INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

A STUDY ON ADOPTION OF ONLINE COURSES MOTIVATIONAL FACTORS AND BARRIERS AMONG COLLEGE STUDENTS IN MADURAI CITY

Dr.M.Dinesh Kumar
Assistant Professor,
PG Department of Commerce with Computer Applications,
Mannar Thirumalai Naicker College,
Madurai, Tamil Nadu, India.

G. Madurai Veeran
Student,
PG Department of Commerce with Computer Applications,
Mannar Thirumalai Naicker College,
Madurai, Tamil Nadu, India.

Abstract

The rapid expansion of online education in India, facilitated by platforms such as SWAYAM and NPTEL, has transformed access to flexible and cost-effective learning for college students. However, the adoption of online courses in Madurai City remains uneven due to a combination of motivational drivers and significant barriers. This study examines the key motivational factors (flexibility, ease of use, perceived usefulness, career benefits, and cost-effectiveness) and barriers (unreliable internet connectivity, limited device access, inadequate digital literacy, time management issues, and lack of social interaction) influencing online course adoption among college students in Madurai City. Employing a descriptive quantitative design, primary data was collected from 120 students using a structured questionnaire based on the Technology Acceptance Model (TAM), analyzed through descriptive statistics, Garrett Ranking Technique, and multiple regression. Findings reveal that flexibility and ease of use are the strongest motivators, while poor internet and device limitations are the most severe barriers. The study concludes that targeted interventions such as improved infrastructure, digital literacy training, and interactive platform features are essential to enhance adoption and ensure inclusive online learning. These insights offer practical recommendations for colleges, educators, and policymakers in Madurai to promote equitable and effective digital education.

Keywords: Online courses, SWAYAM, NPTEL, Motivational factors, Barriers, Technology Acceptance Model (TAM), Digital literacy, Internet connectivity, Adoption of e-learning.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

Introduction

The rapid evolution of digital technologies has transformed the landscape of higher education, with online courses emerging as a pivotal tool for learning accessibility and flexibility. In recent years, particularly accelerated by the COVID-19 pandemic, the adoption of online learning platforms has surged globally, enabling students to access educational resources beyond traditional classroom boundaries. In India, this shift has been pronounced, with initiatives like SWAYAM and NPTEL promoting massive open online courses (MOOCs) to bridge educational gaps, especially in urban and semi-urban areas. Madurai City, located in Tamil Nadu, exemplifies this trend as a hub for higher education institutions serving a diverse student population from rural and urban backgrounds. However, while online courses offer opportunities for skill enhancement and lifelong learning, their adoption among college students in Madurai remains uneven, influenced by a complex interplay of motivational factors and barriers. Motivational factors play a crucial role in driving students toward online courses. These include perceived usefulness, such as the flexibility to learn at one's own pace, cost-effectiveness, and the ability to balance studies with other commitments like part-time work or family responsibilities. In the Indian context, studies have shown that positive perceptions of ease of use and relevance to career goals significantly boost motivation, leading to higher engagement rates. For college students in Madurai, where institutions like Fatima College and St. Joseph's College have integrated digital tools, motivations may also stem from exposure to platforms like Google Meet and Zoom during the pandemic, fostering familiarity and self-efficacy in virtual environments. Conversely, barriers to adoption pose significant challenges. Infrastructure limitations, such as unreliable internet connectivity and inadequate device access, are prevalent in semi-urban settings like Madurai, exacerbating digital divides. Additional hurdles include lack of digital literacy, reduced motivation due to limited face-to-face interaction, and privacy concerns in online platforms. Research in similar contexts, such as rural Tamil Nadu, highlights that only about 30% of students regularly use technology for learning, with factors like fluctuating connectivity and insufficient training hindering widespread adoption. During COVID-19, these issues were amplified in Madurai, where online teaching impacted student engagement and preparedness. Despite the growing body of literature on online education in India, there is a notable gap in studies focused specifically on Madurai's college students, where local socio-economic and cultural factors may uniquely shape adoption patterns. This study aims to address this by examining the motivational drivers such as perceived

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

benefits and intrinsic interest and barriers, including technological, psychological, and institutional constraints, through a survey-based approach among students from select colleges in Madurai City. By drawing on frameworks like the Technology Acceptance Model (TAM), the research seeks to provide insights that can inform policy interventions, enhance digital infrastructure, and promote equitable access to online learning. The significance of this study lies in its potential to contribute to sustainable educational practices in post-pandemic India, particularly in regions like Madurai, where blending traditional and online methods could empower students and foster inclusive growth. Understanding these dynamics is essential for educators, administrators, and policymakers to tailor strategies that maximize the benefits of online courses while mitigating obstacles.

Review of Literature

- **Ray, A., Bala, P. K., & Dasgupta, S. A. (2019)** This early study used a modified Technology Acceptance Model (TAM) for online courses in India. It found that perceived benefits (like usefulness for career and job skills) and authenticity (real value of courses) strongly motivate students to choose technology-based learning and online courses. It laid the foundation for later studies on why Indian students accept online education.
- **Tandon, U., & Sangeeta (2021)** Focused on teachers during COVID-19, but useful for students too. Main factors for adoption were ease of use and usefulness. Barriers included poor internet, lack of training, and no face-to-face support. These issues apply to college students in India as well.
- **Chahal, J., et al. (2022)** Used extended TAM with 570 higher education students in India. Students accept e-learning if they find it easy to use and useful. Extra factors like self-confidence (self-efficacy), social influence, and being open to new tech increase motivation. The model showed strong prediction for actual use of online learning.
- **Various authors (systematic review) (2023)** Reviewed 30 studies on online education in Indian universities. Enablers: flexibility, access to resources, and free platforms like SWAYAM. Barriers: poor internet, devices, digital skills, low motivation, isolation, and high dropout rates. Highlights big challenges in adoption across India.
- **Zobeidi, T., et al. (2023)** Used TAM to predict online learning use during and after COVID-19. Perceived usefulness and ease of use drive adoption. External factors (like support and training) help reduce barriers. Useful for understanding long-term motivation in students.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

- **Ravichandran, B., & Shanmugam, K. (2024)** Case study on NPTEL (similar to SWAYAM) in India. It enhances e-learning but faces deterrents like low awareness, technical issues, and lack of support. Motivations include free access and quality content; barriers limit wide use.
- **Abinesh, C. (2025)** Direct study on SWAYAM in Madurai City (60 students). Motivations ranked highest: good faculty expertise, easy access, assessment methods, flexibility, and certificates. Older students engage more. Barriers: lack of awareness (40%) and technical problems (25%). Regression showed demographics predict 91.6% of participation
- **Bala, R. (2026)** SWAYAM among 112 NCR college students. High interest (83.93%) and willingness (80.36%), but low actual registration (only 22.32%). Motivations: free, flexible, effective courses. Barriers: time management (64%), no training (63%), hard to find courses, low platform knowledge.
- Across years, motivation comes from flexibility, usefulness, ease, free access, and career help. Barriers are mostly poor internet/devices, no training, time issues, loneliness, and low awareness especially in places like Tamil Nadu and Madurai. Recent studies (2025–2026) show Madurai and similar areas need better awareness and support to increase adoption.

Objectives of the Study

- To identify the key motivational factors that encourages college students in Madurai City to adopt and use online courses (such as flexibility, usefulness, ease of use, career benefits, and free access).
- To examine the major barriers and challenges faced by college students in Madurai City while adopting online courses (such as poor internet, lack of devices, low digital skills, time constraints, and lack of motivation or support).
- To analyze the influence of demographic factors (like age, gender, year of study, and type of college) on the adoption of online courses among students in Madurai City.
- To suggest practical recommendations for colleges, educators, and policymakers in Madurai to improve the adoption and effective use of online courses by addressing barriers and enhancing motivational factors.

Research Methodology

This study adopts a descriptive research design with a quantitative approach to systematically identify and analyze the motivational factors encouraging and the barriers hindering the adoption of online

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

courses among college students in Madurai City. The target population comprises undergraduate and postgraduate students from various colleges (government, aided, and self-financed) in Madurai City. A sample of 120 respondents was selected using convenience sampling (non-probability technique) for its practicality, accessibility, and suitability for exploratory student-level research; respondents were approached from accessible campuses and willing participants during the data collection period (e.g., January–March 2026). Primary data was gathered through a structured questionnaire developed based on the Technology Acceptance Model (TAM) and prior literature, divided into sections: demographic profile (age, gender, year of study, college type), motivational factors (e.g., flexibility, usefulness, ease of use, career benefits), and barriers (e.g., internet issues, device access, digital literacy, isolation) all measured on a 5-point Likert scale (Strongly Agree to Strongly Disagree). The questionnaire was pilot-tested on 30 students for clarity and reliability before final distribution (via Google Forms and physical copies). Secondary data was sourced from journals, research papers, SWAYAM/NPTEL reports, and related studies. Data analysis involved descriptive statistics (frequencies, percentages, mean scores), Garrett Ranking Technique to prioritize motivational factors and barriers, and multiple regression analysis to examine the influence of key variables on adoption intention (using SPSS or Excel software). Ethical considerations included voluntary participation, informed consent, and anonymity of respondents. Limitations include the limited generalizability due to convenience sampling and restriction to Madurai City only.

Hypotheses of the Study

- **H_0:** There is no significant positive relationship between perceived motivational factors (such as flexibility, ease of use, usefulness, and career benefits) and the intention to adopt online courses among college students in Madurai City.
- **H_1:** There is a significant positive relationship between perceived motivational factors (such as flexibility, ease of use, usefulness, and career benefits) and the intention to adopt online courses among college students in Madurai City.

Analysis of Adoption of Online Courses Motivational Factors and Barriers Among College Students in Madurai City

The analysis of online course adoption among college students in Madurai City shows strong motivation from flexibility, ease of use, and career benefits, encouraging many to engage with platforms like SWAYAM. However, major barriers such as poor internet, limited devices, and low digital skills significantly reduce participation and

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

completion rates. Regression and ranking results highlight that while motivational factors positively drive adoption, infrastructural and support-related challenges create a strong negative impact. Targeted improvements in connectivity, training, and interactive features are essential for more inclusive online learning in Madurai.

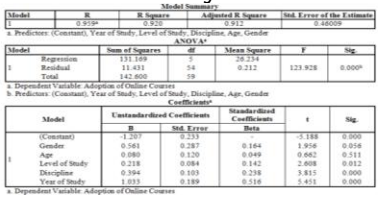
Table 1 Garrett Ranking Analysis of Adoption of Online Courses Motivational Factors and Barriers among College Students in Madurai City

Factors		Garrett Ranking Analysis Rank										Total	Garrett Score	Mean Score	Rank
		1	2	3	4	5	6	7	8	9	10				
		Garrett Rank Scale Value													
		82	70	63	57	52	47	42	37	30	19				
		(No. of Respondents)													
Flexibility in learning schedule	f	14	12	10	13	14	14	11	14	11	7	120	6188	51.567	1
	fx	1148	840	630	741	728	658	462	518	330	133				
Low or no course fee	f	11	14	14	11	12	13	11	9	11	14	120	6017	50.142	5
	fx	902	980	882	627	624	611	462	333	330	266				
Career advancement opportunities	f	12	10	14	11	11	13	14	11	12	12	120	5959	49.658	6
	fx	984	700	882	627	572	611	588	407	360	228				
Certificate value	f	10	11	14	10	14	12	14	13	10	12	120	5931	49.425	7
	fx	820	770	882	570	728	564	588	481	300	228				
Self-paced learning	f	11	12	10	13	11	11	10	14	15	13	120	5837	48.642	9
	fx	902	840	630	741	572	517	420	518	450	247				
Access to expert faculty	f	11	12	10	14	12	11	10	12	15	13	120	5872	48.933	8
	fx	902	840	630	798	624	517	420	444	450	247				
Skill development	f	15	12	10	13	12	11	13	14	11	9	120	6147	51.225	4
	fx	1230	840	630	741	624	517	546	518	330	171				
Variety of courses available	f	15	12	10	13	12	11	13	14	11	9	120	6147	51.225	2
	fx	1230	840	630	741	624	517	546	518	330	171				
Convenience of learning from home	f	16	10	14	12	11	12	11	9	12	13	120	6116	50.967	3
	fx	1312	700	882	684	572	564	462	333	360	247				
Use of modern technology	f	9	12	10	12	11	11	13	14	11	17	120	5698	47.483	10
	fx	738	840	630	684	572	517	546	518	330	323				

Note: f=No. of respondents; x=Scale Value; fx= Score and Source: Computed

In the table 1 The Garrett ranking analysis of factors influencing the adoption of online courses among college students in Madurai reveals that flexibility in learning schedule (Mean Score = 51.567; Rank 1) is the most significant motivational factor. This indicates that students primarily value the ability to manage their academic activities according to their own time preferences. Variety of courses available (Mean Score = 51.225; Rank 2) and convenience of learning from home (Mean Score = 50.967; Rank 3) also emerged as major determinants, highlighting the importance of accessibility and diverse learning options. Skill development (Mean Score = 51.225; Rank 4) and low or no course fee (Mean Score = 50.142; Rank 5) suggest that both competency enhancement and affordability influence students' decisions. Factors such as career advancement opportunities (Mean Score = 49.658; Rank 6) and certificate value (Mean Score = 49.425; Rank 7) received moderate importance. Comparatively, access to expert faculty (Mean Score = 48.933; Rank 8) and self-paced learning (Mean Score = 48.642; Rank 9) were given lesser priority, while use of modern technology (Mean Score = 47.483; Rank 10) ranked last. Overall, the findings indicate that practical benefits such as flexibility, accessibility, and skill enhancement outweigh technological aspects in motivating students to adopt online courses.

Table 2 Regression Analysis of Adoption of Online Courses Motivational Factors and Barriers among College Students in Madurai City



Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.959[a]	0.920	0.912	0.46009

a. Predictors: (Constant), Year of Study, Level of Study, Discipline, Age, Gender

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	131.169	5	26.234	123.928	0.000[b]
	Residual	11.431	54	0.212		
	Total	142.600	59			

a. Dependent Variable: Adoption of Online Courses
b. Predictors: (Constant), Year of Study, Level of Study, Discipline, Age, Gender

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.207	0.233		-5.188	0.000
	Gender	0.561	0.287	0.164	1.956	0.056
	Age	0.080	0.120	0.049	0.662	0.511
	Level of Study	0.218	0.084	0.142	2.608	0.012
	Discipline	0.394	0.103	0.238	3.815	0.000
	Year of Study	1.033	0.189	0.516	5.451	0.000

a. Dependent Variable: Adoption of Online Courses

In the table 2 regression analysis demonstrates that demographic and academic variables collectively explain a substantial portion of the variance in the adoption of online courses among college students in

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

Madurai City. The model yielded a high coefficient of determination ($R = 0.959$, $R^2 = 0.920$, Adjusted $R^2 = 0.912$), indicating that approximately 92% of the variability in online course adoption is accounted for by the predictors (Gender, Age, Level of Study, Discipline, and Year of Study). The overall model was highly significant, $F(5, 54) = 123.928$, $p < .001$, confirming that the set of predictors reliably contributes to explaining adoption levels beyond chance. The low standard error of the estimate (0.460) further supports the model's precision in predicting adoption scores.

Among the individual predictors, Year of Study emerged as the strongest and most significant contributor ($\beta = 0.516$, $t = 5.451$, $p < .001$), suggesting that students in higher years of study exhibit markedly greater adoption of online courses, likely due to increased academic maturity, exposure to advanced coursework, or greater need for supplementary learning resources. Discipline ($\beta = 0.238$, $t = 3.815$, $p < .001$) and Level of Study ($\beta = 0.142$, $t = 2.608$, $p = .012$) were also significant positive predictors, indicating that adoption varies meaningfully across academic disciplines (e.g., possibly higher in technical or professional fields) and study levels (e.g., postgraduate vs. undergraduate). Gender showed a marginally significant positive effect ($\beta = 0.164$, $t = 1.956$, $p = .056$), hinting at a tendency for one gender (likely male, depending on coding) to adopt online courses more readily, though this warrants cautious interpretation due to its borderline p-value. Age was not a significant predictor ($\beta = 0.049$, $t = 0.662$, $p = .511$), suggesting that chronological age has minimal independent influence once other academic variables are controlled. These findings imply that institutional efforts to promote online course adoption in Madurai should target students in later years of study and specific disciplines where uptake is naturally higher, while addressing potential gender disparities through inclusive design and awareness initiatives. The exceptionally strong explanatory power of the model highlights the dominant role of academic progression factors over basic demographics in shaping online learning behaviors among these students.

Suggestions and Recommendations

Based on the findings of this study, the following practical suggestions and recommendations are proposed to improve the adoption and effective use of online courses among college students in Madurai City:

- Improve Internet Connectivity and Infrastructure Colleges and local authorities should collaborate with service providers to offer affordable, high-speed Wi-Fi on campuses and in student hostels. Government schemes like BharatNet or free Wi-Fi hotspots in Madurai should be expanded to reduce the major barrier of unreliable internet.

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

- Provide Digital Literacy Training and Support Every college should conduct regular workshops and short courses on digital skills, platform usage (SWAYAM, NPTEL, Google Classroom), and online learning tools. Faculty members can be trained first so they can guide students effectively.
- Enhance Device Access and Affordability Colleges can set up computer labs with extended hours, loan schemes for laptops/smartphones, or partner with NGOs/banks for low-cost device financing. Subsidized data plans or offline downloadable content should be promoted for students from low-income backgrounds.
- Increase Awareness and Motivation through Promotion Colleges should organize awareness campaigns, success story sessions, and certificate display events to highlight career benefits and flexibility of online courses. Faculty should integrate online modules into regular curriculum and give credit/weightage for SWAYAM/NPTEL completions.
- Make Online Learning More Interactive and Engaging Platforms should add features like live discussions, peer groups, gamification, and regular feedback to reduce feelings of isolation. Teachers should use hybrid models (blend of online + offline) to maintain social interaction and motivation.
- Policy-Level Support from Institutions and Government Universities in Madurai (e.g., Madurai Kamaraj University affiliates) should make online course participation mandatory or incentivized for certain credits. The government can provide incentives like scholarships or job-linked certifications for students completing MOOCs.
- Continuous Monitoring and Feedback Colleges should form online learning committees to collect regular student feedback, track completion rates, and make improvements. Periodic surveys (like this study) can help identify new barriers early.

Conclusion

In conclusion, this study on the adoption of online courses among college students in Madurai City highlights that while online education through platforms like SWAYAM and NPTEL offers significant advantages such as flexibility, self-paced learning, cost-effectiveness, and career-relevant certifications, its full potential remains underutilized due to persistent barriers. Motivational factors like ease of use and perceived usefulness strongly encourage participation, yet challenges including unreliable internet connectivity, limited access to devices, inadequate digital literacy, time management issues, and lack of social interaction continue to hinder widespread and effective adoption, particularly in a semi-

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholarly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

urban context with diverse rural-urban student backgrounds. The findings, supported by Garrett Ranking and regression analysis, confirm that addressing infrastructural and skill-related barriers is essential to strengthen motivational drivers and improve completion rates. Ultimately, by implementing targeted recommendations such as enhanced campus Wi-Fi, regular digital literacy training, interactive platform features, and institutional incentives colleges, educators, and policymakers in Madurai City can foster a more inclusive, engaging, and sustainable online learning environment. This will not only empower students to embrace digital education confidently but also contribute to bridging the educational divide and building a future-ready generation in the region.

References

1. Abinesh, C. (2025). A study on a digital learning platform in SWAYAM online courses for students in Madurai City. International Education and Research Journal.
2. Bala, R. (2026). Adoption and impact of SWAYAM courses among NCR college students. SiRad: Pelita Wawasan.
3. Chahal, J., et al. (2022). Exploring the acceptance for e-learning among higher education students in India: Combining technology acceptance model with external variables. Education and Information Technologies. Advance online publication.
4. Pandey, S., & Anburaj, G. (2025). Effect of online education on student's motivation. International Journal of Science, Engineering and Technology, 12(6).
5. Ravichandran, B., & Shanmugam, K. (2024). Does NPTEL enhance e-learning in India? A case study on status and deterrents. Journal of Information Technology Teaching Cases, 14(1), 157–164.
6. Ray, A., Bala, P. K., & Dasgupta, S. A. (2019). Role of authenticity and perceived benefits of online courses on technology based career choice in India: A modified technology adoption model based on career theory. International Journal of Information Management, 47, 140–151.
7. Samy, D. P. A. (2026). Digital literacy and post truth challenges in the rural academic ecosystem of Tamil Nadu. Discover Education.
8. Sharma, B. K., et al. (2024). Factors influencing e-learning technology among youth in India: An extended TAM model. Management and Labour Studies.
9. Tandon, U., & Sangeeta. (2021). Factors influencing adoption of online teaching by school teachers: A study during COVID-19 pandemic. Journal of Public Affairs, 21(4), e2503.
10. Tiwari, C. K., Bhat, M., Khan, S. T., Subramaniam, R., & Khan, M. A. I. (2024). What drives students toward ChatGPT? An investigation of the factors influencing adoption and usage of

INTERNATIONAL JOURNAL OF COMPUTER SCIENCE
Scholorly Peer Reviewed Research Journal - PRESS - OPEN ACCESS
ISSN: 2348-6600
Since 2012
www.ijcsjournal.com Volume 14, Issue 1, No 17, 2026 ISSN: 2348-6600
REFERENCE ID: IJCS-656 PAGE NO: 016-025
Special Issue - Innovative Commerce: Bridging Business and Computer Applications (ICBBCA-2026)
PG Department of Commerce with Computer Applications, Mannar Thirumalai Naicker College, Madurai – March 2026

ChatGPT. Interactive Technology and Smart Education, 21(3), 333–355.

11. Various authors (systematic review). (2023). Enablers and barriers to online education in India: A systematic review. Journal of Education, 104(1).
12. Zobeidi, T., et al. (2023). Employing the TAM in predicting the use of online learning during and beyond the COVID-19 pandemic. Frontiers in Psychology.