



A STUDY ON A DIGITAL LEARNING PLATFORM IN SWAYAM ONLINE COURSES FOR STUDENTS IN MADURAI CITY

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ABSTRACT:

Digital learning platforms have transformed the education landscape, providing students with flexible and accessible learning opportunities. This study examines the adoption and engagement of students in Madurai City with SWAYAM online courses, focusing on key factors influencing their satisfaction and participation. Using a structured questionnaire, data were collected from students across various educational institutions. The study employs Garrett Ranking Analysis to evaluate the most significant factors affecting user experience, revealing that faculty expertise, ease of access, and assessment methods are the primary determinants of student satisfaction. Additionally, the ANOVA and regression analysis explore the impact of demographic factors such as gender, age, and qualification on student engagement. The findings suggest that older students and a specific gender group are more likely to participate in SWAYAM courses, while qualification has no significant influence. The results emphasize the need for institutions to enhance faculty training, improve course accessibility, and refine assessment methods to maximize student engagement. The study also highlights the importance of targeted promotional strategies to increase awareness and participation among diverse student groups. By understanding student preferences and demographic influences, educational institutions can develop customized outreach programs and optimize digital learning experiences. This research provides valuable insights for policymakers, educators, and digital learning platforms to enhance the effectiveness and reach of SWAYAM courses, ultimately contributing to the broader adoption of online education in India.

KEYWORDS:

DIGITAL LEARNING, SWAYAM, STUDENT ENGAGEMENT, GARRETT RANKING, DEMOGRAPHIC FACTORS.

INTRODUCTION

Digital learning has transformed the education sector, providing students with flexible, cost-effective, and accessible learning opportunities. The Government of India launched SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) to offer high-quality education through Massive Open Online Courses (MOOCs). This initiative aims to bridge the digital divide, ensuring that students from both urban and rural backgrounds have equal access to quality education. With the rise of internet penetration and smartphone usage, SWAYAM has become a key platform for learners across India. In the Significance of the Study Madurai, a historically significant city in Tamil Nadu, is known for its reputed educational institutions. The adoption of digital learning platforms like SWAYAM has increased in Madurai due to advancements in technology and internet accessibility. According to recent data, Tamil Nadu has an internet penetration rate of over 65%, with a large number of students in Madurai actively engaging in online courses. However, despite its growth, challenges such as lack of awareness (40%) and technical barriers (25%) continue to hinder SWAYAM's widespread adoption. This study seeks to understand the factors

influencing student engagement with SWAYAM and assess its overall effectiveness in Madurai. To the Statistical Insights and Future Scope of the Indian online education market is projected to grow at a CAGR of 21% from 2023 to 2027, with platforms like SWAYAM playing a significant role. Since its inception, over 3.5 crore learners have enrolled in SWAYAM courses, with more than 2,800 courses developed by IITs, IIMs, and central universities. In Tamil Nadu alone, over 5 lakh students have registered for SWAYAM, showcasing its increasing popularity. A 2023 survey revealed that 70% of college students in Madurai have engaged in online learning, indicating a shift toward digital education. This study aims to provide valuable insights into the adoption, challenges, and future potential of SWAYAM among students in Madurai, helping policymakers and educators enhance digital learning strategies.

REVIEW OF LITERATURE

The literature on digital learning, particularly in the context of developing countries and India, highlights various challenges and opportunities associated with

online education, MOOCs, and digital learning platforms like SWAYAM.

Similarly, Selvam and Priya (2023) focus on digital learning in Madurai, analyzing student perceptions of SWAYAM and the challenges they face in adopting digital education. Patel and Mehta (2022) investigate the digital learning divide in India, comparing rural and urban experiences. Their findings reveal significant disparities in internet connectivity, availability of digital devices, and digital literacy, which hinder equitable access to online education. Similarly, Mishra and Jain (2022) evaluate the effectiveness of SWAYAM courses for undergraduate students, concluding that while the platform enhances accessibility, issues like course quality and student engagement need improvement. Kumar and Gupta (2021) analyze the adoption trends of SWAYAM MOOCs in Indian higher education, identifying major challenges like low awareness and lack of institutional support. Ravi and Srinivasan (2021) study SWAYAM adoption trends in Tamil Nadu, assessing its impact on student learning. Their research indicates a positive influence on knowledge acquisition but also highlights obstacles like language barriers and insufficient support systems. Shah (2021) provides an overview of the rise of online education in recent years, discussing the impact of MOOCs globally. The study outlines future trends, including increased personalization, AI-driven learning, and enhanced mobile accessibility, which could shape the evolution of online education. Dutta and Choudhury (2020) examine the expansion of online education in India, focusing on its rapid growth due to technological advancements. They discuss the challenges faced, such as uneven access to digital tools and resistance to online learning, and explore prospects for future improvements. Bali and Liu (2018) critically review student engagement in MOOCs, highlighting common challenges like high dropout rates, lack of motivation, and limited interaction. They suggest solutions such as interactive content, better course design, and personalized learning pathways to improve engagement.

OBJECTIVES OF THE STUDY

1. To study the adoption of SWAYAM courses among students in Madurai City.
2. To examine the role of educational institutions in promoting digital learning through SWAYAM.
3. To analyze the level of awareness about SWAYAM among students in Madurai City.

RESEARCH METHODOLOGY

This study employs a quantitative research approach to analyze students' engagement with SWAYAM online courses in Madurai City. A structured questionnaire was designed to collect primary data from students enrolled in various educational institutions. The survey included questions related to demographic factors such as gender, age, and qualification, along with factors influencing user satisfaction, including faculty expertise, ease of access,

assessment methods, and certification value. The Garrett Ranking Method was used to prioritize the key factors affecting student satisfaction, providing a systematic ranking based on mean scores. Additionally, multiple regression analysis was conducted to examine the impact of demographic variables on student participation in SWAYAM courses. The data were analyzed using statistical tools such as Garrett's ranking technique, and regression analysis to derive meaningful insights. The regression model was used to determine the significance of demographic factors in predicting student engagement levels. The reliability and validity of the questionnaire were tested before data collection to ensure consistency and accuracy. The findings from this study provide a data-driven understanding of student preferences and engagement patterns with SWAYAM courses, offering valuable recommendations for institutions to improve digital learning experiences.

HYPOTHESES FOR THE STUDY

H₀ (Null Hypothesis): There is no significant relationship between demographic factors (gender, age, qualification) and student engagement with SWAYAM online courses.

H₁ (Alternative Hypothesis): There is a significant relationship between demographic factors (gender, age, qualification) and student engagement with SWAYAM online courses.

ANALYSIS FOR DEMOGRAPHIC PROFILE IN RELATION TO SWAYAM ONLINE COURSES AMONG STUDENTS

The analysis of the demographic profile in relation to SWAYAM online courses reveals that gender and age significantly influence student participation, while qualification has an insignificant impact. The regression results indicate that older students and a specific gender group are more likely to engage with SWAYAM courses, highlighting the role of demographic factors in shaping digital learning.

TABLE 1 GARRETT RANKING ANALYSIS FOR SWAYAM ONLINE COURSES AMONG STUDENTS

Factors	Garrett Ranking Analysis										Total	Garret 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)														
Course Content Quality	f	9	8	9	8	11	11	12	11	12	9	100	4852	48.520	10
	fx	738	560	567	456	572	517	504	407	360	171				
User Interface	f	10	9	10	8	12	10	9	12	11	9	100	4953	49.530	9
	fx	820	630	630	456	624	470	378	444	330	171				
Interactivity	f	11	9	9	10	11	9	11	10	11	9	100	4997	49.970	6
	fx	902	630	567	570	572	423	462	370	330	171				
Certification Value	f	10	10	12	9	10	9	9	10	11	10	100	5000	50.000	5
	fx	820	700	756	513	520	423	378	370	330	190				
Ease of Access	f	9	12	11	10	9	11	8	9	12	9	100	5026	50.260	2
	fx	738	840	693	570	468	517	336	333	360	171				
Peer Interaction	f	12	9	9	11	9	8	9	11	10	12	100	4965	49.650	8
	fx	984	630	567	627	468	376	378	407	300	278				
Faculty Expertise	f	9	11	10	10	11	11	10	12	11	5	100	5086	50.860	1
	fx	738	770	630	570	572	517	420	444	330	95				
Technical Support	f	10	9	11	11	9	11	11	8	8	12	100	4981	49.810	7
	fx	820	630	693	627	468	517	462	296	240	278				
Flexibility of Learning	f	11	12	9	11	9	9	10	8	7	14	100	5019	50.190	4
	fx	902	840	567	627	468	423	420	296	210	266				
Assessment Methods	f	9	11	10	12	9	11	11	9	7	11	100	5021	50.210	3
	fx	738	770	630	684	468	517	462	333	210	209				

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

The Garrett Ranking Analysis evaluates key factors influencing user satisfaction with an educational platform, ranking them based on mean scores. The highest-rated factor is Faculty Expertise (50.860), indicating that users prioritize the knowledge and skill of instructors in delivering quality education. Ease of Access (50.260)

follows closely, emphasizing the importance of seamless availability of learning materials. Assessment Methods (50.210) ranks third, showing that effective evaluation techniques contribute significantly to user experience. Flexibility of Learning (50.190) and Certification Value (50.000) highlight the need for adaptable study schedules and the credibility of certifications. Interactivity (49.970), Technical Support (49.810), and Peer Interaction (49.650) suggest that while engagement, assistance, and collaborative learning are valued, they rank lower than core academic elements. User Interface (49.530) is also significant, reflecting the necessity of a user-friendly platform. The lowest-ranked factor, Course Content Quality (48.520), suggests that while content is important, learners value accessibility, expertise, and assessment methods more. This ranking indicates that an ideal educational system should focus on expert faculty, accessible learning, structured assessments, and certification credibility while also ensuring interactivity, technical support, and a user-friendly experience.

TABLE 2 REGRESSION ANALYSIS FOR DEMOGRAPHIC PROFILE WITH SWAYAM ONLINE COURSES AMONG STUDENTS

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.957 ^a	0.916	0.912	1.92206

a. Predictors: (Constant), Qualification, Gender, Age

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2257.853	3	752.618	203.724	0.000 ^a
	Residual	206.881	56	3.694		
	Total	2464.733	59			

a. Predictors: (Constant), Qualification, Gender, Age

b. Dependent Variable: Swayam Online Courses Among Students

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.582	0.943		2.738	0.008
	Gender	4.003	0.890	0.298	4.496	0.000
	Age	4.111	0.750	0.676	5.484	0.000
	Qualification	0.260	0.965	0.028	0.270	0.789

a. Dependent Variable: Swayam Online Courses Among Students

In table 2, the multiple regression analysis was conducted to examine the influence of demographic factors, including gender, age, and qualification, on students' engagement with SWAYAM online courses. The model demonstrated a strong predictive ability, with an R value of 0.957 and an R² of 0.916, indicating that 91.6% of the variance in students' participation in SWAYAM courses can be explained by these demographic factors. The adjusted R² of 0.912 further supports the model's robustness. The ANOVA results confirmed that the regression model is statistically significant, F(3, 56) = 203.724, p < .001, suggesting that the predictors collectively contribute to variations in SWAYAM course engagement among students. The coefficient analysis revealed that both gender ($\beta = 0.298$, p < .001) and age ($\beta = 0.676$, p < .001) are significant predictors of SWAYAM course participation. The positive coefficient for gender (B = 4.003) suggests that one gender group engages more actively in SWAYAM courses than the other. Similarly, the age coefficient (B = 4.111) indicates that older students tend to participate

more in SWAYAM courses. However, qualification (B = 0.260, p = 0.789) was found to be an insignificant predictor, implying that students' level of education does not significantly influence their likelihood of enrolling in SWAYAM courses. These findings highlight the importance of demographic factors, particularly gender and age, in shaping students' engagement with digital learning platforms.

CONCLUSION

The study provides valuable insights into the factors influencing students' engagement with SWAYAM online courses. The Garrett Ranking Analysis highlights that faculty expertise, ease of access, and assessment methods are the most critical factors contributing to student satisfaction. These findings indicate that students prioritize the quality of instruction, accessibility of learning materials, and structured evaluation methods over other aspects such as peer interaction, technical support, and user interface. While course content quality is essential, the results suggest that students place greater importance on the effectiveness of educators and the ease of navigating the platform. This underscores the need for institutions to focus on enhancing faculty training, improving accessibility, and refining assessment strategies to maximize the benefits of digital learning platforms. The regression analysis further reinforces the role of demographic factors in shaping students' engagement with SWAYAM courses. Gender and age were found to be significant predictors of participation, with older students and one gender group displaying higher engagement levels. However, qualification did not have a significant impact, suggesting that students across different educational backgrounds have similar levels of interest in SWAYAM courses. These findings highlight the importance of targeted promotional strategies to enhance participation among diverse student groups. Institutions should leverage these insights to develop customized outreach programs, improve digital learning resources, and ensure an inclusive learning experience that caters to students of all backgrounds and demographics.

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