



RESEARCH ARTICLE

The impact of online degree programs on employment opportunities in contemporary India

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Abstract

The contemporary global economy demands a highly skilled and adaptable workforce, yet a persistent gap persists between the skills sought by employers and those possessed by the workforce. Online degree programs have emerged as a transformative solution, offering accessible and flexible pathways for individuals to acquire the skills necessary to meet the demands of the modern job market. However, despite their growing popularity, there remains a research gap in understanding their effectiveness, particularly in India. This research aims to evaluate the effectiveness of online degree programs in bridging the skills gap, preparing students for the workforce, and assessing the relevance of their curricula in meeting contemporary job market demands, particularly in India. The study employs a mixed-methods approach, including surveys with educators, students, and employers, as well as interviews with industry experts. The findings reveal that online degree programs play a significant role in closing the skills gap and fulfilling job market demands in contemporary India. The curricula of these programs are highly relevant and aligned with industry needs, offering practical learning experiences that enhance students' employability. Moreover, online education provides an inclusive, flexible, and cost-effective approach to education, enabling individuals from diverse backgrounds to access quality education. Overall, this research underscores the importance of online degree programs in preparing individuals for success in a rapidly changing and competitive global economy. By leveraging the full potential of online education, we can create a workforce that is well-equipped to meet current industry needs and adapt to the challenges of the future.

Keywords: Employment, Higher education, Job market, Online education, Online degree programs.

Introduction

In the rapidly evolving landscape of the global economy, the demand for a highly skilled and adaptable workforce has never been more pronounced. However, a persistent gap exists between the skills employers seek and the skills possessed by the workforce. To address this disparity, online degree programs have emerged as a transformative solution,

providing accessible and flexible avenues for individuals to acquire the skills necessary to meet the demands of the modern job market. Ensuring quality is paramount in online education to guarantee that students derive beneficial experiences both emotionally and intellectually (Barczyk *et al.*, 2017). Because of its flexibility and ease, online education has become an attractive option for students seeking degrees who are unable to get to a traditional higher education school (Mandelbaum, 2014). Online programs are meant for professionals who work to regulate their time, provide students flexibility, and offer 24/7 access to course materials (Iheduru-Anderson, 2021). This inclusivity is crucial in closing the skills gap as it allows people from various backgrounds, including those in remote or underserved areas, to access quality education. The flexibility of online programs also accommodates working professionals who can enhance their skills without compromising their existing commitments. Despite online courses and programs have tremendous benefits, there is a continuing discussion about authenticity, quality, and acceptability among some stakeholders, including academics, administrators, and employers (Mandelbaum, 2014). According to the 2014 survey of online learning by the Babson Survey Research

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Group, there was an increase in the percentage of academic leaders who rated the learning outcomes in online education as equal or better than face-to-face instruction. This percentage rose from 57.2% in 2003 to 74.1% in 2014. However, only 28% of academic leaders mentioned that their faculty fully accept the value and legitimacy of online education, which remained nearly unchanged since 2003 (Engel, 2020). Students may be unable to attend traditional classes on campus due to family, employment, or other responsibilities. Online education provides a way to reduce distances and boost the convenience of educational options (Adams *et al.*, 2007). Many of our students have made cross-country moves in search of improved work possibilities because to the flexibility of an online degree (Maneotis & Warren, 2022). Students' perspectives on managing their knowledge are altered by online environments, and this can result in the development of new abilities that are influenced by the online experience and have differing effects on their employment prospects (Neşţian *et al.*, 2021).

In recent years, online learning has increased considerably as computer technology has increasingly been integrated into education and training procedures (Shih *et al.*, 2013) this type of education requires communication through technology and special institutional organisation (Gomathi *et al.*, 2022). This new setting tested students' capacity to direct their learning in a variety of ways (Neşţian *et al.*, 2021). Furthermore, online education programs have become global as most traditional public and private higher education institutions now offer virtual education programs, and their graduates accumulate in the workforce (Kaelin, 2024). In the overall framework of this research, an online course is one that does not involve any physical instruction and delivers at least 80% of its content *via* the Internet (Oguz & Poole, 2013). Many institutions now offer online degrees in addition to regular degrees. In 2013, 6.7 million students in the United States attended at least one online course, accounting for 32% of all higher education enrolment (Roberto & Johnson, 2019). In addition, steadily increasing program enrolments demonstrate the growing demand for online education. This growing demand results from dynamic market forces such as the changing demographics of adult learners, as evidenced by the decline of traditionally-aged college students and the growth of non-traditional adult learners (Kaelin, 2024). Higher education is undergoing a major transformation. That is, education is transitioning from a traditional classroom format to an online delivery paradigm. In fact, students are expecting flexible educational possibilities that transcend geographical boundaries (Mandelbaum, 2014). Not unexpectedly, online learning has become a valuable and valid learning resource for healthcare workers (Shih *et al.*, 2013). Unfortunately, the drop-out rates are higher and student GPAs are lower in online versus face-to-face courses and programs (Wilson *et al.*, 2022), the number of programs

that offer online coursework and/or online degree programs has advanced significantly (Cannon *et al.*, 2014).

The close relationship between distance learning and technological innovation continues today with the growth of e-learning (Kaelin, 2024). When researchers compare online and on-site learning experiences, they can gain a greater understanding of the changes that are taking place, as seen by students (Neşţian *et al.*, 2021). Institutions that provide online degrees assert that their programs can lead to employment opportunities, career growth, higher pay, and other job-related benefits. Therefore, employer perceptions play a crucial role in the transition from higher education to the workplace (Engel, 2020). There isn't much research available on how online degrees are viewed as qualifications for getting a job, particularly in the field of accounting (Engel, 2020). When individuals seek job or progress, the perceived worth of various degrees may drive employers to evaluate one's educational background based on modality of delivery. Online degree recipients may be at a disadvantage compared to graduates of face-to-face degree programs (Roberto & Johnson, 2019). The online delivery of higher education has raised concerns about how external stakeholders view its acceptance, employability, and credibility (Engel, 2020). The goal of this study was not to assess the quality or worth of online education, but to obtain a better understanding of the acceptance of degrees achieved partially or totally online, as well as their perceived value. The study focused on the graduates' future employers (Jeancola, 2011). Our study places particular emphasis on how employable business students are. The employability of students is a top priority for business schools and higher education institutions (Neşţian *et al.*, 2021).

This article is structured into four sections. The first section involves a review of the literature and the formulation of research gaps and questions. The second section outlines the methodology employed in the study. In the third section, statistical findings pertaining to the research questions and specific demographic variables are summarized. Finally, the fourth section encompasses a discussion of the results, conclusions, limitations of the study, and implications for teaching and future research.

Literature Review

The studies discussed in this literature review encompass various aspects of online education and its implications on different sectors and populations.

Neşţian *et al.*, (2021), this study investigates business students' knowledge management in online education and its impact on their perception of employment opportunities, particularly in online businesses. Using a quantitative approach, researchers surveyed 256 Bachelor's and Master's Degree students between November and December 2020. Results demonstrate that improved application, revision, conceptual shift, and knowledge acquisition positively

influence employment prospects, especially in online ventures. Kaelin, (2024), the study evaluates gatekeeper perceptions of educational credentials earned online, highlighting significant differences in perceptions. Participants in the study are required to be between 25 and 65 years old, currently employed, and involved in the hiring process of their organization Distance education's historical connection with technology and underrepresented groups is crucial in understanding higher education changes The dissertation by researcher explores employment gatekeeper perceptions of online education, focusing on a generational transition in technology and leadership. Shih *et al.*, (2013), this study examined new healthcare employees' reception of an online orientation program and identified key factors influencing online learning outcomes. Employing triangulation methods including surveys, interviews, and test scores, data were gathered from 154 questionnaires (78.2% response rate), test scores, and 13 interviews. Findings indicated positive attitudes toward the program, with "perceived ease of use" and "perceived usefulness" predicting technology acceptance, and "learner satisfaction" and "continued intention to use" predicting learning outcomes. While test scores didn't show statistical impact, factors such as human-computer interaction, feedback, and program content were influential. This underscores online learning's suitability for healthcare employees, aiding in orientation and ongoing learning, with implications for educational technology program development. Oguz & Poole, (2013), this study investigated the correlation between online course intensity and the formation of social networks, and how these networks influence employment outcomes and information acquisition. Surveys were conducted among MLIS degree graduates from three ALA-accredited programs in the Southeastern US. Findings indicate variations in network types utilized for job-seeking based on online course intensity, emphasizing the need for tailored network development, career-related experiences, and occasional face-to-face interactions in online programs. Engel, (2020), even though graduates of online programs hold the Certified Public Accountant (CPA) credential, recent research indicates that professional accounting firms in particular, certified public firms show reluctance to hire them. However, for accounting graduates, working for CPA companies is simply one option. The purpose of this study was to investigate, using quantitative methods, the propensity of CPAs in Kansas to hire entry-level accounting students based on their mode of education (online vs. conventional) and type of job (public vs. private). A two-way independent factorial ANOVA's results showed substantial impacts for both the type of education and the work environment, supporting earlier research on the preference for traditional degrees in accounting jobs. To investigate potential differences between various jurisdictions, work environments, and educational modalities, more research

is required. Mandelbaum, (2014), this study investigates how Online education has emerged as a viable option for students seeking degrees amidst the constraints of traditional higher education attendance. Despite its advantages, debates persist regarding credibility, quality, and acceptance, particularly among stakeholders like faculty, administrators, and employers. This study focuses on employers, aiming to investigate their acceptance of online degrees for employment. Survey findings indicate a continued preference for traditional degrees, yet variations exist based on employer position and industry. Roberto & Johnson, (2019), the study investigates how employers may devalue online degrees, impacting hiring and promotion decisions. This article investigates employers' preferences between face-to-face and online Master of Business Administration degrees. Through qualitative research, pilot and larger studies were conducted. Findings reveal a stronger preference for face-to-face degrees, particularly in new hire decisions. The disparity is less pronounced in promotion decisions. The study discusses specific findings and their implications. Wilson *et al.*, (2022), this study examines two related studies that look at how college students' academic performance is affected by their work status, university connectivity, and enrolment in online courses. Research 1 shows that rather than course style, labour hours had a greater impact on GPA disparities among students enrolled in various numbers of online courses. Furthermore, all students' GPAs are positively correlated with higher degrees of institutional connectedness. According to study 2, university connectivity does not predict higher GPAs for totally online students, but it does for on-campus students. However, for both groups, persistence intentions are predicted by university connectedness. The consequences of these discoveries are discussed in the publication. Adams *et al.*, (2007), this study utilized a national survey of healthcare administrators to gauge the acceptability of job applicants' qualifications obtained from online, partially online, or traditional programs. Questionnaires were distributed in response to job postings across 38 metropolitan areas in the United States. Respondents selected hypothetical applicants for a position and provided explanations. Traditional degree holders were significantly favoured over those with online or partially online degrees. Statistical analyses found no significant relationships between degree acceptability and respondents' prior online course experiences or ages. Cannon *et al.*, (2014), the purpose of this study is to show recent economic changes have prompted displaced workers to seek financial stability through education, leading to a surge in online degree program demand over the past two decades. Ensuring the employability of online graduates is crucial for curriculum development and workforce expansion. This qualitative inquiry investigated private sector hiring managers' perceptions of online degree

holders in Rochester, New York, through semi-structured interviews with 15 managers. Results showed 67% held a favourable view, 20% were emergent, and 13% unfavourable. Implications for business, education, and future research are discussed, alongside recommendations for advancing knowledge in the field. Jeancola, (2011), the purpose of this study was to determine whether accounting degrees earned fully or partially online were seen as being on par with degrees earned in conventional classroom environments, especially among certified public accountants (CPAs) who work for public accounting companies. To assess the acceptance of online degrees as prerequisites for employment in public accounting, CPAs in the Southeast of the United States were asked to take part in an online poll. Two possible candidates were judged by participants in three distinct scenarios, with the sole difference being the modality of course completion traditional classroom, partially online, or totally online. The majority of candidates with degrees from traditional classroom settings were recommended, whereas those with degrees from online programs were met with hesitation or disapproval. Sinow-Mandelbaum, (2014), this study centres on academic hiring gatekeepers and employers, directly involved in faculty and administrator recruitment within higher education. It aims to investigate their acceptance of online degrees as adequate credentials for employment. While assumptions abound regarding the value of online degrees, this study seeks to document these perceptions. Data were primarily collected through in-depth interviews and online surveys, utilizing a mixed-methods approach. Analysis of 102 survey responses via ANOVA and Chi-square indicates ongoing debate and varying perceptions among academic gatekeepers regarding the quality of online degrees, influencing hiring practices. Additionally, institutional reputation emerged as a crucial factor in hiring decisions, as revealed in the interviews. Maneotis & Warren, (2022), this research, as outlined by Kraiger *et al.* (2022), overlooks the employment status of graduate students, especially pertinent in online or hybrid education where students may work alongside studies. While employment may pose limitations, particularly in workload, we argue it benefits graduate education, notably in work-focused fields like industrial-organizational (I-O) psychology. Leading a hybrid I-O psychology master's program, the researcher observed positive outcomes for students and the program. Although researcher experiences reflect one program, advocating for research on this topic benefits all I-O programs, online or in-person. Iheduru-Anderson, (2021), Using student experiences as a guide, this study investigated the factors that contribute to withdrawal or delayed completion of online RN-BSN programs. The results of a thematic content analysis of qualitative data from semi-structured interviews (N = 26) included a variety of complicated aspects connected

to teachers, students, and institutions. This study builds on earlier studies by highlighting the shared accountability of educators, students, and organizations in making sure that nursing students complete their programs on schedule and get their BSNs. Gomathi *et al.*, (2022), this study examines online learners in India, utilizing data from a survey of private universities and colleges in Tamil Nadu. It aims to bridge research gaps by exploring online learning trends in India. Findings indicate no significant job market differences between online and in-person learners, attributed to the human capital theory. Additionally, employment mismatch minimally impacts online learners' income, as explained by the screening theory. This research sheds light on the correlation between online education, career prospects, and income, offering insights for academics and policymakers. Barczyk *et al.*, (2017), a survey involving 3,160 online students from 31 US colleges explored the impact of quality matters TM (QM) rubric standards on their success. Students rated standards based on a 43-item survey. ANOVA analysis revealed QM3 (Assessment and Measurement) as the highest-rated standard. Age differences were significant, with students under 45 valuing assessment clarity, while those over 45 favoured QM6 (Course Technology). QM3 ranked highest across employment statuses, suggesting varied priorities among students. Implications for course design and instruction are discussed.

Overall, these studies provide valuable insights into various aspects of online education, including its impact on employment outcomes, perceptions among stakeholders, and factors influencing student success. The findings contribute to a better understanding of the complexities and opportunities associated with online learning in different contexts.

Research Gap

The growing popularity of online degree programs in India has outpaced the comprehensive understanding of their effectiveness in closing the skills gap and aligning with the evolving demands of the labour market. The skills imparted through these programs may not necessarily align with the requisites sought by employers, highlighting a mismatch between educational offerings and industry needs. Moreover, there remains a lack of holistic research examining both the educational and socioeconomic factors shaping the integration of online education into the workforce.

This study aims to delve into the myriad opportunities and challenges posed by online degree programs in India, particularly in addressing the skills gap and adapting to the swiftly transforming job landscape. By scrutinizing various facets, including educational curriculum and socioeconomic dynamics, this research endeavours to provide insights into the efficacy of online education in meeting the demands of an ever-evolving job market.

Objectives of the Study

- To evaluate the effectiveness of online degree programs in filling the identified skills gap.
- To analyse how well online degree programs prepare students with the skills needed in today’s workforce.
- To evaluate the relevance of online education curricula in meeting the dynamic demands of the contemporary job market in India.

Hypothesis of the Study

Null hypothesis 1

There is no significant impact of online degree programs on closing the skills gap and fulfilling job market demands in contemporary India.

Alternative hypothesis 1

There is a significant impact of online degree programs on closing the skills gap and fulfilling job market demands in contemporary India.

Null hypothesis 2

There is no relevance of online education curricula in meeting the dynamic demands of the contemporary job market in India.

Alternative hypothesis 2

There is a relevance of online education curricula in meeting the dynamic demands of the contemporary job market in India.

Research Methodology

Sampling Design

There are a total of 80 universities in India that offer online degree programs during the period of studies from March 2023 to March 2024. The study aimed to survey 50 educators and 100 students from five Institutes/Universities, namely Amity University, Panvel (44.6 km from Researcher place), DY Patil University, Belapur Navi Mumbai (22.2 km from Researcher place), Indira Gandhi National Open University (33.2 km from Researcher place), St. Xaviers Institute, Mumbai (19.6 km from Researcher place), and MIT, Pune (148.1 km from Researcher place). The purpose of taking all universities around Mumbai and Pune is because researchers find it difficult to get Interviews from educators, students,

and top IT companies from other states or union territories due to geographical distance (Table 1).

A sample size of 10 educators and 20 students was selected from each Institutes/Universities. Furthermore, the study included interviews with 50 employers from top companies in the IT, FMCG, and manufacturing sectors from Mumbai, Navi Mumbai, and Pune to gain insights into the necessary skills for present-day jobs. The research methodology ensured that the sample size was adequate and representative of the target population. The results of the study are expected to contribute to the discourse on skills development and job readiness.

Period of Study and Sample Size

A total of 200 respondents (100 students, 50 educators, and 50 employers) of the age group 25 to 60 years were chosen by the random convenience sampling method for the study just because out of 80 universities from India, only a few universities around Mumbai and Pune offering online degree programs in geographical location. The period of study was from March 2023 to March 2024.

Data Collection

The random convenience sampling to collect the primary data. Data was collected using a standard questionnaire framed using ARAF guidelines and after consultation with experts in the field and other stakeholders for gathering in-depth insights into the impact of online degree programs towards bridging the skill gap and meeting the demands of the job market in modern-day India. The collected data were analyzed using SPSS software-16.

Result

Respondent’s General Characteristics

The present study aimed to provide a comprehensive overview of the general characteristics of 200 respondents. Table 2 presents the data collected on age, gender, educational status, employment status, field of study, designation, work experience, and type of institute/ university attended. The sample consisted of 82 (41%) male and 118 (59%) female respondents. About age, the majority of respondents (86, 43%) were in the 26 to 35 years age range, followed by 88 (44%) respondents in the 36 to 45 years age category. Only 22 (11%) respondents were 46 years old or

Table 1: Geographical disparities in researcher-respondent sampling

Researcher place	Respondent place	Distance (km)	Sample	
			Students	Educator
	Amity University, Panvel	44.6	20	10
	D Y Patil College, CBD Belapur, Navi Mumbai	22.2	20	10
Vidyavihar Mumbai	Indira Gandhi National Open University, Panvel, Raigad district	33.2	20	10
	St. Xaviers Institute, Mumbai	19.6	20	10
	MIT, Pune	148.1	20	10

Table 2: Respondent's general characteristics (N = 200)

Demographic variable	Frequency	Count	Percentage
Age	18–25 years	4	2
	26–35 years	86	43
	36–45 years	88	44
	46 and above	22	11
	Total	200	100
Gender	Male	82	41
	Female	118	59
	Total	200	100
Educational and status (Highest)	Graduate	90	45
	Postgraduate	68	34
	Doctorate	42	21
	Total	200	100
Employment status	Employed	72	37
	Self-employed	42	21
	Studying	86	42
	Internship	0	0
	Total	200	100
Field of study	Science	16	8
	Humanities and Social Sciences	12	6
	Business and Management	98	49
	Engineering	44	22
	Other faculties	30	15
	Total	200	100
Designation	Professor	14	7
	Associate Professor	28	14
	Assistant Professor	60	30
	Student	98	49
	Total	200	100
Work experience in (Years)	Less than 1 year	36	18
	1–3 years	44	22
	4–7 years	84	42
	8–10 Years	20	10
	11 and above	16	8
Total	200	100	
Type of the Institute/ University Graduate	Public	30	15
	Private	170	85
	Total	200	100

Source: Primary Data from the questionnaire

above, and 4 (2%) were in the 18 to 25 years age group. In terms of educational status, 90 (45%) respondents had completed their undergraduate studies, 68 (34%) held a postgraduate degree, and 42 (21%) had obtained a doctoral degree.

Regarding employment status, 72 (37%) respondents were employed, and 42 (21%) identified as self-employed. Additionally, 86 (42%) respondents were currently enrolled in a course of study. Among the respondents, the majority (98, 49%) were studying business and management, while 16 (8%) pursued studies in science and 12 (6%) in humanities and social sciences. In terms of designation, 14 (7%) respondents held the title of professor, 28 (14%) were associate professors, and 60 (30%) held the position of assistant professor. A total of 98 (49%) respondents identified themselves as students. Regarding work experience, 36 (18%) respondents had less than one year of work experience, 44 (22%) had work experience ranging from 1 to 3 years, 84 (42%) had 4 to 7 years of work experience, 20 (10%) had 8 to 10 years of work experience, and 16 (8%) had 11 or more years of work experience. Finally, it is noteworthy that 170 (85%) respondents were affiliated with private institutions or universities, while 30 (15%) were associated with public institutions or universities.

In conclusion, the data collected provides valuable insights into the characteristics of the respondents in this study, which can be used to inform further research in this field.

Effectiveness of online degree programs in filling the identified skills gap (N = 200)

The present exploratory study in which the researcher finds out the skill gap in the content of skill development online courses being taught in higher educational institutes. The researcher used to test the significance of various 37 skills taught in higher education. For this purpose, he has randomly selected 200 respondents consisting of academicians, administrators, students, and entrepreneurs from different places and backgrounds. Respondents fill out a questionnaire based on different categories. The results of randomly selected entrepreneur questionnaires skill gap in the content of skill development courses being taught in higher education institutes are as follows:

The findings presented in Table 3 demonstrate the distribution of responses on the effectiveness of online degree programs in bridging the gap between existing skills and the current job requirements of professionals. Out of the 200 participants, 6% (12) strongly disagreed while 8.5% (17) disagreed with the notion that online degree programs support outreach activities. Conversely, 25.5% (51) agreed, and 37% (74) strongly agreed with the statement. The remaining 23% (46) of the participants remained neutral. Regarding the ability of online degree programs to encourage research, 9% (18) disagreed, while 6% (12) strongly disagreed. 29% (58) agreed, and 43% (86) strongly agreed with this assertion. The remaining 13% (26) of the participants remained neutral. In terms of developing course curricula, 9.5% (19) disagreed, while 6% (12) strongly disagreed with the statement. Meanwhile, 31%

Table 3: Effectiveness of online degree programs in filling the identified skills gap required for present-day Jobs (N=200) (Respondents had multiple opinions data represented as % of N)

S. No	Initiatives	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Total
1	Help participate in outreach activities	12	17	46	51	74	200
2	Encourage them to do research	12	18	26	58	86	200
3	Develop course curriculum for skill development	12	19	32	62	75	200
4	Commitment to entrepreneurship activities and offering	10	21	33	62	74	200
5	Develop tailored seminars for students and clubs	8	21	39	63	69	200
6	Participate in tailored seminars for students and clubs	12	27	44	60	57	200
		66	123	220	356	435	

Source: Primary Data from the questionnaire

(62) agreed, and 37.5% (75) strongly agreed with the notion. The remaining 16% (32) of the participants remained neutral.

Concerning the development of entrepreneurship activities and offerings, 10.5% (21) disagreed, while 5% (10) strongly disagreed with the assertion. About 31% (62) agreed, and 37% (74) strongly agreed with this statement. The remaining 16.5% (33) of the participants remained neutral. Regarding developing tailored seminars for students and clubs, 10.5% (21) disagreed, while 4% (8) strongly disagreed with the statement. 31.5% (63) agreed, and 34.5% (69) strongly agreed with the notion. The remaining 19.5% (39) of the participants remained neutral. Lastly, concerning the ability of online degree programs to participate in tailored seminars for students and clubs, 13.5% (27) disagreed, while 6% (12) strongly disagreed with the assertion. About 23% (60) agreed, and 28.5% (57) strongly agreed with the statement. The remaining 17% (44) of the participants remained neutral.

How well online degree programs prepare students with the skills needed in today's workforce

Online degree programs offer a range of opportunities for students to develop the skills and competencies needed in today's workforce. They do so through the provision of a flexible learning environment, technology proficiency, remote collaboration, critical thinking and problem-solving, adaptability and resilience, global perspective, and specialized skills development. By effectively leveraging these opportunities, students can acquire technological proficiency, remote collaboration skills, critical thinking, adaptability, and specialized knowledge. This would prepare them for success in their careers and contribute to a skilled and competitive workforce.

The data presented in Table 4 was analysed using descriptive statistics to infer the weighted average for each skill, which was based on the responses given by the participants. The weighted average is calculated by

multiplying the number of responses in each category by the corresponding value (1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, and 5 for strongly agree), summing these values, and then dividing by the total number of responses for that skill. The analysis revealed that Speaking and expressive skills had the highest weighted averages (4.2), followed by innovation & creativity skills (3.5), and written communication skills (3.75). On the other hand, work process management skills had the lowest weighted average (1.67), followed by decision-making skills (2.13), and problem-solving skills (2.67).

Out of the 33 parameters analysed, more than half of the respondents agreed with the statements asked in the personal interaction questionnaire. This was significantly different compared to the number of respondents who responded neutrally or disagreed with the statement asked. The data suggests that online degree programs are perceived to prepare students with the skills needed in today's workforce, based on the responses provided in the survey.

Relevance of online education curricula in meeting the dynamic demands of the contemporary job market in India (N = 200)

The online education curricula in India are highly relevant in meeting the demands of the dynamic job market. This is because they are aligned with industry needs, focus on emerging technologies, offer flexibility and accessibility, and are customized and personalized. Additionally, they emphasize practical and applied learning experiences through virtual labs, case studies, and real-world projects. This approach helps students develop practical skills that are readily applicable in the workplace, making them more employable and job-ready. Online programs have a global perspective and promote continuous learning and skill development, which are crucial in the rapidly advancing job market. In conclusion, the relevance of online education

Table 4: Data presents how well online degree programs prepare students with the skills needed in today's workforce. (N = 200)

S.No.	Skills	Strongly disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly agree (5)	Total
1	Oral communication skill	12	14	31	68	75	200
2	Written communication skill	14	14	53	74	45	200
3	Listening skill	1	12	63	69	55	200
4	Willingness to learn skill	5	14	74	59	48	200
5	Speaking and expressive skills	17	12	24	63	84	200
6	Thinking skill	10	17	48	67	58	200
7	Reasoning skill	8	16	24	64	88	200
8	Computer literacy skill/ IT competence skill	9	14	74	69	34	200
9	Technology competence skill	8	10	12	70	100	200
10	Leadership skill	7	8	42	81	62	200
11	Team work /team spirit skill & cooperative skill	2	9	62	76	51	200
12	Time management skills (punctual and efficient)	1	11	41	74	73	200
13	Performance skill	7	12	24	72	85	200
14	Innovation & creativity skill	6	14	38	76	66	200
15	Decision-making skill	8	17	24	74	77	200
16	Problem-solving skill	7	15	39	71	68	200
17	Attitude skill	4	12	31	79	74	200
18	Responsibility skill	9	1	30	68	92	200
19	Self-confidence skill	4	1	37	61	97	200
20	Self-directed (Initiative) skill	3	4	41	63	89	200
21	Self-motivated skill	1	6	47	67	79	200
22	Self-managed (Discipline) skill	7	17	26	64	86	200
23	Think and behavioural skill	2	14	21	68	95	200
24	Honest & integrity skill	3	15	28	64	90	200
25	Appreciative skill	6	7	27	61	99	200
26	Adaptable and flexible skill	5	8	37	60	90	200
27	Stress management skill	7	7	39	59	88	200
28	Risk analysis skill	4	6	37	57	96	200
29	Marketing skill/client focus skill	6	9	27	67	91	200
30	Work process management skill	8	7	38	64	83	200
31	Professionalism skill	9	4	39	60	88	200
32	Act strategically skill	10	9	30	58	93	200
33	Focus on outcome skill	11	8	41	57	83	200

Source: Primary Data from the questionnaire

curricula in India lies in their ability to align with industry needs, focus on emerging technologies, offer customization and personalization, provide practical and applied learning experiences, emphasize continuous learning and skill development, and offer a global perspective. With the job market evolving rapidly, online education is expected to play a vital role in preparing individuals for a successful career.

Table 5 provided presents data on the perceived

effectiveness of curricula that include the content of skill development courses for enhancing learning, as reported by a sample of 200 students. The initiatives are divided into ten different areas, and for each initiative, the number of students who strongly disagree, disagree, feel neutral, agree, and strongly agree are provided. To analyze the table statistically, we can examine the distribution of responses for each initiative.

Table 5: Curricula have content of skill development courses and are perceived well by students for enhancing learning (N = 200)

S. No.	Initiatives	Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly agree 5	Total
1	It has innovation & creativity	4	8	41	51	96	200
2	It has theories of skill and entrepreneurship	6	11	42	53	88	200
3	It has marketing skills	7	15	45	61	72	200
4	It has content on how to become a skilled man	2	7	43	67	81	200
5	It has an opportunity recognition method	5	8	46	67	74	200
6	It enhances entrepreneurship and skill characteristics	4	9	44	68	75	200
7	It creates awareness of entrepreneurship and skill tendencies	8	10	42	69	71	200
8	It creates awareness of career options	9	11	42	71	67	200
9	It enhances learning and training styles	10	7	40	72	71	200
10	It makes students equipped in business plan write-up	6	9	52	61	72	200

Source: Primary Data from the questionnaire

Table 6: Hypothesis testing (Pearson's Chi-square test (Test of independence between the rows and the columns (Monte Carlo method)/ Number of simulations)

Hypothesis	Chi-square		DF	p-value	alpha	Test interpretation	Hypothesis acceptance
	Observed value	Critical value					
H-1 Null Hypothesis (H0): There is no significant impact of online degree programs on closing the skills gap and fulfilling job market demands in contemporary India. Alternative Hypothesis (H1): Online degree programs have a significant impact on closing the skills gap and fulfilling job market demands in contemporary India.	152.517	119.918	32	0.000	0.05	computed p-value < significance level alpha = 0.05,	Accept alternative hypothesis, H1
H-2 Null Hypothesis (H0): There is no relevance of online education curricula in meeting the dynamic demands of the contemporary job market in India. Alternate Hypothesis (H1): There is a relevance of online education curricula in meeting the dynamic demands of the contemporary job market in India.	127.24	99.84	37	0.0012	0.05	computed p-value < significance level alpha = 0.05,	Accept alternative hypothesis, H1

In response to the question regarding the role of online degree program curricula in innovation and creativity, only 6% of respondents disagreed, while 20.5% were neutral, and the majority (76%) either agreed or strongly agreed with the statement. Similarly, on the question of the role of online degree programs in developing theories of skill and entrepreneurship, nearly 77% of respondents agreed, and only a few disagreed, with only 21% of respondents remaining neutral.

Regarding the development of marketing skills in students, approximately 70% of respondents agreed that online degree programs played a role, with only 10% of respondents disagreeing and 22% remaining neutral. Most of the respondents (75%) agreed with the statement regarding the role of online degree program curricula in developing content on how to become a skilled man.

On the issue of opportunity recognition method in the curricula of online degree programs, 70% of respondents

believed this statement to be true, while only 23% remained neutral, and 6% of respondents disagreed with the statement. Meanwhile, 70% of respondents believed that online program curricula enhance entrepreneurship and skill characteristics, with 22% staying neutral, and only 5% of respondents argued that online programs did not play any role in developing entrepreneurship skills.

Regarding the creation of awareness of entrepreneurship and skill tendencies, 76% of respondents believed the statement to be true, while 20% stayed neutral, and only 7% of respondents argued that online programs did not play any role in developing such skills. Similarly, 66% of respondents believed that online program curricula create awareness of career options, with 21% remaining neutral and only 11% of respondents argued that online programs did not play any role in developing such skills.

Lastly, approximately 71% of respondents believed that online program curricula enhance learning and training styles, while 20% stayed neutral, and only 10% of respondents argued that online programs did not play any role in developing such skills. Likewise, regarding the development of business plan write-up skills in students, 66% of respondents believed the statement to be true, while 26% stayed neutral, and only 7.5% of respondents argued that online programs did not play any role in developing such skills. This statistical breakdown provides insights into how students perceive the effectiveness of various aspects of the curricula in enhancing their learning through skill development courses.

Both alternative hypotheses (Table 6) posit that online degree programs are expected to have a significant impact on reducing the skills gap among participants. This impact could be manifested in the form of improved job-relevant skill sets, knowledge, and competencies. Participants who enrol in online degree programs are expected to be better aligned with the contemporary labour market demands, particularly in terms of possessing highly sought-after skills, which could significantly enhance their employability. However, a comprehensive analysis is likely to demonstrate that online degree programs produce a range of effects, from direct skill development to potential gains in overall career readiness, adaptability, and job market readiness.

Conclusion

In the rapidly evolving landscape of the global economy, the demand for a highly skilled and adaptable workforce has never been more pronounced. However, a persistent gap exists between the skills employers seek and the skills possessed by the workforce. To address this disparity, online degree programs have emerged as a transformative solution, providing accessible and flexible avenues for individuals to acquire the skills necessary to meet the demands of the modern job market.

Online degree programs have broken down geographical barriers, making education accessible to a diverse range of individuals. This inclusivity is crucial in closing the skills gap as it allows people from various backgrounds, including those in remote or underserved areas, to access quality education. The flexibility of online programs also accommodates working professionals who can enhance their skills without compromising their existing commitments.

Furthermore, online degree programs offer a wide array of courses and specializations, allowing learners to tailor their education to match the specific skills required in their chosen field. This customization ensures that individuals acquire relevant and up-to-date knowledge, directly addressing the skills gap by aligning education with the dynamic needs of industries. Many online degree programs are designed in collaboration with industry experts, ensuring that the curriculum remains aligned with the latest industry trends and requirements. Additionally, these programs often incorporate practical learning experiences, providing students with hands-on experience that directly translates into employable skills.

Traditional higher education can be financially burdensome, dissuading many individuals from pursuing further education to bridge the skills gap. Online degree programs often present a more cost-effective alternative, making education more affordable and accessible. Moreover, these programs facilitate global collaboration and networking opportunities, enriching the learning experience and enhancing professional networks.

However, despite the growing popularity of online degree programs, there is a research gap in understanding their effectiveness in bridging the skills gap and adapting to the demands of a changing labour market, particularly in India. The study aims to evaluate the effectiveness of online degree programs, analyses their ability to prepare students for the workforce and assess the relevance of their curricula in meeting contemporary job market demands.

The findings from the study demonstrate a significant impact of online degree programs on closing the skills gap and fulfilling job market demands in contemporary India. Moreover, the relevance of online education curricula in meeting the dynamic demands of the job market is evident. These results highlight the importance of online education in preparing individuals for success in a rapidly changing and competitive global economy.

Online degree programs have become a crucial factor in addressing the skills gap, providing an inclusive, flexible, and relevant approach to education. As industries continue to evolve, the adaptability, accessibility, and cost-effectiveness of online education make it a key player in ensuring that the workforce remains equipped with the skills demanded by the modern job market. By leveraging the full potential of online degree programs, we can create a workforce that is

not only capable of meeting current industry needs but is also well-prepared for the challenges of the future.

In conclusion, online degree programs play a crucial role in addressing the skills gap and preparing individuals for the demands of the modern job market. By providing accessible, flexible, and industry-aligned education, online programs empower individuals to thrive in their careers and contribute to the continued growth and innovation of the global economy.

References

- Adams, J., Defleur, M. H., & Heald, G. R. (2007). The Acceptability of Credentials Earned Online for Obtaining Employment in the Health Care Professions. *Communication Education, 56*(3), 292–307. <https://doi.org/10.1080/03634520701344959>
- Barczyk, C. C., Hixon, E., Buckenmeyer, J., & Ralston-Berg, P. (2017). The Effect of Age and Employment on Students' Perceptions of Online Course Quality. *American Journal of Distance Education, 31*(3), 173–184. <https://doi.org/10.1080/08923647.2017.1316151>
- Cannon, T. T., Bottomly, G., Griffith, S., Strickland, C., & Williams, B. B. (2014). *Perceptions of Hiring Managers regarding Employment Candidates with earned Online Degrees: Implications for the Employability for Graduates of Online Programs.*
- Engel, C. (2020). The Acceptability of Online Degrees for Obtaining Entry-Level Employment in the Accounting Profession: A Kansas Study. *Global Journal of Accounting and Finance, 4*(1), 16–36. <https://doi.org/10.47177/GJAF.04.01.2020.016>
- Gomathi, Neela, Panchal, Priya, & Tamilselvi. (2022). Future of Online Learning and Its effect on the Job Market- An Empirical Study. *IJFANS International Journal of Food and Nutritional Sciences, 11*(3), 2898–2907.
- Iheduru-Anderson, K. C. (2021). Students' perspectives of factors related to delayed completion of online RN-BSN programs. *BMC Nursing, 20*(1), 53. <https://doi.org/10.1186/s12912-021-00574-7>
- Jeancola, M. M. (2011). *An Investigation into the perception of Online Degrees earned as Credentials for Obtaining Employment in Public Accounting Firms.*
- Kaelin, M. (2024). *Employment Gatekeeper Perceptions of the Acceptability of Online Education: A Generational Transition in Technology and Leadership.* <https://doi.org/10.13140/RG.2.2.10050.76485>
- Mandelbaum, R. M. (2014). Acceptability of Online Degrees in Employer Hiring Practices: *International Journal of Information and Communication Technology Education, 10*(2), 36–49. <https://doi.org/10.4018/ijicte.2014040104>
- Maneotis, S. M., & Warren, C.-L. Q. (2022). The overlooked role of concurrent employment in online graduate education in industrial-organizational psychology. *Industrial and Organizational Psychology, 15*(2), 190–194. <https://doi.org/10.1017/iop.2022.13>
- Neșțian, Ștefan A., Vodă, A. I., Tiță, S. M., Guță, A. L., & Turnea, E.-S. (2021). Does Individual Knowledge Management in Online Education Prepare Business Students for Employability in Online Businesses? *Sustainability, 13*(4), 2091. <https://doi.org/10.3390/su13042091>
- Oguz, F., & Poole, N. (2013). Who do you know? A study of connectedness in online education and employment. *Education for Information, 30*(3–4), 129–148. <https://doi.org/10.3233/EFI-130941>
- Roberto, K. J., & Johnson, A. F. (2019). Employer Perceptions of Online Versus Face-to-Face Degree Programs. *Journal of Employment Counseling, 56*(4), 180–189. <https://doi.org/10.1002/joec.12132>
- Shih, Y.-S., Lee, T.-T., Liu, C.-Y., & Mills, M. E. (2013). Evaluation of an Online Orientation Program for New Healthcare Employees. *CIN: Computers, Informatics, Nursing, 31*(7), 343–350. <https://doi.org/10.1097/NXN.0b013e3182999e11>
- Sinow-Mandelbaum, R. (2014). *Academic Hiring Gatekeeper & Employer Perceptions Of Online Degrees And The Acceptability Of Online Degrees For Faculty And Administrator Employment In Higher Education* [EdD, Illinois State University]. <https://doi.org/10.30707/ETD2014.SinowMandelbaum.R>
- Wilson, S., Gore, J., & Williamson, B. (2022). The Impact of Employment and University Connectedness on the Academic Success of College Students Taking Varying Numbers of Online Courses. *Online Journal of Distance Learning Administration, 25*(1).