Exploring Some Facets of Distance Education in India: Enrollment Dynamics, Institutional Imperatives and Policy Implications

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Abstract:

The present paper highlights some emerging facets and policy perspectives of distance education in India. With the ever-increasing need to achieve the target of higher gross enrolment ratio, better employability and trained manpower in the country, the paper underlines the ways in which distance education is serving as a crucial catalyst between the learners and teachers. Using statistical tools like the Correlation and Regression Analysis, the paper pinpoints the relevance and interconnectedness of some factors related to Distance education and their implications with respect to governance of HEIs in India. Based on the findings, the paper suggests certain policy considerations for making distance education more effective amidst the growing need for distance education in India.

Key Words: *Distance education, gross enrolment ratio, higher educational institutions.*

Introduction:

Educational institutions have widely been recognized as critical components of the teaching-learning ecosystem which facilitates the development of an economic system based on an innovative ecosystem contributing substantially to the development of the human capital of any country (Tolstykh et al., 2021). The higher educational institutions or HEIs are regarded to be the epicenters of skill orientation, enhancement and upgradation or imparting employability among the graduates who intend to join the labour market. At the time of independence, there were only 20 universities and 500 colleges to cater to the needs of approximately 2.0 lakh students in India. With the passage of time, a significant up surge has been witnessed in the learning community to pursue higher academics in India. A report released by All India Survey of Higher education (AISHE) of 2021-2022 indicates that there are around 1168 universities and 45473 colleges which resulted in considerable increase in Gross Enrolment Ratio (GER) compared to the recorded GER ratio in previous years. The GER in 2021-2022 has increased to 28.4 percent in comparison to 23.7 in the year 2014-15. One of the major reasons behind this noteworthy trend can be assigned to thesignificant growth in the growth of academic institutions offering learning programmes and courses in distance mode to the students, often called distance education in common parlance. Distance learning or DL, offers learning opportunity to the students mainly in form of self-study through learning materials and occasional physical interaction between the teacher and the learner (Kubikova et al., 2024).

The first instance of any individual or an organization offering education or training lessons was performed by Caleb Phillips via US mail to the students in Boston (Clark, 2020). With the passage of time, several other countries in Europe and USA adopted the Distance Learning model for imparting education and training to the intended students and learners. Owing to multiple benefits, the distance education system has been effective in view of the flexibility in teaching and learning, reducing the requirement for physical presence in class, learning in comfortable environment, etc. It has gained wide recognition and acceptance, particularly during the period post global pandemic (Duan et al., 2024). The model can offer significant benefits to the countries which have deficient or low student enrollment ratio. In this context, distance education system is gaining momentum in recent years in India wherein, after the implementation of NEP, or New Education Policy (2020),

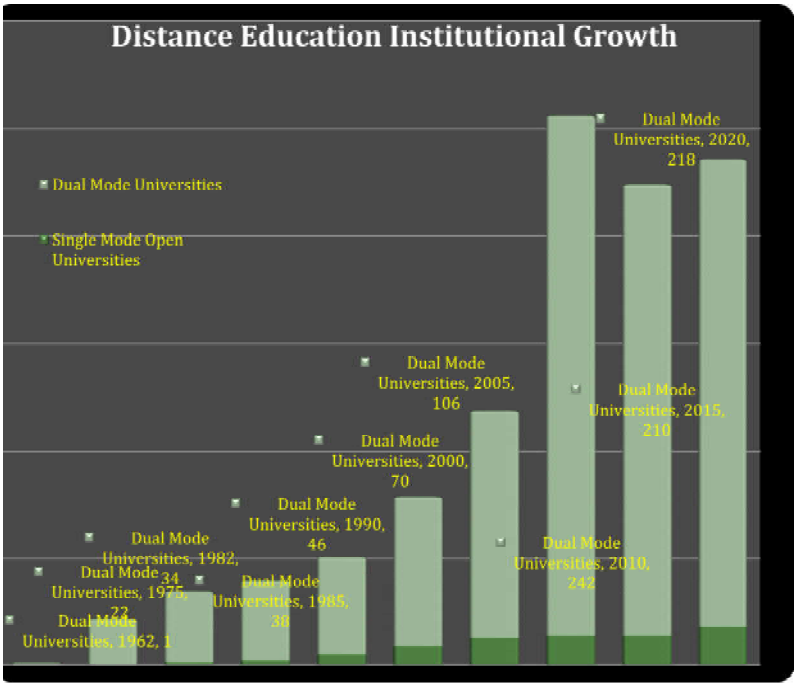
the government nurtures the ambition to enliven the Gross Enrollment Ratio (GER). The government intends to achieve the goal of 50% higher education enrollment in upcoming times for which around 2500 higher educational institutions will be required (Siddique, 2024). Considering the GER which is around 29% in current year, the goal of achieving 50 percent GER can be achieved through emphasizing more on distance education which can have better penetration among the student fraternity. In this context, there is need to undertake appropriate policy formulations associated with the governance of HEIs. According to a reliable data source, out of the total enrolment of around 433 lakhs students in higher education, around 387 lakhs are through regular course in present year. This indicates that around distance education contributes to around 11% of total gross enrolment presently. In order to attract more learners, the focus shall be on expanding for distance education in India (Itegi, 2016). It is to be noted that distance education is still at its nascent stage in India and waiting to evolve completely. The ecosystem of distance education in India lacks coordinated policies and efforts which needs sincere addressing mechanisms to make it widely recognized and accepted by the different stakeholders of the society. There still remain certain concerns like infrastructural development, placements, self-regulation related to teaching and learning in the field of distance education in the country (Aheto et al., 2024). With the above considerations in mind, the present paper explores the emerging facets of distance education in India with respect to institutional imperatives, enrollment dynamics and policy implications and for HEIs and Regulators associated with distance education.

Literature Review: With the rapid technological and digitization initiatives underway along with the shifting changes in the market demands, the global education scenario is facing enormous challenges to ensure accessibility of the educational institutions to the students and learners without involving an increased financial budget. This ever-increasing demand between the need and demand between the learners and educational institutions can be addressed through a well-developed ecosystem of distance education. Distance education remains a teaching pedagogy where education gets connected to the learners through the use of technology keeping aside geographical barriers and physical presence (Aheto et al., 2024). This method encompasses occasional face to face interaction during flexible working hours or as per the needs of the students who mainly rely on self-study materials for their progress towards

updating their academic knowledge (Abakah et al., 2023). There are assertions and assumptions that distance education has the potential to ensure equality in education and alleviate poverty if funded and managed properly (Mnyanyi, 2009). It has been accepted to ensure social justice in academic practice due to the accessibility and flexibility offered for the benefit of the students (El-Sbahi et al., 2024). The model is most suitable for non-traditional and slow-learners who wish to get education without attending regular classes (De La Varre et al., 2010). Empirical evidences exist highlighting positive perception and attitude regarding learning materials supplied to the distance education when compared with regular courses(Martin & Rainey, 1993). Also, the performance of the students pursuing distance education was also found to be higher across different tests as compared with regular students (Souder, 1993). However, feelings of isolated learning and high attrition rates are critical issues in the context of distance education (Roblyer, 2006). This becomes all the more important for countries moving forward on the development trajectory where the infrastructure and policies for proper implementation of distance education is not up to the mark. Since India suffers from certain technical constraints like internet connectivity and bandwidth issues along with affordability of tech-savvy devices, distance education from this perspective can cater to the growing needs of teachers and learners even in the farthest corners in the country (Muthuprasad et al., 2021). While gross enrollment ratios suffer from deficit in developing countries, the fragmented infrastructure prevents the intended learners to pursue degree of their choice. Alongside are other factors like language barrier, distance, accessibility and affordability, etc. which hinder the learners to enroll and pursue higher education programmes. In this context, distance education courses are found to be extremely helpful for the students and learners who for different reasons like time and money constraints, willing to learn at their own pace and according to their pace, are unable to attend regular classes. However, for this to happen, several policy considerations are required in terms of efforts from responsible agencies or institutions, teachers and higher educational leaders. A holistic approach can only deliver fruitful results towards making distance education more effective within the existing framework of educational system.

Distance Education and Learning Scenario in India: Distance education has emerged as a significant and effective teaching learning pedagogy amidst

the educational landscape of India owing to its characteristics of transgressing geographical boundaries and reaching out to learners who suffer from financial and time constraints. The mode of education has been significantly offered benefits for a country like India which is marked by geographical, financial and socio-economic and digital disparities. In recent years, distance education has gained wide acceptance among the learners aspiring to acquire degrees in the field of professional education. At present, there are 1168 Universities in India. Out of these, 423 are State Public University, 391 are State Private University, 153 are Institutes of National Importance, 81 are Deemed University- Private, 53 are Central University, 33 are Deemed University-Government, 16 are State Open University, 10 are Deemed University-Government aided, 6 are Institute under State Legislature Act, 1 is State Private Open University, and 1 is a Central Open University (AISHE, 2022). Higher education framework of India is mainly comprised of academic institutions running courses in regular mode and distance education as a distinct mode was introduced as correspondence course in 1960s when the need for extending education to the rural and deprived communities was felt by the policymakers (Carr-Chellman, 2005). Motivated by the positive responses it received, the Government of India opened the first University exclusively for Distance Education in 1990s in India and named it as IGNOU, popularly called Indira Gandhi National Open University. Since its inception in the year 1962 in form of correspondence course and establishment of IGNOU in 1990s, distance education has received great emphasis and impetus in the country by the policy makers and as a result, distance education has become one of the hallmarks of Indian education system owing to around 17 lakhs of students exploring their career in higher education through distance education mode with support from around 100 Directorates of Distance Education functional under 100 Dual Mode Universities (UGC, 2019). There are basically two type of universities offering distance mode programmes such as single mode university both National and State level and dual mode universities or institutes. The following figure presents a trajectory of the growth of distance education in India.



(Source: https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/aishe_eng.pdf)

The projections provided above highlight the trend of steep institutional growth in distance educations after 2000. From the chart it is clear that nearly 50% growth is registered from 2000 to 2005 and also around 55% growth has been observed during the period 2005 to 2010. Slight decrease in the number of institutions offering distance education is being observed since 2010 as the quality parameters of the distance mode programmes and courses have become much more stringent. Till 2019, the total enrolment of learners enrolled in distance education was roughly around 10.62% of total enrolment which in other way indicates the room for improvement vis-à-vis the state of affairs in distance education in India (Roy & Brown, 2022). The table 1 presented below provides the state-wise distribution of dual mode Universities in India.

Table 1

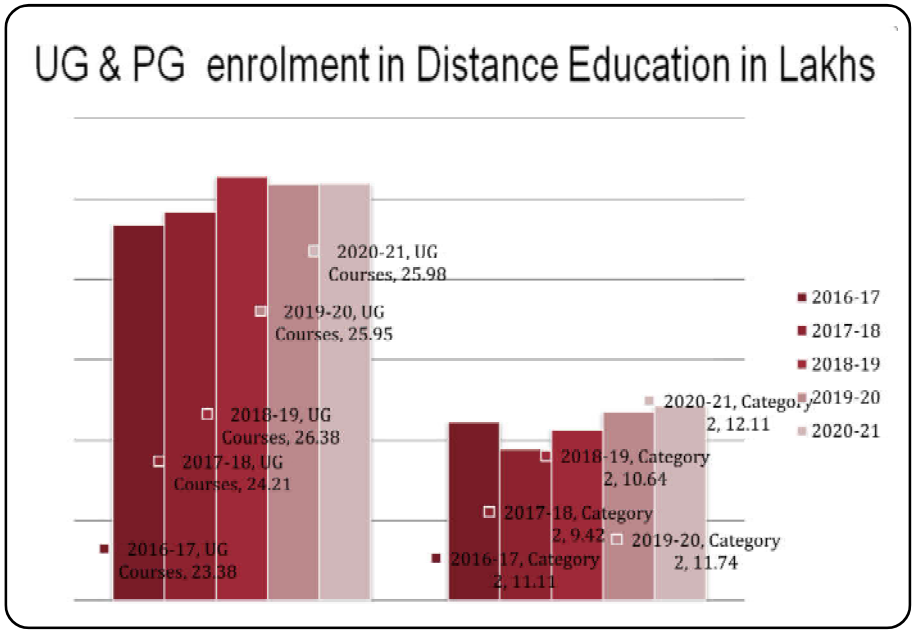
State-wise Dual Mode Universities in states (No. in each State)	
Tamil Nadu	13
Andhra Pradesh, Karnataka	8
Telangana, West Bengal	7
Maharashtra, Madhya Pradesh, Uttar Pradesh	6
Assam, Delhi, Kerala, Rajasthan	5
Haryana	4
Bihar, Punjab, Sikkim, Uttarakhand	3
J&K, Odisha, Chhattisgarh	2
Arunachal Pradesh, Chandigarh, Gujarat, Himachal Pradesh, Nagaland, Puducherry, Tripura	1

(Source: https://www.education.gov.in/sites/upload_files/mhrd/files/statistics-new/aishe_eng.pdf, page. 28)

It is evident from the above table that the variation in dual mode universities in India signifies the variations in educational infrastructure, technological preparedness, state-specific educational policies etc. It has been observed that some states have pursued more progressive approach to flexible learning options by facilitating dual mode universities. Furthermore, the increasing number of dual mode universities signifies a growing trend towards flexible and accessible higher education ecosystem across India, thereby accommodating diverse student needs and learning preferences vis-à-vis macro-level human resource development approaches through higher education.

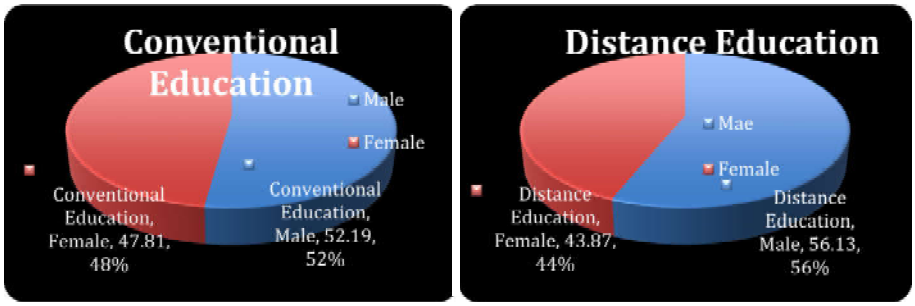
As per the All India Survey on Higher Education Report 2021-22, around 45.61 lakh learners are pursuing their higher education through distance education offered by different Universities across India. Out of this, 64.7 % are undergoing Under Graduate education while 26.6 % are pursuing PG level education. 47.3% of the entire University enrolment is attributed to distance education. Out of this 45.61 lakh learners, 20.06 lakh are female students and 25.67 belong to male learner population. Below graph highlights the total enrolment of students to both UG and PG programmes in India.

Graph 2



The above figure underlines the trend of steady growth of students from 2016-17 to 2018-19 and then there is a dip in the enrolment number 2019-20 and which is maintained in the year 2020-21 also. But in case of PG enrolment numbers there is a dip in the year 2017-18 in comparison to 2016-17 enrolment number but after that it has witnessed a constant and steady growth in next three years i.e. from 2018-19 to 2020-21.

Graph 3



From the above figure it is clear that the gender ratio in conventional education (Male : Female : 52.19 : 47.81) is almost equal to that in distance education (Male : Female : 56.13 : 43.87). In this context, it can be averred that distance education provides female students to study at their own home while balancing education with household activities, child care and workplace. It also helps in bridging the gender gap in higher education and employment opportunities.

With a view to regulate distance education in India, the University Grants Commission implemented the regulation regarding Open and Distance Learning Programmes and Online Programmes in 2020. The primary purpose behind the implementation of the statute was to achieve the vision and mission of New Education Policy 2020 which intends to achieve the total GER of 50 percent by 2025. Alongside, the statute also aims to bring quantitative and qualitative improvements and significant facelifts in distance education. However, employment prospects remain a primary and one of the critical concerns for concerned stakeholders of distance education in the country. There are concerns among the learning fraternity regarding the validity and acceptability of the programmes and courses by the employers in the job market. Their concerns are genuine and need to be addressed by establishing the fit between the courses offered and the industry requirements. Distance education, though offers flexibility and autonomy while pursuing any course, but “no physical interaction” often results in limited understanding or upskilling of learners related to any topic or concept. The learners completely rely on Self Learning Material (SLM) for clearing their doubts

and understanding critical concepts. So, in some sense, distance education should inculcate critical thinking among the learners. Critical thinking remains one of the fundamental pillars of educational system of any country. Critical thinking promotes innovativeness and entrepreneurial spirit which is a prerequisite to develop human capital of the country. India, along with China, is one of the emerging markets of the world. To improve the sustainability of economic growth, it is an absolute necessity that India does not fall short of skilled manpower. The distance education system in India shall be revised to meet the skill gap and ignite the entrepreneurial spirit among the learning population so as to reap the advantages of manpower it has. Synchronous approaches personal interaction and hands on training shall be made a compulsory part for courses for promoting employability. India is a country with diversified languages and cultures. Distance education is still offered in English or Hindi or some other language which has majority speakers. The learners from rural and hinterlands of the country find it difficult to make an adjustment with the language barriers which result in high attrition rates. Policies should be placed ensuring appropriate representation of different languages towards delivery of learning lessons to the students and learners. In this perspective, the internet accessibility has a critical role to play. Internet connectivity will address the issue of hands-on training and online interactions in courses requiring physical interaction. However, India is deficit in terms of reliable internet access and connectivity across the country. In other words, the country suffers from widening digital divide with also affects learning among the learners. Below table highlights the status of internet and telephone connectivity in urban and rural India.

Table 2

Particulars	Wireless	Wireline	Total (Wireless+ Wireline)
Broadband Subscribers (Million)	884.01	40.06	924.07
Urban Telephone Subscribers (Million)	634.47	30.92	665.38
Net Addition in March, 2024 (Million)	-1.64	0.62	-1.02
Monthly Growth Rate	-0.26%	2.06%	-0.15%
Rural Telephone Subscribers (Million)	531.02	2.88	533.90
Net Addition in March, 2024 (Million)	2.49	0.06	2.55
Monthly Growth Rate	0.47%	2.21%	0.48%
Total Telephone Subscribers (Million)	1165.49	33.79	1199.28
Net Addition in March, 2024 (Million)	0.85	0.69	1.54
Monthly Growth Rate	0.07%	2.07%	0.13%
Overall Tele-density*(%)	83.27%	2.41%	85.69%
Tele-density in urban areas*(%)	127.51%	6.21%	133.72%
Rural Tele-density in rural areas*(%)	58.87%	0.32%	59.19%
Urban Subscribers	54.44%	91.49%	55.48%
Rural Subscribers	45.56%	8.51%	44.52%

(Source: https://trai.gov.in/sites/default/files/PR_No. 23 of 2024_0. pdf)

The availability of the internet shall be complemented by availability of devices which are affordable for semi-urban and rural areas in the country. This will ensure a step ahead in the direction of addressing the problem of digital divide in India.

Policy Perspectives for transforming Distance Education in India for Inclusivity, Quality, and Employability

In the light of the above discussion, some policy perspectives can be identified which can address structural and systemic challenges while leveraging the potential of distance education in order to enhance India's higher education landscape vis-à-vis inclusivity, quality and employability. HEIs can facilitate accessibility and inclusivity through Distance Education. In this context, the regulatory bodies need to facilitate policy aimed at the expansion of ICT price bracket, particularly in rural and semi-urban areas, in order to lessen the digital divide. Appropriate policies also need to be formulated for ensuring the availability of inexpensive devices for learners mainly from the economically disadvantaged background. Thirdly, there is need for strengthening regulatory frameworks in order to ensure the quality and adherence to benchmark standards in distance education programmes.In this context, proactive effort also needs to be taken for ensuring HEI accreditation standards for dual-mode universities and single-mode distance education institutions in order to maintain credibility and enhance quality. Effort also needs to be taken to provide necessary guidelines for development of Self-Learning Materials (SLMs) that would facilitate problem-solving, analytical skills and entrepreneurial orientation among the learners of distance education programmes. At the government level, there is need to forge the interdepartmental alignment among the concerned department like Education, Information Technology, Skill Development etc. for a holistic policy formulation for Bridging Digital Divide aimed to enhance ICT reach through tele-density, broadband penetration etc in underserved regions of our country. Effort needs to be taken in leveraging technology for facilitating teaching-learning through distance education. In alignment with the current global trends in education, HEI in Indian also need to formulate policies for effective use of artificial intelligence, development of virtual laboratories and application of simulation tools for interactive and practical learning experiences in distance education.

Evidence-based Insights and Policy Perspectives: Imperatives for HEIs and Regulatory Bodies

Background discussion

In the light of the backdrop presented in the previous section of this paper,

an effort has been taken to examine the relevance and interconnectedness of some factors related to Distance and Online education and their implications with respect to HEI governance.

In the context of the present study, In this context, state-wise data on Enrollment (UG), Enrollment (PG), Male Students (%), Female Students (%), Internet Penetration (%), Number of Dual-Mode Universities, Dropout Rate (%), Faculty Availability (Per 1000 Students) have been considered with respect to the year 2021-22. The data have been obtained from AISHE survey held in 2021-2022 and Telecom Regulatory Authority (TRAI) Reports which offer significant insights into internet penetration rates across different states in the country. Enrolment data signify the strength of the students enrolling themselves in different undergraduate (UG) and postgraduate (PG) distance education programmes in the various states with respect to the academic year 2021-22. Gender Distribution connotes the percentage distribution of both genders enrolling in distance learning programmes in across different states considered in the study. The actual percentage of population with access to internet connectivity in each state being covered in the study is measured through internet penetration which, as already discussed denotes a significant factor of facilitating distance and online education. Dual mode universities are the ones that offer regular programme alongside the distance programmes and in recent times there is an increasing trend towards integrating distance education with the mainstream educational systems in various universities. Then, we have considered the percentage of students who have discontinued their distance education studies before completion and this measures the dropout rate. The number of faculty members available per 1,000 students in distance education programmes signifies faculty-student ratio, which is an indicator of the quality of faculty support for distance education. Table 1 provided in the appendix considers some of the significant aspects relating to HEI governance vis-à-vis distance education wherein grouped states into broader regions have been considered, while taking into account geographic relevance. In this exercise, the first column of the table connotes the state code based on the categorization of states into broader geographic or demographic clusters (e.g., Southern, Western, Eastern, Northern) based on similarities in higher education infrastructure, enrollment trends, and internet penetration. However, in order to come to meaningful conclusion, statistical analysis comprising Correlation and Regression Analysis was performed using the state-specific data. Thus,

for ease of interpretation and broader understanding, states have been grouped into regional categories; the underlying analysis, including correlation and regression has been conducted using state-specific data in order to ensure accuracy and robustness of the analysis. This approach preserves analytical precision while providing scope for a generalized understanding of regional trends relevant to policymakers and HEIs in distance education.

Insights from Correlation Analysis

(See Table 1: Correlation Analysis)

It has been observed (Table 1) that majority of the variables considered do not have statistically significant relationship. In the context of the present work, the statistically insignificant relationships may be due to the relevance of factors such as contextual constraints, cultural orientation, student motivation, HEI governance etc. which might play a more substantial role than the quantitative aspects being analyzed. However, there are a few statistically significant relationships which have significant implications from a policy perspective. In this perspective, we have used the value of r (correlation coefficient in order measure the strength of relationship between the variables between considered. In this exercise, we have observed that Internet Penetration has a statistically significant negative relationship with Dropout Rate (r= -0.6410.) and positive relationship with Faculty Availability (r=0.960**). Again, faculty availability has a negative statistically significant relationship with dropout rates (r=-0.706). It is worth mentioning that although we have identified a few statistically significant values of correlation coefficient (r), there are several policy implications.

In the light of the above results, it can possibly be averred that states having higher internet penetration exhibit lower dropout rates, signifying that enhanced internet connectivity plays a vital role in reducing barriers to distance education and facilitates student retention. Secondly, higher internet penetration's positive correlation with improved faculty availability, indicate that states with strong digital infrastructure most probably attract or support more faculty members for distance education programmes. Furthermore, the importance of student-faculty interaction and support in improving retention in distance education has to be considered by HEI administrators in the right perspective.

In view of the above interpretation of results there are several policy recommendations for HEI administrators and regulatory bodies. These are as follows:

1. Effort needs to be taken by the appropriate authority to provide budgetary support in establishing and expanding a strong ICT infrastructure. This is more relevant in rural and underdeveloped regions where there is deficient ICT infrastructure.
2. In this context, providing financial support for availing internet services for students from economically weaker sections to ensure equitable access to online resources need to be a part of our policy perspectives. This will enable affordability and accessibility.
3. Regulators and HEIs need to leverage high internet penetration to make education more accessible and affordability.
4. Government initiatives need to be promoted and public-private partnership can be explored on a sustainable basis.
5. Another policy imperative for HEI administrators would be to encourage and adapt hybrid/blended learning models on a sustainable basis which would facilitate penetration and access to higher education.
6. Emphasis needs to be given on ICT-driven human resource development of faculty members. HEIs need to invest in effective upskilling of faculty members and Distance education administrators with ICT enabled pedagogy to ensure effectiveness of teaching learning environment in distance education.

Taking this perspective further, HEIs and regulators can leverage on a robust internet infrastructure and facilitate remote employment of qualified faculty by overcoming geographic constraints in teaching-learning in HEI with special reference to distance education. However, in this exercise, HEIs need to employ more faculty members dedicated and oriented to distance education by following the principles of person-organisation fit. HEIs and regulators need to adapt a holistic ICT-enabled Learning Management Systems (I-LMS) and other digital platforms to facilitate uninterrupted teaching-learning improve faculty efficiency and accessibility to a larger student base even cutting across geographical barriers. Additionally, in order to establish a sustainable and uninterrupted connectedness between faculty and students in distance mode, real-time online classes and interactive sessions can be introduced to bridge the gap between students and faculty, fostering a sense of connection and engagement.

Insights from Regression Analysis

(See Table 2: Regression Analysis)

An effort has been taken in carrying out regression analysis with a view to examine the impact of Internet Penetration, Dual-Mode Universities, and Faculty Availability on Dropout Rate in distance education. This enables us to isolate the unique contribution of each independent variable, facilitating a better understanding of their impact on dropout rates while controlling for the other variables. Regression diagnostics have been addressed by examining key statistics like R-squared in order to evaluate model fit and significance values (p-values) for each predictor to determine their contribution. Additionally, multicollinearity was minimized by ensuring the predictors were theoretically distinct and not unreasonably correlated, as indicated by their Variance Inflation Factors (VIF). This approach supports the development of evidence-based policies by identifying key predictors and quantifying their effects. In carrying out regression analysis we have considered dropout rates as the dependent variable in view of its critical role as an outcome measure of the effectiveness and accessibility of distance education (Simpson, 2013). Regression analysis has accordingly been carried out with a view to objectively examine the extent to which each independent variable (e.g., Internet penetration, faculty availability) influences the dropout rate, while we control for the effects of other variables.

The results highlighting the findings of the regression analysis have been provided in the table below (Table: 2) and the inferences have been drawn accordingly. Although correlation showed a significant negative relationship, the regression model does not confirm this when controlling for other variables.

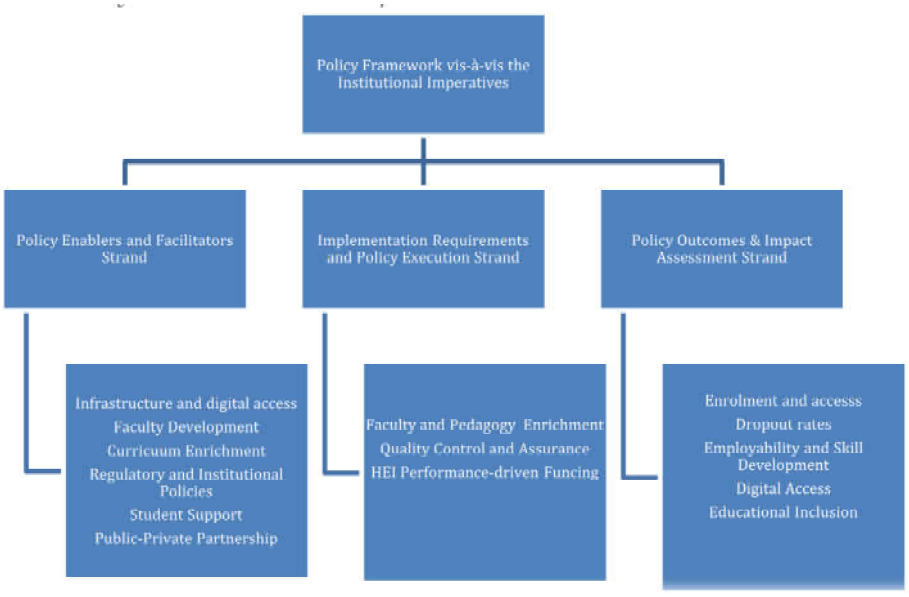
- It is evident from the table that high p-value suggests Internet Penetration is not a significant predictor of dropout rates in the regression model.
- Secondly, Dual-Mode Universities are observed to be, not having a direct effect on the student dropout rates, possibly because their presence alone is insufficient without other backup factors like faculty availability and programme quality. While the results of correlation suggest strong negative relationship, the regression model shows that faculty availability is not statistically significant ($p > 0.05$). However, it is evident that the direction of the relationship remains consistent, signifying the fact that that better faculty availability could reduce student dropout rates.

It is evident from the result that both correlation and regression analyses indicate that faculty availability and internet penetration have negative

relationships with dropout rates. However, these effects lose significance in the regression model. Thus, the results of regression analysis show that no single predictor is independently significant in this model, though Faculty Availability shows the strongest influence. It can also be observed from the results of regression analysis the weak impact of Dual-Mode Universities implying that quantitative increase in these types of universities may not be effective from a policy perspective. Policies should therefore emphasize on quality assurance, curriculum relevance and faculty support to reduce dropout rates effectively. Thus, HEI policies that integrate improvements in faculty resources, digital infrastructure and institutional quality will most probably yield the best outcomes for reducing dropout rates in distance education.

A Policy Framework vis-à-vis the Institutional Imperatives for Distance Education

On the basis of the insights drawn from the analysis in the previous sections of the paper, we have developed a Policy Framework vis-à-vis the Institutional Imperatives for Distance Education which has been exhibited in the figure 2 below.



The regulators and administrators related to HEI governance need to consider the policy strands in terms of 1. *Policy Enablers and Facilitators; 2. Implementation Requirements and Policy Execution and 3. Policy Outcomes and Impact Assessment* which are shown in the figure.

In terms of the first strand, HEIs need to recognise and develop the fundamental aspects for enhancing the ambit of distance education in terms of effectiveness and efficiency. Thus, Policy enablers and facilitators need to be recognised and considered since these are precursors for Policy implementation. In this regard, policies and guidelines need to be explicated regarding Infrastructure and Digital Access; Faculty Development; Curriculum Enrichment; Regulatory and Institutional Policies; Student Support System and Public-Private Partnership. Policies aimed at broadband expansion and avenues for fostering public-private partnerships for affordable ICT devices and other digital initiatives for the excluded class need to be formulated. Upskilling, sensitisation and motivation of faculties for embracing digital technologies and setting quality benchmarks in this regard would act as enablers and facilitators for distance education. In this context, the role of regulatory bodies like UGC, AICTE etc. comes into sharper focus for standardization, sponsoring schemes for online learning, and ensuring benchmark-oriented accreditation for distance courses. HIEs also need to incentivise students through scholarships exclusively for distance learners, inclusion of marginalized sections and develop wellness & mental health initiatives. Effort also needs to be taken for fostering industry collaborations for internships, certifications and co-creating skill-oriented distance programmes through public-private partnership.

The second strand has been named as Implementation Requirements and Policy Execution Strand which comprises aspects aimed at bridging the gap between infrastructure and student outcomes through well-executed HEI strategic action orientation. HEIs need to set-up digital learning units following the 'hub and spokes' approach primarily in rural areas. HRD and skill development of faculty need to be properly emphasised and initiated. The necessary initiatives may include compulsory ICT training for teachers, utilisation of user-friendly and affordable AI-based learning platforms and competency-based teaching-learning methodologies. Strict assurance measures, academic audits, strict operational control system of distance education and alignment with NEP 2020 standards need to be considered.

HEIs in distance education need to develop student engagement system by creating interactive platforms, promoting hybrid learning models and enhancing synchronous learning opportunities. At the Government level, provisions like incentives for e-learning tools, providing research grants for EdTech solutions and integrating digital learning into mainstream education policies can be explored.

The third strand is associated with Policy Outcomes & Impact Assessment. Here, emphasis is required to be given on measuring the effectiveness of policy interventions through tangible educational and performance outcomes by using the suitable metrices. HEI performance in terms of Gross Enrollment Ratio (GER) improvements due to expanded ICT access, satisfaction and retention rates in distance programmes, tangible outcomes arising out of employability and skill development initiatives etc. are important considerations in this regard. Measurement signifying greater digital and educational inclusion, number of effective interventions for reducing urban-rural digital can also be considered as an important aspect of this strand.

Conclusion:

The discussion held in previous sections highlight the emerging facets of distance and online education in the country. While the distance and online learning ecosystem can significantly address the teaching and learning environment in India from multifarious perspectives like addressing the problem of gross enrolment ratio or making the graduates or addressing the problem related to training of manpower, there remains sufficient number of challenges to make distance education model aligned with the different stakeholders in the society. Distance education has the potential to offer equity and inclusivity resulting in bridging the educational gap among the students and learners. However, for that to happen, appropriate infrastructural and policy support must be extended to the ecosystem. Proper emphasis is also an imperative towards ensuring the standards of the programmes and courses run by different higher academic centres. In order to increase employability among the all categories of students, and distance learning students in particular, focus should be given on professional and entrepreneurship courses along with the traditional courses which will promote scientific vigour among the learners. Programmes and courses need to be offered in regional languages in order to ensure acceptability of the programmes and courses among the

students. Specific provisions related to scholarships shall also be arranged for poor students pursuing any degree in distance mode. Provisions for mentoring the students can significantly add to the employment enhancement of the students pursuing distance education. These initiatives will foster motivation among the learners to pursue courses in distance mode with full enthusiasm. Specific training programmes shall be conducted for the teaching community to address the problems concerning learners in distance education mode. Community engagement approach can be adopted where teachers can reach out to students in the rural areas after certain duration. This will ensure better learning among the learners. The corporations should also come forward to extend employment opportunities to the students who have graduated from the distance educational institutions. The goal of achieving higher gross enrolment ratio, increased employability of the students, availability of trained manpower etc can only be ensured if a multi-pronged strategy emphasizing the upliftment of distance education in the country is adopted. And each and every stakeholder of the society shall look into the same direction in order to make that happen.

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