

SWAYAM as a Contingency Plan for Future Pandemics

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ABSTRACT

This research aims to explore the SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds) initiative of the Indian government as a contingency plan to prevent the educational damages that transpired worldwide during the COVID-19 pandemic. The secondary data was assiduously analysed to cover all the facets of SWAYAM concerning the courses offered and the number of enrollments. The data is analysed to determine the following aspects of SWAYAM as a contingency plan: learner willingness, institutional involvement, education level dissemination, discipline spectrum, the collection of courses, geographical coverage, and sustainability of courses. The study found the SWAYAM program's feasibility in learner willingness, institutional involvement, education level dissemination, discipline spectrum, and various courses. However, there are discrepancies in the geographical coverage and sustainability of courses. This study concludes the SWAYAM program as a viable contingency plan across India and worldwide during a future pandemic by refining the ambiguities and closing the loopholes. The analysis of this study is broad research that refers only to the SWAYAM project for MOOCs in India. This study attempts to apply the Indian MOOC (Massive Open Online Course) platform, SWAYAM, as a contingency plan for future pandemics and not repeat the colossal damages the educational sector incurred during the COVID-19 pandemic.

Keywords: SWAYAM; MOOCs; OER; COVID-19; Pandemic; Online course; Corona

1. INTRODUCTION

Numerous studies have examined Open OER and MOOCs (Massive Open Online Courses) in economic development contexts. However, only some explore their use for disaster preparedness, like post-COVID-19 Alcorn¹, *et al.*; Hasan & Naskar²; Jena & Jena³. This research investigates SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds) as a contingency plan to mitigate educational disruptions globally during the Pandemic. "SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) is a government initiative to achieve the three cardinal principles of academics: access, equity, and quality. It provides a podium for online education and the contribution of Massive Open Online Courses (MOOCs) across various subjects and disciplines. SWAYAM aims to bridge the digital divide by providing free and accessible learning resources to students, professionals, and lifelong learners. This ensures that quality education is available to all, regardless of geographical location. The platform includes courses from top educational institutions and is designed to facilitate learning through interactive content, assessments, and

certifications". Challenges persist in online education in affluent nations like the United States or emerging ones like Singapore due to infrastructure limitations, including technology access, bandwidth shortages, and inadequate devices for all students within families. Furthermore, hacking, peer bullying, hardware limitations, and copyright concerns need resolution⁴.

MIT's OCW initiative initiated open access to education by sharing course materials online in 2001 Subaveerapandian & Fakrudhin⁵. Similarly, SWAYAM, a part of India's 'Digital India' initiative, employs a MOOC model to provide nationwide ICT solutions, addressing urban-rural education disparities (Swayam Government of India, All India Council for Technical Education, 2017). Developed with support from Google Inc. and Persistent Systems Limited by the Ministry of Education, NPTEL, and IIT Madras, SWAYAM is accessible via web and mobile platforms. It boasts over one million downloads on the mobile platform and a 4.3 rating from 43,000 reviewers, with updates shared on social media platforms like Facebook, Twitter, and Instagram Swayam Central⁶. Education plays a crucial role in national advancement. However, India faces various obstacles, including a need for more quality resources and underperforming institutions compared to global standards.

Consequently, millions of students leave annually for better education opportunities abroad, resulting in a brain drain. Retaining talent is crucial, and India's diverse, democratic education system requires careful oversight Maurya & Ahmed⁷. Despite ongoing challenges, the Pandemic has further disrupted the educational landscape and students' perspectives Yang & Lee⁸.

2. LITERATURE REVIEW

India's dominant demographics enhance its education sector. IIT campuses and select state-funded or private colleges admit high-achieving students. The remainder, above-average, average, and diligent individuals, turn to online education for career advancement, particularly in STEM fields George⁹. Research by Alcorn¹, *et al.* underscores the urban concentration of MOOCs in India. Their findings reveal that three-quarters of Indian MOOC students originate from major cities such as Mumbai, Delhi, Chennai, Bangalore, Hyderabad, Ahmedabad, Pune, Kolkata, and Jaipur. In 2011, these urban centers represented about 6 % of the Indian population.

Additionally, half of all Indian MOOC students come from Mumbai, Delhi, or Bangalore, restricting access to affluent populations. As global internet penetration, broadband connectivity, and multimedia platforms expand, the popularity of web-based and mobile learning systems grows. India leads online education consumption, constituting a significant market Mohapatra & Mohanty¹⁰. SWAYAM, gaining momentum in India and abroad Paul¹¹, *et al.* stands for Study Webs of Active Learning for Young Aspiring Minds, an Indian government initiative promoting access, equity, and quality education.

SWAYAM offers courses from ninth grade to postgraduate level, featuring interactive online instruction by top Indian educators. Its four-quadrant approach encompasses online sessions, downloadable literature, self-assessment materials, and discussion forums. By bridging the digital divide, SWAYAM empowers students excluded from the knowledge economy. The portal is freely accessible for study, with optional certification for a fee. Nine National Coordinators oversee education delivery to meet diverse learner needs Swayam Central¹².

School Education:

- NCERT has eight partnering institutes for school education.
- NIOS has one partnering institute for school education.

Out-of-School Education:

- IGNOU for out-of-school students with 3partnering institutes.
- NITTTR for Teacher Training program with three partnering institutes.

Under-Graduate Education:

- CEC has 19 partnering institutes for undergraduate education.
- AICTE for self-paced and international courses with seven partnering institutes.

- NPTEL for Engineering with 26 partner institutes.
- IIMB for management studies with three partnering institutes.

Postgraduate Education:

- IIMB for management studies with three partnering institutes.
- UGC for non-technical post-graduation education with 133 partner institutes.
- AICTE for self-paced and international courses with seven partnering institutes.
- NPTEL for Engineering with 26 partner institutes.

ARPIT, an online initiative launched in 2018 on the SWAYAM platform, targets academics. Another MHRD effort, E-PG Pathshala, supervised by UGC, offers enhanced e-content in seventy subjects across all fields. However, MOOCs are less prevalent in India than in the United States, South Korea, and China, with limited awareness among specific demographics. The COVID-19 crisis has expedited the shift from offline to online teaching methods in education, prompting even traditionally resistant institutions to adopt modern technologies.

The transition to online education, particularly during the COVID-19 pandemic, has highlighted significant disparities in access to digital resources, as stated by Alieto, E¹³, *et al.* The regions with better-developed digital infrastructure, such as major urban centers, experienced a smoother shift to online learning, facilitating greater student engagement with platforms like SWAYAM. In contrast, less-developed areas, especially in rural or economically disadvantaged regions, faced substantial barriers to full participation due to limited access to technology and internet connectivity. Lakshmi & Urkude¹⁴ suggested that the digital divide is a critical factor influencing the effectiveness of online education initiatives.

The disparity between pandemics and epidemics lies in their scale and severity. Pandemics, unlike epidemics, encompass widespread infectious agents, as evidenced by historical pandemic influenza outbreaks. Future outbreaks' timing and severity are not arbitrary. The SARS outbreak emphasised social isolation, interpersonal distancing, and minimizing social interactions Maunder¹⁵, *et al.* highlighting key prevention and control principles. This occurrence is a cautionary tale, emphasising the importance of effective responses to infectious disease outbreaks and ongoing global concerns regarding emerging infectious diseases and potential new occupational illnesses. Despite decades of infectious disease outbreaks, nations remained unprepared for the COVID-19 pandemic crisis. With fresh perspectives, it is crucial to bolster readiness for similar events. Costly errors must be averted, and lessons from past experiences must be heeded Koh & Sng¹⁶.

A pandemic's economic impact may disproportionately affect minority communities, especially in diverse nations. These groups face various economic, social, cultural, educational, and linguistic barriers Hutchins¹⁷, *et al.* Despite its necessity, the COVID-19 pandemic has worsened educational access for these communities. It

is crucial not to ignore these research findings but to consider them for future readiness. Researchers must develop treatments during pandemics and share information through academic publications Seynaeve¹⁸. Effective communication, as advocated by Reynolds and Quinn¹⁹, is crucial during outbreaks, benefiting society, media, caregivers, and stakeholders for swift responses. Key communication concepts like message alignment and providing accurate information should be prioritised in pandemic readiness. People require information on known and unknown pandemic risks and interim guidance to make informed safety decisions. Hence, having a large-scale governmental initiative like SWAYAM is essential as a backup plan to minimize disruptions in education for younger generations and the sector during future pandemics or similar crises.

Kumar and Mahendraprabu's²⁰ study found widespread SWAYAM program usage across educational levels, especially in universities, highlighting sparse subject-specific courses for research scholars. SWAYAM, an Indian MOOC platform, offers open online courses that can boost national literacy levels, as indicated by Bordoloi²¹, *et al.* Yang and Lee²² propose that MOOCs positively influence learner performance, emphasising the necessity of learner engagement and effective strategies. Ivone²³, *et al.*

Stress the importance of acquiring diverse skills and mental traits like ICT proficiency, collaboration, curiosity, and adaptability to maximize benefits. Chu and Li²⁴ note the significant advancement of Higher Education through online education, prompting colleges to integrate internet-based learning and information dissemination services. SWAYAM initiatives, providing online training for continuous education, have been crucial amidst reduced student enrollment due to the Pandemic. Jena and Jena's²⁵, examination of engineering and technology courses on SWAYAM during the COVID-19 crisis highlights the necessity of physical spaces for effective teaching and learning in these fields despite notable interest among learners in online courses.

3. METHODOLOGY

For genuine authenticity, the information for the current study was obtained directly from the SWAYAM website. The information gathered meticulously transformed into an apprehensible format. There are two data collection periods: January 2019 to December 2019 and January 2020 to December 2020. The two periods give information on utilising the SWAYAM. They have offered courses all over India pre-pandemic and during the Pandemic. The research focuses on the number of courses provided on SWAYAM by its coordinators and their respective partnering institutes, the number of students enrolled, and the data linked to these variables-the study further zooms in on various subject categories at different education levels. The type of courses was classified in a broader framework for rudimentary understanding. The states and universities that offered the classes on the SWAYAM platform were also identified under six significant zones.

4. ANALYSIS

The secondary data was assiduously analysed to cover all the facets of SWAYAM concerning the courses offered and the number of enrollments. The reason for explicitly selecting the courses and enrollments is to check the coverage of the SWAYAM initiative. The range of course availability reflects the approachability of the program. In contrast, enrollments reflect the willingness of enrollees to avail themselves of the opportunity. The more comprehensive the coverage, the better the program may be employed as a contingency plan in future pandemics. Otherwise, identified gaps can be filled in by necessary actions. From the available information on the SWAYAM portal and after thorough screening, descriptive data is determined for the study. The descriptive data for 2019 and 2020 is displayed in Table 1.

Table 1. Descriptive data

S. No.	Variables	Year	
		2019	2020
1	Enrollments	3,41,776	3,32,277
2	Type of institute	05	04
3	Number of courses	99	90
4	Education level	05	07
5	Subject category	03	03
6	Course type	03	03
7	States	19	15

Source: <https://onlinecourses.swayam2.ac.in/>

The data is analysed to determine the following aspects of SWAYAM to be critically considered as a backup plan:

- Learner willingness
- Institutional involvement
- Education level dissemination
- Discipline spectrum
- Miscellany of courses
- Geographical coverage
- Sustainability of courses

The factors mentioned above were analysed with the available secondary data to understand the SWAYAM initiative as a prospective contingency plan in case of a future pandemic.

4.1 Learner Willingness

The willingness of the learner is just as vital as the service offered. Demand, as explained in introductory economics, denotes a willingness to pay. For programs to be in demand, the learner must be willing to spend time, energy, and money. The total number of students enrolled in 2019 was 3,41,776; in 2020, this became 3,32,277. There is an apparent fall in the number of registrations, indicating that there are loopholes, as displayed in Fig. 1.

4.2 Institutional Involvement

The type of institute obliged to offer courses on a digital platform is the second factor considered for the

present study. Consideration of this factor is prominent as the main objective of SWAYAM is to reach the remotest students who need help to avail themselves of quality education and participate in the information age.

Table 2 depicts intriguing statistics for this factor in both years. Notable players in STEM fields were keen participants in 2019 but receded the following year. Conversely, new initiatives progressed in training and research. The data vividly illustrates universities' primary contribution to SWAYAM's digital platform. Additionally, Table 2 outlines student enrollments for courses offered by six categorised institute types. In 2019, enrollments were fewer (n=322) in medical science courses (as provided by All India Institute of Medical Sciences), dropping to zero the following year. A similar trend is observed for courses offered (n=25697) by the Indian Institute of Management and TATA Institute of Social Sciences. Notable fluctuations are also evident in student enrollments for courses provided by universities, technology institutes, training and research institutes, and autonomous institutes.

4.3 Education Level Dissemination

Education level dissemination shows how SWAYAM courses can accommodate the demands of the enormous Indian population, as evidenced by their widespread distribution at the educational level. Table 3 shows how the courses were grouped into seven tiers. Analysis of academic levels is needed to ascertain the platform's suitability as a contingency plan during a pandemic. The more approachable, the better the strategy will be carved. Table 3 lists the courses available at different academic levels and their respective enrollments at various levels of learning.

There are significant differences in education levels when comparing the data from 2019 and 2020. Nonetheless, enrollments decreased in 2020 but were dispersed at different levels relative to 2019. The overall assessment reveals the prominence of undergraduate and post-graduation courses. Undergraduate and postgraduate courses accounted for 50% of all courses offered in both years, with 85 in 2019 and 64 in 2020. Courses at the school and UG/PG levels were unavailable in 2019. However, there were good courses in 2020 (School=07; UG/PG_N=08). Even though school courses and UG/PG programs were more limited, 33,531 and 25,694 enrollments were encouraging.

4.4 Discipline Spectrum

Another element highlighted in this study is the discipline spectrum. The purpose of this variable is to examine the subject categories available on the SWAYAM platform. The three categories identified are pure, social science, and multidisciplinary subjects. Pure sciences necessitate laboratories and hands-on experimentation, whereas social sciences necessitate social interaction to comprehend better and apply theoretical insights. However, multidisciplinary is a combination and thus involves both. Table 4 shows the data on subject categories, respective courses offered, and the number of enrollments during 2019 and 2020.

The above table depicts the dominance of social sciences in 2019, with 2,64,619 students enrolled in 68 courses compared to 50,848 students in 24 pure science courses. There were only seven multidisciplinary courses, with a total enrollment of 26,309. Pure sciences rose from 24 to 27 courses in 2020, reaching 98,735. However, the number of social science courses had decreased to

Table 2. Institutional involvement

S. No.	Type of institute	Courses offered during the year		Number of enrollments	
		2019 (n=99)	2020 (n=90)	2019 (n=3,41,776)	2020 (n=3,32,277)
1	Institute of medical sciences	01	–	322	–
2	Institute of business studies	05	–	25697	–
3	Institute of technology	03	03	5241	4682
4	Autonomous institute	01	06	2258	6973
5	Training and research	–	04	176	24214
6	University	89	77	308082	296408

Source: <https://onlinecourses.swayam2.ac.in/>

Table 3. Education level

S.No.	Education level	Courses offered during the year		Number of enrollments	
		2019 (n=99)	2020 (n=90)	2019 (n=3,41,776)	2020 (n=3,32,277)
1	Certificate	01	01	343	5,555
2	Diploma	04	02	7,654	2,392
3	Under graduation (UG)	49	39	1,55,753	1,38,315
4	Post-graduation (PG)	36	25	1,53,099	1,07,962
5	Continuing education	09	07	24,927	18,828
6	Schooling	-	07	-	33,531
7	UG/PG	-	08	-	25,694

Source: <https://onlinecourses.swayam2.ac.in/>

51, with 1,90,142 student enrollment. The number of students enrolled in multidisciplinary courses increased to 43,400 with 12 Courses.

4.5 Miscellany of Courses

Another crucial aspect considered in the study is the miscellany of courses. This factor analysed the various courses offered collectively by the coordinators. The secondary data shows a difference between the years studied, i.e., 2019 and 2020. Fig. 2 displays the number of courses provided in 2019, which was 99, and was lowered to 90 in 2020. The courses offered cover a vast range, but they are non-repetitive. In other words, the courses offered in 2019 were not repeated in 2020; instead, a whole new set of courses were offered. Not only did the courses change, but many institutions changed as well. Few new institutions started offering courses on the digital platform, while many old ones ceased.

4.6 Geographical Coverage

The Indian subcontinent is both extensive and densely populated. India constitutes 28 states and eight union territories. These can be classified into six zones: north, south, east, west, central, and northeastern India. To simplify the complexity of data, use Zonal Maps of India | India Zonal Map²⁶. The increased geographic coverage ensures student approachability, enabling the SWAYAM platform as a contingency plan for future pandemics. Table 5 displays the zone-wise data on the number of courses SWAYAM offers and the number of enrollments during 2019 and 2020, respectively.

The data highlights the dominance of the south zone in 2019 in courses offered, with the north zone following closely behind at 40 and 27, respectively, a pattern that surprisingly reversed in 2020, with figures of 41 and 23, respectively. The west zone declined from 15 courses in 2019 to 13 in 2020, while the central

area maintained seven consistent courses throughout both years. An improvement in the east zone is evident, with an increase from four classes in 2019 to six in 2020, though not particularly noteworthy. Conversely, the northeastern area started well with six courses but experienced a complete drop-off in 2020.

When turning to enrollment numbers in 2019 and 2020, the south zone led with total enrollments of 157,539, while the north zone had 102,980 registrations. In 2020, the situation reversed, with the north zone taking the lead with 155,985 total enrollments and the south zone plummeting to only 97,210. However, the western zone experienced increased registrants despite the fewer courses offered. Despite reducing courses in 2020, total enrollments in the west zone rose from 35,973 to 41,293. Intriguingly, enrollments in central India rose from 13,399 to 21,440 while the number of courses offered remained constant. With just two additional courses, enrollment in the east quadrupled from 5,934 to 16,349 students. Unfortunately, the northeastern region had no enrollments due to courses being unavailable. Zone-wise enrollments for 2019 and 2020 can be illustrated using India's zonal map (Fig. 3).

4.7 Sustainability of Courses

The sustainability of courses discusses the future potential of courses offered on the SWAYAM platform. Although the education is free and available online, these courses should be able to provide a source of income. Because students expend their time, energy, and money to obtain a certificate, these courses must be feasible enough to provide employment opportunities. All 2019 and 2020 courses were divided into three categories for ease of use: core, elective, and NA. The core category includes fundamental subjects, the elective category includes alternative optional subjects picked by the learner, and the NA category includes neither core nor

Table 4. Subject category

S. No.	Subject category	Courses offered during the year		Number of enrollments	
		2019 (n=99)	2020 (n=90)	2019 (n=3,41,776)	2020 (n=3,32,277)
1	Pure science	24	27	50,848	98,735
2	Social science	68	51	2,64,619	1,90,142
3	Multidisciplinary	07	12	26,309	43,400

Source: <https://onlinecourses.swayam2.ac.in/>

Table 5. Geographical coverage

S. No.	Zone-wise classification	Courses offered during the year		Number of enrollments	
		2019 (n=99)	2020 (n=90)	2019 (n=3,41,776)	2020 (n=3,32,277)
1	North	27	41	1,02,980	1,55,985
2	South	40	23	1,57,539	97,210
3	East	04	06	5,934	16,349
4	West	15	13	35,973	41,293
5	Central	07	07	13,399	21,440
6	Northeastern	06	0	25,951	NA

Source: <https://onlinecourses.swayam2.ac.in/>; *NA: Not Applicable

elective subjects. These are related to refresher courses and action research courses in content. Table 6 shows classified courses and their respective enrollments, which are analysed.

According to the figures, the number of courses offered increased from 55 to 64 in 2019 and 2020, respectively. Further, the enrollments also rose from 1,74,729 in 2019 to 2,12,424 in 2020, indicating positive growth in core courses. The number of elective courses has shrunk from 35 to only 16, and registrations have plummeted from 1,44,203 to 73,037 for 2019 and 2020, respectively. The NA category increased the number of courses from nine to ten and the number of students enrolled from 22,844 to 46,816, a significant rise.

5. RESEARCH FINDINGS

The analysis of SWAYAM data for 2019 and 2020 highlights critical insights into its role as a contingency plan for future pandemics. Despite the overall decrease in enrollments from 3,41,776 in 2019 to 3,32,277 in 2020, the adaptability and scope of the platform reveal areas of strength and improvement. The decreasing enrollments suggest the need to address gaps in accessibility, awareness, and course relevance, particularly in medical and business studies, which saw a significant decline in offerings. Institutional involvement is pivotal to SWAYAM's expansion. Universities emerged as the primary contributors, accounting for most courses and enrollments in both years.

However, the sharp reduction in participation from specialised institutes, such as those in medical sciences and business studies, underscores the necessity to diversify institutional partnerships to ensure a broader subject spectrum. Education level dissemination reflects SWAYAM's capacity to cater to different academic tiers. Undergraduate and postgraduate courses dominated, constituting 50% of the total offerings. However, introducing schooling and UG/PG hybrid courses in 2020 signals SWAYAM's flexibility in addressing educational needs beyond higher education, which is essential for comprehensive digital learning strategies. The discipline spectrum analysis reveals a shift towards pure sciences and multidisciplinary courses in 2020, contrasting with the previous dominance of social sciences.

This shift highlights the evolving educational demands and the necessity for SWAYAM to balance theoretical and practical disciplines to ensure holistic learning experiences. Geographical coverage data accentuates disparities across Indian zones. The south zone led in 2019 but surpassed the north zone in 2020, indicating

fluctuating regional engagement. The lack of enrollments from the northeastern region in 2020 suggests infrastructural or logistical challenges that must be addressed to ensure equitable access. Course sustainability analysis suggests that core courses experienced positive growth, with enrollments rising from 1,74,729 in 2019 to 2,12,424 in 2020. Conversely, elective courses witnessed a steep decline, indicating the need to reassess the relevance and attractiveness of optional subjects. The NA category, representing action research and refresher courses, saw notable growth, underscoring the demand for professional development and continuous learning.

6. DISCUSSION AND CONCLUSION

MOOCs, termed a “digital tsunami” by Stanford's former president, could disrupt traditional university education, accentuating their global impact. Mohapatra and Mohanty²⁷ studied MOOC adoption among Indian learners, emphasizing learner skills, usability, availability, affordability, educator reputation, and program recognition. Following similar criteria (coordinators institute, respective partnering institutes, the number of students enrolled, and the data linked) are used as variables to identify and assess the SWAYAM program's crisis contingency potential, including COVID-19 Subaveerapandiyan & Fakrudhin²⁸. Enrollment decline from 2019 to 2020 might be due to pandemic disruption, worsened by awareness and preparedness gaps. Koh and Sng²⁹ suggest using this challenge to shape future crisis protocols. Despite this decrease, a minor enrollment drop indicates student readiness for online learning transition. Institutional engagement, highlighted by Kundu and Bej³⁰ cites issues like inadequate infrastructure and low pass rates in India's online education. To tackle these, reputable institutions must ensure standardised educational norms. Elite establishments like AIIMA and TISS withdrew in 2020, reasons undisclosed, necessitating further inquiry. The previous year, prestigious medical and business schools initially embraced the change. Consistency is crucial for learner confidence due to yearly course offering inconsistencies. Climate crises affect all demographics equally, demanding equal attention. SWAYAM's educational dissemination, regardless of age, gender, or academic status, surged significantly from 2019 to 2020, covering school-level education to continuing education programs. In 2019, five levels were offered, with two more added the following year, indicating vast outreach potential. Maurya & Ahmed³¹ suggest that India's diverse education system could be unified through SWAYAM.

Table 6. Type of course

S. No.	Type of course	Courses offered during the year		Number of enrollments	
		2019 (n=99)	2020 (n=90)	2019 (n=3,41,776)	2020 (n=3,32,277)
1	Core	55	64	1,74,729	2,12,424
2	Elective	35	16	1,44,203	73,037
3	NA	09	10	22,844	46,816

Source: <https://onlinecourses.swayam2.ac.in/>

The “Discipline Spectrum” analysed comprehensive pure science, social science, and multidisciplinary courses. Notably, pure sciences saw increased enrollment by 47,887 due to a slight course increase. In contrast, social sciences declined by 74,477 due to fewer courses. This trend underscores students’ preference for pure sciences, emphasising the need for institutional involvement. To tackle infrastructure challenges like bandwidth, SWAYAM coordinators should prioritize lab access, especially for marginalised students, to enhance virtual learning effectiveness Ivone et al.³²; Rizvi & Nabi,³³. Despite this, social sciences maintain satisfactory performance regarding learner enthusiasm and institutional involvement. An analysis of 2019 and 2020 courses revealed no repetitions, offering both advantages and disadvantages to learners. On one hand, unique courses reduce overcrowding, yet learners cannot update their knowledge. The absence of repetition also signifies the wide course variety SWAYAM coordinators provide. Additionally, 30 institutes ceased offering courses in 2020, while 20 new institutes joined, prompting discussion on consistency in earning learners’ trust.

The geographical scope shows program accessibility for Indian learners, especially given India’s large youth population. A digital platform efficiently reaches diverse demographics. Data indicates regional disparities, highlighting neglected areas despite pandemics. An examination is vital for bridging gaps and strengthening SWAYAM as a reliable option. Course sustainability gauges opportunities, focusing on access, equity, and quality principles. Quality affects job prospects; productive learning is crucial. Enrollment in core and elective courses is satisfactory, but their relevance needs evidence, requiring further investigation. This study, in line with Kumar and Mahendraprabu³¹, suggests that SWAYAM can enhance literacy by refining courses nationally and globally.

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