THE DEMOCRATIZATION OF TECHNICAL SKILLS

Jason Tedeschi Spring 2020



- What Does "Democratizing Technical Skills" Mean?
- What is the Problem?
- Drivers of Demand for New Methods of Technical Training
- Training Technical Skills Sit At The Crossroads of Several Major Markets
- Areas for Diligence and Keys to Achieving Success at Scale
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What Does "Democratizing Technical Skills" Mean?

- The idea of democratizing technical skills is to:
 - teach IT skills to those without technical backgrounds,
 - and to provide methods of building or expanding on technical skills for those who possess them through non-traditional methods (i.e. not college education or in-house corporate training)
- This report takes a broad view of "technical skills," including, but not limited to:
 - Programming
 - Web design
 - Data science
 - UI/UX design
 - Graphic design
 - Mobile development
 - Cyber security



Talent Shortage And Large Skills Gap In Technology Industry Are Likely To Persist

- In the U.S. and globally, firms are facing shortages of technically skilled employees
- Additionally, as the pace of technological change continues to accelerate, existing tech teams require continuous education to remain effective
- CIOs are reporting that the main reason they increased outsourced technical spending is to "provide access to skills not available inhouse"
- As technical skills evolve and employees develop additional skills, management teams often face an inability to monitor and understand in-house technical capabilities

Percentage of Organizations Reporting That Skills Shortages Are Preventing Them From Keeping Up With The Pace of Technology Change



Source: Harvey Nash/KPMG CIO Survey 2019

Drivers of Demand for New Methods of Technical Training

- Growing talent shortage
 - Only 106,000 U.S. undergraduates enrolled in computer science programs in 2017
 - This figure doubled from 2013, but interest is outstripping the growth in qualified professors (many of whom have been hired by tech firms)
- All firms are becoming tech firms; positions that previously didn't require technical skills now often do
 - Software to automate manual tasks is growing at 20% per year
- Soaring costs of hiring and retaining technical talent (especially in highdemand regions (SF, NYC, Boston, etc.)

- Constantly evolving technology (ex. AI/ML, cloud-computing, mobile, data proliferation)
 - In a recent Deloitte survey, 84% of respondents who said that automation would require reskilling reported that they are increasing funding for reskilling and retraining
- Soaring costs of U.S. college educations
 / student loan overhang
- Upskilling improves employee morale and reduces turnover

Why Invest In Employee Training?

77%	of employees would learn new skills now or completely retrain to improve their future employability
53%	of employees believe automation will significantly impact or make their job obsolete within a decade
49%	of employers find it difficult to hire tech employees
79%	of employees don't have access to good internal mobility opportunities
54%	of employees will require significant re-/upskilling by 2022

New Methods of Training Technical Skills Sit At The Crossroads of Several Major Markets

- To ascertain the potential size of the technical skill development landscape, one must consider several adjacent industries:
 - Traditional, pure-play technical education
 - Corporate training
 - Temporary IT staffing
 - IT consulting
 - B2C skill development
 - Traditional college education
- Due to the nascent and evolving of the industry we are trying to define, it is unclear which of the industries above will be most disrupted, but it is likely all see some impact

Selected Market Sizing Statistics

- Roughly 102 million IT professionals worldwide
- 24 million software developers worldwide (growing 4x faster than total population)
- \$400 billion spent globally on internal/external corporate training
- \$19 billion spent globally on IT education and training services
- \$32 billion spent annually in the U.S. for temporary IT staffing
- \$500 billion spent annually in the U.S. on IT consultants

Source: Harvey Nash/KPMG, US Census Bureau, Morgan Stanley, William Blair, IBIS World, Evans Data

Areas for Diligence and Keys to Achieving Success at Scale

Areas for Diligence

- Completeness of product set (breadth of skills and ancillary services)
- Go-to-market
- Enterprise sales efforts, if applicable
- Ownership of IP (in-house or contracted)
- Differentiation of solution
- Business model (on-site, online, mentor, etc.)
- Competition in corporate learning market

Keys to Achieving Success at Scale

- Efficiency (% completion, aptitude, etc.)
- Ability to transition from B2C to enterprise
- Flexible, capital-light delivery
- Ability to deliver continuous education (focused on learning in a finite period vs. bootcamp/university)
- Continuous visibility into current and missing skills within a client organization
- Partnerships with large tech/cloud platforms

Case Study: Pluralsight

Company Overview	Financial Snapshot				
• HQ: Farmington, UT					Implied Multiple
Founded: 2004	Market Cap	\$1,828.8	2019 Rev	\$316.9	6.0x
Employees: 1,700	Debt	491.4	2020 Rev	375.1	5.1x
 Offers courses in software development, cloud 	Cash & ST	406.2	2019 EBITDA	(134.8)	n/m
computing, IT opps, cybersecurity, creative, AI, ML, etc.	Enterprise Value	1,914.0	2020 EBITDA	(47.8)	n/m
 B2B and B2C offerings 					

Source: CapitallQ as of May 6, 2020

Product Offering

- Skill IQ: Adaptive assessment for measuring a user's proficiency in a specific technology skill
- Role IQ: Creates custom learning paths to help fill individual's skill gaps
- Skills Analytics: Offers CIO/CTOs wholistic view of tech skills across organization down to employee level
- Channel Analytics: Enterprises can create custom learning paths for their employees
- Flow: Allows IT managers to monitor coding employee productivity in real time

Date	Target	EV	Description
05/01/19	GitPrime	\$170	Developer team productivity tool
07/19/16	TrainSignal	\$24	Adobe-centric video training company
07/09/15	HackHands	n/a	Online mentoring platform for programmers
01/26/15	Code School	\$36	Online learn-to- code destination
11/19/14	Smarterer	\$75	Provider of skills assessment solutions
04/09/14	Digital-Tutors	\$45	Creative software training services
10/31/13	Tekpub	n/a	Screencast publisher for developers
07/24/13	PeepCode	n/a	Provider of open-source developer courses

Recent Acquisitions

Case Studies: Selected New Entrants

DataQuest		Springboard		
DATAQUEST	Founded/HQ: 2015, San Francisco Raised: n/a Employees: 60 Skills: Python, R, and SQL Differentiator: Eschews text or video- based learning for interactive lessons. Learn a new concept, write code to apply it, troubleshoot if needed, and move on	% Springboard	Founded/HQ: 2013, San Francisco Raised: \$31m Employees: ~200 FTEs; ~800 PT mentors Skills: ML, data science, software engineering, UI/UX design, analytics Differentiator: Part-time online bootcamp paired mentorships with expert currently in the field in 40 countries; job guarantees and tuition deferment	
KnowBe4		Code Institute		
KnowBe4 Human error. Conquered.	Founded/HQ: Clearwater (FL), 2010 Raised: \$393m Employees: 845 Skills: Cybersecurity Differentiator: Trains users to recognize red flags of phishing, utilizing a tools that enable IT to send simulated phishing emails to users who can be given immediate training by reformed hackers	code institute	Founded/HQ: Dublin (Ire), 2015 Raised: \$2.3m Employees: 25 FTE; 50 PTEs Skills: Full-stack software development Differentiator: Online bootcamp that has partnered with universities in the US, Canada and Europe to certify its courses and have them accepted for course credit	

Selected Potential Acquirors



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