

Design In Tech Report 2017



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With Special Thanks To

Michael Abbott (KPCB), Matt Mullenweg (AUTOMATTIC), Mark Armstrong (AUTOMATTIC)
and 800+ designers and design founders, managers, executives, agency leaders, and individual contributors.

Design in Tech Reports

2M+

Cumulative
Views 👁️

The 2015 Report explained design's rise in value to tech as due to mobile devices and the mass-consumerization of computing. We moved from "tech-led" to "experience-led" digital products as services on smartphones took over and gave access to everyone.

The 2016 Report showed peak growth in interest by venture capital firms in design, and highlight significant growth in the acquisition of design agencies by consulting firms like McKinsey & Co and Accenture. Google emerged as a new leader in design.

The **2017** Report frames *computational* design as a key driver of accelerated growth, with inclusive cultures @work as vital for tech businesses hoping to lead in design.

<https://designintechreport.wordpress.com> 

Design in Tech Report 2017

Observations

Design isn't just about beauty; it's about market relevance and meaningful results.

At top business schools, *design thinking* is moving into the curriculum – driven by market demand.

Both McKinsey & Co and IBM have recently made appointments at their most senior levels for designers.

Adopting an *inclusive* design approach expands a tech product's total addressable market.

Computational designers remain in demand at technology companies of all sizes and maturity levels.

Chinese design in tech principles and practices are leading the world, but are often overlooked.

Design tool companies and design community platforms occupy new positions of value for tech.

Voice- and chat-based interfaces are grounded in mental models that don't require a visual representation.

Sections Overview

1

Computational Design

What is “Computational Design” and why does it matter to business + tech?

2

DESIGN → DE\$IGN

What’s happening in startups and in M&A?

3

Design Needs Designers

How does one hire this kind of talent?

4

Shaping Voice

What is the business value of “Inclusive Design”?

5

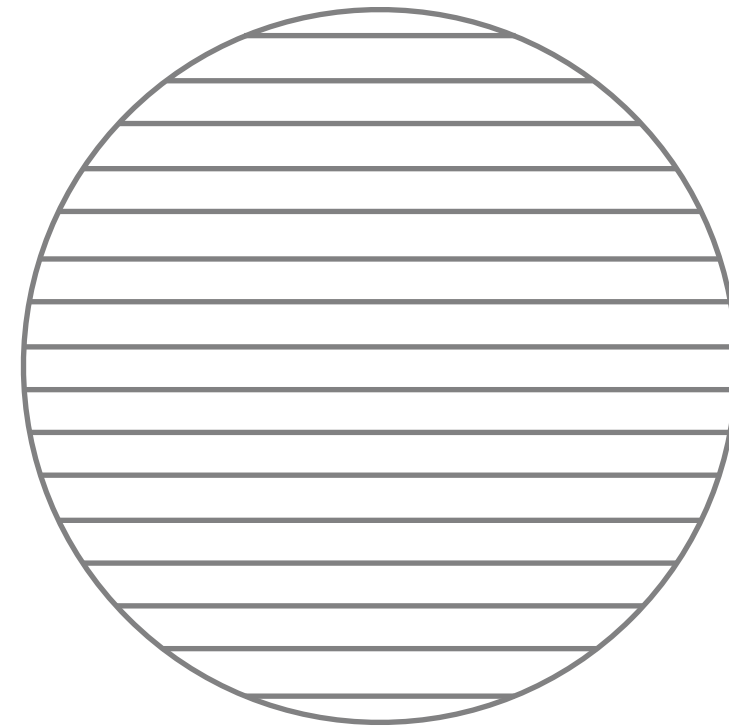
Design Is By Nature, Inclusive

What is the business value of “Inclusive Design”?

Review:

There are Three Types of Design

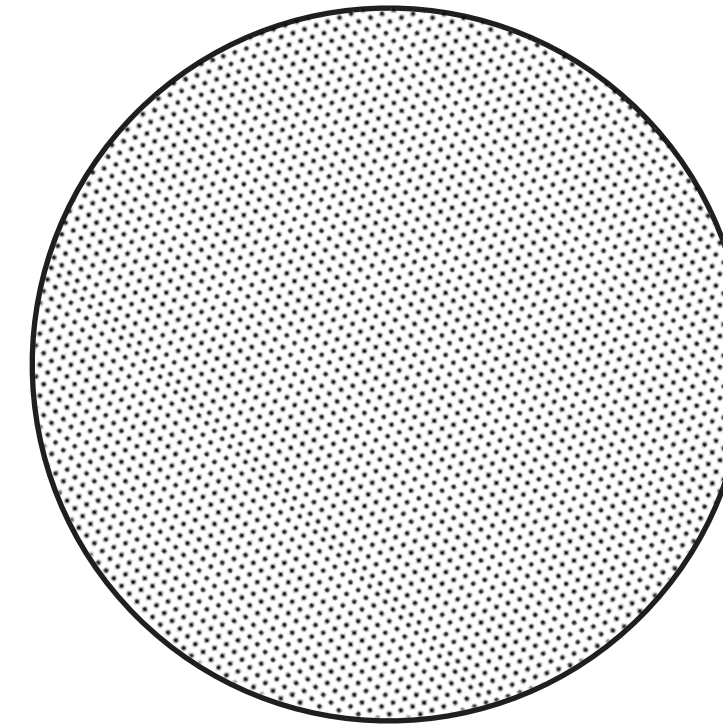
The last report reviewed the difference between Classical and Computational Design. This was somewhat controversial, but we review it here again.



DESIGN: "CLASSICAL DESIGN"

There's a right way to make what is perfect, crafted, and complete

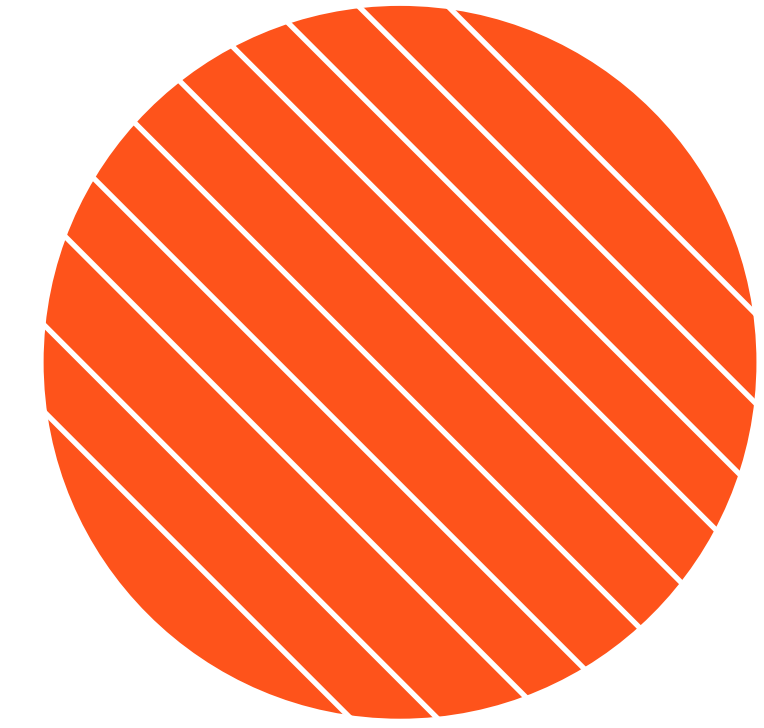
Driver/ the Industrial Revolution, and prior to that at least a few millennia of ferment.



BUSINESS: "DESIGN THINKING"

Because execution has outpaced innovation, and experience matters

Driver/ the need to innovate in relation to individual customer needs requires empathy.



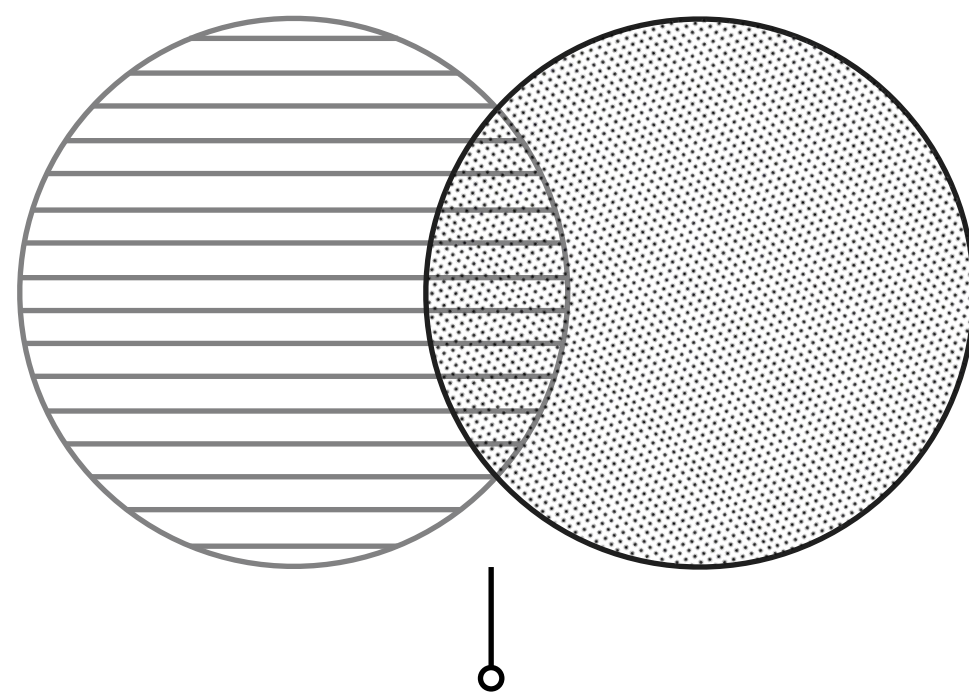
TECHNOLOGY: "COMPUTATIONAL DESIGN"

Designing for billions of individual people and in realtime, is at scale and TBD

Driver/ the impact of Moore's Law, mobile computing, and the latest tech paradigms.

Review:

Classical Design vs Design Thinking Matrix



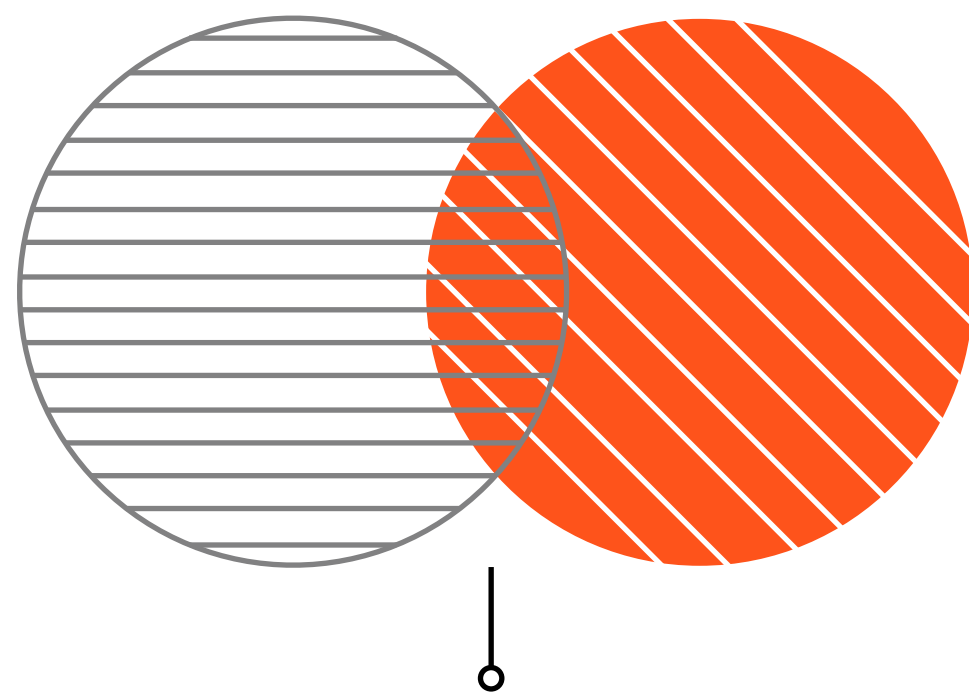
Overlapping example of these two kinds of design: A design consultancy like IDEO, Frog, or a B-school program like Yale SOM, or a classic consultancy like McKinsey, Accenture, BCG.

Both the 2015 and 2016 Design in Tech Report pointed to the emergence of “design thinking” as entering the conscious of big business — heralded by the covers of both Harvard Business Review and Bloomberg Businessweek featuring design. “Design Thinking” is different from “Classical Design” in both how it is practiced and the final outcome: the latter results in an artifact to hold in ones’ hands, whereas the former results in consensus between multiple people.

	CLASSICAL DESIGN	DESIGN THINKING
Emphasis On	Practice	Strategy
Raw Materials	Paper, Wood, Metal, and Anything Physical	Post-Its, Whiteboards, and Team Members’ Time
Goal Orientation	Ship a Perfect Product/Object	Foster Constructive Divergence
Impact is Evaluated By	Acceptance, Adoption, and Awards	A Specific Product or Feature That Resulted
Involves Primarily	Classical Designers	Business Thinkers/Doers
Skills With Tools Are Generally Grounded In	Hands and Laws of Physics	Mind and Organizational Sciences

Review:

Classical Design vs Computational Design



Overlapping example of these two kinds of design: A smartphone, laptop, robot, and any human-facing IoT device.

When people in the tech industry talk about “design,” they often make the mistake of not differentiating between classical designers and computational designers. The former kind of designer might craft a wooden chair for a home which is used by a few people; the latter kind of designer might craft an app for a smartphone which is used by hundreds of millions of people.

	CLASSICAL DESIGN	COMPUTATIONAL DESIGN
Number of Active Users	Few to Millions	Few to Billions
Time Needed to Deploy Completed Product	Weeks to Months through Distribution Channels	Instantaneously Delivered Over the Net
“Perfection” is Achievable	Yes <i>There’s a final state.</i>	No <i>It’s always evolving.</i>
Designer’s Level of Confidence	Absolute, and Self-Validating	Generally High, but Open to Analyzing Testing/Research
Production Materials	Paper, Wood, Metal, and Anything Physical	Data, Models, Algorithms, and Anything Virtual
Skills With Tools Are Generally Grounded In	Hands and Laws of Physics	Mind and Computer + Social Sciences

Review:

The Origins of Computational Design

The 2016 Design in Tech Report highlighted four key pioneers of computational design – all leaders who brought Classical Design into the domain of Computer Science with a uniquely humanistic approach (in contrast to a purely technical approach, which was dominant at the time).

@REAS @codepen @RCA @medialab @apple @ITP_NYU

Pioneers of Computational Design



GILLIAN CRAMPTON-SMITH

Royal College of Art
Computer-Related Design
and Ivrea Institute



JOY MOUNTFORD

Apple Human
Interface Group,
Interval, Yahoo!,
Akamai



RED BURNS

NYU Tisch School
Interactive
Telecommunication
Program



MURIEL COOPER

MIT Media Lab
Visible Language
Workshop



TODAY



■ Codepen [2014]

CODEPEN

ALEX VAZQUEZ, TIM SABAT, AND CHRIS COYIER

■ DrawBot (DesignRobots) [2003]

DrawBot

JUST VAN ROSSUM, ERIK VAN BLOKLAND,
AND FREDERIK BERLAEN

■ Processing [2001]



BEN FRY, CASEY REAS, AND DANIEL SHIFFMAN

■ Design By Numbers [1999]



JOHN MAEDA

1999

In Practice:

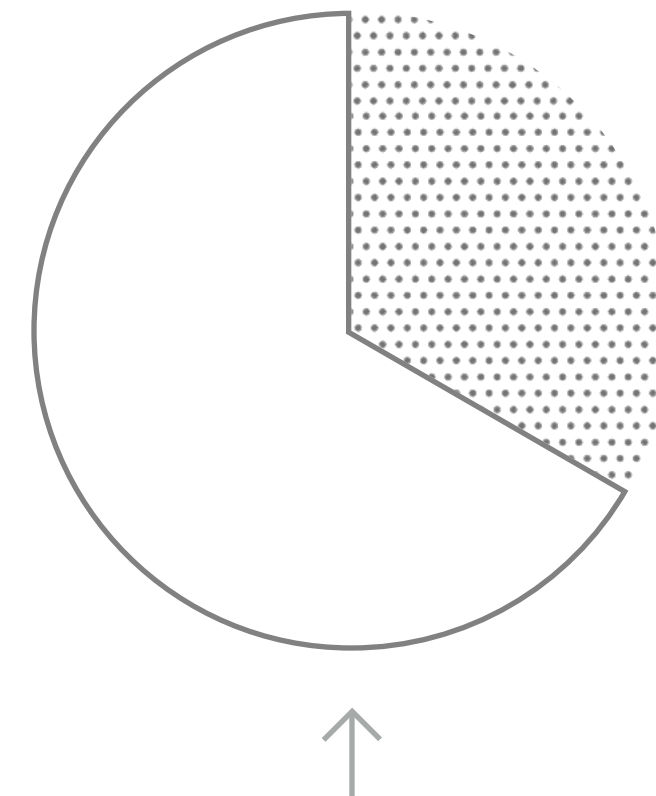
Design is Blending with Engineering Talent

2/5

Designers are involved in code development



SOURCE
NEA Future of Design Survey 2016, p. 24



1/3

Designers surveyed had formal engineering/science training

In the 2016 Design in Tech Report we shared how 1/3 of the design leaders we surveyed had formal engineering/science training. It said to me that a considerable amount of “hybrid” talent is out there in the professional world, that wasn’t the case a few decades ago.

Last month I surveyed a group of designers and devs at Automattic (note the double-T) with regards to their Javascript expertise. In the graph below you can see two “humps” – to the right is the developers, but to the left is the designers.



“

Where do new ideas
come from? The answer
is simple: differences.
Creativity comes from
unlikely juxtapositions.

NICHOLAS NEGROPONTE

Professor and Co-Founder, MIT Media Laboratory

DESIGN By the Numbers

“

If the design partner role is to help startups realize the full potential value of design, the return on investment is the ultimate barometer of success in venture capital.



IRENE AU

Design Partner, Khosla Ventures

Design M&A Activity

71 design agencies have been acquired since 2004. >50% of which have been acquired since 2015

2004 - 2012

COMPANY	ACQUIRED BY
2004 Frog Design	Flextronics
2007 Doblin	Monitor
2009 Bigstock	Shutterstock
2010 TAT	Rim
2011 Sofa	Facebook
2011 Typekit	Adobe
2011 Method	Globallogic
2011 Helicopter	One Kings Lane
2012 Maaik	Google
2012 Bolt Peters	Facebook
2012 80/20	Square
2012 Cuban Council	Google
2012 Behance	Adobe

2013 - 2014

COMPANY	ACQUIRED BY
2013 Hot Studio	Facebook
2013 Fjord	Accenture
2013 Jet Cooper	Shopify
2013 Banyan Ranch	Deloitte
2013 Hook & Loop	Infor
2013 17FEET	Google
2013 Hattery	Google
2014 Carbon Design	Oculus/Facebook
2014 Gecko Design	Google
2014 Adaptive Path	Capital One
2014 Reactive	Accenture
2014 Flow Interactive	Deloitte
2014 Optimal Experience	PWC

COMPANY	ACQUIRED BY
2014 Cynergy Systems	KPMG
2014 S&C	BCG
2014 Ultravisual	Flipboard
2014 Aviary	Adobe

2015

COMPANY	ACQUIRED BY
Teehan+Lax	Facebook
Spring Studio	BBVA
Lunar Design	McKinsey
Monsoon	Capital One
DesignIt	Wipro
Seren	Ernst & Young
Mobiento	Deloitte
Lapka	Airbnb
Catalyst	Cooper *consolidation
Akta	Salesforce
Chaotic Moon	Accenture
PacificLink	Accenture
Farm Design	Flex
Tactel	Panasonic Avionics
Fotolia	Adobe

Software tool companies and creative communities.

<https://designintechreport.wordpress.com>

Design M&A Activity *continued*

2016 [PART ONE]

COMPANY	ACQUIRED BY
Slice of Lime	Pivotal
Resource/Ammirati	IBM
ecx.io	IBM
Aperto	IBM
IDEO	Kyu Collective *minority
Fahrenheit 212	Capgemini
Heat	Deloitte
Gravitytank	Salesforce
Fake Love	New York Times
Karmarama	Accenture

2016 [PART TWO]

COMPANY	ACQUIRED BY
Carbon12	McKinsey
Mokirya	Nagarro
Uselab	Deloitte
Tiny Hearts	Shopify
Boltmade	Shopify
VeryDay	McKinsey
Waybury	Invision
Napkin	Invision
Silver Flows	Invision
Macaw	Invision
Muzli	Invision

2017

AGENCY	ACQUIRED BY
Idean	Capgemini
Unity&Variety	Salesforce
Sequence	Salesforce
Dribbble	Tiny
DeviantArt	Wix

Four

Design Parters elected in the last year at McKinsey & Co **[5 Total Design Partners]**

Three

IBM Distinguished Designers are corporate-appointed for the first time.

Software tool companies and creative communities.

<https://designintechreport.wordpress.com> ↗

Takeaway:

Startups Embody “Productive” Failure

The overwhelming majority of startups fail to make it out of their seed funding phase. And no founder claims that it is an easy path to success in the startup world. It is a tough, complicated journey to undertake as an entrepreneur which pays immense tolls on the individual and their families and friends. But they don't let failure ruin their optimism.

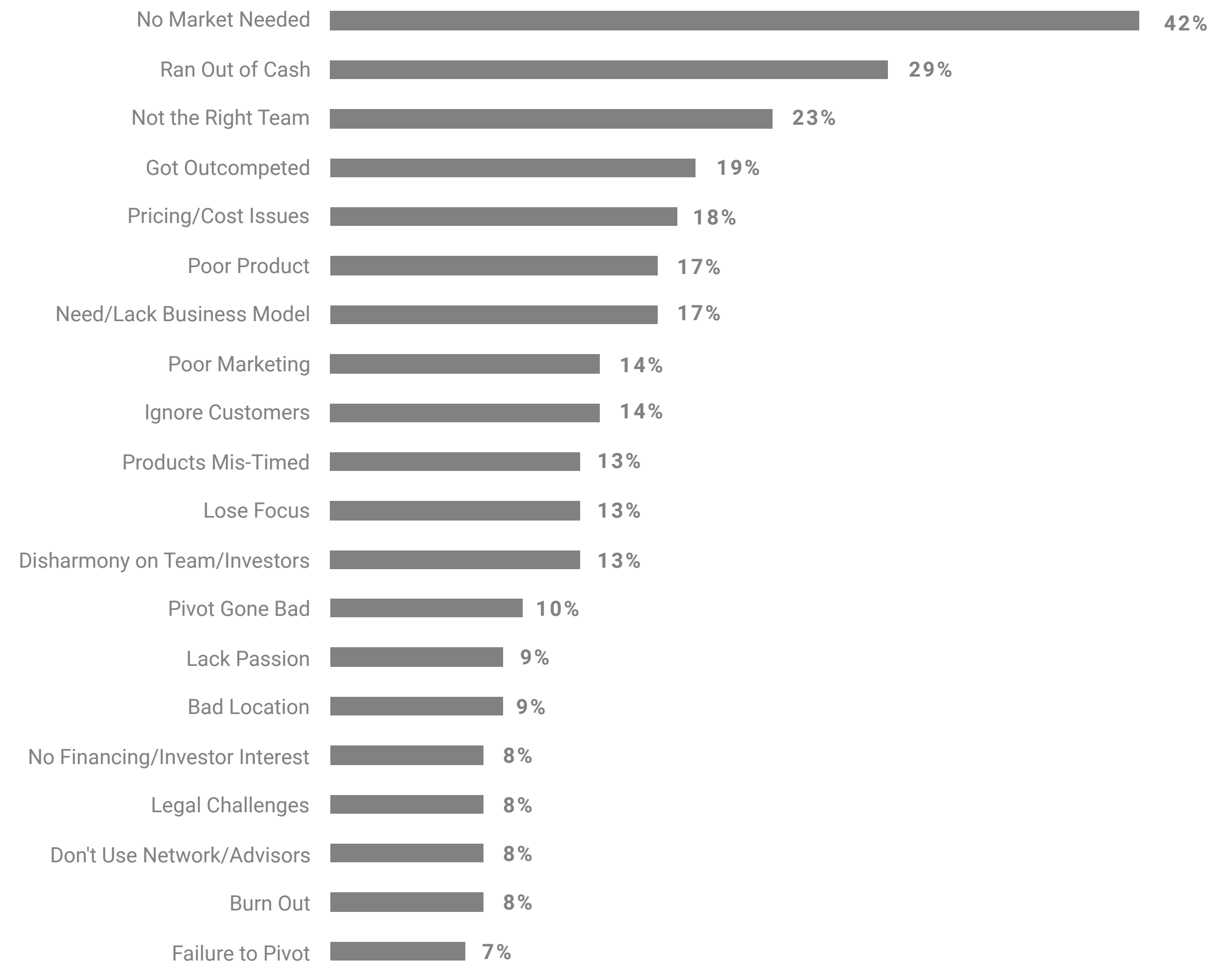


When ex-Apple designer and startup founder/CEO, Mark Kawano, was asked if he was glad that he launched Storehouse even though it closed in 2016, he responded unhesitatingly:

“Absolutely.” [↗](#)

Top 20 Reasons Startups Fail

CB Insights / Anand Sarwal [↗](#)



Fund\$

The “Designification” of Venture Capital

Last year’s Design in Tech Report predicted that there would be more funds started by designers in the future. And with the launch of two new funds — one co-founded by designer Garry Tan and another to soon be announced — it appears that it’s already beginning.

Early-Stage Funds that are Design and/or Inclusion Oriented**

500 Startups
Bloomberg Beta
Collaborative Fund
Cowboy Ventures
Designer Fund
Homebrew
Kapor Capital
KPCB Edge
Rivet Ventures
Slow Ventures
Y Combinator

Later-Stage Funds that are Design and/or Inclusion Oriented**

Accel Partners
Bessemer Venture Partners
Google Ventures
Greylock Partners
Khosla Ventures
Kleiner Perkins Caufield & Byers
New Enterprise Associates
Sequoia Capital
True Ventures

** have (or had) a designer on their team,
or have a stated inclusion focus.

NEW Backstage Capital / March 2016

Arlan Hamilton

“Hamilton is one of the first LGBT black women to start a venture capital fund.” [↗](#)

NEW Initialized Capital / October 2016

Alexis Ohanian and Garry Tan

“We’re founders who are engineers, designers, and product people.” [↗](#)

Trend: Designers Remain in High Demand

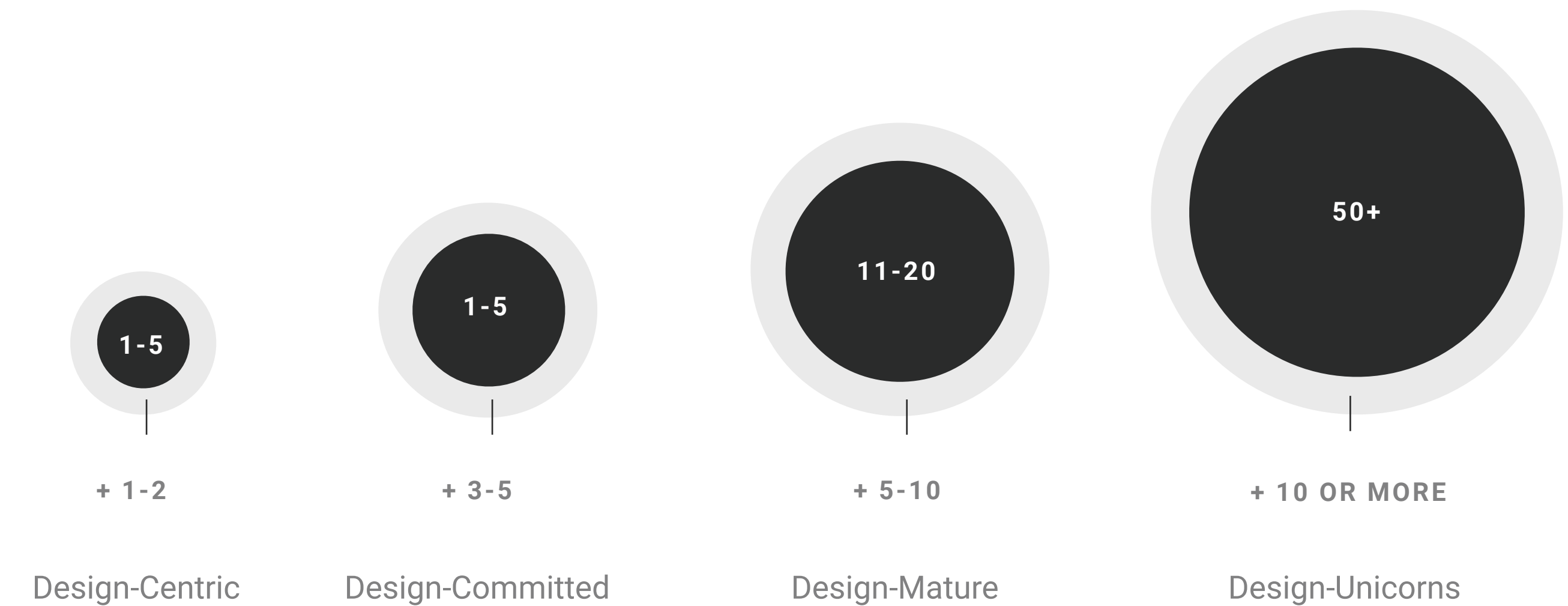
+65% Y/Y

According to LinkedIn the highest echelon of the technology industry is vying for more design talent - Facebook, Google, and Amazon have collectively grown art and design headcount by 65% in the past year - with much headroom to hire more.



SOURCE
NEA Future of Design Survey 2016, p. 24

● Current Number of Designers on Staff [Startups] ● Hiring Targets over next 12 Months [Startups]



Design-Centric: Design was “important” or “very important” to their business. **Committed:** Have a designer as a co-founder
Mature: Have more than \$20m in funding and at least 20 designers on staff. **Unicorn:** Design-centric + Have a valuation in excess of \$1B.

Trend:

Design Thinking
Proliferating Into
Business Schools

100%

Top business schools have student-led design clubs, which are pushing the curriculum in b-schools to shift as well.

“The fundamental profile of designers is beginning to shift as traditional markets begin to value design as a strategic lever.”

—VIA KPCB VENTURED 



STANFORD GRADUATE SCHOOL OF BUSINESS
Design Thinking Bootcamp: From Insights to Innovation



HARVARD BUSINESS SCHOOL
i-Lab Design Thinking & Innovative Problem Solving



INSEAD
Innovation by Design Programme



Designers Jessica Helfand and Michael Bierut join the faculty of Yale SOM / July 2016

BerkeleyHaas

UC BERKLEY HASS
Design Thinking for Business Innovation



UVA DARDEN
Specialization in Design Thinking and Innovation



MIT SLOAN
Product Design and Development



Yale SCHOOL OF MANAGEMENT

YALE SCHOOL OF MANAGEMENT
Design and Management

Trend:

There's No Clear Winner Yet For Tools In Computational Design

"It's the Wild West for managing the files that designers generate. Dropbox is the clear winner, though GitHub does surprisingly well. Overall, it's clear that not a single design-specific solution has taken hold here."

—KHOI VINH



SOURCE
2015 Designer Tools Survey

What is your primary tool for interface design? (2015)

1. Sketch
2. Photoshop
3. HTML/CSS

What is your primary tool for prototyping? (2015)

- 1 HTML/CSS
- 2 Invision
- 3 Other

What tools do you use for project management? (2015)

- 1 Other
- 2 Slack
- 3 Trello

What tools do you use for version control and file management?(2015)

- 1 Dropbox
- 2 Github
- 3 Google Drive

A New Generation of Computational Design Tools are Emerging



SKETCH
2008



INVISION
2011



FRAMER
2014



XD
2015



FIGMA
2015



Abstract

ABSTRACT
2016

Trend:

Creative Communities
Are A Secret Ingredient

Five

Creative community acquisitions
in the last five years. There's
likely going to be more.

*It's important to remember that creative
communities are generally "not for sale" in a
traditional way. Membership is primarily
voluntary, and it is in the pursuit of a
common good as the primary driving factor.*

Bigstock

Acquired: 2009
Shutterstock

Behance

Acquired: 2012
Adobe

Fotolia

Acquired: 2015
Adobe

Muzli

Acquired: 2016
Invision

Deviant Art

Acquired: 2017
Wix

Dribbble

Acquired: 2017
Tiny

Trend: Designers Are Hungry For Capital

80%

20%

Of designers surveyed would start a company if they had access to venture capital / other funding, in ranked order:

1. **Product Studio** →
2. Consumer Startup
3. Enterprise Startup

“The Digital Product Studio blends three components: Consultancy, Venture & Own Product. Each feeds and informs the other in a powerful virtuous circle of network, experience, funding, brand, craft, and talent.”

JULES ERHARDT, IN 2016 STATE OF THE DIGITAL NATION 

Are happy to NOT funded.



China

China Is A Major Force
in Designer Co-Founded
Companies

17 M

Designers in China with 0.5 million
design graduates every year.

Three Designer Co-Founded Chinese Companies Have A Combined Market Cap Of Over \$300B

Alibaba 

Two of the eighteen co-
founders are designers

Visual China 

Four of the seven co-founders
are designers

Xiaomi 

Four of the eight co-
founders are designers

Designer Co-Founded and Venture-Backed Startups Emerging In China

Meitu Xiuxiu 

A selfie photo editor
app and platform

Innomake 

Design-driven smart
transportation project

Youzan 

An e-commerce application
in WeChat app store

Taihuonao 

A design-driven innovative
community and incubator

zcool 

Design community and
imagery resource sharing

Mogujie 

An online fashion e-commerce
platform and community

Xiachufang 

A community to share
cooking recipes

Tezign 

A platform based design
and creative talent solution

China

Four Trends From A Designer CEO's Viewpoint

QR Codes

WeChat embeds QR code reader as the most frictionless means for offline interaction. Offline interactions let you easily LATER scan QR code for payment, visiting a site, adding a friend, etc.

Voice

WeChat lets people leave up to 60 second voice messages. People are holding the speak button on WeChat and speak to the cell phone everywhere. It's leading to micro classes, and micro Q&A apps.

“... software makers in China are far from being mere hawkers of pale, tasteless knockoffs forced onto the unsuspecting public living behind the Firewall.”

—Dan Grover, in *More Chinese Mobile UI Trends* 

FU × AR 福

In the spring festival just passed, 1 billion Chinese mobile users scan the Chinese character "福 (good fortune)" that appears in offline scenes to collect "福" in Alipay.

Transportation

Hub-less bicycle sharing has become app-enabled so you can pick up a bicycle anywhere. the app unlocks the bike with its built-in chip, solid tires, and is chain-less.

Design Needs Designers

“

Capital is being superseded by creativity and the ability to innovate — and therefore by human talents — as the most important factors of production. If talent is becoming the decisive competitive factor, we can be confident that capitalism is being replaced by ‘talentism’...

-KLAUS SCHWAB

Founder of the World Economic Forum [↗](#)

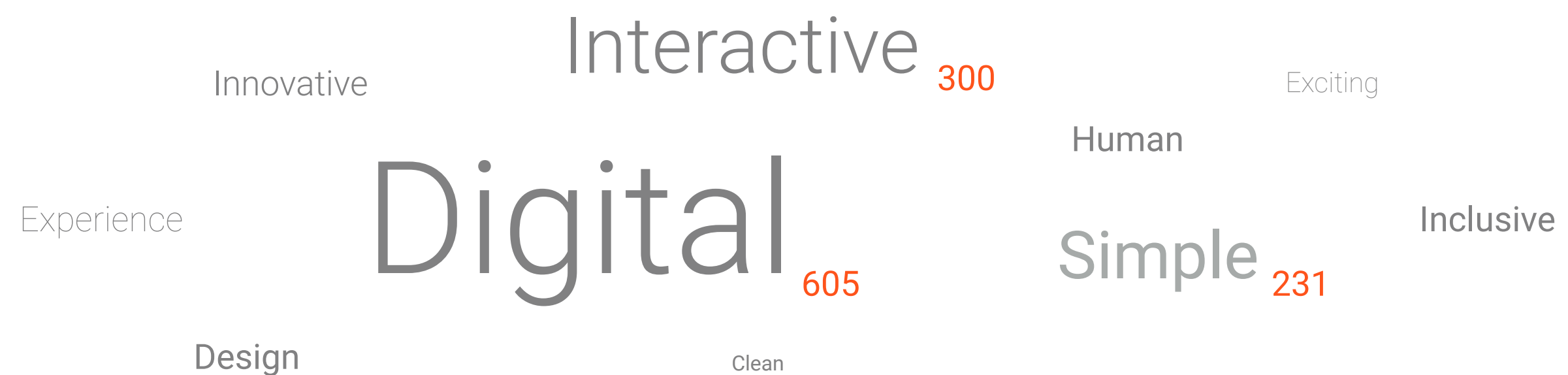
Trend The Future Of Design Is Digital

In 2016, the largest US-based national designer association AIGA issued a study in collaboration with Google to reveal a sentiment shift for its future towards digital and interactive forms of design.



SOURCE
AIGA x Google Design Census 2016

Top 10 words to describe the Future of Design
Size is proportional to *popularity*



LEAST SATISFIED DESIGNERS

Publishing (74%), Print Design (74%),
Architecture (71%)

MOST SATISFIED DESIGNERS

Industrial/Product Design (83%), Brand Strategy (82%),
Digital Design (82%)

Accelerated Learning:

Teaching Yourself Online

86%

of students surveyed say they learned their digital skills from resources outside their coursework.

The average program in design's primary area of expertise lies in Classical Design instead of *Computational* Design. Furthermore, their traditional emphasis is on individual creation (versus teamwork), intuition-driven work (versus testing), and eschewing business thinking (as equivalent to "selling out").

Free Options



HIGH RESOLUTION

Design.blog

WIZELINE

Inexpensive Options



YouTube



Google



Tuition Options



SCAD

More than Design:

Code is not the only
unicorn skill

Programs

Design Schools that include Writing
degrees or offer Writing and Content
Strategy focused coursework

1. School of Visual Arts IxD MFA [↗](#)
2. Otis College of Art and Design MFA [↗](#)
3. Ringling College of Art and Design BFA [↗](#)
4. Savannah College of Art and Design BFA/MFA [↗](#)

Verbal Design

We talk about the power of words – both content and style – all the time. When it comes to friendships, romance, work dynamics, and, dare we even mention it – though nothing is more telling, more relevant – politics, words have the power to change our opinions, incite action, divide or unify us, move us. Words can shape reality.

JENNIFER VAN [↗](#)

Words as Material

“I think of design as a process of articulation. We join together to express an idea in a coherent form. We bring ideas to life. We connect the dots or build bridges for our users. That often means being specific about what a product does, who it’s for, why it matters, and how it works. We have to trek through a pile of ambiguity to do this.”

NICOLE FENTON [↗](#)

Why UX Design is a Lot Like Writing

“Here’s where I’d like to draw the parallel with writing – because a core skill of the interaction designer is imagining users (characters), motivations, actions, reactions, obstacles, successes, and a complete set of “what if” scenarios.”

SUSAN STUART [↗](#)

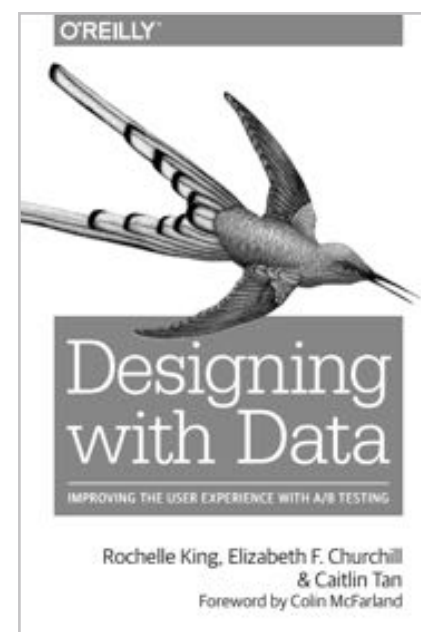
The Design Education Gap:

Acquiring Data, Business, and Leadership skills beyond the classroom

The top 3 skills needed by designers in practice are not available to them as basic coursework in education as a designer.

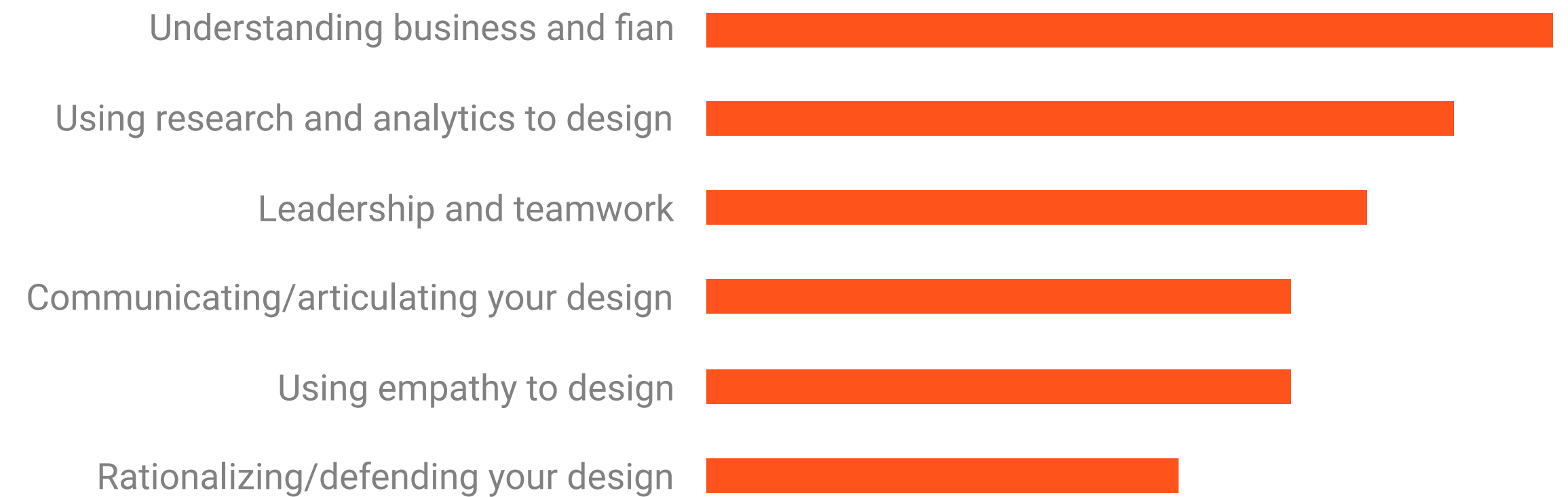


ROCHELLE KING
Designing with Data



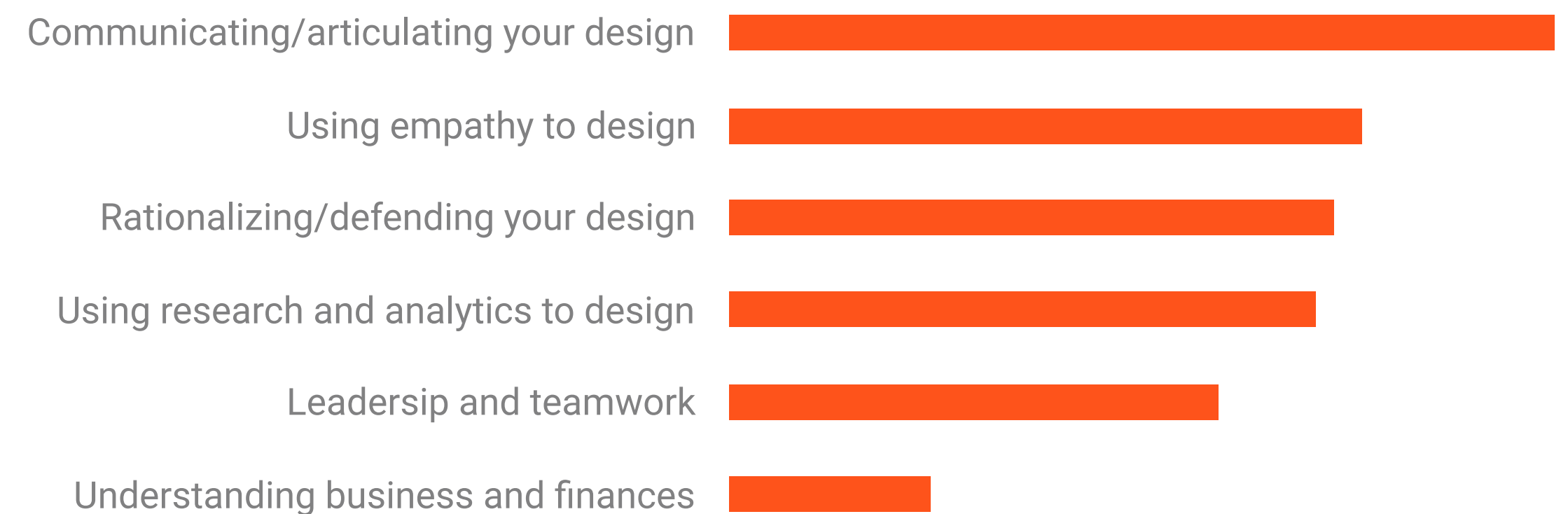
Research and Analytics need Prioritization

Desired biases by past design Graduates



Business and Finances aren't Prioritized

Current design education biases



Orgs:

There's No Single,
Perfect, Design
Organizational Structure

46%

of designers surveyed say that their
highest ranked design leader reports
to the CEO. 2nd highest (at 31%) is
VP/Head of Product.

Simple

COMPANY A

Design Leader

- Junior/Associate Designer
- Designer
- Senior Designer
- Lead Designer
- Principal Designer
- Design Fellow

Types of
positions
and levels

Research + Content

COMPANY B

Design Leader

- Experience Designer
- Senior Experience Designer
- Manager, Experience Design
- Director, Experience Design
- Experience Researcher
- Senior Experience Researcher
- Manager, Experience Research
- Director, Experience Research
- Content Experience Designer
- Content Strategist

Research + Content + Marketing

COMPANY C

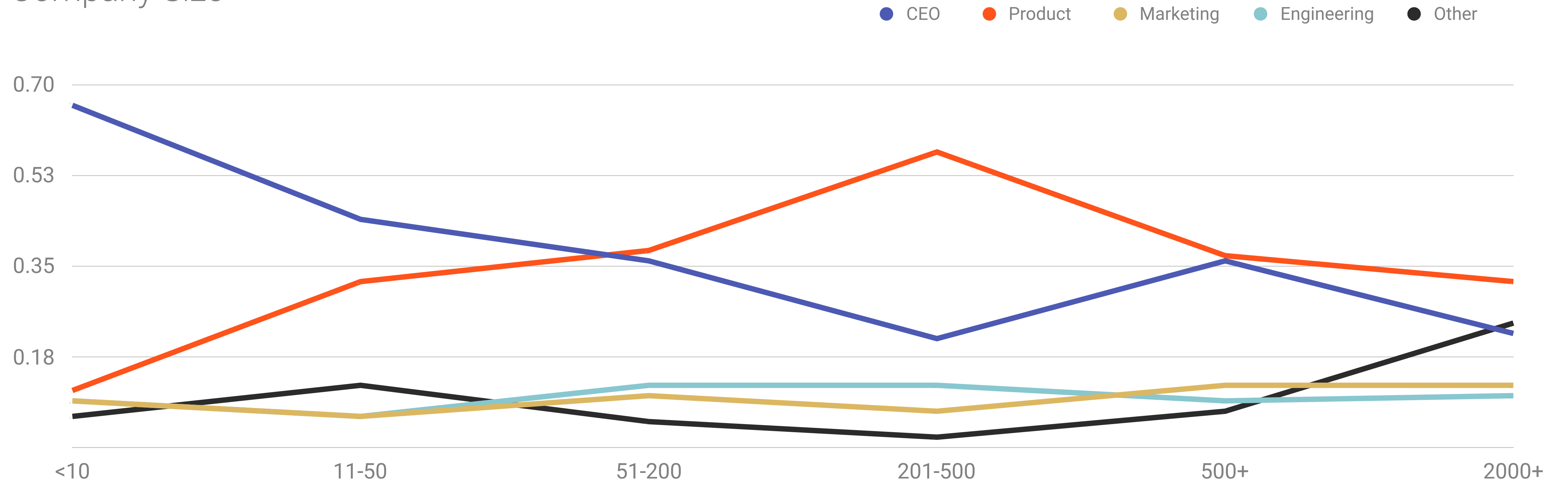
Design Leader

- Creative Director
- Senior Creative Director
- Art Director
- Senior Art Director
- Illustration Director
- Brand Designer
- Product Designer
- Senior Product Designer
- Product Design Manager
- Product Design Director
- User Experience Researcher
- User Experience Research Manager
- User Experience Research Director
- User Experience Strategist
- Copywriter
- Product Copywriter

Types of
functions
spanned

Orgs:

Where Design Reports
Changes Based Upon
Company Size



Orgs:

From Annual
Design In Tech Report
Sentiment Survey

70%

Of agencies have a single holistic design team that includes designers who focus on brand/comms/marketing.

50%

Of companies have a single holistic design team. The other half splits designers across marketing and product.

Impact and lacking challenging work is the #1 factor for designers switching jobs



Average Tenure

Agency = 4 years

In-House = 2.4 years

Independent Contractors = 3.8 years

Shaping Voice



I don't make songs for free.
I make them for freedom.

CHANCE THE RAPPER

Blessings in Coloring Book, 2016



Blogs Brought New Voices To The Web

23

Blogs
1999

50M

Blogs
2006

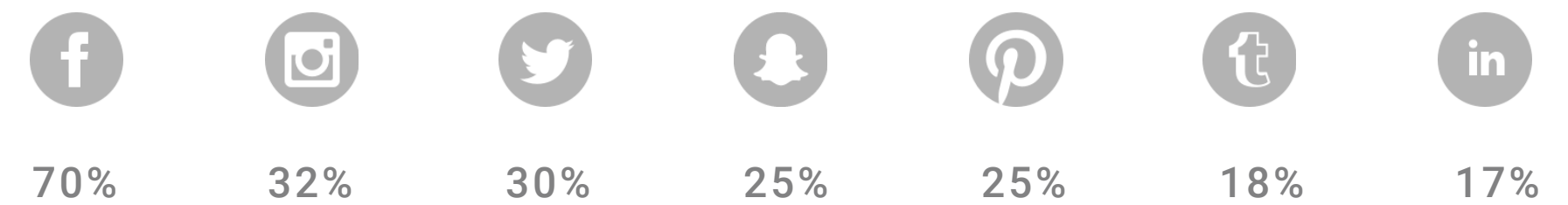


Social media
= blogging

2017

The democratization of influence

Weekly Usage by Percentage



27% of the internet is powered by WordPress

Design is:

Less Open These Days

8 of 10

Smart phone apps are owned by Google or Facebook, and when mobile devices are used there is **20%** chance the person is engaging the Facebook app.

“The open architecture of the web led to an incredible era of experimentation. Many startups were controversial when they were first founded. What if AOL or some other central gatekeeper had controlled the web, and developers had to ask permission to create Google, YouTube, eBay, Paypal, Wikipedia, Twitter, Facebook, etc. Sadly, this is where we’re headed on mobile.”

CHRIS DIXON

“The Decline of the Mobile Web” 

Design is:

Attention to Detail, but
Context is Everything

Design is concerned with all the details that make an experience something that is spectacular and memorable. That said, these days it isn't an easy task to achieve given how devices can vary and how browsers can interpret code in a variety of unpredictable ways. But the greater context in which these experiences come to be need to be considered.

Variability in Browsers

IE	Edge	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Android Browser	Chrome Android
			55			9.3		4.4.4	
11	14	51	56	10	43	10.2	ALL	53	56
	15	52	57	10.1	44				
		53	58	TP	45				
		54	59						

Using caniuse.com to see if a particular CSS descriptor works across browsers.

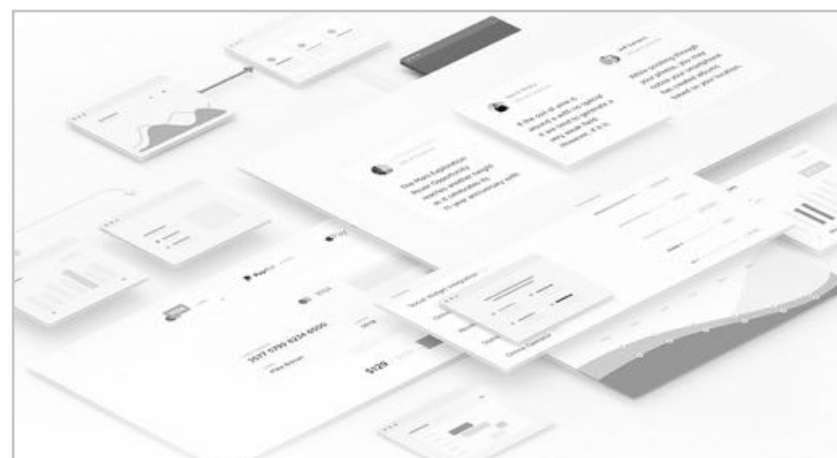
Variability in Devices



How and whether people hold different device types, by [Steven Hooper](#)

Design Is Not Just For Our Five Senses

Often in how design is talked about with regards to the screen, the topic of “how it looks” dominates the main discussion. However, the one design trend with the most significance today for web content creators is an invisible one: *Will my page get found?* Which means designing for the non-human viewer, too.



SOURCE

2017 Design Trends Guide [↗](#)

Design Trends

Authors: Loredana Papp-Dinea | Co-Author: Mihai Baldean

Semi-Flat Design	1	Custom Graphics and Illustrations	10
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Design is:

Now A Lot of Talk

Chat-based interfaces are grounded in mental models that don't require a complex graphical representation and navigation system.

1B

Facebook Messenger Users

846M

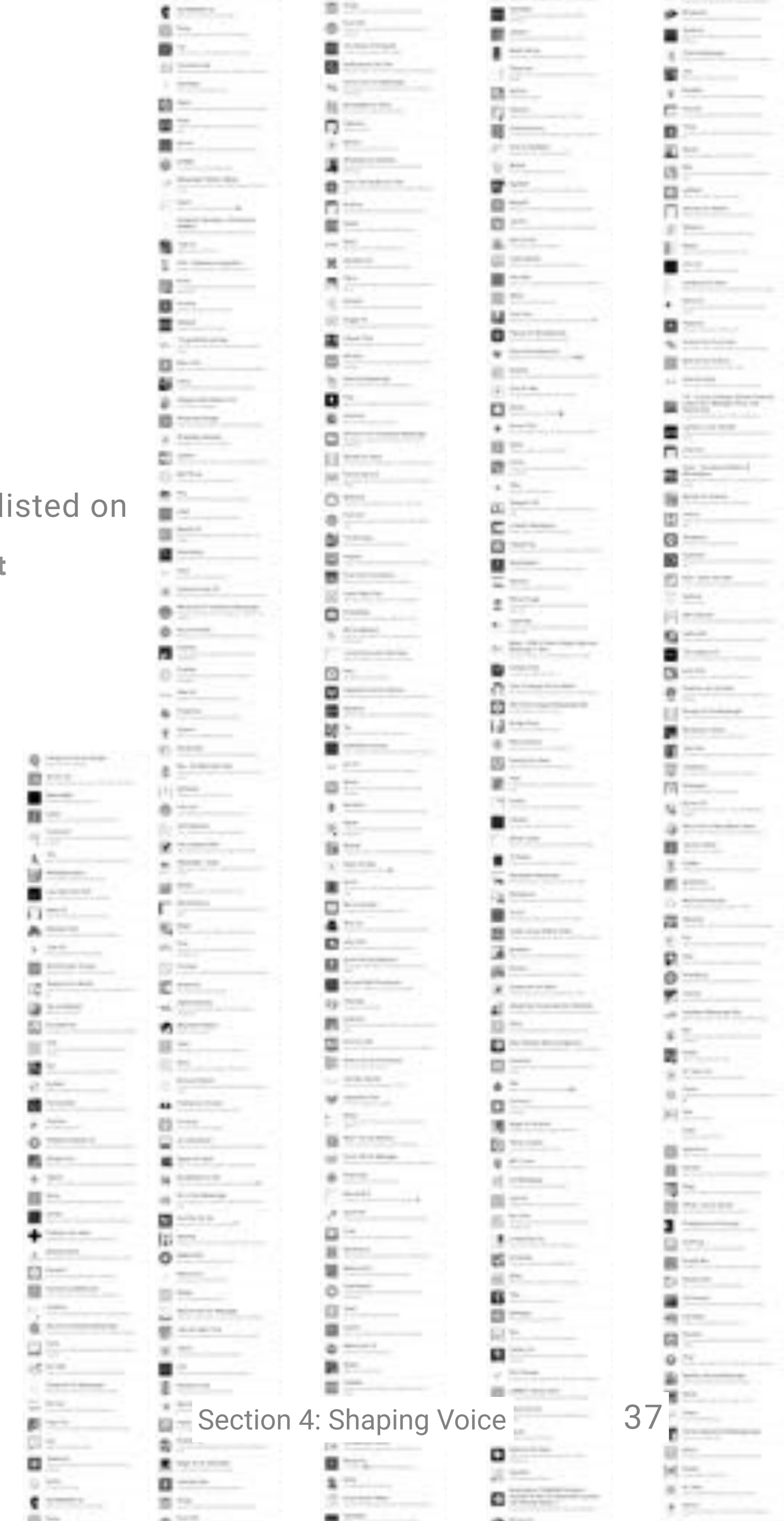
WeChat Users

Conversational interfaces are grounded in the original CLI (Command Line Interfaces) and are a bit retro, but effective.

394


Chat Services listed on


 Product Hunt



Design Is The Computer, Attentive To You

Prior to 2012, the average error rate for image recognition was 28% and for speech recognition it was 26%. After ML, the average error rate for image recognition became 7% and for speech reco 4%.


Put That There
for DARPA 
CHRIS SCHMANDT [1981]


“Voice will **not** replace
the screen”
JAKOB NIELSEN [2003] 


The Arrival of
Machine Learning
BENEDICT EVANS [2012] 


5.3M

Amazon Echo’s sold
AMAZON.COM [2016]

 Ellen talks with Siri
(2012)

 IBM Watson wins
Jeopardy (2013)

 A news anchor accidentally
ordered items for viewers with the
device. —via CNN (2016)

 Adobe exploring what digital
photo editing via voice. —via
YouTube (2017)

Help

Wanted:

Designers In Security

\$150K—200K/yr

The cost for protection against a sophisticated DDoS attack. For an individual journalist, it's a prohibitive one that threatens the future of the Open Web. [↗](#)

Today's connected technology products and services make us more vulnerable than ever before - it's incumbent upon designers to build product features and UX that call out and protect against those vulnerabilities for end users. Bottom line — you don't need to be a cyber expert to be a designer in security. *Learn more about non-profit organization Simply Secure.* [↗](#)

“Privacy and security matter, and if you care about any part of the Internet then you need to care about security, because there are so many risks — including IoT related risks these days. Designers are needed to make the complex challenges of security actionable and understandable. It's a great opportunity for design leadership: complex problems with multiple stakeholders and an urgent need for human-centered thinking.”

AME ELLIOTT

Design Director of Simply Secure 

Design Is By Nature Inclusive



By recognizing *exclusion* we can start to build empathy for people who interact with unwelcoming designs every day of their lives.

KAT HOLMES, IN *DESIGN.BLOG*

Principal Design Director, Inclusive Design at Microsoft

A Shift:

Moving towards inclusivity

Historically speaking, technology products weren't designed with inclusivity in mind because the users of the products were generally the makers of the products. The number of people using computers used to be very small. However today, due to smart phone proliferation, everyone is now using computers. To design for everyone, we need to now think and work more inclusively than ever before.

July 2015

Google Mistakenly Tags Black People As "Gorillas" Showing Limits Of Algorithms. [↗](#)

ALISTAIR BARR
The Wall Street Journal

June 2016

More Airbnb Customers Are Complaining About Racism. [↗](#)

A.W.
The Economist

Aug 2016

Clearly Snapchat Doesn't Get What's Wrong With Yellowface. [↗](#)

DAVEY ALBA
Wired

Aug 2016

How Nextdoor reduced racist posts by 75% [↗](#)

KASHMIR HILL
Fusion

Sep 2016

Airbnb CEO: "Bias and Discrimination Have No Place" Here. [↗](#)

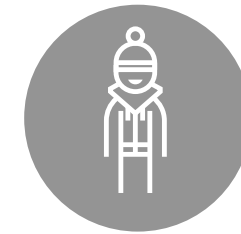
ALEX FITZPATRICK
Time

Survey

Companies trending upwards in design perception:

1. Airbnb
2. Google
3. Slack
4. Microsoft

A Tool: Microsoft Inclusive Design Toolkit



Alone



With coworkers



In a crowd

15,000+

Downloads of the Microsoft's inclusive toolkit since September of 2015, with 23% of those downloads occurring since the start of the year. The toolkit consists of the manual, activities, and videos that have been used to facilitate a range of workshops on *inclusive design* in South America, Asia, Europe, and all over the United States. [↗](#)

IBM's Accessibility Handbook has had > 50K views and 10K paper copies distributed to date [↗](#)

Frame | Persona Network

Purpose
To consider design challenges in terms of someone's personal ecosystem.

Instructions

1. With a particular person in mind, make note of who they interact with every day. Who do they rely on? Trust? Enjoy?
2. Draw a map of the person and their key interactions with 3-5 people. Include the different types of interactions that typically take place, such as making plans for dinner or going to work.
3. List the mismatches between the person and their environment.

Materials
The social context support card
Note taking supplies

Tips
There's no one "right" way to map the network. Do what makes sense for your creative process.
Do this activity after learning about the challenges, enablement, successes, and motivations of a person(s) with a permanent disability.

Inclusive

Iterate | Simulations

Purpose
To reveal opportunities for improving your solution by simulating temporary and situational limitations.

Instructions

1. Write the sequence of steps a user will take in your solution.
2. From the Temporary/Situational Limit support card, choose one limitation.
3. Recreate this limitation for yourself.
4. Go through the sequence of steps you wrote in #1.
5. Note what could be improved.
6. Adjust your design.
7. Repeat with other limitations from the Temporary/Situational Limit support card.

Materials
Temporary/Situational Limit support card
A prototype (low to high fidelity).

Tips
Build your solution by creating low to medium fidelity prototypes. Examine and define what you want the interactive experience to be holistically and from a micro-view.
Iteration takes into consideration the full Persona Spectrum and what's appropriate physically, contextually, environmentally, and socially for the person(s) involved.

Inclusive

Ideate | Mismatch to Solution II

Purpose
To generate design concepts based on inspiration from mismatched interactions.

Instructions

1. From the list you generated in Mismatch to Solution I, pick the three you're most interested in.
2. As individuals, use the first idea and brainstorm for 3-5 minutes to generate a list of possible solutions. Write the solutions on sticky notes. One idea per note.
3. Repeat step #2 with your next.
4. If you're in a group, share your ideas and group them in clusters of like ideas. Or filter the ideas according to what you'd like to work on as a team.

Materials
Examples of Mismatch support card
Sticky notes, pens

Tips
Place emphasis on generating a volume of ideas before clustering and filtering.
Start the activity with a one-minute timer that illustrates how much can be accomplished in a one-minute brainstorm session. Give participants a word like "jump" and ask them to write down their associations with the word.

Inclusive



Inclusive Design is Good Business

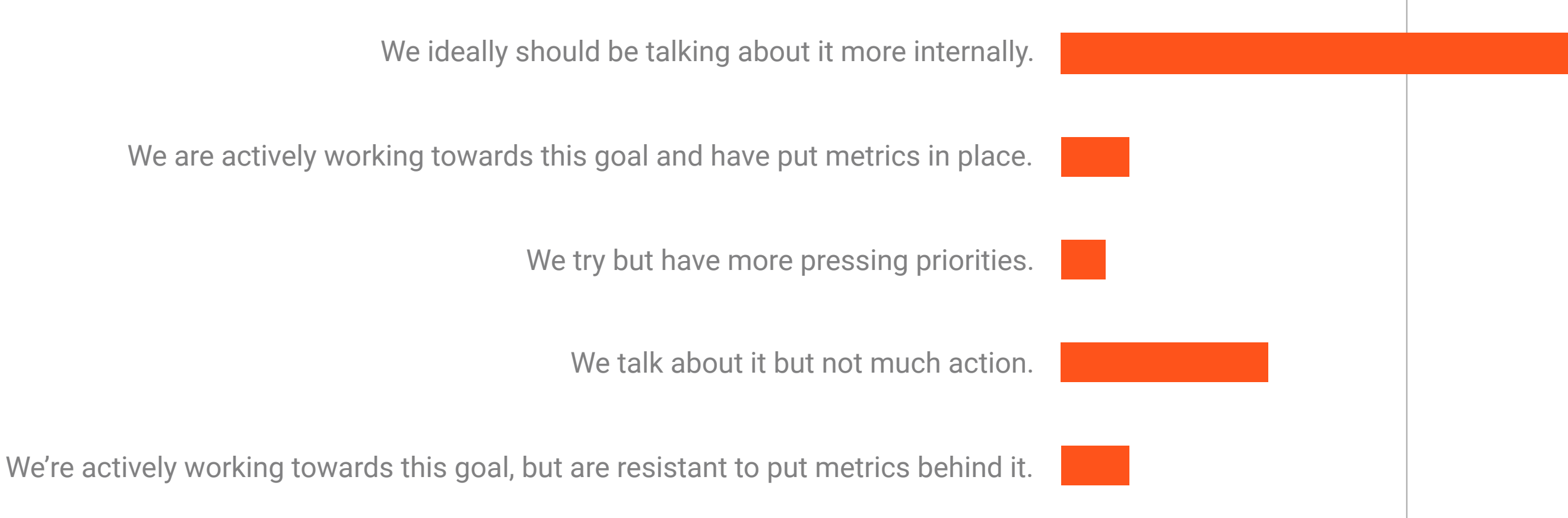
90% *Is having a more diverse design team important to you, personally?*



Of designers surveyed answered YES.
8% were INDIFFERENT. 2% were NO.

As products and services in our lives become more personalized, there is a growing need for the teams that build products to look and feel like the users on the other side. Recruiting and retaining diverse teams is essential for inclusive design — it's more important than ever before.

—2016 DESIGN IN TECH REPORT



The Conversation

"We're already very diverse. When diversity becomes part of the culture you don't have to manufacture it."

"We haven't talked about this and there are more pressing priorities."

"It's very diverse already and we're pushing design into completely uncharted areas in terms of geography and industry."

"Biggest issue is diversity outside of the design team. Design team is not the problem."



One of the things I have learned about effective decision making is that the best decisions are often made by diverse groups of people. Saying or hearing these words is magic: That's really interesting, I had never thought of it that way before. Thank you.

MARY MEEKER

Internet Trends Report Founder and KPCB Partner

Thank you to all of our contributors

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What is Design? It's about business. It's about people. It's about technology. It's now about digital technology — which touches a lot of people. And it's now about a lot of people unlike yourself since it is in the *millions* of people. Because it involves so many people today, design responsibly.

Valerie Casey invites you to start a Creative Power Day in your community [↗](#)

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This is the third publication of the Design In Tech report. We will post any updates revisions or clarifications at

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Please report any errors to @johnmaeda on Twitter. Thank you!

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