

# ASSESSING GOVERNMENT'S CONTRIBUTION TO THE ADVANCEMENT OF ONLINE EDUCATION: A HOLISTIC EXAMINATION

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## ABSTRACT

**Purpose** – This study wants to examine the role of Govt. in the development of online teaching learning process in different areas of the Indian demography.

**Methodology/Research Design**- The descriptive and exploratory research design used to collect primary data by structured questionnaire and informal interviews from 400 respondents. The collected data were analyzed by SPSS 2.3 software and this study has used regression research tool.

**Findings**- Study has found that the role of Govt. is satisfactory in the development of online teaching learning process in selected district.

**Originality/value** – This study had significant implications for various stakeholders and government which can guide policymakers in creating effective policies and programs for promoting e-learning.

**Key words:** Development, Online Teaching Learning Process, Government Role.

## INTRODUCTION

In the modern world e-learning is the medium of knowledge with the help of computers, laptop and mobile phones. Online education platform can be extended with the use of different application as machine learning and artificial intelligence.(M. Singh et al., 2021) Online education can help to save the environment by reducing the paper requirement as digital copy can be referred back and can be saved for a longer period for future.

It helps the learners in online classes, taking online examination and making discussion forums. Traditional learning pattern is becoming more obsolete because of the major use of ICT; it is the key of learning system. Face to face learning requires more space and money to maintain then e-learning. The importance of online education can no longer be veiled; it gives a flexible approach to learner without being dependent on each other. Government should be aware about the benefits and disadvantages of both approaches and take various initiatives related to online learning.

## LITERATURE REVIEW

The world has seen consequences of coronavirus; it caused disruption in the physical classes and interaction with learners so various type of initiative launched by MHRD and department of school education and literacy (Singh et al., 2021). To promote ICT, the government of India made many policies and plans: SWAYAM projects and Akash project in which the government distributed laptops and tablets to the students. It has a positive impact on studies, teachers are also aware of the use of technology and there are some challenges i.e. network issues (Tyagi & Singh, 2015). SWAYAM among students-teachers” this study is talk about the awareness of MOOC courses and data is collected by 100 students and teachers by questionnaire than result found by statistical analysis. Researcher found that teachers and students are not aware about the MOOC courses (Sivakumar, 2019). This paper highlights the literacy level increased by distance education with the help of various technologies; it also discusses the initiatives taken by govt. In India various institutes provide virtual classrooms as IGNOU, BRAOU etc. here are

various different types of channels working as Gyan darshan, Gyan vani, Interactive Radio Counselling (Rao, 2006). Relationship between cognitive and teaching presences to determine the best strategies for online teaching. Author conclude that effective online is depended on well design, creation of a sense of online learning (Sun & Chen, 2016).

Needs for online education the government should create programmes to improve pupils' and instructors' knowledge of a digitally oriented environment. India's young people should prioritise embracing technology (Jena, 2020). For this education sector adopt the technology and each & every employee and student have modify their mind-set toward online teaching and for success of Digital education in India (Jha & Shenoy, 2016). Author found that education has positive impact as adoption of digital technologies, Rise the use of online learning, enhance the use of soft copy and digital literacy( Swati Singh & Ranjith, 2021). The author has taken an exam of tribal people about computer awareness. This study reveals that computer literacy is important for every person and for this low-cost tablet, android devices are necessary. In India there should be training programs for Digital literacy (Nedungadi et al., 2018).

### **RESEARCH OBJECTIVE**

The study will explore the extent to which government initiatives have been effective in promoting online education in Rajasthan.

### **RESEARCH METHODOLOGY**

This research is based on descriptive and exploratory research design and data collected by Jaipur, Ajmer and Sikar.

#### **Sample Size**

Using the formula  $n = z^2 * p * (1-p) / e^2$  and  $z = 1.96$  at a 95% confidence level, the sample size is calculated.  $e$  is margin of error,  $n = 385$  (after round off will keep 400) for this random sampling, stratified sampling, convenience sampling and judgmental sampling method has been used.

#### **Sampling Technique**

This Research is based on random sampling, stratified sampling, convenience sampling and judgmental sampling. The population was first divided into strata based on gender, district, age group, marital status, and course being pursued. Then, a random sample was taken from each stratum in proportion to its size.

#### **Data Collection**

Data and information has collected by observation method, interview method, Field survey, structured and unstructured questionnaire, pilot survey, telephonic communication and personal visit and secondary data by official websites and government offices.

#### **Tools and Techniques of Analysis**

Regression & SEM, Descriptive statistics such as frequency distributions and percentages were used to analyse the data Table 1.

### **DATA INTERPRETATION**

#### **Government Role in the Development of Online Education**

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly disagreed
The government is providing funding for the development of online education.	96	147	81	61	16
The government is regulating online education to ensure its quality.	121	198	47	14	21
The government collaborates with educational institutions to develop online education programs.	63	222	97	14	5
The government is providing incentives for teachers to develop and teach online courses.	67	226	86	11	11
The government is providing internet access to students who do not have it.	76	184	89	38	14
The government is providing training to teachers to teach online courses effectively.	94	201	89	6	11
The government is providing technical support to educational institutions to develop and maintain online education platforms.	90	209	94	5	3
The government is working with industry leaders to develop online education programs that align with industry needs.	84	204	101	9	3
The government is providing financial assistance to students to access online education.	72	209	112	5	3
The government collaborating with other countries to develop international online education programs.	95	208	77	12	9

Based on the above table 2 majority of respondents (71.5%) agreed or strongly agreed that the government is sponsoring and supporting the online pedagogy. A significant proportion of respondents (21.8%) were neutral with the Govt. role, while a small percentage (6.7%) disagreed or strongly disagreed.

### HYPOTHESIS TESTING

$H_0$       *There is no significant Government role in the development of online education.*

$H_1$       *There is a significant Government role in the development of online education.*

### Path Analysis

Models Info					
Estimation Method		ML			
Number of observations		400			
Free parameters		3			
Converged		TRUE			
Loglikelihood user model		-337.284			
Loglikelihood unrestricted model		-337.284			
Model		`Development` ~ Govt			

Table 2 suggests that a model was estimated using maximum likelihood estimation (MLE) with 400 observations and three free parameters. The likelihood function, which gauges the likelihood of the observed data given the model parameters, forms the basis of the popular method known as MLE for estimating the parameters of a statistical model. The model being estimated is represented as "Development ~ Govt", which suggests that the dependent variable is

"Development" and the independent variable is "Govt" (presumably representing some measure of government involvement or policy). The information also indicates that the estimation process converged, which means that the algorithm used to estimate the model parameters found a set of values that minimized the negative log-likelihood function.

Loglikelihood user model and loglikelihood unrestricted model are also provided, with both having the same value of -337.284. The log-likelihood of the model being estimated is known as the log-likelihood user model, whereas the log-likelihood of a hypothetical model without any constraints or parameter assumptions is known as the log-likelihood unconstrained model. The fact that both values are the same suggests that the model being estimated is already unrestricted, or that it is the most general model that can be estimated with the given data and assumptions.

Overall, the provided information is limited and does not allow for a complete understanding of the model being estimated or its performance. However, it does provide some basic information about the estimation process and the model's dependent and independent variables.

### Overall Tests

The Table 2 presents a test of the baseline model, where the test statistic is labeled as  $X^2$ , the degrees of freedom (df) are given as 1, and the p-value is 0.962.

The baseline model is typically the most basic or null model, which serves as a reference point for comparing the performance of other more complex models. The test is probably a chi-square test, which evaluates how much the observed data differs from what the basic model predicts.

The test statistic  $X^2$ , which has bigger values suggesting a worse fit, measures the disparity between observed and expected data. The value of  $X^2$  in this instance is 0.00224, which is extremely low and denotes a good fit between the observed and anticipated data. The number of independent data points that go into the estimation of the population variance is denoted by the degrees of freedom (df). There is only one degree of freedom in this situation, which is typical for baseline models with only one parameter.

The likelihood of observing a test statistic that is as extreme or more extreme than the observed value under the null hypothesis is shown by the p-value of 0.962, where a value higher than 0.05 is normally regarded as not statistically significant. The p-value in this instance is fairly high, indicating that the data are well modelled by the baseline model. Overall, based on the information given, it appears that the baseline model, which has a very tiny test statistic and a high p-value, adequately fits the data. However, it is challenging to make any judgements about the model's performance or usefulness for making predictions without knowing more about the data or the model that is being tested.

### Estimates

Table 3 ESTIMATES					
R-squared					
			95% Confidence Intervals		
Variable		R <sup>2</sup>	Lower	Upper	
Development		5.59e-6	0.009	0.010	

This Table 3 show that the model only partially explains the variance in the dependent variable, with an R-squared value of 5.59e-6 (very near to zero) for the model predicting Development using Govt as the predictor variable. We can be 95% confident that the genuine R-squared value lies within this range because the confidence intervals for the R-squared value fall between 0.009 and 0.010.

Table 4 PARAMETER ESTIMATES									
				95% Confidence Intervals					
Dep	Pred	Estimate	SE	Lower	Upper	$\beta$	z	P	
Development	Govt	0.00226	0.0477	-0.0913	0.0958	0.00236	0.0473	0.962	

Table 4 shows the parameter estimates for the regression model predicting Development using Govt as the predictor variable.

The estimated coefficient (also known as slope or beta) for Govt is 0.00226, which means that for every one-unit increase in Govt, we can expect an increase of 0.00226 in the predicted value of Development. Although we cannot be 95% certain that the true coefficient falls within this range because the confidence intervals for this estimate span from -0.0913 to 0.0958.

The standard error (SE) of the estimate is 0.0477, which indicates the precision of the estimate. The z-score and p-value indicate that the coefficient is not statistically significant at the conventional level of 0.05, as the p-value is 0.962 which is much higher than 0.05.

Table 5 VARIANCES AND COVARIANCES											
				95% Confidence Intervals							
Variable 1	Variable 2	Estimate	SE	Lower	Upper	$\beta$	z	p	Method	Type	
Development	Development	0.316	0.0224	0.272	0.360	1.000	14.1	<.001	Estim	Residuals	
Govt	Govt	0.347	0.0000	0.347	0.347	1.000			Sample	Variables	

Table 5 provides the information related to variances, covariances, and confidence intervals for two variables: "Development" and "Govt."

The estimated variance for the "Development" variable is 0.316, and the standard error (SE) is 0.0224. The range of this estimate's 95% confidence level is between 0.272 and 0.360. The estimate of the covariance between "Development" and itself (i.e., the variance of "Development") is 1.000. The  $\beta$  value is not applicable in this case since the variable is being regressed against itself. The z-score is 14.1, with a corresponding p-value of <0.001. The method used to estimate the variance is "Estim," and the type of residuals used is "Residuals."

The estimate of the variance for the "Govt" variable is 0.347, with a standard error of 0.0000. This estimate's 95% confidence interval is in the range of 0.347 and 0.347, indicating that it is accurate and without any uncertainty. The estimate of the covariance between "Govt" and itself is 1.000. The  $\beta$  value is not applicable in this case since the variable is being regressed against itself. The method used to estimate the variance is "Sample," and the type of variables used is "Variables."

It's worth noting that the estimates of variances and covariances, as well as their confidence intervals, depend on the specific context and assumptions of the statistical model being used, so further information on the analysis and data would be necessary to provide a more detailed interpretation of these results.

Above provide information related to intercepts and their confidence intervals for two variables: "Development" and "Govt."

The intercept estimate for the "Development" variable is 2.199 with a standard error (SE) of 0.107. The range of this estimate's 95% confidence level is between 1.989 and 2.408. This estimate has a z-score of 20.562 and a matching p-value of 0.000, providing strong evidence that the intercept is not zero.

The intercept estimate for the "Govt" variable is 2.163, with a standard error of 0.000. This estimate's 95% confidence interval is in the range of 2.163-2.163, meaning there is no uncertainty and the estimate is accurate.

When all independent variables are set to zero, the dependent variable's value is represented by the intercept. In this case, it's not clear whether there are any independent variables included in the model or what the specific context of the analysis is, so a more detailed interpretation of the intercept estimates would depend on that information.

## CONCLUSION

The target population can better correct the government's role, thus a survey was undertaken to obtain their opinions on online learning from students at various universities. The outcome is really very satisfactory because most of the students in favour of govt. initiatives taken in the field of development of online learning. State and federal governments in India have undertaken numerous measures to make online education accessible to all students in the country. The government is helping students grasp online education by offering them financial aid and training.

## IMPICATION OF THE STUDY

This paper provides information to the users regarding Government contributions in the online education. This study contributes towards to know the initiatives taken by system for the advancement of online education. Institutions and students can use various online platforms that launched by the govt. for the growth of the nation. It enable to learner for adoption and usage of online learning tools.

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