IMPACT INVESTING GROUP: TECHNOLOGY IN EDUCATION INDUSTRY REPORT

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The Issue

Education throughout the world is currently facing a multitude of challenges which has resulted in many different organizations looking for solutions to these problems. One major issue within education is the persistence of the education gap, or the difference in education levels across the poverty line. Through our research, we strongly believe that improving educational technology has the potential to be the solution to this problem.

In its broadest form, education technology extends among the following three categories: course work supplements, which includes materials and vehicles through which to communicate with teachers; learning management systems; and market creation. These categories were determined after analyzing the top 10 investments in education technology in 2014 and 2015, the last year that data was available. A well-known coursework supplement is the blended learning model, which combines online work, class time, scheduling, and teaching techniques that take advantage of both traditional and technological learning methods. “The Flipped Classroom,” for example, is an increasingly used supplement in the classroom, using face-to-face class time for extensive projects, in-depth assignments, and other work, while allowing students to watch lectures online ("Blended Learning Models").

Perhaps equally important among education technology startups are the learning management systems, which have moved to the forefront of education. MasteryConnect, a leader in education technology, is growing exponentially and is now used by 85% of United States school districts across all states. With an emphasis on competency-based learning, MasteryConnect links teachers through its “cloud-based platform,” which includes Socrative.com. Moreover, education technology has created a global market for jobs, helped by government support, capital influx, desire for the product, and technological innovation. In the first 10 months of 2017 alone, global investors put $8.15 billion into education technology start-ups; these numbers are continuing to increase.

Although many innovators in this space are focused on closing the equity gap in education accessibility, it is important to note that educational technology could potentially lead to a bigger gap between rich and poor schools. A school’s budget will determine how much money they can spend on high quality tools with better technology, this can either increase or decrease the disparity. In addition, there is
extensive research indicating that technology is a possible deterrent rather than an aide to concentration and learning. While potentially affecting the attention spans and ability to learn of students, it can also decrease the necessity for classroom instruction, altering the role of the teacher in the classroom. Despite possible drawbacks, educational technology has continued to garner interest among a wide variety of players.

The last few years, the spending local school districts have allocated to education technology has been on the rise, as more districts reallocate portions of their budgets from tech support and teacher training to purchases of hardware and software. The continuous innovations in instructional technology has been the key factor in this deviation from the norm. Hardware purchases have seen the largest increase in district spending, led by laptops and tablets. According to a 2016 report published by The Journal, roughly 87% of school districts have developed plans to purchase tablets ("Report: Education Tech Spending on the Rise", 2016). The investment in tablets seem to increase as the grade level decreases; for high school, 36% of districts intend to purchase tablets, while at the K-2 level, 68% of districts intend to acquire tablets. Laptop purchases display the opposite relationship of tablet purchases. At the high school level, 77% of districts have budgeted for laptop purchases, while only around 30% of districts have planned for laptops at the K-2 level ("Report: Education Tech Spending on the Rise", 2016).

We have seen how educational technology can improve the performance of students as it makes it easier to create a stronger foundation for future education and success. Yet the implementation of educational technology in low-income school districts proves to be quite a hurdle. Currently, districts in Detroit and Chicago are struggling to expand their technological departments due to a lack in their budget. Detroit is facing below average math and reading proficiency with only 5% of students for math and only 6% of students for reading meeting national standards. Since budget constraints limit the ability of federal and local governments to increase the implementation of educational technology, other entities such as nonprofit organizations have stepped in to reduce the gap.
Why Hasn’t This Been Solved?

Nonprofit organizations are prevalent in the education space, specifically within educational technology. Through methods such as grants and crowdsourcing, they are able to make major changes and impact within this sector. Many of these non-profits see educational technology as a way to use their funds to improve and innovate the education system. An example of this, provided by the education technology resource database edsurge.com, is Charles Best: founder and CEO of DonorsChoose.org, he is trying to assure teachers and students have the resources they need to be successful. The crowdfunding nonprofit has raised $225 million to help more than 175,000 teachers fund more than 400,000 projects, from securing school supplies for the semester to help teachers plan educational field trips (Corcoran, Wise, & Willcott, 2018).

Yet this success also highlights one of the main setbacks of non-profits since they are unable to grow in size considering there is no profit involved. In addition, nonprofits focused on having a positive impact rather than any financial returns. Best managed to rein in some deep-pocketed donors and partners, including Sheryl Sandberg, Stephen Colbert, and Google, which is helping Best use his site in transformative ways, such as bringing AP STEM classes to more than 330 high schools and helping entrepreneurs market new educational tools directly to classrooms ("Education Technology News and Resources). Therefore, they are always in the need of donors and support when looking to grow in size and make investments. Although nonprofits are able to make social change, they have slightly different motives than profit focused investors because they are not looking to generate a profit, therefore often these nonprofits are not able to expand because of reliance on outside sources of income. Similar to these nonprofits, charitable foundations understand the importance of education, and have donated to the cause in numerous ways (Corcoran, Wise, & Willcott, 2018).

Charities struggle at times to generate investments because their investors consist of a very select group of people who have the capability of donating large sums of money to their cause. Their investors also want a large say in how the money is directed which can be inefficient. Government administrations on the other hand attract a large audience, but in the past have struggled to follow through with their actions because due to political restraints. They promote for social change, but very rarely are able to execute their proposed plans. Although they may have great ideas, but those in power lack the power or confidence to create a change in society ("What is a
While governments, nonprofits, and foundations do their part to drive educational technology into classrooms, they all share the same concern when it comes to finances. Profit-focused investors on the other hand, don’t share the same financial concerns.

What Is Impact Investing?

Impact investing, however, is in a unique position to provide a different type of solution. As stated in a 2014 Forbes article, impact investing is unique in that there is financial return unlike charity donations or government administrations. Impact investing attracts a large quantity of investors since any person with capital has the opportunity to see a larger return. There are also very few outside factors restricting impact investing corporations such as politics to affect the outcome of the movement (Forum, 2014).

Specifically, for the education sector of impact investing, this is an opportunity to create a huge impact on lives all over the world in pursuit of educating the youth and future generations more than ever. More efficiently run school systems is at the top of list when it comes to improving the lives of students and impact investing makes this mission a possibility.

Impact investing has the ability to generate a social change as well as attract investors to create a flow of profit. Through impact investing, a company or individual can support a cause while concurrently observing financial returns. Because of this, impact investing has the ability to attract large for-profit businesses and capital in large quantities.

Traditionally, social impact and financial investing have been viewed as two different spheres. However, investors today are becoming more aware of the potential for the two to work together and cultivate these desired results. Whether it is to develop education, health care, or city life, investors can help to better societies through impact investing.
Our Solution

Implementing data analytics software, machine learning, and other data processing technology is a significant way to optimize and improve learning management systems. Currently the data processing industry has provided some impactful technology in recent years. Data processing involves reporting important information from data provided by clients. These reports allow clients to improve their products and eliminate unnecessary costs to development. Furthermore, with the introduction of cloud computing and artificial intelligence, this IT industry has grown significantly; online services to clients has risen by 5.5% in the past year, yielding $11.1 billion dollars of profit and an annual rise of 58,646 companies in this industry. This growth comes from the performance and impact that information processing has had. Big data analysis of almost anything, from business performance to network management, allows clients to optimize their performance.

The main three players involved in educational technology have provided a great foundation for the sector to expand. Nonetheless, the niche of data analytics is underserved; in particular, technology on the administrative side is lacking. Startups like Nimble, which uses data software to hire teachers and pair them with schools where their talents will best be utilized, while promising, have not yet received the attention they deserve within educational technology ("Nimble - Data-driven teacher hiring").

As a result, from this growth and benefit of data analytic technology, investment in the education sector would be quite useful. Companies such as IBM have begun specializing their products to fit in a classroom setting. IBM’s latest technology, Watson is an AI platform that businesses and medical facilities can interact with. It provides useful information to its clients to increase efficiency in their respective fields. Recently, IBM Watson has created a learning platform as well. This technology provides teachers with information about each of their student’s academic and behavioral growth. Examples of these metrics include standardized test scores, grade improvement, and college admission statistics. At the same time, it also gives teacher an overview of how their teaching has impacted their students. This information is quite useful for educators, who, by knowing more about their students, can better themselves in order to truly enlighten students.
Implementing data processing systems to the classroom will allow teachers to quickly realize when a student is struggling or falling behind on the material. It is a profitable endeavor that has already begun in other businesses and it is time to optimize our classrooms with this technology in order to improve the educational experience. This is why we suggest the creation of a venture capital fund focusing on the implementation of data analytics in education.

The main goal of the venture capital fund is to help provide support for early-stage companies. A fund will ensure that we assess the risk and advantages of a company and whether the company will provide strong financial returns for investors. Our fund will specifically look into education technology companies and assess their profitability and impact. The venture capital fund will perform due diligence on potential investments to add to our portfolio. Specifically, we are looking to the educational technology space which shows a lot of potential for growth in school system. Our venture capital fund will solely focus on companies within the educational technology space that works with data analytics. A venture capital fund will be the best way to capture companies that focus on data analytics within schools. We want to invest in companies that will bring these data analytic features to schools, which will improve students’ progress in each subject.

The money in venture capitalist funds can come from a variety of investors, including individuals, corporations, pension funds, charitable foundations, endowments from universities and hospitals, and insurance companies. Looking at the fund as a means through which to invest in data analytic software, though, suggests that the main investments in such a pursuit would come from endowments from universities or from pension funds, as these two sectors are the most directly related to the field of education. Moreover, if the fund were to be a joint venture, that is if we were to partner with a company like IBM, the VC fund would receive investments from that company’s primary investors, many of whom are wealthy individuals. Many of the companies we have looked at are focused on K-12 education; for this reason, the New Schools Venture Fund would also be a potential co-investor in the niche of data analytics software, with its goal to “reimagine” education. Ultimately, companies and individuals with an active role in education are the most likely to invest the large amount of up-front capital needed for the VC fund.
There is a demand for more investors and companies to concentrate on specific geographic locations. When VC funds keep social impact in mind, there is the assumed possibility of returns on investment and also the chance to make a difference due to the fact that the investments are so concentrated. In the almost six years since the beginning of Q1 2012, an average of roughly 57 percent of all the financial relationships TechCrunch analyzed were between companies and investors from the same state (Rowley, 2017).

Overall, roughly 50 percent of those ties were between investors and startups from the same metropolitan region. Yet, the challenge is that many of these funds are highly concentrated in only these areas when one looks at the country as a whole. If VC funds expand their preferences and add value to impoverished areas, they would be able to make significant differences in those communities. With venture funds coming with all different magnitudes of capital, many of them can use their geography as a point of differentiation. Considering most funds already have a preference to invest locally, VC funds have the inherent ability to make an impact in their own backyard (Rowley, 2017).

As mentioned before, a leader in artificial intelligence technology is IBM. This is a company that has focused on optimizing and revolutionizing their Watson AI for some time; they recently have developed an Education Assistant application that teacher can use. Also, in 2014, IBM partnered with Apple in order to combine IBM’s data analytics with Apple’s easy and preferred user interface. The benefits to the Education Sector from IBM Watson can be significantly increase and is therefore a good investment. Alongside IBM Watson, Pearson Education’s Data Analytics and Adaptive Learning department has been working on implementing machine learning systems into their products. Pearson has products that are widely used and have been improved by the implementation of AI.

There is the potential for our venture capital fund with focus on education technology to partner with groups that are interested in promoting the advancement of education. Such groups could include political think tanks or business incubators who provide services to the enfant companies to help them with their start-up process.
Conclusion

Overall, impact investing provides a sustainable solution in regards to creating social change while simultaneously generating financial returns. We continue to see the rise of educational technology in schools as curriculums become more integrated with technology. Educational technology, as a sector, has been expanding around the country as more schools recognize the benefits of data processing systems in curriculums. Investing in IBM’s technology, Watson, brings a strong opportunity for financial returns as well as change in schools. Watson’s ability to track students’ academic and behavioral growth allows for more personalized learning, where teachers cater to their needs. Watson is not only attractive because of its ability to improve education, but there is burgeoning growth in the data analytic technology field. Investing in this technology would be beneficial as data analytics are accepted in schools. There is a tangible outcome from impact investing, which presents the field as more attractive to go into. There will be a visible difference in the quality of education, while also providing financial returns to create a sustainable portfolio of investments.
References


