why do I need to take a  
long exam? Are there  
other ways you can assess  
my competency?”**

**“This is my  
grandparent’s  
exam.”**

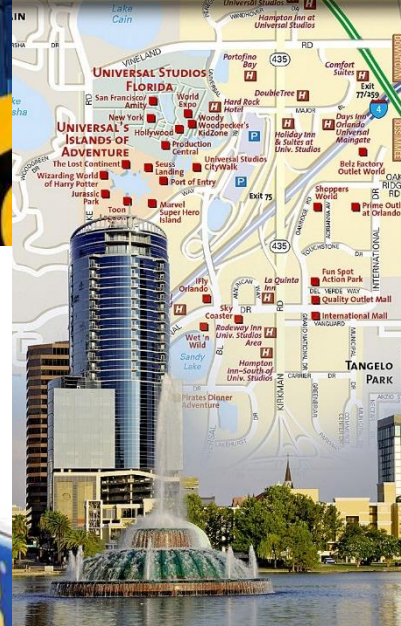






NATIONAL GEOGRAPHIC  
**Orlando**  
DestinationMap™ • City Map & Travel Guide

- Points of Interest • Additional Inset Map • Transit System
- Travel Information • Top Attractions • 3D Buildings
- Airport Terminal Maps • Regional Map • Photos



“AI”  
“Machine Learning”  
“Thought Leaders  
Exchange”  
“Big Data”

“Recursive formula”  
“Validity”  
“Residual correlation”  
“Journal Entries”





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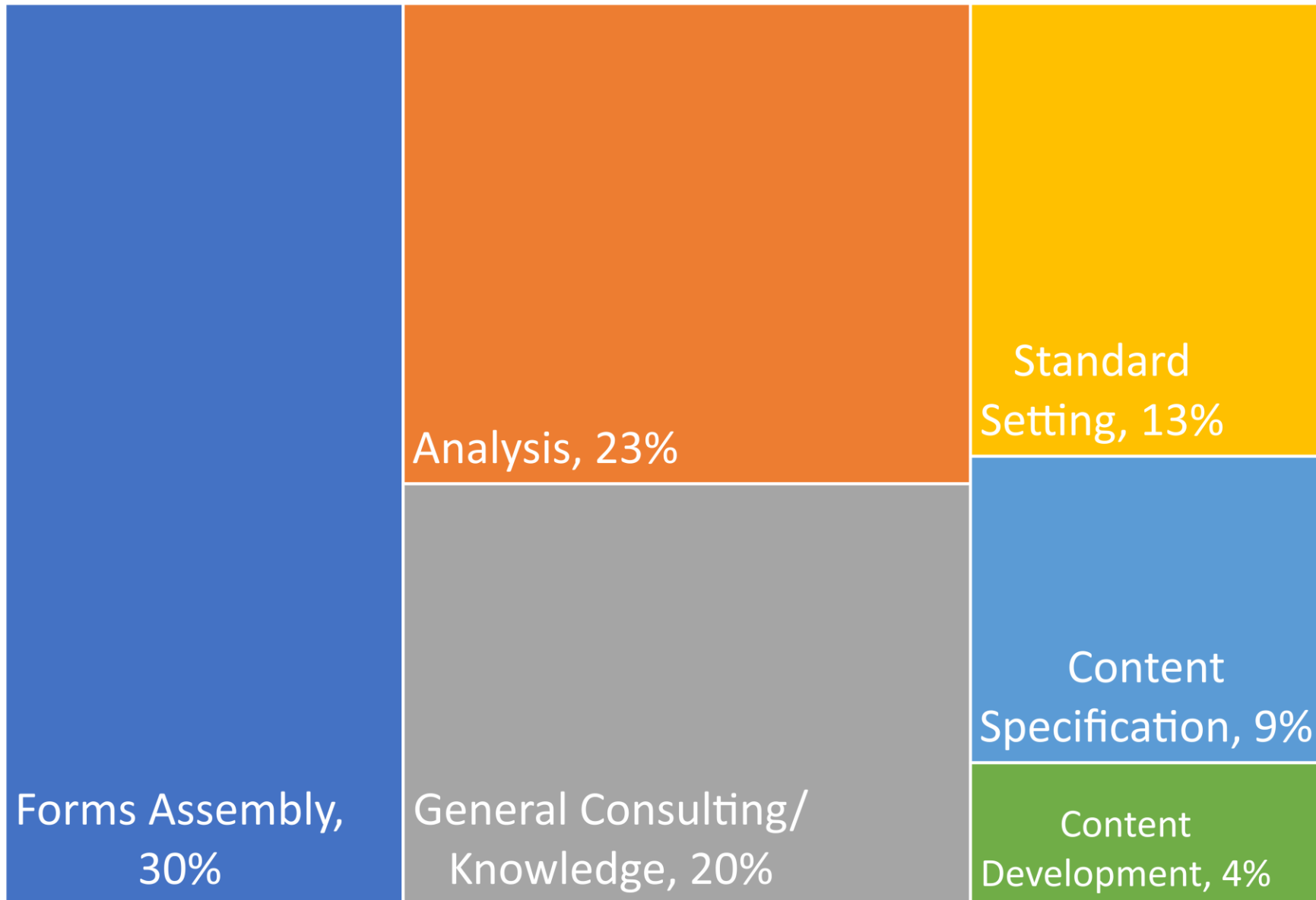
# Multiple Approaches to JTAs

- Workshops
- Observation/Interview
- Survey
  - Often used to verify results of the other approaches
- Time log/journal entries
  - What if we could make this easier?
  - e.g. have your computer, phone, smart watch track what you're doing

**What if... data already exist?**



# Empirical psych time



# Psych Comments

More Data,  
more Ways!

I wanted more th

...from ... other data  
...usive or

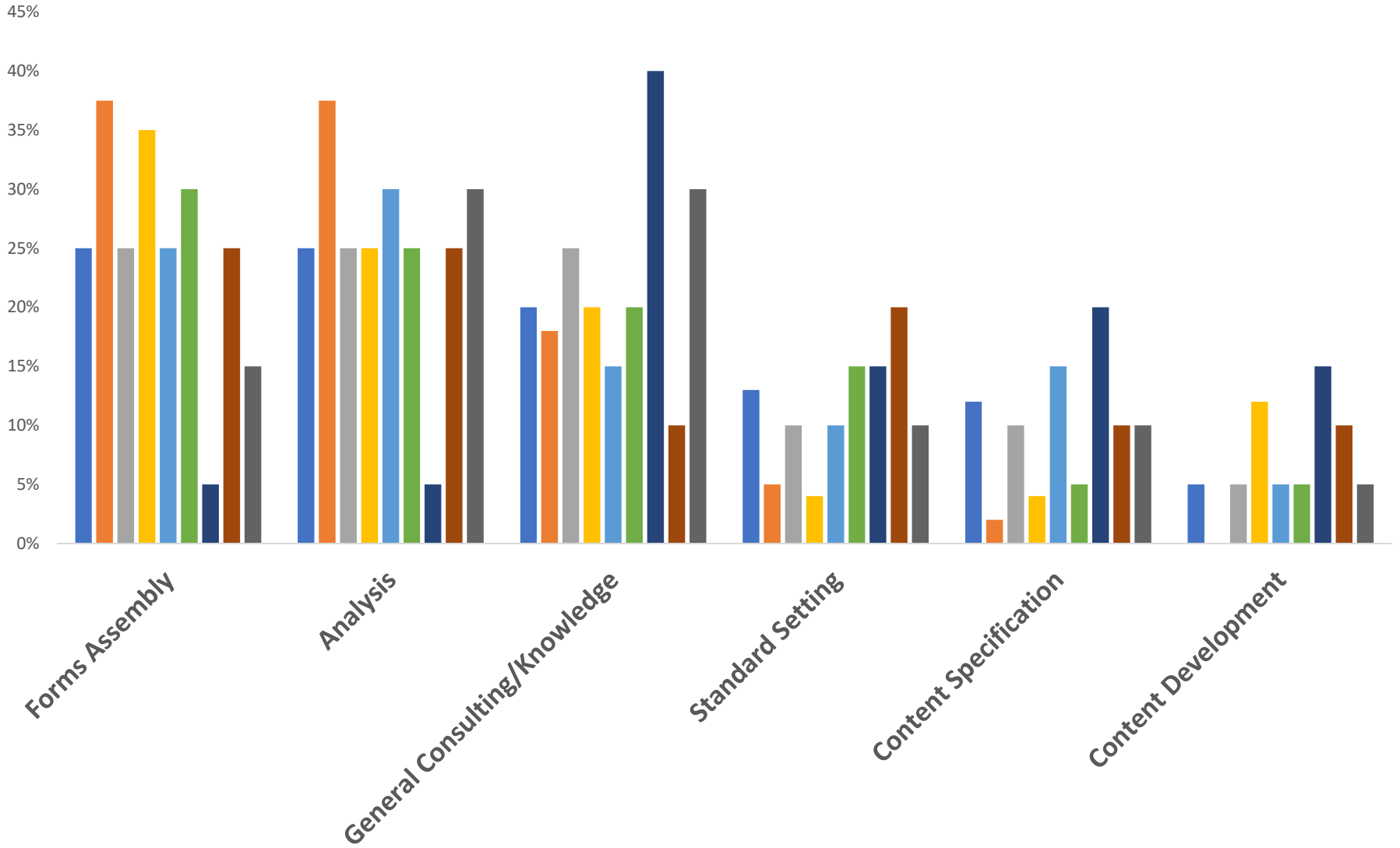
Ha  
“  
O

If th  
larg  
indus  
categories  
general company s  
experience?), then it cou  
out where you want to be. So bonus use.

...a  
perhaps later  
... type of data could be incorporated  
... throughout the process.

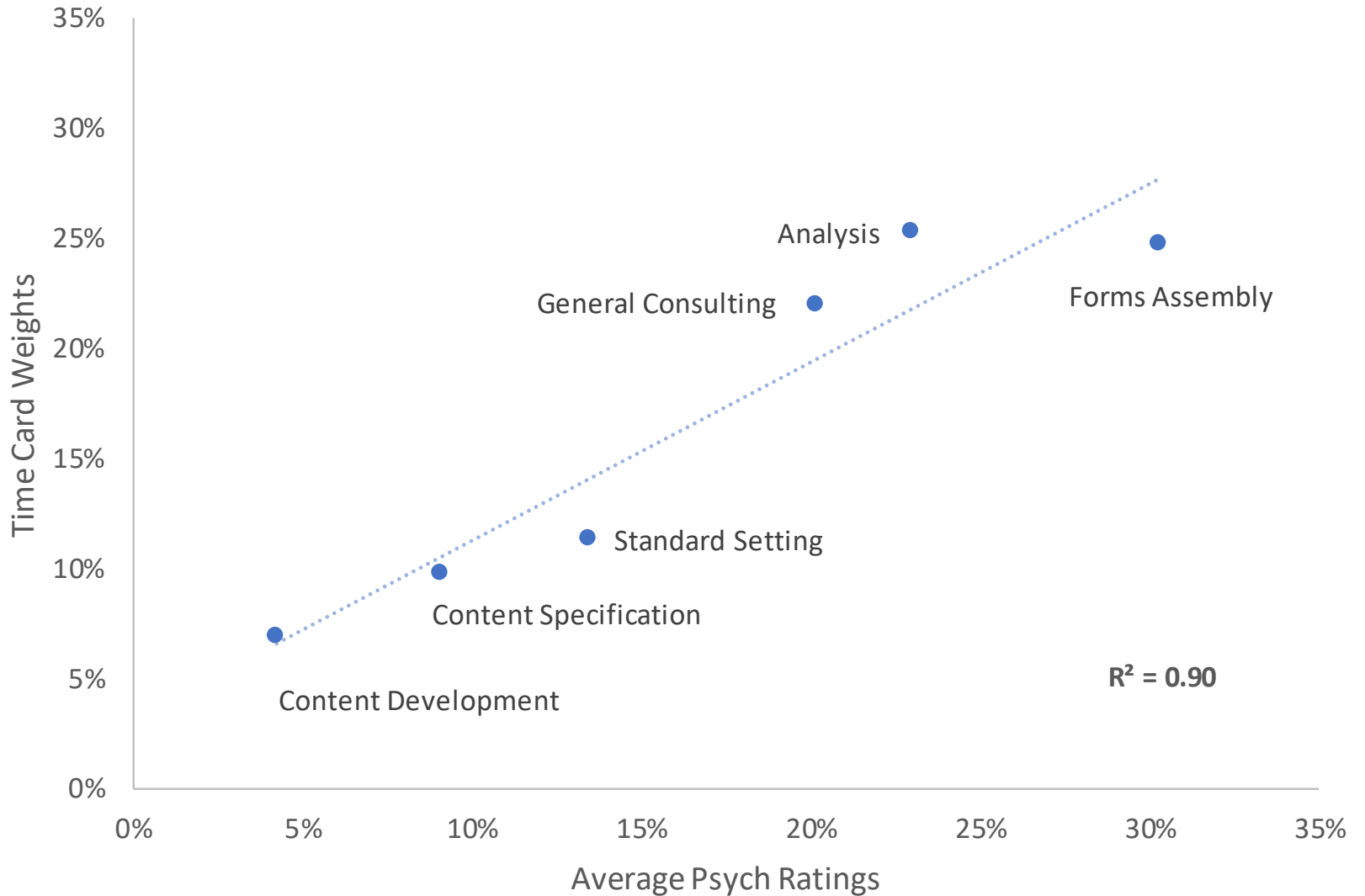


## Alpine Psych Weights

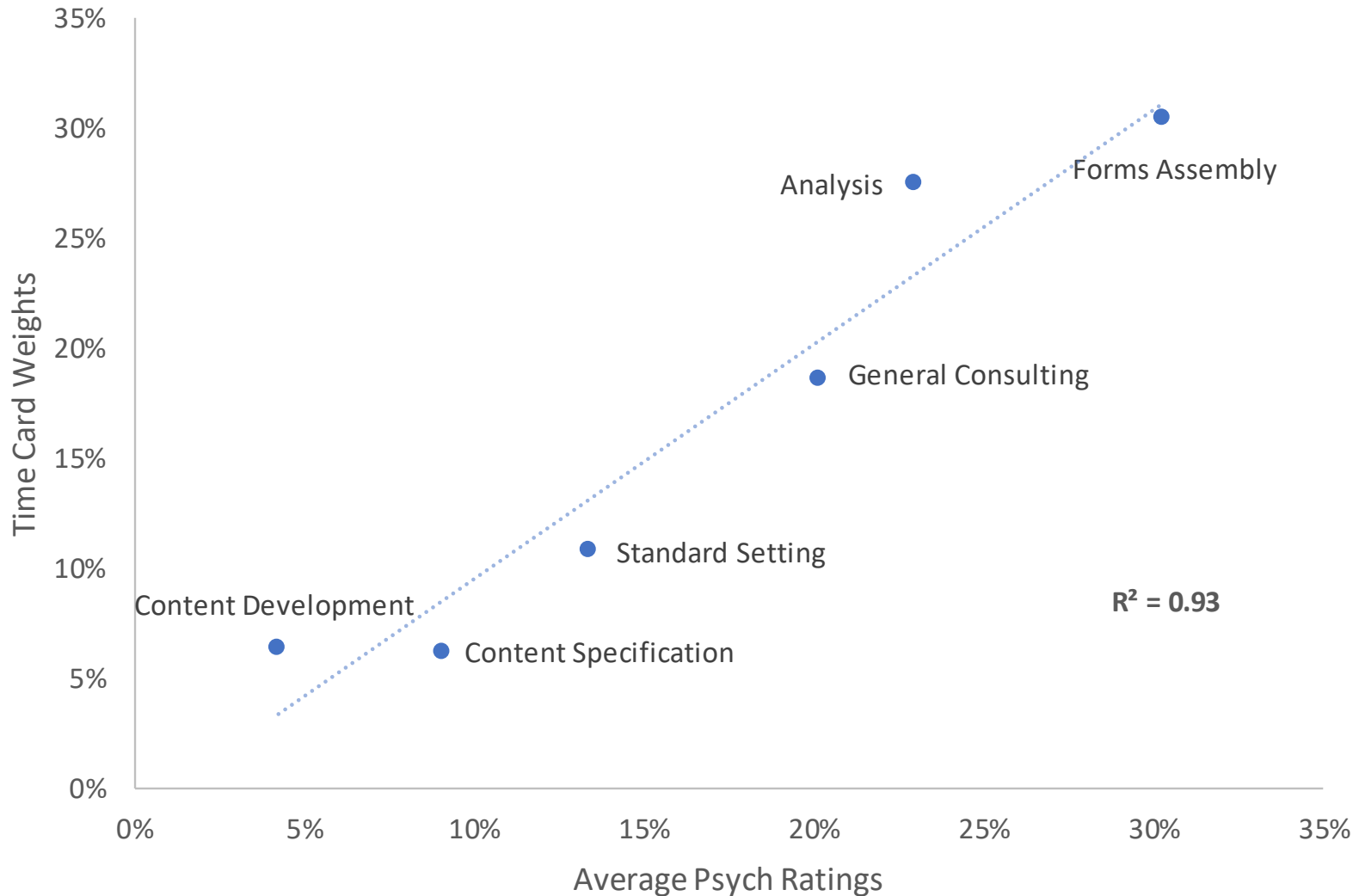




## Psych Cert Content Specifications: All



## Psych Cert Content Specifications: New



“When test content is a primary source of validity evidence... a close link between test content and the job or professional/occupational requirements should be demonstrated.”

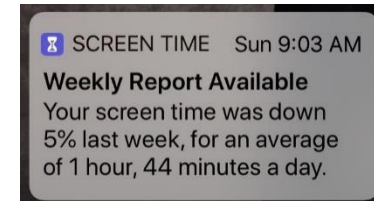
Standards for Educational and psychological testing. (AERA et al., 2014, p. 178)

“Given the elevated role of a practice analysis in credentialing, it is all the more important that it be rigorously conducted.”

Handbook of Test Development (Raymond, M.R., 2016, p. 146)

# Conclusions

- Empirical data can provide a stronger link (read: provide more validity evidence) than people's estimation.
- Empirical data can save SME time, which can save time to market and money.
- Psychometricians and test developers need to lead the way.



# The PMI Case Study:

## Credentialing Strategies for the Future

### Sierra Hampton-Simmons

Global Manager, Certifications

Project Management Institute, Inc

# Monolithic Examples



## Stonehenge

- System of uniform stone
- Forming a system



## Sphinx

- Intractable
- Indivisible

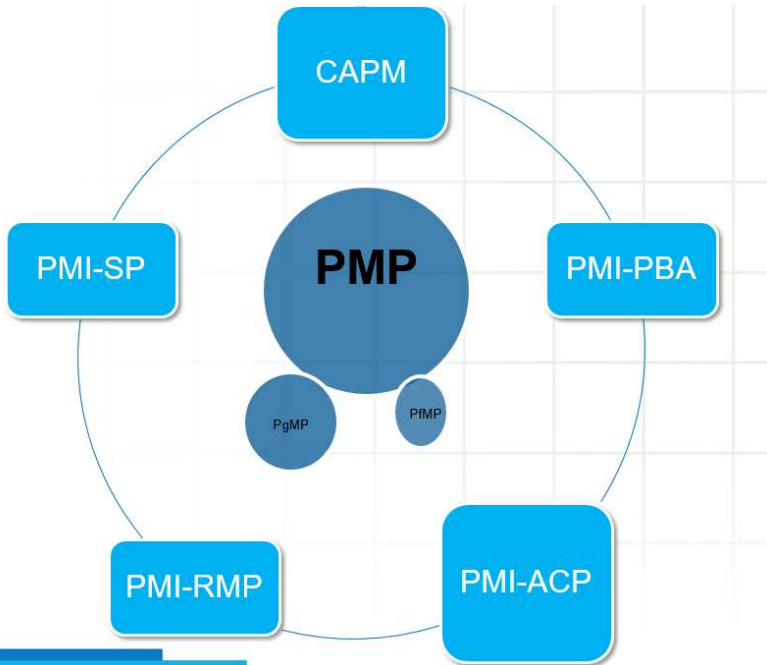


## Washington Monument

- Single block of stone
- Large



# PMI Background



- Project Management Institute, Inc
- For-purpose company
- Advancing the project management profession
- PMI Certifications:
  - Over 1M certified
  - 8 distinct credentials
  - 14 languages
  - ANSI 17024 and ISO 9001 certified

**Empowering People to Make Ideas a Reality.**

# Journey To Evolve the Monolith....PMI Certifications

**PMP Launched**



**PMI Founded in Atlanta**



1969

1984

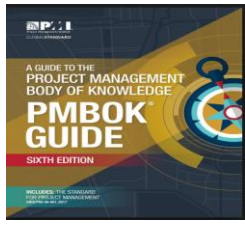
1996

2001

NOW

**Project Management Evolving Certifications**

**PMBOK® Guide Born**



**Agile Manifesto Published**





# Project Management Profession Evolving



## Then: 1984

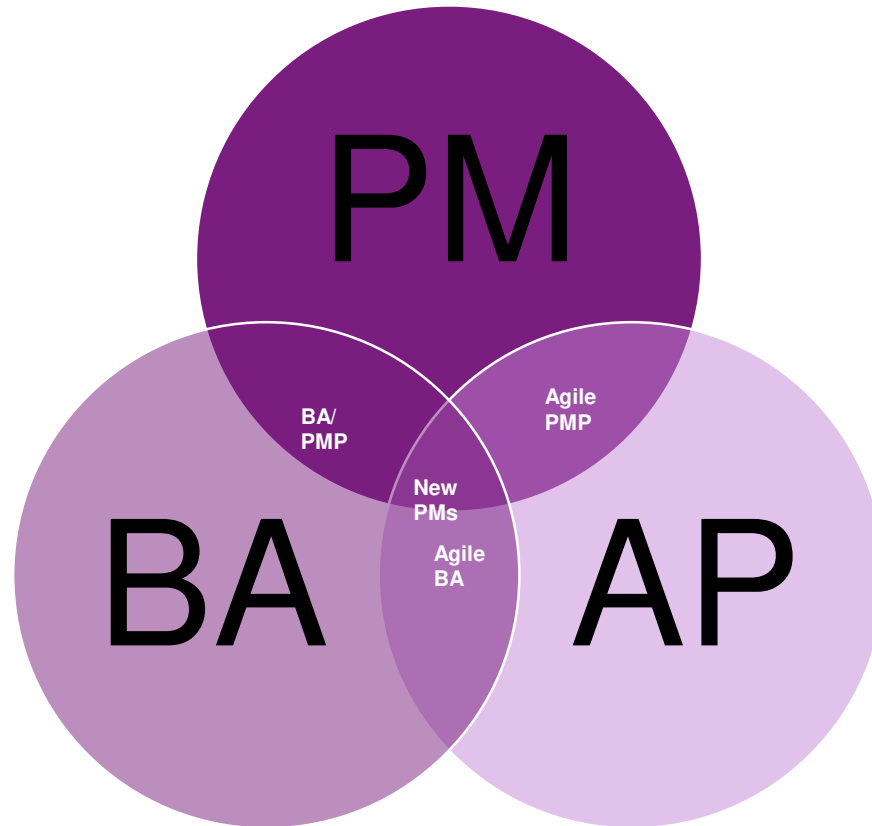
- Most projects utilized waterfall approach (predictive)
- Project teams comprised of distinct roles
- Output driven



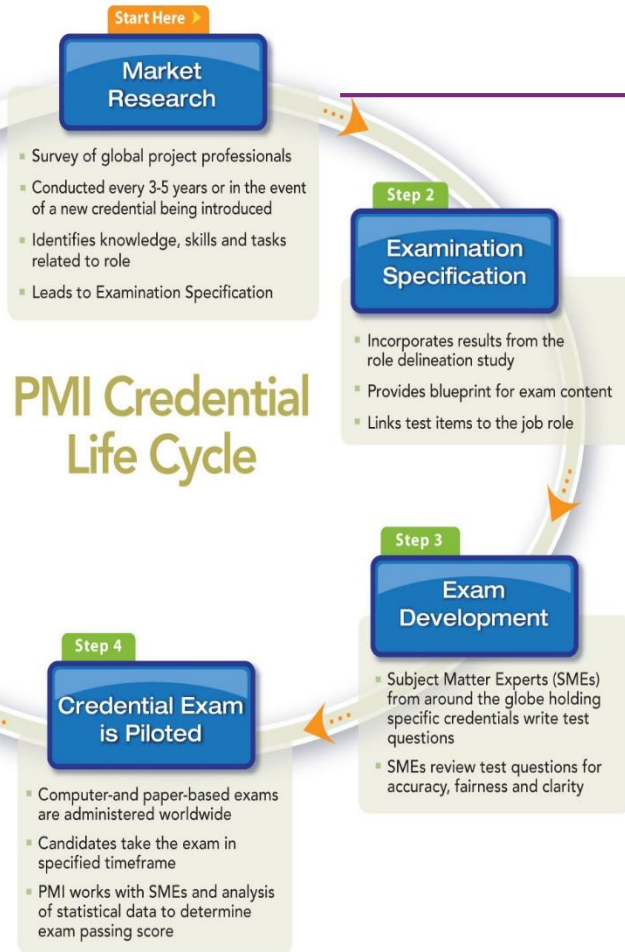
## Now: 2019 and beyond

- Project methodology mixed including agile and hybrid
- Individuals wear more than one hat (i.e. role)
- Outcome driven

# Next Gen. PMI Certifications: Address Hybrid Needs



# PMI Certification Development Process



## Market Research until 2017

- Role Delineation Studies
- Inside-Out Research
- Independent Qualitative
- Global Quantitative Surveys

## Current Global Practice

- Addition of human centered design approaches
- Outside-In Approaches
- Recognizing various data sources (media rich)

# Methodology

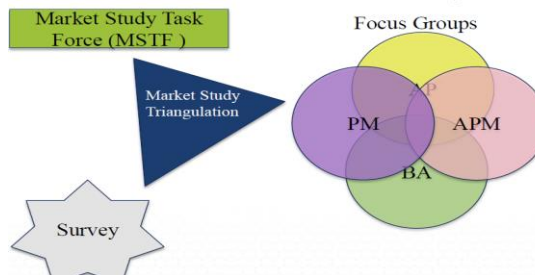
Challenge. Transform. Evolve.

- Acknowledge insights from other business research and data including sales, economic reports, labor stats, etc.
- Invite “outsiders” to join in the shaping of ideas
- Adopt human-centered approaches to gain benefits including “delight” and relevance

# Alpine Global Practice Analysis

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- Incorporated data from a global set of resources
- Qualitative and Quantitative research
  - Incorporate data from previous research to assure alignment and allow for ways to streamline
  - Instead of single roles looking at global role sets to capture hybrid impact
  - Outcome focused with iterations adopted as needed
- Triangulation of data sets
- Market research followed by JTA



# Adoption of disruptive technologies is increasing

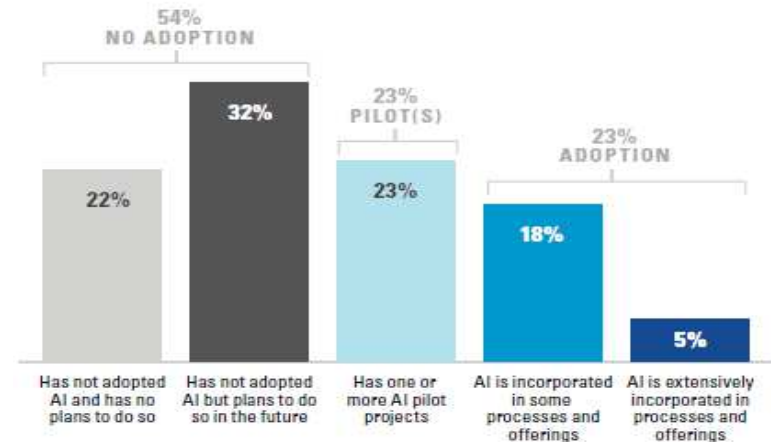
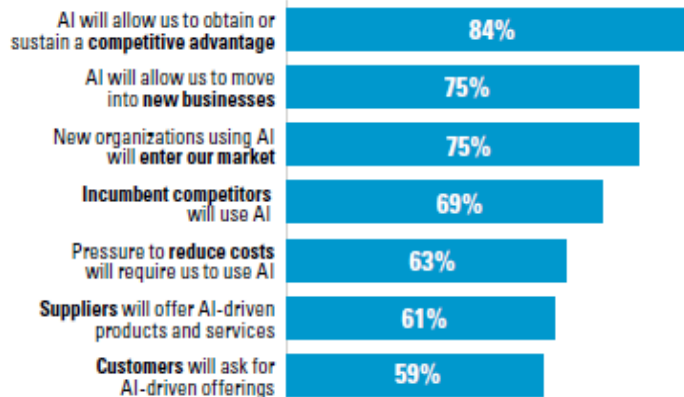
84%

84% of orgs agree AI provides competitive advantage

~20%

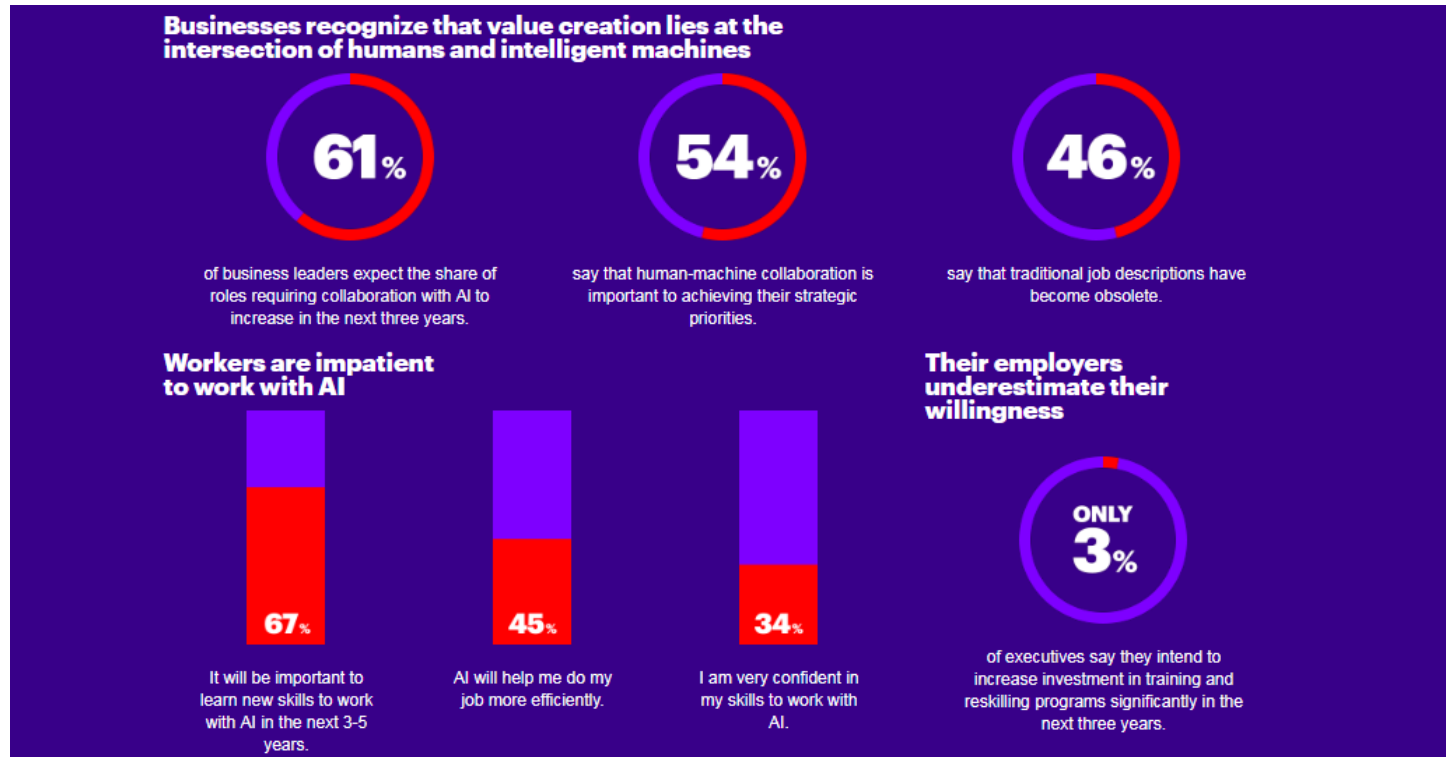
However, only ~20% of orgs have adopted AI

## Reasons for adopting AI



Source: MIT Sloan Management Review with BCG: Reshaping Business With AI

# Employers and employees are not ready for this change



Source: Accenture

# Statistical factor analysis looking at 7 latent characteristics

## Is Accessible

- Is interesting
- Is a good networking opportunity
- Is convenient to access
- Offers many ways to learn
- Is affordable
- Teaches traditional methods

## Is Inaccessible

- Is rigorous
- Is time-consuming
- Takes too long to achieve
- Costs too much to achieve

## Is Gaining Relevance

- Is modern
- Is innovative
- Will grow in importance
- Is increasingly relevant in industry
- Teaches agile methods

## Is Losing Relevance

- Is not a good investment
- Doesn't offer new knowledge
- Is out of date
- Includes irrelevant material
- Is becoming less important

## Advances Career

- Is a good source of knowledge
- Helps me earn more money
- Makes me feel good about myself
- Helps me keep my skills up-to-date
- Is a worthwhile investment
- Is relevant to my industry
- Offers short-term benefits to career
- Offers long-term benefits to career
- Improves job performance
- Enhances my resume

## Is a Differentiator

- Is likely to get me a promotion
- Is important to get ahead at my company
- Is important to get ahead in my field

## Hold High Esteem

- Is prestigious
- Is well-known
- Is respected
- Is the industry 'gold standard'



# Research Objectives

- Create a framework that pulls individuals and engages them through their career
- Identify eligibility criteria that resonates in the market with both candidates and hiring managers
- Understand the impact of “hybridization” of roles and create PMI Certification products that address this need
- Determine new digitally enhanced testing methods that are appropriate for our content

# Insights Acknowledged Thus Far...

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Modular learning leading to micro-credentials is key

# Evolving Roles... And certs....

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# Break Monoliths....

- Defining a new framework to address the needs of the profession
- Finding ways to bring legacy credential holders along where possible
- Acknowledging all experiences, not just examinations, to evaluate individual readiness for roles

