



# THE STATE OF WORKFORCE EDTECH

September 2018

A look at funding & innovation  
in modern workforce education

**LearnLaunch**

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# Introduction

A global crisis unfolds as disruptive innovations devour traditional industries and professions, leaving the future uncertain for many workers. This research study examines the growing ecosystem of entrepreneurs taking aim at this challenge by creating new solutions for skill training and workforce readiness.

A surprising amount of capital is being injected into this space to support the formation of a large number of new companies. We found that startups could be categorized into a general two-dimensional framework. The first dimension is defined by buyer type and includes the categories of informal learning, formal education and workplace learning. The second dimension encompasses technology solutions that enable the above categories. There are notable overlaps between the categories as companies are addressing multiple buyers. Additionally, we found that:

- Over 240 US-based private companies have received funding since 2015, totaling \$2.9B. This number would be a lot larger if all funding was fully disclosed, but due to strong participation of private equity this is not true<sup>1</sup>.
- Informal and Workplace learning categories attracted the lion's share of investment.
- Compared to 2015, informal learning shows signs of cooling down with recently more capital flowing into workplace edtech category.
- Unlike other edtech verticals, workforce edtech companies attract a broader set of investors including not only specialized VCs and impact investors, but also a long list of general VCs.
- Backing from government agencies and philanthropic players create incentives for private funders to invest into this category.
- Startups exist on a wide spectrum of technical savviness, ranging from low-tech companies addressing emerging needs (ex: Bootcamps) to high-tech companies inventing new learning paradigms and talent pipelines.

At LearnLaunch, we are passionate about helping education entrepreneurs address problems of consequence to society and the world. The future of work will impact the entire world, and it's our mission to support bold entrepreneurs creating solutions for the workforce of the future.

<sup>1</sup> Bain Capital-led investor group acquires Penn Foster from Vistria, PE Hub, May 1, 2018

The future of work is a hot topic. The acceleration of automation and outsourcing is causing large-scale job displacement across many industry sectors. McKinsey Global Institute estimates that 800M jobs worldwide could be displaced by 2030<sup>2</sup> and that few professions are immune from these forces. For example, many aspects of legal professions are being replaced by machine learning, resulting in fewer jobs and fewer entry-level learning opportunities.

To keep pace with innovation, modern corporations are expanding their learning and development programs. On-demand training is essential to corporations operating in dynamic and compliance-driven markets. In addition, businesses are increasing the use of online functional training programs as middle-skill talent becomes scarcer. A more recent trend is the inclusion of soft skill development and employee wellbeing in corporate learning playbooks. For example, Google recently determined that the top seven characteristics required for success at the company are all non-technical skills<sup>3</sup>.

In the midst of this upheaval, entrepreneurs have identified opportunities and are creating tech-enabled startups for learning content development, delivery, assessment and credentialing.

This study examined the characteristics of three market segments - the workplace, formal institutions, and informal learning - all fueled by innovative technology. We have discovered that substantial opportunity exists within each category, but that the informal segments and workplace segments have the most favorable characteristics for entrepreneurs. We have also discovered that many startups are serving more than one type of buyer, out of necessity and design.

**INFORMAL LEARNING** is exploding as smartphone ownership and internet connectivity pervade the world. It's been estimated that more learning happens on YouTube everyday than in all global brick and mortar institutions. Investor enthusiasm for informal learning stems from the massive potential customer base and the new business models emerging in this space. High rate of company formation in the category is driven by relatively low barriers to enter most markets.

<sup>2</sup> What the future of work will mean for jobs, skills, and wages. McKinsey Global Institute. November 2017

<sup>3</sup> The surprising thing Google learned about its employees. Washington Post. December 20, 2017

The **WORKPLACE** (businesses) is an established and healthy customer segment (\$31B globally by 2020<sup>4</sup>) and the buyer segment with arguably the most urgent need. Corporations are desperate to find and nurture appropriately skilled workers to fill emerging roles. Startups targeting the workplace segment responded to this need by raising \$1.4B for content and technology combined since 2015.

**FORMAL** education providers face their own unique challenges in the workforce ecosystem. The rise of informal learning and the burden of student loan debt is forcing many higher educational institutions to reexamine their core merits. As a result, formal institutions are becoming more open to augmenting their career and academic services with third-party programs. Entrepreneurs in this space should be concerned with the smaller relative market size and long sales cycle typical to higher ed.

<sup>4</sup> Global Corporate E-learning Market to Reach over USD 31 Billion by 2020, says Technavio. BusinessWire. January 29, 2016

# Key Takeaways

- 1. HIGH LEVELS OF COMPANY FORMATION AND SEED INVESTMENT IN WORKFORCE EDTECH**

We discovered over 246 companies in the US alone that have raised venture-class capital funding since 2015. Early stage companies attracted the majority of these transactions. 30% of the transactions amounted to less than \$1M infused in the business, and 65% of all transactions amounted to less than \$5M raised.
- 2. STARTUPS ARE ATTRACTING DIVERSE FUNDERS**

Our research found significant investment activity in the area of workforce education. We identified \$2.9B invested in these businesses in the U.S. alone. Furthermore, we observed a clear definition of workforce education as an investment category with specialists, generalists, and impact investors. Government agencies and philanthropic players can support additional business models and create incentives for private funders to invest into this category.
- 3. TECHNOLOGY UNDERPINS MOST OF THE COMPANY FORMATION**

Higher ed institutions and corporate learning incumbents are failing to reskill workers at the rate required to keep pace with demand. Workforce startups are leveraging the economics and potential of technology as the genesis of new product offerings, business models, and distribution methods.
- 4. INFORMAL LEARNING IS A MATURING SEGMENT**

Informal learning, as a category, showed the highest company formation rate and attracted the most investor appetite. Informal learning companies raised 46% of the total funding over time. Enthusiasm for informal learning is driven by the corporate demand for employees with modernized skills, the shortcomings of higher education, and the relatively low barriers to entry in this market. More recently investment into informal learning has shown signs of cooling down, with accelerating growth in the workplace edtech category.
- 5. INFORMAL LEARNING IMPACTS CORPORATE & FORMAL ED**

Informal learning is filling the gaps between formal education and the workforce as well as establishing new talent pipelines. Businesses are hungry for third-party content that enables them to be more responsive to changing workforce needs. Formal institutions are leveraging informal training marketplaces for distribution and vice-versa, informal learning programs are experimenting with consumer, formal, and corporate customers as viable segments.

## **NEW CREDENTIALING INFRASTRUCTURE IS EMERGING**

**6.** Badging and credentialing technology gives shape to informal learning by providing a vehicle to legitimize the skills acquired across a lifetime of learning; particularly those acquired outside of traditional higher education. However, less than 10%<sup>5</sup> of the 4,000 credentialing bodies in the US are accredited, resulting a splintered market with low consensus on the value of many credentials. Innovators are focused on establishing new accreditation standards and facilitating verified marketplaces that match credentialed individuals with opportunities. Blockchain technology will disaggregate the certificate from training institutions by providing an alternative method for validating skills and credentials.

## **NEW TRAINING AND PLACEMENT AGENTS CLOSE THE ROI GAP**

**7.** A new generation of placement agencies are reimaging the talent development pipeline and shifting the costs and risks away from individual learners. Savvy providers are self-incentivizing themselves to provide efficient and comprehensive services by offering income-based repayment models. These innovators will pressure the value propositions of both informal tuition-based training providers and formal education providers.

## **SHIFT TO DISTRIBUTED CORPORATE TRAINING SYSTEMS UNDERWAY**

**8.** Corporations are loosening control on legacy monolithic Learning & Development systems and are increasing their use of specialized on-demand programs tailored for broader talent audiences. This allows individual departments to not only deliver more training in context, but also respond to the need for training on emerging skills. Subscription-based, lower-cost offerings have also unlocked the benefits of corporate training for many small and medium sized businesses.

## **MICRO-LEARNING IS A NEW LEARNING PARADIGM**

**9.** Micro-learning is the leitmotiv of the new generation of LMS providers. Research suggests that information is best retained when learning is delivered in short bursts and reinforced over time. With mobile technology enabling just-in-time delivery, micro-learning opens new opportunities for learning personalization and contextualization. Additionally, new content creation systems have made the capturing and sharing of micro-content significantly easier by enabling their users to also be producers.

<sup>5</sup> A Call for Action to: Build a New Competency Driven Ecosystem. April 2014

## 10. DATA SCIENCE AND AI AT HEART OF NEXT GENERATION TRAINING SOLUTIONS

Many businesses are struggling with low employee engagement. According to Gallup, only 13% of the overall workforce is engaged and this problem will amplify as millennials overshadow the workforce<sup>6</sup>. To counter this epidemic, data will play a central role in personalizing learning to maximize employee growth and retention. Artificial intelligence and the Internet of Things (IoT) will lead to richer assessments and more contextualized learning experiences. Innovators are deploying Virtual Learning Assistants (chatbots) for workplace education.

## 11. NEW APPROACHES TO CAREER SERVICES IN FORMAL ED

Formal institutions are failing to adequately prepare students for the workplace. Only one-third of students feel workplace ready, yet less than 20% have ever attended the career services office<sup>7</sup>. Innovators are working on solutions that make the entire college experience, including career services, more engaging for students. New career services platforms are increasingly informed by data which enables personalization and are equipped with new tools to explore the career process and prospects.

## 12. GAMIFICATION HAS MATURED

Gamified training is another pervasive trend in workplace education. Learning science suggests that retention and engagement can be heightened by encouraging behaviors through game-like experiences. These elements have increasingly been included in a variety of learning content, notably video, which remains as the centerpiece of the learning experience.

## 13. IMMERSIVE LEARNING IS IN EARLY HYPE CYCLE

New content formats, augmented, and virtual reality are gaining traction with early adopters in healthcare and manufacturing. These user interfaces are now being delivered in lower cost formats increasing adoption. The upfront content and hardware costs have limited broader market adoption. In addition, the rapid growth of connected devices - Amazon's Alexa wearables, home automation - is creating new moments and modalities for learning. Our research validated that immersive learning is in the early stage of the hype cycle and we expect to see more investments into this category.

<sup>6</sup> The Worldwide Employee Engagement Crisis. Gallup. January 7, 2016

<sup>7</sup> The Atlantic, January 2018

# Methodology

Our research focused on startup companies that provide workforce training solutions to businesses, academic institutions, and individuals. This includes companies creating content as well as technology companies that are building the next generation of infrastructure for workforce education. We excluded companies that were not predominately focused on the educational component of workforce enablement (ex: HR systems). The markets and business models for learning and skill assessment are inextricably linked to hiring and HR functions but we have chosen to focus on learning and skill enhancement instead of job tech and talent management as the focus of this study.

The scope of this analysis included companies that received funding between 2015 and August 2018 from a range of sources. This range was selected because it was the shortest timeframe for a comprehensive analysis of the current market state and trends. Should this research be expanded, adding more historical data would help to better understand the root cause of certain trends, as well as, the success rate and determining factors of startups in each category.

Our research approach relied on three techniques: database mining, discovery interviews, and an online survey.

## COMPANIES DIRECTORY

We created a directory of 400 for-profit companies that either received funding since 2015 or are self-funded and incorporated in the last 5 years. We sourced the data from Crunchbase, LinkedIn, AngelList, the LearnLaunch network, and multiple other sources. We then analyzed and compiled publicly available information about the target markets as well as data about the funding history and financiers of these companies. An analysis of this data led us to the categorization framework below and to our initial assumptions about the innovation in these areas.

## DISCOVERY INTERVIEWS

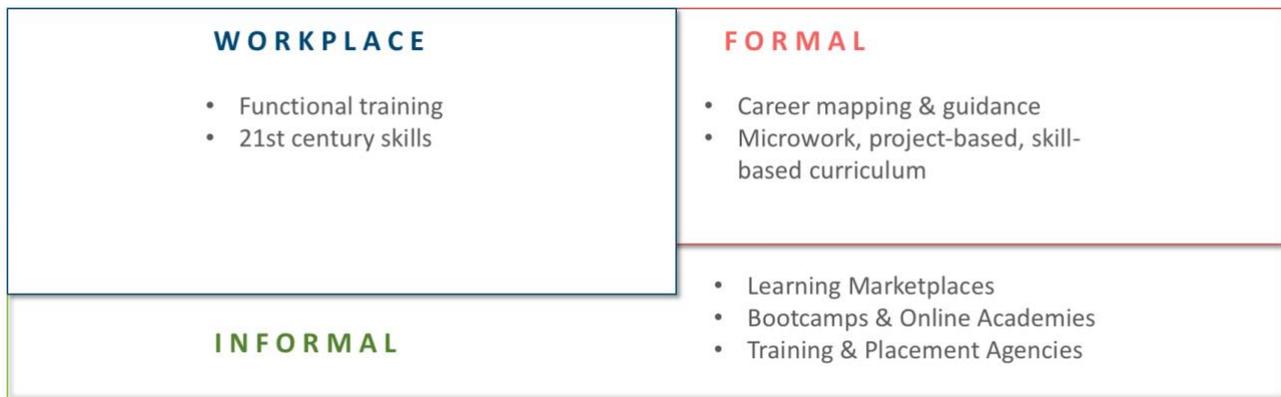
We conducted over 40 interviews with market participants including educators, government leaders, large business representatives, and entrepreneurs. We developed interview questions that explored customer beliefs, market trends, and day-to-day challenges entrepreneurs face. Our goal was to pressure test our initial assumptions and expose additional underlying trends.

## ONLINE SURVEY

To substantiate our research, we developed an online survey that asked entrepreneurs to provide clarity on their customer targets, value propositions, key metrics, and sentiments toward impact and fundraising. We discovered a surprisingly positive sentiment toward the funding landscape and a wide-spread ambition to create social impact through their ventures.

# Classification Framework

A main goal of this research was to classify the various innovators into a taxonomy that would reveal deeper trends and insights. Our early interviews suggested that, despite individual learners being the primary user of most solutions, entrepreneurs unanimously classified themselves by their buyer. As such, we first categorized the workforce edtech ecosystem into three customer categories: workplace -with corporate procurement, informal - the learner purchases, and formal education within the institution buying or recommending.



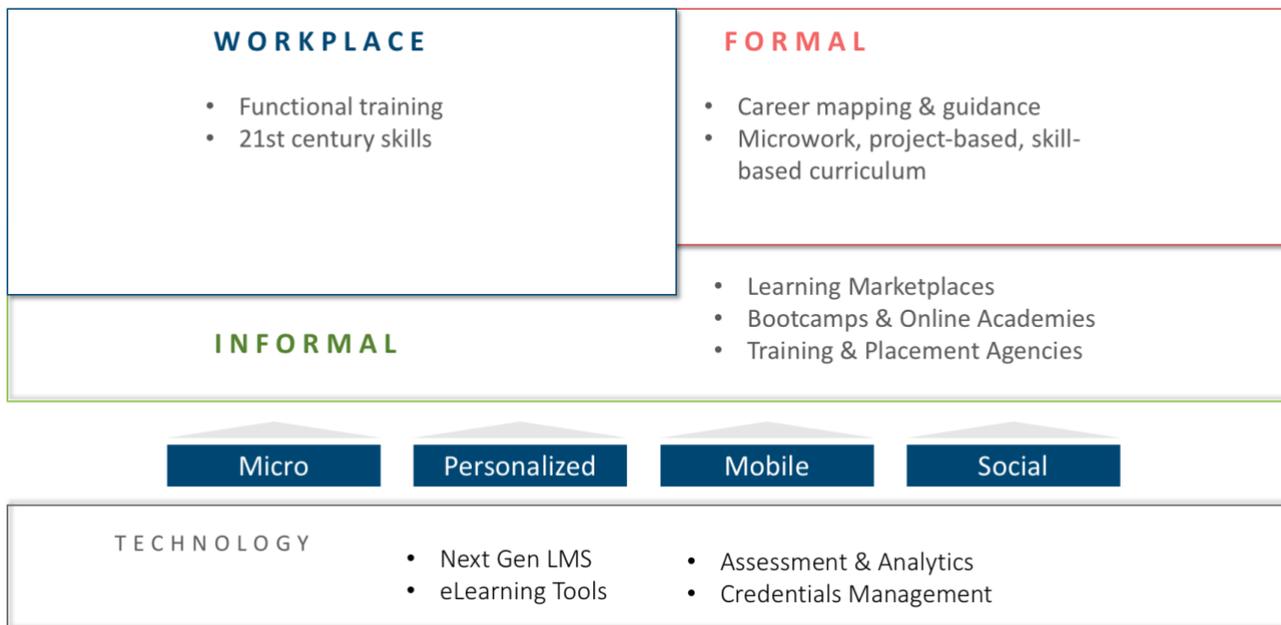
Workplace includes training that is offered to employees through employers. We carefully excluded HR and hiring solutions that lacked a novel educational component from our research.

The formal segment consists of services acquired by traditional academic institutions and delivered to students. We limited the scope of formal learning to career services and experiential learning, including new emerging formats of such as project-based learning.

Informal learning consists of services provided directly to the individual, including marketplaces, boot camps, and new forms of training and placement agencies.

It should be noted that innovators are targeting all skill levels - low, middle, high - in the talent landscape. Learning and development has always been a palatable expense for higher-skilled workers, due to the nature of those jobs. On the other hand, as middle-skilled jobs become harder to fill, businesses are finding it more cost effective to up-skill existing employees instead of pursuing external hires.

Notable overlap between the categories represents companies that address multiple buyers. For example, content originally created for informal training of individuals can be packaged and resold to corporations to upskill employees.



Next, we added technology as a second dimension to the classification. A portion of the companies examined are less focused on addressing the needs of specific industries and are instead working on foundational technology that spans the various categories. For example, credentialing solutions are bridging the divide between individuals and employers by providing a vehicle to legitimize skills acquired through informal learning. Although companies we categorized as technology accounted for only one third of the investment, nearly half of the companies surveyed self-identified as a technology company. Finally, the clusters in our framework share a set of overarching themes that encapsulate innovation across workforce education. This includes micro-learning, personalized learning, mobile delivery and social learning.

Inside each category, we grouped the companies into sub-clusters based on category-specific criteria. For instance, in Informal Learning we used business models as an underlying criterion and singled out four sub-clusters including learning marketplaces, bootcamps & online academies, and training & placement agencies. This deep analysis allows comprehensive understanding of market needs and challenges, competitive throngs and acquisitive players.

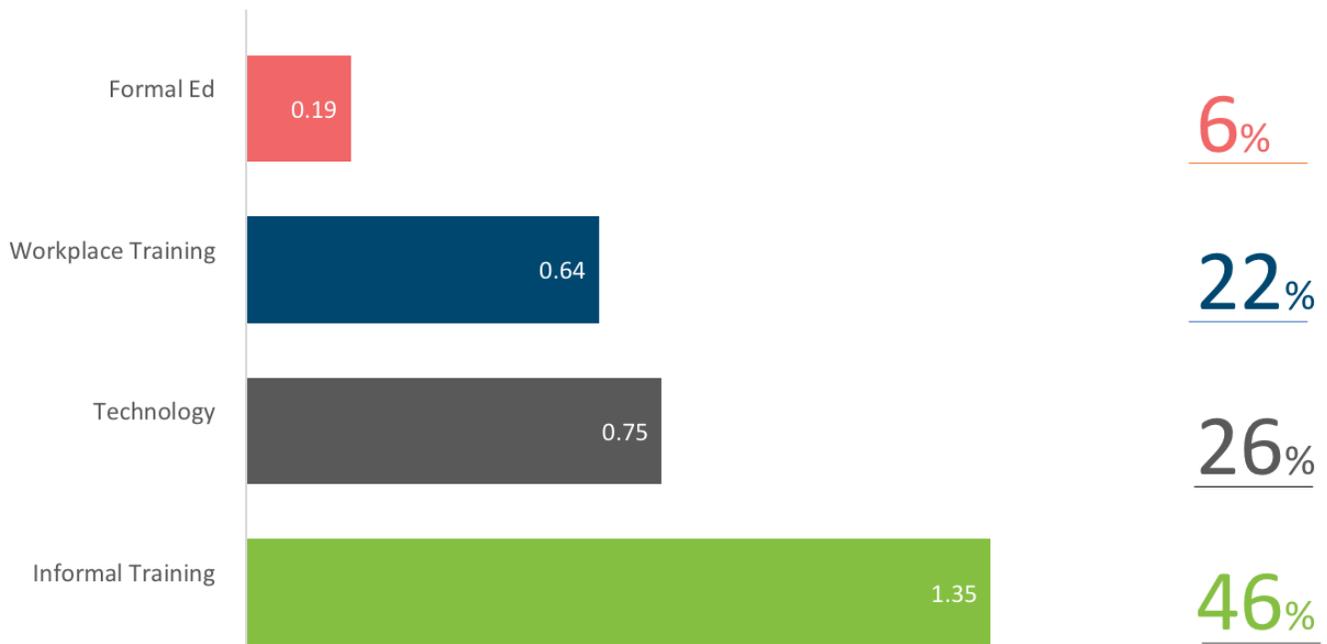
No uniform taxonomy regarding companies that focus on workforce training exists, resulting in some frustration and confusion in the industry. There is also no title or tag for this category and 'lifelong learning' and 'corporate training' have not gained popular support. A framework such as this one could ultimately establish a uniform "workforce edtech" category.

# Appendix I: Funding Trends

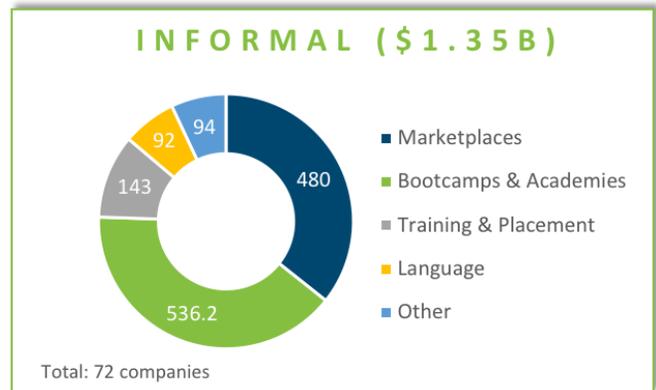
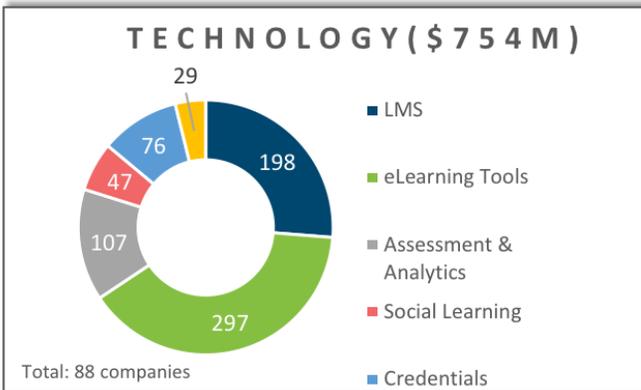
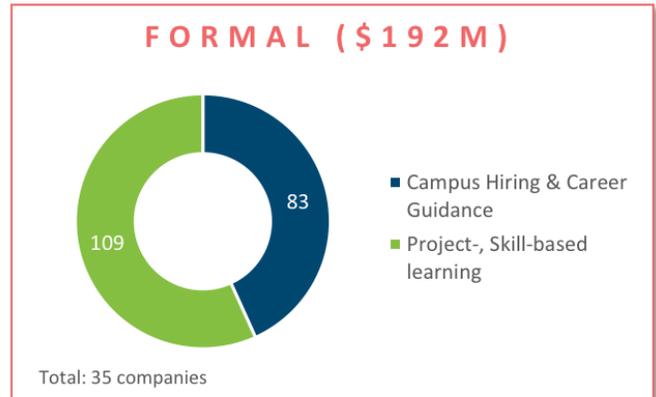
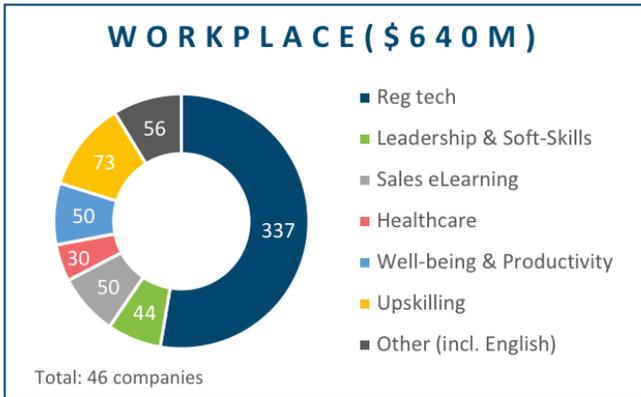
## SUMMARY OF FUNDING ACTIVITIES

The study unearthed \$2.9B that was invested in 234 U.S.-based companies across all four workforce education segments between 2015 and August 2018. The largest amount of money was invested in the informal segment (46% of total funding). The next largest investment area was the technology that attracted \$750M as a standalone category. Majority of the companies classified as technology have products that are primarily focused on the workplace. Our interviews found that the most rapid adoption of new technology is happening in the workplace due to businesses having the greatest need and propensity to spend on lessor proven solutions. Collectively, the workplace and technology categories commanded 46% of the funding activity or \$1.4B.

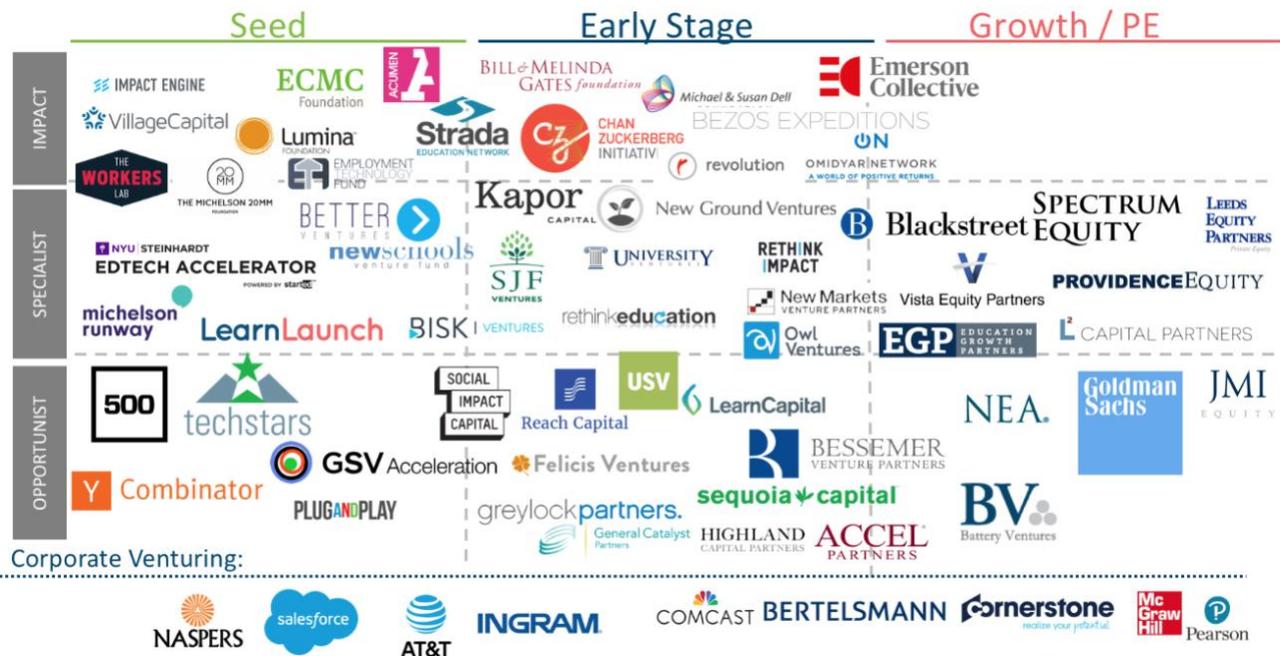
### Capital Raised in 2015-2018YTD, \$B



## Funding Distribution in Segments (2015-2018YTD)



Unlike other edtech verticals, workforce edtech companies attract a broader set of investors including not only specialized VCs and impact investors, but also an extensive list of general VCs in addition to a number of corporate players.

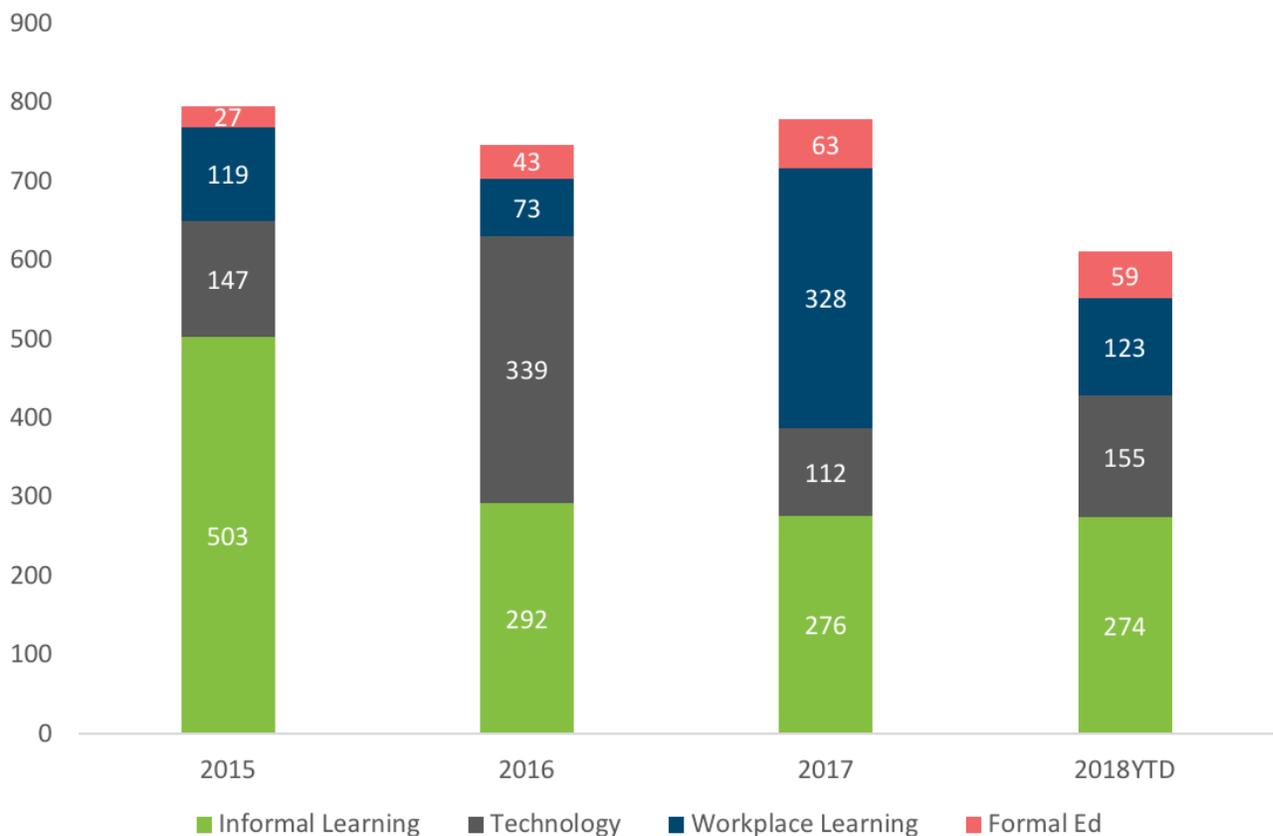


## DISTRIBUTION BY YEAR

We observed a consistent overall amount of funding in US-based workforce edtech startups since 2015, with a greater emphasis on smaller deals more recently.

- Investments in the informal segment totaled \$1.35B over this time period. Activity was similar in 2016 and 2017, but in 2015 Lynda and Udemy amounted to \$200M and significantly impacted that year's total.
- Investments in the technology category totaled \$0.75B. Several large transactions in 2016 (Grovo, Kaltura, Inkling Systems & Panopto) accounted for 49% of that year's total.
- The workplace segment has attracted \$0.64B since 2015. We recorded a significant spike in 2017, resulting from a \$190M funding round in Everfi, which represents 58% of the total.
- Investments into formal education were the lowest across the four categories in terms of the number of deals and net amounts. However, the category showed growth year-over-year as entrepreneurs find new ways of addressing the difficult sales cycle and other challenges.

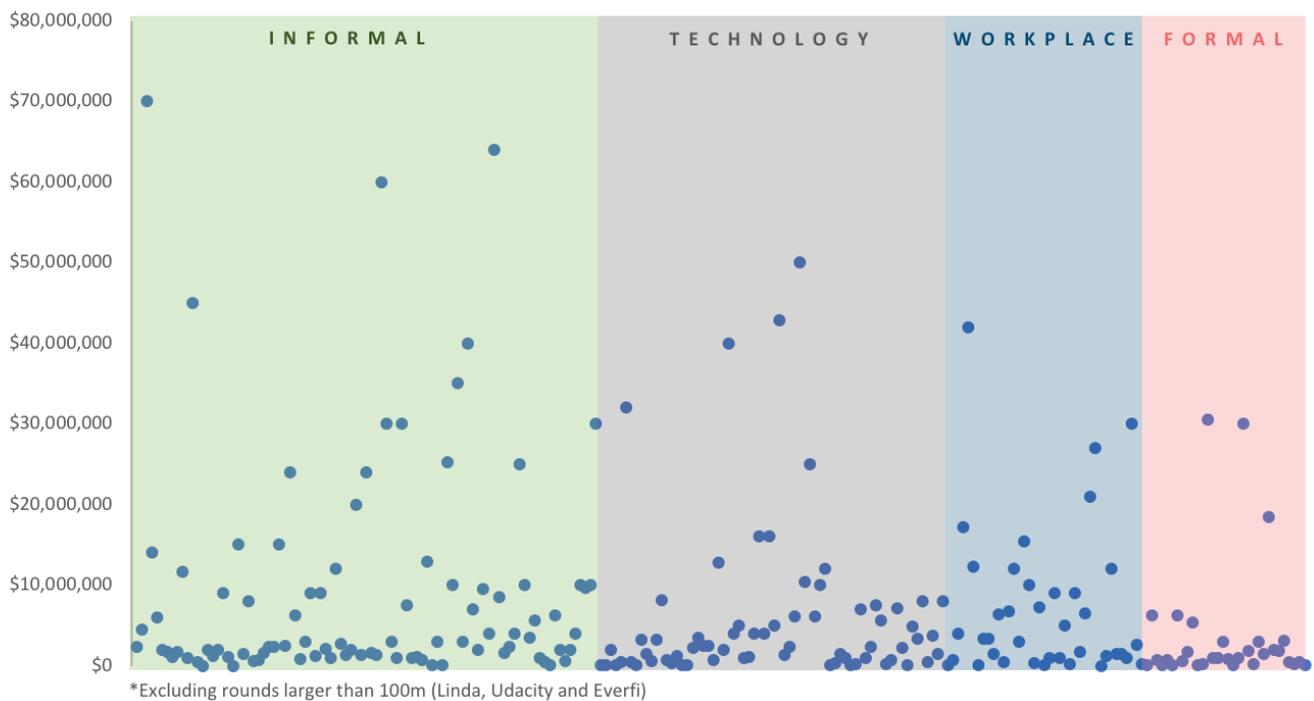
### Funding Volume by Year & by Segment (2015-2018YTD, \$M)



## DISTRIBUTION BY ROUND SIZE

This research provides an analysis of transactions size across each category and the workforce education as a whole. Of the 246 funding events between 2015 and August 2018, 30% of the transactions amounted to less than \$1M infused in the business. 65% of all transactions amounted to less than \$5M raised. Note that the chart below does not include transactions greater than \$100M (Lynda, Udacity and Everfi). The X-axis represents a random distribution of entries as they appear in our data base.

### Funding Rounds by Segments & by Round Size (2015-2018YTD\*)

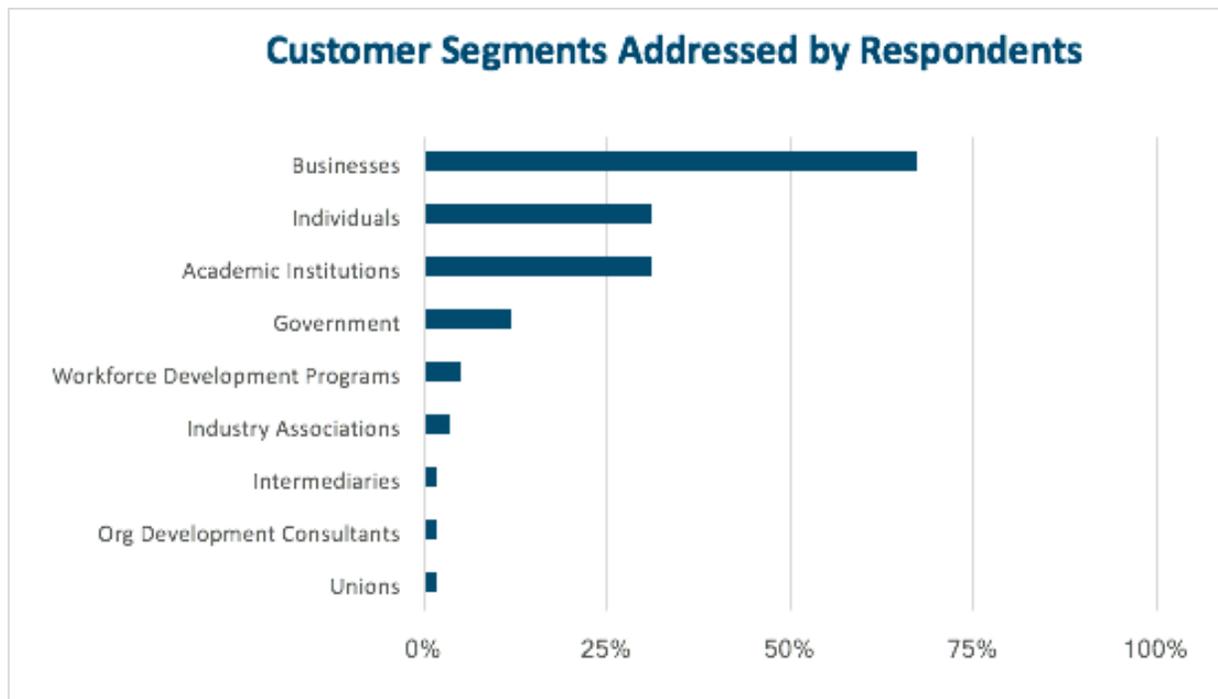


## Appendix II: Survey Results

Below are the results from the survey conducted with 63 workforce edtech entrepreneurs regarding their business models, social impact potential, and concerns. The survey was conducted between February 22 and April 25, 2018.

### CUSTOMER SEGMENTS

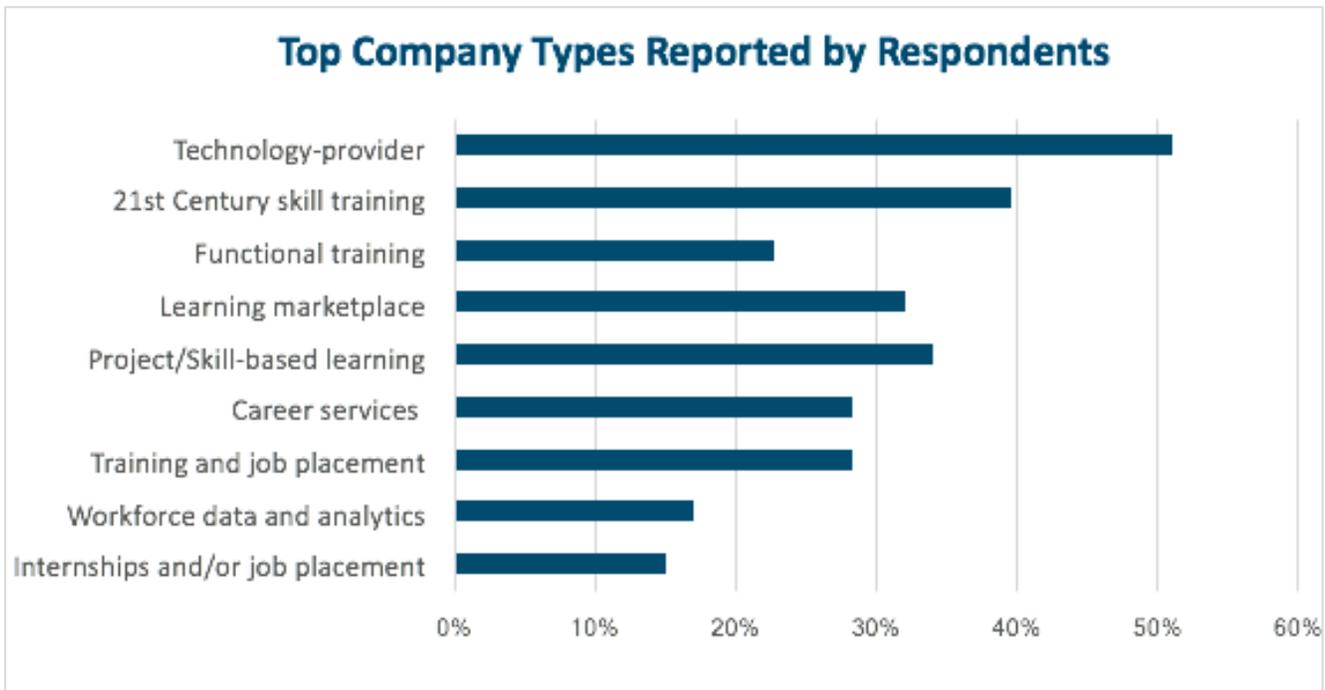
Two-thirds of the survey respondents cited businesses as a primary customer target. As discussed earlier, corporations are the most established customer segment for workplace learning and are also the most in need of these products. According to the 2017 LinkedIn Learning Report, 69% of L&D professionals report that talent is the number one priority in their organizations. Entrepreneurs targeted businesses at over twice the rate of other segments.



A significant percentage (35%) of workforce edtech companies targeted more than one customer segment. This includes businesses in search of sufficient revenue streams, such as language learning companies that may have informal, formal, and corporate offerings. Customers also include businesses that rely on multi-sided business models. Many companies address the transition between two categories (ex: higher ed and workplace) or facilitate new connections and marketplaces between the categories.

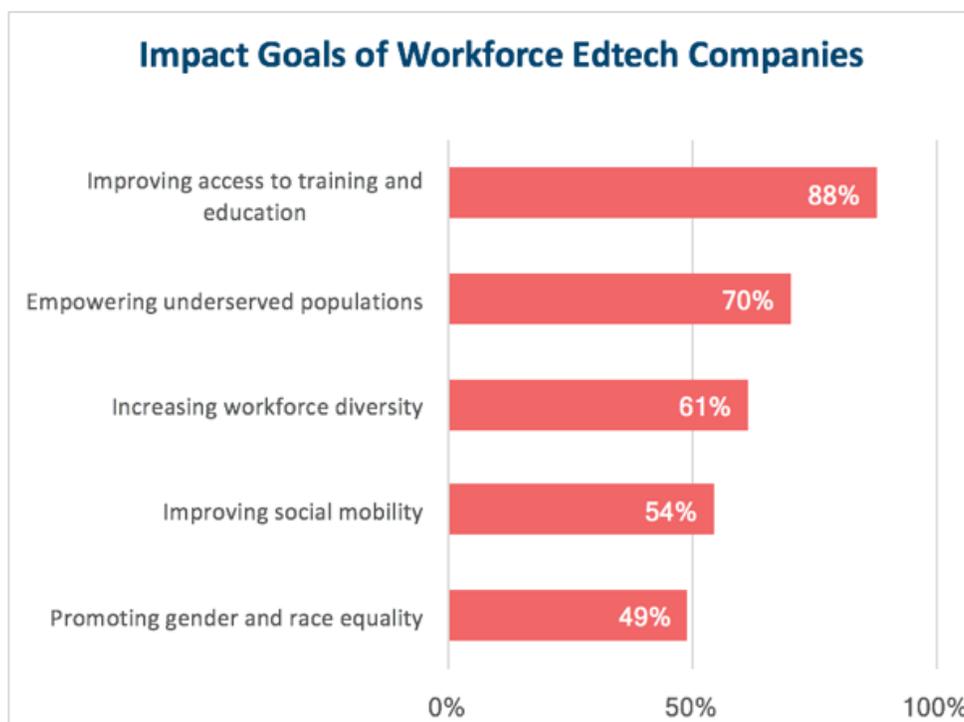
## TECHNOLOGY & 21<sup>ST</sup> CENTURY SKILL FOCUS

When asked to choose among a detailed list of descriptions, half of the companies surveyed self-identified as a technology company and almost 40% of companies identified as a solution for 21<sup>st</sup> Century skill training. Our research found that the sweet spot for entrepreneurs lies using modern technology to address changing workplace needs, such as skill transformation and job displacement. It did not surprise us that many entrepreneurs perceive their businesses as multi-faceted and with aim toward problems that span functional and soft skills.



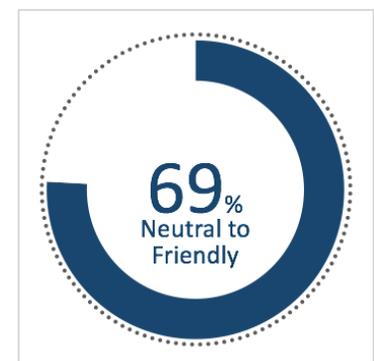
## SOCIAL IMPACT

According to our survey, workforce education companies hold a wide-spread aspiration to improve access to quality education for a diverse set of learners. Nearly 95% of all workforce edtech startups surveyed held the desire to measure social impact with their venture. Over half are currently doing so and the majority of others would do so with additional resources. Within those companies, the top two trends, held by over 70% of founders, are improving access to education and empowering underserved populations.



## SENTIMENTS TOWARD FUNDING LANDSCAPE

To our surprise, the lion's share of companies (69% of survey respondents) found the funding landscape neutral to that of other markets or particularly friendly. Our interviews suggest a perceived appetite for impact investments in early stage startups by investors. However, less than half of survey respondents have raised substantial capital.



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This publication was prepared by the authors contracted by LearnLaunch Institute as a part of the grant provided by the Lumina Foundation. Lumina Foundation is an independent, private foundation in Indianapolis that is committed to making opportunities for learning beyond high school available to all.

The authors have endeavored to ensure that the contents have been compiled or derived from sources that they believe are reliable and contain information and opinions that are accurate and complete. Under no circumstances should any of the information provided herein be construed as investment advice of any kind.

We want to thank the many experts and entrepreneurs who participated in interviews and the survey to help define this rapidly changing sector. We also thank our team at LearnLaunch Accelerator and LearnLaunch Institute who supported us.