PERCEPTIONS ABOUT ACCEPTABILITY OF ONLINE DEGREES IN HIRING OR PROMOTION DECISIONS IN TECHNOLOGY SERVICES INDUSTRY IN INDIA

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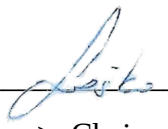

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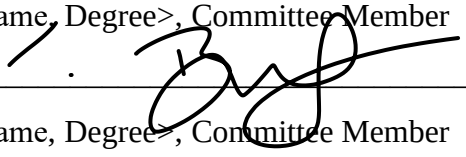

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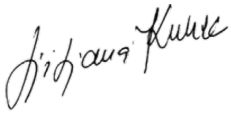

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Dedication

I dedicate this degree and dissertation to my loving family. To my late wife, Dr Alka Thapliyal, who would be seeing it from heavens above and have always inspired me & competed with me, right from the school days. To my son, Vivaan Saini, who was always there for me. To my parents for being in the background and providing unconditional support without which I would not be what I am today.

I love all of you very much and appreciate the support you gave me in this project and all other endeavours I have chosen to pursue in my life.

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ABSTRACT

Today's economies are based on education and knowledge. The newer technologies and internet dissemination has not only led to the demand for skilled talent in India's technology services industry outpacing the supply of the skilled talent but also led to popularizing of online education. The COVID pandemic further pushed the education providers to move towards online education thereby increasing the availability of online degree holders to the industry. With boom in EdTechs, India has become the second largest market for e-learning, and the number of online degree holders are increasing at the rapid pace, but the question is whether supply of online degree holders from online education providers will be able to meet the demand for skilled talent in technology services in India. The current research study was an attempt to investigate the acceptability of degrees earned online (partially or fully) by prospective technology employers in India for hiring and promotion decisions, using Mixed Methods Methodology. The theoretical framework of equivalency theory was used to come up with and to conduct the online web-based questionnaire survey and the detailed interviews of selected few.

The findings indicate that while online education is becoming popular, the employers of technology industry in India do have a bias towards traditional degrees compared to online degrees for hiring and promotions decisions. Certain organizational policies may contribute towards such bias and influence the employer's decision during hiring and promotion. The online degrees were found to be more acceptable at later stages of career than at the beginning stage of the career, and it varies with the type of

position. The experience, skills and level of education were found to be more influential during the later stages of career than the mode of education. Additionally, the small-sized and mid-sized companies were found to be more open to accept online degrees. The greatest stigma associated with online education was found to be the lack of interpersonal skills and interactions with other students and faculties. This stigma can possibly be nullified by taking up activities like internships, apprenticeships, blogging, and networking. The contribution of this study is relevant to students, online education providers and employers.

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CHAPTER I:

INTRODUCTION

1.1 Introduction

Today's economies are based on education and knowledge. According to UNESCO IESALC study, the global higher education Gross Enrolment Ratio (GER) in Central and South Asia, GER increased from 9% in 2000 to 17% in 2010 to 26% in 2018, which is 17% percentage point increase and 189% percentage increase from 2000 to 2018. Government of India is targeting to achieve GER of 30% by 2020 and 50% by 2035 for higher education (IBEF, 2021). The open distance education providers, just like private institutions, have also grown, as a result of new technologies and internet dissemination (UNESCO IESALC, 2020).

The Indian technology services sector has been continuing to grow at about 10% per annum which is two or three times faster than the industry as a whole and is the biggest contributors to economic growth around the world. It is expected that this sector will reach USD 300-350 billion in revenues by 2025 (NASSCOM, 2021; IBEF, 2021). India currently employs 1.2-1.3 million skilled talent at the entry level. The deployment of such talent has been growing at a CAGR of 16-20% whereas the demand for such talent has been growing at a CAGR of 19-23% thereby widening Demand-Supply Deficit. The demand for Digital Talent jobs in India is 8X the size of its fresh talent pool and it will become 20X larger by 2025 (NASSCOM & draup, 2020). Another study

estimated the tech talent demand-supply gap of 21.1% in India which is the lowest among global tech leaders (NASSCOM & draup, 2022).

While on one hand, the demand of skilled talent is increasing, on the other hand the supply of such talent gets augmented by online courses and degrees, this study focuses on determining whether supply of online degree holders from online education providers will be able to meet the demand for skilled talent in technology services in India?

The study will cover the companies in Technology Services Industry in India irrespective of whether they service the global market or not. The contribution of this study will be relevant to graduates, students, prospective students, and those who are looking for career advancement using online education as well as online education providers and institutions.

1.2 Research Problem

There have been numerous research studies and journals published, focusing on distance and online education, across the world such as Australia, New Zealand, China, Malaysia, India, Turkey, Italy, Spain, Britain, Canada, United States, Chile and Brazil. There have been several studies undertaken across the world to determine the employability of online degree holders but such studies have either been limited to fewer geographies (such as Blum & Goh (2000); Adams & DeFleur (2006); Seibold (2007); Baltzer, Lazaros, & Flowers (2007); Guendoo (2008); and Roberto & Johnson (2019); in USA, Zornes (2012); and Bahir (2014) in Canada, Bobek, Zych, Janković, & Horvat (2022) in Chile, Mustafa (2013) in Arab, to name a few) or have been limited to fewer

industries (such as Baltzer, Lazaros, & Flowers (2007); Mustafa (2013); Hussain & Mirza (2016); and Applegate (2020) in Academia, Adams, DeFleur, & Heald (2007); and Preston (2014) in Healthcare industry; Blum & Goh (2000) in Hospitality Industry; Tabatabaei, Solomon, Strickland, & Metrejean (2014) in Accounting Industry; Adams & DeFleur (2006); Seibold (2007); Thirunarayanan, (2010); and Roberto & Johnson (2019) across industries, to name a few.

However, studies about the hiring preferences in Technology Services industry and very specifically for India geography is either non-existent or very hard to find. This study will be an attempt to fill a big void in research on this topic.

1.3 Research Questions

How do employers of Technology Services Industry in India view online degrees (graduate, post-graduate or doctoral) as credentials for employment when hiring or for promoting employees?

Sub-questions

- How does employers of Technology Services Industry in India perceive the worth of online education degrees in comparison to conventional degrees?
- How does employers of Technology Services Industry in India compare degrees, earned in conventional (F2F) setup with degrees earned in online setup, for the hiring decisions?

- How does employers of Technology Services Industry in India compare degrees, earned in conventional (F2F) setup with degrees earned in online setup, for the promotion decisions?
- Which segment – large, medium, small or start-up companies – of Technology Services Industry in India is more willing and open to hiring candidates with credentials of online degrees?
- What steps can be taken to increase the acceptability of online degrees in hiring and promotion decisions?

1.4 Purpose of Research

The focus of this research is to study extensively the perception of employers of Technology Services Industry in India towards online education / degrees (graduate, post-graduate and doctoral) as credentials for employment or promotion of employees. The objectives of this study are :

1. To study the perception of worth of online education degrees in comparison to conventional degrees in employers of Technology Services Industry in India.
2. To study how degrees earned in online setup, in comparison to degrees earned in conventional (F2F) setup, influence the hiring decisions by hiring managers of Technology Services Industry in India.
3. To study how degrees earned in online setup, in comparison to degrees earned in conventional (F2F) setup, influence the promotion decisions by hiring managers of Technology Services Industry in India.

4. To critically evaluate the willingness of industry size segment – large / medium / small / start-up companies – of Technology Services Industry towards hiring candidates with credentials of online degrees.
5. To recommend the steps that can be adopted to increase the acceptability of online degrees in hiring and promotion decisions in Technology Services Industry in India.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Introduction

Today's economies are based on education and knowledge. According to UNESCO IESALC study, the global higher education Gross Enrolment Ratio (GER) in Central and South Asia, GER increased from 9% in 2000 to 17% in 2010 to 26% in 2018, which is 17% percentage point increase and 189% percentage increase from 2000 to 2018. The open distance education providers, just like private institutions, have also grown, because of new technologies and internet dissemination (UNESCO IESALC, 2020).

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of remote work, with a potential target to have their significant portion of their workforce (44%) to operate remotely (World Economic Forum, 2020).

While on one hand, the demand of skilled talent is increasing, on the other hand the supply of such talent gets augmented by online courses and degrees, this study focuses on determining whether supply of online degree holders from online education providers will be able to meet the demand for skilled talent in technology services in India?

This literature review begins with defining online education and its increased use in higher education institutes. It then provides the (1) viewpoints of students about online education for higher education & employment, (2) viewpoints of educators about online education for admissions & hiring, and lastly, (3) viewpoints of employers about online education for hiring & promotions. It highlights the reinforcements on both the positive and negative aspects of online education, brings forth cases where negative views are changing gradually positive. Finally, it presents the past literature on online education and employability of online learners by geographies, with a special focus on India geography and Technology Services Industry.

2.2 Background

There are several ways of gaining knowledge and eventually earning degrees. One can achieve learning by gaining knowledge from experts, also known as “Instructivism”, or one can gain knowledge by self-learning and guided by experts, also known as “Constructivism”, or one can gain knowledge by networking with connections, also known as “Connectivism” (Crosslin *et al.*, 2018). Allen & Seaman (2005, 2010, 2011)

classified degree programs as either traditional/ face-to-face or hybrid (30-79% content delivered online) or online (80-100% content delivered online). The technological advancements have enabled the graduate schools to provide effective online courses – both college-level and credit-granting (Adams & DeFleur, 2006). The students usually opt for online education because it is not only convenient, and accessible but also flexible, and fits into their today's complex lifestyles (Preston, 2014; Muthuprasad, Aiswarya, Aditya, & Jha, 2021). Also, for the working class, the distance education allows them to work while completing their courses (Blum & Goh, 2000).

Columbaro & Monaghan (2009) cites the study by eLearners.com which claims that there were over 170 accredited U.S. online colleges and universities which offered online degrees in various fields at all levels (Undergraduate, Post-Graduate and Doctoral). As the demand for well-educated workers in private sector is increasing, it is fuelling the increased enrolments in online degree programs (Adams & DeFleur, 2006). One study related to efficiency of e-learning program in the field of pharmaceutical industry concluded that not only e-learning is efficient but also economically feasible (Blaga *et al.*, 2021). For the first time in the history of human mankind, the large scale adoption of online learning around the world was observed during COVID-19 pandemic (Chakraborty *et al.*, 2021). And for next few years , universities will have to deal with difficult times they have encountered due to COVID-19 and it will may not be much beneficial to go back to face-to-face learning environment especially in higher education level (Sohail, 2022).

While many studies have been conducted around the world citing the positives and negatives about distance education, the results have led to following implications and thus making research on distance learning, questionable – (1) notion of "access to college" in distance learning, (2) technology cannot replace human factor, and lastly, (3) technology is not nearly as important as other factors like learning tasks, student motivation, instructor, etc. (Phipps & Merisotis, 1999). Despite all the positives and negatives, the individuals seeking online learning through their own initiatives have increased 4X, the employers providing online learning opportunities to their workforce has increased 5X, and the individuals seeking online learning through government initiatives has increased 9X (World Economic Forum, 2020).

2.3 Inclusion Criteria

The empirical research that utilized for this literature review was gathered by conducting various searches within electronic databases. Databases searched included Google Scholar, ResearchGate, Academia.Edu, Springer, ERIC, ProQuest, and Taylor & Francis Online. Searches were preformed using terms such as acceptability of online degrees, perceptions of online degrees, perceptions of online degrees in India, perceptions of online degrees in Technology, employability of online degrees, and history of distance learning. Moreover, the citation lists from the articles, dissertations, and journals, which were found through these searches were examined to find additional sources. Additionally, the online literature mapping application, app.litmaps.com, presented the references & citations and recommended relevant research papers that acted as additional sources.

2.4 Student's perspective

There have been numerous studies to determine how online education can be successful for the benefits of students, academic institutions and the employers. The reasons for adopting online education by various institutions usually fall into any of the following four categories (Volery & Lord, 2000) :

a) Expanding access

b) Alleviating capacity constraints

c) Capitalizing on emerging market

d) Serving as a catalyst for institutional transformation

Volery & Lord (2000) surveyed 47 students enrolled in one of the online courses offered by an Australian institute with an objective of identifying the key success factors of online education. Volery & Lord (2000) found the following three success factors from the study :

a) Technology (ease of access and navigation, interface design and level of interaction)

b) Instructor (attitudes towards students, instructor technical competence and classroom interaction)

c) Previous experience (the previous use of the technology from a student's perspective)

Bolliger & Halupa (2012) surveyed 84 students enrolled in online healthcare education doctoral program to determine student perceptions of anxiety and overall course satisfaction. The results indicated a negative correlation between anxiety and student satisfaction. The students who had lower levels of computer and internet anxiety were found to be more satisfied as against those who had higher level of anxiety (Bolliger & Halupa, 2012). Kumar & Coe (2017) interviewed ten doctoral graduates to come up with strategies for online mentoring and areas of support during dissertation process. The study brings forth the importance the role of mentor, mentee, and their actions especially in an online dissertation mentoring and emphasizes how institutional and program support can help online doctoral candidates. The doctoral students derive career value, skills value, social value and personal value from their doctoral education, as per the study of 22 doctoral graduates. Each of these derived values gets influenced by – time since graduation, supervision, accrued social connectivity and employer value of the doctorate. In order to be mutually benefitted, the academic institutions and employers should provide a structure to doctoral education for enhancing the doctoral experience both during study and for entering the job market (Bryan & Guccione, 2018).

Pasha & Gorya (2019) researched to determine the student preferences and perceptions towards online education and found that people preferred online education due to easy access to information anywhere anytime. The research also brought forth the popular opinion that online education gainer gets more skill than on-campus learner (Pasha & Gorya, 2019). While there are merits of choosing online education like learn from anyplace at any time, cost effective, self-paced learning, and recognition of degrees,

Chakraborty D. (2020), highlighted the demerits of the same as possibility of distraction, deceitful online courses and is impossible to take lab-oriented courses. Nassoura (2020) surveyed 300 students from diverse backgrounds (Bachelors, Masters and PhDs) to determine the student perceptions about online learning in higher education and found that instructor characteristics (IC), social presence (SP), instructional design (ID), and trust (TR) influenced the students' perceptions. Learner's trust in online courses was found to be the most important aspect in successful employment of e-learning (Nassoura, 2020). One recent study which analysed the knowledge management of students to discover its influence on students' perception of both – their general employment chances, and specifically in online businesses. The research indicated that students' perception of their employment chances depended on knowledge acquisition, knowledge revision, conceptual change and knowledge application, with largest determinant for employment in online businesses being knowledge application (Neștian *et al.*, 2021).

2.4.1 Negative Reinforcement

In one study by Rodriguez & Adams (2011), surveyed 104 undergraduate students in Mexico to evaluate their likelihood of enrolment in an online degree program and acceptance of online degrees as professional credentials. The results validated the perceptions that face-to-face courses are believed to be of better quality than online courses, however, are still open to enrolling in online degree courses. But viewed traditional degrees as better professional credentials as against online equivalents (Rodriguez & Adams, 2011). Besides perceptions, it is necessary to determine if learning outcomes are actually comparable between traditional and online education setups. The

study that involved 103 students enrolled in online programs and 194 students enrolled in traditional courses in HBCU, found that students who took traditional courses, they themselves reported greater affective and psychomotor learning gains than the students who tool the online distance education courses (Flowers, Flowers, Flowers, & Moore, 2014). One such study was conducted by Chaudhery & Gill (2015) which compared the student performance on online and traditional classes. The study was performed on B. Tech students studying one theory subject and one practical subject through both modes online and face-to-face. The research results indicated that those outcomes are not same in online and traditional classes, with online showing better than traditional (Chaudhery & Gill, 2015).

Another study that involved survey of 358 students, revealed that ~70% of respondents felt that learning is better in classrooms as compared to online education. This could be primarily due to lack of online teaching skills in professors previously. Around 68% students felt that online teaching skills have improved in their professors since start of pandemic and ~78% felt that online education is useful right now (Chakraborty, Mittal, Gupta, Yadav, & Arora, 2021). Shah *et al.* (2021) surveyed 224 students, from different schools, colleges and universities in Pakistan, in the age range of 15-31 years, and found that students found online learning to be difficult as compared to face-to-face learning. The majority of students felt that online learning made them lazy (Shah *et al.*, 2021). Similar results were seen in another study in Nepal that surveyed 211 students of undergraduate medical course and found that more than half (59.72%) students disagreed that online lectures were more effective than traditional face-to-face

lectures (Sarraf, Rauniar, Karn, Kushwaha, & Keshwar, 2021). In a study that involved interviewing of 14 undergraduate diagnostic radiography students of a South African university expressed some concerns with online learning citing the reasons that they were not tech-savvy or were not having suitable devices (Gumede & Badriparsad, 2021).

2.4.2 Positive Reinforcement

During the early 2000s, most of the studies related to student's view about online education have been mostly positive. One of the studies by Blum & Goh (2000), revealed one of the reasons why Hospitality industry did not leverage distance/ online education was due to the attitude that experience was key attribute for management roles (Blum & Goh, 2000). Gaba (2004) surveyed and studied a case of 37 graduates who completed their distance education through IGNOU in India and found that majority of the respondents got the job, joined for further studies and enhanced the skills despite of facing problems initially (Gaba, 2004). Gaba (2005) continued and furthered his study to elucidate the level of acceptance of online education in the job market in India with a focus on the usefulness of the degrees obtained by the learners in terms of getting employment, promotion, continuing education and other related opportunities. His research results reinforced his earlier research outcomes that majority of respondents were able to successfully get employment despite hurdles in initial stages (Gaba, 2005).

Linardopoulos (2010), to determine perceptions about online education, surveyed 103 MBA students and 38 faculty members, and found that online education was viewed very favourably by both groups. While faculty members endorsed online education, they

indicated the need for more ways of interaction with students and had concerns on workload, whereas students valued flexibility and convenience offered by online program (Linardopoulos, 2010). Bhatti et. al (2011) performed a study with an aim to objectively evaluate the benefit of educating medical students on a common topic through online and lecture mode. For this, Bhatt et. al (2011), surveyed 73 students those who took lectures and 75 students who used website and podcast. The survey did not find any significant difference in knowledge of two groups (Bhatti *et al.*, 2011). Fitzgerald et. al (2014) studied 686 US graduate students enrolled in 6 graduate programs and 274 international students enrolled in various graduate and undergraduate programs to determine whether international students chose distant learning for the same reasons that US students chose distant learning. The results of this study found that 5 out of 6 populations, which is 83% of population sample, recommended online classes (Fitzgerald *et al.*, 2014).

For students, online education has been not only flexible and convenient but also cost-effective. Deming et. al (2015) in his study found that colleges charge lower prices for online coursework which hints towards the possibility that online learning technology advances can "bend the cost curve" in higher education (Deming *et al.*, 2015). With focus on higher education, Columbaro (2015) explored the perceptions of online doctoral graduates about how mentoring relationships help prepare them to become tenure-track faculty. The results of this study indicated that the participants experienced socialization and community through their online programs with their mentoring relationships well beyond their internal institutions (Columbaro, 2015). As the focus increases more on the learning and social interactions and less on the technology or delivery, the difference

between “traditional” and “non-traditional” degree may blur (Columbaro, 2015). Archee (2019) presented the results of evaluation of blended degree as against completely online degree in Bachelor of Communication from 2015 to 2018. The results showed that there were very few differences between blended learning and completely online learning. It was further concluded that capable students opted for online learning whereas ordinary students tend to go for blended mode (Archee, 2019).

In 2020, Ampomah carried out research to determine whether significant differences existed in acceptability and quality of sandwich programs and found that the acceptability of sandwich programs go up as the quality of sandwich programs elevates (Ampomah, 2020). Same year, another study by Farooq et. al (2020), quoted (Maham et. al, 2018) results that in a survey of final year medical students, 93% of respondents found e-learning to be quite effective and that the 75% of respondents were spending 25% of their time in e-learning (Farooq *et al.*, 2020). Another exploratory study by Nafrees *et al.* (2020) in the same year gathered responses from 310 undergraduate students to determine their perceptions about online learning. The study revealed that out of science, arts, management and technology streams, arts stream preferred online education as subjects did not have practical (Nafrees *et al.*, 2020). Lastly, in a very recent study by Muthuprasad et. al (2021) which surveyed 307 Agricultural Students to uncover the perceptions and preferences towards online education, the results revealed that 70% of the students were ready to opt for online learning. The students found flexibility and convenience of online classes quite attractive but broadband connectivity in remote areas was highlighted as a challenge to it (Muthuprasad *et al.*, 2021). In another study in

Malaysia which surveyed 91 electrical engineering students, before and after the semester, revealed that students found the online teaching and learning were very effective when adequate learning materials were made available to them through synchronized and asynchronized methods (Ilham, Markom, & Ibrahim, 2021).

2.5 Educator's perspective

There have been several studies conducted to determine whether outcomes of online education were equal if not better than traditional education (Ramage, 2002). Amidst this debate on which education is better, there have been an increase in the demand for higher education and has led to increase in qualification frauds and creation of diploma and degree mills (Brown, 2006). The credibility of online education is dependent on quality of assessments employed by the institutions (Basta, 2009) and some level of corporatization is slowly creeping into the research universities and institutions (Zornes, 2012). While e-learning is becoming popular due to it availability, convenience and being affordable, too much dependency just on information and communication technologies may lead to situations similar to dot-com bubble burst in late 2000s (Basta, 2009). Keeping aside the debate of equivalence of online education versus traditional education, at the end what matters is, is the improvement in the employability after receiving the education. A study conducted through a survey of 46 students and 143 teachers in a university in Portugal revealed that problem-solving, planning, decision-making, and willingness to learn were important skills for employability and that obtaining employment is not a valid indicator of employability as it depends on various factors including economics and demand and supply (Silva *et al.*, 2013).

Across the world, online education is picking up in all countries and the quality and quantity of online education depends on industries and governing laws, ICT capacities and income & digital divide. At present, India, although late adopter of online education, is witnessing an increased growth impetus in online education due to the active participation of the government and country-level factors in India (Palvia *et al.*, 2018). This may be the most opportune time, when universities should become the leaders, Institutions should become the facilitators, teachers should become the innovators and students should become more responsible, for India to emerge victorious in online education (Kumar *et al.*, 2020). The education system and the learning system, however, are at the crossroads where either online learning initiates a change, or it becomes an alternative to education system. The continued integration of non-human technologies like artificial intelligence devices and robot teachers, decreases the sense of humanity and therefore teachers need to connect with learners at a deeper level (Asaqli, 2020). The COVID-19 pandemic lockdown forced the faculties and teachers to go for the online way but are teachers and students really prepared for it? It seems only 2% of the students are attentive out of 40% of the class strength (Ali & Kamraju, 2020). And this has left a thought worth pondering – whether current efforts are adequate for building a robust digital ecosystem? Such digital ecosystem needs to focus on – digital infrastructure, tech-savvy teachers, digital content and funding – to be effective (Khanapurkar *et al.*, 2020; Ayu, 2020). And, in the emerging economies, like India, the economic development, education and literacy can be achieved with the help of e-learning systems (Joshi & Dewangan, 2021).

2.5.1 Negative Reinforcement

There has been a continuous effort in examining the acceptability of online credentials for higher education. A study involving survey of deans and directors of 160 higher education institutes for graduate admissions revealed that applicant with online credentials is less likely to be recommended for the admission to graduate program (DeFleur & Adams, 2004). Similar results were found in another study for admission to medical school, where 58 institutions were surveyed. The results demonstrated that institutions carry negative view about online courses and degrees as against traditional ones (Adams, 2009). The instructor perceives learner-instructor and learner-learner interactions as one of the significant factors in online education. While computer and internet technologies has improved the way of teaching and learning, the desired level of interactions depends on tech-savviness of the instructor as well (Su *et al.*, 2005). The appropriate leverage of technology by institutions, especially accredited residential ones, can help differentiate themselves from online accredited and non-accredited institutions (Adams & Eveland, 2007).

Some studies have found that most faculties, administrators and students perceive online education inferior to traditional one (DeFleur & Adams, 2004; Adams, 2009; Kelly & Rebman, 2014). In a survey that involved a sample of 878 students – 415 who completed course in traditional setting and 463 who completed course in online settings, to determine whether performance of students in online settings was different from traditional settings. The results did not find significant difference between performance of the two groups (Thrasher *et al.*, 2012). Another study about online learning around

specific courses – engineering courses – found that both students and faculties agreed that technical subjects can be delivered well through online means but those involving lab setup will be a challenge (Kinney *et al.*, 2012).

Traditionally, many people see digital education as supplementary to classroom education, however, Covid-19 pandemic lockdown has modified this perspective to a great extent (Shah & Jani, 2020). Some researchers believe that moving from synchronous learning to asynchronous learning may affect personal and social development which is an essential benefit of an education and may lead to deterioration of the learning outcomes (Serdyukov, 2020) and growing formalization in institutions and learning processes may affect students adversely (Serdyukov, 2021). Whereas some believes that online education can lead to a distorted and limited engagement for students and may lead them towards individualistic and consumer-oriented view of education (Maiese, 2021). For online education to be really effective and successful in delivering educational outcomes, it is necessary that students and educators are necessarily involved wherever necessary (Shapovalova, 2021).

2.5.2 Positive Reinforcement

At the start of the 21st century, a study leveraged Jurgen Habermas theory of communicative action for diagnosing problems of distance education and then envisioning the cures accordingly. This research study was conducted when computers were not that prevalent, still the study concluded that computer conferencing has the potential to enable communicative action (Sumner, 2000). Lievrouw (2001) cites highly

regarded studies by Russell (1999) who compiled over 300 studies dating back to 1928 that research has found “no significant difference” in the learning outcomes of live versus mediated instructions. Lievrouw (2001) further puts forth the viewpoints which does not agree to conclusions made by Russell or who do agree to it partially (Lievrouw, 2001).

In a study, which was based on a total of achievement outcomes of more than 40,000 students, involved 510 findings from a total of 157 studies, for comparative analysis of distance education and classroom education. The study found interactive distance education to be slightly better than classroom instruction on student achievement. And highlighted that distance education could be made even more effective by using synchronous communication and two-way audio-video (Bernard *et al.*, 2004). In 2010, a study was conducted with 32 students in two sections of graduate level course (18 for face-to-face and 14 for online) and 59 students in three sections of the undergraduate course (13 for online and 23 each for face-to-face). The independent analysis of class assignments from both sections led to the conclusion that there is no significant difference between work submitted by either modes and that the method of instructions is important as compared to delivery platform (Dell *et al.*, 2010). Similar research outcomes supporting no significant differences between educational outcomes have been reported in several other studies and involving various industries (Means *et al.*, 2010; Ary & Brune, 2011; Wagner *et al.*, 2011; Means *et al.*, 2013; Kramer *et al.*, 2014; Caplan, 2015). Studies have found that students in online settings perform better than those learning in traditional settings and that the instructions which combine online, and traditional elements are far better than having pure online elements (Means *et al.*, 2010;

Means *et al.*, 2013). Another study which involved surveying 11 District Director of Education in Upper West Region of Ghana revealed that there is an ignorance to the concept of education (Alhassan, 2015).

One of the challenges which has been recognised in online higher education courses is that of successful completion of the courses especially in doctorate courses. To address this issue, such online programs should adopt models that are focused on intense dialogues, cohort learning model and performance-based assessments (Ewing *et al.*, 2012). There are cases of demonstrated success of hybrid/ blended doctoral programs that may challenge the traditional doctoral programs (Preston, 2014) and even the recommended blended model called HyFlex Model (Betty, 2019). The studies around blended teaching shows that knowledge acquisition improves but not necessarily the practical performance (Ravat *et al.*, 2021). The study shows that active-learning teaching techniques combined with computer-aided design leads to better academic outcomes (Olmedo-Torre *et al.*, 2021). Blended learning offers more potential for teaching in higher institutions more than the stand-alone traditional face-to-face classrooms, to promote collaborative learning among students (Ntim, Opoku-Manu, & Addai-Amoah Kwarteng, 2021).

As merits of online education are being slowly demonstrated through various studies, the educational managers are also supporting online education however the rate of acceptability is dependent on professional qualifications, experience and subject specialization of the educator (Mbugua, 2012). But educators should be careful and work towards preventing situations that may lead to dot-com scenario being replicated in

learning world, otherwise it may lead to too many online degrees with minimal or no learnings (Tayeb, 2013). The educators/ institutes should not miss offering online education besides traditional education, and should focus on marketing and managing it well, else it may not stand economical enough in the long run (Wright, 2014). Besides, marketing of online education, academic leaders will have to ensure the quality of online courses is always at par with traditional courses, else industry may lose confidence of not only the industry but also the students (Pandit & Agrawal, 2021).

The online education is an opportunity equalizer and is quite favourable for developing countries as it helps in upskilling to compete with those developed countries (Black *et al.*, 2019). There is a need to change/ modify the process of education so that students are industry ready when they pass out from the courses (Jindal & Chahal, 2018) and need to modify the mode of education to blended mode as administrators have positive view of and preference for blended degrees for faculty positions (Saleh & Mrayan, 2017). Online education which was one of the trends is now becoming a necessity and way of future for universities and education institutions (Sanchez, 2020). In a study that involved comparative assessment of academic achievements of 809 students, of a Russian University, who completed e-courses on mathematical methods in psychology by means of blended learning (404) and online learning (405), did not find significant differences between them (Sorokova, Odintsova, & Radchikova, 2021). Covid-19 pandemic has helped in a way to give a boost to online education. The flexibility and effectiveness of online education was demonstrated during covid-19 pandemic lockdown and is going to blur the distinctness between online and traditional

education (Locklee, 2021). Interestingly, the online medical education, at least in India, is gaining good momentum due to push from the stakeholders and advantages of online education (Nimavat *et al.*, 2021).

2.6 Employer's perspective

In 1999, a research study was conducted in India with 1755 successful graduates to determine whether employability was even dependent on how education was acquired. Except for a few cases where distance learning degree was not recognized, all others were able to utilize their degrees for job, higher education or self-employment. The employers clearly had preference for interview performance of graduates as against the institution background where degree was obtained (Gaba, 1999). While some employers have reservations on employing distance / online graduates, there has been a curiosity about distance and online learnings among them. While there has been preference of traditional degrees over online degrees, however several studies revealed that acceptance of e-degrees in on the rise (Chaney, 2002; Cortez-Rucker & Cortez-Rucker, 2016). But does this trend put online degree holders at any advantage? In 2010, a study was conducted to determine the acceptability of online doctoral degrees in academics during hiring and it was revealed that while online degrees are preferred, it does not lead to higher salary packages (Raj & Al-Alawneh, 2010). As more graduates gets added to the available workforce due to online education becoming popular, it can drive down the salaries that employers are willing to pay for the same job (Kraiger, Fisher, Grossman, Mills, & Sitzmann, 2022).

A few researchers believe that acceptance of e-degrees is seen when gatekeeper had personal experience with online education (Sinow & Kyei-Blankson, 2012; Grossman & Johnson, 2017). Much research in this regard revealed that no significant relationships have been found between types of degrees, respondents prior experience with online courses or e-degrees, and impact to their hiring decisions (Roussas, 2006; Adams *et al.*, 2007; Tabatabaei *et al.*, 2014). In academics field, there seems to be acceptance of online degrees in the hiring process, however the modalities under which the degree is sought plays a significant role (Key, 2017). In contrast, there have been many studies which indicate that traditional degrees are preferred over online degrees (Richards *et al.*, 2019; Kisanga, 2020), however, blended degrees have started giving competition to traditional degrees in the job market (Kisanga, 2020). In short, the factors like awareness, readiness, credentials and reputation are key factors that influence the employer perception about their hiring decisions (Naresh & Rajalakshmi, 2020).

2.6.1 Negative Reinforcement

The acceptance of online education has historically been quite less although the trend may be slowly reversing. For example, Adams & DeFleur (2005), Flowers & Baltzer (2006), Baltzer *et al.* (2007) found that there was a marked preference for traditional/ face-to-face doctoral education over online education in as much as 98% of respondents preferring traditional education over online education for hiring. This trend is just not limited to higher education but across degrees. For example, Adams & DeFleur (2006), in a survey of 269 managers, found that given a choice between traditional degree and online degree, 96% (258) chose traditional degree over online degree for

employment in their organizations. One of the previous studies, which involved survey of 108 school principals and administrators in Wisconsin, Illinois, concluded that the expressed perceptions were that the traditional courses were preferable to the online ones (Oler, 2006). Seibold (2007) studied employers' perceptions of online education by interviewing 6 HR heads in large companies and found that participants did not find online courses to be equivalent to traditional courses due to lack of interaction and lack of fostering sense of community. Similar conclusions were observed in a study conducted by Danzinger (2007) as well.

The key issues due to which online education is not perceived as equivalent to traditional education includes (a) F2F classroom experience (b) rigor reputation of the institute (c) mentored learning experiences (Adams, 2008). Thompson (2009) surveyed 87 HR professionals and found that 78% of respondents would choose traditional degrees over online degrees. Other studies also affirmed such perceptions irrespective of the sectors (Vukelic & Pogarcic, 2011; Linardopoulos, 2012).The same perception trend has been found in professional services sector as well and it looks like an early warning sign for both professionals and the institutes (Thirunarayanan, 2010). However, it is expected that as more and more potential employees earn online degrees, the acceptance may increase (Columbaro & Monaghan, 2009). Another challenge is that the acceptability of online degrees reduces for higher role vacancies in organizations as per SHRM report (Minton-Eversole, 2010).

There have been several studies in Accounting sector on acceptability of online degrees and education and each one of them have found that education in traditional

classroom setup is preferred to online setup (Jeancola, 2011; Kohlmeyer *et al.*, 2011; Grossman & Johnson, 2016; Burkhart, 2017; Engel, 2020; Braun & Boldt, 2020). Various studies in Education sector have also found that respondents believe online degrees are inferior and of lower quality to traditional ones (Richardson *et al.*, 2011; Faulk, 2011; Adams & Lee, 2011; Adams *et al.*, 2012; Karl & Peluchette, 2013; DePriest & Absher, 2013; Mustafa, 2013; Sinow-Mandelbaum, 2014; Adams, 2016). Similar preference and acceptability of traditional face to face classroom education was found in Healthcare and Social Work sectors as well (Kinneer, 2013; Kinneer, 2014; Deming *et al.*, 2016; Curran *et al.*, 2017). Besides specific sectoral studies, several researchers went ahead to know preferences, biases, perceptions and acceptability of online degrees and their studies indicated that traditional degrees were viewed more credible and of better quality & rigor than online degrees (Sadik, 2013; Fogle & Elliot, 2013; Erden & Tekarslan, 2014; Mandelbaum, 2014; Wanek *et al.*, 2014; Sadik, 2016; Safara, 2017; Roberto & Johnson, 2019; Faingold, 2019; Lennon, 2020; Zaikov *et al.*, 2021).

2.6.2 Positive Reinforcement

Recent studies have shown the greater acceptance of online education. Guendoo (2007, 2008), interviewed administrators of 145 community colleges in the United States and found that online courses were not an hinderance for getting a job (Guendoo, 2007; Guendoo, 2008). In a survey of 505 respondents from 56 member-institutions, it was found that the presentation of skills & experience and reputation of online school mattered the most while accepting online degree graduates for interviews (Nance, 2007). Astani & Ready (2010) surveyed 240 employers across industries in United States and

found that employers believed online education at par with tradition education and had favourable view of it (Astani & Ready, 2010). Similarly, a survey of CPA recruiters did not find significant difference between students who received an online accounting degree versus a traditional accounting degree (Metrejean & Noland, 2011).

Several studies across various geographies and industries did not find online education and degrees to be in disadvantageous position as compared to traditional education and degrees during hiring or promotion process (Tabatabaei & Gardiner, 2012; Bailey & Flegle, 2012; Dehpahlavan, 2013; Bahir, 2014; Cannon, 2014; McDonald, 2014; Hussain & Mirza, 2016; Price, 2016; Watson, 2016; Chebl & Rayess, 2017; Applegate, 2020). A study by Crawford & McBride-Owens (2014) reported that 40% of respondents indicated that possession of any online degrees would influence their decision of hiring non-violent ex-offenders. Tharpe (2014) conducted a study that examined the perceptions of university administrators regarding prospective faculty candidates with online or blended doctoral degrees from accredited institutions located in Central Virginia. The study reported that 60% of the respondents had a positive perception of online and blended education with a preference for faculty candidates with a blended degree.

Fitó *et al.* (2014) conducted a study with 299 Business Management and Administration (BMA) students, 40 BMA graduates and 242 business managers that analysed the impact of online training methodology on employability of BMA graduates from students as well as employers' perspective. The results showed that online graduates had positive view of their education which contrasted the negative view of employers in

alignment with findings of study by Seibold (2007). Allen (2015) conducted a quantitative study with an aim to determine whether, using DOI theory approach, wordings to communicate the rigor and the accreditation equivalencies of their institutions through marketing advertisements can change perceptions that hiring managers have of online degrees. The results reasserted the validity of the DOI Theory and confirmed that messages could be appropriately worded about the rigor and accreditation of an institution to find acceptability with an audience (Allen, 2015). This study was found to be in alignment with findings of study by Bailey & Flegle (2012).

Isaac (2019) conducted a study that consisted of 2 participants from each of the 10 sectors covering governmental and non-governmental organizations to explore how Nigerian recruiters' perceptions about online degrees. The study reported that online degrees are acceptable to HR experts in Nigeria from various sectors however there is a need to increase the awareness of skills contributions brought in by online degree holders (Isaac, 2019). Many educators felt that dividing teaching into multiple smaller learning activities like group discussions, class polls, mini lectures and pop-up quizzes was more productive and effective (Sohail, 2022).

2.7 Studies in various geographies

A total of 211 research studies were carefully examined and analysed as part of the literature review.

Table **1**, below, shows the continent-wise breakup of research studies on Online Education referred to for Literature Review. Around 46% (98 out of 211) of the research

studies referred to were conducted in North America, around 25% (52 out of 211) of research studies referred to were conducted in Asia, around 6% (12 out of 211) of research studies referred to were conducted in Europe, around 6% (12 out of 211) of research studies referred to were conducted in Africa, around 1% (3 out of 211) of research studies referred to were conducted in Australia, around 0.5% (1 out of 211) of research studies referred to were conducted in South America while remaining studies 16% (33 out of 177) of research studies referred to were not any geography specific and comprised mostly of reports related to the topic.

Table 1: Continent-wise Research Studies on Online Education

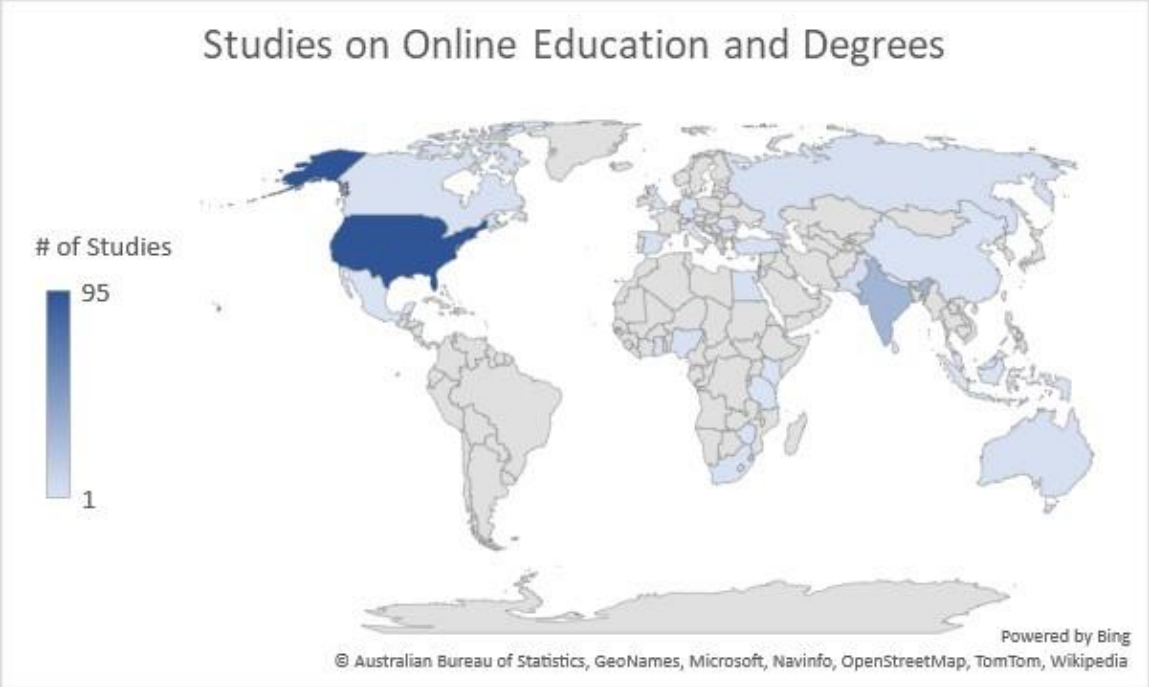
Continent	***Number of Studies***
North America	*98*
Asia	*52*
NA	*33*
Europe	*12*
Africa	*12*
Australia	*3*
South America	*1*
Total	***211***

Source: Author's work

Figure **1** below shows the geographic mapping of research studies on online education across the world. The figure below shows the spread of only 178 research

studies as thirty-three studies were not geography specific. The figure below clearly shows the maximum number of studies were conducted in United States (98 out of 178) while a moderate amount of research studies was conducted in India (31 out of 178).

Figure 1: Geographic mapping of research studies on online education



Source: Author's work

Table **2**, below, shows the country-wise breakup of research studies conducted in Asian continent on Online Education and were referred to for Literature Review. Around 60% (31 out of 52) of the research studies referred to were conducted in India, around 8% (4 out of 52) each of research studies referred to were conducted in UAE and Pakistan, around 6% (3 out of 52) of research studies referred to were conducted in Russia, 4% (2

out of 52) each of research studies referred to were conducted in China, Vietnam, Sri Lanka, Jordan, Philippines, Indonesia, Nepal, and Malaysia.

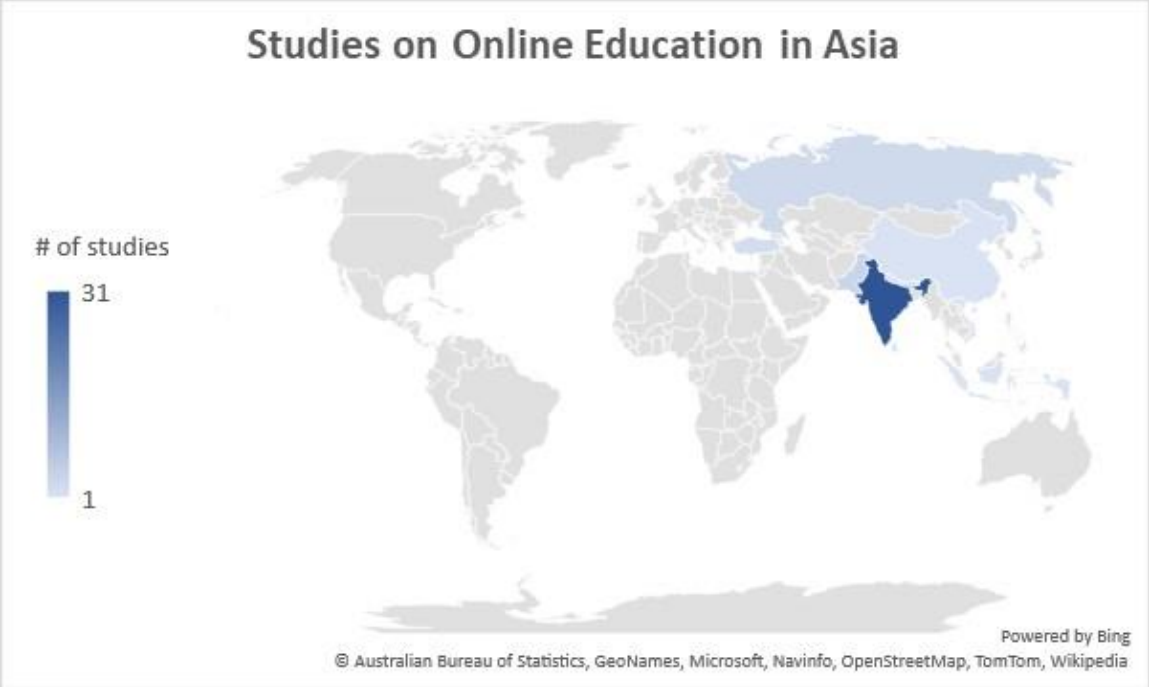
Table 2: Country-wise Research Studies in Asia on Online Education

Country	***Number of Studies***
India	*31*
Pakistan	*4*
United Arab Emirates	*4*
Russia	*3*
Turkey	*2*
China	*1*
Vietnam	*1*
Sri Lanka	*1*
Jordan	*1*
Philippines	*1*
Indonesia	*1*
Nepal	*1*
Malaysia	*1*
Total	***52***

Source: Author's work

Figure **2** below shows the geographic mapping of research studies on online education across the world. The figure below clearly shows the maximum number of studies being conducted in India (31 out of 52).

Figure 2: Geographic mapping of research studies in Asia on Online Education



Source: Author's work

2.8 Studies across Industries

A total of 211 research studies were referred to and analysed across various industries as part of the literature review.

Table **3**, below, shows the industry-wise breakup of research studies on Online Education which was referred to for the Literature Review. Around 41% (87 out of 211) of the research studies referred to were conducted in Education or Academics industry,

while 30.8% (65 out of 211) of research studies referred to were not conducted for any specific industries. Around 5% (11 out of 211) each of research studies referred to were conducted in Healthcare, and Technology industry, around 4.7% (10 out of 211) of research studies referred to were conducted in Accounting industry, around 1.4% (3 out of 211) each of research studies referred to were conducted in Engineering, Medical, and Human Resources industry, around 0.9% (2 out of 211) each of research studies referred to were conducted in Pharmaceutical, Business, and General industry, while remaining studies 5.7% (12 out of 211) of research studies referred to were conducted 1 each in Professional Services, Dietetic, Public Administration, Business Healthcare, Communications, Hospitality, Social Work, Agriculture, Finance, Multimedia, Nursing, and Veterinary Sciences industry.

Table 3: Industry-wise Research Studies on Online Education

Industry	***Number of Studies***
Not Industry Specific	*65*
Academics	*44*
Education	*43*
Healthcare	*11*
Technology	*11*
Accounting	*10*
Engineering	*3*
Medical	*3*

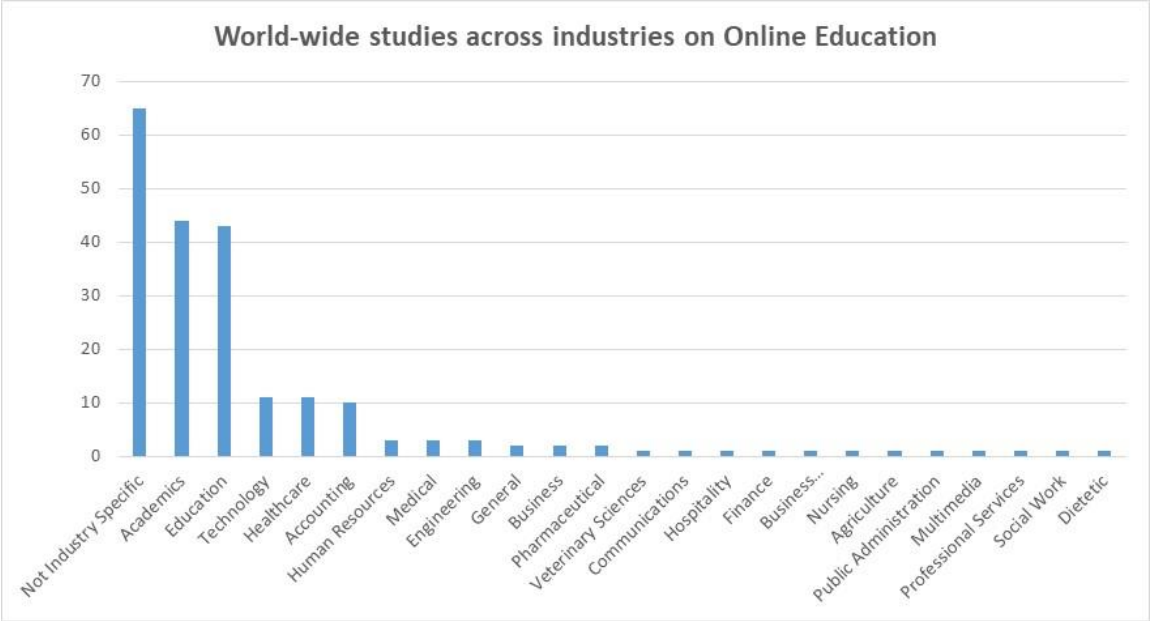
Industry	***Number of Studies***
Human Resources	*3*
Pharmaceutical	*2*
Business	*2*
General	*2*
Professional Services	*1*
Dietetic	*1*
Public Administration	*1*
Business Healthcare	*1*
Communications	*1*
Hospitality	*1*
Social Work	*1*
Agriculture	*1*
Finance	*1*
Multimedia	*1*
Nursing	*1*
Veterinary Sciences	*1*
Total	***211***

Source: Author's work

Figure **3** below shows the chart depicting world-wide studies across industries on Online Education. The chart below shows the spread of only 211 research studies and reports across the industries out of which 40 studies were not any industry-specific or

covered multiple industries. The chart below shows the maximum number of studies being conducted in Education, and Academics industry which comprised 40% of total studies. The studies in technology industry were merely 5.2% (11 out of 211) which were of direct relevance to this research topic. There has been sparing research in remaining industries except accounting and healthcare where the number of studies were 4-6% each.

Figure 3: World-wide studies across industries on Online Education



Source: Author's work

2.9 Indian geography and Technology industry

As per strategic reviews, the technology industry is valued at USD ~1 trillion and is the largest contributor to economic growth worldwide and in India as well. The Indian technology services sector is growing 2-3 times faster than the industry as a whole, amounting to 10% per annum. Indian technology services could potentially cross USD

300 billion in revenues by 2025 (NASSCOM, 2021). Indian technology industry employs ~1.2M-1.3M FutureSkills talent which consists of the Digital Talent Pool (AI & Big Data Analytics, IoT, Cloud Computing, Cyber Security, RPA, Blockchain, AR/VR, 3D Printing) as well as professionals employed in Web and Mobile Development technologies and IT Marketing technologies. Direct employment in technology industry is estimated at 4.47 million in FY 2020-2021 with an addition of 1,38,000 people (Ministry of Labour and Employment, 2022). The industry segment employing FutureSkills is growing at a CAGR of 16-20% whereas the demand for these roles is growing at a CAGR of 19-23%, thus creating a deficit to be filled to catchup with rising demand (NASSCOM & draup, 2020). The demand supply gap for digital tech talent is expected to increase more than 3.5 times by 2026 to 1.4M-1.8M (NASSCOM & draup, 2022).

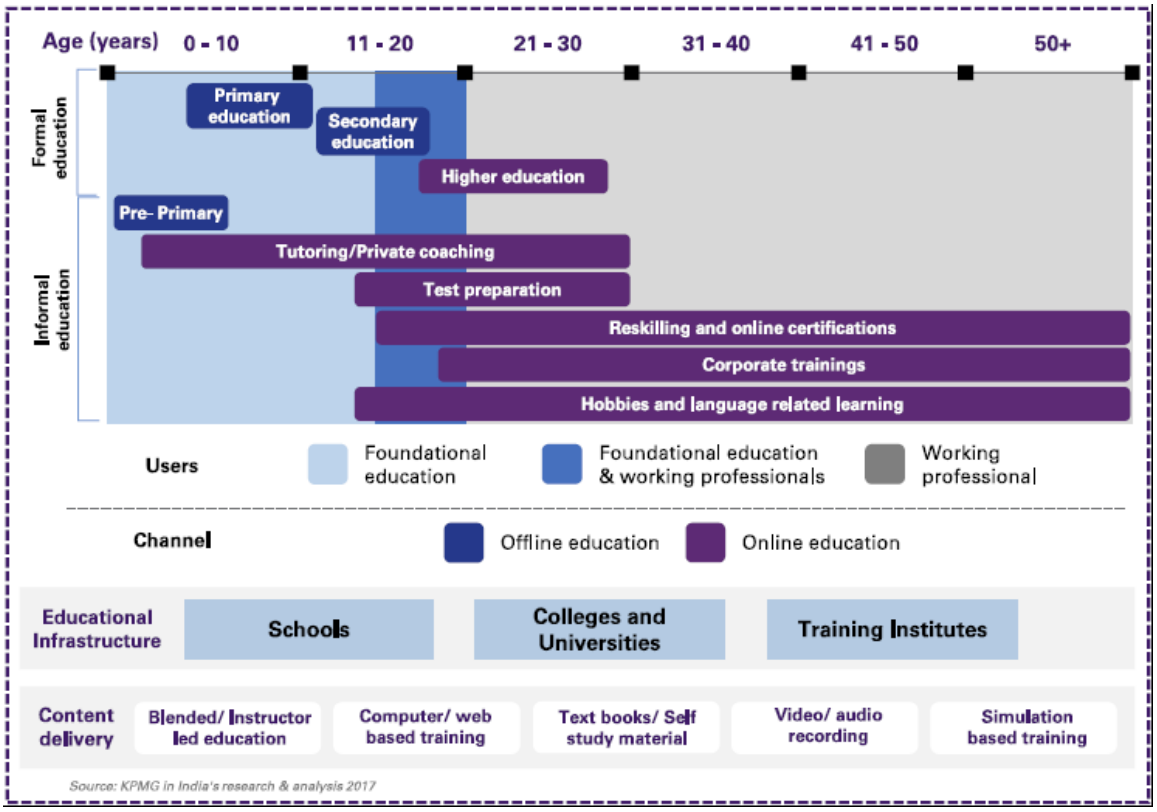
India will have the highest population of young people in the world by 2030. Recently, the Government of India announced the new National Education Policy, 2020 that is focused on bringing transformational reforms in school and higher education systems in the country and aims at providing all students, even in remotest areas, the quality education system with special focus on the marginalised, disadvantaged and underrepresented groups (GOI, 2021). India is the leading supplier of global online labour 30-35% (ILO, 2021) and is expected to have 9 times more digitally skilled workers by year 2025 which implies ~3.9 billion digital skills trainings by year 2025 (IBEF, 2021). As per the report on Technology Industry Outlook, ~90% CEOs expected a double-digit growth in hiring, similar to/ slightly higher than 2021 levels and the top most challenge would be talent shortage (NASSCOM, 2022).

India is the second largest market for e-learning, with a user base of ~9.5 billion users, after the US. The Government of India is targeting to achieve GER of 50% by year 2035 for higher education. As per industry report, the online education market will reach ~$8.6 billion by year 2026 and EdTech market will reach ~$3.5 billion by year 2022. The online higher education industry in India is expected to grow at 41% CAGR between 2016-2021 (IBEF, 2021). According to a survey in 2021, India's top five IT companies aim to recruit in large numbers to meet the increasing demand for talent that can work on projects remotely for customers looking to digitally transform their businesses. Technology giants like TCS & Infosys expects to employ >65,000 employees from campuses in 2021 (IBEF, 2021). Niti Aayog suggests that there is a need to consider digital course content, digital delivery, online assessment, online mobilization and remote counselling when designing new trades (DMEO, Niti Aayog, 2021).

The perceived motivational factors of online students in India are convenience, flexible start dates, convenient content access and reduced travel time. They tend to leverage peer networks and internet for brand awareness and are quite conscious about quality of course which is the topmost factor for choosing a specific educational brand. One study that involved surveying 200 university students from Public and Private universities, found that in cases of offline education, the quality of higher education was higher in public universities than private universities whereas in case of online education, it is was found to be exactly opposite (Maiti, Sharma, & Pandey, 2022). Being tech-savvy is their second nature and hence prefer laptops over mobile phones for accessing the course content. Figure 4, below, shows the users of different age groups and their

preferred channel to access educational resources, which clearly brings out that online education becomes part of Indian students' life right from primary school age (KPMG India; Google, 2017).

Figure 4: Users and preferred channels for education in India

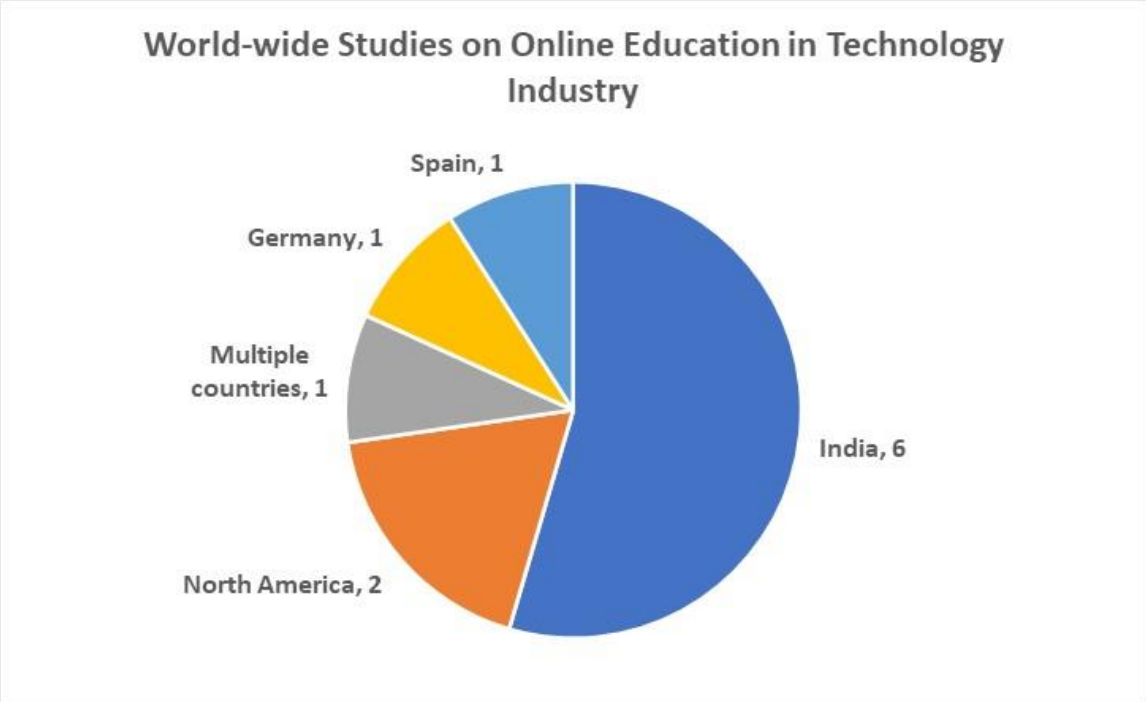


Source: Online Education in India 2021 (KPMG India; Google, 2017)

Figure 5 below shows the chart depicting world-wide studies on Online Education in Technology Industry. The chart below shows the maximum number of studies being conducted in India which made up more than half of total studies (6 out of 11). Very less studies (not exceeding 2 studies) have been done in Technology Industry in rest of the world. India being the Technology hub is facing the clear skills deficit and more and

more focus on online education in coming times, it is necessary to study how this online education will translate into successful employability and bridging of skills deficit gap.

Figure 5: World-wide Studies on Online Education in Technology Industry



Source: Author's work

2.10 Theoretical Framework for the study

The technological advancements have enabled the ways in which education and learning is imparted to the students of distance education and has led to emergence of definition of distance education. The definition or theory is necessary because it affects the practices followed in the real-world scenarios and provides the foundation on which structures of need purpose and administration can be erected (Simonson, 1999).

Simonson (1999) mentions that Moore, in early 1970s, theorized distance education around two variables (1) the distance between teacher and learner, and (2) amount of autonomy of the learner. Simonson (1999) also mentions that Peters, in late 1980s, theorized that the distance education permitted the industry characteristics, made standardized education available and is very cost-effective. Simonson (1999) further noted that Homberg, again in late 1980s, theorized that distance teaching is successful when it promoted learning pleasure, had relevancy to individual learner, created the rapport between teacher and learner, and engaged learner in activities, discussions and decisions enabled by simulated communications to and from learners. Later, Simonson (1999) introduced Equivalency theory that articulated the framework for design and instructional experiences for local and remote learners should be equivalent to be able to produce equivalent outcomes.

According to Flowers, Flowers, Flowers and Moore (2014), the equivalency theory has five components:

1. Equivalency,
2. Learning experiences,
3. Appropriate application,
4. Students, and
5. Outcomes.

The "equivalency" refers to the perspective that the distance education and the traditional courses should have the instructional environments that are comparable. It includes the assignments, interactions among students and faculties and learning

experiences during the courses. The “learning experiences” refers to the perspective that the faculty should carefully choose the proper instructional materials that ensures uniform learning experiences among students regardless of the method used to deliver the course material. The "appropriate application" refers to the perspective that the faculty must give students access to technology tools and resources that will help them learn & understand the course materials as per their learning preferences. The “students” refers to the perspective that all courses should offer possibilities and academic experiences to students to deepen their understanding of the subject matter.

Applying equivalency theory, the resulting learning outcomes will be the same despite students having different learning experiences. For example, an online student may gain the knowledge from an hour-long recorded video, additional MOOC, YouTube videos and/ or posting & discussing queries on discussion forums, whereas on the other hand an offline student may receive two-hour long lecture on that particular subject. In short, the learning experiences may vary based on the format, but the learning outcomes should be same or equivalent.

2.11 Discussion

Through the literature review, it can be concluded that there have been many studies to assess the effectiveness of online education at several levels, and to assess the comparison between traditional and online education, and to assess the satisfaction of learners on learning, development of life skills, networking, etc. but there is a clear gap in the literature which focused on employability or perception of online education for employability in Technology Industry. In spite of scholarly efforts, there remain serious

gaps in the literature. The studies of hiring preferences of Technology industry employers in India is either very hard to find or do not exist at all. This study is an attempt to fill this big void in research on this topic.

These questions raise important issues for all stakeholders especially the employers who are aiming to bridge the deficit between supply and chain of technical skills. These research questions have been addressed in other industries but have not been addressed well, particularly with respect to evaluating the employer viewpoints of Technology industry employers in India. It is important to know how willing the gatekeepers in Technology industry are to hire online degree candidates as against traditional degree candidates.

CHAPTER III:

METHODOLOGY

3.1 Research Methodology

The key focus of this study was to investigate the acceptability of degrees earned online (partially or fully) by prospective technology employers for hiring and promotion decisions. This descriptive research was conducted to gain better understanding of any biases and reasons for existence of those biases. Once the root cause of such bias(es) was determined, it allowed to find appropriate solution(s) to those concerns.

This chapter presents the research philosophy, method and procedures that was used in the study, which consisted of the following sections: research approach & strategy, study population and sampling, data collection methods & instruments, data analysis methods, research study period, trustworthiness and ethical considerations.

3.2 Research Approach & Strategy

A qualitative approach is a naturalistic, interpretative approach concerned with understanding the meanings which people attach to phenomena (actions, decisions, beliefs, values, etc.) within their social worlds (Snape & Spencer, 2003). The descriptive approach used to collect information from or about people to describe, compare, or explain their feelings, knowledge, values and behaviours is known as survey research (Fink, 2016).

To explore the research questions, Mixed Methods Methodology was adopted. Mixed methods methodology leveraged and combined the quantitative and the qualitative

methods, both, (Morgan, 2014) and provided the benefits of generality, and particularity. It was very relevant to use mixed methods approach for this research study because the study is in the field of labour economics and urban education where it is needed to investigate the generality and particularity of employers' views about online degrees. The particularity was achieved by conducting qualitative semi-structured interviews with a small set of technology employers and generality by conducting online surveys with large set of technology employers. This helped achieve a balance between generality and particularity, and quantitative and qualitative research.

3.3 Study Population and Sampling

The population of interest for this study was the employers of Indian Technology Industry requiring to hire employees with graduate, post-graduate or doctorate degrees. This included all size of employers, start-ups, small scale companies, medium size companies and large companies, across public, private and social sectors. As per NASSCOM (n.d.), there are 3271 organizations listed as NASSCOM members. To generalize from a random sample and to avoid sampling errors or biases, a random sample needed to be of the adequate size (Taherdoost, 2017). Assuming the desired accuracy with confidence level of 95% and maximum variance of 50%, the sample size came out to be approximately 350 samples.

Considering the size and scope of research study, the mixed sampling methods was used. The recruitment of participants was through convenience sampling and through referrals (snowball sampling). The survey results & interviews were recorded and were

shared with the respondent and interviewee. After survey and interviews were concluded, an abductive approach was applied to derive the conclusions and valuable insights.

3.4 Data Collection Methods and Instruments

The preferred data collection method was survey, documentation and in-depth interviews / semi-structured interviews. The surveys had structured questions, open-ended, closed-ended and Likert-type questions, and provided objective quantifiable data including participant's demographic data and participant's affiliated/ employer organization(s). The survey instrument to be used in this research study was an updated version of a survey instrument previously used in several studies by Adams and DeFleur (2004, 2005, 2006, 2007, 2009), Bahir (2014), Thompson (2009), Sinow-Mandelbaum (2014), and Jeancola (2011). The similar instrument has previously been used to study the acceptability of online degrees earned as a credential for obtaining employment in various industries and sectors.

The socio-demographic questions enabled the purposive sampling and helped in detailed exploration and understanding of central themes and puzzles emerging from the interview analysis (Ritchie, Lewis, & El am, 2003). The scenario-based questions, inspired by research study by Adams et al. (2012), enabled comparability where all other factors are kept constant except for the delivery mode of the degree. The semi-structured in-depth questions and probing questions covered broad agenda mapping the issues to be explored across the sample (Arthur & Nazroo, 2003) and helped fully explore all factors underlying participant's answers including reasons, feelings, opinions and beliefs (Legard, Keegan, & Ward, 2003).

The documentation that was used during research study were, but not limited to, interview questions, survey forms, profiles of organizations from their websites. The in-depth interviewing allowed not only the study participants to allow responses to be fully probed and explored but also the researcher to be responsive to relevant issues raised spontaneously by study participants (Legard, Keegan, & Ward, 2003).

For this study purpose, it was intended to conduct one-on-one interviews with a small set of participants. The interviews were responded by the participants orally over video conference and was recorded to maintain validity and reliability of the study.

Testing of survey and interview

The testing of survey design and interview design was done by conducting mock-survey with three volunteers and mock-interview with one volunteer who were my work colleagues. The prime objective of testing survey and interview was to eliminate the risk of misinterpretation of the question(s) by participants. The secondary objective was to determine the time required for completing survey and interviews. The feedback from mock-survey and mock-interview helped in improving the language, quality and number of questions. The data collected from the testing set was discarded and not included in the research data set.

3.5 Research Study Duration

The research study was initiated in India on 01-Feb-2022 and data gathering continued until 30-Apr-2022. The participants were recruited by leveraging online communities, social networks, Google Listing, NASSCOM Member Directory, personal and professional contacts.

Survey

The survey was created using www.surveymonkey.com and was made live on 08-Feb-2022 and was closed on 15-Apr-2022. A total of 658 participants took the survey and 376 completed responses were received from the survey. The qualifying question at the start of the survey automatically exited the survey who did not meet the qualifying criteria. To avoid the duplicate responses, one response per IP address was enabled at the survey system. The data from the incomplete surveys was not included in the research study and discarded the incomplete surveys.

The recruitment of survey was done in two ways. Firstly, through distribution via instant messaging to my personal and professional community. Secondly, through LinkedIn messages to companies listed in NASSCOM Member Listing. The typical time spent in taking the survey was found to be 5 minutes and 59 seconds. The survey was short and effective.

Interviews

A total of 31 interviews were conducted between 25-Mar-2022 and 25-Apr-2022. The interview participants were recruited through my personal and professional network through snowball method and convenience selection. The email invitation describing the purpose of study, participation criteria, consent, confidentiality, voluntary participation, anonymity, and privacy protection was sent to prospective participants.

Before starting the interview, the purpose of study, anonymity, and privacy protection was replayed once again followed by seeking permission to record the interview for research purposes. The interviews were conducted via video conferencing

and ranged between 30 mins to 45 mins. With participants' permission, only audio was recorded using firelies.ai chrome extension and auto-transcriptions of the interview was generated using tactiq.io chrome extension. The participants were also invited to receive the outcome of the research study once it is completed. Only 4 participants welcomed the invitation.

3.6 Data Analysis Methods

The data collected from the surveys was transferred to Microsoft Excel for descriptive analysis. The data collected from interview recordings and auto-transcriptions was reviewed manually and imputed in Microsoft Excel spreadsheets for further analysis. The thematic analysis is preferred when the objective is to compare the sets of evidence relevant to the situations within the same study and to extract information to discover the relationship between variables (Alhojailan, 2012). The thematic analysis using abductive approach using Mural software was performed to identify, analyse and report themes and patterns within the data. The content analysis was used to examine the keyword frequencies, common phrases and related keywords which was used to create categories and identify recurrent themes. The common content was merged and contrasting patterns were identified using affinity analysis. This process led to identification of themes and patterns. It was then used to derive the conclusions and valuable insights. Chapter Four presents the details of thematic findings.

3.7 Ethical considerations

The researcher informed all participants taking the survey or giving an interview that the data collected through surveys and/ or interviews will be used for academic purposes only. To maintain ethical practices within this study, the participation was kept completely voluntary, and respondents could discontinue their participation at any time. Neither a participation led to an incentive, nor discontinuation of participation led to any penalty. The anonymity of respondents for survey purposes and confidentiality of respondents for interview purposes was always protected.

3.8 Threats to validity

The threats to validity of this research study could be misinterpretation of questions, multiple possible attempts, and researcher's bias.

Misinterpretation of questions

The participants could have misinterpreted the questions which might have influenced the way they responded to the questions. As a result, the choice of words by participants might have affected the results of this research study. Though the survey questions were tested with three volunteers and interview questions with one volunteer, the risk might have persisted.

Multiple possible attempts

Although the survey system was set to allow one response per IP address to reduce the risk of multiple attempts by same participant. If participants attempted the survey from different devices, this risk might not have been fully eliminated.

Researcher's bias

The researcher's bias might have crept in my research work as my recent education has been in an online mode. Although, my undergraduate studies were completed in face-to-face on-campus mode, my personal experiences might have influenced the wording of questions in survey and interviews. During the interviews, it was kept in mind not to share any personal experiences and to remain neutral to all comments at all times. While analysing and writing the results, questioned my interpretations and re-examined the analyses to avoid researcher's bias as much as possible.

3.9 Limitations

There were two main limitations in this research study. Firstly, all interviews were conducted over video conferencing instead of in-person interviews due to availability and location constraints. The video conferencing interviews which might not have been effective as in-person interviews to build rapport with the participants. Secondly, convenient sampling method was used to meet the probability sample size. The mix in the sample may not be representative of true sample. The findings, therefore, are not generalizable. These limitations influenced the study.

3.10 Delimitations

To delimit the scope of research study, two ways were chosen to be implemented. Firstly, the survey was designed to be brief to engage the participants and reduce the attrition. Secondly, instead of using statistical analysis for survey results, descriptive analysis was chosen to present the results of the study. These delimitations influenced the study.

3.11 Summary

The methodology for this research study consisted of qualitative semi-structured interviews and an online survey of a probability sample of Indian IT employers. The purpose of this design was to enable more in-depth discussions with a smaller group of participants and investigate how employers viewed online degrees in hiring and promotion scenarios. Executives, Senior Management, Middle Management and non-Management staff working in different field of work ranging from IT to HR to Strategy & Sales in the private, and semi-Government sectors were included in this. The interview and survey tools were created with a focus on scenarios and open-ended questions. The interview and survey were purposefully designed to be effective in order to increase the level of participation and decrease the attrition. The errors, which were identified while validating the research tools with volunteers, were fixed and eliminated. The research data was collected over a period of approximately three months, from 08-Feb-2022 to 25-Apr-2022. The collected data was analysed using thematic and descriptive analysis. The threats to this research study included misinterpretation of questions, multiple possible attempts, and researcher's bias. The interviews were conducted with 31 participants and was complemented with responses of 377 survey participants.

CHAPTER IV:

RESULTS

4.1 Findings I – Interviews and Survey

This chapter presents the findings of the research study. The findings have been presented in two parts. First part includes the results from hypothetical scenarios of hiring and promotion which were posed as part of 31 interviews and 658 surveys. To find any connection between the exposure ad experience of employers with online learning and their preferences in hiring or promoting employees related to their background was evaluated using mere exposure theory (Seibold, 2007). The second part presents the thematic analysis of the qualitative responses from 31 interviews and 658 surveys.

4.1.1 Interviews

A total of 31 semi-structured interviews were conducted via video conferencing. The interview duration ranged from 30-45 minutes which were well utilized to engage with and capture their views about online degrees during hiring and promotion scenarios. The interviews included five questions to qualify the interviewee and set the context, followed by two hypothetical scenarios related to hiring situation and employee promotion situation, followed by seven in-depth semi-structured leading questions, and then demographic questions for classification purposes. Towards the end of interview, the open-ended qualitative question provided the opportunity to add other views which may not have been captured during semi-structured interview.

Below is the summary of interviewee participants demographics and the research findings:

Participant Demographics

The interview participants demographics were quite varied, however there were some similarities among them.

Age and Gender. Overall, 80.6% participants i.e., 25 out of 31 participants, were males and remaining 19.4% i.e., 6 out of 31 participants, were females. 64.5% participants i.e., 20 out of 31 participants, were in the age range of 40 years to 60 years. Out of these 20 participants, 85.0% participants i.e., 17 out of 20 participants, were males and remaining 15.0% i.e., 3 out of 20 participants, were females. 32.3% participants i.e., 10 out of 31 participants, were in the age range of 20 years to 30 years. Out of these 10 participants, 70.0% participants i.e., 7 out of 10 participants, were males and remaining 30.0% i.e., 3 out of 10 participants, were females. 3.2% participants i.e., 1 out of 31 participants, was in the age range of more than 60 years and was a male.

Table **4** along with Figure **6** and Figure **7** shows the detailed analysis of the age range and gender of the interview participants.

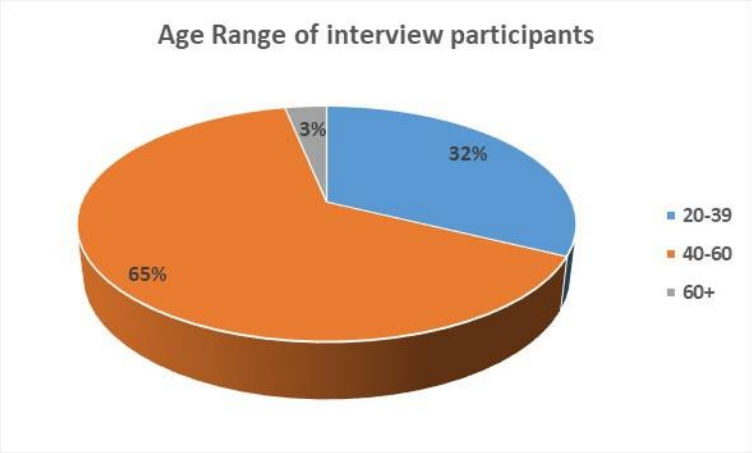
Table 4: Age Range and Gender of the interview participants

Age Range	***Female***	***Male***	***Total***
20 to 39	*3*	*7*	*10*
40 to 60	*3*	*17*	*20*

Age Range	*Female*	*Male*	*Total*
60 to 70		*1*	*1*
Total	***6***	***25***	***31***

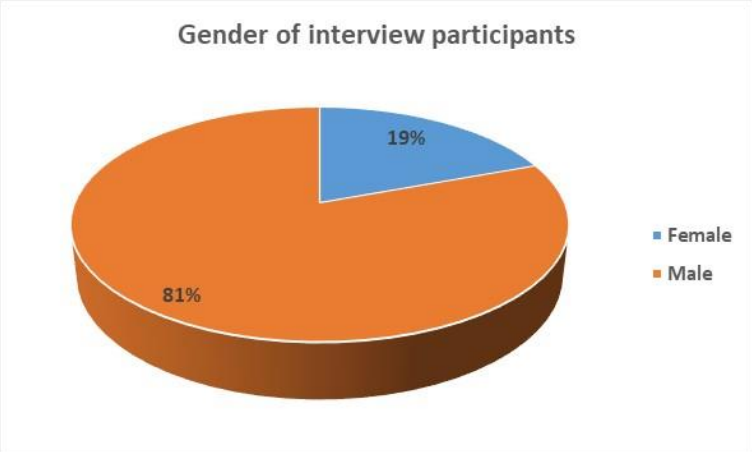
Source: Author's work

Figure 6: Age Range of interview participants



Source: Author's work

Figure 7: Gender of interview participants



Source: Author's work

Highest education and Year of education. 45.2% participants i.e., 14 out of 31 participants, had completed their highest level of education during 2011-2020, 29.0% participants i.e., 9 out of 31 participants, had completed their highest level of education during 1991-2000, 19.4% participants i.e., 6 out of 31 participants, had completed their highest level of education during 2001-2010, 3.2% participants i.e., 1 out of 31 participants, had completed their highest level of education during 1981-1990, and 3.2% participants i.e., 1 out of 31 participants, had completed their highest level of education during 2021-2030.

64.5% participants i.e., 20 out of 31 participants, had master's graduate degree, 29.0% participants i.e., 9 out of 31 participants, had bachelor's professional degree, 3.2% participants i.e., 1 out of 31 participants, had doctorate degree, and remaining 3.2% participants i.e., 1 out of 31 participants, had professional designation degree.

Table **5** along with Figure **8** and Figure **9** shows the analysis of highest education and year of completion of highest education for the participants.

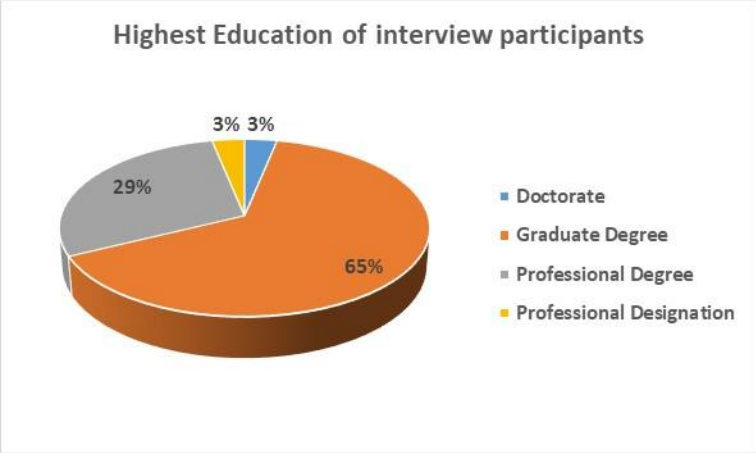
Table 5: Highest Education of the interview participants

Highest Education	***1981-1990***	***1991-2000***	***2001-2010***	***2011-2020***	***2021-2030***	***Total***
Doctorate				*1*		*1*
Graduate Degree	*1*	*4*	*4*	*10*	*1*	*20*
Professional Degree		*5*	*1*	*3*		*9*

Highest Education	***1981-1990***	***1991-2000***	***2001-2010***	***2011-2020***	***2021-2030***	***Total***
Professional Designation			*1*			*1*
Total	***1***	***9***	***6***	***14***	***1***	***31***

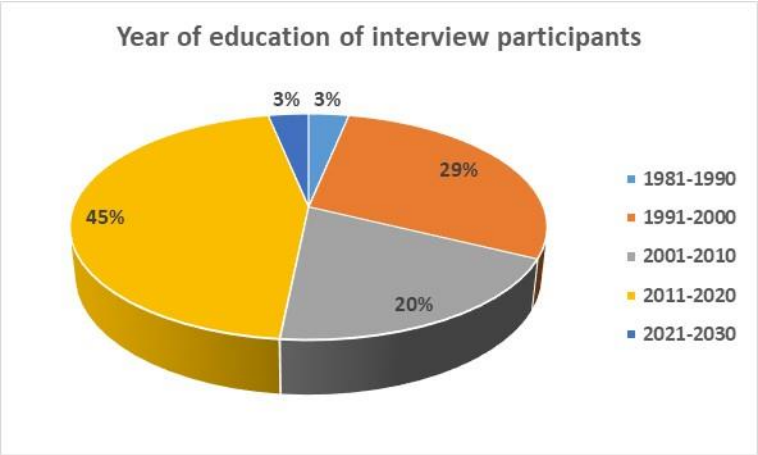
Source: Author's work

Figure 8: Highest Education of interview participants



Source: Author's work

Figure 9: Year of highest education of interview participants



Source: Author's work

Role played. 41.9% participants i.e., 13 out of 31 participants, were playing the Executive roles in their respective organizations, 41.9% participants i.e., 13 out of 31 participants, were playing the Senior Management roles in their respective organizations, 6.5% participants i.e., 2 out of 31 participants, were playing the Middle Management roles in their respective organizations, 6.5% participants i.e., 2 out of 31 participants, were playing the Non-management roles in their respective organizations, and remaining 3.2% participants i.e., 1 out of 31 participants, chose not to reveal the role being played by him in his organization.

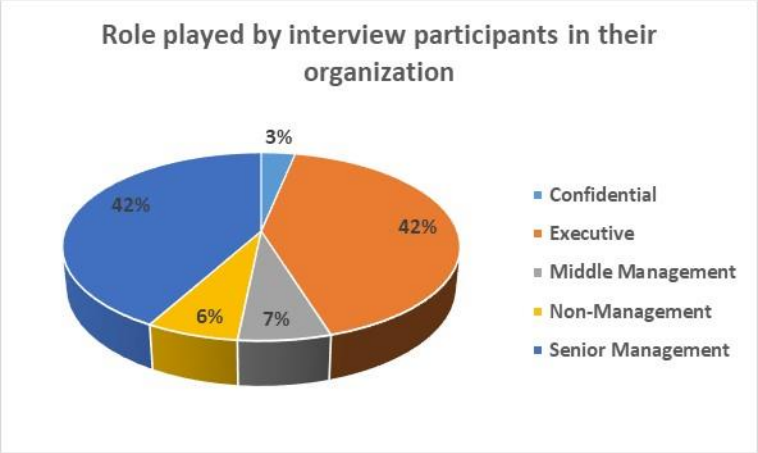
Table **6** along with Figure **10** show detailed analysis of roles played by interview participants in their organization.

Table 6: Role played by the interview participants in their organization

Role	***# of participants***
Confidential	*1*
Executive	*13*
Middle Management	*2*
Non-Management	*2*
Senior Management	*13*
Total	***31***

Source: Author's work

Figure 10: Roles played by the interview participants in their organization



Source: Author's work

Field of work. 29.0% participants i.e., 9 out of 31 participants, were working in the field of HR, 12.9% participants i.e., 4 out of 31 participants, were working in the field of Business, 12.9% participants i.e., 4 out of 31 participants, were working in the field of

IT, 6.5% participants i.e., 2 out of 31 participants, were working in the field of Marketing & Sales, remaining 38.7% participants i.e., 12 out of 31 participants, were working one each in the field of Brand Management, Strategy, Consulting, Operations, Energy, Presales, Sales & Strategy, Project Delivery, Engineering, R&D, Delivery, and Research & Analytics.

Table **7** along with Figure **11** show detailed analysis of field of work of the participants.

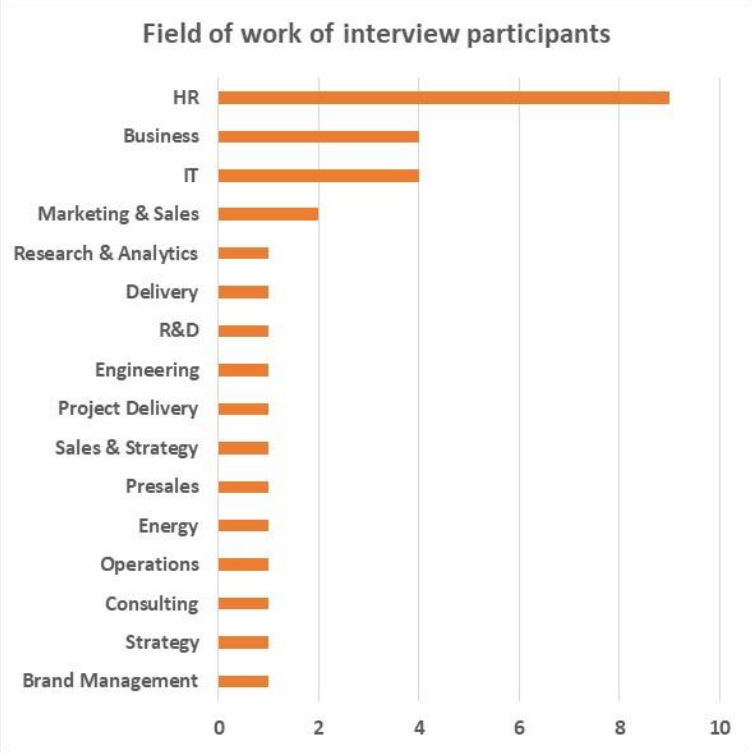
Table 7: Field of work of the interview participants

Field of work	***# of participants***
HR	*9*
Business	*4*
IT	*4*
Marketing & Sales	*2*
Project Delivery	*1*
Energy	*1*
Research & Analytics	*1*
Engineering	*1*
Presales	*1*
Consulting	*1*
R&D	*1*
Brand Management	*1*

Field of work	***# of participants***
Sales & Strategy	*1*
Strategy	*1*
Delivery	*1*
Operations	*1*
Total	***31***

Source: Author's work

Figure 11: Field of work of the interview participants



Source: Author's work

Sector and Size of participant's organization. 96.8% participants i.e., 30 out of 31 participants, were working in Private Sector whereas remaining 3.2% participants i.e., 1 out of 31 participants, were working in Semi-Government Sector.

32.3% participants i.e., 10 out of 31 participants, were working in large-sized organizations with more than 10,000 staff, 9.7% participants i.e., 3 out of 31 participants, were working in medium-sized organizations with staff in the range of 2000-5000, 9.7% participants i.e., 3 out of 31 participants, were working in slightly medium-sized organizations with staff in the range of 1000-2000, and remaining 48.4% participants i.e., 15 out of 31 participants, were working in small-sized and start-up organizations with staff in the range of 1-1000.

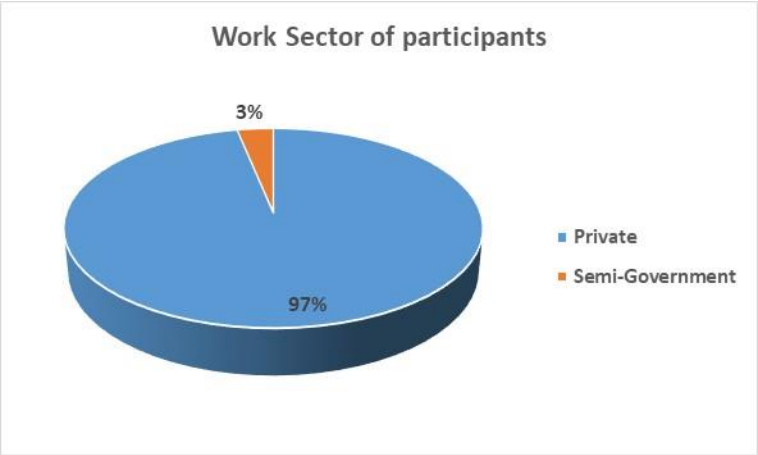
Table **8** along with Figure **12** and Figure **13** shows the detailed analysis of sector and size of participant's organization.

Table 8: Sector and size of organizations of the interview participants

Size of organization	***Private***	***Semi-Government***	***Total***
10000+	*10*		*10*
2000-5000	*3*		*3*
1000-2000	*2*	*1*	*3*
1-1000	*15*		*15*
Total	***30***	***1***	***31***

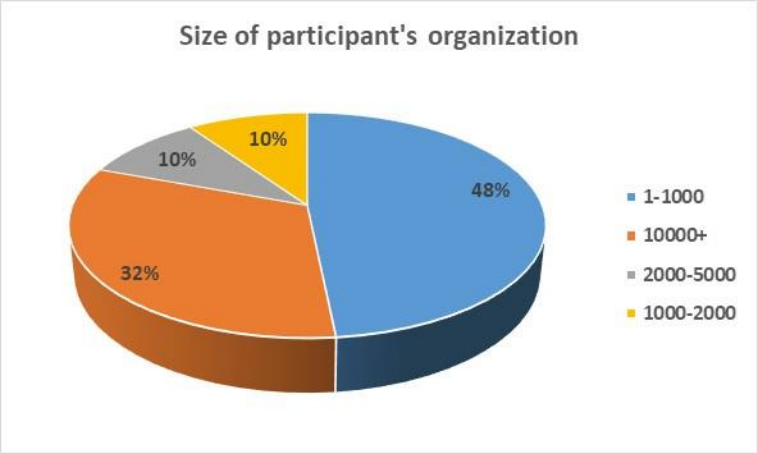
Source: Author's work

Figure 12: Work Sector of the interview participants



Source: Author's work

Figure 13: Size of Organization of the interview participants



Source: Author's work

Experience of hiring & willingness to accept online degree holders. 48.4% participants i.e., 15 out of 31 participants had hired someone who had completed a degree from online/ distance education universities. Out of these 15 participants, 26.7%

participants i.e., 4 out of 15 participants had hired someone who had completed a degree from online/ distance education universities and showed clear willingness to accept applications received from applicants with online bachelor's degree in future, 60.0% participants i.e., 9 out of 15 participants had hired someone who had completed a degree from online/ distance education universities and showed willingness to accept applications received from applicants with online bachelor's degree in future but with some reservations, whereas 13.3% participants i.e., 2 out of 15 participants had hired someone who had completed a degree from online/ distance education universities and were not sure whether they would be willing to accept applications received from applicants with online bachelor's degrees in future.

51.6% participants i.e., 16 out of 31 participants had hired someone who had completed a degree from online/ distance education universities. Out of these 16 participants, 31.3% participants i.e., 5 out of 16 participants had not hired anyone who had completed a degree from online/ distance education universities but showed clear willingness to accept applications received from applicants with online bachelor's degree in future, 50.0% participants i.e., 8 out of 16 participants had not hired anyone who had completed a degree from online/ distance education universities but showed willingness to accept applications received from applicants with online bachelor's degree in future with some reservations, whereas 18.8% participants i.e., 3 out of 16 participants had not hired anyone who had completed a degree from online/ distance education universities and were not sure whether they would be willing to accept applications received from applicants with online bachelor's degrees in future.

Table **9** along with Figure **14** shows detailed analysis of participants' having experience with hiring online degree holders and willingness to accept them in future.

Table 9: Experience with hiring online degree holders and willingness to accept them in future

Accept applications received from applicants with online bachelor's degree in future	***Hired an online degree holder***	
	Yes	***No***
Yes, with caveat	*9*	*8*
Yes	*4*	*5*
No/ Not Sure	*2*	*3*
Total	***15***	***16***

Source: Author's work

Figure 14: Experience with hiring online degree holders and willingness to accept them in future

Source: Author's work

Determining online degree and experience of hiring online degree holder.

When asked to interview participants about how would they know if applicant's degree was earned online, 45.2% i.e., 14 out of 31 participants indicated that it would be mentioned in the resume/ application, 25.8% i.e., 8 out of 31 participants relied on the Background Verification Check process, 22.6% i.e., 7 out of 31 participants told that they would ask about it in the interview, 12.9% i.e., 4 out of 31 participants indicated that they would verify it by checking with EdTech, College, University or Course itself, 12.9% i.e., 4 out of 31 participants would check by online/ offline verification of the credentials by school provided mechanism like QR Code, 6.5% i.e., 2 out of 31 participants will trust and depend on HR filtering, 3.2% i.e., 1 out of 31 participants did not care about it, whereas remaining 9.7% i.e., 3 out of 31 participants chose not to comment on it.

Table **10** along with Figure **15** shows the detailed analysis of determination of whether an applicant's degree was earned online.

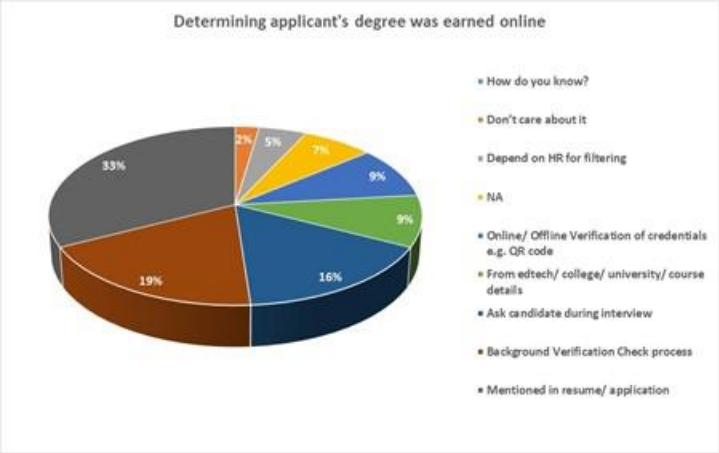
Table 10: Determining whether applicant's degree was earned online

How would you know if applicant's degree was earned online?	***Count***
Don't care about it	*1*
Depend on HR for filtering	*2*
NA	*3*
Online/ Offline Verification of credentials e.g., QR code	*4*

How would you know if applicant's degree was earned online?	***Count***
From edtech/ college/ university/ course details	*4*
Ask candidate during interview	*7*
Background Verification Check process	*8*
Mentioned in resume/ application	*14*
Total	***1***

Source: Author's work

Figure 15: Determining whether applicant's degree was earned online



Source: Author's work

On combining the responses received for whether interview participants hired anyone with an online degree and responses received for determining whether an applicant's degree was earned online, it was found that 15 out of 31 participants had hired an online degree holder and gave 21 responses cumulatively whereas remaining 16 out of

31 participants had not hired an online degree holder yet and gave 22 responses cumulatively.

Out of 21 responses from participants, who had hired someone who had completed a degree from online/ distance education universities, 42.86% i.e., 9 out of 21 responses indicated that it would be determined whether an applicant's degree was earned online by looking at applicant's resume/ application, 28.57% i.e., 6 out of 21 responses indicated that it would be determined whether an applicant's degree was earned online by asking the candidate during the interview, 14.29% i.e., 3 out of 21 responses indicated that it would be determined whether an applicant's degree was earned online by relying on Background Verification Check process, 9.52% i.e., 2 out of 21 responses indicated that it would be determined whether an applicant's degree was earned online by checking from EdTech or College or Institute or Course details, whereas remaining 4.76% i.e., 1 out of 21 responses indicated that it would be determined whether an applicant's degree was earned online by performing online/ offline verification of credentials like scanning QR Code on degree certificates.

Out of 22 responses from participants, who had not hired anyone who had completed a degree from online/ distance education universities, 22.73% i.e., 5 out of 22 responses indicated that it would be determined whether an applicant's degree was earned online by looking at applicant's resume/ application, 22.73% i.e., 5 out of 22 responses indicated that it would be determined whether an applicant's degree was earned online by relying on Background Verification Check process, 13.64% i.e., 3 out of 22 responses indicated that it would be determined whether an applicant's degree was earned online by

performing online/ offline verification of credentials like scanning QR Code on degree certificates, 9.09% i.e., 2 out of 22 responses indicated that it would be determined whether an applicant's degree was earned online by checking from EdTech or College or Institute or Course details, 9.09% i.e., 2 out of 22 responses indicated that it would be determined whether an applicant's degree was earned online by relying on HR filtering, 4.55% i.e., 1 out of 22 responses indicated that it would be determined whether an applicant's degree was earned online by asking the candidate during the interview, 4.55% i.e., 1 out of 22 responses indicated that they didn't care about it, whereas remaining 13.64% i.e., 3 out of 22 responses indicated that it was not applicable to them as they were not willing to hire an online degree holder anytime.

Table **11** along with Figure **16** shows the detailed analysis of participants' determining whether applicant's degree was earned online versus hiring experience of online degree holders.

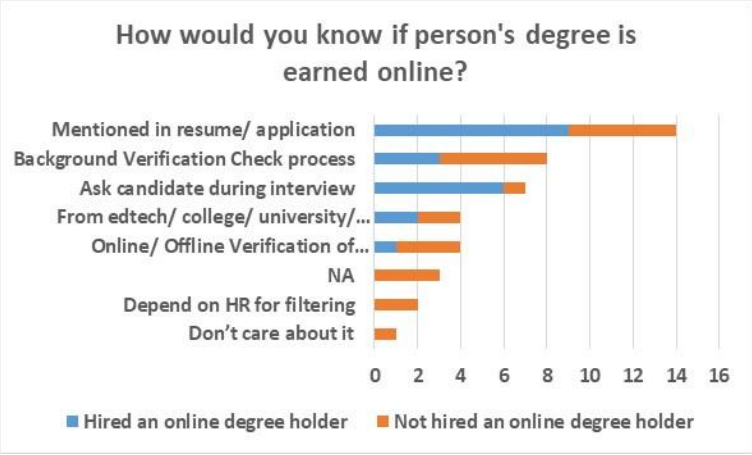
Table 11: Determining applicant's degree was earned online versus hiring experience of online degree holders

How would you know if applicant's degree was earned online?	***Hired an online degree holder***	
	Yes	***No***
Don't care about it		*1*
Depend on HR for filtering		*2*
NA		*3*

How would you know if applicant's degree was earned online?	***Hired an online degree holder***	
	Yes	***No***
Online/ Offline Verification of credentials e.g., QR code	*1*	*3*
From edtech/ college/ university/ course details	*2*	*2*
Ask candidate during interview	*6*	*1*
Background Verification Check process	*3*	*5*
Mentioned in resume/ application	*9*	*5*
Total	***21***	***22***

Source: Author's work

Figure 16: Determining applicant's degree was earned online versus hiring experience of online degree holders



Source: Author's work

Exposure and Experience with Online Learning. All respondents had good exposure and experience with online learning. 80.6% participants i.e., 25 out of 31 participants, had direct experience by taking online degree courses or online programs or job-related e-learning courses. 90.3% participants i.e., 28 out of 31 participants, had indirect exposure to online education through someone they knew who had taken an online degree, course or program. Only 54.8% participants i.e., 17 out of 31 participants, showed willingness to consider online degrees if given a chance to start their post-secondary education all over again.

Direct experience: 25 out of 31 participants had direct experience with online education either through degree course or through online programs or job-related e-learning courses. 45.2% participants i.e., 14 out of 31 participants, had undertaken an online course in past, 25.8% participants i.e., 8 out of 31 participants, were undertaking continuous education programs, 9.7% participants i.e., 3 out of 31 participants, were currently undertaking online degree program, and 19.4% participants i.e., 6 out of 31 participants, had not taken any form of online education but were planning to undertake one in the future.

4 participants, who had taken online courses in past, had different experience. 2 participant who had taken job related e-learning courses were satisfied with the program and appreciated the flexibility & networking opportunities but were dissatisfied due to limited physical interactions and course participant's hesitancy to collaborate together.

3 participants who were either taking online course currently or had taken in past did not have good experience with online education. 2 participants who were enrolled in an online doctorate degree program found the online program to be lacking interactions and difficult to balance with work with studies. 1 participant who had completed an online graduate degree program previously found the online programs to be very hectic and time-consuming. 1 participant, who had previously enrolled in an online degree program, could not complete it in time because he could not balance studies along with the work. 1 other participant who had previously undertaken a small online certification program, felt that in case she enrolled in an online education in future, it might be a big challenge to manage work and studies together.

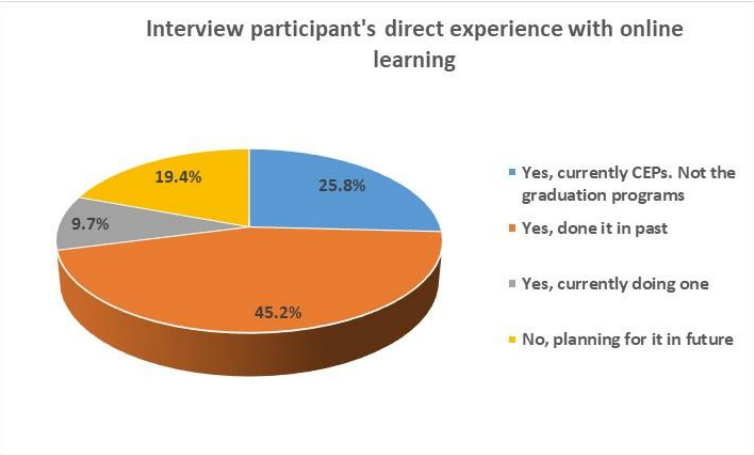
Table **12** along with Figure **17** shows interview participant's direct experience with online learning.

Table 12: Interview participant's direct experience with online learning

Direct experience with online learning	***# of participants***
Yes, done it in past	*14*
Yes, currently CEPs. Not the graduation programs	*8*
No, planning for it in future	*6*
Yes, currently doing one	*3*
Total	***31***

Source: Author's work

Figure 17: Interview participant's direct experience with online learning



Source: Author's work

Indirect exposure: 28 out of 31 participants had indirect exposure with online education by knowing someone who had undertaken an online education. Remaining 3 participants did not have any exposure to online education indirectly.

45.2% participants i.e., 14 out of 31 participants, who had indirect exposure to online education told that the online experience was found to be good by their known ones. Out of these, 4 participants felt that learning was convenient, flexible, had good coverage and as rigorous as full-time programs, 2 participants acknowledged that physical interactions are limited but still found the experiences to be good, 3 participants felt that online learning removed unwanted constraints including learning in their regional language and digital was the way forward, whereas 6 participants felt online programs gave high degree of live experience, could be done along with work and landed up with good jobs despite recruiter's bias against online education.

16.1% participants i.e., 5 out of 31 participants, who had indirect exposure to online education told that the online experience was found to be mixed by their known ones. They felt while online courses lacked interactions, the overall experience depends on the student's seriousness for the course/ program.

16.1% participants i.e., 5 out of 31 participants, who had indirect exposure to online education told that the online experience was found to be not good by their known ones. The participants felt that the online courses were easy, exam-oriented instead of learning experiences, some sort of certificates and not really capable. They also witnessed malpractices and felt that most of the online students do not study genuinely.

Remaining 12.9% participants i.e., 4 out of 31 participants, who had indirect exposure to online education told that they did not knew about the online experience by their known ones.

Table **13** along with Figure **18** shows interview participant's indirect exposure to online learning.

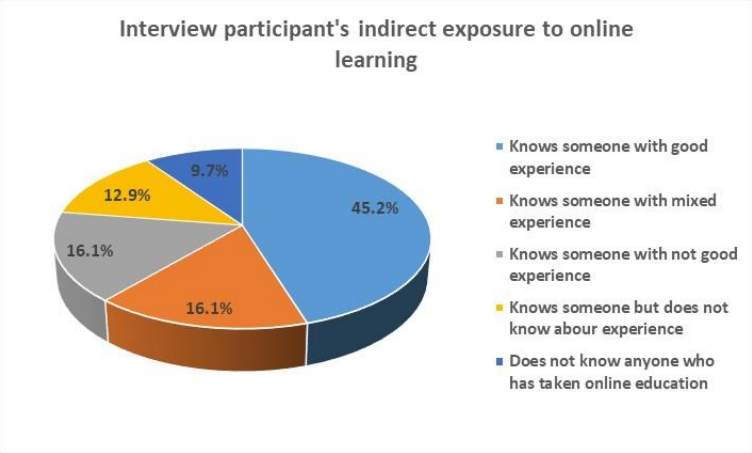
Table 13: Interview participant's indirect exposure to online learning

Indirect exposure to online learning	***# of participants***
Knows someone with good experience	*14*
Knows someone with mixed experience	*5*
Knows someone with not good experience	*5*
Knows someone but does not know about the experience	*4*

Indirect exposure to online learning	***# of participants***
Does not know anyone who has taken online education	*3*
Total	***31***

Source: Author's work

Figure 18: Interview participant's indirect exposure to online learning



Source: Author's work

Repeat experience: 80.6% participants i.e., 25 out of 31 participants, had direct experience with online education either through degree course or through online programs or job-related e-learning courses. 12 participants out of these 25 participants showed willingness to consider online degrees if given a chance to start their post-secondary education all over again, whereas remaining 13 participants were neither sure nor showed any willingness to consider online degrees if given a chance to start their post-secondary education all over again.

19.4% participants i.e., 6 out of 31 participants, had not taken any form of online education but were planning to undertake one in the future. 5 participants out these 6 participants showed willingness to consider online degrees if given a chance to start their post-secondary education all over again, whereas remaining 1 participant was neither sure nor showed any willingness to consider online degrees if given a chance to start their post-secondary education all over again.

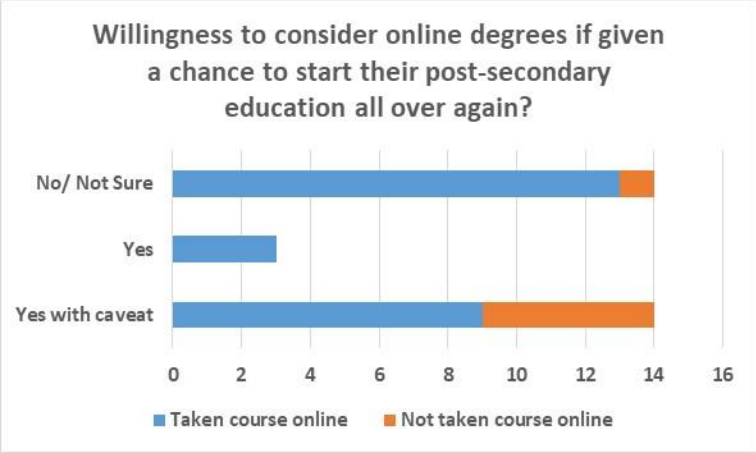
Table **14** along with Figure **19** shows detailed analysis of interview participant's attitude towards online education and willingness to consider online degrees if given a chance to start their post-secondary education all over again.

Table 14: Willingness to consider online degrees if given a chance to start their post-secondary education all over again?

Willingness to consider online degrees if given a chance to start their post-secondary education all over again?	***Have you taken any course online?***	
	Yes	***No***
Yes, with caveat	*9*	*5*
Yes	*3*	
No/ Not Sure	*13*	*1*
Total	***25***	***6***

Source: Author's work

Figure 19: Willingness to consider online degrees if given a chance to start their post-secondary education all over again?



Source: Author's work

9.7% participants i.e., 3 out of 31 participants, showed clear willingness to consider online degrees if given a chance to start their post-secondary education all over again.

45.2% participants i.e., 14 out of 31 participants, showed willingness, with caveats, to consider online degrees if given a chance to start their post-secondary education all over again. Out of these 14 participants, 64.29% participants i.e., 9 out of 14 participants, had experience taking a course online, whereas remaining 35.71% i.e., 5 out of 14 participants, had no experience taking a course online.

45.2% participants i.e., 14 out of 31 participants, showed no willingness to consider online degrees if given a chance to start their post-secondary education all over again. Out of these 14 participants, 92.86% participants i.e., 13 out of 14 participants, had

experience taking a course online, whereas remaining 7.14% i.e., 1 out of 14 participants, had no experience taking a course online.

Influence of knowing online degree holders. 41.9% participants i.e., 13 out of 31 participants, accepted that knowing individuals who completed their degree online have had an influence over their views about online education, 38.7% participants i.e., 12 out of 31 participants, denied that knowing individuals who completed their degree online have had any influence over their views about online education, and 19.4% participants i.e., 6 out of 31 participants, were not sure whether knowing individuals who completed their degree online have had any influence over their views about online education.

Table **15** along with Figure **20** shows interview participant's indirect exposure to online learning.

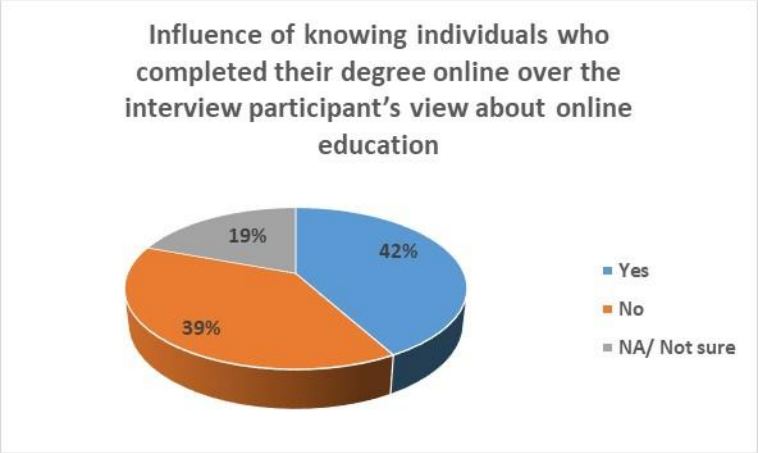
Table 15: Influence of knowing individuals who completed their degree online over the interview participant's view about online education

Influence of knowing individuals who completed their degree online over the interview participant's view about online education	***# of participants***
Yes	*13*
No	*12*
Not Sure/ NA	*6*

Influence of knowing individuals who completed their degree online over the interview participant's view about online education	*# of participants*
Total	***31***

Source: Author's work

Figure 20: Influence of knowing individuals who completed their degree online over the interview participant's view about online education



Source: Author's work

Findings

The findings of the interviews generally indicated a positive view of online degrees, although there were concerns raised and a few had a negative view about online education. Most of the participants who had a negative view had completed their higher education – Graduate degree or Professional Degree – in the 2010s and were working at senior management roles in their organizations and had good experience with online

education. No apparent connection between participants' experience, exposure, views and interest towards online education was observed except that they showed acceptability of online degrees at senior positions as compared to entry-level positions.

Interest in online education. 80.6% participants i.e., 25 out of 31 participants, had enrolled in past or were currently enrolled in online education for Continuous Education Programs or Graduate studies or Certifications. Out of the responses from these, 32.0% participants i.e., 8 out of 25 participants, mentioned "Flexibility" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Flexibility" included the following :

- "*... it gives me a lot of flexibility; I would say in the very first place. I mean, I don't have to travel or sit into a confined location ...*"
- "*... there is the comfort of attending them anytime, anywhere ...*"
- "*... One flexibility in terms of time. In the sense, like, it's not fixed time. I have some amount of flexibility and when I want, when I can kind of take it up ...*"
- "*... and the flexibility of the number of hours that you need to invest based on your own schedule ...*"
- "*To me prime attraction was that it gives me flexibility ...*"

28.0% participants i.e., 7 out of 25 participants, mentioned "Studies along with work" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Studies along with work" included the following :

- "*So, that is the facility which helps you to get educated also, get yourself enhanced qualification also and be a professional worker …*"

- "*I was working at that point in time, and I was not able to go for a regular course and I prefer doing a graduation. I preferred doing a master through distance learning, that was a good college.*"

- "*Because I am working full time, so I cannot pursue the full time PhD by going into the college and residing in their campus …*"

- "*It helps me keep my job as well as go ahead and study what I want to study*"

- "*… for us to leave a job and join a full-time college was a big no. So, I had to choose an online degree, and it's just about choosing the best one and which one?*"

24.0% participants i.e., 6 out of 25 participants, mentioned "Convenience" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Convenience" included the following :

- "*One definitely is that I can opt for any university which doesn't have a center or premise in my city. So, that definitely is a big plus. So, sitting in Bangalore if I can do a course which is being run by a university in Delhi or in the UK, that's wonderful.*"

- "*The ease of convenience was there that I didn't have to travel to a different city to attend*"

- "*I feel learning should always be a continuous process, so this helps me to acquaint myself further in case there are any developments in the management arena*"
- "*I don't have the time to actually visit some of the colleges or somewhere else*"
- "*It is 'at any point of time' you can take it*"

16.0% participants i.e., 4 out of 25 participants, mentioned "Course Content/ Characteristics" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Course Content/ Characteristics" included the following :

- "*... a couple of things, one is like the kind of material they have the kind of the scale of the courses, which they have online, you might not get it in, in any single university or institute because their material is very advanced and very broad actually ...*"
- "*I think it is like the niche areas and capsule size curriculum or focused courses as compared to the very elaborate, very focused, lengthy courses.*"
- "*Certainly, it provides a variety of courses at one place. So, there are a variety of options in terms of colleges and courses. So that's attractive.*"
- "*What attracts me is the variety of courses that are available ...*"

- "*And there are a lot of variety of courses which these online institutes are offering, which may not be available in the institutes where I am living, in the city which I am in right now.*"

16.0% participants i.e., 4 out of 25 participants, mentioned "Brand/ Reputation of College/ University" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Brand/ Reputation of College/ University" included the following :

- "*Third reason is which institute or university they have collaborated with. If it's a very reputed organization institute, then obviously, you would prefer to go with that instead of any unknown university.*"
- "*Okay, so one is the brand. IIM is a brand in itself.*"
- "*Honestly the kind of alumni network that I would get because and also a lot of companies prefer you when you kind of get those tags.*"
- "*Yes, so for attraction, mostly I believe some of the renowned institutions in our country, like IIMs and IITs, also have some kind of online courses.*"
- "*So, first and foremost, it is the Premium Institute that was XLRI.*"

16.0% participants i.e., 4 out of 25 participants, mentioned "Upskilling/ Earning degree" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Upskilling/ Earning degree" included the following :

- "*Okay, mainly it was about my eagerness to complete a graduation degree. Because that is a foundation for anybody's career. If we have to grow or If we have to be competitive in the industry.*"

- "*Just to upskill myself. And if a one-week course can help me with something I'm doing in my job, why would I miss that opportunity out.*"

- "*I think just to brush up things which are more relevant, some of the tools which will be more relevant, and a deeper aspect of now understanding it better as much as I would have understood after my first management program was the reason and learnings will greatly help me navigate my path in the senior leadership positions.*"

- "*So, my basic requirement was to skill myself up. So, since I am from a technical background and I am taking care of the new technological area, it is very important for me to improve my skills on a regular basis.*"

- "*But that is something that is to brush up your knowledge …*"

16.0% participants i.e., 4 out of 25 participants, mentioned "No Travel" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "No Travel" included the following :

- "*I don't have to travel or sit into a confined location. I can be at ease or even of course, when I have to listen more, don't have to do any hands on or don't have to do talks, I can move around.*"

- "*I don't have to travel there …*"
- "*The ease of convenience was there that I didn't have to travel to a different city to attend.*"
- "*That is the thing, and you don't need to spend your time traveling or as long as you are comfortable, and you can take it online.*"

12.0% participants i.e., 3 out of 25 participants, mentioned "Cost Savings" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Cost Savings" included the following :

- "*I don't have to travel there, so huge cost savings.*"
- "*Second is generally cost. I've seen that the online degrees are generally cheaper than the offline degrees.*"
- "*What attracts me is the variety of courses that are available and the price point at which they are available …*"
- "*It is very important for all of us because we are not so rich …*"

12.0% participants i.e., 3 out of 25 participants, mentioned "Self-paced Learning" as one of the reasons for opting and enrolling in online learning. Examples of responses supporting "Self-paced Learning" included the following :

- "*And it allows me to take up my learning at my own pace. and adjust my own timing, according to my own calendar*"

- "*… and the third thing I attended at a pace at a time of my convenience …*"

12.0% participants i.e., 3 out of 25 participants, mentioned other miscellaneous reasons like pandemic constraints, exploring education style and networking opportunity for opting and enrolling in online learning. Examples of responses supporting other miscellaneous reasons included the following :

- "*So, the first challenge was that we had this covid pandemic in which we could not sit in a room, in an AC room and have these courses taking it, that's the only reason why I had taken an online course.*"
- "*I just want to check the difference between US teaching and Indian teaching.*"
- "*And the virtual mode also allows you to interact, and you make a network.*"

Table **16** along with Figure **21** shows interview participant's interest in online education who have already experienced online education

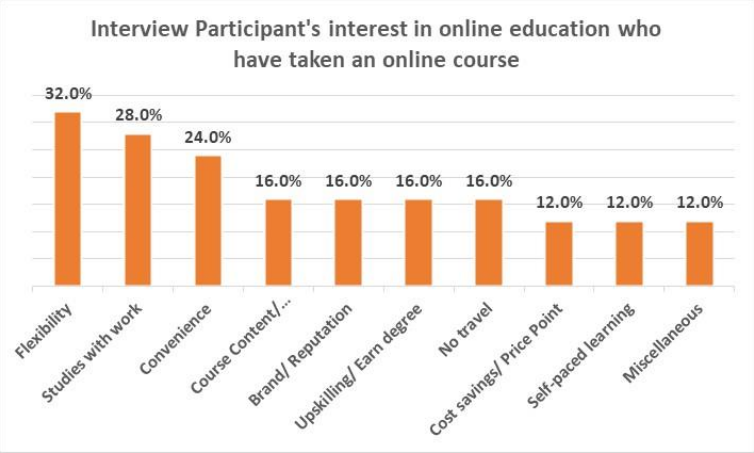
Table 16: Interview participant's interest in online education who have already experienced online education

Reason for Interest in Online Education	***#Mentions across Responses***
Flexibility	*8*
Studies with work	*7*
Convenience	*6*
Course Content/ characteristics	*4*

Reason for Interest in Online Education	*#Mentions across Responses*
Brand/ Reputation	*4*
Upskilling/ Earn degree	*4*
No travel	*4*
Cost savings/ Price Point	*3*
Self-paced learning	*3*
Miscellaneous	*3*

Source: Author's work

Figure 21: Interview participant's interest in online education who have already experienced online education



Source: Author's work

19.4% participants i.e., 6 out of 31 participants, had not enrolled in the online education yet. Out of the responses from these, 33.0% participants i.e., 2 out of 6 participants, mentioned "Course Content/ Characteristics" as one of the reasons for

opting and enrolling in online learning in future, 17.0% participants i.e., 1 out of 6 participants, mentioned “Brand/ Reputation of College/ University” as the reason for opting and enrolling in online learning in future, 17.0% participants i.e., 1 out of 6 participants, mentioned “Upskilling/ Earing degree” as one of the reasons for opting and enrolling in online learning in future, and 17.0% participants i.e., 1 out of 6 participants, mentioned “Cost Savings” as one of the reasons for opting and enrolling in online learning in future.

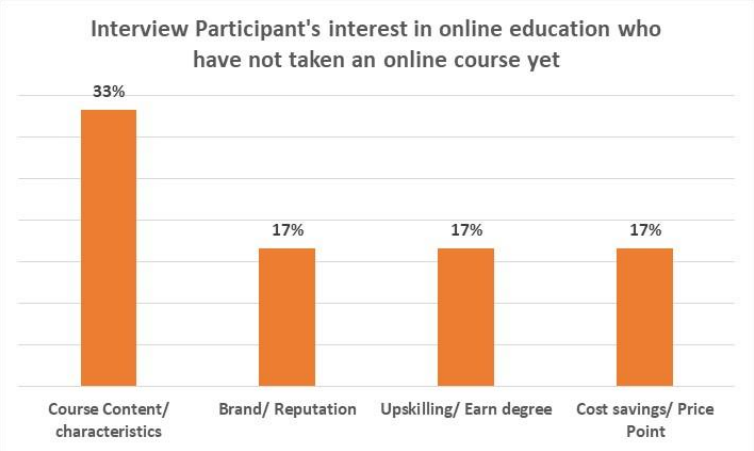
Table **17** along with Figure **22** shows interview participant’s interest in online education who have not taken one yet.

Table 17: Interview participant’s interest in online education who have not experienced online education yet

Reason for Interest in Online Education	***#Mentions across Responses***
Course Content/ characteristics	*2*
Brand/ Reputation	*1*
Upskilling/ Earn degree	*1*
Cost savings/ Price Point	*1*

Source: Author’s work

Figure 22: Interview participant's interest in online education who have not experienced online education yet



Source: Author's work

Experience of online education. 61.29% participants i.e., 19 out of 31 participants, described their experience with online education as "positive". Out of these 19 participants, 84.21% participants i.e., 16 out of 19 participants had had experience with online education (current or past), whereas remaining 15.79% participants i.e., 3 out of 19 participants had no experience with online education.

19.35% participants i.e., 6 out of 31 participants, described their experience with online education as "negative". Out of these 6 participants, 66.67% participants i.e., 4 out of 6 participants had experience with online education (current or past), whereas remaining 33.33% participants i.e., 2 out of 6 participants had no experience with online education.

19.35% participants i.e., 6 out of 31 participants, described their experience with online education as either “mixed” or “not applicable”. Out of these 6 participants, 83.33% participants i.e., 5 out of 6 participants, had experience with online education (current or past), whereas remaining 16.67% participants i.e., 1 out of 6 participants, had no experience with online education.

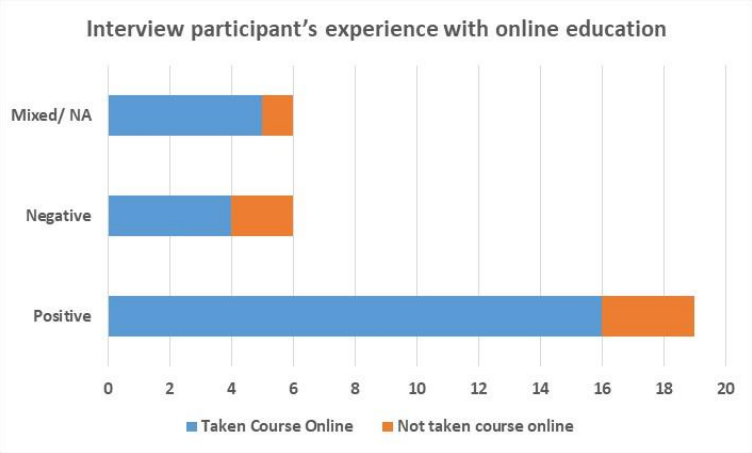
Table **18** along with Figure **23** shows interview participant’s indirect exposure to online learning.

Table 18: Interview participant’s experience with online education

Experience	***Have taken course online***	***Have not taken course online***
Positive	*16*	*3*
Negative	*4*	*2*
Mixed/ NA	*5*	*1*
Total	***25***	***6***

Source: Author’s work

Figure 23: Interview participant’s experience with online education



Source: Author's work

Preferences in hiring & promotion situations

The study described two hypothetical scenarios – one for Hiring situation and one for Promotion situation where there was only one vacancy and there were two applicants. In each of the two independent scenarios the interview participant was asked to compare two candidates and choose one of the candidates for hiring or promotion depending on the scenario.

Preference in hiring situations. In this scenario, there are two applicants both of same age, have earned a bachelor's degree in Computer Science from an accredited Indian university, and have worked at the same job for the same company for past two years. One applicant had an online degree whereas the other applicant had completed his or her degree on campus.

In this scenario, the results of the study revealed that 71.01% participants i.e., 22 out of 31 participants, showed no preference for online degree holder over offline degree

or vice versa. Out of these 22 participants, 95.45% participants i.e., 21 out of 22 participants did not perceive a difference between online degree holders and offline degree holders, whereas only 4.55% participants i.e., 1 out of 22 participants perceived a difference between online degree holders and offline degree holders. The difference indicated by the participants was that during fresher hiring, they would prefer offline degree holders whereas for experience professional hiring, it did not matter much.

25.8% participants i.e., 8 out of 31 participants, showed strong preference for offline degree holders over online degree holders. Out of these 8 participants, 12.5% participants i.e., 1 out of 8 participants perceived no difference between online degree holders and offline degree holders, whereas 87.5% participants i.e., 7 out of 8 participants perceived a strong difference between online degree holders and offline degree holders. The differences indicated by the participants were related to better networking ability, more interactions, better learning in campus, lack of trustworthiness of online evaluation methods, and lesser people skills in online studies.

3.2% participants i.e., 1 out of 31 participants, showed strong preference for online degree holders over offline degree holders. This participant perceived a strong difference between online degree holders and offline degree holders. The difference indicated by the participant was that online courses are up to date as compared to offline courses.

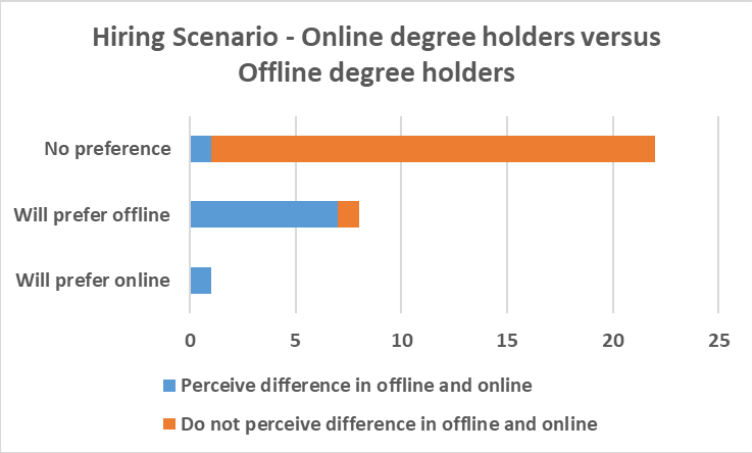
Table **19** along with Figure **24** shows detailed analysis of interview participant's preferences in a hiring scenario – online degree holders versus offline degree holders.

Table 19: Hiring Scenario – Online degree holders versus Offline degree holders

Hiring Scenario – Online degree holders versus Offline degree holders	***Perceive difference in offline and online***	
	Yes	***No***
Will prefer online	*1*	
Will prefer offline	*7*	*1*
No preference	*1*	*21*
Total	***9***	***22***

Source: Author's work

Figure 24: Hiring Scenario – Online degree holders versus Offline degree holders



Source: Author's work

Preference in promotion situations. In this scenario, there were two employees both of same age, held exactly same positions, performed their duties equally well, and have earned a bachelor's degree in Computer Science from an accredited Indian

university. One applicant had an online degree whereas the other applicant had completed his or her degree on campus.

In this scenario, the results of the study revealed that 77.4% participants i.e., 24 out of 31 participants, showed no preference for online degree holder over offline degree or vice versa. Out of these 24 participants, 70.83% participants i.e., 17 out of 24 participants believed that selection for promotion will depend on individual performance and other attributes than the mode of degree, whereas remaining 29.17% participants i.e., 7 out of 24 participants believed that selection for promotion will depend on individual characteristics like personality, potential, proactiveness, and effort more than the mode of degree.

9.7% participants i.e., 3 out of 31 participants, showed strong preference for online degree holders over offline degree holders. All 3 participants perceived strong difference between online degree holders and offline degree holders. The differences indicated by the participants were related to possession of job experience along with learning, more disciplined than offline, and ability to take their knowledge to next level easily.

6.5% participants i.e., 2 out of 31 participants, showed strong preference for offline degree holders over online degree holders. All 2 participants perceived strong difference between online degree holders and offline degree holders. The differences indicated by the participants were related to practical experience and that at executive positions offline degrees are preferred.

The remaining 6.5% participants i.e., 2 out of 31 participants either chose not to respond to the question or had no viewpoints.

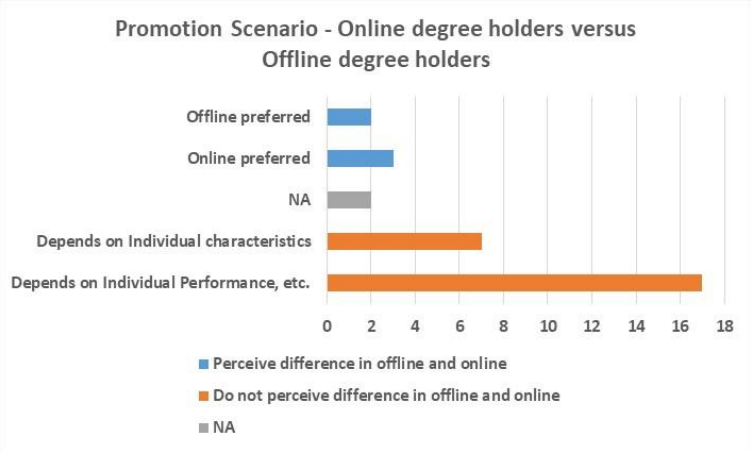
Table **20** along with Figure **25** shows detailed analysis of interview participant's preferences in a promotion scenario – online degree holders versus offline degree holders.

Table 20: Promotion Scenario – Online degree holders versus Offline degree holders

Promotion Scenario – Online degree holders versus Offline degree holders	***Perceive difference in offline and online***		
	Yes	***No***	***NA***
Depends on Individual Performance, etc.		*17*	
Depends on Individual characteristics		*7*	
NA			*2*
Online preferred	*3*		
Offline preferred	*2*		
Total	***5***	***24***	***2***

Source: Author's work

Figure 25: Promotion Scenario – Online degree holders versus Offline degree holders



Source: Author's work

Perception about Online Degrees/ Programs. The interview participants were asked to articulate what came to their mind when they heard the term "online degrees" or "online programs". 45.16% participants i.e., 14 out of 31 participants, associated positive views with "online degrees" or "online programs", 25.81% participants i.e., 8 out of 31 participants, associated negative views with "online degrees" or "online programs", whereas remaining 29.03% participants i.e., 9 out of 31 participants, associated either mixed views or no views with "online degrees" or "online programs".

The positive views expressed by interview participants, relating to "online degrees" or "online programs", included the following :

- "*I believe online degrees are more dynamic and more adaptive to what the industry requires because the life cycle of creating an online degree is much*

shorter and you have actually newer content kind of coming in whereas offline exist typically use slightly older content."

- "*Actually, I studied around 10 years back so at that time we are not having that much scope of this. But if I say, right now, if I hear about the online class online degree, it's quite interesting and I think I will enjoy my studies while working.*"
- "*... it's straight up front that you can get a degree quickly, certificate quickly. That will help you because when you write things in your resume you don't write this online or offline, you just write that you have done a course.*"
- "*Flexibility and accessibility of the whole thing is the first thing that comes into my mind.*"
- "*So, one thing which comes to my mind is that a person who has done an online degree is likely to be more tech savvy than someone who has attended face to face.*"

The negative views expressed by interview participants, relating to "online degrees" or "online programs", included the following :

- "*First thing that comes to mind is fake, Fake degrees or fake candidates.*"
- "*So, basically a program designed by typically a foreign university nowadays and then it is highly priced, I would say … and the criteria to get there is nothing else, but if you are able to spend money, you can get in there.*"

- "*First thing which pops up in everyone's mind is that someone who's not able to get through a full-time campus program, he or she may have chosen to apply to such online programs …*"
- "*The first and foremost is to see that people are not cheated or people are not faking their degree. So that is something that comes to my mind.*"
- "*Honestly, I feel that it's not that relevant and it has been commercialized a lot by a lot of companies right now. So, I'm not sure what kind of knowledge transfer they're doing. So, I do not feel that kind of trust in those online courses so that's my personal feeling.*"

The mixed views or no views expressed by interview participants, relating to "online degrees" or "online programs", included the following :

- "*Distance learning. UpGrad is one of them then NMIMS and Symbiosis who actually provide distance learning. These are the few words that actually come into my mind.*"
- "*It comes to me that you are connected to a program through an internet medium, and you are attending to a shared schedule, onset time etc. but not being physically present to some place, you are remotely present into those particular classes, doing the assignments in your individual capacity, submitting it, somebody assessing them and providing you the feedback.*"

- "*Okay, so an online degree for me could be a medium where you can scale up yourself … Even till now, we think that there could be some falsification or something else, like, fraud could happen in case of the online versus offline.*"
- "*First are the short-term courses, which come on LinkedIn or Coursera or edX or Udemy which come in bite-sized versions which are the two minutes or three minutes courses which come into mind and later the medium level courses, like CFA based one or likewise, then the long-term ones are nowadays which are coming in a masters. So, first things which come as a glimpse is, the short term, 8-hour 12-hour videos.*"
- "*The first thing that comes to my mind is the flexibility that you get in the online program because you do not have to change your schedule or you can attend from where you want to attend it, and then, online has their own benefit in terms of flexibility that suppose if you have missed the session. The negative part that comes to my mind is that it lacks interaction. It lacks the camaraderie between the batchmates.*"

Table **21** along with Figure **26** shows the analysis of views expressed by interview participants relating to "online degrees" or "online programs".

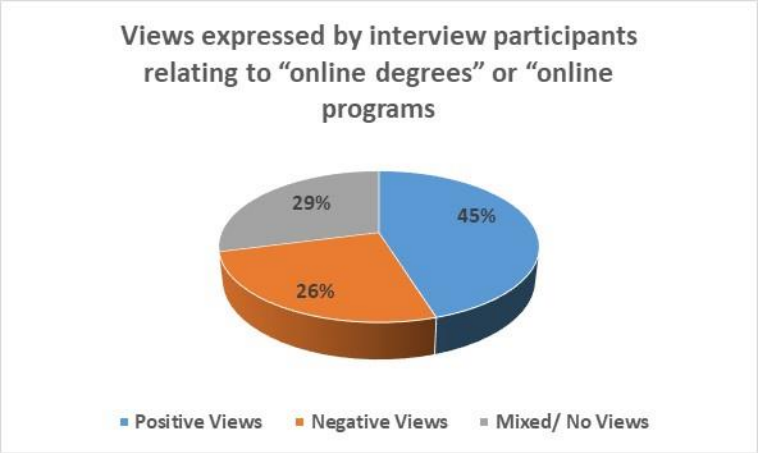
Table 21: Views expressed by interview participants relating to "online degrees" or "online programs"

Views about "online degrees" or "online programs"	***Count***
Positive Views	*14*

Views about "online degrees" or "online programs"	*Count*
Negative Views	*8*
Mixed/ No Views	*9*
Total	***31***

Source: Author's work

Figure 26: Views expressed by interview participants relating to "online degrees" or "online programs"



Source: Author's work

Comparative view of Online versus Offline. The interview participants were asked to articulate their opinion about how do online degrees/ programs compare to traditional degrees/ programs. 38.71% participants i.e., 12 out of 31 participants, had an opinion supporting that "Offline degrees/ programs have an edge over Online degrees/ programs", 32.26% participants i.e., 10 out of 31 participants, had an opinion supporting that "Online degrees/ programs have an edge over Offline degrees/ programs", whereas

remaining 29.03% participants i.e., 9 out of 31 participants, had an opinion supporting that “Online degrees/ programs and Offline degrees/ programs, either both or none have an edge over each other but depends on the situation”.

The opinions supporting that “Offline degrees/ programs have an edge over Online degrees/ programs”, included, but not limited to, the following :

- “*Online degrees are something that you're doing something else along with that. So, the amount of assignments, the multiple things that are actually implemented, the implementation side of it, in the degree you do that; You don't do it in distance education or online degrees.*”
- “*When you go physically to a university campus, you have a different type of connect, you have a different type of experience and in online, I think you're on your own, you are not even dressed up for education. You're for sure not possibly talking to your teachers live and so on, I think there is definitely a difference.*”
- “*There is one very big difference which we have observed over these years in our recruitment experience. The candidates coming from campus programs are more prepared because they have got that exposure. When they are interacting with their peers, their colleagues, they are getting that experience. From on-campus learning, it makes them more groomed, more prepared for the leadership challenges and as contrast to the candidates who are coming from online program, wherein they are only taught theoretically, maybe few projects but the overall grooming and overall preparation for a leadership role is much easily visible.*”

- "*In terms of reliability, if you ask a neutral person, anybody will give more weightage to physical or campus degree than online because though we are digitally advancing, there is still a large possibility of scams, which keeps happening from time to time, be it a banking scam or something like similar*."
- "*If we talk of this digital era many things have changed but yes, I feel the fundamental thing is that education has become a business. So effectively, there are many universities which are there to make or mint money … but a good amount of tab and control is required otherwise it usually turns out to be people getting cheated on one or the other aspects, specifically in the online education, where people go just about to get the degree*."
- "*People basically do it because either they are stuck up with their work or they basically want to prove to their existing companies that they have done this qualification. And usually what I found is people who do online degree and side by side working etc. really don't put in effort and it is just out of fluke, that they tend to get those degrees which is not possible, or the possibilities are slim, when you actually take the offline courses.*"

The opinions supporting that "Online degrees/ programs have an edge over Offline degrees/ programs", included, but not limited to, the following :

- "*I believe online degrees are more dynamic and more adaptive to what the industry requires because the life cycle of creating an online degree is much shorter and you have actually newer content kind of coming in whereas offline*

typically uses slightly older content. So, I would say that the online degrees are probably more relevant to the industry."

- "*In my opinion, while studying, practical experiences are also more important. Because, anyway, companies are giving letters to those candidates who are not having only the degree but consider that candidate who is having more hands-on experience, the skills, and the expertise.*"
- "*It was not available earlier and it is becoming prevalent and also capsule size knowledge or the focused knowledge or the focused information can be obtained through online degrees in a very short time compared to the regular courses. Traditional courses, I feel, are for a longer duration and have a very set pattern*."
- "*Why would a person want to have an online degree? Because of his need only he would have that online degree. Maybe he doesn't have much time, or he may be working, only because of that reason he is going online. So, in that scenario, I don't find any difference actually, so that guy who's taking an online will have more will power while doing the online course.*"
- "*They are good because we spend less on online degrees, and we can connect to anywhere. For example, if some instructor is from Kolkata, other instructor is from Gujarat, with the online kind of teaching we have, we can meet "n" number of experts in very less time. So, online degrees, in that perspective, are very good. But if it is offline, we cannot have such a type of convenience – morning instructor from Gujarat, afternoon instructor from Delhi, evening instructor from Kolkata. Every day it's not possible. But whereas in online, it's possible.*"

- "*I think the traditional degree has more rigor because there is an absence of actual work environment before that or not so much. An online degree has a reason to do online things because there is a substantial side of the weight of your experience of the real domain, so in one place you're augmenting all your learning and putting a structure to what you have been doing. It is more method to madness.*"

The opinions supporting that "Online degrees/ programs and Offline degrees/ programs, both have an edge over each other but depends on the situation", included, but not limited to, the following :

- "*I would say if I'm talking about a purely computer science area where everything if we wish to can be done online, it's not necessary that I have proper craftsmanship. If it is civil engineering, that's a different thing, mechanical engineering, that's a different thing, but for computer science, I would put equal weightage, if both the people are coming from the same level of university or college.*"
- "*At entry level, it does play a part. Other than that, for promotion other things, it doesn't really matter.*"
- "*We still don't have a big set of data to compare online people, in terms of B.Tech., that they are better than people who have taken physical classes.*"
- "*As I said, it depends what course you are going for. If it is a core course, let's say you have to go for a civil engineering bachelor's degree, I'll be amused if you*

have done it online. Computer science, I can still say online is okay, but these things are the core skills, these are greenfield things. You cannot learn anything until you go and implement that, or you have done practical."

- "*I think for school children, I think maybe there should be at least 75% of physical education in 25% online so that they get used to the emerging tools and technologies and undergrad level. I would say probably a 50-50% would be good, but in post-graduate and onwards, I think 100% online should be fine.*"
- "*So, from my point of view, for working professionals online is better than offline. And for the students who are not doing the job, they go with the offline studies. And they have the fairest chances to place as compared to online studies.*"

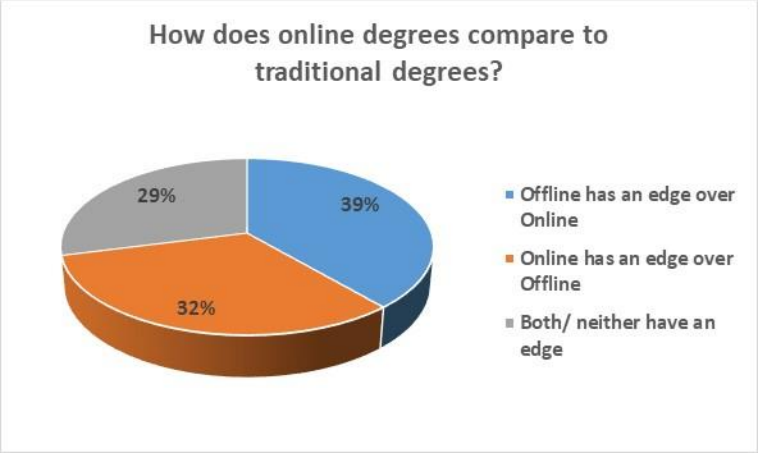
Table **22** along with Figure **27** shows the analysis of opinion about Online Degrees/ Programs in comparison to Offline Degrees/ Programs.

Table 22: Perception about Online Degrees/ Programs in comparison to Offline Degrees/ Programs

How does online degrees compare to traditional degrees?	***Count***
Offline has an edge over Online	*12*
Online has an edge over Offline	*10*
Both/ Neither have an edge	*9*
Total	***31***

Source: Author's work

Figure 27: Perception about Online Degrees/ Programs in comparison to Offline Degrees/ Programs



Source: Author's work

Advantages and Disadvantages of hiring online degree holders

The interview participants were asked to share whether there are any advantages and disadvantages of hiring candidate who possesses an online degree.

Advantages. 58.06% participants i.e., 18 out of 31 participants, believed that there are no advantages of hiring candidates who possesses an online degree, 32.26% participants i.e., 10 out of 31 participants, believed that there are some advantages of hiring candidates who possesses an online degree, whereas remaining 9.68% participants i.e., 3 out of 31 participants, believed that there are no advantages of hiring candidates who possesses an online degree, but it depends on certain factors.

Some of the advantages, as articulated by interview participants, of hiring candidate who possesses an online degree, included, but not limited to, the following :

- "*Typically, at least in the Indian Universities, somebody who has done an offline degree would not really have a choice in the kind of courses or the course material he can go through but somebody who has done an online degree has a higher ability to choose the kind of subjects he wants to go through and that I believe is an advantage.*"
- "*It's my perception, though we have not hired it, but what I think is if we hire an online person then we can see that he has worked in isolation, and he is a disciplined guy who doesn't require mentoring or monitoring. So, that becomes such an important criterion once we start hiring people online because you don't prepare to monitor that person on a day-to-day basis.*"
- "*They at the young age of 23-24 years as compared to a professional at that age, they might be able to complete two degrees and along with few years of work experience, so they are probably on an accelerated mode when it comes to the learning. So yes, there is this advantage and off late there are there has been, as I mentioned earlier that there is a paradigm shift within this space.*"
- "*So, advantages are like most probably you'll get a person who's well experienced who is matured enough. I know that when you talk to a person who has studied online, he has chosen that route because of his circumstances. So, he comes with a lot of maturity, and his readiness for the profession is much higher than a person who is studying in a full-time class.*"
- "*I think one of the advantages in the new normal world where everybody is working remotely, like this meeting which is happening – we are interacting over*

a video, possibly the people who are trained online. They are better trained already with the online acumen or how to behave online."

The interview participants who believed of no advantages of hiring candidate who possesses an online degree, but it depends on certain factors included the following :

- "*Yeah, at times. It depends on your requirement. It's need-based. You say you have a project manager, and your client says no, no, I need a person who should have done this, and you know it's simply need-based kind of a thing.*"
- "*Like I said, it depends on the skill and the domain, I am hiring for. So, if it's going to be more data science, machine learning and database those kinds of things, then yes. If I am hiring for a senior candidate over senior positions or in the mid-level management positions and he has substantial good work experience and it's also supported with an online degree from a reputed college, I would accept it without any colour or bias.*"
- "*Yes, I mean it depends on what kind of social background he is coming in because that is the factor which we should consider when we are looking at online degrees because everybody cannot afford full-time education. Certain people will start their life very early and thinking from an empathetic background, I do check on why did you start your career early? and why did you take an online degree? Why couldn't you go with the classroom days? And based on the answers, I definitely prefer online based degree one. But however, I prefer it if it is from an affiliated university one and a reputed one.*"

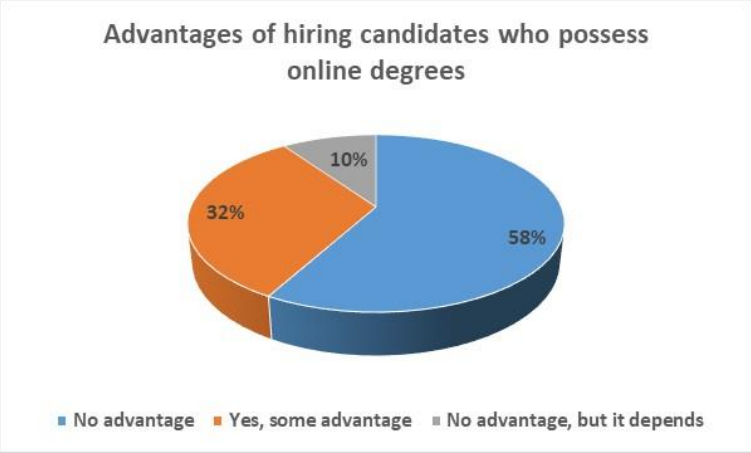
Table **23** along with Figure **28** shows the analysis of opinion about advantages of hiring candidate who possesses an online degree.

Table 23: Advantages of hiring candidate who possesses an online degree

Advantages of hiring candidates who possess online degrees	***Count***
No advantage	*18*
Yes, some advantage	*10*
No advantage, but it depends	*3*
Total	***31***

Source: Author's work

Figure 28: Advantages of hiring candidate who possesses an online degree



Source: Author's work

Disadvantages. 54.84% participants i.e., 17 out of 31 participants, believed that there are no disadvantages of hiring candidate who possesses an online degree, 38.71% participants i.e., 12 out of 31 participants, believed that there are some disadvantages of

hiring candidate who possesses an online degree, 3.23% participants i.e., 1 out of 31 participants, believed that there are some disadvantages of hiring candidate who possesses an online degree, but it depends on other factors, whereas remaining 3.23% participants i.e., 1 out of 31 participants, chose not to provide a response to the question.

Some of the disadvantages, as articulated by interview participants, of hiring candidate who possesses an online degree, included, but not limited to, the following :

- "*I don't know how the content is delivered to the students; from which university they have done it. At the same time, what kind of examinations that they go through in that particular university? Is it an open book or is it that candidate getting this done via someone? If these are the kind of shortcuts the candidate has taken, then it actually poses a risk. Someone else is doing the course or a particular class on behalf of someone or someone just keeping the video keeping it on and then not even attending. So, all that can happen in an online setup.*"
- "*Maybe social skills and some interpersonal skills which an offline degree gives, and online degree doesn't generally give because you don't really have that much amount of face-to-face interactions.*"
- "*This is our practical experience. And as I mentioned earlier, the leadership, the grooming about the leadership qualities and the team handling experience and the overall presentation sometimes, in fact, in most cases it is one thing that we find that people coming from online programs lack.*"

- "*The only disadvantage is to ensure that it is a genuine certificate and not some fake degree. Because if a person joins, you will be able to assess his skill set and knowledge, once you start interacting with them, and most of the companies have the probation period to filter out if there are any bad selections happening.*"
- "*Disadvantages would be less interaction with peers, international peers, with professors & seniors who would help them while they're in a college or an institution. Second thing is know-how of the subjects might not be in depth.*"

The interview participants who believed of no disadvantages of hiring candidate who possesses an online degree, but it depends on certain factors included the following :

- "*There are certain courses like computers that you can do online but if you want to hire a mechanical engineer and he has not seen the workshop itself then an online degree doesn't help. So, it depends on the context. What context you are looking at, what level you are looking at. In the IT world, you can look at online courses, then it's okay. But if I'm looking for an electrical or mechanical or chemical engineer then the workshop has to be part of that curriculum. If you're not really working on it, you may not get your hands dirty, then I think he's lacking certain skills which require some time to develop.*"

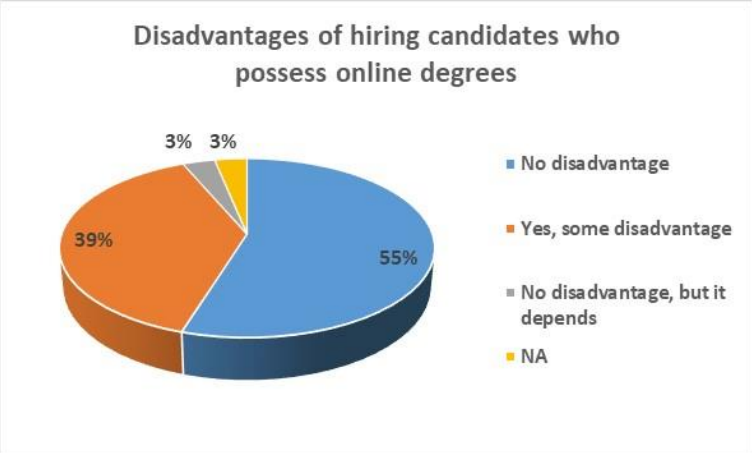
Table **24** along with Figure **29** shows the analysis of opinion about disadvantages of hiring candidate who possesses an online degree.

Table 24: Disadvantages of hiring candidate who possesses an online degree

Disadvantages of hiring candidates who possess online degrees	***Count***
No disadvantage	*17*
Yes, some disadvantage	*12*
No disadvantage, but it depends	*1*
NA	*1*
Total	***31***

Source: Author's work

Figure 29: Disadvantages of hiring candidate who possesses an online degree



Source: Author's work

Encouragement of online education by organizations. The interview participants were asked to confirm how likely is your organization to encourage online education as a viable option towards helping employees achieve a promotion within your

organization. 67.74% participants i.e., 21 out of 31 participants, confirmed that their organization was already encouraging online education as a viable option towards helping employees achieve a promotion within your organization, 25.81% participants i.e., 8 out of 31 participants, confirmed that their organization is likely to encourage online education as a viable option towards helping employees achieve a promotion within your organization, whereas remaining 3.23% participants i.e., 1 out of 31 participants, chose to pass the question with no response.

6 out of 21 participants who confirmed that their organization was already encouraging online education, included the supporting arguments that all courses and trainings were being delivered through online medium, but they were not necessarily be the primary medium but supplementary ones. 5 out of 21 participants said that their organization would choose and have tie-ups with global universities which are chosen keeping their impact in mind. 4 out of 21 participants confirmed that after completion of online courses/ programs, the employees would get revised CTC or incentives and help in promotion. 3 out of 21 participants confirmed that their organization is encouraging online education because it not only gives flexibility and time management to employees, but also work impact is reduced since enrolled employee does not require sabbatical/ educational leaves. And 2 out of 21 participants confirmed that their organization is encouraging online education because they want the employees to stay and promoting internal talent is preferred to hiring talent laterally.

2 out of 8 participants who confirmed that their organization is likely to encourage online education, included the supporting arguments that if employees are

learning, the organization's readiness for future become more and more available, and individuals who eagerly learns will get a chance to grow. 2 out of 8 participants said that their organization will promote because not only it is the easiest mode to get educated but also it will not cause hindrance to day-to-day work while employees skills get upgraded. 2 out of 8 participants said that their organization was not big enough to encourage it but when they will reach that scale, they would encourage it. And 1 out of 8 participants shared that employee who go for offline courses never return but with online courses/ programs, they hope that employees will stick around.

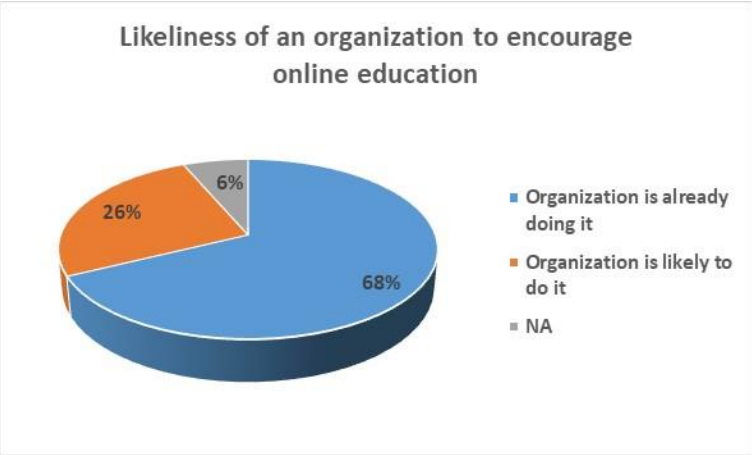
Table **25** along with Figure **30** shows the analysis of likeliness of an organization to encourage online education as a viable option towards helping employees achieve a promotion within your organization.

Table 25: Likeliness of an organization to encourage online education

Likeliness of your organization to encourage online education	***Count***
Organization is already doing it	*21*
Organization is likely to do it	*8*
NA	*2*
Total	***31***

Source: Author's work

Figure 30: Likeliness of an organization to encourage online education



Source: Author's work

Impact of type of position on acceptability. The interview participants were asked as to how the type of position (i.e., management, supervisory, entry level, etc.) impacted the acceptability of an online degree vs. a traditional degree during recruitment and promotion decisions. 70.97% participants i.e., 22 out of 31 participants, shared that the type of position does impact the acceptability of an online degree vs. a traditional degree during recruitment and promotion decisions, 25.81% participants i.e., 8 out of 31 participants, the type of position does not have any bearing on acceptability of an online degree vs. a traditional degree during recruitment and promotion decisions, whereas remaining 3.23% participants i.e., 1 out of 31 participants, shared that the type of position may or may not impact the acceptability of an online degree vs. a traditional degree during recruitment and promotion decisions as it depends on other factors.

7 out of 22 participants who confirmed that the type of position does impact the acceptability of an online degree vs. a traditional degree during recruitment and promotion decisions, shared that because there is no experience at entry level, degree matters much but at senior levels the experience and performance matters more than the degrees. 1 out of 22 of the participants shared the apprehension as to why would one at entry level do an online degree because he/she is not working at that time. 4 out of 22 other participants shared that the different positions have different evaluations and different reasons for considering online degrees e.g., at management level positions or positions that require human interactions, offline degrees are more preferred compared to online degrees. 2 out of 22 participants shared that a person with 10 years' experience with online degree is always better than one with only 10 years' experience and that at senior levels online degree is more for skills upgrade. And remaining 2 out of 22 shared that while at senior level positions online degrees may be accepted, the type of degree impacts very strongly in hiring cases.

1 participant who confirmed that the type of position may or may not impact the acceptability of an online degree vs. a traditional degree during recruitment and promotion decisions but it depends on other factors, shared that it depends on the verticals instead of hierarchy of roles e.g., support staff can be very successful when they have online degrees.

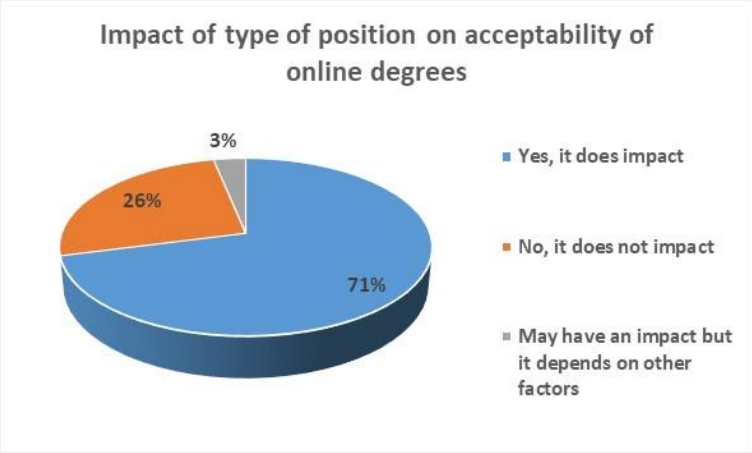
Table **26** along with Figure **31** shows the analysis of likeliness of an organization to encourage online education as a viable option towards helping employees achieve a promotion within your organization.

Table 26: Impact of type of position on the acceptability of an online degree

Impact of type of position on acceptability of online degrees	***Count***
Yes, it does impact	*22*
No, it does not impact	*8*
May have an impact but it depends on other factors	*1*
Total	***31***

Source: Author's work

Figure 31: Impact of type of position on the acceptability of an online degree



Source: Author's work

4.1.2 Survey

A personal direct message, through email and LinkedIn, requesting for participation in the survey was sent to 6,754 professionals working in offices or organizations based out of India. The direct message included the direct hyperlink to the study hosted on SurveyMonkey, a web-based survey company and can be accessed at

www.surveymonkey.com. Of the initial 6,754 direct messages, a total of 658 participants took the survey which resulted in a little less than ten percent return rate. Of the total 658 responses, only 376 completed responses were received from the survey. The survey was short and effective to capture the views and perceptions about acceptability of online degrees. The incomplete survey responses were discarded and not used for analysis.

The survey participants demographics did indicate that the sample included men and women, participants from start-ups, small, medium, and large organizations, participants ranging in age from under 25 years to over 60 years, participants from various sectors and industries and both those with prior experience with online education and those without. In short, the survey participants were quite varied, diverse and representative.

Participant Demographics

The respondents age varied between less than 25 years to more than 55 years. 304 participants were male and remaining 72 participants were female. 197 participants held a graduate degree, 144 participants held a professional degree, 14 participants held a university degree, 11 participants held a doctorate degree, 8 participants held a professional designation, 1 participant held an ITI/ College Diploma, and remaining one participant chose not to reveal his/ her degree.

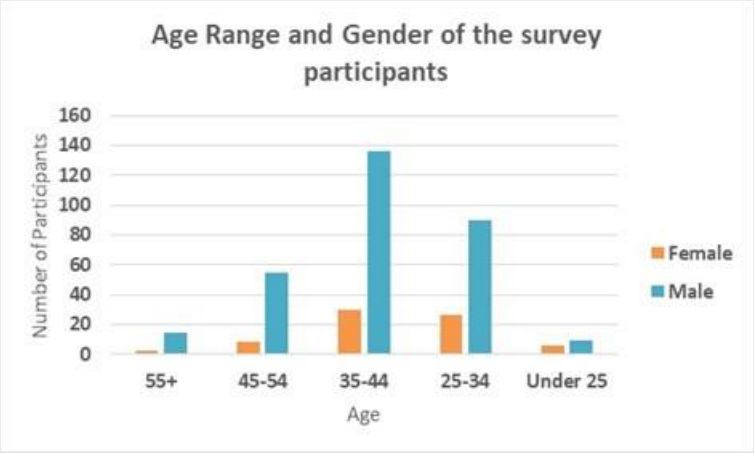
Table **27**, Table **28**, Table **29** and Table **30** along with Figure **32**, Figure **33**, Figure **34** and Figure **35** shows the detailed analysis of age range, gender and highest education of the participants.

Table 27: Age Range and Gender of the survey participants

Age Range	***Female***	***Male***	***Total***
55+	*2*	*14*	*16*
45-54	*8*	*55*	*63*
35-44	*30*	*136*	*166*
25-34	*26*	*90*	*116*
Under 25	*6*	*9*	*15*
Total	***72***	***304***	***376***

Source: Author's work

Figure 32: Age Range and Gender of the survey participants



Source: Author's work

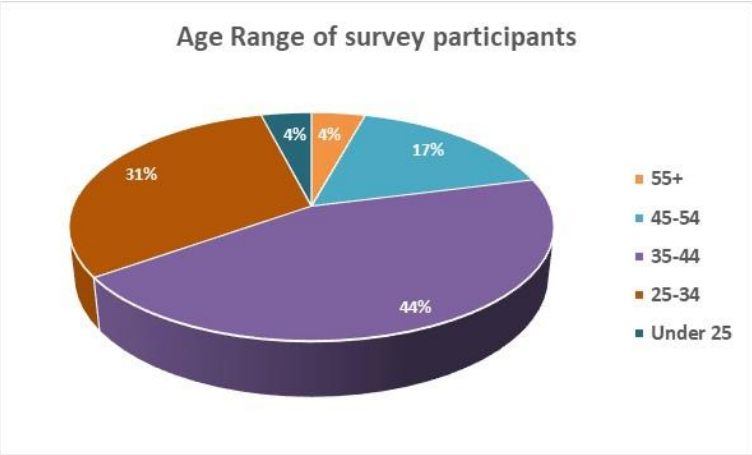
The highest participation across genders was from the age range of 35 to 44 years and it ranged from 42% to 45%. The second highest participation across genders was from the age range of 25 to 34 years and it ranged from 30% to 36%. The remaining participation were either from age range of under 25 years or from age range of over 55 years, and it ranged between 3% to 8% respectively.

Table 28: Age Range of the survey participants

Age Range	***Count***
55+	*16*
45-54	*63*
35-44	*166*
25-34	*116*
Under 25	*15*
Total	***376***

Source: Author's work

Figure 33: Age Range of survey participants



Source: Author's work

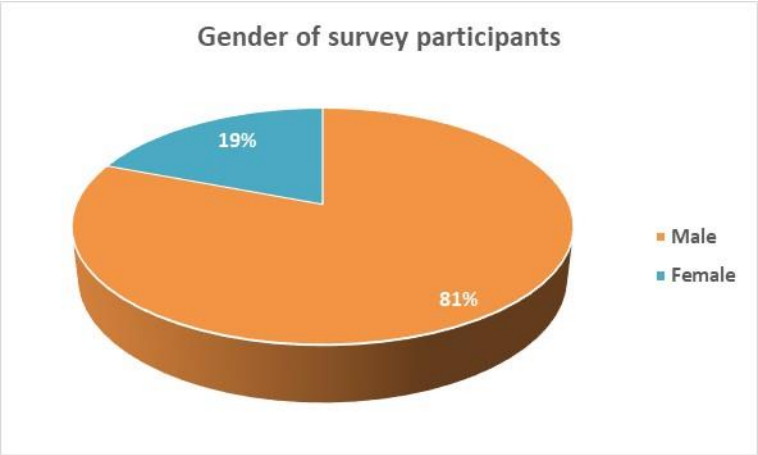
4.0% participants i.e., 15 out of 376 participants, were in the age range under 25 years, 30.9% participants i.e., 116 out of 376 participants, were in the age range of 25 to 34 years, 44.1% participants i.e., 166 out of 376 participants, were in the age range of 35 to 44 years, 16.8% participants i.e., 63 out of 376 participants, were in the age range of 45 to 54 years, and remaining 4.3% participants i.e., 16 out of 376 participants, were in the age range over 55 years.

Table 29: Gender of the survey participants

Gender	***Count***
Male	*304*
Female	*72*
Total	***376***

Source: Author's work

Figure 34: Gender of survey participants



Source: Author's work

80.9% participants i.e., 304 out of 376 participants, were male and remaining 19.1% participants i.e., 72 out of 376 participants, were female.

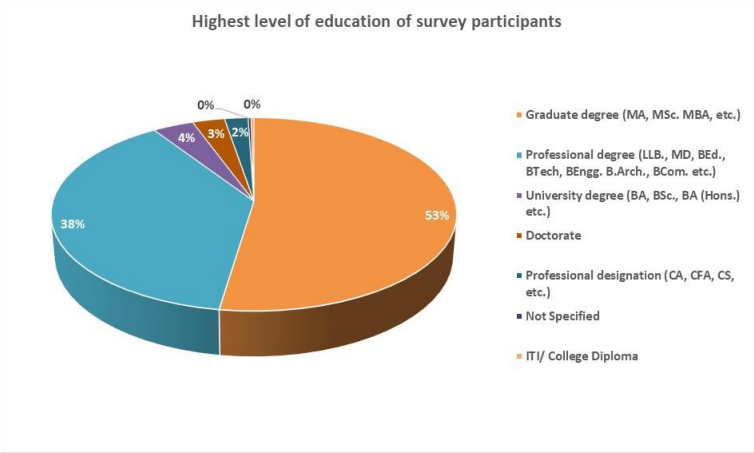
Table 30: Highest Education of the survey participants

Highest Education	***Count***
Graduate degree (MA, MSc. MBA, etc.)	*197*
Professional degree (LLB., MD, BEd., BTech, BEngg. B.Arch., BCom. etc.)	*144*
University degree (BA, BSc., BA (Hons.) etc.)	*14*
Doctorate	*11*
Professional designation (CA, CFA, CS, etc.)	*8*
ITI/ College Diploma	*1*
Not Specified	*1*

Highest Education	***Count***
Total	***376***

Source: Author's work

Figure 35: Highest Education of survey participants



Source: Author's work

52.4% participants i.e., 197 out of 376 participants held a graduate degree, 38.3% participants i.e., 144 out of 376 participants held a professional degree, 3.7% participants i.e., 14 out of 376 participants held a university degree, 2.9% participants i.e., 11 out of 376 participants held a doctorate degree, 2.1% participants i.e., 8 out of 376 participants held a professional designation, 0.3% participants i.e., 1 out of 376 participants held an ITI/ College Diploma, and remaining 0.3% participants i.e., 1 out of 376 participants chose not to reveal his/ her degree.

44.1% participants i.e., 166 out of 376 participants, were playing the Middle Management roles in their respective organizations, 27.9% participants i.e., 105 out of

376 participants, were playing the Senior Management roles in their respective organizations, 14.9% participants i.e., 56 out of 376 participants, were playing the Executive roles in their respective organizations, 12.2% participants i.e., 46 out of 376 participants, were playing the Non-management roles in their respective organizations, whereas remaining 0.8% participants i.e., 3 out of 376 participants, chose not to reveal the role being played by him/ her in his/ her organization.

63.3% participants i.e., 238 out of 376 participants were working in Information Technology industry, 7.2% participants i.e., 27 out of 376 participants were working in Engineering industry, 5.9% participants i.e., 22 out of 376 participants were working in Finance industry, 5.1% participants i.e., 19 out of 376 participants each were working in Manufacturing & Product Development industry, and Health & Medicine industry, 3.5% participants i.e., 13 out of 376 participants were working in Education industry, 2.4% participants i.e., 9 out of 376 participants were working in Research & Consulting industry, 1.9% participants i.e., 7 out of 376 participants were working in Government industry, 0.8% participants i.e., 3 out of 376 participants each were working in News & Entertainment industry, and Human Resource industry, 0.5% participants i.e., 2 out of 376 participants were working in Services industry, 3.5% participants i.e., 13 out of 376 participants, 1 each, were working in Social Services industry, Oil & Gas industry, Accounting industry, Advertisement Technology industry, Energy industry, Aviation industry, Insurance industry, Housing industry, Consumer Electronics industry, Legal services industry, Textile industry, Logistics & Supply Chain industry, and Agriculture

industry, whereas remaining 0.3% participants i.e., 1 out of 376 participants chose not to reveal the industry he/ she was working in.

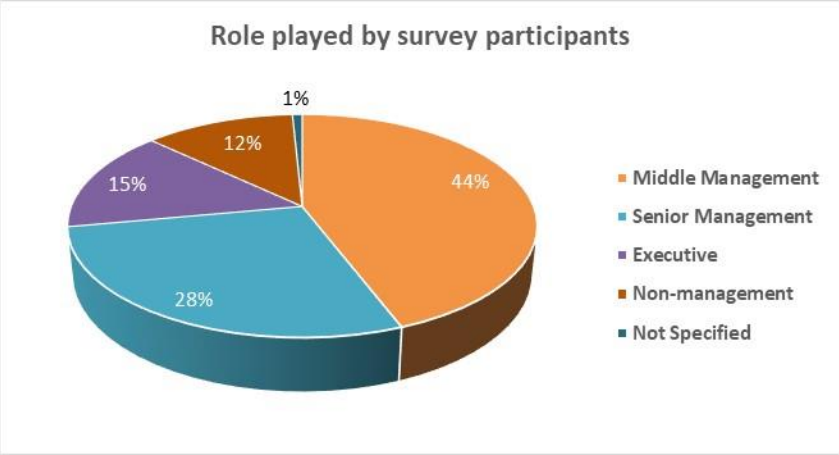
Table **31** and Table **32** along with Figure **36** and Figure **37** shows the detailed analysis of roles and the industry of the survey participants.

Table 31: Role played by the survey participants

Role	***# of participants***
Middle Management	*166*
Senior Management	*105*
Executive	*56*
Non-management	*46*
Not Specified	*3*
Total	***376***

Source: Author's work

Figure 36: Roles played by the survey participants



Source: Author's work

Table 32: Industry of the survey participant's organization

Industry	***# of participants***
Information Technology	*238*
Engineering	*27*
Finance	*22*
Health & Medicine	*19*
Manufacturing & Product Development	*19*
Education	*13*
Research & Consulting	*9*
Government	*7*
News & Entertainment	*3*
Human Resource	*3*
Services	*2*
NA	*1*
Social Services	*1*
Oil & Gas	*1*
Accounting	*1*
Advertisement Technology	*1*
Energy	*1*
Aviation	*1*

Industry	***# of participants***
Insurance	*1*
Housing	*1*
Consumer electronics	*1*
Legal services	*1*
Textile	*1*
Logistics & Supply Chain	*1*
Agriculture	*1*
Total	***376***

Source: Author's work

Figure 37: Field of work of the interview participants

Source: Author's work

Sector and Size of participant's organization. 82.2% participants i.e., 309 out of 376 participants, were working in Private Sector, 11.2% participants i.e., 42 out of 376 participants, were working in Public (non-Governmental) Sector, 3.7% participants i.e., 14 out of 376 participants, were working in Public (Governmental) Sector, 2.4% participants i.e., 9 out of 376 participants, were working in College/ University Sector, whereas remaining 0.5% participants i.e., 2 out of 376 participants, chose not to disclose their work sector.

51.3% participants i.e., 193 out of 376 participants, were working in large-sized organizations with more than 20,000 staff, 4.8% participants i.e., 18 out of 376 participants, were working in medium-sized organizations with staff in the range of 10,001-20,000 staff, 5.3% participants i.e., 20 out of 376 participants, were working in mid-sized organizations with staff in the range of 5001-10000, 10.9% participants i.e., 41 out of 376 participants, were working in small-sized organizations with staff in the range of 1001-5000 staff, 26.9% participants i.e., 101 out of 376 participants, were working in start-up organizations with less than 1000 staff, and remaining 0.8% participants i.e., 3 out of 376 participants, chose not to disclose their organization size.

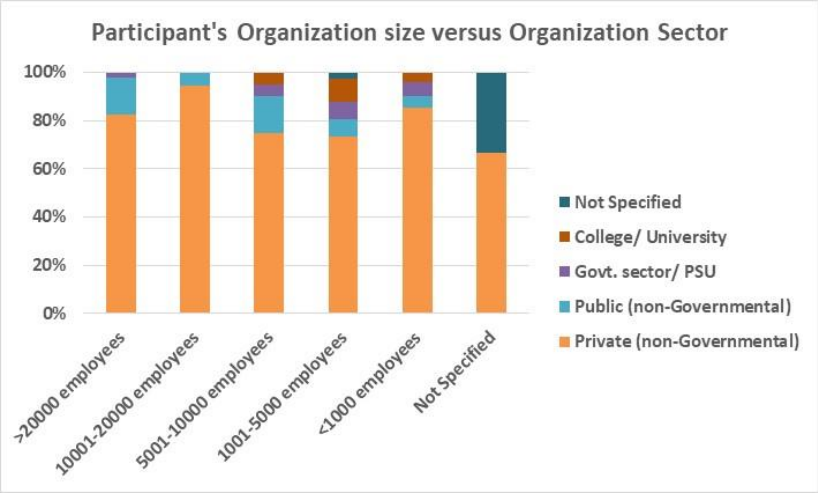
Table **33** along with Figure **38**, Figure **39**, and Figure **40** shows the detailed analysis of sector and size of survey participant's organization.

Table 33: Sector and size of organizations of the survey participants

Size of organization (employees)	*Private (non-Govt.)*	*Public (non-Govt.)*	*Public (Govt.)*	*College/ University*	*Not Specified*
>20000	*159*	*30*	*4*		
10001-20000	*17*	*1*			
5001-10000	*15*	*3*	*1*	*1*	
1001-5000	*30*	*3*	*3*	*4*	*1*
<1000	*86*	*5*	*6*	*4*	
Not Specified	*2*				*1*
Total	***309***	***42***	***14***	***9***	***2***

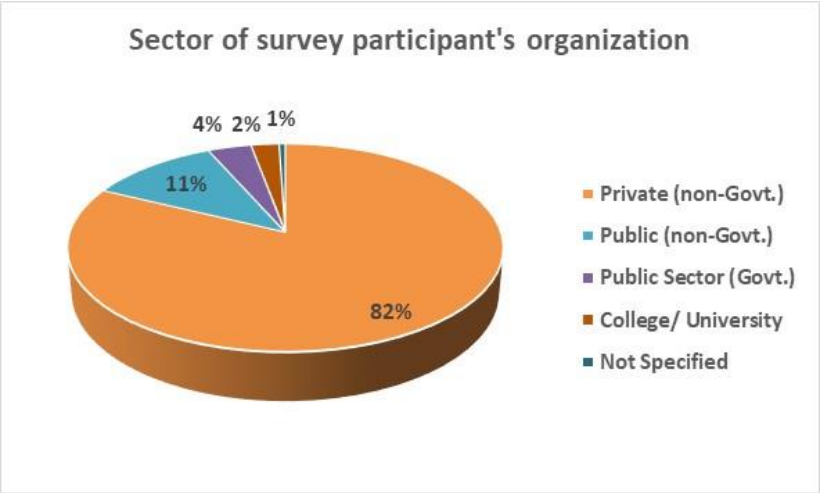
Source: Author's work

Figure 38: Sector and size of organizations of the survey participants



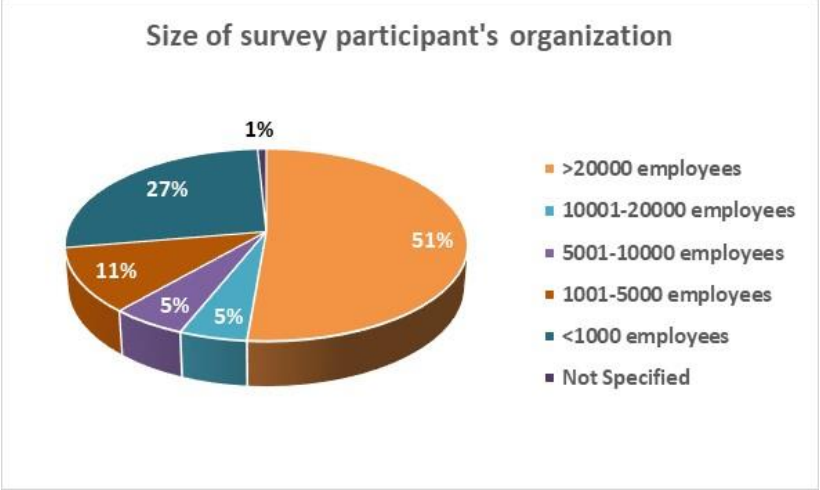
Source: Author's work

Figure 39: Work Sector of the survey participants



Source: Author's work

Figure 40: Size of Organization of the survey participants



Source: Author's work

Experience with online learning. 82.7% participants i.e., 311 out of 376 participants, had taken some or other kind of online courses, 16.8% participants i.e., 63

out of 376 participants, had not taken any form of online courses, whereas 0.5% participants i.e., 2 out of 376 participants, chose not to respond to this survey question.

62.5% participants i.e., 235 out of 376 participants, had taken some or other kind of Continuing Professional Education (CPE) course online, 17.6% participants i.e., 66 out of 376 participants, had taken some or other kind of Graduate course online, 17.0% participants i.e., 64 out of 376 participants, had either not taken any kind of online courses online or chose not to respond, 1.6% participants i.e., 6 out of 376 participants, had taken some or other kind of Doctorate course online, whereas 1.3% participants i.e., 5 out of 376 participants, had taken some or other kind of Undergraduate course online.

Table **34** along with Figure **41**, Figure **42**, and Figure **43** shows the detailed analysis of whether survey participants ever took an online course and if they did which type of course did they undertake.

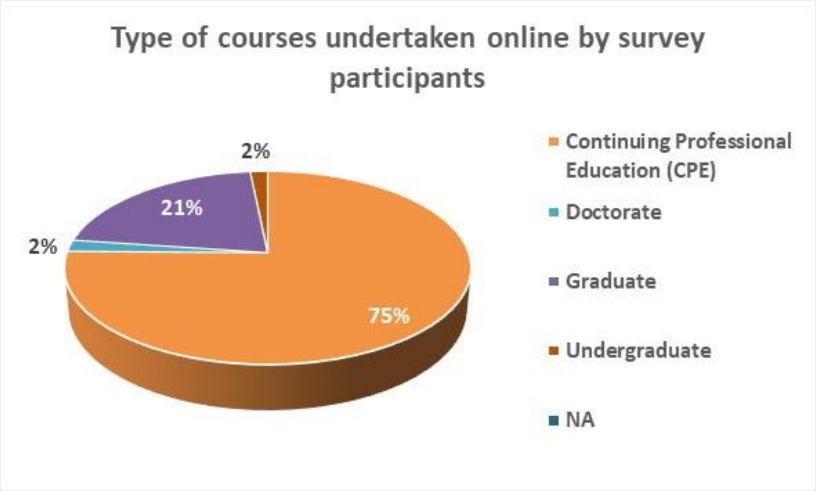
Table 34: Type of courses undertaken online by survey participants

Type of online course undertaken	***Ever taken an online course***		
	Yes	***No***	***Not Specified***
Continuing Professional Education (CPE)	*234*		*1*
Doctorate	*6*		
Graduate	*66*		
Undergraduate	*5*		
NA		*63*	*1*

Type of online course undertaken	*Ever taken an online course*		
	Yes	***No***	***Not Specified***
Total	***311***	***63***	***2***

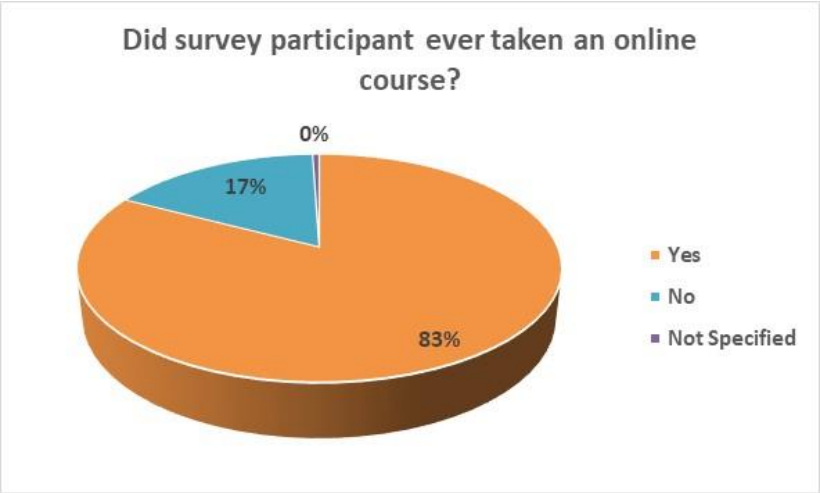
Source: Author's work

Figure 41: Type of courses undertaken online by survey participants



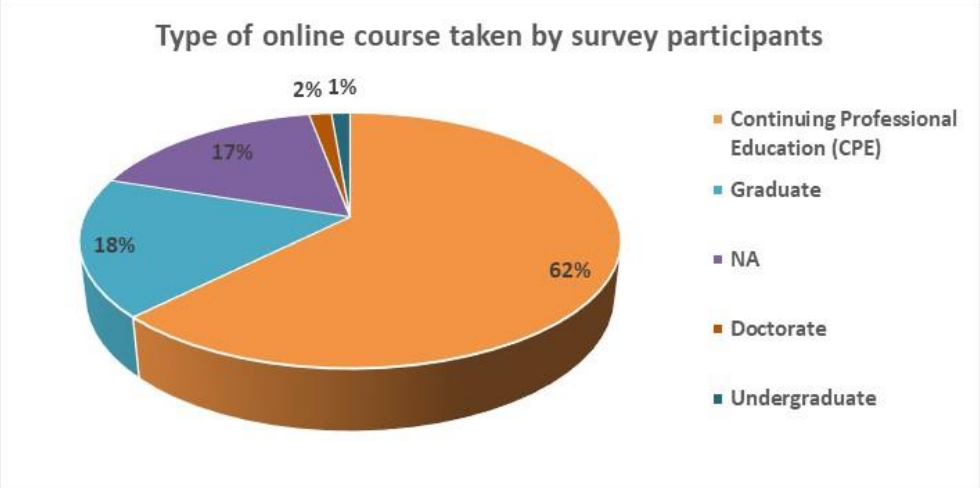
Source: Author's work

Figure 42: Did Survey participant ever taken an online course?



Source: Author's work

Figure 43: Type of online course taken by participants



Source: Author's work

Practices around Online Education

The qualifying question of the survey was to learn about survey participant's involvement in hiring and/ or promotion of employees. The involvement here meant either of the following :

- Reviewing resumes/ CVs/ applications to include or exclude applicants as possible candidates
- Short-listing for interviews
- Short-listing for examinations or tests
- Interviewing
- Marking examinations or tests
- Making recommendations on hiring a candidate
- Making a final decision on hiring a candidate
- Making recommendations on promoting a candidate
- Making a final decision on promoting a candidate

45.7% participants i.e., 172 out of 376 participants, indicated that they were involved in hiring new employees as well as promoting the employees in their organization, 25.3% participants i.e., 95 out of 376 participants, indicated that they were involved only in hiring new employees in their organization, 23.4% participants i.e., 88 out of 376 participants, indicated that they were neither involved in hiring new employees nor involved in promotion of the employees in their organization, whereas 5.6% participants i.e., 21 out of 376 participants, indicated that they were involved only in promotion of the employees in their organization.

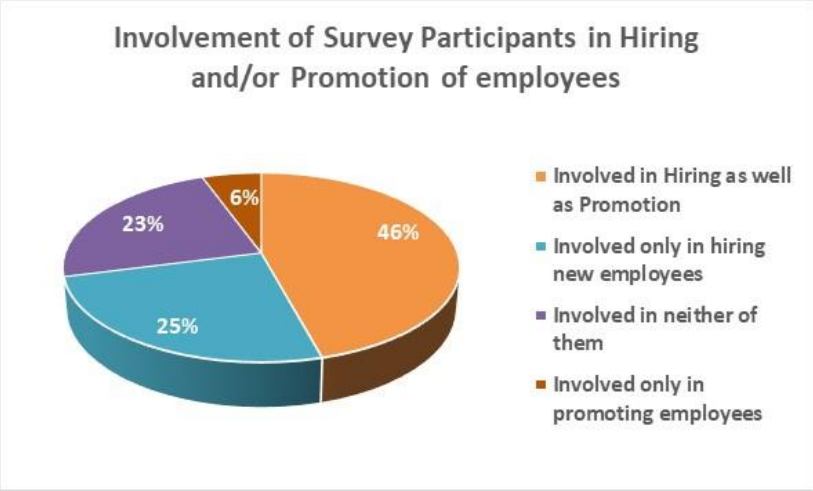
Table **35** along with Figure **44** shows the detailed analysis of involvement of survey participants in hiring and promotion of employees in their respective organizations.

Table 35: Involvement of Survey Participants in Hiring and/or Promotion of employees

Survey Participant's Involvement	***Count***
Involved in Hiring as well as Promotion	*172*
Involved only in hiring new employees	*95*
Involved in neither of them	*88*
Involved only in promoting employees	*21*
Total	***376***

Source: Author's work

Figure 44: Involvement of Survey Participants in Hiring/ Promotion of employees



Source: Author's work

One of the survey questions asked was on the base location of participants whether participant was based out of India or was based outside of India currently. 79.5% participants i.e., 299 out of 376 participants, indicated that they were based out of India, whereas 20.5% participants i.e., 77 out of 376 participants, indicated that they were based outside of India currently.

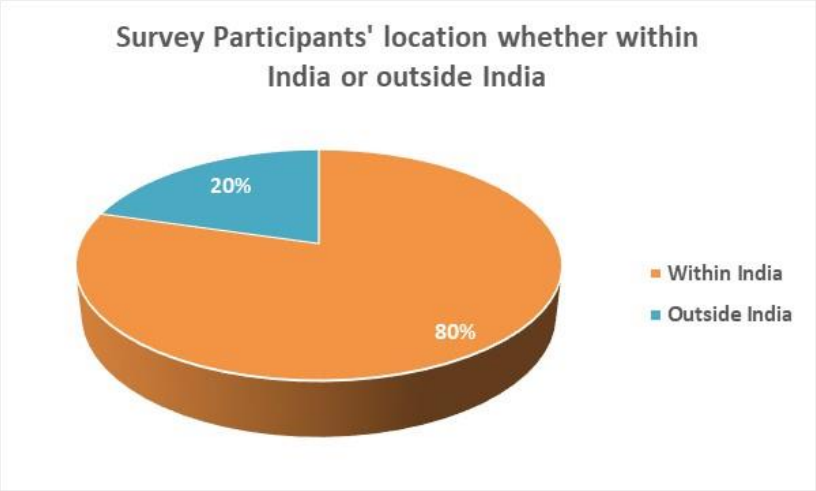
Table **36** along with Figure **45** shows the detailed analysis of survey participants' location whether located within India or were located outside of India.

Table 36: Survey Participants' location whether within India or outside India

Survey Participants' Location	***Count***
Within India	*299*
Outside India	*77*
Total	***376***

Source: Author's work

Figure 45: Survey participant's location whether within India or outside



Source: Author's work

Determination of perceptions about Online Degrees via Policy Statement questions

As part of the survey, a set of questions were asked to capture the perceptions about online degrees as a result of policy statements and practices.

The first question was focused to understand whether organizations provide the job descriptions which explicitly mandates or restricts online education. 85.4% participants i.e., 321 out of 376 participants, agreed or strongly agreed that all professional positions have written job descriptions that specify the qualifications that a potential employee should have, 7.7% participants i.e., 29 out of 376 participants, neither agreed nor disagreed agreed that all professional positions have written job descriptions that specify the qualifications that a potential employee should have, whereas remaining

6.9% participants i.e., 26 out of 376 participants, disagreed or strongly disagreed that all professional positions have written job descriptions that specify the qualifications that a potential employee should have.

The second question was focused to understand whether an online degree is accepted on the same basis as a traditional degree as per organization practices. 57.7% participants i.e., 217 out of 376 participants, agreed or strongly agreed that an online degree granted by an accredited institution is accepted on the same basis as a traditional degree when evaluating a prospective applicant's educational background, 29.0% participants i.e., 109 out of 376 participants, neither agreed nor disagreed agreed that an online degree granted by an accredited institution is accepted on the same basis as a traditional degree when evaluating a prospective applicant's educational background, whereas remaining 13.3% participants i.e., 50 out of 376 participants, disagreed or strongly disagreed that an online degree granted by an accredited institution is accepted on the same basis as a traditional degree when evaluating a prospective applicant's educational background.

The third question was focused to understand whether the type of educational institution from which the applicant obtained his/her degree held any importance as a hiring selection criterion. 39.1% participants i.e., 147 out of 376 participants, agreed or strongly agreed that the type of educational institution from which the applicant obtained his/her degree would be of no importance as a hiring selection criterion, 14.4% participants i.e., 54 out of 376 participants, neither agreed nor disagreed agreed that the type of educational institution from which the applicant obtained his/her degree would be

of no importance as a hiring selection criterion, 46.3% participants i.e., 174 out of 376 participants, disagreed or strongly disagreed that the type of educational institution from which the applicant obtained his/her degree would be of no importance as a hiring selection criterion, whereas remaining 0.3% participants i.e., 1 out of 376 participants, chose not to respond to the question.

The fourth question was focused to understand whether respondent's organization had a bias towards or against applicants from online-degree programs. 21.3% participants i.e., 80 out of 376 participants, agreed or strongly agreed that their organization prefers not to have applicants from online-degree programs, 30.9% participants i.e., 116 out of 376 participants, neither agreed nor disagreed agreed that their organization prefers not to have applicants from online-degree programs, 47.6% participants i.e., 179 out of 376 participants, disagreed or strongly disagreed that their organization prefers not to have applicants from online-degree programs, whereas remaining 0.3% participants i.e., 1 out of 376 participants, chose not to respond to the question.

The fifth question was focused to understand whether respondent's organization had genuine reasons to believe that certain technology skills related courses/ programs could be taught effectively online. 80.9% participants i.e., 304 out of 376 participants, agreed or strongly agreed that technology skills-related courses can be effectively taught through the internet to students enrolled in online courses, 8.5% participants i.e., 32 out of 376 participants, neither agreed nor disagreed agreed that technology skills-related courses can be effectively taught through the internet to students enrolled in online courses, whereas remaining 10.6% participants i.e., 40 out of 376 participants, disagreed

or strongly disagreed that technology skills-related courses can be effectively taught through the internet to students enrolled in online courses.

The sixth question was focused to understand whether respondent's organization preferred hybrid or mix of online and offline mode of studies to acquire a degree over pure online degrees. 51.3% participants i.e., 193 out of 376 participants, agreed or strongly agreed that the mix of online vs. traditional courses taken by the applicant to complete the degree would be of little importance to their organization, 17.0% participants i.e., 64 out of 376 participants, neither agreed nor disagreed agreed that the mix of online vs. traditional courses taken by the applicant to complete the degree would be of little importance to their organization, whereas remaining 31.6% participants i.e., 119 out of 376 participants, disagreed or strongly disagreed that the mix of online vs. traditional courses taken by the applicant to complete the degree would be of little importance to their organization.

The seventh question was focused to understand whether respondent's organization carried negative biases against online degrees and whether they viewed it as an informal education. 29.8% participants i.e., 112 out of 376 participants, agreed or strongly agreed that they felt that online-degree programs are too informal and tend to destroy the credibility of a college degree, 24.5% participants i.e., 92 out of 376 participants, neither agreed nor disagreed agreed that they felt that online-degree programs are too informal and tend to destroy the credibility of a college degree, whereas remaining 45.7% participants i.e., 172 out of 376 participants, disagreed or strongly

disagreed that they felt that online-degree programs are too informal and tend to destroy the credibility of a college degree.

The eighth question was focused to understand whether respondent's organization felt online degrees offered by known institutions in India are comparable to traditional four-year college/ university programs. 49.5% participants i.e., 186 out of 376 participants, agreed or strongly agreed that they consider courses offered by known online institutions (such as NMIMS Distance Education, Amity University, IGNOU Distance Learning, Symbiosis University, Sikkim Manipal University) comparable to courses offered by traditional four-year college/university programs, 19.1% participants i.e., 72 out of 376 participants, neither agreed nor disagreed agreed that they consider courses offered by known online institutions comparable to courses offered by traditional four-year college/university programs, whereas remaining 31.4% participants i.e., 118 out of 376 participants, disagreed or strongly disagreed that they consider courses offered by known online institutions comparable to courses offered by traditional four-year college/university programs.

Table **37** along with Figure **46** shows the detailed analysis of cross-tabulation of policy statements of survey participant's organization.

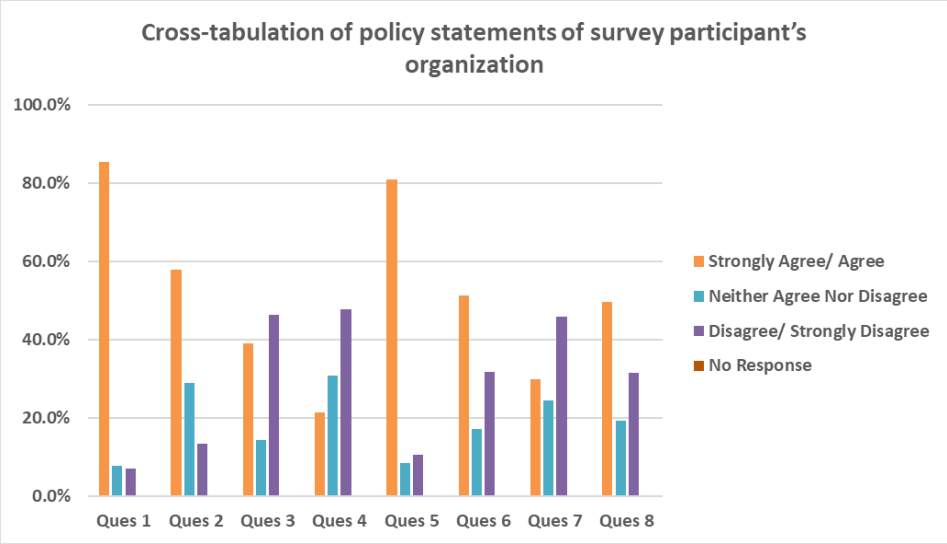
Table 37: Cross-tabulation of policy statements of survey participant's organization

#	*Policy statements of survey participant's organization*	*Strongly agree*	*Agree*	*Neither agree nor disagree*	*Disagree*	*Strongly disagree*	*Not specified*
1	*All professional positions have written job descriptions that specify the qualifications that a potential employee should have.*	*36.4%*	*48.9%*	*7.7%*	*6.4%*	*0.5%*	
2	*An online degree granted by an accredited institution is accepted on the same basis as a traditional degree when evaluating a prospective applicant's educational background.*	*16.2%*	*41.5%*	*29.0%*	*10.4%*	*2.9%*	
3	*The type of educational institution (traditional, traditional with online courses, virtual college/university) from which the applicant obtained his/her degree would be of no importance as a hiring selection criterion.*	*14.9%*	*24.2%*	*14.4%*	*37.5%*	*8.8%*	*0.3%*
4	*Our organization prefers not to have applicants from online-degree programs.*	*5.1%*	*16.2%*	*30.9%*	*33.8%*	*13.8%*	*0.3%*

#	Policy statements of survey participant's organization	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Not specified
5	Technology skills related courses can be effectively taught through the internet to students enrolled in online courses.	33.5%	47.3%	8.5%	9.6%	1.1%	
6	The mix of online vs. traditional courses taken by the applicant to complete the degree would be of little importance to our organization.	14.9%	36.4%	17.0%	24.7%	6.9%	
7	We feel that online-degree programs are too informal and tend to destroy the credibility of a college degree.	6.6%	23.1%	24.5%	34.6%	11.2%	
8	In your opinion do you consider courses offered by known online institutions (such as NMIMS Distance Education, Amity University, IGNOU Distance Learning, Symbiosis University, Sikkim Manipal University) compared to courses offered by traditional four-year college/university programs to be.	11.2%	38.3%	19.1%	25.3%	6.1%	

Source: Author's work

Figure 46: Cross-tabulation of policy statements of survey participant's organization



Source: Author's work

Scenario-based questions for understanding hiring preferences

In order to understand hiring preferences, the study described three hiring scenarios, in each scenario there were two applicants for one vacancy to be filled. Each applicant had the necessary and relevant degree for the job as per job description. In each of the three independent scenarios the survey participants were asked to compare two applicants and signify how likely they would be to recommend each of the applicants for the job. The results table uses the following legend – Strongly Recommend = SR, Recommend = R, Unsure = U, Recommend with Reservation = RR, and Would not Recommend = NR.

In the first scenario Applicant A earned a degree that was awarded by an accredited college or university where 100% of the applicant's courses were completed

via traditional classroom and lab instruction and Applicant B earned a degree that was awarded by an accredited college or university where 50% of the applicant's courses were completed via traditional classroom and lab instruction and the other 50% of the applicant's courses were taken online. The results of the study revealed that 95.0% participants i.e., 344 out of 362 participants either Strongly Recommended or Recommended the Applicant A, the applicant who completed coursework in a traditional classroom with 54.4% participants i.e., 197 out of 362 responses being Strongly Recommend, whereas 79.5% participants i.e., 290 out of 365 participants indicated that they would either Strongly Recommend or Recommend the Applicant B, the applicant who completed coursework 50% traditional and 50% online with 19.7% participants i.e., 72 out of 365 participants indicated that they would Strongly Recommend the Applicant B. Around 1.7% participants i.e., 6 out of 362 participants indicated that they would Recommend with Reservation or Not Recommend the Applicant A, whereas 9.6% participants i.e., 35 out of 365 participants indicated that they would Recommend with Reservation or Not Recommend the Applicant B. Around 3.3% participants i.e., 12 out of 362 participants indicated that they were Not Sure about the recommendation for the Applicant A, whereas 11.0% participants i.e., 40 out of 365 participants indicated that they were Not Sure about the recommendation for the Applicant B.

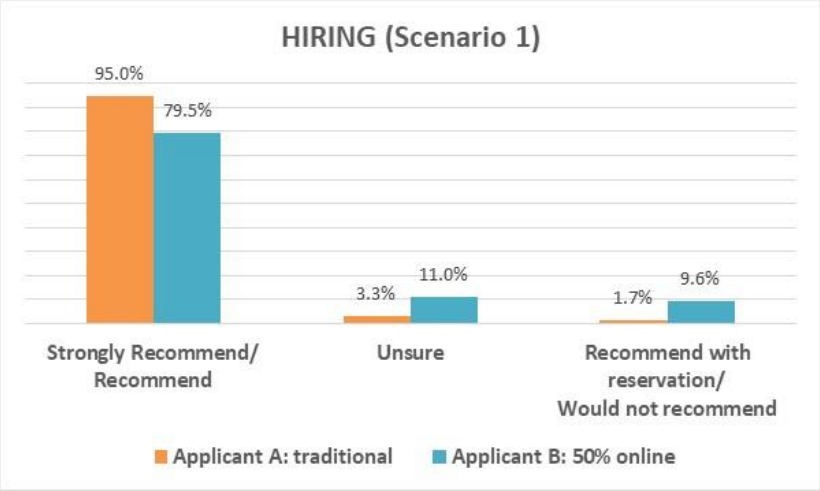
Table **38** along with Figure **47** shows the detailed analysis of Hiring Scenario 1.

Table 38: Hiring Scenario One

Scenario 1	***SR***	***R***	***U***	***RR***	***NR***	***Response Count***
Applicant A: Traditional	*197 (54.4%)*	*147 (40.6%)*	*12 (3.3%)*	*5 (1.4%)*	*1 (0.3%)*	*362*
Applicant B: 50% Online	*72 (19.7%)*	*218 (59.7%)*	*40 (11.0%)*	*32 (8.8%)*	*3 (0.8%)*	*365*
				Total answers to the question		***375***

Source: Author's work

Figure 47: Hiring Scenario One



Source: Author's work

In the second scenario Applicant A earned a degree that was awarded by an accredited college or university where 100% of the applicant's courses were completed

via traditional classroom and lab instruction and Applicant B earned a degree that was awarded by an accredited “online university” which does not have campus, classrooms, labs or library, and 100 percent of applicant’s courses were taken online. The results of the study revealed that 96.7% participants i.e., 353 out of 365 participants either Strongly Recommended or Recommended the Applicant A, the applicant who completed coursework in a traditional classroom with 55.1% participants i.e., 201 out of 365 responses being Strongly Recommend, whereas 45.3% participants i.e., 159 out of 351 participants indicated that they would either Strongly Recommend or Recommend the Applicant B, the applicant who completed coursework 100% online with 8.8% participants i.e., 31 out of 351 participants indicated that they would Strongly Recommend the Applicant B. Around 1.6% participants i.e., 6 out of 365 participants indicated that they would Recommend with Reservation or Not Recommend the Applicant A, whereas 30.2% participants i.e., 106 out of 351 participants indicated that they would Recommend with Reservation or Not Recommend the Applicant B. Around 1.6% participants i.e., 6 out of 365 participants indicated that they were Not Sure about the recommendation for the Applicant A, whereas 24.5% participants i.e., 86 out of 351 participants indicated that they were Not Sure about the recommendation for the Applicant B.

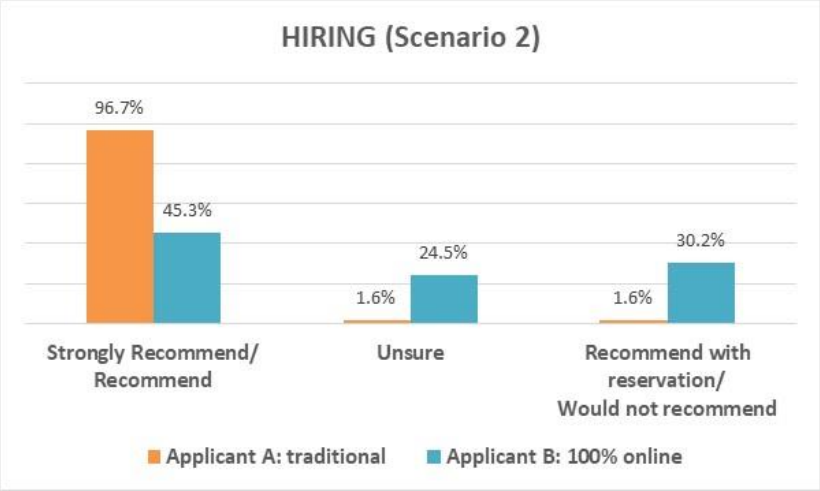
Table **39** along with Figure **48** shows the detailed analysis of Hiring Scenario 2.

Table 39: Hiring Scenario Two

Scenario 2	***SR***	***R***	***U***	***RR***	***NR***	***Response Count***
Applicant A: Traditional	*201 (55.1%)*	*152 (41.6%)*	*6 (1.6%)*	*6 (1.6%)*	*0 (0.0%)*	*365*
Applicant B: 100% online	*31 (8.8%)*	*128 (36.5%)*	*86 (24.5%)*	*71 (20.2%)*	*35 (10.0%)*	*351*
					Total answers to the question	***373***

Source: Author's work

Figure 48: Hiring Scenario Two



Source: Author's work

In the third scenario Applicant A earned a degree that was awarded by an accredited college or university where 50% of the applicant's courses were completed via traditional classroom and lab instruction and the other 50% of the applicant's courses

were taken online and Applicant B earned a degree that was awarded by an accredited "online university" which does not have campus, classrooms, labs or library, and 100 percent of applicant's courses were taken online. The results of the study revealed that 88.3% participants i.e., 325 out of 368 participants either Strongly Recommended or Recommended the Applicant A, the applicant who completed coursework 50% traditional and 50% online with 28.0% participants i.e., 103 out of 368 responses being Strongly Recommend, whereas 44.5% participants i.e., 158 out of 355 participants indicated that they would either Strongly Recommend or Recommend the Applicant B, the applicant who completed coursework 100% online with 8.5% participants i.e., 30 out of 355 participants indicated that they would Strongly Recommend the Applicant B. Around 6.5% participants i.e., 24 out of 368 participants indicated that they would Recommend with Reservation or Not Recommend the Applicant A, whereas 29.9% participants i.e., 106 out of 355 participants indicated that they would Recommend with Reservation or Not Recommend the Applicant B. Around 5.2% participants i.e., 19 out of 368 participants indicated that they were Not Sure about the recommendation for the Applicant A, whereas 25.6% participants i.e., 91 out of 355 participants indicated that they were Not Sure about the recommendation for the Applicant B.

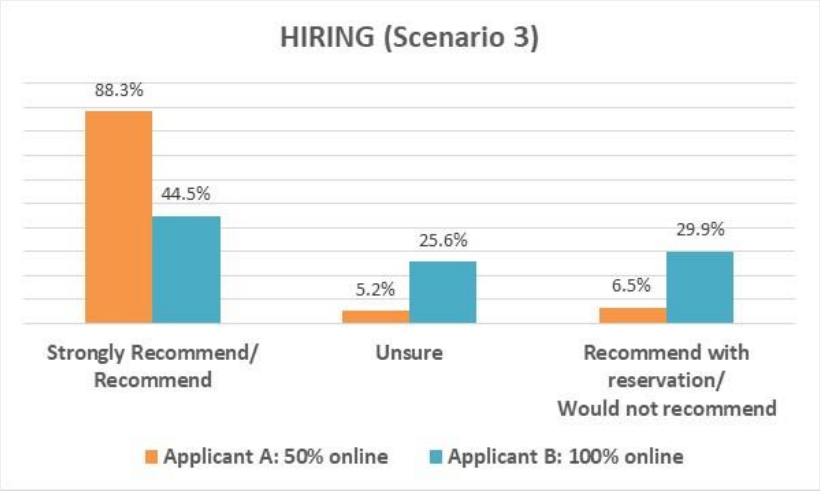
Table **40** along with Figure **49** shows the detailed analysis of Hiring Scenario 3.

Table 40: Hiring Scenario Three

Scenario 3	***SR***	***R***	***U***	***RR***	***NR***	***Response Count***
Applicant A: 50% online	*103 (28.0%)*	*222 (60.3%)*	*19 (5.2%)*	*24 (6.5%)*	*0 (0.0%)*	*368*
Applicant B: 100% online	*30 (8.5%)*	*128 (36.1%)*	*91 (25.6%)*	*70 (19.7%)*	*36 (10.1%)*	*355*
					Total answers to the question	***376***

Source: Author's work

Figure 49: Hiring Scenario Three



Source: Author's work

Scenario-based questions for understanding promotion preferences

In order to understand promotion preferences, the study described three promotion scenarios, in each scenario there were two employees for promotion for one position. Each employee had the necessary and relevant degree for the job as per job description, required skills, relevant prior work experience, and good letters of recommendation. In each of the three independent scenarios the survey participants were asked to compare two employees and signify how likely they would be to recommend each of the employees for the promotion. The results table uses the following legend – Strongly Recommend = SR, Recommend = R, Unsure = U, Recommend with Reservation = RR, and Would not Recommend = NR.

In the first scenario Employee A earned a degree that was awarded by an accredited college or university where 100% of the employee's courses were completed via traditional classroom and lab instruction and Employee B earned a degree that was awarded by an accredited college or university where 50% of the employee's courses were completed via traditional classroom and lab instruction and the other 50% of the employee's courses were taken online. The results of the study revealed that 93.3% participants i.e., 336 out of 360 participants either Strongly Recommended or Recommended the Employee A, the employee who completed coursework in a traditional classroom with 45.5% participants i.e., 162 out of 360 responses being Strongly Recommend, whereas 84.0% participants i.e., 305 out of 363 participants indicated that they would either Strongly Recommend or Recommend the Employee B, the employee who completed coursework 50% traditional and 50% online with 30.9% participants i.e., 112 out of 363 participants indicated that they would Strongly Recommend the Employee

B. Around 2.8% participants i.e., 10 out of 360 participants indicated that they would Recommend with Reservation or Not Recommend the Employee A, whereas 8.3% participants i.e., 30 out of 363 participants indicated that they would Recommend with Reservation or Not Recommend the Employee B. Around 3.9% participants i.e., 14 out of 360 participants indicated that they were Not Sure about the recommendation for the Employee A, whereas 7.7% participants i.e., 28 out of 363 participants indicated that they were Not Sure about the recommendation for the Employee B.

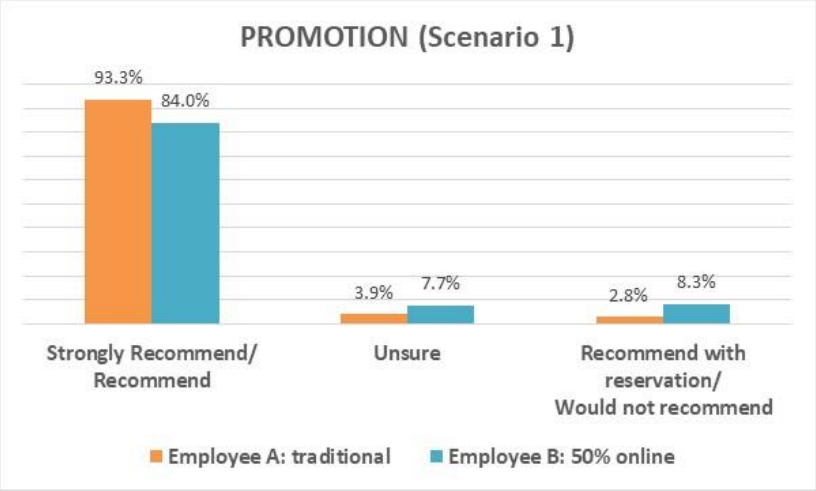
Table **41** along with Figure **50** shows the detailed analysis of Promotion Scenario One.f

Table 41: Promotion Scenario One

Scenario 1	***SR***	***R***	***U***	***RR***	***NR***	***Response Count***
Employee A: Traditional	*162 (45.0%)*	*174 (48.3%)*	*14 (3.9%)*	*10 (2.8%)*	*0 (0.0%)*	*360*
Employee B: 50% Online	*112 (30.9%)*	*193 (53.2%)*	*28 (7.7%)*	*23 (6.3%)*	*7 (1.9%)*	*363*
Total answers to the question						***373***

Source: Author's work

Figure 50: Promotion Scenario One



Source: Author's work

In the second scenario Employee A earned a degree that was awarded by an accredited college or university where 100% of the employee's courses were completed via traditional classroom and lab instruction and Employee B earned a degree that was awarded by an accredited "online university" which does not have campus, classrooms, labs or library, and 100 percent of employee's courses were taken online. The results of the study revealed that 92.9% participants i.e., 340 out of 366 participants either Strongly Recommended or Recommended the Employee A, the employee who completed coursework in a traditional classroom with 46.2% participants i.e., 169 out of 366 responses being Strongly Recommend, whereas 75.3% participants i.e., 272 out of 361 participants indicated that they would either Strongly Recommend or Recommend the Employee B, the employee who completed coursework 100% online with 25.8% participants i.e., 93 out of 361 participants indicated that they would Strongly

Recommend the Employee B. Around 2.2% participants i.e., 8 out of 366 participants indicated that they would Recommend with Reservation or Not Recommend the Employee A, whereas 11.9% participants i.e., 43 out of 361 participants indicated that they would Recommend with Reservation or Not Recommend the Employee B. Around 4.9% participants i.e., 18 out of 366 participants indicated that they were Not Sure about the recommendation for the Employee A, whereas 12.7% participants i.e., 46 out of 361 participants indicated that they were Not Sure about the recommendation for the Employee B.

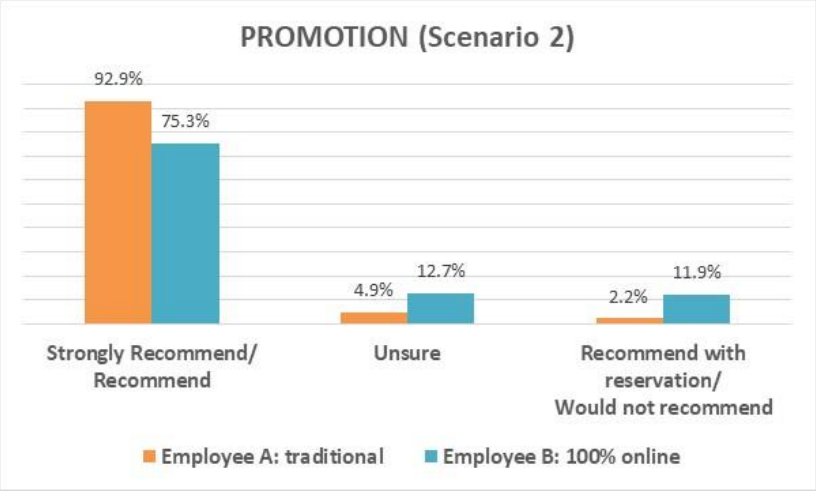
Table **42** along with Figure **51** shows the detailed analysis of Promotion Scenario Two.

Table 42: Promotion Scenario Two

Scenario 2	***SR***	***R***	***U***	***RR***	***NR***	***Response Count***
Employee A: Traditional	*169 (46.2%)*	*171 (46.7%)*	*18 (4.9%)*	*7 (1.9%)*	*1 (0.3%)*	*366*
Employee B: 100% online	*93 (25.8%)*	*179 (49.6%)*	*46 (12.7%)*	*25 (6.9%)*	*18 (5.0%)*	*361*
					Total answers to the question	***375***

Source: Author's work

Figure 51: Promotion Scenario Two



Source: Author's work

In the third scenario Employee A earned a degree that was awarded by an accredited college or university where 50% of the employee's courses were completed via traditional classroom and lab instruction and the other 50% of the employee's courses were taken online and Employee B earned a degree that was awarded by an accredited "online university" which does not have campus, classrooms, labs or library, and 100 percent of employee's courses were taken online. The results of the study revealed that 92.3% participants i.e., 337 out of 365 participants either Strongly Recommended or Recommended the Employee A, the employee who completed coursework 50% traditional and 50% online with 35.9% participants i.e., 131 out of 365 responses being Strongly Recommend, whereas 72.1% participants i.e., 259 out of 359 participants indicated that they would either Strongly Recommend or Recommend the Employee B, the employee who completed coursework 100% online with 23.4% participants i.e., 84

out of 359 participants indicated that they would Strongly Recommend the Employee B. Around 2.5% participants i.e., 9 out of 365 participants indicated that they would Recommend with Reservation or Not Recommend the Employee A, whereas 13.1% participants i.e., 47 out of 359 participants indicated that they would Recommend with Reservation or Not Recommend the Employee B. Around 5.2% participants i.e., 19 out of 365 participants indicated that they were Not Sure about the recommendation for the Employee A, whereas 14.8% participants i.e., 53 out of 359 participants indicated that they were Not Sure about the recommendation for the Employee B.

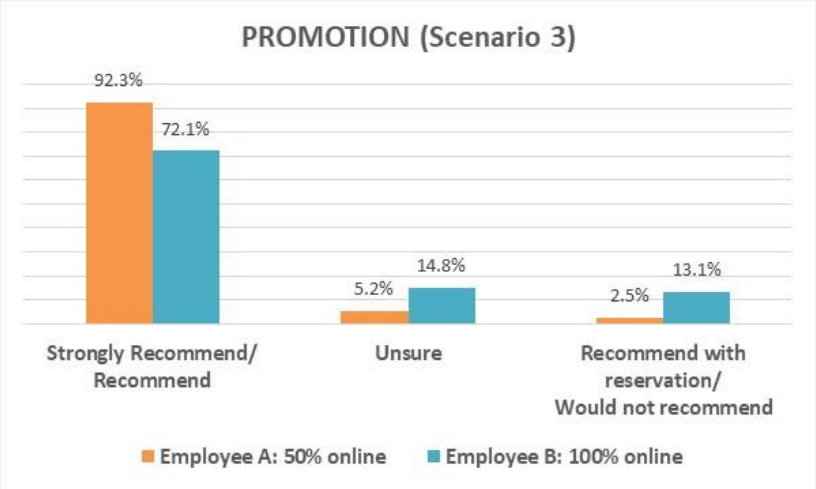
Table **43** along with Figure **52** shows the detailed analysis of Promotion Scenario Three.

Table 43: Promotion Scenario Three

Scenario 3	***SR***	***R***	***U***	***RR***	***NR***	***Response Count***
Employee A: 50% online	*131 (35.9%)*	*206 (56.4%)*	*19 (5.2%)*	*9 (2.5%)*	*0 (0.0%)*	*365*
Employee B: 100% online	*84 (23.4%)*	*175 (48.7%)*	*53 (14.8%)*	*31 (8.6%)*	*16 (4.5%)*	*359*
				Total answers to the question		***374***

Source: Author's work

Figure 52: Promotion Scenario Three



Source: Author's work

4.2 Findings II – Thematic Analysis

In this section, the thematic analysis of qualitative findings beyond the content of previous section that focused on quantitative and exploratory analysis of data captured through the interviews and the surveys is included. The responses to the open-ended survey question about acceptability of online degrees in technology industry in India, and data from the semi-structured interview questions were analysed together to identify the emergent themes related to the research question: How do employers of Technology Services Industry in India view online degrees (graduate, post-graduate or doctoral) as credentials for employment when hiring or for promoting employees? The emergent themes have been organized under the following sub-sections:

1) Existing prevailing biases,

2) Limitations of Online Education,

3) Limitations of the Learner's Capabilities, and

4) Changing Viewpoint

4.2.1 Existing prevailing biases

Six themes emerged from the data related to existing prevailing biases :

1) Comparative view of online education

2) Restrictions imposed by organization policies

3) Offline seems to be better at the start of the career

4) Online seems to be better for working professionals

5) Online courses lack interactions

6) Offline courses have interactions

Participant's views about existing and prevailing biases against online degrees and education may influence their decision making related to hiring and promotion of candidates with online degrees.

Comparative view of online education

Participants frequently mentioned that online education is not same as traditional education. Referring to prevailing perceptions about online education, a participant stated, "*There is clear distinguished factor between regular offline, online/ virtual and correspondence education*". Another participant stated, "*Traditional classroom education is the best. Traditional classroom education is the quality education in our country*". These statements indicate that some people do not see equivalence in online education and traditional education. However, for some online education is not preferred because

the organizations do not prefer it so. One of the participants stated, "*A 100% online course, if it's Under Grad, might not provide the same exposure to the students (non-technically) as a company would prefer hiring*" while another participant stated, "*Degree earned online or through traditional classroom programs matters in current service industry in India, and many established and top companies / organization does not give importance to distance learning / correspondence courses*". These statements indicate that while some people might not perceive online education and traditional education as different but due to non-acceptance by organizations, they tend to look down upon online education. Some other participants showed little openness towards online education but still biased towards traditional education. One participant, for example, stated, "*I think the online degrees are not catching up to that of traditional degrees but will still take some time before its treated-on par with an online degree*", whereas another stated, "*Online course are also good but if done from reputed college. Moreover, if we get a chance to meet the traditional way of learning it is always recommended over online.*" Other participants stated :

> "*When fresher is taken into organization, their college and method is equally important to having good skills*"
>
> "*So, completely online degrees work fine too for promotions. But again, partially or wholly offline degrees have a comparative advantage, here, too*"
>
> "*So, the crux is, preferably right now, the current scenario, the online degree or online education is preferred when we talk about the upskilling of employees or something which cannot be delivered from the academic's point of view. So, like if*

we have to think about C++ and Java, I think we will go for the traditional degree".

Restrictions Due To Organization Policies

A number of participants spoke about the restrictions imposed by the organization policies that left no choice for the participants to consider or not consider online degrees. For example, a couple of participants told :

"*Big organization have some basic criterion about degrees, these are HR policies*"

"*Very unfortunately legacy organisational policies and practices are avoiding such talent and, in my opinion, this requires change*."

These statements indicate that organizational policies may act as a hindrance towards acceptance of online education. But, on the other hand, the lack of awareness and experience of hiring and recruiting an online degree holder, can render the organizations to lose out on good talent. For example, one participant stated, "*So what I have seen till now and what has been my experience is that a company or an organization is open to a lot of things. Since we have a lot of set criteria in my firm, we lose out on pool as well. And there are firms who actually work on getting applications from these online education people. They might have much more clarity about it rather than someone who does not have seen people from online education.*"

Offline better when starting career

A significant number of participants articulated that offline is better and is a must at the start of the career whereas online could be acceptable at higher degrees or continual education. Some of the responses, for example, from the participants were:

"*While applying for first job, mode of education matters*", "*the basic graduation degree has to be full-time college-going degree, which is important. Additional degrees on top of that acquired via online classes can be considered as an advantage along with professional career*"

"*Now days offline degree may be required for a fresher to get entry in the corporate world but once experience is gathered further degree can be online or offline no difference*"

"*Classroom education is important for under graduation*".

These statements indicate that trust on online education towards overall shaping and learning of the learner is still missing. It also indicates that the online degrees may not do the justice to the education as well that is needed at the undergraduate level. Some of the responses from the participants included:

"*Online courses that simply provide, a student, a necessary degree to find an entry level job are not valued and are looked at with scepticism*"

"*A 100% online course, if it's undergraduate, might not provide the same exposure to the students (non-technically) as a company would prefer hiring*"

"*Apart from which mode the candidate has completed his/her degree, other important parameters need to be considered like - Is the degree in question the candidate's primary degree or additional one? Does the candidate have relevant*

experience apart from degree? Can an online course do justice to a particular type of study or does it need physical practice?".

These statements indicate that learners may not have enough maturity and sense of seriousness at the bachelor's degree stage and hence traditional is more preferred. However, when one gains some experience working, they may be more responsible and motivated to undertake online education and hence more acceptable and preferable in later part of one's career. For example, a couple of the participants stated:

"*I believe for the undergraduate course mode of delivery would matter. But for post graduate courses it mode of delivery would not matter. The syllabus and the assessment would be important. i.e., test conducted after the exam*"

"*Online degrees can supplement educational qualification for those who are having 5 years and above experience. An established institution having physical presence and offering online courses is more acceptable than a completely online institution.*"

Online is better for professionals

The general acceptability of online degrees and courses is more suitable and advantageous for working professionals than fresh graduates. The offline education is seen to be providing solid foundation and initial inertia to one's career whereas online education, in later part of one's career, is seen to be maintaining and accelerating the inertia. Some of the responses around suitability of online education for working professionals included:

"*Online programs are suitable for working executives, not for graduation age students*"

"*Online education is very good mode of education for CEP but should not be a mode of getting a terminal degree*"

"*As per my personal experience, pursuing online degree along with your professional career is much most effective. If you're not working, then traditional off campus degree is having more relevance*"

"*Online degrees and courses are more effective for working professionals to upgrade or change career*".

These statements indicate that one needs a matured mindset to take the best of online education. Such online courses are usually taken by motivated and focused working individuals only. For example, the participants stated:

"*And professionals taking such courses beyond traditional degree, demonstrate their willingness to be on a continuous learning path, which is essential in a fast-moving technology industry*"

"*Online programs that apply to only working professionals which are taken only by focused individuals are valued*".

Online courses lack interactions

The lack of free face-to-face interactions among students can lead to a lack of social and team skills. A few participants, for example, noted:

"*I think the biggest barrier to online is the fear that social and team skills might not have been developed. It's not about the tech skills*"

"*Virtual courses do offer knowledge to the students but lack the effectiveness of the engagement between peers. In any sector, the peer-to-peer interactions are very important which can be effectively honed by in-person classes and close group discussions, role play etc. This is severely lacking in online courses*".

"*However, I've noticed that candidates with online / distance degrees are not as communicative in teams. Hence, we avoid 100% online/distance course unless candidate is really good.*"

"*Major part of learning is from peers knowing their story experience and if we cannot get that we are only getting what is just a score not something we learned and repeated after the instructor and no extra learning no fun in learning together.*"

The corporates, these days, need industry ready leaners and hence the focus on soft skills besides the technical skills. While online education may have shortcomings on interactions front, there are other advantages of online education that should be noticed and focused on. For example, one participant stated:

"*The online degree awarding institutions are putting great efforts to overcome the gap with the traditional classroom-based degrees. Sooner the online degrees will be more popular with its advantages like learning at convenient time, cost effective and interactions with industrial experts*".

Offline courses have interactions

Lesser interactions between among students and teachers has led to favouring of traditional education more than online education. One participant, for example, noted, "*In*

traditional education, student has a sense of community and co-existence is there which makes the person more collaborative. Casual Interaction with seniors, peer learning, joint projects etc. is a much important aspect of ones' learning and professional support process.". While more interactions are there in offline or traditional education, it may not always translate to greater learning. One participant, for example, stated, "*In case of offline, of course you can be more social, but it doesn't guarantee student or learner are actually gaining knowledge.*"

The comparative view of online education, policy restrictions by organizations, offline education more suited during the start of the career while online education for later education, and views about interactions in online education and offline education, were the major indicators of the existing prevailing biases among the participants. Such prevailing biases influenced online degrees and acceptability of online degrees and education. The next sub-section summarizes the limitations of online education articulated by the participants.

4.2.2 Limitations of Online Education

Five themes emerged from the data related to limitations of online education:

1) Practical hands-on/ lab experience is missing
2) Lack of preparation of educators
3) Credibility & Reputation matters
4) Questionable quality of online education
5) Evaluation process is questionable

The participants had variety of views around limitation of online education. Some participants felt that online education is just textbook knowledge and misses the action in labs whereas a few felt that there is a lack of control over students and variations in quality in delivery and assessment have a limiting effect on online education. Some participants referred online degrees with "fake degrees" and "degrees merely for money" and some had concerns around credibility of online institutions.

Practical hands-on/ lab experience is missing

The theoretical knowledge is effectively imparted in online education however it may not be best for hands-on and lab work. This may lead online education to be not enough to shape up the career. One participant, for example, noted, "*Online or blended learning has a long way to go, and the current set up does not groom aspirants on practical and real-world experience in all aspects. Theory is never going to help in the real-world scenario*". The lab work or hands-on learning that is needed for complete education cannot be done online for all courses and hence the need for traditional mode of education. A few participants, for example, articulated:

> "*There are few courses mainly the presentation skills, design and thinking workshops, practical electronic and medical related courses should be offered in traditional classroom*"
>
> "*Online degrees cannot have the same weightage as traditional degrees in some fields such as Engineering, Medical etc where besides classes lab work is essential*"

"*Regardless of online degrees in tech industry hands-on approaches are equally important and are considered during hiring*"

Lack of preparation of educators

Due to existing prevalent mode of education, so far, in India being traditional mode, the teachers are less tech savvy and hence it is affecting the outcome of online education. For example, one participant, stated, "*Self-experience – the teachers use that old stuff. The basic method used is zoom webinar, where explanation or clarification to any topic doesn't match with offline classes*". During online teaching, the teacher is not able to see everyone together and it affects the necessary connect needed between students and teacher. One participant noted, "*Mentors cannot focus on students*".

Credibility & Reputation matters

While one may debate on effectiveness of online education, where one gets an online degree seems to be equally important besides debate of online versus traditional degrees. A couple of participants, for example, told, "*Credibility of online education depends on the institute which is offering the course. For example, a short-term online course from Harvard will have a lot of credibility than probably some from Coursera*" and "*I would rate online degrees from reputed colleges to be a very good investment particularly when cost is also lesser and these being more flexible for working professionals compared to their main traditional classroom degrees which need more time and cost. But the degrees should be offered by reputed institutions otherwise not sure of quality of content and teaching*". The accreditation of the institutes and universities offering online degrees becomes another factor for consideration especially

when the courses offered involves lab or hands-on interventions. This is one of the concerns while choosing online education when many cases are heard concerning fraudulent degrees and institutes. One participant, for example, said, "*India has a track record sub-standard universities and people with fake degrees. So, I would be sceptical hiring a person with 100% online degrees*" whereas other participants, for example, said:

> "*It is very crucial to establish the credibility of an Online Institution even if it claims being accredited. Given the lack of confidence in the 100% online institutions, it is difficult to gauge if an institution is genuine. There have been cases of fraudulent institutions. A check on them would help*"
>
> "*Also, sometimes the authenticity of the online course can be questioned by the industry*"

While online degrees have its own limitations, there are a few advantages or silver lining as well for online education. A couple of participants articulated, "*Still too early to determine the credibility of online courses because they've been into trend recently*" and "*Industry is still not ready openly to accept online degree and courses. This may be due to accreditation of online courses by UGC and AICTE. Its high time both UGC and AICTE should recognize and approve online degree*".

Questionable quality of online education

The people tend to question the quality of education being imparted via online especially when the universities or colleges are lesser known or accredited. On top of this some universities do away with entrance exams for intake which further influences decisions made by recruiters and employers while recruiting and hiring online degree

holders. For example, one participant stated, "*The variations in quality of delivery and assessment of online degree programs are still high that make decisions related to online degree holders' recruitments and promotions challenging*". Another participants told, "*Lots of online courses with no entrance test or eligibility criteria makes someone feel that they are only for making money by provider. No practical knowledge will be given, and organization will also not consider them seriously unless it's applied in any real-life project*" and "*The authenticity and quality of online degrees still create doubts while hiring. If these issues can be addressed then, I don't see any challenges in hiring associates with online degrees*".

Evaluation process is questionable

Besides intake process for online courses, not everyone feels assured by the evaluation process followed in online courses. People tend to associate online evaluation to unfair means to clear exams. One participant, for example, articulated, "*Evaluation, other internal checks and measures to ensure that the student is not using any unfair means to clear online exams will help*" whereas another participant noted, "*And believe me, online exams are also not easy. There are multiple tools to avoid cheating exams*".

4.2.3 Limitations of the Learner's Capabilities

Six themes emerged from the data related to limitations of learner's capabilities:

1) Lack of student focus, motivation & commitment
2) Skills more than mode of education
3) Personality traits more than mode of education
4) Experience more than mode of education

5) Knowledge and its application

6) Performance more than mode of education

The participants had varied views around learner's capabilities as against online education and felt that it is more about learner's capabilities than online education itself. Some participants associated ineffectiveness of online education to skills, knowledge, experience and performance of learners while others associated it to learner's personality traits and lack of focus and commitment.

Lack of student focus, motivation & commitment

The online education is over video conference and with the convenience of home environment, there is a tendency in students to be less focussed on the education lectures and classes and they may be distracted. This may also lead to lack of motivated learning and increase in credential earnings only. A few participants, for example, noted:

"*100% traditional education student gives his/her 100% commitment whereas in online it's part commitment with low stakes*"

"*Also, the online courses tend to be seen as a side-education which also means that neither the content of the curriculum nor the student is motivated to go in depth of the subject at hand. Classroom environments allow that focus and attention to exist making the course experience more meaningful.*"

"*Yeah, most of the time these days people are just studying for the certificates. If it comes to online degrees, they are getting multiple degrees and multiple certificates. And I'm not just recommending the certificate seekers. They should be like knowledge graspers. Any student who wishes to join online, they should not*

be just a certificate seeker. They should be like knowledge graspers. That's what I suggest."

Skills more than mode of education

When one lands into a job, what matters the most is whether he/ she has the right talent and skills to deliver the tasks assigned and the right potential for future. The talent is usually seen as how quickly and dedicatedly one can learn / master the skills. Such skills have not been found to be attributable to the mode of education (offline vs. online). One participant, for example, stated, "*Online degree should be as good as traditional college degree and if one has the skills and potential for the job then it should be hired. Hiring team should not seek for traditional or online degree*" whereas another participant stated, "*Our organisation hires on attitude and skill sets more than degrees so there is not much difference between and online or offline course beyond a check-list*". Another participant shared, "*Practical knowledge and ability to solve a business problem has more relevance than the type of degree. Although the degree can help to get into an interview as 1st round selection is done through HR software.*"

Personality traits more than mode of education

The education plays an important role during hiring and promotion decisions but what matters most is the willingness to learn and the application of the acquired knowledge. One participant, for example, articulated, "*For me while hiring or promoting anyone, education is important but more important is his attitude and willingness to work and learn, online or college education does not matter to me*" whereas another participant noted, "*Ultimately it is the individual learning ability which matters, someone is good in*

online, someone in offline and someone in both. No one can be spoon-fed in professional course.". The applicant's fitment and ability to integrate into an organization culture also plays a crucial role during recruitment decisions. One participant noted, "*While promoting offline or online does not make any difference as the candidate's performance and cultural fit in current company outweighs the degree.*" Among the many personality traits, having the right attitude may mean being aware of oneself, strengths and weaknesses and how to use them effectively to deliver. One participant, for example, told, "*My view will be irrespective of degree, knowledge, training. Of all those things, the attitude matters the most. I have experienced engineers who work, and their background is not from the technical side. They are very good at learning the things they want to do. If you want to be a master, then that attitude will make it to you. Definitely an online degree may enhance your capability but purely on that attitude you can sustain or grow in the organization. This is my experience*".

Experience more than mode of education

The mode of education matters more during the beginning phases of the career but once one starts working, the focus shifts from education to the experience gained. After acquiring significant experience, the education credentials become just another item in a checklist. One of the participants stated, "*In my opinion, degree/basic qualification is required. It can be either through traditional or through online doesn't matter. Finally, your actual experience matters. No compromise on that.*". One other participant told, "*A candidate studies from a well-known university is preferred over others generally.*

However, this is not the only criteria, the work experience and interview are the plays most important role in hiring and promotions."

Knowledge and its application

The experience when combined with the knowledge become the skills. Gaining more knowledge leads to improved skills and other personality traits. Many employers seem to value knowledge and application of knowledge more than any other traits. One participant, for example, noted, "*Degree courses anyways only tick the criterion boxes, technical know-how is more imp & relevant than the medium*" whereas another participant said, "*Our panel of judges will evaluate candidates based on their deep level of knowledge, how they deal with practical problems, their willingness to learn new things, and their willingness to work together with other members of the team. It doesn't matter where you earned your degree unless it was from a tier 1 college or business school.*"

Performance more than mode of education

For promotion of employees, the evidence of application of knowledge and skills is better demonstrated through performance of an employee against the goals and targets, both at organization level and individual level. The education can help an individual gain specific knowledges and skills, however application of it is always in the control of an individual. One participant noted, "*For promotions, the mode of education should not be a deciding factor. Past performance is paramount. If a certain level of education is must, then the company's expectations for degrees should be in line with the kind of trainings they provide and approve*" whereas another participant noted, "*The means of education*

has no bearing on performance". For hiring, focus is more on what an individual can bring to the table, usually assessed through interviews. One participant, for example, stated, "*When we are hiring, all candidates bring different talents. So, the hiring decision is based more on how the person performed in the different interview rounds rather than the type of degree. Same is true for promotion decisions*".

4.2.4 Changing Viewpoints

Seven themes emerged from the data related to changing viewpoints:

1) Acceptability depends on the course
2) Acceptability of online education is growing
3) Existing biases against online education are breaking
4) Hybrid model is better to get best of both worlds
5) Online education is better than offline
6) Online and offline courses at par with each other
7) Online education has acceptable quality of education

The participants had varied views hinting towards increasing acceptability of online education but in pockets. Some believe that online education is successful for certain STEM courses only whereas others felt that except for courses that involve wet labs, everything else could be done online. While, due to COVID pandemic, the non-contact services such as information, communication, financial, professional and business services have remained resilient (GOI, 2022), it has led to an increased acceptability of online education through EdTech platforms. Some employers believe that hybrid

education is the future while some believe fully online education will be acceptable in the coming times.

Acceptability depends on the course

The online education may be acceptable by employers where hands-on and lab work is not involved but for any core courses where any kind of lab work is required, it is less acceptable. One participant, for example, stated, "*For certain STEM disciplines, online education is well established, for other disciplines a full online education is difficult without in-person labs and practical experimentation*" whereas another participant stated, "*Wet lab courses like biotech and medical are best at traditional universities. IT and software and allied types are best online courses*".

Acceptability of online education is growing

Before the pandemic period, historically, the online and correspondence education was less acceptable in India, however, pandemic has forced everyone to rethink and reimagine the delivery of education as well. The employers have now begun to accept the online education in few specific areas and functions, if not all. One of the participants noted, "*I think the online courses in India are new and are acceptable on technology front and less in other fields. Although degrees from distance learning such as IGNOU are considered to be equivalents but are given less preference by many when compared to regular colleges. The things are changing and will be revamped in coming years*". Another participant noted, "*I think, down the line the traditional vs. virtual degree evaluation or comparison would significantly come down, though it's already visible.*

While in the new hiring (onboarding) or existing progression, it's all about the know-how that matters".

The current practice among several organizations is to welcome traditional education but COVID pandemic has shown the possibilities around deliver online education. One participant, for example, articulated, "*Post-Covid, it is presumed that there's a drift towards more online EdTech based platforms which successfully bind the virtual learning*" whereas another participant articulated, "*The current structure of the organizations is expecting the traditional classroom degree as an eligibility for the job. This, considering it as a base, any course completed online on top of the base degree (traditional classroom) is considered as an added advantage. This is the current view of the industry. However, I am hoping this to change due to the change brought by the pandemic and future environmental challenges*".

Existing biases against online education are breaking

Employers will need to be agile and adaptive to the changing times nowadays. Employers never believed, before pandemic, that remote work is possible but after pandemic, it has turned out to be the new normal. One participant said, "*People may have biases towards the online degree because they are not aware. And maybe that will get over like it has happened in the case of telemedicine. Telemedicine, for long, was considered to be a poor alternative for taking medical advice, but in the pandemic, it has been proved that telemedicine is a viable and better option. In 90% of the cases, there is a physical examination required. If there is a surgery, obviously you have to go in physically, but telemedicine is a viable option*". Another participant said, "*Only thing*

perhaps is along with the new normal, we need to be a little more adaptive. And we did something, which we have never thought of doing. The entire workforce is working from home. Similarly, on the education front and other areas we need to be a little adaptive and do not give much priority or much focus from where this person has done their education. More important is how much he or she knows". One another participant shared, "*Something similar is going to happen because during the pandemic across the board from Class 1 to master's and PhD class the entire world moved to online. Okay, and then people have realized at least the benefit of it*".

Hybrid model is better to get best of both worlds

Both the modes of education, traditional and online, have its own pros and cons and a balance between the two may hold an answer to the future. A couple of participants articulated:

> "*IT has adopted the hybrid model. Why not education? Access to best teachers, conceptual and clear lectures, ability to join from anywhere, defying the physical & financial challenges as education and knowledge should reach to the last person standing. Students/Learners have different challenges which seems to be bridged by online platform and this seems to be the way forward*"
>
> "*I personally recommend online and offline mode amalgamation for today's time requirements of education as well as job experience. I personally think to go somewhere and attend classes or doing some work is not feasible. To balance everything this online offline combination is the future*"

A couple other participants shared the following for education:

"*Hybrid Model with good blend of online and offline is a way forward to spread the education. Online course would help to penetrate at all levels. Doctorate and PhD courses should be made available to working professionals without master's degree or CAT/NEET*"

"*I feel a hybrid education model, a mix of classroom and online, works best as compared to 100% online model, as it gives more social exposure to students where they get a chance to collaborate in a better fashion*"

Online education is better than offline

Online education can help some to overcome the barriers that may prevent them to take up education like higher costs, far location, etc. One participant, for example, shared, "*Online learning has taken a big role in uplifting people how really, they wanted to learn and grow. Earlier there were many such people but due to offline there were many barriers where they could not take up, but now the scenario has changed and if industry and university support in setting up the education system accordingly, I believe it would be easy for one to learn and grow by not compromising any other responsibilities they have at present*" whereas another shared, "*Traditional education is a bit more expensive as compared to equivalent online college in same demography. Hence such students require more monetary help to repay their loans / give back to parents.*"

Online courses are now reachable at every nook and corner of India due to internet expanse across the country. It can help impart disciplined and better learning as the recorded videos can not only provide latest current content but also can be reviewed later. Also, it. One participant, for example, stated, "*In case of online, agree it's less*

social, but in online, systematic & punctuated meetings, sessions, webinars are more effective as everyone can fully focus on screen dedicatedly & that is with more time & with more comfort working at home or anywhere you have network. It makes easy work/education life balance" whereas another stated, "*Online courses has its advantages such as global reach, increase in intake of students etc.*".

Online education is preferred by working professionals and it takes enough dedication and resolve to manage work life along with academic life. One participant, for example, told, "*A candidate with an excellent online degree must be given an edge over the one who didn't bother to get any education at the comparable level*" whereas another told, "*So, basically for those who are doing jobs, it is very beneficial doing the online courses. It helps them to improve not only in a professional way, but also in a personal way financially*".

Online and offline courses at par with each other

After pandemic, online education is seen to be complementing to rather than equivalent of the traditional education. One participant, for example, noted, "*I think both have their importance. We have to perfect in traditional & online courses, both are important in our professional life*" whereas another one noted, "*Both the medium, such as traditional and online, should be given equal importance. We all have through covid pandemic which makes us to think all the options. During covid pandemic, almost everything was running virtually in IT sector and other department also. Both mediums of education should be treated equally*." However, for online education to be acceptable and successful at all levels, both industry as well as academia will need to make collective

efforts. One participant, for example, said, "*I believe it is industry agnostic whether to consider an online or offline degree. Any industry/sector/service requires collective efforts by the team engaged in*".

Online education has acceptable quality of education

With the advancements in technology, the quality and currency of information being imparted has improved thereby helping overcome few shortcomings of online education. One participant, for example, articulated, "*Looking into the demand-supply equation, quality online education and qualification have strong potential and should be considered at par with offline education*" whereas another articulated, "*The quality of content and technology has made the online education more effective and acceptable*".

The human resources professionals have observed that online courses and programs, conducted by educational institutes during pandemic period were quite effective. One participant, for example, shared "*Online degrees should be accepted by organization as after pandemic most of the institutes opted for online methods for training and outcome is good*" whereas another participant shared, "*Online education degrees should be given privilege as it not only help many get the quality education but also help the busy professionals too*".

4.3 Summary of Findings

Interviews

- Most of the interview participants (every 8 in 10) were male and were in the age range of 40-60 years (every 6 in 10).

- Most of the interview participants (every 9 in 10) had their highest qualification as a graduate degree or a professional degree and were holding positions ranging from middle management to executive positions (every 9 in 10).
- A little more than half of the interview participants (every 5 in 10) were working in HR, Business, or IT organizations, and were working in the Private Sector (every 9 in 10) and were working in either large organizations or start-ups (every 8 in 10).
- Almost half of the interview participants had an experience of hiring a candidate with online degree credentials. Most of the interview participants (every 8 in 10) in each category – one with experience of hiring candidates with online credentials and one with no experience of hiring candidates with online credentials – said that they would accept the applications from candidates with online credentials.
- Quite a few interview participants (every 4 in 10) said that they relied on information on the resume to figure out whether candidate had online degree credentials. Those who had previously hired online degree holders said that they would rely on the resume or the candidate for figuring out whether candidate earned the degree credentials online or offline, while those who had not hired online degree holders said that they would rely on either resume or BGC verification process.

- Most of the interview participants (every 7 in 10) had an experience with online learning including CPE. Most of the interview participants (every 6 in 10) knew someone with good experience or mixed experience with the online learning.
- More than half of the interview participants (every 5 in 10) showed the willingness to consider online degrees for their post-secondary education. Most of the interview participants (every 8 in 10) had taken an online course previously. And almost half of the participants felt that their views were influenced due to their knowing someone with online degrees credentials.

Surveys

- Most of the survey respondents (every 8 in 10) were male and were in the age range of 25-44 years (every 7 in 10).
- Most of the survey respondents (every 9 in 10) had their highest qualification as a graduate degree or a professional degree and were holding positions ranging from middle management to executive positions (every 6 in 10).
- Most of the survey respondents (every 6 in 10) were working in IT organizations and were employed in the Private Sector (every 8 in 10) and were working in either large organizations or start-ups (every 7 in 10).
- Most of the survey respondents (every 8 in 10) had taken an online course previously and majority of survey respondents had taken Continuing Professional Education (CPE) courses (every 6 in 10).

- Majority of the survey respondents (every 7 in 10) were involved in either hiring decisions or promotion decisions or both decisions, and most of the survey respondents were based out of India (every 8 in 10).
- 85.3% of the survey respondents strongly agreed/ agreed that all professional positions have written job descriptions that specify the qualifications that a potential employee should have while only 6.9% survey respondents strongly disagreed/ disagreed to it.
- 57.7% of the survey respondents strongly agreed/ agreed that an online degree granted by an accredited institution is accepted on the same basis as a traditional degree when evaluating a prospective applicant's educational background while 13.3% survey respondents strongly disagreed/ disagreed to it.
- 39.1% of the survey respondents strongly agreed/ agreed that the type of educational institution (traditional, traditional with online courses, virtual college/university) from which the applicant obtained his/ her degree would be of no importance as a hiring selection criterion while 46.3% survey respondents strongly disagreed/ disagreed to it.
- 21.3% of the survey respondents strongly agreed/ agreed that their organization prefers not to have applicants from online-degree programs while 47.6% survey respondents strongly disagreed/ disagreed to it.
- 80.8% of the survey respondents strongly agreed/ agreed that technology skills related courses can be effectively taught through the internet to students enrolled

in online courses while 10.7% survey respondents strongly disagreed/ disagreed to it.

- 51.3% of the survey respondents strongly agreed/ agreed that the mix of online vs. traditional courses taken by the applicant to complete the degree would be of little importance to our organization while 31.6% survey respondents strongly disagreed/ disagreed to it.
- 29.7% of the survey respondents strongly agreed/ agreed that they felt that online-degree programs are too informal and tend to destroy the credibility of a college degree while 45.8% survey respondents strongly disagreed/ disagreed to it.
- 49.5% of the survey respondents strongly agreed/ agreed that the courses offered by known online institutions compared to courses offered by traditional four-year college/university programs to be, while 31.4% survey respondents strongly disagreed/ disagreed to it.
- When asked for the hiring recommendation preferences between the candidate earning degree in traditional setup and the candidate earning degree in 50% traditional and 50% online setup, 91.7% survey respondents chose to strongly recommend/ recommend the candidate earning degree in traditional setup while 77.3% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 50% traditional and 50% online setup.
- When asked for the hiring recommendation preferences between the candidate earning degree in traditional setup and the candidate earning degree in 100% online setup, 94.6% survey respondents chose to strongly recommend/

recommend the candidate earning degree in traditional setup while 42.6% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 100% online setup.

- When asked for the hiring recommendation preferences between the candidate earning degree in 50% traditional and 50% online setup, and the candidate earning degree in 100% online setup, 86.4% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 50% traditional and 50% online setup while 42.0% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 100% online setup.
- When asked for the promotion recommendation preferences between the candidate earning degree in traditional setup and the candidate earning degree in 50% traditional and 50% online setup, 90.1% survey respondents chose to strongly recommend/ recommend the candidate earning degree in traditional setup while 81.8% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 50% traditional and 50% online setup.
- When asked for the promotion recommendation preferences between the candidate earning degree in traditional setup and the candidate earning degree in 100% online setup, 90.7% survey respondents chose to strongly recommend/ recommend the candidate earning degree in traditional setup while 72.5% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 100% online setup.

- When asked for the promotion recommendation preferences between the candidate earning degree in 50% traditional and 50% online setup, and the candidate earning degree in 100% online setup, 90.1% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 50% traditional and 50% online setup while 69.3% survey respondents chose to strongly recommend/ recommend the candidate earning degree in 100% online setup.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

There may be several factors that may affect the perceptions of employers about acceptability of online degrees while making hiring and promotions decisions. Therefore, this dissertation focused on studying the current perceptions of acceptability of online degrees by employers. The study surveyed 376 professionals and interviewed 31 professionals involved with taking hiring and/ or promotions decisions. The data from 376 survey respondents and 31 interview participants was collected and analysed. The respondents and participants were from various positions ranging from middle management to executive management in their respective organizations. After the survey responses were collected and analysed, the interviews were conducted to gain added insights on practices and constraints followed during hiring and promotion decisions. The insights from interviews supplied additional context and perspective which could not be established from surveys alone.

Research Question 1

How does employers of Technology Services Industry in India perceive the worth of online education degrees in comparison to conventional degrees?

Around 45% interview participants (14 out of 31), associated positive views with "online degrees or programs", while ~25% participants (8 out of 31), associated negative

views and remaining ~29% participants (9 out of 31), associated mixed/ no views with "online degrees" or "online programs". Excluding the ones with either mixed or no views, the general view of online degrees and programs is comparatively positive than negative (45% vs. 29%).

Around 39% interview participants (12 out of 31), felt that education in traditional setup is better than education in online setup, while ~32% participants (10 out of 31), felt that education in online setup is better than education in traditional setup and remaining ~29% participants (9 out of 31), felt neither is better. Excluding the ones which felt neither is better, the general view is that education in traditional setup is better (39% vs. 32%), however the gap is quite small.

Around 58% interview participants (18 out of 31), did not see any clear advantage of hiring candidates with online credentials, while ~32% participants (10 out of 31), did see a clear advantage of hiring candidates with online credentials and remaining ~10% participants (3 out of 31), did not see clear advantage but their views were based on the situations. Excluding the ones which had their views based on the situations, the prevailing view is that there is no clear advantage of hiring candidates with online credentials (58% vs. 32%).

Around 55% interview participants (17 out of 31), did not see any clear disadvantage of hiring candidates with online credentials, while ~39% participants (12 out of 31), did see a clear disadvantage of hiring candidates with online credentials and remaining ~6% participants (2 out of 31), did not see clear disadvantage but their views were based on the situations. Excluding the ones which had their views based on the

situations, the prevailing view is that there is no clear disadvantage of hiring candidates with online credentials (55% vs. 39%).

Around 68% interview participants (21 out of 31), told that their respective organization was already encouraging the online education within, while ~26% participants (8 out of 31), told that their respective organization likely to encourage online education within and remaining ~6% participants (2 out of 31), did not share any views. Excluding the ones who had no views, the prevailing situation is that organizations have already started encouraging online education within (68% vs. 26%).

Around 71% interview participants (22 out of 31), felt that the type of position has a bearing on the acceptability of online degrees, while ~26% participants (8 out of 31), felt that type of position has no bearing on the acceptability of online degrees and remaining ~3% participants (1 out of 31), felt that the type of position may have a partial bearing on the acceptability of online degrees. Excluding the one who felt type of position may have partial bearing, the general prevailing view is that type of position has bearing on the acceptance of online degrees (71% vs. 26%).

Research Question 2

How does employers of Technology Services Industry in India compare degrees, earned in conventional (F2F) setup with degrees earned in online setup, for the hiring decisions?

Around 71% interview participants (22 out of 31), showed no preference between offline degree holders and online degree holders during hiring decisions, while ~26% participants (8 out of 31), showed a preference for offline degree holders and remaining ~3% participants (1 out of 31), showed a preference for online degree holders. While 2/3rd of the interview participants showed no preference for either, from the remaining 1/3rd interview participants, the general prevailing preference seems to be in favour of offline degree holders during hiring decisions (26% vs. 3%).

Around 71% interview participants (22 out of 31), did not perceive any difference between offline and online degrees during hiring decisions, while ~29% participants (9 out of 31), did perceive a difference between offline and online degrees. For hiring decisions, most employers do not perceive a difference between degrees earned in conventional/ traditional setup and degrees earned in an online setup (71% vs. 29%).

Around 95% survey respondents (344 out of 362), either strongly recommended or recommended the applicant for hiring who earned the degree in a 100% traditional setup with 54.4% (197 out of 362) of those responses being strongly recommend, while 79.5% (290 out of 365) of survey respondents indicated that they would either strongly recommend or recommend the applicant for hiring who earned the degree in 50% online setup and 50% traditional setup with only 19.7% (72 out of 365) of those responses being strongly recommend. Around 1.7% survey respondents (6 out of 362) indicated that they would recommend with reservation or not recommend the applicant for hiring who earned the degree in 100% traditional setup, in contrast 9.6% of survey respondents (35

out of 365) indicated that they would recommend with reservation or not recommend the applicant for hiring who earned the degree in 50% online setup and 50% traditional setup.

Around 96.7% survey respondents (353 out of 365), either strongly recommended or recommended the applicant for hiring who earned the degree in a 100% traditional setup with 55.1% (201 out of 365) of those responses being strongly recommend, while 45.3% (159 out of 351) of survey respondents indicated that they would either strongly recommend or recommend the applicant for hiring who earned the degree with 100% online setup with only 8.8% (31 out of 351) of those responses being strongly recommend. Around 1.6% survey respondents (6 out of 365) indicated that they would recommend with reservation or not recommend the applicant for hiring who earned the degree in 100% traditional setup, in contrast 30.2% of survey respondents (106 out of 351) indicated that they would recommend with reservation or not recommend the applicant for hiring who earned the degree in 100% online setup.

Around 88.3% survey respondents (325 out of 368), either strongly recommended or recommended the applicant for hiring who earned the degree in a 50% traditional setup and 50% online setup with 28.0% (103 out of 368) of those responses being strongly recommend, while 44.5% (158 out of 355) of survey respondents indicated that they would either strongly recommend or recommend the applicant for hiring who earned the degree with 100% online setup with only 8.5% (30 out of 355) of those responses being strongly recommend. Around 6.5% survey respondents (24 out of 368) indicated that they would recommend with reservation or not recommend the applicant for hiring who earned the degree in 50% traditional setup and 50% online setup, in contrast 29.9% of

survey respondents (106 out of 355) indicated that they would recommend with reservation or not recommend the applicant for hiring who earned the degree in 100% online setup.

For hiring decisions, the degrees earned in the traditional setup are more preferred as compared to degrees earned in an online setup, however degrees earned in partial online setup (50% traditional + 50% online) is much preferred to degrees earned in pure online setup (100%). In short, the preference order is degrees earned in traditional setup followed by degrees earned in hybrid setup followed by degrees earned in pure online setup.

Research Question 3

How does employers of Technology Services Industry in India compare degrees, earned in conventional (F2F) setup with degrees earned in online setup, for the promotion decisions?

Around 10% interview participants (3 out of 31), showed clear preference for online degree holders during promotion decisions, while ~6% participants (2 out of 31), showed a preference for offline degree holders during promotion decisions. Out of remaining ~84% participants (26 out of 31), 6% interview participants (2 out of 31) chose to hold their views, ~55% participants (17 out of 31), showed no clear preference for offline or online degree holders but attributed their decision to be based on candidate's individual performance and remaining ~23% participants (7 out of 31), also did not show no clear preference for either but attributed their decision to be based on candidate's

individual characteristics. While > 80% of interview participants did not express a clear preference and the sample size of those who showed clear preference (5 out of 31), the general prevailing preference during promotion decisions cannot be concluded from it.

Around 77% interview participants (24 out of 31), did not perceive any difference between offline and online degrees during promotion decisions, while ~16% participants (5 out of 31), did perceive a difference between offline and online degrees and remaining ~6% participants (2 out of 31), chose to hold not to share their views. For promotion decisions, most employers do not perceive a difference between degrees earned in conventional/ traditional setup and degrees earned in an online setup (77% vs. 16%).

Around 93.3% survey respondents (336 out of 360), either strongly recommended or recommended the applicant for promotion who earned the degree in a 100% traditional setup with 45.0% (162 out of 360) of those responses being strongly recommend, while 84.0% (305 out of 363) of survey respondents indicated that they would either strongly recommend or recommend the applicant for promotion who earned the degree in 50% online setup with only 30.9% (112 out of 363) of those responses being strongly recommend. Around 2.8% survey respondents (10 out of 360) indicated that they would recommend with reservation or not recommend the applicant for promotion who earned the degree in 100% traditional setup, in contrast 8.3% of survey respondents (30 out of 363) indicated that they would recommend with reservation or not recommend the applicant for promotion who earned the degree in 50% online setup.

Around 92.9% survey respondents (340 out of 366), either strongly recommended or recommended the applicant for promotion who earned the degree in a 100% traditional

setup with 46.2% (169 out of 366) of those responses being strongly recommend, while 75.3% (272 out of 361) of survey respondents indicated that they would either strongly recommend or recommend the applicant for promotion who earned the degree with 100% online setup with only 25.8% (93 out of 361) of those responses being strongly recommend. Around 2.2% survey respondents (8 out of 366) indicated that they would recommend with reservation or not recommend the applicant for promotion who earned the degree in 100% traditional setup, in contrast 11.9% of survey respondents (43 out of 361) indicated that they would recommend with reservation or not recommend the applicant for promotion who earned the degree in 100% online setup.

Around 92.3% survey respondents (337 out of 365), either strongly recommended or recommended the applicant for promotion who earned the degree in 50% online setup with 35.9% (131 out of 365) of those responses being strongly recommend, while 72.1% (259 out of 359) of survey respondents indicated that they would either strongly recommend or recommend the applicant for promotion who earned the degree with 100% online setup with 23.4% (84 out of 359) of those responses being strongly recommend. Around 2.5% survey respondents (9 out of 365) indicated that they would recommend with reservation or not recommend the applicant for promotion who earned the degree in 50% online setup, in contrast 13.1% of survey respondents (47 out of 359) indicated that they would recommend with reservation or not recommend the applicant for promotion who earned the degree in 100% online setup.

For promotion decisions, the degrees earned in the traditional setup are more preferred as compared to degrees earned in an online setup, however degrees earned in

partial online setup (50% online) is more preferred to degrees earned in pure online setup (100%). In short, the preference order is degrees earned in traditional setup followed by degrees earned in hybrid setup followed by degrees earned in pure online setup.

Research Question 4

Which segment – large, medium, small or start-up companies – of Technology Services Industry in India is more willing and open to hiring candidates with credentials of online degrees?

The survey respondents were asked to share their hiring recommendation preferences for candidates with 50% online education and candidates with traditional education. Of all the survey respondents from different sizes of organizations, top two highest recommendation preferences for candidates with 50% online education were, 89.5% and 86.4% from mid-sized companies (17 out of 19) and small-sized companies (19 out of 22) respectively. For hiring decisions, small-sized and mid-sized companies seems to be most open to hire candidates with partial online education (50%). Refer Table **44** for more details.

Table 44: Hiring Recommendations for Candidate with 50% online education in Traditional education versus 50% online education scenario

Responses for 50% online in HIRING SCENARIO (Traditional versus 50% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Start-ups *(less than 1000 employees)*	*75*	*11*	*11*	*77.3%*	*11.3%*	*11.3%*
Very small-sized companies *(1001-2500 employees)*	*16*	*2*	*1*	*84.2%*	*10.5%*	*5.3%*
Small-sized companies *(2501-5000 employees)*	*19*	*1*	*2*	***86.4%***	*4.5%*	*9.1%*
Mid-sized companies *(5001-10000 employees)*	*17*	*1*	*1*	***89.5%***	*5.3%*	*5.3%*
Medium-sized companies *(10001-20000 employees)*	*14*	*2*	*2*	*77.8%*	*11.1%*	*11.1%*
Large-sized companies *(more than 20000 employees)*	*146*	*23*	*18*	*78.1%*	*12.3%*	*9.6%*
Others	*3*	*0*	*0*	*100.0 %*	*0.0%*	*0.0%*

Source: Author's work

The survey respondents were asked to share their hiring recommendation preferences for candidates with 100% online education and candidates with traditional

education. Of all the survey respondents from different sizes of organizations, top two highest recommendation preferences for candidates with 100% online education were, 94.4% and 90.0% from medium-sized companies (17 out of 18) and mid-sized companies (18 out of 20) respectively. For hiring decisions, mid-sized and medium-sized companies seems to be most open to hire candidates with fully online education (100%). Refer Table **45** for more details.

Table 45: Hiring Recommendations for Candidate with 100% online education in traditional education versus 100% online education scenario

Responses for 100% online in HIRING SCENARIO (Traditional versus 100% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Start-ups *(less than 1000 employees)*	*43*	*20*	*27*	*47.8%*	*22.2%*	*30.0%*
Very small-sized companies *(1001-2500 employees)*	*8*	*7*	*2*	*47.1%*	*41.2%*	*11.8%*
Small-sized companies *(2501-5000 employees)*	*11*	*4*	*5*	***55.0%***	*20.0%*	*25.0%*
Mid-sized companies *(5001-10000 employees)*	*12*	*4*	*4*	***60.0%***	*20.0%*	*20.0%*

Responses for 100% online in HIRING SCENARIO (Traditional versus 100% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Medium-sized companies *(10001-20000 employees)*	*7*	*3*	*7*	*41.2%*	*17.6%*	*41.2%*
Large-sized companies *(more than 20000 employees)*	*77*	*47*	*60*	*41.8%*	*25.5%*	*32.6%*
Others	*1*	*1*	*1*	*33.3%*	*33.3%*	*33.3%*

Source: Author's work

The survey respondents were asked to share their hiring recommendation preferences for candidates with 100% online education and candidates with 50% online education. Of all the survey respondents from different sizes of organizations, top two highest recommendation preferences for candidates with 100% online education were, 55.0% and 47.4% from small-sized companies (11 out of 20) and mid-sized companies (9 out of 19) respectively. For hiring decisions, small-sized and mid-sized companies seems to be most open to hire candidates with fully online education (100%). Refer Table **46** for more details.

Table 46: Hiring Recommendations for Candidate with 100% online education in 50% online education versus 100% online education scenario

Responses for 100% online in HIRING SCENARIO (50% online versus 100% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Start-ups *(less than 1000 employees)*	*42*	*19*	*30*	*46.2%*	*20.9%*	*33.0%*
Very small-sized companies *(1001-2500 employees)*	*7*	*9*	*2*	*38.9%*	*50.0%*	*11.1%*
Small-sized companies *(2501-5000 employees)*	*11*	*4*	*5*	***55.0%***	*20.0%*	*25.0%*
Mid-sized companies *(5001-10000 employees)*	*9*	*6*	*4*	***47.4%***	*31.6%*	*21.1%*
Medium-sized companies *(10001-20000 employees)*	*8*	*3*	*7*	*44.4%*	*16.7%*	*38.9%*
Large-sized companies *(more than 20000 employees)*	*80*	*49*	*57*	*43.0%*	*26.3%*	*30.6%*
Others	*1*	*1*	*1*	*33.3%*	*33.3%*	*33.3%*

Source: Author's work

The survey respondents were asked to share their promotion recommendation preferences for candidates with 50% online education and candidates with traditional

education. Of all the survey respondents from different sizes of organizations, top two highest recommendation preferences for candidates with 50% online education were, 94.7% and 88.9% from very-small-sized companies (18 out of 19) and medium-sized companies (16 out of 18) respectively. For promotion decisions, very-small-sized and medium-sized companies seems to be most open to promote candidates with partial online education (50%). Refer Table **47** for more details.

Table 47: Promotion Recommendations for Candidate with 50% online education in traditional education versus 50% online education scenario

Responses for 50% online in PROMOTION SCENARIO (Traditional versus 50% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Start-ups *(less than 1000 employees)*	*76*	*11*	*7*	*80.9%*	*11.7%*	*7.4%*
Very small-sized companies *(1001-2500 employees)*	*18*	*1*	*0*	*94.7%*	*5.3%*	*0.0%*
Small-sized companies *(2501-5000 employees)*	*17*	*1*	*3*	*81.0%*	*4.8%*	*14.3%*
Mid-sized companies *(5001-10000 employees)*	*15*	*3*	*1*	*78.9%*	*15.8%*	*5.3%*
Medium-sized companies *(10001-20000 employees)*	*16*	*1*	*1*	*88.9%*	*5.6%*	*5.6%*

Responses for 50% online in PROMOTION SCENARIO (Traditional versus 50% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Large-sized companies *(more than 20000 employees)*	*160*	*11*	*18*	*84.7%*	*5.8%*	*9.5%*
Others	*3*	*0*	*0*	*100.0 %*	*0.0%*	*0.0%*

Source: Author's work

The survey respondents were asked to share their promotion recommendation preferences for candidates with 100% online education and candidates with traditional education. Of all the survey respondents from different sizes of organizations, top two highest recommendations for candidates with 100% online education were, 88.2% and 81.0% from medium-sized companies (15 out of 17) and small-sized companies (17 out of 21) respectively. For promotion decisions, small-sized and medium-sized companies seems to be most open to promote candidates with fully online education (100%). Refer Table **48** for more details.

Table 48: Promotion Recommendations for Candidate with 100% online education in traditional education versus 100% online education scenario

Responses for 100% online in PROMOTION SCENARIO (Traditional versus 100% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Start-ups *(less than 1000 employees)*	*67*	*13*	*15*	*70.5%*	*13.7%*	*15.8%*
Very small-sized companies *(1001-2500 employees)*	*12*	*5*	*1*	*66.7%*	*27.8%*	*5.6%*
Small-sized companies *(2501-5000 employees)*	*17*	*1*	*3*	*81.0%*	*4.8%*	*14.3%*
Mid-sized companies *(5001-10000 employees)*	*13*	*4*	*3*	*65.0%*	*20.0%*	*15.0%*
Medium-sized companies *(10001-20000 employees)*	*15*	*0*	*2*	*88.2%*	*0.0%*	*11.8%*
Large-sized companies *(more than 20000 employees)*	*145*	*23*	*19*	*77.5%*	*12.3%*	*10.2%*
Others	*3*	*0*	*0*	*100.0 %*	*0.0%*	*0.0%*

Source: Author's work

The survey respondents were asked to share their promotion recommendation preferences for candidates with 100% online education and candidates with 50% online

education. Of all the survey respondents from different sizes of organizations, top two highest recommendations for candidates with 100% online education were, 83.3% and 80.0% from medium-sized companies (15 out of 18) and small-sized companies (16 out of 20) respectively. For promotion decisions, small-sized and medium-sized companies seems to be most open to hire candidates with fully online education (100%). Refer Table **49** for more details.

Table 49: Promotion Recommendations for Candidate with 100% online education in 50% online education versus 100% online education scenario

Responses for 100% online in PROMOTION SCENARIO (50% online versus 100% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Start-ups *(less than 1000 employees)*	*60*	*18*	*15*	*65.9%*	*19.8%*	*16.5%*
Very small-sized companies *(1001-2500 employees)*	*13*	*3*	*2*	*72.2%*	*16.7%*	*11.1%*
Small-sized companies *(2501-5000 employees)*	*16*	*3*	*1*	*80.0%*	*15.0%*	*5.0%*
Mid-sized companies *(5001-10000 employees)*	*13*	*3*	*3*	*68.4%*	*15.8%*	*15.8%*
Medium-sized companies *(10001-20000 employees)*	*15*	*0*	*3*	*83.3%*	*0.0%*	*16.7%*

Responses for 100% online in PROMOTION SCENARIO (50% online versus 100% online)	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***	***Strongly Recommend/ Recommend***	***Unsure***	***Recommend with reservation/ Would not recommend***
Large-sized companies *(more than 20000 employees)*	*139*	*26*	*23*	*74.7%*	*14.0%*	*12.4%*
Others	*3*	*0*	*0*	*100.0 %*	*0.0%*	*0.0%*

Source: Author's work

Research Question 5

What steps can be taken to increase the acceptability of online degrees in hiring and promotion decisions?

The interview participants shared their suggestions and recommendations on what could possibly be done to increase the acceptability of online degrees in hiring and promotion decisions. The suggestions and recommendations can be clubbed in the following six categories:

1. Demonstrate the acquired knowledge

   The candidate earning degrees through online education should prove that the acquired knowledge is at par with one who gets it through traditional education. During lateral hiring or promotions, the candidate should showcase the experience gained so far and supplement it with the knowledge gained

through online education. When connecting with hiring managers, beforehand or during interview, the candidates should focus on their overall personality to change the perceptions about acceptability of online education.

2. Check and build the reputation

   The candidate earning degree through online education should earn it from reputed institutes/ colleges/ universities and reputed platforms only while focusing on the T-shaped learning. Besides this, the candidate should work on creating their visibility in the online world on various social and networking platforms through writing and/ or blogging.

3. Showcase the acquired skills

   The candidate earning degree through online education should work on their gaps (if any) and showcase the acquired skills by doing lot of internships (offline or online) with companies that allow hands-on experience, give good practical exposure, and enriches their experience.

4. Gather positive references

   The candidate earning degree through online education should accumulate credits, recommendations from professors and managers, and positive references through interactions with senior folks. Networking with like-minded people through social media and writing blogs will help them to compete with the others who earn their degrees through traditional education.

5. Bridge the information gap

   The online universities should share and disseminate the info, about the

curricula, projects, internships, etc. with the industry and inform that it is comparable to any traditional degree. Also, the universities should play back the performance metrics like feedback, success rate, pay packages, placement ratio, hiring companies, etc. with the public to improve the acceptability of online degrees.

6. Bring the change

   When, the candidate earning degrees through online education, goes to the next level or to senior positions, they should influence or bring a change to the hiring policies to increase the acceptability of online degrees.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

Although the current study was technology industry-specific but had the representation from technology departments of other industries as well. Whereas most of the research has been conducted in most of the other industries, except for the technology industry, the current study may have been influenced by the bias towards traditional education.

Organizations' policies may act as a hindrance towards acceptance of online degrees. The lack of awareness and the experience of hiring and recruiting an online degree holder can make the organizations to lose out on the good talent. A significant number of participants articulated that offline is better and is a must at the beginning stages of one’s career while online is more acceptable at higher degrees or continual education stages. The general acceptability of online degrees and courses is suitable and helpful for working professionals more than the fresh graduates. Such online courses are usually taken by motivated and focused working individuals only. While online education may have shortcomings on interactions front, there are several other advantages of online education that should be noticed and focused on.

The people tend to question the quality of education being imparted via online mode especially when the universities and / or colleges are lesser known or not accredited. The mode of education plays an important role during hiring and promotion decisions but what matters most is the willingness to learn and application of acquired

knowledge. The applicant's fitment and ability to integrate into an organization culture also plays a crucial role when it comes to recruitment decisions. Not everyone feels assured by the evaluation process followed in the online courses. Some universities do away with entrance exams for intake which further influences the decisions made by potential recruiters and potential employers.

Employers will need to be agile and adaptive to the changing times nowadays. They never believed that remote work is possible but after pandemic, it has turned out to be the new normal. The employers have now begun accepting the online education in few specific areas and functions.

The general view of online degrees and online programs is comparatively positive than negative. The education in traditional setup is perceived better than online setup but the perceptions gap is slowly bridging. The employers did not perceive any advantage or any disadvantage of hiring candidates with online credentials. However, the type of position influences the acceptance of online degrees, more at higher positions than at fresher positions.

For both hiring and promotion decisions, most employers did not perceive a difference between degrees earned in conventional/ traditional setup and degrees earned in an online setup. For hiring decisions, most employers did not perceive a difference between degrees earned in conventional/ traditional setup and degrees earned in an online setup, however, prefer traditional degree holders as compared to online degree holders. The bias found in the promotion decisions seem to less as compared to in the hiring decisions.

For hiring decisions, small-sized, mid-sized and medium-sized companies seems to be most open to hire candidates with partial or fully online education. And for promotion decisions, very-small-sized, small-sized and medium-sized companies seems to be most open to promote candidates with partial or fully online education.

The interview participants made a few recommendations for increasing the acceptance of candidates with online credentials which were broadly classified as (1) demonstrating the acquired knowledge, (2) checking and building the reputation, (3) showcasing the acquired skills, (4) gathering positive references, (5) bridging the information gap, and (6) bringing the change.

6.2 Implications

The acceptance of online degree credentials for hiring and promotion seems to be better for the technology industry as compared to other industries. In line with to research studies conducted in North America, a few notable being Adams & DeFleur (2006), Seibold (2007), and Baltzer, Lazaros, & Flowers (2007) that found the employers largely preferred traditional degrees only in comparison to the online degrees, this study also found that the employers of technology industry in India do have a bias towards traditional degrees compared to online degrees for hiring and promotions decisions. But the bias was found to be lesser than what other studies found in similar studies. The current study revealed that the online education is fast catching up with the traditional education, which was also reaffirmed by similar study by Roussas (2006). The results from the current research study are in confirmation of the equivalency theory as well.

The employers did not find any advantage or disadvantage of hiring and/ or promoting candidates with online degree credentials. These results agree with the research studies by Gaba A. K. (2004) and Tabatabaei & Gardiner (2012) which found that completing education through online education was not disadvantageous to job seekers within the technology field. In fact, through this research study, it has been found that the online education is being adopted well among organizations and are promoting online training courses and programs as against Instructor-Led Training courses and programs. The study also reveals that subjects related to Computer Science and Information Technology can effectively be taught in an online setup. It might be more beneficial to adopt gamification techniques in teaching such subjects as several such studies shows the promising possibilities (Dicheva, Dichev, Agre, & Angelova, 2015).

The employers seem to be more acceptable of online credentials at later stages of career than at the first stages of the career, and it varies with the type of position as well. At the first stages of career, the employment is more for the position than the skills and hence mode of education carries much weight. The experience, skills and level of education were found to be more influential during the later stages of career than the mode of education. This is in line with the results from the research study by Thompson (2009) wherein it was found that influence of level of education outweighs the mode of education. As revealed from the current research, the stigma associated with online education can possibly be nullified by demonstrating interpersonal skills along with other characteristics like internships, apprenticeships, writing, blogging, networking and gathering positive references. Work-based learning experiences, such as apprenticeships

and vocational programs should be prioritized by policy makers to reduce the inflation of degree and increase the utilization of skills (Fuller & Raman, 2017). The learners of online courses can be enabled to improve skills like critical thinking, decision-making, problem solving and self-management by adopting authentic scenario-based learning thus improving the employability (Martínez-Argüelles, Plana-Erta, & Fitó-Bertran, 2022).

As online education is becoming popular, the acceptability of online degrees in hiring and promotion decisions is also increasing but the bias towards traditional degrees seems to be lingering still. The acceptance of hybrid/ partial online degrees for hiring as well as promotion decisions seem to be better than 100% online degrees. For promotion decisions, the employers seem to be more open towards online degrees and attribute the weight of their decisions largely on individual performances and characteristics but still have biases for traditional degrees. For hiring and promotion decisions, small-sized to medium-sized companies are more willing to accept online degree holders. Such companies are yearning for constant growth and may be working in niche areas where availability of such skills may be scarce and hence more willingness to accept online degrees.

From the current research, if earning a degree contributes significantly towards securing an employment, the students planning to undertake education beyond higher secondary will be able to take better decisions about the courses to be undertaken based on the formats and the amount of coursework instructions in each format during the course. While it will be useful to know that employer biases do exist against degrees earned online at initial stages, the push towards online education by UGC through online

universities and increasing employer's acceptance of online degrees, the students may possibly plan for higher studies in online format provided the education complements and enhances their existing skills and knowledge. Furthermore, the best chance of obtaining employment may be for selecting the programs that offer mixed coursework instead of pure online.

For candidates who must opt for online degrees for any unavoidable constraints, this research study also supplies details on what potential students should look for in an institution before pursuing a degree that will be more acceptable after graduation. The students may consider online education if they are considering earning higher levels of degrees along with their jobs to enhance their existing skills and knowledge.

The institutions offering online programs will find the findings of this research study useful while advertising about their programs or institution, knowing that there is a bias against online degrees by employers who will eventually consider them for hiring in future. Besides informing prospective students about comparable learning outcomes from online education, the institutions offering online programs should work towards addressing the concerns and apprehensions about online education/ programs. The institutions should also educate the employers about merits of online education and that how online education programs/ courses are being made at par with traditional programs/ courses. Also, in-service trainings/ workshops/ seminars could be held for the stakeholders of education for educating them on the role and inevitability of the online education in 21st century (Alhassan, 2015).

The technology organizations will find the finding of this research study very relevant as the demand for technology skills are increasing the skills deficit is widening alongside. One of the ways, UGC and Government of India are bringing reforms in education sector to address the needs of the industry is through National Education Policy (NEP) 2020. UGC and NEP both emphasizes on leveraging technology for providing high-quality education to all and recognition of online degrees. UGC has also allowed universities to design and modify the curriculum as per the current industry requirements, thus aiming towards providing high-quality education that is accessible, affordable, and relevant to all.

6.3 Recommendations for Future Research

Although, the survey offered only open-ended question to elicit more information about respondents' perspectives, it did not give respondents enough chance to explain the rationale behind all responses. In order to allow respondents, the chance to provide in-depth rationale for their perspectives about online degrees, future research should be undertaken using true mixed methods approach. There should be a series of studies focusing on surveying professionals at regular interval to study the changes in perceptions as technology advances in the field of education. Another research study should be focused on checking variance of acceptability of online degrees by geographic restrictions as urban areas may be less accepting the online degrees due to easy availability of eligible candidates while rural areas may be more accepting the online degrees due to scarcity of eligible candidates. Another research that may prove useful

should be focused on determining whether any bias towards renumeration of services exists for online degree holders.

6.4 Conclusion

This study presented the findings from a nationwide survey of technology professional's responsible for hiring job applicants and promoting employees. This study attempted to understand the perceptions of the employers about hiring candidates and promoting employees, who earned degrees through online coursework. The theoretical framework of equivalency theory was used to come up with and to conduct the online survey & interview. The study revealed that when employer had a choice between a job candidate with degree earned in an online setup, a candidate with degree earned in a traditional setup, and a candidate with degree earned in a partial online setup, ~96% of employers would choose the traditional graduate for employment, ~84% of employers would choose the partial online graduate for employment and ~45% of employers would choose an online graduate.

In comparison with study by Adams and DeFleur (2006), it was found that 96% of their respondents would choose a candidate with a traditional degree and only 4% would choose a candidate with an online degree, the current study finds that 96% of respondents would choose a candidate with traditional degree, 45% would choose a candidate with a fully (100%) online degree and 84% would choose a candidate with partial online (50%) degree. Although the present results show a preference for a job candidate with a traditional degree, these results also show that there is an increasing acceptance by

employers for an applicant who has earned a degree in a fully or partially online setup. This study also found that certain organizational policies and constraints play a crucial role in the employer's decisions related to hiring and promotions.

Small-sized and mid-sized companies appeared to be more open to different forms of education and would see a degree earned in a traditional setup comparable to a degree earned in an online setup even though a majority of employers surveyed (across all sizes of organizations) preferred the traditional degree over the degree earned partially or entirely online.

The qualitative responses suggest that the greatest limitation of online education was the lack of interpersonal skills and interactions with other students and faculties. While past research has shown that online courses have produces comparable outcomes and test scores to the ones from the traditional courses, the acceptability of and the value perceived from online degrees is not seen as equivalent by employers making the hiring and promotion decisions. Although, the findings from the current study indicates a positive trend of acceptance of online degrees for hiring and promotions, the acceptance level has a long way to reach the levels where online degrees are seen comparable to traditional degrees.

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