

The Nexus between Future of Work and Higher Education: Redefining Employability in the 21st Century

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With the advent of a new decade, there is a reasonable understanding that change is here to stay. The economic progress and social wellbeing of an economy are believed to be resting upon the ability to adapt and respond to the changes. The changes can be broadly categorized as technological innovations, digital advancements, and automation in personal and professional spaces. Amidst the ongoing technological optimism and other socio-economic changes, the economies are also deliberate about preparing for the future of work (FoW). The emphasis is on increasing the employability with an underlying assumption that higher education can significantly contribute towards the economic welfare of the nations and prepare a competent workforce. The concept of employability is now central to higher education policy. Although employability has been defined as, an 'objective term' that can be measured in terms of the number of individuals employed after

post-graduation, it also has a 'subjective' meaning in terms of the value of work to individuals and lifelong learning attached with the work. This article focuses on the subjective dimension of employability, involving individual cognition, social assets, and adaptability in the digital era. It argues that individuals will now require more cognitive, creative and social skills at work for a smooth transition into the future of work. Positional conflict theory is used to contextualize the nexus between higher education, employability and future of work in the changing times.

Mit dem aktuellen Beginn eines neuen Jahrzehnts entsteht auch ein tiefergehendes Verständnis dafür, dass gesellschaftlicher Wandel nicht mehr aufzuhalten ist. Denn der wirtschaftliche Fortschritt und das soziale Wohlergehen einer Wirtschaft beruhen vermutlich auf der Fähigkeit, sich anzupassen und auf Veränderungen zu reagieren. Diese Veränderungen lassen sich grob als technologische Innovationen, digitale Fortschritte und Automatisierung im persönlichen und beruflichen Bereich zusammenfassen. Inmitten des anhaltenden technologischen Optimismus und anderer sozioökonomischer Veränderungen werden sich die Volkswirtschaften auch der Notwendigkeit bewusst, sich auf die Zukunft der Arbeit (Future of Work – FoW) vorzubereiten. Dabei liegt der Schwerpunkt auf der Steigerung der Beschäftigung mit der zugrunde liegenden Annahme, dass Hochschulbildung wesentlich zum wirtschaftlichen Wohlstand der Nationen beitragen und kompetente Arbeitskräfte zur Verfügung stellen kann. Das Konzept der Beschäftigung steht heute auch im Mittelpunkt der Hochschulpolitik. Obwohl Beschäftigung als „objektiver Begriff“ definiert wurde, der anhand der Anzahl der nach dem Studium beschäftigten Personen gemessen werden kann, hat sie auch eine „subjektive“ Bedeutung in Bezug auf den Wert der Arbeit für den Einzelnen und das mit der Arbeit verbundene lebenslange Lernen etabliert. Dieser Artikel konzentriert sich auf diese subjektive Dimension der Beschäftigung, welche die individuelle Motivation, das soziale Lernen und die Anpassungsfähigkeit im digitalen Zeitalter umfasst. Es wird argumentiert, dass der Einzelne nun mehr kognitive, kreative und soziale Fähigkeiten am Arbeitsplatz benötigt, um einen reibungslosen Übergang in die Zukunft der Arbeit zu ermöglichen. Die „Positional conflict theory“ wird in der Folge dazu verwendet, den Zusammenhang zwischen Hochschulbildung, Beschäftigungsfähigkeit und Zukunft der Arbeit in einer sich wandelnden Zeit zu kontextualisieren.

1. Introduction

*While we cannot predict the future,
we can certainly prepare for the future of work
by focusing on the future of education.*

The discourse around higher education policies postulates that there is a linear relationship between the expansion of higher education and economic growth. Both public and private educational institutions of higher education are involved in the process of imparting knowledge, and training individuals to yield social and economic returns (Ashton 2017). Social returns being the skilled workforce and enhanced human skills. Whereas, economic returns are individual earnings and economic contributions. Therefore, it is evident that there is a significant focus on reconceptualising education to increase participation in the global economy (Bridgstock 2009). Policy shifts, socio-economic changes, and technological megatrends are orienting the modern societies to prepare for the future by using education as the key to pace up with the changes. This more specifically applies to *Future of Work* (FoW). Driven by the pressures of automation, artificial intelligence, and technologies like blockchain taking over the workspaces the governments are advocating for a future-ready model of higher education (Rene 2016). A model that adopts responsive pedagogies and reflects upon the impact of technological advancements on employability. There is a keen focus on adhering to the needs of the industry 4.0 with competent educational practices.

The FoW is currently in a state of flux, which is the reason that there is a lot of debate around it. It is expected that the rise in automation, digital devices, and other technological tools will pose a threat to the existing job profiles and possibly create economic disturbances. Most of the existing job profiles will undergo automation and the new jobs created will require a higher level of human capital (Pastore 2018).

This is creating anxiety around the job market and is enthusing the governments, policymakers and employer groups to prioritize making employability central to higher education policymaking. There is an attempt to bring an equilibrium between the demand-side and the supply-side of the job market (Lindsay 2005).

Owing to the current technological momentum, employability has been quite successful in gaining a lot of attention from academic scholars and industrial experts. Being interdisciplinary approach employability has been defined from different perspectives. A majority of scholars and experts define employability as an individual's ability to acquire a job and retain it (Römgens 2019). According to Pollard (1998), employability is dependent on the knowledge, skills, and ability of an individual, which helps in seeking jobs and surviving in the industry. Lee Harvey (Harvey 2014) on the other hand defines employability as a related concept to quality in education. Something that is constructed as an institutional achievement and confused with the outcomes. The complex understanding of employability relates best with [Ruth Bridgstock's](#) (Bridgstock 2009) argument that there are multifaceted perspectives about employability that need to contextualize more holistically. The article, therefore, attempts to contribute a broader narrative of employability in the context of the 21st century by analysing the role of technology in enhancing employability. It reflects upon individual cognition, social assets, and adaptability as the core tenets for a competency-based approach of employability for the future. The second section of the article emphasizes the relationship between higher education and FoW. By discussing the shifts and strategic transformations, it presents an overview of the changing nature of work and evolving educational practices. The final section of the article is the author's take on the future possibilities by reflecting upon the arguments of consensus theorists like Talcott Parsons and Theodore Newcomb and conflict theorists like Karl Marx, and Max Weber.

2. Employability in 21st Century and Role of Technology

According to *Confederation of British Industry* (CBI 1999), employability is “a set of attributes, skills, and knowledge that all labour market participants should possess to ensure they have the capability of being effective in the workplace to the benefit of themselves, their employer and the wider economy”. The historical evolution of the employability concept dates to 1988 when Gazier presented seven operational versions of employability. It included dichotomic employability, socio-medical employability, manpower policy employability, flow employability, labour market performance employability, initiative employability and interactive employability (Misra/Khunara 2017). Today in the 21st century labour market performance, initiative employability and interactive employability still hold relevance. The labour market performance emphasizes the need to do well and pace up with the changes in the market. On the other hand, initiative employability explains the challenges in seeking opportunities in an inconsistent job market. Similarly, interactive employability outlines the focuses on the interplay on personal attributes, changing circumstances and labour market. Accordingly, these concepts of employability can be crucial in preparing for the FoW. However, in the present scenario, the discussions around employability are incomplete without mentioning about the role of technology.

With institutions of higher education, both public and private shifting towards a technologically optimistic education system, the role of technology in increasing employability is under scrutiny. Some of the key reasons leading to the shift are normalization of technology in personal and professional settings, easy access to knowledge and information and enhanced exposure to global standards of learning. However, one of the most prominent reasons for adopting technology in the sphere of education is its expected contribution in preparing for the future (Römgens 2019). Despite a techno-deterministic discourse

around the use of technology in education, the challenge that continues to exist is the conception of rigid boundaries by smart curriculums in the digital societies. These curriculums stagnate creativity and present an opaque narrative of individual development. The rise in surveillance culture is another challenge that disrupts the idea of flexible learning environments. This can be understood with the help of Michael Young's (Frey/Osborne 2013) three scenarios for the future. In the first scenario, the boundaries are fixed and everything is naturalistically predefined. The second scenario is the end of boundaries and the third is about maintaining boundaries. All these scenarios hint a future where everything will be controlled and predefined.

At times the even concept of 'responsive pedagogies' adopted by various educational institutions leads to reproduction of challenges which otherwise may not exist with the adaptation of a traditional curriculum. Responsive pedagogies involve technological support for curating skills like self-discipline, specialized expertise and self-management (Jobs 2016). However, according to a report by the *World Economic Forum* (ibid.), the education system across different countries is not fully equipped to deal with the changing needs of the job market and does not always have access to the best technological alternatives. The universities express their doubt in enhancing employability for the FoW. Above all the core elements responsive pedagogies often lead to surveillance culture, platform capitalism and technological determinism in the education system. Along with that, neoliberal ideologies also add up to the situation by disturbing market practices and enforcing a global architecture in education (Fisk 2019).

3. Competency-Based Employability for the Future of Work (FoW)

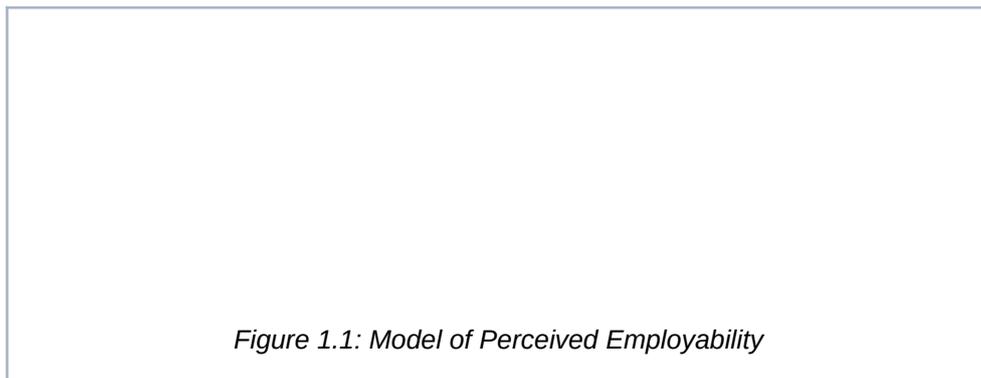
Employability is a relative concept, which is defined with the help of demand and supply in the job market. However, the skills and assets that stand relative to others in the job market further extend the understanding of employability. This leads to the notion of 'duality of employability' (Brown 2003). The covenant of employability often projects it as a negative term, emphasizing on the need for higher credentials for job security (Mackie 2016). However, the same is not completely true in the digital age. With the increasing involvement of technology in educational activities, a culture of skill building is outweighing credentials. There is a shift towards enhancing human skills and training individuals for a smart future.

The normalization of technology has created an understanding that the future which will depend on high technological support. In this reference, the FoW will be characterized by machine-oriented jobs and automated activities. According to [Robert W. Lent](#) (Lent 2018), despite conflicting ideas about FoW automation, robotics and artificial intelligence have already seeped in the workplace. These changes are posing challenges to the existing workforce and generating the need for training the potential workforce.

Marilyn Clarke (Clarke 2018) in her study on graduate employability discusses a model of higher education with special emphasis on human capital, social capital and individual behaviours. She articulates that these are the antecedents to perceived employability, moderated by labour market forces. This gives us an understanding that the subjectivity of employability holds high significance in the job market. However, this does not pause the debate on objective and subjective experiences of employability (Vanhercke 2014). The literature suggests that objective indicators of employability are job offer, working

position and employment status. The relevance of these indicators of employability or rather graduate employability as termed by the scholars is limited to the changing conditions in the job market. In today's context when the economy is going digital and the gig economy is prevailing, the employment status may not hold much significance. Analogously, the future demands of the job market are limited to these indicators. The inclination is towards increasing the competency of individuals by channelling personal traits and skills.

Figure 1.11¹ gives a brief overview of how external factors, internal traits, and individual characteristics have an impact on employability and FoW:



An individual's skillsets, work experience, knowledge, and competencies contribute to shaping the thought process and defining the ability to perform. First, individual cognition forms a part of human capital, which is essential for employability. The system of higher education should imbibe such educational practices that help an individual to grow and fit in different work environments (Scholarios 2017). Skills like problem-solving, creative thinking, leadership and team building are the critical skills required for strong human capital. In the coming future where mechanized tasks and remote work culture will take over, human intelligence and cognitive skills will define the perceived employability (Kalfa 2015). Therefore, individual cognition is core to

employability for the FoW. Second are the social assets, which include the ability to connect, create networks and associate with institutions of repute. University rankings form the core of social capital. Third, is the adaptability that enables an individual to adapt and exercise the new techniques and skills in different situations. It helps to deal with the fluctuations in the job market and avoids the risk of being obsolete. These three dimensions have a significant impact on an individual's employability.

4. Higher Education and Future of Work (FoW): Shifts and Strategies

As discussed so far, the future is set to embrace high technological optimism and transform the scenario at the job market. According to an employment report by OECD (2019), 14 % of the existing jobs will disappear in the coming decade, while 32 % of jobs will undergo a radical transformation. This is an obvious reason leading to anxiety at present and as a result, the key stakeholders are keen on preparing for this shift. The policymakers believe that higher education can be a viable medium to induce this preparedness within the people. Austen Allred (Forbes 2020), Co-founder and CEO – [Lambda School](#), explains why education is essential for determining the FoW. He says, “*Education should not be viewed as a one-time occurrence. Higher education needs to become both ongoing and adaptive to new career paths that pop up*”. This statement justifies the need for transforming higher education to build the future. Additionally, education can be used as an economic engine for teaching new skills and polishing existing ones.

Some of the major shifts are redefining the nexus between higher education and FoW are *Automation, Artificial Intelligence, Data Analytics, and Blockchain Technology*: Artificial intelligence is the next big

thing in the future of work. In industries like hospitality, health care, and education artificial intelligence is already at the supportive end. Virtual screens, digital sensors, artificial organ support are a revolution in the medical industry. Apart from that artificial intelligence is also serving as a boon in industries like transportation and automobile. According to Jo (2018), Volvo partnered with a creative agency called *FamousGrey* to retrofit a self-recruiting machine programmed to interview candidates during Brussels motor show. This sets new benchmarks for not just the automobile industry but for all the industries operating worldwide. Another sensation in the industry is the rise of blockchain technology. Multinational IT giant IBM is the largest company in the world using blockchain technology (Garcia 2018). IBM has already helped more than 220 businesses develop applications and data governance tools that run on the blockchain.

- *Personal Digital Assistants*: Apart from *Siri* and *Alexa* the common household names today, there is a plethora of other digital assistants and robots superseding the work industry. Alibaba's new flagship hotel with a spaceship appearance has robot bartenders serving people (Gibbs 2019). Facial recognition technology is a common feature in many hotels in China. Rossiya 24 a Russian news channel has a robot anchor named Alex. Alex presents the news bulletins (Zeveleva/Mirtumyan 2019). This redefines sociality in the digital age. Despite lacking emotional intelligence and social skills digital assistants are quite well equipped in performing mundane tasks. Their role in the future will expand to almost all industries at work.
- *Gig Economy and Flat Organizational Structures*: Financial independence is empowering and when accompanied by flexibility at work it becomes more lucrative. With companies like *Uber*, *Lyft*, *Turo* and *Fiverr* offering part-time work opportuni-

ties, the job market is witnessing a shift from traditional organizational structures to independent work systems. A recent report on gig economy statistics highlights that about 36 % of US workers are now involved in the gig economy and by 2027, the numbers would rise to more than 50 % (Milenkovic 2019). These statistics exemplify the increasing ascendancy of technology in the job market. Technology facilitates individuals to have liberty at work and upgrade themselves as the requirements of the changing job market. In line with the major shifts discussed above, the key initiatives aligning the educational outcomes with industrial goals and expectations are the concept of lifelong learning, mobility, digital fluency, social intelligence, and challenge-driven education.

- *Lifelong Learning*: The idea of lifelong learning is not new. John Dewey promoted the philosophy of lifelong learning. Dewey argued: “*The educative process is a continuous process of growth, having as its aim at every stage an added capacity for growth*” (Dewey 1916: 54). He stated that learning could not be limited to classrooms or college degree (Brodbelt 1983). Dewey’s philosophy of lifelong learning holds relevance even today. We need to merge the world of learning and the world of work. This change is the best response to changing the job market. With radical shifts in the work front and job market, the universities need to focus on imparting lifelong learning. Technological interventions can also play a significant role in postulating lifelong learning as a part of their educational content.
- *Digital Fluency and Mobility*: The language of technology is the language of the future. The spectrum of digital fluency begins with a basic understanding of digital tools and concepts. Global communication giant AT &T’s multifaceted learning program is an initiative towards retaining its employees and pre-

paring them for the FoW (Anthony/Stephan 2017). Aligning with the same, the universities need to focus on inculcating skills like computational thinking, and cognitive load management.

- *Social Intelligence*: Social intelligence is the ability to connect and stimulate relations. Social perceptiveness, persuasion, negotiation, and empathy are the key traits defining social intelligence (Lucki 2020). Brynjolfsson's and McAfee's (2012) statement on the increasing redundancy of workers is significant and thus requires the need for certain skills that keep their presence in the job market. Social intelligence is critical in determining the nurturing of the workers with an ability to deal and react to the dynamics of FoW (Frey 2013). The education curriculum can proliferate social intelligence by promoting teamwork, leadership management and prepare the students for real-time situations.

An increasing number of organizations, employers, and policymakers have now recognized the benefits of these strategic initiatives. They aim to use education as a process to develop and nurture the leaders of the future. This will provide with greater agility and the ability to better capitalize on new technologies in the future.

5. Positional Conflict Theory

The duality of employability cannot be overlooked even in the 21st century. There is a constant debate about the value of credentials and skills in the job market. It encourages us to visualize the future through two different positions. The position of conflict and the position of consensus. Consensus and conflict theory offer alternative explanations between higher education, employability, and FoW. The conflict theory interprets the current policies as biased. It argues that

there is a disequilibrium in the economy, which leads to widening the gap in society. These disparities hint towards the existence of capitalism. The recruitment policies of the company set stringent rules for the selection of an employee with a particular skill set only. Many a time the university credentials outweigh individual talent. This duality of the job market, and platform capitalism are viewed as an attempt to enforce corporate agendas and create a limited set of opportunities. Alan Burton-Jones (Peters 2003) calls this 'knowledge-driven capitalism'. He argues that in times when the economic importance of knowledge is very high there cannot be flexibility in the job market. Along with that one cannot be oblivious to the fact that bureaucracy also runs intending to integrate the benefits of education, employability and job market to increase the economic strength. They promote individualism and capitalism to avail benefits and veil social inequalities.

The consensus theory presents an alternative interpretation of the same. It foresees education and technology as the means to bring about a positive change. Global economic integration, technological advancements, and changing policies set the base for a pleasant change in the job market. Technological progression is considered critical for employability (Brown/Hesketh/Williams 2003). The consensus theorists tune in with the current discourse around technology optimism. However, what remains unattended are the gaps that exist in society. Both conflict and consensus views seem to be myopic often ignoring the issues that have always existed. Neither of them is a perfect interpretation of the nexus between higher education, employability, and FoW. The difference between the two ideologies is that conflict theorists believe that consensus is the idealization of coercion. Marxist approach opposes the idea that the education system meets the needs of the society entirely. On the other hand, Parson as a consensus theorist endorses the idea of education as positive social process giving each one an equal opportunity to succeed.

The understanding of these scenarios suggests that we need a pathway that bridges the way to a sustainable FoW. An ideal scenario may never exist but an understanding that education in the society is critical to all is essential. As a process meant for social change, education should be transparent, flexible and promote individual development. Only then, there is a possibility to reach a competency-based employability approach for FoW.

6. Conclusion

This article aimed to envision employability and redefine its dimensions in the digital age. It reflects upon the rich literature on employability, covering academic studies as well as commercial reports. The novel challenges and the ones that have always existed in the job market are discussed with an orientation towards the dynamism of FoW. By drawing attention on positional narratives around employability, the article presents an argument that job markets are at flux and so the employability and educational policies should focus on nurturing competent individuals rather than defining boundaries for the employment opportunities. The FoW should not be determined by the hegemony of cultural capital. Therefore, the fundamental notion that education connects with the democratic values needs to re-establish in the society to promote equity and employability.

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