Labor Market Trends and the Need for Reengineering Higher Education

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Abstract

The dynamics of the labor market have changed considerably and are currently experiencing a major shift. The skill levels that used to be enough in the workplace have become inadequate for the current workplace requirements. At least in the case of the United States, the kind of jobs that allowed work from home during the pandemic typically required college education; this may be a silver lining for colleges. Coupled with this, the admission test optional policies opened the doors of colleges for many otherwise disadvantaged students. The life cycle duration of technical skills has become shorter than ever before. Issues in innovation, demographic shifts, socio-cultural issues, aging population and technological advances are driving educators, employers, and policy makers to re-examine higher education to address the skill gaps currently existing in the workplace. This paper brainstorms some of these topics and propose solutions for policy makers.

Key words: labor market trends, labor market dynamics, demographic shifts, higher education, skill gaps.

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Introduction

The dynamics of the labor market in the United States have changed drastically (Nucci & Riggi, 2013). More than unemployment figures, structural changes are driven by things like performance-based pay. And, like it or not, performance obviously is defined by the market (Ólafsdóttir, Hrafnkelsson, & Ásgeirsdóttir, 2015). Several job openings are staying available for long periods of time due to the lack of specialized talent in the market and universities are squarely blamed for this state of affairs. Skills are more important today than any other quality and countries and universities in them that can respond to these needs faster have a better chance to emerge as educational leaders in the new paradigm. Even countries like China have taken strides at this, with a marked shift in orientation from social stability to economic growth as the objective of higher education (Ngok, 2008). The skill level that used to be enough to navigate the labor market in the past has become inadequate for the current requirements (Shrestha, 2016). Due to the technological advances such as Artificial Intelligence, robotic innovation, and automation (SHRM, 2019), the definition of skill itself has undergone a fundamental revision.

The U.S. is witnessing a progressive decrease in the working population, due to the fast aging population (TH & B, 2016). Countries like Germany and Japan are expected to have a relatively small labor force in the next 15 years. This may pose a recruitment problem for workers in the future. The possibility of remote working has made it easier to hire employees from different parts of the world (Walker, 2006). Migration, the second largest young population in the world entering the workforce, is being encouraged to support the labor force (George & Shyamsundar, 2007). Unfortunately, a significant number of these potential workers lack adequate training to meet the demand of companies around the world, making it difficult for companies to hire the right people (Martin, Morales, & Theodore, 2007).

Education has become market driven, but not to the adequate extent (Newman, Couturier, & Scurry, 2010). The labor market preparation to embrace the brave new world is questionable (Frey & Osborne, 2017). If students do know how to use tools and technologies employed in the workplaces, that is only because of their self-learning (Rieckmann, 2012). Contribution by colleges in this regard is very minimal, if any. Short technology life cycle means that skills need to be learned, adapted, and unlearned quickly (Glenn, 2008). College education should be all about that, with a strong general education foundation in the high school system. Flexibility, adaptability, agility, and resilience should be the hallmarks of the reengineered education system (Selingo, 2013).

In this paper, it is aimed to sketch a reengineered higher education system that is reflective of these forces and their ramifications. While a significant portion of the discussions revolve around pre-covid realities, the authors have thrown additional lights on how some of those pre-covid assumptions might not continue to stand the test of time. Say, we still strongly hold the arguments for reengineering, but the

proposed kinds of reengineering need relook based on what we learned during Covid 19.

The Changing Landscape of College Education

Since the latter part of the 20th century, the market forces have increasingly asserted their power in determining the direction of higher education. Often innocuously expressed in friendly terms such as "value for money" and "job-oriented education", the market found an unretractable path to enter the heart of higher education. The discursive framings of market-based education policy lead to negotiations driven by short term concerns that peril the lofty goals of education as an agent of radical change (Jones, Vigurs, & Harris, 2020).

A recent poll predicted that nearly half of the jobs in the U.S. are at risk of being taken over by computers within the next two decades (Oxford, 2013). Only 37% percent of workers said that if they lost their job to a machine they would turn to a college or university for retraining. Higher Education is facing forces that are bound to affect how faculty teach and how students learn over the coming decades (Armstrong, 2016). Engagement in higher education should move outside of the internal stakeholder satisfaction. Currently, universities and other scholarship gatekeepers rank each other without due regard to external stakeholders and this is a major impediment to universities responding to changing demands of the environment (Fitzgerald, Bruns, Sonka, Furco, & Swanson, 2016).

There are implications for faculty and student demographics over the next ten years with new pedagogies and curricula, active learning, self-guided instruction and group work moving students away from traditional lectures and passive audiences (McCaffery, 2018). Student-faculty interactions are changing in that the instructor is not limited to one role and instead serves multiple roles through interactions with students as a teacher, mentor and adviser. Universities continue to educate students to be full-time students for full time jobs but studies show otherwise (Zhu, 2015). Say, Google's workforce is an example of the rapid transformation of the corporate workforce; it is made up largely of independent and temporary workers rather than full time employees.

There is much opportunity for institutions of higher learning to collaborate with the public sector in order to define and implement career skills sets within academic programs that meet the needs of a changing workforce (SHRM, 2019). Higher education institutions might resort to the hiring of more part-time faculty who may or may not be held to the same standards as full-time faculty. Faculty will face interesting challenges and opportunities, new colleagues and students with superior technical skills and the potential for developing new and more effective teaching strategies (Hullinger, 2019). More new full-time employees will be given multiyear contracts with reviews to determine whether they will continue to be employed, particularly at the community colleges where the ages of 45-64 have a higher percentage than any other segment.

Technological Advances

Technological innovation is causing a very significant shift in the mix of skills needed in the workplace. Companies are reacting by making their talent searches more targeted, looking more at specific skills rather than formal education, and investing more in training. This development will need to be supported by concurrent changes in the education system and a closer dialogue between colleges and employers to determine their needs for employee training. Competency requirements should find a new mapping with pedagogical systems, too (Lozano, Merrill, Sammalisto, Ceulemans, & Lozano, 2017).

As new technologies transform the economy at a faster pace, new data sources offer more relevant, and timely insights into a rapidly changing labor market (Barth, Michelsen, Rieckmann, & Thomas, 2015). New technologies are driving a recovery in manufacturing with a notable increase in job openings in cutting-edge manufacturing fields, from robotics to 3D, from CAD (Computer-Aided Design) to manufacturing platforms, to the development of video games. More jobs are being computerized and because of this massive shift there is a period of dominance for another industry, making it easier for employers to fall behind (Davies, Mullan, & Feldman, 2017). For example, the streaming services are replacing store sales. Sales have plummeted and are expected to plummet further in the coming years. Essentially, consumer demand is not decreasing, it is the method of supply that is changing. There is an increase of people working for the streaming industry while store employee numbers decrease.

It has also become crucial to protect data starting with prospective employees before they are hired (Johnson, Lukaszewski, & Stone, 2016). For instance, for the field of Human Resource Management, the recruitment process is experiencing one of the best periods in history and never before has so much data been available to guide in the process of hiring new employees (Boroughs & Palmer, 2016). Technological advances enable employers to seek individuals that are flexible and able to adapt to change. Employers now look specifically for those individuals that are able to learn, unlearn, and relearn (Marler & Fisher, 2016).

Labor Market Dynamics

The following are some of the key characteristics of the labor market that are still in the preliminary stages of its making (Bălan, 2014; Andriessen, Nievers, Dagevos, & Faulk, 2012; Veenman, 2010; Yashiv & Kasir, 2013; Boone & Houtte, 2016; Filandri & Struffolino, 2019; DeVaro, Ghosh, & Zoghi, 2018).

- Increase in employers finding the right skills and shifting away from requiring a college degree and towards listing more specific concrete abilities needed for the job.
- Increasing importance in training and retraining due to new technologies widening the gap between the abilities

acquired in school and those needed in the workplace, making some existing skills obsolete.

- The Gig economy including: Consultants independent contractors, free lancers and side giggers make up 30-40 of the U.S. workforce, today's graduates are joining this workforce and are not prepared to meet the demand (Mulcahy, 2019).

- Increasing rise in demand for employees with a broader set of skills including data literacy, analytical skills, and marketing.

- Rising wages where the labor shortages are more pronounced including truck driving and airlines personnel.

- Rise in the number of employers offering to provide training or reimbursement of training expenses, often replacing formal school training for employees.

Along with these, just as important are the socio-cultural issues in areas of inclusion and representation that make the recruitment process more complex (Fradella, 2018). Customs, lifestyles, and values are important to consider due to the impact they may have on businesses. Cultural aspects to be considered include education, language, law and politics, religion, values and attitude, social organizations and technology (Segalla, Jacobs-Belschak, & Müller, 2001).

The Need To Rediscover College Education

Higher education institutions must discover ways to deliver an education that is found in a targeted specialty, while being affordable. Accessibility to MOOCs and micro online resources with the option to gain stackable micro-credentials have made it easier for students to use open access resources and tutorials on a number of topics, making their learning experience more attractive (Altbach, 2014). Students are able to work on assignments online and in virtual teams, through hybrid and competency-based learning. They benefit from faster completion, diverse course offerings, and affordable completion of prerequisites (Bajak,2014).

Research shows that employers prefer graduates to have a better understanding of how to solve problems and think critically in their fields which requires expertise in related areas (Hullinger, 2019). Competency-based programs result in students saving time in areas in which they have previous experience; if they can demonstrate mastery in the particular skill, they test out of those classes (Johnstone & Soares, 2014). Some colleges and universities offer personalized learning featuring this competency-based system in a few areas including technology and business management (Harris, Snell, Talbot, & Harden, 2010). These programs are often completely online and allow students to work at their own pace charging one fee every six months. In certain scenarios, upon graduation, students receive two transcripts - one displaying skill competencies and the other detailing corresponding traditional courses (Hullinger, 2019).

Progressive schools are all moving in the direction of providing degrees based on skills,

rather than the number of hours in attendance. Competency-based learning is focused on providing students with everything they need to be successful in their careers but not the optional bells and whistles. Employers benefit from this new system of educating because experiential and interdisciplinary learning provides new graduates more relevant skills in the workplace and in many cases, students will be able to finish college faster resulting in less tuition and a faster transition into the workforce.

Considerations for Community Colleges

While a lot more of discussions on reengineering curriculum focus on four-year undergraduate colleges, nothing much in them has changed practically. If we observe the history of the four-year undergraduate education system in the United States, it is not very hard to conclude that the system is very insular and resistant to change. The community college system is still the core of skill-based education in the States (Person, Goble, & Bruch, 2014). They transform the immediate lives of students and should be the primary attention of public policy makers in higher education, especially in times of skilled unemployment (Brose, 2004). With the right mix of incentives, they could rise to be the flag bearers of competency-based education that is responsive to the needs of the hours. The following are some ideas that the author has come with, could drive further discussion in this regard:

- Ensure that students meet workforce demands and learn the practical application with their knowledge.
- Invest and take advantage in programs like work-study and internships to collaborate and consult with the employers of the twenty-first century workforce.
- Eliminate ineffective programs and sustain effective ones.
- Leverage resources and the integration of outcomes between the private and public sector.
- Develop and offer up to date certificates for those students that may already be in the workforce and just want to learn or expand on their skills.
- Offer courses in some of these certificates and degrees in different formats including hybrid and online.
- Focus on certificates as much or more than the transferable degrees ensuring the programs are modernized and up to date with technology/equipment and instruction.
- Ensure that administration and faculty at all levels understand and are working towards the same goals.
- Change the current culture to one of collaboration, respect and pride.
- Confirm frequently the dissemination of accurate information before moving forward, thus preventing or minimizing misunderstandings or miscommunication.

Conclusion

It is worth pondering what we are certifying, as institutions with credibility to do so. Should these certifications not come with certain dates of expiry – especially given the disruptive and ever-changing nature of knowledge that we impart? Are institutions not obligated to offer free refresher courses and learning experience, at least for some years into the future, once a student graduate? If we expect software updates from companies like Microsoft, Apple, and Google for some years after we buy their products, should not our students be expecting the same from the universities?

The Covid 19 crisis added some additional complexity to these issues. Digital transformation of higher education is no longer a choice now. What do we lose and what do we gain in this situation? There have been stark and widespread inequities in the availability and quality of digital technologies for education and the need for purposeful efforts to bridge the gap was felt prominently. There are numerous unanswered questions when it comes to digital equity and inclusion in the context of Covid-19. Is it true that the urgency for the availability of digital technologies for instruction overshadow the corresponding urgency for the quality of these technologies? Is it possible that heavy stress on technologies that help transmit the educational content digitally (e.g., Zoom, WebEx, MS Teams, Google Meet) resulted in a significant neglect about digitizing the knowledge elements without losing quality? Did the prevailing inequities of access to technologies in different societies mirror in the digital equity issues in education that were observed during Covid-19? Alternatively, did those prevailing inequities amplify or mitigate the educational digital inequities? Could digital education be leveraged as a tool to challenge the prevailing inequities in every other spectrum of digital engagements in the society? Did international students studying in the US encounter a greater digital divide during Covid-19? How could the US based universities help increase digital inclusion? Intercultural education expected to be one of the key benefits of international education. Did the digital exclusion result in reduced opportunities for intercultural engagements? What are some of the innovative ways by which universities help strengthen intercultural ties even as education happens remotely, mediated by digital technologies. Could the digital divide experienced by the students be used as a pedagogical device to sensitize them of the importance of digital equity and inclusion? How could ed-tech businesses built around maximizing profits be made to respond to the need for digital equity? Is there a market logic for it? Or should governments mandate affirmative action from these companies regarding digital equity? While a short paper like this by no means answer these Revisauestions, good questions are halfway to their answers.

There is a marked difference in the perception of students to general education (Anderson etal., 2007). Particularly in the US, the undergraduate curriculum is bloated with general education courses, with very little room for degree major related courses. With

employers, including Google and Apple, not specifically asking for a four-year degree from applicants for several of their jobs, there is an added reason for moving the GenEd courses to high schools. Also, this will help make undergraduate degrees three years long. Students of this generation do not wish to be tied to colleges for four years at a stretch; affordability would also increase this way.

It may be said that universities should not be forced to be subservient to markets, particularly to hegemonies that do not exist long enough (Scott, 2011). Education should have the moral fiber to resist the vagaries of a market that seeks instant satisfaction (Harris, 2006). There is some truth in it; however, if education is not responsive to genuine long term and fundamental drivers in the market, we will be doing a great disservice to the learners. Even when the State or some other agency is subsidizing education, students are still committing their precious years in life to an education that they believe would help them bring a living. We have a duty to ensure that they do not get disillusioned with what they have committed this way (Brown, 2006). In this regard, even as we strive to nurture certain higher values regardless of their market (un)friendliness, education as a product must meet the expectation that it is not rejected by the market forces as irrelevant. Education is first and foremost a service and principles of service marketing should guide its design, observes Voon (2008). Educational laws alone are not enough to correct deficiencies of products offered in a market. To be able to get a space to engage with the market is the most effective way to correct market imperfections – not to keep it at arm's length and criticize it blindly.

The future of entrepreneurship is deeply interspersed with our ability to leverage technological innovations (Kummitha, 2019). As this manuscript is being revised, the British billionaire Richard Branson has taken a trip to the space, which is a hallmark event in our strides to advance space commercialization. It disproves the notion that private businesses will not be interested in heavy investment ventures with uncertain returns. But it is also worth pondering how few of the billionaires are dispositioned to do these! As a society, we need to nurture more of entrepreneurship of a special kind - of the sort promoted by the Bransons and the Musks. Are our schools and colleges doing their part in this regard? We suspect that a lot more needs to be done.

References

Anderson, M. W., Teisl, M. F., Criner, G. K., Tisher, S., Smith, S., Hunter, M. L., and Gallandt, E. (2007). Attitude Changes of Undergraduate University Students in General Education Courses. The Journal of General Education, 56(2), 149–168.

Andriessen, I., Nievers, E., Dagevos, J., & Faulk, L. (2012). Ethnic Discrimination in the Dutch Labor Market: Its Relationship with Job Characteristics and Multiple Group Membership. Work and Occupations, 39(3), 237–269.

Armstrong, L. (2016). Barriers to innovation and change in higher education. TIAA-CREF Institute.

Bălan, M. (2014). Youth Labor Market Vulnerabilities: Characteristics, Dimensions and Costs. Procedia. Economics and Finance, 8, 66–72.

Barth, M., Michelsen, G., Rieckmann, M., & Thomas, I. (Eds.). (2015). Routledge handbook of higher education for sustainable development. Routledge.

Blau, F. D., Kahn, L. M., & Papps, K. L. (2011). Gender, Source Country Characteristics, and Labor Market Assimilation among Immigrants. The Review of Economics and Statistics, 93(1), 43–58.

Boone, S., & Houtte, M. V. (2016). More Ambitious Educational Choices in Urban Areas A Matter of Local Labor Market Characteristics. Urban Education, 51(8), 940–963.

Boroughs, A., & Palmer, L. (2016). HR transformation technology: delivering systems to support the new HR model. Routledge.

Brose, F. (2004). The Ups and Downs of Information Literacy at California Community Colleges. Community & Junior College Libraries, 12(2), 29–43.

Brown, R. (2006). Higher education and the market: protecting quality and diversity in a market driven system. Higher Education Review, 39(1), 3–16.

Davies, S., Mullan, J., & Feldman, P. (2017). Rebooting learning for the digital age: What next for technology-enhanced higher education? (pp. 49-50). Oxford: Higher Education Policy Institute.

DeVaro, J., Ghosh, S., & Zoghi, C. (2018). Job Characteristics and Labor Market Discrimination in Promotions. Industrial Relations, 57(3), 389–434.

Filandri, M., & Struffolino, E. (2019). Individual and household in-work poverty in Europe: understanding the role of labor market characteristics. European Societies, 21(1), 130–157.

Fitzgerald, H. E., Bruns, K., Sonka, S. T., Furco, A., & Swanson, L. (2016). The centrality of engagement in higher education. Journal of Higher Education outreach and engagement, 20(1), 223-244.

Fradella, H. F. (2018). Supporting Strategies for Equity, Diversity, and Inclusion in Higher Education. Arizona State University.

Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? Technological Forecasting and Social Change, 114, 254–280.

George, B. P., & Shyamsundar, A. (2007). The Factors that Affect Indian Migrants' Decision to Stay in or Counter Migrate from the United States: A Study with Special Reference to the Role of Tourism Related Imagery as a Determinant. Journal of Identity and Migration Studies, 1(2), 99–123.

Glenn, M. (2008). The future of higher education: How technology will shape learning (pp. 1-27). The New Media Consortium.

Harris, M. S. (2006). Out Out, Damned Spot: General Education in a Market-Driven Institution. The Journal of General Education, 55(3), 186–200.

Harris, P., Snell, L., Talbot, M., & Harden, R. M. (2010). Competency-based medical education: implications for undergraduate programs. Medical Teacher, 32(8), 646–650.

Hullinger, J (2019). This is The Future of College. Accessed from https://www.fastcompany.com/3046299/this-is-the-future-of-college.

Johnson, R. D., Lukaszewski, K. M., & Stone, D. L. (2016). The evolution of the field of human resource information systems: Co-evolution of technology and HR processes. Communications of the Association for Information Systems, 38(1), 28.

Johnstone, S. M., & Soares, L. (2014). Principles for Developing Competency-Based Education Programs. Change: The Magazine of Higher Learning, 46(2), 12–19.

Jones, S., Vigurs, K., & Harris, D. (2020). Discursive framings of market-based education policy and their negotiation by students: the case of 'value for money' in English universities. Oxford Review of education, 46(3), 375-392.

Kummitha, R. K. R. (2019). Smart cities and entrepreneurship: An agenda for future research. Technological Forecasting and Social Change, 149, 119763.

Lozano, R., Merrill, M., Sammalisto, K., Ceulemans, K., & Lozano, F. (2017). Connecting competences and pedagogical approaches for sustainable development in higher education: A literature review and framework proposal. Sustainability, 9(10), 1889.

Marler, J. H., & Fisher, S. L. (2016). Making HR Technology Decisions: A Strategic Perspective. Business Expert Press.

Martin, N., Morales, S., & Theodore, N. (2007). Migrant worker centers: contending with downgrading in the low-wage labor market. GeoJournal, 68, 155–165.

McCaffery, P. (2018). The higher education manager's handbook: effective leadership and management in universities and colleges. Routledge.

Mulcahy, D. (2019). Universities Should be preparing students for the gig economy. Harvard Business Review, 85(1), 27-39.

Ngok, K. (2008). The Changes of Chinese Labor Policy and Labor Legislation in the Context of Market Transition. International Labor and Working-Class History, 73(1), 45–64.

Nucci, F., & Riggi, M. (2013). Performance pay and changes in U.S. labor market dynamics. Journal of Economic Dynamics and Control, 37(12), 2796–2813.

Newman, F., Couturier, L., & Scurry, J. (2010). The future of higher education: Rhetoric, reality, and the risks of the market. John Wiley & Sons.

Ólafsdóttir, T., Hrafnkelsson, B., & Ásgeirsdóttir, T. L. (2015). The Icelandic economic collapse, smoking, and the role of labor-market changes. European Journal of Health Economics, 16(4), 391–405.

Person, A. E., Goble, L., & Bruch, J. (2014). Developing Competency-Based Program Models in Three Community Colleges. Mathematica Policy Research Reports. USA

Rieckmann, M. (2012). Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? Futures, 44(2), 127-135.

Scott, J. T. (2011). Market-Driven Education Reform and the Racial Politics of Advocacy. Peabody Journal of Education, 86(5), 580–599.

Segalla, M., Jacobs-Belschak, G., & Müller, C. (2001). Cultural influences on employee termination decisions. European Management Journal, 19(1), 58–72.

Selingo, J. J. (2013). College (un) bound: The future of higher education and what it means for students. Houghton Mifflin Harcourt.

Shrestha, R. (2016). Labor market changes and human capital investment: Evidence from migration boom in Nepal. Himalayan Research Papers Archive, 9(1), 11-27.

SHRM (2019). Workplace News and Trends. Emerging workplace issues. Critical news, trends and analysis. Accessed from SHRM.org

Th, G., & B, S. (2016). The Aging Population of the USA and West Virginia--the Demographic Imperative. The West Virginia Medical Journal, 112(3), 32–34.

Veenman, J. (2010). Measuring Labor Market Discrimination: An Overview of Methods and Their Characteristics. American Behavioral Scientist, 53(12), 1806–1823.

Voon, B. H. (2008). SERVMO: A Measure for Service-Driven Market Orientation in Higher Education. Journal of Marketing for Higher Education, 17(2), 216–237.

Walker, A. (2006). Active ageing in employment: Its meaning and potential. Asia-Pacific Review, 13(1), 78–93.

Zhu, C. (2015). Organisational culture and technology-enhanced innovation in higher education. Technology, Pedagogy and Education, 24(1), 65-79.