XIBA

Business Review (XBR)

Bi - Annual Journal

XAVIER INSTITUTE OF BUSINESS ADMINISTRATION (XIBA)
Excellence with Ethics

XIBA

Business Review (XBR)

July 2022 - December 2022

EDITORIAL NOTE

Dear Authors,

In the ever-evolving landscape of business and management, it is our great pleasure to present to you the latest issue of our esteemed journal. This edition delves into a many of topics that hold profound implications for both scholars and practitioners in the field. As the Editorial Team, we are excited to introduce a diverse collection of research articles that shed light on the multifaceted dynamics shaping the world of management today.

One of the key areas explored in this volume is the profound Impact on Stock Market, where factors influencing stock market trends, providing valuable insights for investors, analysts, and policy-makers alike are discussed which continues to be a subject of practical significance.

Business Sustainability, a topic of paramount importance in our times, takes center stage in several articles featured herein. As sustainability becomes an integral part of corporate strategy, these studies offer compelling perspectives on how organizations are navigating the path toward environmental, social, and economic equilibrium.

In line with our commitment to inclusivity, this issue delves into the realm of Occupational Stress among Women. Recognizing the unique challenges that women often face in the workplace, the research presented here underscores the need for gender-sensitive policies and support systems

Volatility Spillover, an elaborate phenomenon in global financial markets, is rigorously explored within these pages.

The digital era has ushered in transformative changes, giving rise to the Born-Digital paradigm. Within this issue, we delve into the implications of this shift across industries, uncovering opportunities and challenges presented by the digital-native landscape.

Artificial Intelligence (AI) Applications in Education constitute another captivating dimension of this volume. From personalized instruction to data-driven insights, these articles offer a glimpse into the future of education and its profound societal impact.

Finally, we delve into the fascinating realm of Buying Behavior, sorting out the complications of consumer choices in an ever-evolving market.

We extend our deepest gratitude to the authors, reviewers, and contributors who have made this issue possible. Their dedication to advancing knowledge in the field of management is truly commendable. As we present this compilation of insightful research, we invite you, our readers, to immerse yourselves in the rich tapestry of ideas and discoveries that await within these pages. May this journal inspire new avenues of inquiry, spark transformative conversations, and serve as a guiding light in the dynamic realm of business and management.

Rev. Dr. A. Michael John SJ

Editor-in-Chief

XIBA Business Review

Research Articles

XBR is available online at www.publishingindia.com

OCCUPATIONAL STRESS AMONG WOMEN ADMINISTRATIVE SUPPORT STAFF IN HEALTHCARE SECTOR DURING COVID-19

Bulomine Regi S.*, Rita Rebekah***

Abstract   *Healthcare workers experience multiple sources of stress. A substantial contributor to poor physical and mental health, substance abuse, tardiness at work, absenteeism, and emigration rates is workplace stress due to menial job workers, technical and non-technical workers in private hospitals. The main aim of the study is to measure the occupational stress among women administrative support staff in healthcare sector. The questionnaires were distributed to 750 healthcare workers were selected for the study; 630 questionnaires were selected for the study with the response rate of 84%. It is found that menial workers and technical workers are having more physiological, psychological and behavioural problems compared to non-technical workers working in healthcare sector. Non-technical workers are having less physiological, psychological and behavioural problems compared to menial and technical workers working in healthcare sector during COVID.*

Keywords   *Occupational Stress, Women Administrative Support Staff, Healthcare, Physiological, Psychological, Behavioural Problems*

INTRODUCTION

Due to a mismatch among the job's demands and the abilities, skills, and needs of the worker, occupational stress is damaging and, in its chronic form, is known as "Burnout." Healthcare workers experience multiple sources of stress. It affects between 27 and 87.4% of healthcare practitioners. A substantial contributor to poor physical and mental health, substance abuse, tardiness at work, absenteeism, and emigration rates is workplace stress. It may also result in worries about patient safety and subpar medical care. Some of the factors significantly associated with occupational stress among health care professionals included the mismatch among the job demands and the resources at their disposal, work overload, working conditions, previous experience, conflict at work, discrimination based on gender, marital status, educational status, job satisfaction, and not being rewarded. Additional pressures brought on by the coronavirus disease 2019 (COVID-19) pandemic include worker redeployment and infection anxiety. The healthcare workers has been deemed essential by the WHO for achieving complete health coverage without suffering financial hardship. To do this, it is essential to ensure the physical and emotional health of healthcare personnel. The need of the hour is to provide early treatments that are culturally and organizationally suitable in order to stop a health care worker from reaching a stress level that is insurmountable and beyond their capacity to cope.

In the healthcare industry, stress has become a pervasive issue, contributing to health-related issues that reduce effectiveness and productivity. Healthcare employees experience multiple sources of stress. Some of the factors significantly associated with psychological stress among healthcare professionals included the mismatch between job requirements and the resources at their disposal, work overload, working environment, work experience, workplace conflict, discrimination based on gender, marital status, educational status, satisfaction with work, and not being rewarded. Additional pressures brought on by the coronavirus disease 2019 (COVID-19) pandemic include worker redeployment and infection anxiety. Good basic healthcare is essential to achieving universal health coverage (UHC) without facing financial hardship, according to the World Health Organisation (WHO). To do this, it is essential to ensure the physical and emotional health of healthcare personnel. The Maslach Burnout Inventory (MBI) is still the de facto tool for measuring burnout in healthcare workers. The need of the hour is to provide early treatments that are culturally and organizationally suitable in order to stop a health care worker from reaching a stress level that is insurmountable and beyond their capacity to cope.

Medical staff are more likely than the general population to be exposed to a variety of risk factors for mental health issues, including strained doctor-patient relationships, accumulated resentment over patient deaths, and increased government

* Research Scholar (Part-Time), Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Palaymkottai, Tamil Nadu, India.
Email: drregi23@gmail.com; ORCID: https://orcid.org/0000-0002-2040-9001
** Associate Professor and Dean-Academics, Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Palaymkottai, Tamil Nadu, India. Email: ritarebekah@gmail.com

oversight of professional activities (Paiva et al., 2018; Huo et al., 2021). In addition, COVID-19 puts healthcare professionals at risk for extra psychological stress, such as infection anxiety, social isolation, and a sense of urgency at work. According to earlier research, the COVID-19 pandemic has caused severe mental stress and psychological issues in healthcare personnel (Lai et al., 2020; Zhang et al., 2020). One of the biggest problems with the epidemic is minimising the harm COVID-19 has done to the mental health of healthcare workers (Feng & Yin, 2021). However, primary healthcare has received little attention in research to date, which has mainly paid attention to evaluating the psychological responses of the overall medical team (Wang et al., 2020; Xu et al., 2021).

METHODS AND MATERIALS

Before the survey, the respondents were informed about the purpose of the study. The questionnaires were distributed to menial job workers, technical workers and non-technical workers in the hospitals in Tirunelveli District. The researcher explained the questionnaire to the respondents. The researcher confined to do the research by giving equal weightage to each category of administrative support staff i.e. menial job workers, technical and non-technical workers in private hospitals. In this study, a total of 750 healthcare workers were selected for the study; 630 questionnaires were selected for the study with the response rate of 84%. The questionnaire was structured with socio-demographic characteristics like age, education, marital status, years of experience, work hours in a day and measure the occupational stress of the administrative support staff by analysing the physiological problems, behavioural problems and psychological problems.

RESEARCH QUESTION

What is the different level of physiological, psychological and behavioural problems among administrative support staff due to occupational stress?

RESULTS AND DISCUSSION

The following describes the basic demographic profile of the respondents and level of stress among women administrative support staff working in private hospitals:

Regarding age, 56 per cent of the menial job respondents are in the age above 45 years, 61 per cent of the technical job respondents are in the age up to 30 years and 52 per cent of the non-technical job respondents are in the age group between 31-45 years. Regarding marital status, 85 per cent

of the menial job respondents are married, 75 per cent of the technical job respondents are married, 64 per cent of the non-technical job respondents are married. Regarding educational qualification, 62 per cent of the menial job respondents have completed up to 8th std, 68 per cent of the technical job respondents have completed technical course and 42 per cent of the non-technical job respondents are graduates. Regarding years of job experience, 67 per cent of the menial job respondents are having upto 10 years of experience in the job, 75 per cent of the technical job respondents are having experience between 11 to 20 years and 56 per cent of the non-technical job respondents are having experience up to 10 years. The selected respondents are not having more than 20 years of experience. Regarding working experience, 65 per cent of the menial job respondents are working 11-12 hours in a day, 52 per cent of the technical job respondents are working 11-12 hours in a day. Regarding shift system, 58 per cent of the menial job respondents are working in morning shift, 72 per cent of the technical job respondents are working in morning shift, 100 per cent of the non-technical job respondents are working in rotation.

Table 1: Showing Occupational Stress among Administrative Support Staff with Physiological, Psychological and Behavioural Problems

Administrative Support Staff	Mean	SD	F Value	P Value
Physiological Problems				
Menial Job Workers	35.22	3.59	3.678	0.001**
Technical Workers	32.15	3.06		
Non-Technical Workers	33.31	3.31		
Psychological Problems				
Menial Job Workers	34.36	4.12	4.176	0.003**
Technical Workers	32.13	3.75		
Non-Technical Workers	33.27	3.96		
Behavioural Problems				
Menial Job Workers	37.38	4.87	5.111	0.001**
Technical Workers	33.09	4.01		
Non-Technical Workers	34.44	4.53		

Source: Primary data.

The above table shows the significance difference between menial workers, technical workers and non-technical workers with physiological, psychological and behavioural problems. Since P value is less than 0.01, null hypothesis is rejected at 1 per cent level with regard to physiological, psychological and behavioural problems. Hence, there is a significant difference between menial workers, technical workers and non-technical workers with physiological, psychological and behavioural problems.

CONCLUSION

Overall, more than half of the healthcare workers are suffering from severe physiological, psychological and behavioural problems. More importantly, this study found that COVID-19-related work stress significantly predicted physiological, psychological and behavioural problems due to fear of spread of COVID and depression. It is found that menial workers and technical workers are having more physiological, psychological and behavioural problems compared to non-technical workers working in healthcare sector. Non-technical workers are having less physiological, psychological and behavioural problems compared to menial and technical workers working in healthcare sector during COVID. It shows that menial workers need to be recognised properly and need guidance to burnout their stress to lead a happy and healthy life in the workplace. Technical workers are afraid to check the patients due to spread of COVID. The hospital management should take necessary steps to help the workers to burnout their stress with proper coping up strategies for the improvement of mental health well-being during COVID-19.

REFERENCES

Feng, L., & Yin, R. (2021). Social support and hope mediate the relationship between gratitude and depression among front-line medical staff during the pandemic of COVID-19. *Front. Psychol., 12,* 623873. doi:10.3389/fpsyg.2021.623873

Huo, L., Zhou, Y., Li, S., Ning, Y., Zeng, L., Liu, Z.,…Zhang, S. Y. (2021). Burnout and Its relationship with depressive symptoms in medical staff during the COVID-19 epidemic in China. *Front. Psychol., 12,* 616369. doi:10.3389/fpsyg.2021.616369

Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N.,…Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open, 3,* e203976. doi:10.1001/jamanetworkopen.2020.3976

Paiva, C. E., Martins, B. P., & Ribeiro Paiva, B. S. (2018). Doctor, are you healthy? A cross-sectional investigation of oncologist burnout, depression, and anxiety and an investigation of their associated factors. *BMC Cancer, 18,* 4964. doi:10.1186/s12885-018-4964-7

Shi, L. S. B., Xu, R. H., Xia, Y., Chen, D. X., & Wang, D. (2022). The impact of COVID-19-related work stress on the mental health of primary healthcare workers: The mediating effects of social support and resilience. *Front. Psychol., 12,* 800183. doi:10.3389/fpsyg.2021.800183

Wang, L. Q., Zhang, M., Liu, G. M., Nan, S. Y., Li, T., Xu, L.,…Liu, F. (2020). Psychological impact of coronavirus disease (2019) (COVID-19) epidemic on medical staff in different posts in China: A multicenter study. *J. Psychiatr. Res., 129,* 198-205. doi:10.1016/j.jpsychires.2020.07.008

Xu, L., You, D., Li, C., Zhang, X., Yang, R., Kang, C.,…Yang, J. (2021). Two-stage mental health survey of first-line medical staff after ending COVID-19 epidemic assistance and isolation. *Eur. Arch. Psychiatry Clin. Neurosci., 2,* 1-13. doi:10.1007/s00406-021-01239-x

Zhu, W., Wei, Y., Meng, X., & Li, J. (2020). The mediation effects of coping style on the relationship between social support and anxiety in Chinese medical staff during COVID-19. *BMC Health Serv. Res., 20,* 1007. doi:10.1186/s12913-020-05871-6

COVID-19: A STUDY OF ITS IMPACT ON STOCK MARKET

Parul Mittal*

Abstract   *Economic sectors in India have been hit worse than those in the United States during the 2008 financial crisis. As a result of the financial sector's influence, a stock market collapse, liquidity crisis, and different changes in the monetary market have occurred. The pandemic has hit the Indian economy dream of reaching a USD 5 trillion with a 7% GDP by the year 2024. The virus has deeply affected our supply chains and manufacturing operations. It continues to do so daily. It has already forced major European economies and the US to shut down its operations and it will continue to do so in developing nations like India. The virus has resulted in an 8% crash on BSE Sensex and Nifty Fifty on a single day on March 12 and it reportedly wiped off 10 Million in a single day. It is the primary objective of this research to analyses the impact of the unexpected breakout of COVID-19 on the Indian Stock Markets. Because predicting a stationary series is easier and more reliable, secondary data was employed in order to meet the goal. The series will be made stationary in the future.*

Keywords   *COVID-19, Stock Market, Financial Sector and Forecasting*

INTRODUCTION

Over the last several quarters, the Indian economy has seen a notable decline. The Indian economy expanded at a six-year low pace of 4.7 percent in the third quarter of the financial year 2019-2020. The government has implemented a number of steps to stimulate the economy, which has seen a decrease in investment and consumer demand. A robust rebound was expected in the last quarter of the fiscal year 2019-2020. Coronavirus pandemic has made the near-term recovery challenging. The pandemic has brought new hurdles to the Indian economy, which would have a significant influence on the economy's supply and demand, which might derail India's economic narrative. Uncertainty about the increase in cases and lack of treatment options meant that the market was very volatile, which in turn caused massive crashes and wealth depreciation, which had an effect on overall economic consumption. A significant decline in the local equities markets occurred on March 12 when both the BSE Sensex and the NSE Nifty fell by almost 8 percent in a single day, mirroring global equity markets. The fall reportedly wiped out Rs. 10 lakh crores of market capitalization in a single day. The NSE Nifty fell by 868 points whereas BSE Sensex fell by 2919 points. The fall continued as investors resorted to relentlessly sell amid rise in coronavirus cases. The market then plunged to a new low on March 19 when Sensex closed 581 points lower a 28288 and Nifty fell 205 points to end at 8263. The worst was seen on March 23, 2020 when Nifty was halted from trading for 45 minutes during the early deals when it reached the circuit of 10%. Nifty had hit the lower circuit for the first time since May 2009 in the opening deals. Nifty tanked 1135 points or 13% at the end of the day and closed at 7610. The BSE Sensex closed 13% below at 25981 levels with all 30 constituents ending in the red. With the fall on March 23,

Rs.13.88 trillion was lost and in the month of March investors lost around Rs. 56.22 trillion. India's whole economy has been hit hard by the coronavirus epidemic that has swept the world. After the Great Depression, economist John Maynard Keynes proposed the idea of trading cycles. The last step is to calculate the country's real GDP and growth rate. This would be India's poorest growth since the liberalization strategy of 1991, according to the International Monetary Fund (IMF). Economic sectors in India have been hit worse than those in the United States during the 2008 financial crisis. As a result of the financial sector's influence, a stock market collapse, liquidity crisis, and different changes in the monetary market have occurred. Because to the epidemic, India's 2024 GDP is projected to grow by 7%, from its current level of USD 5 trillion to USD 5 trillion in 2024. The virus has deeply affected our supply chains and manufacturing operations. It continues to do so daily. It has already forced major European economies and the US to shut down its operations and it will continue to do so in developing nations like India. The virus has resulted in an 8% crash on BSE Sensex and Nifty Fifty on a single day on March 12 and it reportedly wiped off 10 million in a single day.

LITERATURE REVIEW

The efficacy of government interventions to limit the spread of COVID-19 has been tested in several research studies. There was a significant reduction in the average number of COVID-19 cases during a 14-day period in research by Koh, Naing, and Wong (2020) that examined 142 nations. There were similar findings in 131 countries by Li et al. (2020), which showed a decrease in COVID-19 following the implementation of containment policies, in as little as 1–3 weeks; by Cho (2020), which occurred in as little as 5 weeks;

* Assistant Professor, Dept. of Commerce, KLP College, Rewari, Haryana, India. Email: Palakmittal12@yahoo.co.in

by Cowling et al. (2020), which occurred in as little as 7 days; and by Hartl, Wälde and Weber (2020), It happened in Germany in under 7–8 days. Implementing steps promptly improves effectiveness in nations with lower population densities and cooler temperatures, but also in countries with a higher proportion of older people and better health systems. (Deb, Furceri, Ostry & Tawk, 2020). A study by Dergiades et al. (2020) found that early government interventions were more effective in lowering or reversing death rates. It was also observed that therapies like as mask use and localized quarantines might replace costly countrywide lockdowns without significantly raising the epidemic's peak, according to Chen and Qiu (2020). "More than a dozen research studies have looked at the impact of COVID-19 on the financial markets. From January to April 2020, Capelle-Blancard and Desroziers (2020) investigated 74 nations and found that stock markets disregarded the epidemic until February 21 before responding sharply to the rising number of afflicted persons from February 23 to March 20." After central banks intervened from March 23 to April 30, the volatility increased significantly. But investors were unconcerned at this point in the company's health care dilemma. While macroeconomic fundamentals were important before the financial crisis, they were not as important as short-term responses during the crisis. A research by Akbar and Tahir (2020) indicated that COVID-19 cases and fatalities were related with stock returns and realized volatility in the US equity market throughout the day. Bakker et al. (2020) found a similar result for the United States; "Alfaro and Greenland (2020) for China; Zhang and Hu (2020) for the 10 stock markets in countries with the most confirmed cases during January–February 2020; Zhang and Hu (2020) for the 10 stock markets in countries with the most confirmed cases during the same time period; and Zhang and Hu (2020) for the same period." The COVID-19 pandemic had a detrimental impact on stock markets, according to Ashraf (2020b), who analyzed data from 64 nations to arrive at this conclusion. Though there was an increase in the number of confirmed cases, it had no effect on the overall number of fatalities.

According to the literature, during a financial crisis, market integration shifts. During the global financial crisis, the Asian stock market network was more linked than it was before or after the crisis, according to Aswani (2017), who studied the network dynamics in three stages (i.e. before, during, and after the crisis). Hong Kong's stock market was shown to be a critical link in these networks, and a shock to these markets might cause a chain reaction. To the same effect, Wu (2020) looked at stock market integration across ASEAN-5 nations and China, Japan, and Korea, and found that although interconnectivity among these markets appeared to be significant in the overall picture, it was mostly driven by global forces.

GAP IDENTIFICATION

There have been conducted many studies regarding stock market in other countries. But in India, only few studies have been done especially regarding the impact on stock market. So this study is helpful to cover this gap. With the help of this research we would be able to measure the impact of COVID-19 on Indian stock market and also highlighted the factors what affects stock market in a country.

OBJECTIVES OF THE STUDY

- To analyses the impact of the unexpected breakout of COVID-19 on the Indian Stock Markets.

- To study the investor's behavior towards Indian stock market.

HYPOTHESES

H0: There is no significant impact of COVID-19 on the Indian Stock Markets.

RESEARCH METHODOLOGY

In this research, data from 30/01/2020 to 24/04/2020 is taken from secondary sources. The World Health Organizations' official website and the National Stock Exchange were used to gather data.

Research Design

Because the explanatory factors may be used to forecast the dependent variable, this is a useful technique. As a result, the variable is statistically examined and probability sampling is used to explain the variables' cause and effect. As a result, descriptive design is the most effective method for demonstrating cause and effect relationships.

Statistical Tool and Technique

It is necessary to make the series stationary in order to attain this goal since predicting a stationary series is simpler and more trustworthy. So the ADF test (Aggravated Dickey Fuller test) is used to render the series stationary. In addition to the ADF test, the Ordinary Least Squares (OLS) approach is used to predict the values of a continuous response variable using one or more explanatory variables (s). It also shows how strong the link between variables is.

DATA ANALYSIS AND INTERPRETATION

Here, we investigate the impact of the COVID-19 epidemic on the Indian stock market. As a means of achieving the goal, data is gathered from WHO and NSE websites. ADF and OLS tests are used to examine the data that has been gathered, and the results are compared to each other (OLS method). There are three variables used in the tests: CumDead, DGR CC "(Recovered, Deceased, and Canceled)" Confirmed cases of COVID-19 in India.

Augmented Dickey Fuller Test

First, the variables must be evaluated for linearity so that unit roots may be found and deleted in order to make the series stationary. With the exception of variable CumRec, which has a p-value greater than 5% and thus indicates the presence of the series' unit root, this can be accomplished using the Augmented Dickey Fuller test. It is found that all variables stationarity tested have p-values of both the independent and dependent variables lower than 5%. The p-value falls below 5% when the series is made stationary by performing a single differencing operation. This fixes the issue. Those findings have been included in Table 1.

Ordinary Least Square Model

We use the OLS model to examine the importance of the variables since the series of the variables are stationary. OLS models were studied by observing samples of the dependent variable, i.e., stock market returns, in order to determine their relationship (SMR). P-value of 0.0128 suggests that Cum Deceased is statistically significant. To put it another way, there is no statistical significance to the variable DGR CC (p-value of 0.0019). P-values of 0.0013 indicate that CumRec is the most insignificant variable. Moreover, "SMR

p-values" of 0.0287, the fifth lag value, suggests that data from the preceding five days had an impact. To reject the null hypothesis, a p-value less than the significance threshold (0.0287) indicates that the dependent variable is statistically significant. There is a negative correlation between "SMR," "DGR CC," and "d CumRec" with all three other variables, with coefficient values of -0.425973 each (see Table 2).

"Equation for the OLS model:

SMR= - 0.000881881- 0.00831016*DGR_CC

+ 0.000279326* d_CumRec+

0.000634251*d_CumRec (5) +

0.000673351*d_CumRec (6) −

0.00055129*Cum Deceased +

0.000535573*Cum Deceased (1)

+0.000979537*Cum Deceased (2) – 0.00153685*Cum Deceased (3) –

0.425973*SMR (5).

Table 1: Results of ADF Test

Variables	Level of Variable		First Difference of Variable	
	Test with Constant	With Constant and Trend	Test with Constant	With Constant and Trend
DGR_CC	7.506e-008	5.89e-007	-	-
CumRec	0.7672	0.5331	2.05e-007	1.181e-006
CumDe-ceased	9.856e-005	0.001665	-	-
SMR	5.622e-009	4.67e-008	-	-

Table 2: Model 1: OLS, Using Observations 2020-02-10:2020-04-17 (T = 50)

Dependent variable: SMR, HAC standard errors, bandwidth 2 (Bartlett kernel)

	Coefficient	Std. Error	T-Ratio	P-Value	
Const	0.000881810	0.000995387	−0.8859	0.3853	
DGR_CC	−0.00831016	0.00235424	−3.530	0.0019	***
DGR_CC_1	−0.00205125	0.00207053	−0.9907	0.3326	
DGR_CC_2	0.000994638	0.00283658	0.3506	0.7292	
DGR_CC_3	0.00119950	0.00394131	0.3043	0.7637	
DGR_CC_4	0.00417761	0.00223986	1.865	0.0756	*
DGR_CC_5	0.00119396	0.00143546	0.8318	0.4145	
DGR_CC_6	−0.00242111	0.00263776	−0.9179	0.3686	
d_CumRec	0.000279326	7.55390e-05	3.698	0.0013	***

	Coefficient	Std. Error	T-Ratio	P-Value	
d_CumRec_1	5.74279e-05	0.000101016	0.5685	0.5754	
d_CumRec_2	−0.000115405	9.84433e-05	−1.172	0.2536	
d_CumRec_3	0.000233325	0.000179313	1.301	0.2066	
d_CumRec_4	0.000329035	0.000171940	1.914	0.0688	*
d_CumRec_5	0.000634251	0.000191314	3.315	0.0031	***
d_CumRec_6	0.000673351	0.000171424	3.928	0.0007	***
CumDeceased	−0.000551296	0.000200888	−2.744	0.0118	**
CumDeceased_1	0.000535573	0.000244936	2.187	0.0397	**
CumDeceased_2	0.000979537	0.000280723	3.489	0.0021	***
CumDeceased_3	−0.00153685	0.000354052	−4.341	0.0003	***
CumDeceased_4	−0.000812400	0.000406294	−2.000	0.0580	*
CumDeceased_5	−0.000994047	0.000560280	−1.774	0.0899	*
CumDeceased_6	0.000680583	0.000666763	1.021	0.3185	
SMR_1	0.178123	0.214248	0.8314	0.4147	
SMR_2	−0.198700	0.144574	−1.374	0.1832	
SMR_3	−0.0786308	0.118115	−0.6657	0.5125	
SMR_4	0.286542	0.156718	1.828	0.0811	*
SMR_5	−0.425973	0.181965	−2.341	0.0287	**
SMR_6	−0.118457	0.126441	−0.9369	0.3590	

Mean dependent var	−0.001168	S.D. dependent var	0.007037
Sum squared resid	0.001029	S.E. of regression	0.006839
R-squared	0.575913	Adjusted R-squared	0.055442
F(27, 22)	270.8151	P-value(F)	3.15e-22
Log-likelihood	198.8342	Akaike criterion	−341.6683
Schwarz criterion	−288.1317	Hannan-Quinn	−321.2813
Rho	−0.012009	Durbin-Watson	2.011480"

CONCLUSION

Negative coefficient values for the dependent variable Stock Market Return (SMR) indicate a negative relationship between SMR and CumRec, DGR CC, and d CumRec. When we state that two variables are "negatively connected," we indicate that the dependent variable's relationship to the independent variables is inverse. This means that the model recommends that the variables throughout the simulation.

Outbreak of the virus COVID-19 Increasing the number of confirmed instances of COVID-19 has a favorable impact on the stock market because of cases that have been recovered (CumRec), cases that have been dead (Cum Deceased), and confirmed cases (DGR CC). Stock market return is negatively related to CumRec, DGR CC, and Cum Deceased, as shown by the negative coefficient value obtained by OLS testing. In addition, this indicates the SMR. The stock market, as we all know, is driven by the forces of supply and demand. Stock market returns during a pandemic are strongly affected by investor mood, as this regression indicates. Stock market returns are negatively impacted by a rising number of SARS-Cov-2 related fatalities in India, according to the study's findings. The Indian government has to implement a lockdown on the nation immediately from March 24, 2020, which has been intensified in light of the virus's effects. It was because of this that many business stopped down operations and services for the time being. As a result, investors became more pessimistic about stock market returns as interest rates continued to fall. Many investors remain negative about the market, but there are several areas that still have a bright future for them. These occurrences elevated the risk in the market significantly, and investors began short-covering, or trading more often, as a result of the high market volatility. Due to the lack of efforts to manage the pandemic, the market has become more volatile and will stay volatile for an indeterminate amount of time. In India, the number of pandemic cases is constantly rising, making the market even more unpredictable. Volatility in the market causes a reduction in stock values, which in turn causes investors to begin withdrawing money from the investments they made. As a consequence of this increase in risk, stock volatility

rises as a result of a decrease in the stock's value. Market crises may be prevented if investors stop withdrawing and investing, which causes the stock values to decrease. Continuing this trend will result in the investor losing all of their money, causing a market crisis that is harmful to the economy.

IMPLICATIONS

This study is helpful to check out the impact of COVID-19 on Indian stock market as well as what factors affect the market value of shares. It is also significant to highlight the behavior of investor's towards investment in Indian stock market post and during COVID-19.

SCOPE FOR FUTURE RESEARCH

After doing this research, we can extend the work by measuring the impact of COVID-19 on other stock markets. For e.g. Stock markets of other countries or we can measure the variables that affect stock market. We can also do comparison of Indian stock market with other stock market of Asian countries or various other countries than Asian countries.

REFERENCES

Al-Awadhi, A. M., Al-Saifi, K., Al-Awadhi, A., & Alhamadi, S. (2020). Death and contagious infectious diseases: Impact of the COVID-19 virus on stock market returns. *Journal of Behavioral and Experimental Finance*, *27,* pages 6.

Alfaro, L., Chari, A., Greenland, A. N., & Schott, P. K. (2020). Aggregate and firm-level stock returns during pandemics, in real time. National Bureau of Economic Research (NBER) Working Papers, No. 26950. Washington, DC: NBER.

Ashraf, B. N. (2020a). Economic impact of government interventions during the COVID-19 pandemic: International evidence from financial markets. *Journal of Behavioral and Experimental Finance, 27,* 100371.

Aswani, J. (2017). Impact of global financial crisis on network of Asian stock markets. *Algorithmic Finance, 6*(3-4), 79-91.

Bai, Y. (2014). Cross-border sentiment: An empirical analysis on EU stock markets. *Applied Financial Economics*, *24*(4), 259-290.

Baker, S. R., Bloom, N., Davis, S. J., Kost, K. J., Sammon, M. C., & Viratyosin, T. (2020). The unprecedented stock market impact of COVID-19. NBER Working Papers 26945, National Bureau of Economic Research, Inc.

Capelle-Blancard, G., & Desroziers, A. (2020, June 16). The stock market is not the economy? *Insights from the COVID-19 Crisis.*

Chang, E. C., Cheng, J. W., & Khorana, A. (2000). An examination of herd behavior in equity markets: An international perspective. *Journal of Banking and Finance, 24*(10), 1651-1679.

Chen, M. H., Jang, S. S., & Kim, W. G. (2007). The impact of the SARS outbreak on Taiwanese hotel stock performance: An event-study approach. *International Journal of Hospitality Management*, *26*(1), 200-212.

Chen, X., & Qiu, Z. (2020). Scenario analysis of non-pharmaceutical interventions on global COVID-19 transmissions. *COVID Economics, Vetted and Real-Time Papers*, (7), 46-67. Retrieved January 26, from https://arxiv.org/abs/2004.04529

Deb, P., Furceri, D., Ostry, J. D., & Tawk, N. (2020). The effect of containment measures on the COVID-19 pandemic. *VoxEU.* Retrieved Januray 26, from https://voxeu.org/article/effect-containment-measures-covid-19-pandemic

Haug, N., Geyrhofer, L., Londei, A., Dervic, E., Desvars-Larrive, A., Loreto, V.,…Klimek, P. (2020). Ranking the effectiveness of worldwide COVID-19 government interventions. *Nature Human Behaviour, 4*(12), 1303-1312.

Koh, W. C., Naing, L., & Wong, J. (2020). Estimating the impact of physical distancing measures in containing COVID-19: An empirical analysis. *International Journal of Infectious Diseases, 100,* 42-49.

Li, Y., Campbell, H., Kulkarni, D., Harpur, A., Nundy, A., Wang, X.,…Nair, H. (2020). The temporal association of introducing and lifting nonpharmaceutical interventions with the time-varying reproduction number (R) of SARS-Cov-2: A modelling study across 131 countries. *The Lancet Infectious Diseases*, *21*(2), 193-202.

Worldometer. (2021). COVID-19 coronavirus pandemic. *Coronavirus.* Retrieved January 26, 2021, from https://www.worldometers.info/coronavirus/

Wu, F. (2020). Stock market integration in East and Southeast Asia: The role of global factors. *International Review of Financial Analysis, 67,* 101416.

Wu, F., Zhang, D., & Zhang, Z. (2019). Connectedness and risk spillovers in China's stock market: A sectoral analysis. *Economic Systems, 43*(3-4), 100718.

Yang, R., Li, X., & Zhang, T. (2014). Analysis of linkage effects among industry sectors in China's stock market before and after the financial crisis. *Physica A: Statistical Mechanics and Its Applications, 411,* 12-20.

Zhang, D., Hu, M., & Ji, Q. (2020). Financial markets under the global pandemic of COVID-19. *Finance Research Letters, 36,* 101528.

A Study on Impact of Born-Digital While Acquiring a Passenger Car with Special Reference to Madurai District

M. Prabaharan*, J. Sahaya Shabu**

Abstract   *The world is moving rapidly from print to digital (electronic form) sources. The born-digital is stated that all contents in digital form that is not in printed form. This paper aims to analyze the impact of digital marketing sources on consumer buying decisions of passenger cars. It finds the most preferable digital sources used by the customers. This study was limited to Madurai district. It is one of the best 6 locations utilizing cars in Tamilnadu. It analyses the demographic profile of customers who use digital sources. The research design is descriptive. The well-structured, close-ended, Likert scale (5-point) questionnaire framed to collect the data. The sampling technique was purposive sampling. The data were collected with the help of a questionnaire from car owners from April to August 2022. The statistical tools used in this research were percentage analysis, correlation, chi-square and t-test to examine the data by using SPSS 20.*

Keywords   *Digital Marketing, Consumer Behaviour, Online Advertising, Digital Resources*

INTRODUCTION

The vehicle industry is rising quickly in India. Due to distinctive car fragments and simple fund advertised by the car makes, the clients are sharp to purchase a car. Within the Indian showcase, the vehicle industry will become the third biggest within the world. India positions 11th in car generation and 13th in commercial vehicle generation all inclusive. India's current share is around 1.6% of world generation as the entire number of traveler car are being fabricated within the world is 60 million against the introduced capacity of 90 million. The born-digital is said to be that all the contents are used in digital form such as web content, digital papers (manuscript), dynamic information and virtual reality objects etc. Due to internet rebellion, the acceptance of the digital sources from the customers' side was increased and customers spent more time online.

DIGITAL MARKETING COMMUNICATION IN INDIA

Presently, there are of 35% of the Indian populace that has to get to the web. This figure could seem moo, but considering that India's populace surpasses a billion, this implies that there are about 462 million web clients within the nation. In expansion, the web entrance rate is anticipated to reach over 55% by the conclusion of 2025 due to the quick advancement of broadcast communications framework.

According to recently taken report in 2019, there are 1.190 billion portable memberships in India, which accounts for 87% of the populace. As versatile information plans within the nation gotten to be more reasonable and unavoidable, the populace's get to the web is anticipated to become broader within the coming a long time. Besides, there are over 310 million dynamic social media clients in India. The greatest social arrange within the nation is Facebook with around 300 million clients in 2018. Instagram takes after this with around 75 million clients. LinkedIn has 54 million clients; Snapchat has 11.15 million clients and Twitter has 7.65 million dynamic clients.

OBJECTIVES

- To study the impact of digital marketing sources on car purchasing decision of the customers.
- To identify the demographic profile of customers who all are using the digital media while purchasing a car.
- To analyze the most preferred channels of digital marketing by the customers while buying a passenger car.

LITERATURE REVIEW

An Essay by Ricky Erway, OCLC Research (2010) in his paper Defining "Born-Digital" specified the born digital as the resources are items created and managed in digital form.

---

*   Assistant Professor, Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Palaymkottai, Tamil Nadu, India. Email: prabaharmp@gmail.com

** Assistant Professor, Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Palaymkottai, Tamil Nadu, India. Email: jjshabu@gmail.com

Also, expressed the sorts of born-digital materials were Computerized photos, Computerized reports, Collected Web substance, Computerized original copies (papers), Electronic records, Inactive information sets, energetic information, Advanced craftsmanship, Computerized media distributions.

Dahiya (2015) in her paper on Cracking the digital code highlighted on the effect of digital practices followed by Indian car market payers on consumers. The major findings of the research were respondents agreed that digital practices of Indian market players affect their buying decision process from information search to comparison of brands, evaluation and post-purchase behaviour. As per the findings respondents got information from various resources, namely websites, YouTube, Smartphone application, etc., then the age was not found to be a deciding factor while using digital channels. It was clearly stated that 97% of respondents were using the websites to search for information while buying a car.

Sivasankaran (2017) in his paper on Digital marketing and its impact on purchasing behaviour of youth with special preference to Kanyakumari district, Tamandu emphasized the purchasing behaviour of youth through digital sources. The findings were the present generation of youngsters access the digital media, but they lack awareness of optimum usage of digital sources and then India is the 5th largest term of YouTube users. Indians spend around 14 hours a week online, which completely dominated television. Also found the number of websites available in India is more than 90 million, while that of Facebook profiles is above 500 million. Then the majority of the respondents felt that any purchase was possible through online and customers were taking very less time to purchase.

Mehta (2014) in her paper on Impact of a digital communication on consumer buying decisions found the majority of people found online sources were reliable and useful to search information but television advertising, word of mouth was most instrumental to make customers visit showrooms. In the paper, it was found online sources were much more effective for getting detailed information and comparing with other brand cars as compared to traditional sources.

Mohan (2017) in his paper on digital marketing role in India highlighted the digital marketing was more cost effective than traditional. It delivers conversation between respondents and company. It was helped to earn to a generation of better revenues. It was assisted with proper interaction with targeted audiences. It was found that digital marketing was built a brand reputation to a company. It helped to get customers trust are the role of digital media sources. It finding explained that digital marketing made respondents, ready for the internet of things

Bagga and Gupta (2014) in their paper on internet marketing practiced by three automobile manufacturers (Hyundai, Volkswagen & Renault) discussed on the successful level of their internet marketing to popularize their product. They were found Hyundai and Volkswagen are a fairly popular brand in India and Renault was lacking as compared to these two competitors. On the contrary, Renault had a poor entry which had a partnership with Mahindra & Mahindra. The Renault was entered with Logan but it could not succeed in the market. But later the Duster model became a successful position. He concluded that internet marketing is a good practice for this modern era for the raises of new developments and actions.

Kamra (2015) in his paper on Influence of social media on the India automotive consumers discussed the number of persons searching information relating to next vehicle purchase was depending on social media sources and reviews played a vital role in influencing a customer to make their purchasing decision. He had found many people look forward to connected vehicle technology, which was used to communicate nearby vehicles about safety and mobility information. He concluded that social media promotion is a key area for manufacturers to focus on in this modern generation for their promotions.

Nagaraja and Nataraj (2012) found most important factors which the customers were considered for website satisfaction were quality of content and easy to navigate and also the customers were not considered the factors like website knowledge, reason for visit, how many times they were visiting the site, website finding, accuracy of information, design and layout of the site. They concluded as blogs, discussion forums, social networking sites were powerful tools to attract the customers, then automotive companies were needed to focus on evolving consumer attitudes.

Saritha Devi (2015) in her paper discussed on the various key performance indicators used for social media measurement and the reasons for adopting social media marketing. The paper also found the significant reasons for adopting social media marketing in the automotive industry were to creating brand awareness best way to increase customer base and by increasing customer loyalty led to drive the sales and to improve the internal communication the automobile industry should concentrate all web activities.

Satyendra Narayan Singh and Pavan Kumar in their paper highlighted the trends in digital marketing in India and discussed the necessity of using the marketing strategy for promoting their product and services. The research paper concluded that if the companies did not use the digital platform to market their product and services, then it won't participate in the competition in the market. They also concluded that customers were getting the information

about the product without visit to physical sources and so the customers preferred online buying rather than physical sources.

Niharika and Satinder (2015) in their paper highlighted online marketing in India will be strengthened, long-standing, sustainability was directly depended on factors like changes in the market, innovations and interactivity by a market player. Customers could get world-class, streamlined, efficient shopping experience by the available technology. It was concluded that online marketing offered special discounts on the products as compared to the retail shops.

P. Sathya (2017) in her paper discussed the impact on digital marketing. She found that the ratio of using digital media by the male was high as compared to female. Most numbers (30%) of users were feeling very comfortable using digital sources rather than traditional sources. 54% of respondents feeling that information searched about the product and services were outstanding. She concluded that companies can utilize digital devices such as tablets, smartphones, laptop, social media, an email will be supported to promote their product and services. The paper concluded as digital marketing may achieve something more if the consumer desires as a peak.

Veena Tripathi (2016) in his paper related to online marketing on teenagers. He divided into three parts, they were role of online marketing, strategy behind online marketing and the benefits, and worries of on teenagers. In this he found that teens were getting more familiar with the upcoming, emerging through which, they may compare them and follow the best among them. And also found teenagers have increased their media literacy and got exposed many terms of social media and, many teenagers were supported online communities with their unique interest. They concluded that teenagers gained social confidence, confined and independent due to online marketing.

DATA AND METHODOLOGY

The research design is descriptive. The sampling method used for this research was purposive sampling where the samples were collected by the judgement of the researcher. The well-structured and closed-ended questions helped to collect the primary data for this research and the data collected from the various journals, research articles and websites were secondary. The demographic factors were set in the first part and questions were formed based on a Likert scale (5-point) in the second part. The reliability test was checked for the questionnaire from the pilot study conducted with 45 respondents during the period from April to August 2021. The entire selections were collected from 300 passenger car owners in Madurai. The statistical tools used in this research were percentage analysis, correlation,

chi-square and t-test (one-sample). The data analysis was performed with the help of IBM SPSS version 20.

RESULTS AND DISCUSSION

Demographic Characteristics

The Table 1 shows the demographic characteristics like age, gender, education qualification, income and occupation of the respondents.

Table 1: Demographic Profile

Total Number of Respondents (N=300)	Percentage Analysis	
Age	Frequency	Percentage
Between 20 to 25 years	30	10.0
Between 25 to 30 years	83	27.7
Between 30 to 35 years	107	35.7
Between 35 to 40 years	50	16.7
Above 40 years	30	10.0
Gender		
Male	184	61.3
Female	116	38.7
Educational Qualification		
Higher secondary	27	9.0
Diploma	19	6.3
Graduate	59	19.7
Post Graduate	138	46.0
Doctorate	57	19.0
Occupation		
Student	59	19.7
Employee	56	18.7
Professional	88	29.3
Entrepreneur	69	23.0
Others	28	9.3
Income		
Below 5 lakhs	89	29.7
5 to 10 lakhs	105	35.0
10 to 15 lakhs	48	16.0
15 to 20 lakhs	28	9.3
Above 20 lakhs	30	10.0
Total	300	100.0

The Table 1 shows that the total sample for this study was 300. A majority of the respondents (35.7%) belonged to the age limit between 30 to 35 years, As observed the respondents having highest majority was male (61.3%) and female were (38.7%). A majority of respondents had

completed their postgraduates (46%) followed by graduates. A majority of respondents had the (35%) income slab from 5 to 10 lakhs followed by below 5 lakhs (29.7%). The survey results exhibited that majority of the respondents (29.3%) were professional.

Reliability Test

Reliability test is used to measure data quality and consistency in measured items. The reliability was tested using Cronbach's Alpha. The acceptable value of Cronbach's Alpha is 0.7. The value obtained for the variables in this study was 0.846 for 20 items which are greater than 0.7 so the value is acceptable. This exhibit that the data collected for this study are reliable.

Chi-Square Test Results

Test-1: Age and digital sources used by the respondents.

The data were collected from 300 respondents had a different age group. The Table 2 indicates the frequency of the age of respondents.

Table 2: Age of the Respondents

Age in Years	Frequency	Percent	Valid Percent
Between 20 to 25 years	30	10.0	10.0
Between 25 to 30 years	83	27.7	27.7
Between 30 to 35 years	107	35.7	35.7
Between 35 to 40 years	50	16.7	16.7
Above 40 years	30	10.0	10.0
Total	300	100.0	100.0

To test the association between the age and different types of digital sources used, the following hypotheses were tested. The chi-square test was performed at a 5% level of significance and results are listed in the table.

H_1 – There is an association between age and digital sources used by the respondents.

Table 3: Age and Digital Sources Used by the Respondents

	YouTube	Social Network Sites	Official Websites	Phone-SMS	Smartphone Applications (App.)	E-mail	Non-Official Websites
Pearson Chi-Square	0.597	0.681	0.484	0.353	0.976	0.384	0.982
Likelihood Ratio	2.787	2.306	3.475	6.786	0.470	0.982	0.415
Linear-by-Linear Association	1.796	1.663	1.872	3.987	.039	0.982	0.048
N of Valid Cases	300	300	300	300	300	300	300

The Table 3 shows the significant values between age and digital sources used by the respondents. It was found that the insignificant value of YouTube was 0.597, social sites (0.681), official websites (0.484), Phone-SMS (0.353), Smartphone application (0.976), E-mail (0.384) and non-official sites (0.982). The significant values are greater than the p-value (0.05). So, we reject the alternative hypothesis and accept the null hypothesis and concluded that their age was not associated with the digital sources used by them.

Test-2: Age and interest while searching the information on digital sources by the respondents.

The Table 4 shows the chi-square values of age and interest level while searching the information on digital sources by the respondents.

To test the association between the age and the information searching in digital sources is more interesting by the respondents, the following hypotheses were tested. The chi-square test was performed at a 5% level of significance and results are listed in the table.

H2 - There is an association between age and information searching in digital sources is more interesting by the respondents.

Table 4: Chi-Square Values

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	90.555	16	.000
Likelihood Ratio	114.658	16	.000
Linear-by-Linear Association	0.244	1	.621
N of Valid Cases	300		

The Table 4 exhibits that the significance value is 0.000 which is smaller than the probability value (p-value) 0.05. So, we accept the alternative hypothesis and reject the null hypothesis and concluded that the age of respondents was associated with the interest while searching for information on digital resources. It is stated that age is the main factor which decides the interest level of the respondents while using digital resources.

Test-3: Education and digital sources used by the respondents.

The Table 5 shows the frequency of the education of respondents.

Table 5: Education of the Respondents

Age in Years	Frequency	Percent	Valid Percent
Higher secondary	27	9.0	9.0
Diploma	19	6.3	6.3
Graduate	59	19.0	19.0

Age in Years	Frequency	Percent	Valid Percent
Post Graduate	138	46.0	46.0
Doctorate	57	19.7	19.7
Others	28	9.3	9.3
Total	300	100.0	100.0

To test the association between education and different types of digital sources used, the following hypotheses were tested. The chi-square test was performed at a 5% level of significance and results are listed in the table.

H3 - There is an association between education and digital sources used by the respondents.

Table 6: Education and Digital Sources Used by the Respondents

	YouTube	Social Network Sites	Official Websites	Phone-SMS	Smartphone Applications (App.)	E-mail	Non-Official Websites
Pearson Chi-Square	0.869	0.778	0.945	0.016	0.985	.028	.993
Likelihood Ratio	1.250	1.789	0.750	15.936	0.377	14.305	0.250
Linear-by-Linear Association	.261	0.192	0.480	1.208	0.016	1.084	0.001
N of Valid Cases	300	300	300	300	300	300	300

The Table 6 exhibits the significant values between education and digital sources used by the respondents. Only the result of phone (SMS) (0.016) and E-mail (0.028) are having a significant value below 0.05 (p-value). It was found that the insignificant value of YouTube was 0.869, social sites (0.778), official websites (0. 945), Smartphone application (0.985) and non-official sites (0.993). The significant values are less than the p-value (0.05) for a phone (SMS) and E-mail digital sources. So, the null hypothesis is rejected and the alternative hypothesis is accepted, concluded that the education of respondents was associated with the digital sources used by them.

Test-4: Education and assistance needed while using digital resources by the respondents.

The Table 7 shows the chi-square values of education and assistance needed while using digital sources by the respondents.

To test the association between the education and the assistance needed while using digital sources is more interesting by the respondents, the following hypotheses were tested. The chi-square test was performed at a 5% level of significance and results are listed in the table.

H4 - There is an association between education and assistance needed while using digital resources by the respondents.

Table 7: Chi-Square Values

	Value	df	Asymp. Sig. (2-Sided)
Pearson Chi-Square	125.950	12	.000
Likelihood Ratio	158.261	12	.000
Linear-by-Linear Association	8.969	1	.003
N of Valid Cases	300		

The Table 7 shows that the significant value is 0.000 which is smaller than the probability value (p-value) 0.05. So, the alternative hypothesis is accepted the null hypothesis is rejected and it is concluded that the education of the respondents is associated with the assistance needed while using the digital resources. It is stated that education is an important factor which makes the respondent use digital sources without assistance from anyone.

Test-5: Occupation and digital sources used by the respondents.

The Table 8 exhibits the frequency of the occupation of the respondents:

Table 8: Occupation of the Respondents

Occupation	Frequency	Percent	Valid Percent
Student	59	19.7	19.7
Employee	56	18.7	18.7
Professional	88	29.3	29.3
Entrepreneur	69	23.0	23.0
Others	28	9.3	9.3
Total	300	100.0	100.0

To test the association between the occupation and different types of digital sources used, the following hypotheses were tested. The chi-square test was performed at a 5% level of significance and results are listed in the table.

H5 - There is an association between occupation and digital sources used by the respondents.

Table 9: Occupation and Digital Sources Used by the Respondents

	YouTube	Social Network Sites	Official Websites	Phone-SMS	Smartphone Applications (App.)	E-mail	Non-Official Websites
Pearson Chi-Square	0.942	0.907	0.980	0.140	0.950	0.235	0.953
Likelihood Ratio	0.775	1.017	0.429	9.060	0.753	7.637	0.680
Linear-by-Linear Association	0.032	0.116	0.127	0.359	0.390	0.491	0.023
N of Valid Cases	300	300	300	300	300	300	300

The Table 9 exhibits the significant values between occupation and digital sources used by the respondents. It was found that the insignificant value of YouTube was 0.942, social sites (0.907), official websites (0.980), Phone-SMS (0.140), Smartphone application (0.950), E-mail (0.235) and non-official sites (0.953). The significant values are greater than the p-value (0.05). So, we accept the null hypothesis and reject the alternative hypothesis and the occupation of respondents was associated with the digital sources used by them. The occupation is not the deciding factor of the respondent to decide which digital resources should be used.

Test-6: Gender and digital sources used by the respondents.

The Table 10 shows the frequency of the gender of respondents

Table 10: Gender of the Respondents

Age in Years	Frequency	Percent	Valid Percent
Male	184	61.3	61.3
Female	116	38.7	38.7
Total	300	100.0	100.0

HYPOTHESIS

To test the association between the gender and the information searching in digital sources is more interesting by the respondents, the following hypotheses were tested. The chi-square test was performed at a 5% level of significance and results are listed in the table.

H6 - There is an association between gender and information searching in digital sources is more interesting by the respondents.

Table 11: Chi-Square Values

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.916	4	.001
Likelihood Ratio	21.864	4	.000
Linear-by-Linear Association	12.949	1	.000
N of Valid Cases	300		

The Table 11 exhibits that the significant value is 0.001 which is less than the probability value (p-value) 0.05. Thus, we eliminate the null hypothesis and accept the alternative hypothesis and concluded that the gender of the respondents was associated with the interest while searching for info on digital resources. It is stated that the interest level of the respondent while searching for information on digital resources is associated with gender.

CORRELATION

Test-7: The correlation was tested between gender and digital sources influencing them to select a particular variant while purchasing a car.

H7 - The relationship between gender and digital sources influencing them to select a particular variant while purchasing a car is significant.

Table 12: Correlations

		Gender of the Respondent	Digital Sources Influence Me to Select a Suitable Variant in a Particular Model of a Car While Purchasing a Car
Gender of the respondent * Digital sources influence me to select a suitable variant in a particular model of a car while purchasing a car.	Pearson Correlation	1	-0.381[**]
	Sig. (2-tailed)		.000
	N	300	300
	Pearson Correlation	-.381[**]	1
	Sig. (2-tailed)	.000	
	N	300	300

[**]. Correlation is significant at the 0.01 level (2-tailed).

The Table 12 exhibits the significant value is 0.000. So, this value is less than the p-value. We accept the alternative hypothesis and reject the null hypothesis and it is concluded that the relationship between gender and digital sources influencing them to select a particular variant while buying a car was significant. It is said that the respondents decided with the aid of digital sources which was a suitable variant for them. The table portrays that the Pearson correlation value is -0.381.

DISCUSSION

The previous literature identified that majority of customers used websites for searching information. From this research, it reveals that the majority of customers are using a YouTube channel to search for information and compare their preferred brand with other brands with the help of experts review available on YouTube channel. It discloses that the education of customers was associated with the information search through E-mail and Phone SMS channel and this research also reveals that the occupation of customers will not affect the digital sources used for searching the information due to easy availability of 4G data services at lowest cost when compared to past years which was launched in 2016.

SUGGESTIONS

- The car companies should confirm the easy accessibility and availability of information in digital sources.
- The automobile companies provide better reviews from the car experts in their digital channels because it assists the customers to access the best model and brand.
- The companies should certify the information availability and rapid response for the car test drive, renew the insurance and car service facility which are accessed by the customers.

- The car companies can focus on the raising complaint forum to provide the best service to the customer.
- The automobile companies should provide an effective smartphone application with the compatibility to all platforms like Android, Mac iOS and Windows.

CONCLUSION

The swift development of digital sources and internet facilities leads to the development of digital channels and social media in the marketing world. The adoption of the digital platform by the customers has developed. The current study endeavored to know the impact of digital sources while deciding on car buying, by considering the digital channels used by the customers, demographic profile of the customers who use the digital sources while acquiring a car. The above findings exhibit that most of the customers are using digital sources for their car purchasing. Hence, marketer can focus on giving complete information by observing most preferred channels used by the customers. The customers had attracted with the images, virtual reality objects and videos of the car displayed in the digital sources, hence the marketers can emphasize the images and videos rather than posting several contents because customers felt they were interactive. The customers are emerging in the use of different kinds digital devices like smartphones, tablet, laptop etc. so the marketers can put effort on offering best application (Smartphone App.) which is compatible to all platforms. This study also helps the marketer to understand the digital era of consumer acquiring decisions. This study would be helpful to the customers that offers more communication regarding their product from marketer and enhance yielding the favorable decision.

REFERENCES

An Essay by Ricky Erway, OCLC Research. (2010). Defining "born digital". *OCLC Online Computer Library Center, Inc.*

Mohan, D. M. (2017). Role of digital marketing industry in India. *Journal of Marketing Strategy (JMS), 5*(3).

Mehtab, M., & Chandanic, A. (2014). Impact of online digital communication on customer buying decision. *Procedia Economics and Finance, 11,* 872-880.

Sivasankaran, S. (2017). Digital marketing and its impact on buying behaviour of youth (special reference to Kanyakumari district). *International Journal of Research in Management & Business Studies (IJRMBS), 20174*(3), 35-39.

Singh, S. N. (2016). *Digital marketing: Necessity & key strategies to succeed in current era.*

Kamra, K. (2015). Influence of social media on the Indian automotive consumers: Primary study in national capital region. *IOSR Journal of Business and Management (IOSR-JBM), 17*(8), Ver. IV, 1-5.

Devi, S. (2015). Social media as a tool of marketing: A study of Indian automobile industry. *EPRA International Journal of Economic and Business Review, 3*(1), 283-289.

Nataraj, S., & Nagaraja, N. (2012). Customer satisfaction in automobile industry - An Indian online buyers' perspective of car manufacturers. *International Journal of Multidisciplinary Research, 2*(6), 92-107.

Niharika & Satinder (2015). A study of internet marketing in India: Challenges and opportunities. *International Journal of Science Technology Management, 4*(11), 265-273.

Sathya, P. (2015). A study on digital marketing and its impact. *International Journal of Science and Research (IJSR),* 866-868.

Dahiya, R. (2015). Cracking the digital code: A study of Indian car market. *The IUP Journal of Marketing Management, 14*(2), 26-45.

Bagga, T., & Gupta, D. (2014). Internet marketing by automobile industry: Special reference of Indian counterparts. *International Journal of Computer Applications (0975 – 8887), 97*(6), 9-16.

AN OVERVIEW OF BLUE OCEAN STRATEGY FOR BUSINESS SUSTAINABILITY

N. Pradeep Kumar*

Abstract   *The goal of any business is to attract customers where it uses marketing techniques and strategies to increase client satisfaction. Even if customers are happy with a company's product or service, it can be difficult to predict if they will remain a devoted customer. There are a lot of competitors in today's highly competitive corporate world. A company must distinguish itself from its rivals and demonstrate innovation if it is to make money and gain market share. Competition is an inherent one in business. To avoid competition nowadays, the companies enter and focus their operations in a new market. Businesses seek out new market segments or business prospects where they can gain uncontested market share or a "Blue Ocean" when there are limited opportunities for growth. For their business, the company used the blue ocean strategy. A business has the chance to acquire a new consumer if it enters a new market. The blue ocean strategy aims to limit demand growth while simultaneously encouraging competition with unrelated products or services that provide greater quality. It aids the company in producing large profits as the product or service can be charged a small cost because of its sole features. When there is a chance for larger profits, such as when there is current competition or unimportant competition, it may exist. The necessity of a blue ocean strategy for company sustainability is highlighted in this article.*

Keywords   *Strategy, Customer, Competition, Blue Ocean Strategy, Business*

INTRODUCTION

Every company endeavors to make a profit. If a business wants to achieve its objective they must work extremely hard and strategically, while also contending with fierce competition in their industry. In light of the fact that competition is an inherent part of doing business, organizations must develop and implement innovative business strategies in order to survive in this challenging environment.

BLUE OCEAN STRATEGY

A company that establishes or enters a market with no competitors is said to be using the blue ocean approach. If there is no rivalry in business, it might be inconceivable. The firm could wonder how it's even possible for there to be no competition. If there is no competition for the business, they could present themselves differently. To attract and keep customers for their business, the company developed a new market with their update or new product. Other businesses at the time were unable to penetrate this new market.

BLUE OCEAN VS RED OCEAN STRATEGY

Since the majority of businesses operate in the Red Ocean, they must contend with intense competition. In this "red ocean," the business may occasionally find it difficult to compete. For instance, if one firm chooses low pricing for its brands, its rival may follow suit and lower the price for their brands, which will have an impact on the earnings of the other company.

The business may have no competition in the instance of Blue Ocean. If there is no rivalry for a firm, then indicates that company can implement business practices with complete freedom and flexibility, and there is also a chance to achieve business profits without any challenges.

NEED FOR BLUE OCEAN IN BUSINESS

The businesses struggled to turn a profit because of the intense competition they face in their industry. The business must decide whether to enter the new market if it wants to survive.

CHANGE IN BUSINESS

Every business experiences constant change. Therefore, every business seeks to modify a few things, including the product, service, market, technology, consumer tastes and preferences, and so on. There is a chance that the company won't make a profit if they are not prepared to accept the changes in their industry. To accomplish its objectives, the organization needs be flexible and adapt its operations.

* Assistant Professor, Xavier Institute of Business Administration, St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India. Email: npkmba82@gmail.com

SATISFY THE CONSUMER

Markets constantly have needs that can be met by providing a variety of products or services. Due to the accessibility of the brand, technological advancements, and other factors, consumer wants and tastes are changing. If customers are searching for a new product or service that is not yet on the market. It is the job of the company to develop a new brand or service for the consumers in order to meet their demands and to inspire loyalty to that brand or service.

COMPETITION

Due to the intense degree of rivalry in the market, businesses must take new steps to stay competitive. Because of increased competition, a company may have poor profits or, occasionally, will not be able to turn a profit as a result of the competition. The company could enter a new market in order to avoid the commercial competition.

CREATING A NEW MARKET

A company that expands into a new market brings unneeded competition into their industry. That is a scenario in which a business has developed a new market for its products or services, is not facing any competition, has the potential to make significant profits, and may even overtake its competitors as the market leader.

ATTAIN BUSINESS GOALS

The primary goal of every business is to attract and keep customers. It is challenging to run a firm and turn a profit when there is greater competition. Because the rival may develop a brand that is comparable to the other brand or service that will attracting the customers. Create a new market for that product or service that will help you defeat this firm and achieve the business goals.

KEY AREAS IN ADOPTING BLUE OCEAN STRATEGY

There will be certain challenges and learning opportunities as the organization takes a first step. A company should be able to look at some of the important areas for implementing new business practices if it is interested in pursuing the blue ocean strategy.

FUND REQUIREMENT

A new market to enter is not a simple undertaking. Even if the business chose to compete in the Blue Ocean, it should have a thorough understanding of the funding requirements. The machines would not function if the lubricant was not applied correctly. Likewise, the blue ocean market similarly requires more money to run their firm effectively and efficiently.

KNOWING THE CONSUMER PULSE

The company needs to be aware of consumer tastes and preferences before diving into the blue ocean. It's like taking a ship without knowing the limits of the sea if you don't comprehend the consumer's thoughts. If a company can clearly identify the wants of its customers, it may develop a product or service that appeals to those needs and is profitable for it. If not, the company might be unable to satisfy customer needs, which would hurt business earnings.

OPPORTUNITY IDENTIFICATION

There should be a chance for a business in the future whenever one can be started in a new market. If a new firm has a chance to succeed, the company will expand and endure in the long run. On the other side, if the company believes that their new market will become old in the future or if there are no future opportunities for the new market. In this circumstance, the company may be unable to foresee business opportunities that will impact the company's earnings in both the present and the future markets.

PREDICTING DEMAND

One of the important aspects of business is demand. The market's desire for the brand or service will serve as a barometer for how successful it is. When a business enters a new market, it should be able to predict the demand for its product or service both now and in the future. If there is consistent market demand for the product or service, the firm will continue to expand. Otherwise, if there is no longer a need for the product or service, the company might not be able to continue operating in the future.

CONCLUSION

Most businesses today are up against fierce competition, and those businesses are also finding it difficult to turn a profit. There is no need to go into the new market if the company has more resources and can compete with its rivals while also having the ability to survive. However, if a company has more resources but is still unable to turn a profit or compete with its rivals, it may opt for the blue ocean strategy, which will help it discover additional business prospects and increase its chances of making a profit.

REFERENCES

https://economictimes.indiatimes.com/definition/
blue-ocean-strategy

https://www.coursehero.com/file/61481161/Blue-Ocean-
Strategyeditedediteddocx/

Kim, W. C., & Mauborgne, R. A. (2015). *Blue ocean strategy*: *How to create uncontested market space and make the competition irrelevant* (1st eBook ed.). Harvard Business School Publishing Company.

Understanding Volatility Spillover: Interconnectedness and Implications

J. Sahaya Shabu*, M. Prabaharan**

Abstract   *This article provides an overview of volatility spillover, which refers to the transmission of volatility from one market or asset to another. It explores the interconnectedness and interdependencies between financial markets and instruments that contribute to spillover effects. Various methods used to analyze volatility spillover, such as Granger causality tests, VAR models, MGARCH models, correlation analysis, and network analysis, are discussed. The article also highlights the implications of volatility spillover for investors, risk management, monetary policy, regulatory policies, and investment decisions. Overall, understanding volatility spillover is crucial for effective decision-making in the financial industry.*

Keywords   *Volatility, Spillover, Stocks*

INTRODUCTION TO VOLATILITY SPILLOVER

Volatility spillover refers to the transmission of volatility from one market or asset to another. It occurs when the volatility of one asset or market affects the volatility of another asset or market, often due to interconnectedness and interdependencies between financial markets and instruments.

For example, if there is a sudden increase in volatility in the stock market, this could spill over to other markets such as the bond market, currency market or commodity market. This could be because investors start to sell stocks and move their funds to safer assets such as bonds or gold, which in turn could increase the volatility in those markets.

Similarly, volatility in one country's financial market can spill over to other countries' financial markets, especially if there are strong economic ties between them. For instance, if there is a sudden increase in volatility in the Chinese stock market, this could lead to a spillover effect on other Asian markets, as well as on global markets that are connected to China's economy.

Volatility spillover can have significant implications for investors, as it can increase the risk and uncertainty of investing in a particular market or asset. Therefore, it is important for investors to understand the interconnectedness between financial markets and the potential for volatility spillover when making investment decisions. The aim of this paper is to discuss the various concepts related to the study of volatility spillover

METHODS USED TO ANALYZE VOLATILITY SPILLOVER

Data analysis for volatility spillover typically involves analyzing the time-series data of different financial markets or assets to identify the presence and extent of spillover effects. The following are some common methods used in the analysis of volatility spillover:

Granger Causality Tests: This method tests whether the volatility in one market or asset can be used to predict the volatility in another market or asset. The test is based on the idea that if the volatility of one market causes the volatility of another market, then the former should have predictive power over the latter.

Vector Autoregression (VAR) Models: VAR models are used to analyze the relationship between multiple time-series variables. In the context of volatility spillover, VAR models can be used to analyze the relationship between the volatility of different markets or assets, and to estimate the extent of spillover effects.

Multivariate GARCH (MGARCH) Models: MGARCH models are used to estimate the volatility of multiple assets simultaneously, and to analyze the relationship between the volatility of different assets. In the context of volatility spillover, MGARCH models can be used to estimate the spillover effects between different markets or assets.

Correlation Analysis: Correlation analysis can be used to identify the degree of correlation between the volatility of different markets or assets. High correlations between the

* Assistant Professor, Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Palaymkottai, Tamil Nadu, India. Email: jjshabu@gmail.com
** Assistant Professor, Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Palaymkottai, Tamil Nadu, India. Email: prabaharmp@gmail.com

volatility of different markets or assets may indicate the presence of spillover effects.

Network Analysis: Network analysis can be used to analyze the relationships between different markets or assets, and to identify the channels through which spillover effects may occur. Network analysis can help identify the most influential markets or assets in a network, and the direction of spillover effects.

These methods can be used in combination to provide a more comprehensive analysis of volatility spillover effects. The data analysis for volatility spillover is complex and requires a very good understanding of statistical and econometric tools.

VOLATILITY SPILLOVER AMONG DIFFERENT SEGMENTS OF STOCKS SUCH AS SMALL, MID AND LARGE CAP STOCKS

Volatility spillover can occur between small, mid and large-cap stocks, as they are all part of the same stock market and are often interdependent. Small-cap stocks tend to be riskier and more volatile than large-cap stocks, while mid-cap stocks fall somewhere in between. When there is volatility in one segment of the market, it can spill over to the other segments.

One way to analyze volatility spillover between small, mid, and large-cap stocks is through the use of multivariate GARCH (MGARCH) models. MGARCH models are used to estimate the volatility of multiple assets simultaneously, and to analyze the relationship between the volatility of different assets. Using this approach, one could estimate the conditional covariance matrix of returns for small, mid, and large-cap stocks. The diagonal elements of the covariance matrix represent the volatility of each segment, while the off-diagonal elements represent the spillover effects between the segments.

Another approach would be to use correlation analysis to identify the degree of correlation between the volatility of small, mid, and large-cap stocks. High correlations between the volatility of different segments may indicate the presence of spillover effects.

Additionally, one could use network analysis to analyze the relationships between small, mid, and large-cap stocks and to identify the channels through which spillover effects may occur. Network analysis can help identify the most influential stocks in each segment and the direction of spillover effects.

VOLATILITY SPILLOVER AMONG VARIOUS SECTORS

Volatility spillover can also occur between various sectors in the stock market, as they are often interdependent and affected by common factors such as economic conditions, geopolitical events, and changes in interest rates or monetary policy. The above discussed same methods of analysis can be used to analyze the volatility spillover among sectors

It is important to note that the degree of spillover effects between sectors can vary depending on the specific economic and financial conditions of the market. Therefore, it is important to regularly monitor and update the analysis of volatility spillover between sectors to reflect the current market conditions.

DISCUSSION AND CONCLUSION

Understanding the implications of volatility spillover is crucial for investors, financial institutions, and policymakers. Here are some implications of volatility spillover:

Diversification: Volatility spillover suggests that investing in a diversified portfolio is important to reduce risk exposure. Diversification across asset classes, markets, segments, and sectors can help mitigate the impact of volatility spillover.

Risk Management: Financial institutions, such as banks, hedge funds, and insurance companies, need to be aware of the potential impact of volatility spillover on their portfolios and manage risk accordingly. They need to continuously monitor market conditions, update risk models, and adjust positions to reduce exposure to volatility spillover.

Monetary Policy: Central banks need to consider the impact of volatility spillover when formulating monetary policy. Volatility spillover can affect the stability of the financial system and the economy as a whole. Central banks need to consider the potential spillover effects of their policy decisions on different markets and sectors.

Regulatory Policies: Regulators need to monitor and regulate the financial system to reduce the likelihood and impact of volatility spillover. Regulations such as margin requirements, position limits, and stress tests can help prevent excessive risk-taking and reduce the potential for volatility spillover.

Investment Decisions: Investors need to be aware of the potential impact of volatility spillover on their investments and adjust their investment strategies accordingly. They need to consider the correlations and spillover effects

between different markets, assets, segments, and sectors when making investment decisions.

In summary, volatility spillover has significant implications for risk management, diversification, monetary policy, regulatory policies, and investment decisions. Understanding the potential impact of volatility spillover is important for effective decision-making in the financial industry.

In conclusion, volatility spillover is an important concept in finance that refers to the transmission of volatility from one market or asset to another. Volatility spillover can occur between different markets, assets, segments of the stock market (such as small, mid, and large-cap stocks), and sectors of the economy. Analyzing volatility spillover requires the use of complex econometric and statistical methods, such as Granger causality tests, VAR models, MGARCH models, correlation analysis, and network analysis.

REFERENCES

Diebold, F. X., & Yilmaz, K. (2012). Better to give than to receive: Predictive directional measurement of volatility spillovers. *International Journal of Forecasting, 28*(1), 57-66.

Engle, R. F. (2001). GARCH 101: The use of ARCH/ GARCH models in applied econometrics. *Journal of Economic Perspectives, 15*(4), 157-168.

Forbes, K. J., & Rigobon, R. (2002). No contagion, only interdependence: Measuring stock market co-movements. *Journal of Finance, 57*(5), 2223-2261.

Kanas, A. (2000). Volatility spillovers between stock returns: Evidence from European markets. *Journal of Business Finance & Accounting, 27*(3-4), 447-468.

Lütkepohl, H., & Krätzig, M. (2004). *Applied time series econometrics.* Cambridge University Press.

Oueslati, A., Hammami, Y., & Othmani, A. B. (2017). The impact of crude oil price volatility on stock markets in Middle East and North African (MENA) countries. *Energy Economics, 68,* 440-453.

Yang, J., Kolari, J. W., & Min, I. (2014). Volatility spillover and asymmetric linkages between oil and agricultural commodity markets. *Energy Economics, 44,* 88-101.

Bollerslev, T., & Wooldridge, J. M. (1992). Quasi-maximum likelihood estimation and inference in dynamic models with time-varying covariances. *Econometric Reviews, 11*(2), 143-172.

Boubaker, S., & Sghaier, N. (2015). Volatility spillover between oil prices and stock returns: A focus on frontier markets. *International Review of Financial Analysis, 42,* 424-434.

Cevik, E. I., & Charfeddine, L. (2019). The dynamic relationships between crude oil and sectoral stock markets: Evidence from Turkey. *Energy Economics, 84,* 104476.

Kristjanpoller, W., & Minutolo, M. C. (2020). Volatility spillovers among US, China, and Europe. *Journal of Economic Studies, 47*(1), 120-139.

Nakajima, J., Hamori, S., & Hamori, N. (2017). Volatility spillovers between crude oil and agricultural commodities: A comparative study between energy and food crops. *Journal of Commodity Markets, 8,* 22-33.

A Study on Perception of Teachers Towards AI Applications in Education

M. Fatima Lucia Sheeba*

Abstract   *AI plays an important role in the field of education. The objective of the study is to trace the uses of AI applications and analyse the perception of teachers towards the AI applications in education sector. It can provide solution in many ways to the mounting challenges in this modern world. AI plays a significant role in creating certain tools such as intelligent tutoring system, personalized support, intelligent content creation and delivery, smart learning etc. It has already been applied successfully in several educational instances and improve learning and student developments, as well as educator's performance. As Artificial Intelligence in educational solutions continue to mature, the hope is that the AI can help fill needs gaps in learning and teaching and allow schools and teachers to do more than even before. The study analyses the perception of teachers on AI Applications have enhanced innovative teaching methods. The study also shows that Artificial Intelligence applications help teachers in saving their time and energy facilitating skill development and innovative teaching and learning. The review indicates that modern technology on teaching could be embraced to enhance knowledge in this present competitive world. The rapid increase in the use of AI requires that educators and students have a basic understanding of AI and data used to be able to engage positively, critically and to exploit its full potential. Thus the research identified the uses of AI applications and the perception of teachers on enhanced teaching experience using these applications.*

Keywords   *Education, Teachers, Artificial Intelligence*

INTRODUCTION

Education is the process of acquiring skills, knowledge, values and attitudes through systematic instructions. It also acts as a powerful tool for personal development, social progress and betterment of the society. Education has the power to change the world. Provided it is given in the right manner, to the right individuals, it can help thrive not only individuals, but also nations growth. The role of education in our life helps us to optimize our thinking towards positive thoughts! This optimal thinking tried to give some solution for the educational challenges rose during the COVID-19 pandemic. This crisis changed the way the educational systems work and rewrote the rules on how students and teachers interact and how education takes place. It helped education reach the students in urban as well as rural areas and even remote places through online education, a technological development. As a continuity, there has been a growing trend in higher education to incorporate modern technologies and practices in order to improve the overall educational experience.

The idea of using Artificial Intelligence (AI) in education is not new. AI is accomplished by studying the patterns of the human brain, and by analyzing the cognitive process. The outcome of the studies develops intelligent software and systems. Some of its achievements include face recognition, natural language, processing, speech recognition, text production, language translation, drug development, and more. It has also revolutionized the way, many people think about health, living, learning and other aspects of the daily lives. For example, Chatgpt in the education sector is an emerging AI tool. It is used to create several educational applications like Learning management systems, video assisted learning, virtual and augmented reality, content creation and personalized learning, data driven decision making, automated grading and feedback.

USES OF AI IN EDUCATION

The potential of using artificial intelligence in education to enhance learning, assist teachers and fuel more effective individualized learning is exciting, but also a bit daunting. It offers several benefits, including improved accessibility, tutoring, automated grading and administration and streamlined workforce. These provide students with high quality education and relieve teachers of fatigue. To have an intelligent conversation about AI in education, one must first push past imaginary science, fiction, scenarios of computers and robots, teaching the children, replacing teachers and reducing the human element from what is a fundamentally human activity.

There is a robust debate throughout the technology, community and beyond about ethics in artificial intelligence and most university degree programs are integrating courses

---

* Assistant Professor, MHRM Department, St. Mary's College (Autonomous), Thoothukudi, Tamil Nadu, India.

on AI ethics into their curriculum. The exciting possibilities of AI in education.

POTENTIAL BENEFITS OF AI IN EDUCATION

AI does not detract from classroom instructions, but enhances it in many ways. Some intriguing potential pluses of AI in education are:

Personalization

As we know, teaching is such an interesting skill in order to develop the students we handle. It can be overwhelmingly difficult for one teacher to figure out how to meet the needs of every student in his or her classroom. AI system easily identifies the learning capability, strengths and weakness and create learning strategies by adopting assessments and personalized learning methods to optimize the learning outcome.

Feedback on Course Quality

If many students are answering, a question incorrectly, AI can identify that the specific information or concepts that students are missing, so educators can deliver targeted improvements in materials and books.

Meaningful and Immediate Feedback to Students

Some students feel shy about receiving negative feedbacks in classrooms but with AI students can feel comfortable to make the mistakes necessary for learning and receiving the feedback for further improvement in the academics.

Power of AI in Education

According to Mark, AI is not a threat to teachers; it is not that to replace teachers, but rather to enhance the teaching quality that by delivering better education to children, He outlined AI is potential to help our education provide enhanced:

Automation of administrative tasks;

Tutoring and support outside the classroom;

Differentiated and individualized learning;

Universal access for all students;

Few examples of AI in education.

Adaptive Learning

This method is used to analyze the present skill level and thereby creating a guided instructional experience to make them more proficient.

Assistive Technology

Due to the advancement in technology, special needs of students access a more equitable education.

For example, reading passage to a visually challenged person.

Early Childhood Education

AI is currently adopted in many educational games interacting with the children, teaching, basic academic skills and more.

Data and Learning Analytics

AI is currently utilized by teachers and education administrators to analyze and interpret data regarding the students and their information.

Scheduling

It helps administrators to schedule courses and individuals to manage their daily, weekly, monthly or yearly schedules.

Overall School Management

AI is currently used to manage entire school, maintaining the records of students, transportation, IT, scheduling maintenance and budgeting.

Writing Skills

Most people use the grammar apps to help and assist a writing.

Currently AI has been Involved in:

- Classroom or Behavior management
- Lesson planning

- Classroom audio visual
- Parent teacher communication
- Language learning
- Test prep
- Assessment
- Learning management systems
- Gamification finance
- Start scheduling in substrate management.
- Professional development
- Transportation
- Maintenance
- Finance
- Cyber security

Safety and Security Usage

Usage of Artificial Intelligence in Higher Education include:
- Plagiarism prediction.
- Exam integrity.
- Chatbots for enrolment and attention.
- Learning management systems.
- Transcription of fickle T lectures.
- Enhanced online discussion boards.
- Analyzing student success metrics.
- Academic research.
- Connected campuses.

A few Artificial Intelligence infused specific technologies now being used in education are:

Thinks Ter Math: Described by its graders as maths tutoring program. Next line leverage is human interaction and groundbreaking AI to create personalized learning programmes.

Brainly: It is a social media site for classroom questions.

KidSense: It is an AI educational solution designed for children such as voice to text tool with algorithms aligned to recognize harder to translate speech of young learners.

Nuance: It is a speech recognition software used by students and faculty is capable of transcribing 160 words per minute. This especially enhances the writing and speaking skills of students.

Duolingo: Duolingo is aimed at a broader audience than many other edtech tools.

The language-learning app uses AI to help anyone progressively build foreign language skills. As language learners work through various mini-quizzes and other testing tools, Duolingo adapts and evolves as their skill levels increase.

Duolingo reports it currently has 120 million users learning 19 distinct languages through the app.

STATEMENT OF THE PROBLEM

One of the problems with traditional schooling is the lack of skill-based and creative education. In this modern world, almost all kinds of profession demand innovation, creative thinking, flexibility and practicality.

Although India has been strengthening its educational system since 2009, when the Right to Education (RTE) was passed, mandating Free and compulsory education, the process has been significantly hindered by the COVID-19 pandemic. For the need of hour an adoption of online education provided a solution to the challenges faced by the Indian education system to some extent. Technology advancements such as availability of and access to digital infrastructure, including the internet, laptops and phones made it possible. Through this, use of white boards, flipped classroom method, live online classes, enabling helping room, discussion, recording of screens and videos by using different tools and techniques, i.e., Artificial Intelligence for improving teaching techniques were adopted. Thereby a major transformation in education system has been implemented.

OBJECTIVES OF THE STUDY

The main objective of the study is to trace the use of AI applications in education sector.

To study about the perception of teachers towards AI applications in education.

SCOPE OF THE STUDY

The present study focuses only on the perception of teachers towards AI applications in education.

Only teachers and professors from Southern parts of Tamil Nadu were considered as targeted samples.

METHODOLOGY OF THE STUDY

In order to achieve the objective stated, the following methodology is adopted.

Sources of Data

The study is based on both primary and secondary data.

Primary Data

Primary data is collected through a well framed and structured questionnaire to elicit well considered perception of the respondents.

Certain responses were measured with the help of five point Likert scale.

Direct interviews and discussions were also conducted for respondents to get basic inputs.

Secondary Data

The secondary data is collected from journals, magazines, publications, reports, books, periodicals, research articles, websites and manuals.

LIMITATIONS

The study involves only the perception of the teachers on AI applications.

As AI is in the beginning stage, only few applications have been taken for Research purpose.

Hence, it is only specific and needs further studies to be generalized.

ANALYSIS AND INTERPRETATION

The use of AI applications in Education has been analyzed using different factors to know the perception of teachers in schools and colleges towards AI and its impact on teaching.

Table 1: Perception about Time Saved While Using AI Application in Teaching

AI Saves Time		Frequency	Percent
Valid	Neutral	9	30
	Agree	13	43.3
	Strongly Agree	8	26.7
	Total	30	100

Source: Computed from Primary data.
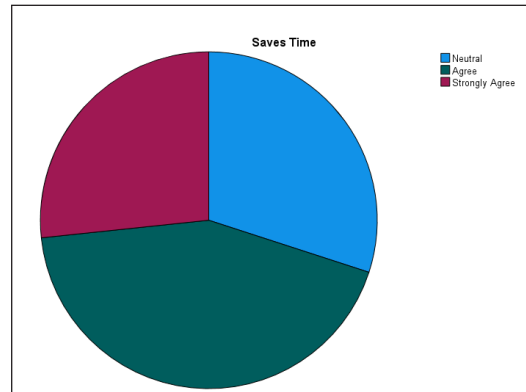
Inference

From the Table 1, it is inferred that majority (73%) of the respondents have saved time while using these AI Applications.

Table 2: Perception about Work Being Done with Less Effort by Using AI Apps

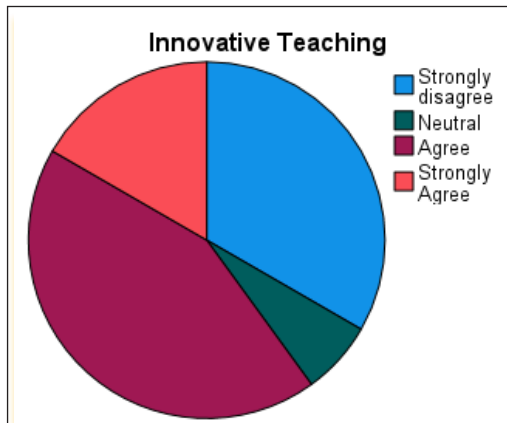|		Frequency	Percent
Valid	Disagree	2	6.7
	Neutral	9	30.0
	Agree	8	26.7
	Strongly Agree	11	36.7
	Total	30	100.0

Source: Computed from Primary data.
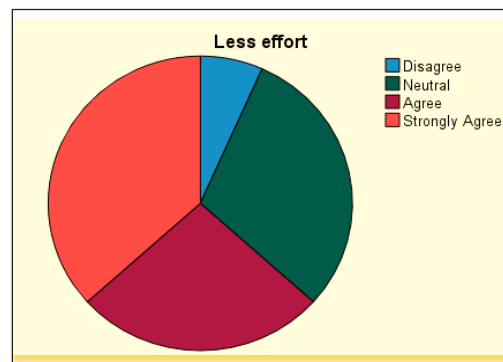
Inference

From the Table 2, it is analyzed that most (63.4%) of the respondents agreed or strongly agreed that they have put less effort on teaching methods using AI Apps.

Table 3: Perception about Facilitating Innovative Teaching Methods While Using AI Applications

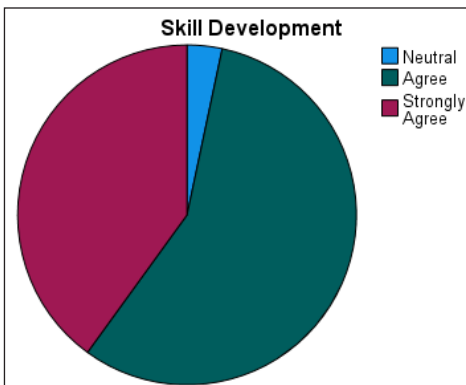|		Frequency	Percent
Valid	Strongly disagree	10	33.3
	Neutral	2	6.7
	Agree	13	43.3
	Strongly Agree	5	16.7
	Total	30	100.0

Source: Computed from Primary data.

Inference

From the Table 3, we can infer that majority of the respondents (60%) agreed AI Apps have helped in more Innovative Teaching.

Table 4: Perception about Facilitating Skill Development

		Frequency	Percent
Valid	Neutral	1	3.3
	Agree	17	56.7
	Strongly Agree	12	40.0
	Total	30	100.0

Source: Computed from Primary data.

Inference

From Table 4, it is clear that Skill development process have been enhanced due to AI Applications for a vast majority of respondents (96.7%).

Table 5: Perception about AI Apps Being Suitable for Entertainment Purpose

		Frequency	Percent
Valid	Disagree	1	3.3
	Neutral	19	63.3
	Agree	5	16.7
	Strongly Agree	5	16.7
	Total	30	100.0

Source: Computed from Primary data.
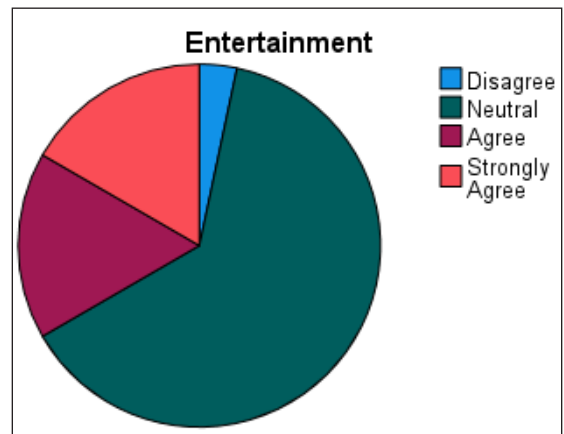
Inference

From Table 5, it is clear that most of the respondents (63.3%) neither agree nor disagree that AI Applications are suitable for entertainment purpose.

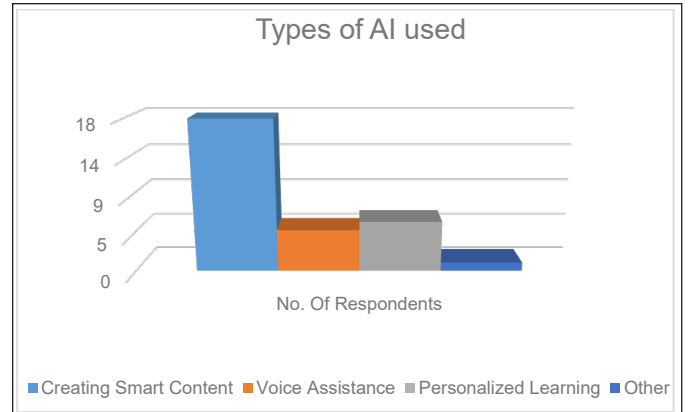## Table 6: Perception about AI Facilitating Innovation in Teaching Methodology

		Frequency	Percent
Valid	Neutral	4	13.3
	Agree	19	63.3
	Strongly Agree	7	23.3
	Total	30	100.0

Source: Computed from Primary data.

Inference

Table 6, implies that majority of the respondents(86.6%) agree or strongly agree that AI Application can facilitate innovation in Teaching.

Table 7

Purpose of AI	No. of Respondents	Percentage
Creating Smart Content	18	60
Voice Assistance	5	17
Personalized Learning	6	20

Purpose of AI	No. of Respondents	Percentage
Other	1	3
	30	100

Inference

From Table 7, it is observed that most of the respondents (60%) use AI apps for Smart content creation, 17% of the respondents use it for Voice Assistance, 20% use it for personalized learning, 3% used for other purpose.

Table 8: Overall Satisfaction Level Towards AI in Education

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 5 Years	8	4.63	.518	.183	4.19	5.06	4	5
5 to 10 Years	10	3.60	.699	.221	3.10	4.10	3	5
10 to 20 Years	6	3.83	.408	.167	3.40	4.26	3	4
more than 20 years	6	3.17	.408	.167	2.74	3.60	3	4
Total	30	3.83	.747	.136	3.55	4.11	3	5

Table 9

One Way ANOVA

Overall Satisfaction of teachers towards AI Apps

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.225	3	2.742	8.976	0
Within Groups	7.942	26	0.305		
Total	16.167	29			

Inference

One way ANOVA shows that the significance value is 0.000 which is lesser than 0.05 (level of significance) (p< 0.05). Hence there is a significant difference of variance in Overall

Satisfaction level of teachers towards AI Applications based on years of experience.

FINDINGS

- From the study it is identified that most of the teachers have perceived that use of AI applications has saved time.
- Majority of the teacher's perception about work being done with less effort by using AI apps creating lesson plans and in curriculum designing.
- Most of the teachers felt that AI has enhanced teaching in a more innovative way.
- Teachers have observed that AI applications can make education interesting as it has been designed to analyze their strengths and weakness and adopt assessment based on their capability.

- One way ANOVA shows that there is a significant difference of variance in Overall Satisfaction level of teachers towards AI Applications based on years of experience.

SUGGESTIONS

Some of the suggestions placed by teacher are:

- As using AI Apps can save time and energy to a greater extent, students and admin staff can also use it to be more efficient.
- Teachers may be benefited by personalized approach through smart content preparation tools.
- Although AI enhances teaching techniques, traditional approach of teachers on guiding through moral values can never be replaced. Hence teachers should guide students to use AI in the right manner.
- Introducing AI at school level and college level with certain restrictions can be more beneficial.
- AI could be more productive to teachers and students when it is more diligently and safely used.

CONCLUSION

AI has the potential to revolutionize learning with opportunities in personalized learning and grading. It can train students according to their interests, so there are possibilities to distract them in many ways. Since while implementing AI in education in a healthy state, certain ethical consideration and restrictions shall be made based on age limits. Hence, it is important to strike a balance between the benefits and challenges of AI applications. Educators need to be mindful of the limitations of AI and use it appropriately, in order to develop skills. AI has the potential to transform education, but it must be used ethically, transparently and with considerations for learners and educators alike.

REFERENCES

https://onlinedegrees.sandiego.eduartificial-intelligence-education/

https://timesofindia.indiatimes.com/readersblog/newtech/artificial-intelligence-in-education-39512/

https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/artificial-intelligence-applications

https://timesofindia.indiatimes.com/readersblog/newtech/artificial-intelligence-in-education-39512/

https://appinventiv.com/blog/10-ways-artificial-intelligence-transforming-the-education-industry/

https://www.epravesh.com/blog/artificial-intelligence-ai-in-indian-classrooms-a-need-of-the-hour/

DETERMINANTS OF BUYING NATURAL COSMETICS AMONG WOMEN

M. Benita*, Rita Rebekah**

Abstract   *Customers are more inclined to choose carefully and are prepared to pay for a product that is high-quality, safe, and effective due to the rise of health-conscious customers, especially in the beauty sector, which has expanded dramatically every year (Emerald, 2016). Additionally, as environmental consciousness has grown, so has the use of environmentally friendly products (Kim & Chung, 2011). This study intends to determine the effects of consumer purchasing behaviour towards natural cosmetics on factors such as health, safety, environmental, product knowledge, and aesthetic awareness. 240 respondents who buy Natural personal care items provided the information.*

Keywords   *Natural, Environment, Cosmetics, Health*

INTRODUCTION

Natural materials and additives are becoming more and more popular these days. This is especially noteworthy for cosmetics. Since the emergence of ethical consumers, purchasing goods that are not detrimental to the environment and society has become one of their top priorities. They place a strong priority on food quality, health, and nutritional value. Numerous businesses and suppliers are already making and selling cosmetic goods they advertise as "green" and better for the environment and the consumer due to favourable demand. The adverse consequences of synthetic materials on human health and the environment have come to light, which is why they are becoming more and more popular. The use of natural cosmetics, which relate to a healthy lifestyle and connect cosmetic product use to good eating practises, is the current marketing trend (Gubitosa, Rizzi, Fini & Cosma, 2019). The detrimental effects of using non-natural cosmetics products on the skin and human health have come to light more recently (Yaacob & Zakaria, 2011). The desire for businesses and customers to be more responsible towards living things and the environment is growing along with the knowledge of the abuse of animals used in product testing. Companies have begun to develop the concept of green products in cosmetics as a result of realising the significance of this awareness (Mazar & Zhong, 2010). The main areas of concern on potential health hazards from toxic substances and the potential for skin irritation. Strong chemicals could contaminate the environment. An increasing number of consumers are calling for healthier cosmetics that will be kind to skin and cause the least amount of environmental damage as a result of the health trend. As consumers and marketers respond to popular media regarding healthy living, interest in natural cosmetics has increased significantly.

OBJECTIVE

- To study the demographic profile of the respondents.
- To investigate the association between health, safety, environmental, product knowledge, aesthetic awareness and buying behaviour of natural cosmetics.
- To analyse the impact of health, safety, environmental, product knowledge, aesthetic awareness on the buying behaviour of consumers towards natural cosmetics.

LITERATURE REVIEW

Takaya (2018), stated that attitudes towards natural personal care are positively impacted by environmental consciousness and aesthetic awareness. The value perspective variable has a favourable impact on attitudes towards natural personal care products as well. The inclination to purchase natural personal care is positively influenced by one's attitude towards it.

According to Chhajed and Panse (2020), there is sufficient evidence to conclude that there is a sizable intention to purchase natural personal care products. The main foundations supporting the demand for natural personal care products. The usage of natural products, the belief that they are of higher quality, the maintenance of a healthy lifestyle, and the willingness to pay more for high-quality goods are all current social trends.

*   Research Scholar, Xavier Center for Research, Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous), Palayamkottai, Tamil Nadu, India. Email: beniabi2230@gmail.com

** Associate Professor and Dean-Academics, Xavier Institute of Business Administration (XIBA), St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Palaymkottai, Tamil Nadu, India. Email: ritarebekah@gmail.com

According to Akter and Islam (2020), women are motivated to purchase more environmentally friendly goods. Eco-awareness has a beneficial impact on attitudes towards green products, and such attitudes have a direct impact on purchase intentions. Green customers are action-oriented and constantly believe in self-improvement, which results in good transformation. They are drawn to an ecological way of living, which is concerned with preserving the environment. Purchase intention is influenced by elements like social influence, favourable past experiences, and perceived behavioural control.

Ghazalia, Soon, Mutum and Nguyen (2017) found that attitude is the most significant factor in predicting desire to re-purchase natural PCP. Furthermore, they contend that when it comes to influencing one's attitude towards repurchasing natural PCP, product knowledge takes precedence over hedonic value, health, safety, and environmental value.

Matic and Puh (2015) noted that as consumer interest in environmental and health issues rises, there is a significant market opportunity for natural and natural personal care products.

In their study, Shakeel and Karim (2021) discovered that brand name, health consciousness, and aesthetic awareness have a significant impact on the buying behaviour of consumers for natural cosmetics, but store environment and environment consciousness do not.

RESEARCH METHODOLOGY

This study is a descriptive one. The survey is conducted in Tirunelveli city. The consumers who buy natural personal care products are the respondents. The population is unknown, hence the researcher decide to adopted Convenience Sampling method. 240 respondents have been taken as sample for this study.

DATA ANALYSIS

For the aim of statistical analysis, the replies underwent a comprehensive inspection and coding process. SPSS 22 was used to enter the data. The consistency Utilising reliability analysis, statistics for each of the elements under investigation have been verified. All of the constructs utilised in this study have Cronbach's Alpha values that are above .70 and are thus very trustworthy. Since all of the constructs' skewness values fall within $+2$ and their kurtosis values fall within $+3$, the data was evaluated for normality. The researcher chose to use a parametric test as a result. The quantitative information gathered through a structured questionnaire was analysed using the statistical methods Pearson Correlation and Linear Regression.

RESEARCH HYPOTHESIS

- H01- There is no association between health, safety, environmental, product knowledge, aesthetic awareness and buying behaviour of natural cosmetics.

- H11- There is an association between health, safety, environmental, product knowledge, aesthetic awareness and buying behaviour of natural cosmetics.

- H02- There is no impact of health, safety, environmental, product knowledge, aesthetic awareness on the buying behaviour of consumers towards natural cosmetics.

- H12- There is an impact of health, safety, environmental, product knowledge, aesthetic awareness on the buying behaviour of consumers towards natural cosmetics.

RESULTS AND DISCUSSION

Table 1

Demographic Factors	%
AGE	
18-22	41.3
23-27	19.6
27-30	39.1
MARITAL STATUS	
Married	65.2
Unmarried	34.8
Divorced	-
EDUCATION	
Upto school	6.5
Diploma/Degree	15.2
Post-graduation and above	65.2
Professionals	10.9
Others	2.2
OCCUPATION	
Government Employee	2.2
Private Employee	19.6
Self Employed	15.2
Student	50
Others	13
INCOME	
10000-20000	19.6
20001-30000	13
30001-40000	8.7
40000 and above	2.2
Not Applicable	56.5

Demographic Factors	%
RESIDENCE	
Urban	28.3
Rural	45.7
Semi Urban	26.1
BUYING MODE	
Online	28.3
Retail Shops	71.7
FREQUENCY OF PURCHASE	
Every month	34.8
Once in 6 months	45.7
Once in a year	15.2
Once in 2 years	4.3
IMPORTANT FACTOR TO BUY NATURAL COSMETICS	
Environment attitude	28.3
self-worth	69.6
Willing to pay more	2.2

Demographic Factors	%
COSMETICS PURCHASED	
Oral Care	13
Sun Care	37
Skin care	8.7
Hair care	17.4
Decorative Cosmetics	4.3
Body care	8.7
Perfumes	10.9
SOURCES OF AWARENESS	
Media(TV, Radio)	21.7
Friend/ Family	30.4
Specialist(Doctor, beauticians)	13
Specialised Shops	6.5
Promotional Camp	2.2
Magazines	-
Display at store	-
Internet	10.9
Ads on Social Media	15.2
Newspaper	-

Table 2: The Relationship between the Benefits of Natural Cosmetics in Terms of Health, Safety, The Environment, Product Knowledge, Aesthetic Awareness, and Purchasing Behaviour

Correlations							
		Health	Safety	Environmental Value	Product Knowledge	Aesthetic Awareness	Buying Behaviour
Pearson Correlation	Health	1.000	.649**	.545**	.663**	.574**	.561**
	Safety		1.000	.703**	.551**	.394**	.361**
	Environmental			1.000	.560**	.216**	.499**
	Product Knowledge				1.000	.435**	.639**
	Aesthetic wareness					1.000	.488**
	Buying Behaviour						1.000

A Pearson Correlation test is used to analyse the association between the variables of Buying Behaviour of natural Cosmetics and health, safety, environmental, product knowledge, aesthetic awareness, the result suggest that there is an association between all the variables.

- The Buying Behaviour and Health have high Positive association (56%).
- The Buying Behaviour and Safety have high Positive association (65%).
- The Buying Behaviour and Environment have high Positive association (55%).
- The Buying Behaviour and Product Knowledge have high Positive association (66%).
- The Buying Behaviour and Aesthetic awareness have high Positive association (57%).

There is an association between Buying Behaviour and health, safety, environmental, product knowledge, aesthetic awareness , hence the researcher carry out Regression test to find the impact of each predictor variables on the Dependent variable (Buying Behaviour).

Table 3: Regression Analysis

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.731ᵃ	.565	.525	.429

a. Predictors: (Constant), Aesthetic Awareness, Environmental, Product Knowledge, Safety, Health.

From the Model Summary Table 3 it is inferred that the Predictors Such as health, safety, environmental, product knowledge, aesthetic awareness explains the variability in Buying Behaviour of natural cosmetics for about 53% (Adjusted R square of .525). These variable contribute 53% on Buying Behaviour towards natural Cosmetics.

Table 4

	Model	Sum of Squares	Df	Mean Square	F	Sig.
	ANOVA[a]					
1	Regression	47.344	5	9.469	51.552	.000[b]
	Residual	41.143	224	.184		
	Total	88.487	229			

a. Dependent Variable: Buying Behaviour.

b. Predictors: (Constant), Aesthetic Awareness, Environmental , Product Knowledge, Safety, Health.

The above ANOVA test statistics table shows that the p value is (.000) which is less than the level of Significance (0.05), hence health, safety, environmental, product knowledge, aesthetic awareness make an impact on Buying Behaviour towards natural Cosmetics. Hence, Null Hypothesis is rejected and alternative hypothesis is accepted.

Table 5

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	Coefficients[a]					
		B	Std. Error	Beta		
1	(Constant)	1.258	.173		7.287	.000
	Health	.133	.065	.152	2.050	.042
	Safety	-.232	.053	-.325	-4.383	.000
	Environmental	.268	.052	.357	5.188	.000
	Product Knowledge	.314	.050	.396	6.230	.000
	Asthetic Awareness	.171	.034	.285	5.100	.000

a. Dependent Variable: Buying Behaviour.

The Table 5 of Coefficients Shows the following:

- Where there is a 1 unit increase in the Health there is a .133 increase in the buying behaviour of natural Cosmetics.
- 1 unit increase in Environmental there is a .268 increase in the buying behaviour of natural Cosmetics.
- 1 unit increase in the Product Knowledge there is a .314 increase in the buying behaviour natural Cosmetics.
- 1 unit increase in Aesthetic awareness there is a .171 increase buying behaviour of natural Cosmetics.

The variables Safety does not show any increase in buying behaviour of natural Cosmetics.

CONCLUSION

The natural and natural personal care business has a significant chance to develop a strategy that could persuade many people to buy natural or natural cosmetics as consumer interest in health and environmental issues is growing. This study found that buying behaviour towards natural cosmetics is positively correlated with values related to health, safety, the environment, product knowledge, and aesthetic awareness. Additionally, the aforementioned factors account for 56% of Tirunelveli City's young women's purchasing decisions about natural cosmetics.

REFERENCES

Emerald, M., Emerald, A., Emerald, L., & Kumar, V. (2016). Perspective of natural products in skincare. *Pharmacy & Pharmacology International Journal, 4*(3), 1-3.

Ghazalia, E., Soon, P. C., Mutumc, D. S., & Nguyen, B. (2017). Health and cosmetics: Investigating consumers' values for buying natural personal care products. *Journal of Retailing and Consumer Services, 39,* 154-163.

Gubitosa, J., Rizzi, V., Fini, P., & Cosma, P. (2019). Hair care cosmetics: From traditional shampoo to solid clay and herbal shampoo: A review. *Cosmetics, 6*(1), 13.

Matic, M., & Puh, B. (2015). Consumers' purchase intentions towards natural cosmetics. *Econviews, God. 29,* 53-64.

Chhajed, M., & Panse, C. (2020). Consumer intention to buy natural personal care products. *International Journal of Advanced Science and Technology, 29*(5s), 2276-2287.

Mazar, N., & Zhong, C. B. (2010). Do green products make us better people? *Psychological Science, 21*(4), 494-498.

Takaya, R. (2018). The effect of consumer value and perspective of value to intention to buy through attitude on natural personal care products in Jakarta. *Business and Entrepreneurial Review, 18*(1), 37-52.

Akter, S., & Islam, M. S. (2020). Factors influencing the attitude of women towards purchasing green products: An explorative case study of natural cosmetics in Sweden. *Journal of Consumer Sciences, 48,* 38-64.

Shakeel, S., & Karim, E. (2021). *Consumer buying behavior: Organic cosmetics versus non-organic cosmetics, MPRA Paper No. 110098.* Retrieved from https://mpra.ub.uni-muenchen.de/110098/

Yaacob, M. R., & Zakaria, A. (2011). Customers' awareness, perception and future prospects of green products in Pahang, Malaysia. *The Journal of Commerce, 3*(2), 1-10.

Kim, H. Y., & Chung, J. E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing, 28*(1), 40-47.

A Study on the Effects of Information and Communication Technology among Special Educators in Tamil Nadu, South India

Amali Arockia Selvi J.*, Stella P.**

Abstract   *Special education in India has gained traction in the twenty-first century with several innovations and curricular enrichments. The current research paper aims to link the usage of Information and Communication Technology proposed with special schools of South Tamil Nadu, India. Special-Needs Children's Participation Learning design is a challenge and a task to explore new avenues to help exceptional children develop their learning skills as a result of demands for ICT applications from youngsters. Researchers have used a mixed research methodology. An online survey was used to send a questionnaire, followed by interviews with the heads/senior executives of Special Educational Institutes. The interviews aimed to look into and analyse sixty different areas of ICT-based curriculum design and implementation among special educators. The sample respondent size was 102 teachers. It was computed and analyzed to interpret the outcomes. The use of correlation analysis revealed the strong and weak relationships between individual aspects; examining the aspects through factor analysis provided a new orientation to special teachers and unique educators grouped under cluster review, revealing their propinquities and similarities; and examining the aspects through factor analysis provided a new orientation to special teachers and unique educators grouped under cluster review, revealing their propinquities and similarities. The findings show that special educators' use of ICT applications has a two-fold impact on learning design: teachers with good ICT skills perform better, whereas instructors with inadequate ICT skills perform worse. One alternative suggested in the research is to develop greater ICT skills and experience to empower special-needs children through learning-teaching design systems.*

Keywords   *Information, Communication, Technology, Special Education*

INTRODUCTION

The impacts of ICT may be seen across the board in technology. Recent research by Dawes (2001) shows that new technology, particularly in special education, significantly impacts how students learn and how they learn.

ICT technologies must be integrated into special education classrooms. Special educators' teaching abilities are improved through the teaching-learning process. Special Children with desired outcomes in the learning process.

Digital learning environments have been established using information and communication technology (ICT). The teaching-learning paradigm has been transformed by Digital Learning, making it easier for academically challenged students. The hallmark of the educational system in today's globalised world is when technology is leveraged to provide a digital learning platform. The usage of ICT-enabled programs in special education has been found to help students learn. Teachers in special education institutions are being energized in new ways to deal with the pedagogy of ICT-enabled instruction. The use of ICT in special education has boosted cognitive education for children with exceptional

needs, according to Aksal and Gazi (2015). Using ICT methods and abilities to affect the special education system's course has been proposed. Drigas and Ioannidou (2013) recommend building ICT-enabled instructional programs for students with special educational requirements.

Research in Special Education

Justification for Current Work Special education and technology play an important role in Current Research's focus. The focus of the present research was to examine how technology and special education could be integrated into a new learning paradigm. For children with special needs, the process of teaching and learning must be altered because of their cognitive impairments and the slowness of their mental processes. When the entire system is implemented to accommodate all children's requirements, Coflan and Kaye (2020) show that children with disabilities learn effectively. New thinking and a new paradigm shift for the inclusion of Special Children have been made possible thanks to the adaption of technology in Special Education. ICT learning design for children with specific needs is the focus of this

---

*   Research Scholar, Xavier Institute of Business Administration, St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India. Email: amaliselvi@gmail.com
** Assistant Professor & Head, Xavier Institute of Business Administration, St. Xavier's College (Autonomous) Affiliated to Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu, India. Email: stellajenefa@gmail.com

study. Many new initiatives and curricular enhancements have propelled Indian special education into the twenty-first century. Newer teaching-learning frameworks, ICT capabilities, and a broader knowledge base are needed in India's special education institutions.

As a result, the twenty-first century is distinguished by the emergence of a knowledge-based society in which information and communication technologies play a critical role. Officials in India have declared the years 2010 to 2020 to be a decade of innovation. In education, critical thinking and reasoning skills are taught. Low-cost ICT methods and technologies should begin in the primary grades to acquire the necessary skills. Students with special needs must use ICT-enabled learning design to show their dedication. Because Special Children have many learning impairments and cognitive development faults, their special education learning technologies and tactics must be tailored to their unique needs.

REVIEW OF LITERATURE: ICT PARADIGM AND SPECIAL EDUCATION

The literature review gives an overview of ICT tools and techniques to address the issues of Engaging Special-Needs Children. The focus is to understand the role of Technology and its influences in special Education than Mainstream education.

Importance of Special Education

Chakma (2020) has emphasized, "Special education is a modified program which involves some unique tools, techniques and research efforts in improving instructional arrangements to meet the need of exceptional children. It is not a different program assigned for the normal children"[1]. Coflan and Kaye (2020) have specified the category of children with Special Needs as Physically challenged, Deaf and Dumb, Blind, and Mentally Retarded. These children are prone to respond to education unless there is a special instructional orientation method. The insights of Sæbønes et al. (2015) have given birth to a newer approach to understanding Special education and technological intervention. Sæbønes et al. (2015) have reported in their studies that there is an increasing relationship between schooling, disability, and poverty. They have further argued that many research scholars comprised of 80% have established a link between poverty and disability. To improve education and learning access, it is necessary to make low-

cost assistive technologies widely available. A more good investment is required to provide quality education and improve learning outcomes for children with disabilities in offering accessible and effective teaching and learning materials.

Special Education and ICT Integration

Katsarou (2020) has indicated that Special Educators' perceptions towards ICT integration in special education are positive. ICT needs to be implemented in the context of special education. Batanero (2019) has indicated that Special education teachers cannot use digital platforms for their instructional purposes. Special Teachers are less prone to use Digital skills. Thomas (2020) explained that using ICT tools could bridge the learning gaps among Children with Special Needs. He furthered, saying the implementation of ICT tools in Special Education has to be the agenda of Special Schools. Moreno (2020) insisted that Special educators adopt new Technology to instruct special children. Silva and Novo (2019) have indicated that Teachers in special education must evaluate ICT intervention options to help children with disabilities. Self-autonomy, self-esteem, and interaction give significant benefits for the cognitive, physical, social, and emotional development of kids with SEN, according to the research. Florian and Hegarty (2004) described that the application of ICT in special education becomes educational inclusion of special children. In the Case of Universities In North Central Nigeria, Yusuf (2015) has revealed that instruction through Information and communication technology helps the students. Sivasankar (2014) has indicated that ICT awareness among higher secondary teachers is increasing and capturing attention. Anderson and Putman (2020) have indicated that facilitating growth-oriented valuation and fostering life skills among special children enhances learning outcomes.

Lombard et al. (1998) have indicated that special educators must follow the ICT pedagogy guidelines. The ICT skill integration in special education makes the learning process more relevant. According to Dragana et al. (2014), school teachers must establish attitudinal changes in pre-school, primary, secondary, and inclusive education with impaired pupils. Siyam (2019) has indicated that the Technology Acceptance Model (TAM) could instruct special children. Amhag, Hellström and Stigmar (2019) have emphasized the aspects of digital skills that are supposed to be developed.

Thus, the literature review has given the pathway to clarify the concepts, applications, and practicality of their nature. It has helped the researcher to gain a better understanding of the many theoretical, conceptual, and empirical views on the various components of ICT Skill Integration in Curriculum Development and Learning Design in Special Education

---

[1] https://onlinenotebank.wordpress.com/2020/03/17/special-education, by Devasis Chakma (Accessed on 20/04/2021)

Schools. The literature study shows that ICT in special education is problematic, with an emphasis on learning design in special schools in India, particularly in South Tamil Nadu. The current research has identified several research gaps to further inquiry.

METHODOLOGICAL CONSIDERATION

Research Gap

The literature review has paved the way to understand the relationship between Special Education and ICT Integration. It has been observed that there is a scarcity of literature review support to identify the role of ICT integration in Special Education in the Context of India and particularly the place of current research carried out. The research gap is that fewer studies have been conducted in Southern Tamil Nadu.

Thus, the current research is new and unique in identifying Special Education Teachers and how they shape their understanding and the role of ICT integration in their instructional model.

Research Objectives

- The research objectives serve as a guiding foundation for the current research.
- To examine the relationship between variables in the context of ICT among special educators.
- To associate two components like years of operation of Special Schools, Teaching experience in special education.
- To examine factors relating to ICT learning design in special education.
- To run the cluster analysis to group Special Schools based on the nature of the relationship.

Research Design

Based on the research gaps and objectives, the research approach was used. The current study paper is a success because of its hybrid research approach. It has been suggested that quantitative Analysis is the most significant part of data analysis and presentation by Scruggs, Mastropieri and Casto (1987). The use of both quantitative and qualitative techniques has improved the validity and results of this study. There are statistical tools available to quantitative researchers to examine how various ICT features are linked

in the current study. According to Ovino and Tsitsianis (2020), a researcher's research method serves as a guide for analysing the data and drawing conclusions. Qualitative research takes data from Special Educators in small groups.

Many statistical methods have been used in this study to examine the relationship between variables. Analyzing data according to predetermined goals was the strategy employed by the researcher. Pearson Correlation analysis is used to study the correlation between ICT components to expand the research findings and establish the worth of adopting ICT in special education. An element's strength and weakness are determined by correlation analysis on each element. Our total understanding of changeable interrelationships is aided by this visual representation method. As a second example, Pearson Correlation is frequently used to examine the statistical significance between two variables. Correlation can be used when examining factors in control settings, such as the number of years the school has been in operation, the experience level of the teachers in the Special Education department, and their age. Thirdly, a Paired T-Test was used to examine the relationship and influence between two variables. K-Means Cluster Analysis is employed when looking at the relationship between schools and the t. Correlation can be used when examining factors in control settings, such as the number of years the school has been in operation, the experience level of the teachers in the Special Education department, and their age. Teachers have varying levels of experience with ICT tools and practices. When special educators are clustered together, their similarities and distinctions can be seen. One of the strengths of special educators is their ability to create flexible, packaged, and high-performing lessons using ICT. Special schools assist their personnel in establishing and cultivating curriculum design in order to empower Special-Needs students.Finally, Pearson's Correlation values were utilised to order the variables using the Mean Ranking approach. Factor analysis is used to examine variables that have been categorised as factors in this study.

Our goal is to compare the contributions of 60 variables to Special Education in the context of Special Education Research by establishing a framework for applying research techniques. Cronbach's Alpha (0.922) indicated that the construct of variables used in the current study had a strong overall reliability grade.

The researcher used two approaches to perform the study: an ICT-enabled questionnaire and a survey with follow-up interviews with heads of special education facilities. Researchers used surveys and in-depth interviews to understand better the value of integrating ICT skills into Special Education. Predetermined sample size was used to conduct the inquiry. ICT-based classroom design and special educators' use of sixty various components were examined.

Only 162 out of 300 teachers who were surveyed gave their opinions, making this a statistical outlier.

RESULT AND DISCUSSION

The first objective was to look at the interactions between the variables in the context of ICT applications in Special Education. As a result, the first perspective is concerned with examining the relationships between various components of ICT orientation in order to engage Special Teachers.
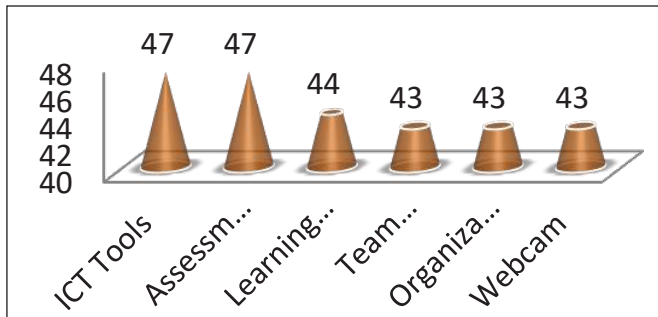

Fig. 1: Overall Perspectives

With light of this, we discovered that ICT tools, assessment, Webcam, learning design, team planning, and organisational motivation all have significant links with other variables and have a positive association in ICT integration in special education learning and teaching. In this light, we have discovered that ICT tools, assessment, Webcam, learning design, team planning, and organisational motivation have substantial relationships with other variables and establish a positive association in ICT integration in special education learning and teaching.

Firstly, ICT tools have 47 elements, with the most statistically significant interactions between them. Fig. 1 shows that the second element, Assessment of Learning Design among Special Teachers, has a substantial relationship with the other aspects of the study. Teachers in Special Education employ a learning design assessment method to improve their teaching, as shown in Fig. 1. It's an indication that the use of ICT tools in the classroom management of children with special needs is becoming more sophisticated.

Learning Design is the third component, with 44 statistically significant correlations among variables. The computed variables' positive and negative orientations suggested that the variables are traveling in two separate directions. There are 44 components in the Learning Design feature, 31 of which have a negative relationship and weak statistically significant correlations, indicating that these variables are trending in the wrong direction. The weak negative correlation shows that special educators in South Tamil Nadu special schools must be familiar with ICT-based approaches to teaching and learning, and the weak relation characteristics also suggest that the ICT-based curriculum has a poor structure. Organizational motivation, which has 43 statistically significant interactions with other elements, is the fourth aspect of the overall perspective. The organisation has been discovered to play an essential role in influencing Special Educators to use ICT resources for teaching instruction and to develop a digital technology-based classroom teaching-learning design culture.

In Objective 2, we divided educators and special education schools based on two control scenarios: years of experience (Teachers) and years of school establishment (Organization) in special education.

Control Situation 1 teachers with more than 5 years of experience in Special Schools have an impact on their teaching. Assessment of Learning Design is thought to have 41 components with a good association among special educators. They are on the same page when it comes to using technology.

Assessment of Learning Design has been demonstrated to benefit Teachers by providing them with more experiences. It has allowed them to create their curriculum and track students' progress with special needs. Figure 1 shows that Assessment of Learning Design has strong statistically significant associations with 41 features, with positive correlation analysis. In Control Situation 1, they are educating their students.

Table 1: Years of Experience More than 5 Years

Sr. No	More than 5 Years of Experience	The Number of ICT Factors with Strategicties
1	Learning design evaluation	41
2	Internet	40
3	Interactive resources	39
4	Tools for ICT	38
5	Photo lexicon	38

It was also confirmed that special educators in the current study apply learning design assessment in their curriculum development, making the teaching-learning process of special needs children more accessible and helpful. The control status of schools that have been open for more than five years is linked to several other criteria. The Internet is the second aspect, which encompasses 40 highly interconnected aspects. It is compatible with many Special Schools that structure classroom learning utilising digital technology. It was discovered that the maximum positively associated characteristics are 28. Interactive tools, which cover 39 different aspects, are the third component. It moves positively and demonstrates the strength of statistically significant cor-

relations with other factors.

Years of experience in a controlled setting of fewer than 5 years have various statistically significant elements. Fig. 2 shows the aspects that have statistically significant correlations with each other.
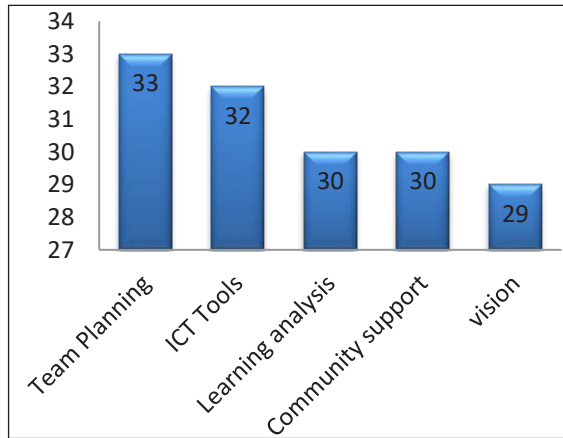

Fig. 2: Teachers More than 5 Years

Team planning has the highest correlation significance, with 33 components associated. According to reports, special educators are starting to employ Team planning as a strategic advantage for the group's benefit. Special educators use Team planning to understand the unique context and learning design better. Teachers with less than 5 years of experience in special education are more likely to employ Team planning to familiarise themselves with Special education teaching-learning design in the sense of a group. This suggests that teachers work together in groups to comprehend the teaching-learning design.

The second factor is ICT tools, which cover 33 variables with a higher level of correlation. The statistical significance of ICT tools is discovered. According to the theory, there are two movements, one positive with 20 elements and the other negative with 13 aspects. In special research schools,

learning Analysis of ICT-based curriculum is prioritised. Learning analytics is used by special educators in special schools to retrieve information on specific students and their learning disabilities. Learning Analysis might assist special educators in maintaining collaborative relationships and goodwill with parents, students, and other stakeholders to provide high-quality education. Learning Analysis also entails a framework for comprehending unique children's intellectual needs and meeting those needs by their power level.

In the control situation, the number of years since a Special school was founded (organised) in Special education determines the quality of ICT inputs and usage on school grounds and how school administration assists special educators in developing their attitudes and interests toward ICT learning design. The assessment addressed the aspects in the first phase, which lasted more than 5 years after the founding of the Special School.

Table 2: Attitude towards ICT

	N	Mean	Std. Deviation
Student interest	162	4.14	.563
Student performance	162	4.12	.783
Student growth	162	3.93	.651
Student mindset	162	3.85	.613

Parents motivate the Special Children to study and perform well as they accompany their children in their learning process. It has been sensible that ICT tools have brought learning outcomes among Special Children. The learning outcomes are oriented towards teaching Special Children through ICT tools.

The pair Samples test reviews whether the relationship between Pedagogical Input and Need assessment exists among them with statistical significance.

Table 3: Paired Samples Test

Paired Samples Test									
		Paired Differences: Two Aspects					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pedagogical input - need assessment	-.278	.633	.050	-.376	-.180	-5.586	161	.000

The statistical value of the pair demonstrates that the relationship between Pedagogical Input and Need assessment is correlated in the current research. The current research has shown the negative relationship, which indicates that teachers are not prone to use these aspects in their teaching medium. The teaching inputs are to identify the

learning gap among the Special Children. The input-output-oriented teaching through ICT is weak in a relationship and negatively orientation. The mean value of the Pedagogical Input and Need assessment is -.278, which indicates the negative orientation, weak relationship, and less statistical significance among the aspects computed. Though it has

shown the test's significance, it has a weak and negative relationship. When teachers cannot assess the need of the Special Children, it is challenging to plan and organize Learning effectively.

The teaching-Learning aspects are carefully planned and executed with ICT interventions. Table 4 indicates that ICT Significance in Special Education uses ICT tools and techniques to shape the teaching-learning.

Table 4: ICT Significance in Special Education

	N	Mean	Std. Deviation
Module	162	4.23	.690
Feedback	162	4.12	.873
Tools	162	4.10	.710
Resources	162	4.05	.876
Learning_Analysis	162	3.83	1.041
Evaluation	162	3.83	1.025
Assessment	162	3.71	.937

The Module in Special Education has a significant role to play. The Module is ranked in Table 8 as first having the mean value 4.23, which indicates the Module planning and preparation is given due importance. The Module in Special Education has a process involving context,

Teaching-Learning Method, and learners. The current research Special Schools have begun to integrate ICT Module in Special Education in current research schools and help the teachers to plan their teaching modules to instruct the special children for better growth.

The Special Schools examine the options and choices for enhancing ICT interventions to teach special children. The feedback in Table 4 stands for the second position, the third position is ICT tools, and the fourth position is Resources having 4.05. Table 4 indicates how special schools use different ICT tools and techniques to enhance special children's learning patterns.

Table 5: ICT Investment in Special Schools

	N	Mean	Std. Deviation	Variance
Smart class	162	4.01	.975	.950
Internet	162	3.97	.922	.850
webcam	162	3.93	.949	.901
Talking Calculators	162	3.91	1.018	1.036
ICT software	162	3.91	1.002	1.004
Audiometers	162	3.86	1.002	1.005
Interactive_tools	162	3.79	.968	.937
Photo vocabulary	162	3.75	.953	.908

The Special Schools in the current research have invested in creating smart special schools for the effective learning of special children with Special Needs. Special Educational institutions' investment priorities are based on their budget allocations across core ICT technology and installing them for instructional purposes. Table 5 indicates the mean value of ICT technology tools like Smart class having 4.01, Internet having 3.97, Webcom having a mean value of 3.93, and ICT software having 3.91. Many Special Schools have educated their teachers to use Internet-based ICT tools to help the Special Children and instruct them for effective Learning.

The investment in Smart classes in Special Schools has indicated that teachers focus their teaching and instructional mode through ICT-based Smart classrooms and promote ICT-based Learning for Special Children. Smart class technology in Special Schools allows special students to use whichever medium they are familiar with, like visual and Auditory.

It has been observed that innovative classroom technology boosts students' confidence and encourages them to participate in extracurricular activities. Smartboard technology makes the learning experience more fun among exceptional students, and exceptional teachers can help special children with more task-oriented learning activities. Special Children are attuned to different forms of media. Special teachers instruct special children through illustrations using photos, maps, graphs, regular and animated videos. It has been noticed that every special child can grow differently from the other; the growth is also different for different special students. Incorporating technology tools into the Special classroom environment has positively changed the teaching-learning experience for the students. The promotion of ICT skill integration, the opportunity to teachers, and motivation to impart knowledge to students.

Table 6: Classroom Management through ICT Interventions

	N	Min	Max	Mean	Std. Deviation
ICT familiarity	162	1	5	4.27	1.180
ICT skills	162	1	5	4.44	.834
ICT dependency	162	1	6	4.10	.963
ICT lesson plan	162	1	5	4.11	1.241
ICT application	162	1	5	4.28	.633
ICT adaptation	162	1	5	4.07	.777
Valid N (listwise)	162				

Table 6 mean value revealed that ICT knowledge is the most frequently used component among special educators. In South Tamil Nadu, special schools have employed ICT abilities to educate successfully and efficiently in the classroom. South Tamil Nadu school administrations are assisting special instructors in developing their skills in

integrating into the learning design curriculum and enabling them to become ICT-aware individuals. The current research mean values show a gradual increase in ICT use in teaching and learning. k-Means clustering was used to find the close association of instructors who share a common platform in teaching and learning, resulting in a cluster-wise association of Special Teachers.

Table 7: Special Educator Cluster Propinquity

Number of Cases in Each Cluster			Teachers Orientation
Cluster	1	13.000	Teachers with minimum ICT Skills
	2	7.000	Teachers with bundled ICT skills
	3	26.000	Teachers with knowledgeable ICT skills
	4	116.000	Teachers with Higher ICT skills
Valid		162.000	
Missing		.000	

Teachers can introduce students to the learning and assessment paradigm because certain schools have a stronger ICT integration. Special teachers have ICT skills, as seen in the table. These clusters are categorised by how closely they are related. The first cluster represents a group of teachers that have used only basic ICT abilities in their classrooms.

It is a mash-up of a few different ICT skills. The data cluster analysis has led to a better understanding of the special educators' teaching-learning design.

Table 7 indicates four clusters of special teachers, with 13 percent having basic ICT skills, 7% having packaged ICT skills, 26% comprehending ICT skills, and nearly 60% having integrated higher ICT skills. The cluster analysis also indicates that the availability of ICT resources in Government-run schools is very minimum and scarce in budget allocation to upgrade them. The Private run Special Schools are in a better position with ICT Infrastructure. The failure of ICT integration in these schools is prone to teachers' inability to adopt ICT skills and work with them in their instructional model. It has been observed that Schools have ICT infrastructure, but the practices and the usage of these instruments are very minimal. Teachers who integrate ICT skills on multiple levels. The quality of special education is determined by the teaching-learning process that special educators build and include into their teaching-learning design. The fourth cluster has a larger number of teachers, demonstrating that special educators employ a variety of ICT abilities to assist special needs kids in learning more effectively. According to the interviews, special instructors use lesson planning as a critical component of their ICT lesson design and implementation. While the current study investigated the availability and usage of ICT tools for instructional purposes, it was observed that they improve the teaching and learning of special education teachers.

DISCUSSION

The study found that ICT-enabled classrooms are more effective in making children with special needs learn their curriculum better. Also, through the In-depth interviews, it was understood that the teachers have an enquiring mind to learn new things as they come, which is positively associated with creating effective outcomes. The interviews conducted also clearly brought the importance of ICT through the following themes:

Teaching and Learning Flexibility

More than half of the respondents agreed that ICT instruments allowed more significant teaching and learning flexibility. Sure faucets of ICT, such as recording classes and notifying through disability-friendly technologies, have improved the teaching-learning experience. Also, the notes and the syllabus are recorded earlier, which becomes a boon to use in the future. Also, for the learners, the ICT tools help access the classes at any point in time; this enables effective Learning.

Customised Learning

Some teachers highlighted the positives of ICT tools as a boon as it helps focus on an individual child rather than the group. Further, the Learning can be customized according to the disability of the children, which is a benefit. Those with visual disabilities are catered to from those with speech and hearing impairment.

ne of the teachers reported as follows "*It makes it possible for a classroom to be enhanced with individual learning events. No longer are students stuck in a classroom they do not understand, trying to learn at a pace they cannot keep up with or participate in*".

Effective Evaluation Process

ICT tools assist in the more effective assessment of students. Careful monitoring is used to make formative and summative assessments. This technology makes it possible to track learning progress and visualise it as graphs. It also streamlines reporting, allowing teachers to focus more on the weaker students. Based on the style of assessment offered by ICT technologies, teachers can adapt to the abilities of a specific student with minimal effort.

Interactive Learning

The Tirunelveli Special School was used as a case study. Children with special needs can benefit from teaching aids, as demonstrated by this case. There are teaching aids for special children to help them develop their wits and think creatively. Children with special needs benefit greatly from this kind of instruction since it allows them to be more creative in their approach to learning while also improving their memory and retention of previously learned material.

CONCLUSION

Using ICT technology in Special Education has had a tremendous impact on the development of the field. Identifying the ICT components used in Special Education was the goal of objective 1. It was shown that variables such as ITC tools, evaluation, webcams, and learning design were strongly linked to other variables in the current study. Teachers with more than five years of experience in Special Schools in the control group had a greater impact on their instruction. There have been 41 components to the assessment of learning design among special educators that have been strongly associated. They are all going in the same direction when using ICT in their daily lives. For the fourth aim, k-Means clustering was used to identify Special Teachers with a similar platform for teaching and learning. The use of cluster analysis has made it possible to identify Special Schools that have excelled in their use of and adaptation to ICT tools. Educators who work with children with special needs have been impacted by ICT technology in establishing a special education curriculum model. It was shown a correlation between quality education and various factors. Research in this area is notable for its cluster analysis to identify teachers into distinct groups. Common practices, such as using ICT lesson plans and ICT modules in assessment strategies and teacher expertise in using ICT tools, have helped these groups develop a strong sense of cohesiveness. Researchers have established a correlation between the teaching-learning approach of Special Educators and current classroom tools, including ICT-enabled computer systems and infrastructure. Special educators stand to benefit from a shift away from traditional teaching methods to ICT-enhanced modes of communication via digital media. There are suggestions for further research based on the current study's variables, techniques, and procedures.

REFERENCES

Aksal, F. A., & Gazi, Z. A. (2015). Examination on ICT integration into special education schools for developing countries. *Turkish Online Journal of Educational Technology-TOJET, 14*(3), 70-72.

Al Khatib, J. (2007). The impact of training on general education teachers' knowledge and acceptance of inclusion of students with learning disabilities in Jordan. *Insights on Learning Disabilities, 4,* 13-21.

Batanero, J. M. F (2019). The primary education teacher about ict and special educational needs: A study in the Spanish context. *Trends and Good Practices in Research and Teaching*, *61*.

Beggs, T. A. (2000). Influences and barriers to the adoption of instructional technology. *Paper Presented at the Proceedings of the Mid-South Instructional Technology Conference.* Murfreesboro, TN.

Cambridge, J. (2014). *Newton International Journal of Special Education, 29*(3), 26-37. Highbury Street, Vancouver, BC V6R 3T7, Canada., Norris; Hunter-Johnson, Yvonne; Gardiner-Farquharson, Beulah L.; Cambridge, Janelle

Coflan, C. M., & Kaye, T. (2020). *Using education technology to support students with special educational needs and disabilities in low-and middle-income countries.* (EdTech Hub Helpdesk Response No. 4). doi:10.5281/zenodo.3744581

Dawes, L. (2001). What stops teachers from using new Technology? In M. Leask (Ed.), *Issues in Teaching using ICT* (pp. 61-79). London: Routledge,

Drigas, A. S., & Ioannidou, R.-E. (2013). Special education and ICTs. *International Journal of Emerging Technologies in Learning, 8*(2).

Florian, L., & Hegarty, J. (2004). *ICT and special educational needs a tool for inclusion*. UK: McGraw-Hill Education.

Katsarou, D. (2020). Views and perceptions of teachers in special education in Greece regarding ICT. *European Journal of Special Education Research*, *5*(3).

Kyriazopoulou, M., & Weber, H. (2009). Development of a set of indicators for inclusive education in Europe, Odense. *Denmark: European Agency for Development in Special Needs Education*

Lombard, R. C., Miller, R. J., & Hazelkorn, M. N. (1998). School-to-work and technical preparation: Teacher attitudes and practices regarding the inclusion of students with disabilities. *Career Development and Transition for Exceptional Individuals, 21*(2).

Yusuf, M. O., Daramola, H. O., & Oyelekan, O. S. (2015). A study on ICT literacy among student teachers in universities in North Central Nigeria. *Mevlana International Journal of Education (MIJE), 5*(2), 1-12.

Moreno, G. (2020). Expanding definition of technology in special education: Impact of training on the adoption of iPad tablets by special educators. *International Journal of Disability Development and Education,* 1-17.

Newhouse, P. (2002). *Literature review: The impact of ICT on learning and teaching*. Perth, Western Australia: Department of Education.

Ovino, F., & Tsitsianis, N. (2020). The methodology of the research. In *Changes in European Energy Markets.* Emerald Publishing Limited.

Scruggs, T. E., Mastropieri, M. A., & Casto, G. (1987). The quantitative synthesis of single-subject research: Methodology and validation. *Remedial and Special education, 8*(2), 24-33.

Shavinina, L. V. (2001). A new generation of educational multimedia: High intellectual and creative educational multimedia technologies. In L. R Vandervert, L. V. Shavinina & R. A. Cornell (Eds.), *Cyber education: The future of distance learning* (pp. 63-82). Larchmont, NY: Mary Ann Liebert, Inc,

Sivasankar, A. (2014). ICT awareness among higher secondary school teachers in Tirunelveli District. Role of ICT in improving the quality of institution. *Seminar Proceedings, Dept. of Education DDCE.* MS University, Tirunelveli.

Silva, A., & Novo, A. (2019). ICT promotes students' educational success with special educational needs (SEN). In *11th International Conference on Qualitative and Quantitative Methods in Libraries*. QQML-Qualitative and Quantitative Methods in Libraries.

Sæbønes, A.-M., Bieler, R. B., Baboo, N., Banham, L., Singal, N., Howgego, C., McClain-Nhlapo, C. V., Riis-Hansen, T. C., & Dansie, G. A. (2015). *Towards a disability inclusive education* (p. 21). https://www.usaid.gov/sites/default/files/documents/1865/Oslo_Ed_Summit_DisabilityInclusive_Ed.pdf.

Thomas, F. B. (2020). Fostering innovative educational technologies enhanced in educating children with disabilities in inclusive classroom settings. *Purakala with ISSN 0971-2143 is an UGC CARE Journal, 31*(23), 575-593.

UNESCO-IBE (2008). *Inclusive education the way of future: Final Report.* Retrieved May 13, 2009, from http://www.unesco.org/en/inclusiveeducation.

XBR - Author Guidelines

XBR invites manuscript based on following guidelines:-

1. Manuscripts and all editorial correspondence should be submitted to Editorial Board XBR

2. Each article [1500-3500 words]/research paper [4000-7000 words]/book reviews [1000-1200 words] should be submitted with an abstract of about 150 - 250 words and 3 – 5 key words preferably in double spaced MS Word document.

3. Citations should be embedded in the text using the author-year method, e.g. (Goel, 2004)

4. All cited works reflected in the text of the paper should be included and arranged alphabetically at the end of the paper in references.

5. Tables and figures to be indicated by numbers separately (see Table 1) not by placement (see Table below)

6. Works by the same authors in the same year should be cited as "(Goel, 2004a)" and "(Goel, 2004b)".

7. While submitting a book review, the reviewer must mention the name of the concerned book, name of the author/editor, place of publication and publisher, year of publication, number of pages, ISBN and the price of the concerned book.

Authors are expected to follow the referencing style as given below:

Book

Mack, C. (2005). *Looking at the Renaissance: Essays toward a conceptual appreciation*. London: Taylor & Francis.

Article in an Edited Book

Blaxter, M. (1976). Social class and health inequalities. In C. Carter & J. Peel (Eds.), *Equalities and Inequalities in Health* (pp. 120-135). London: Academic Press.

Conference Proceedings

Chopra, L. D., Sinha, B., & Mehta, P. (1997, January 16). *State of human development in India.* Paper presented at the 1997 Symposium on Sustainable Development in India, New Delhi, India.

Reference taken from Website

Census of India. (2001). India at a glance – Statistics on demographic and socio-economic characteristics. Retrieved December 10, 2009, from http://www.censusindia.gov.in

Journal Article

Labonte, R., & Schrecker, T. (2007). Globalisation and social determinants of health. *Globalisation and Health, 3*(7), 190-220.

Newspaper Article with Author

Tripathi, K. (2000, January 18). Hunger still exists in rural India. *The Times of India*, p. 3.

Newspaper Article without Author

The unheard voices of Indian women. (2005, April 29). *The Hindu*, p. 35.

Report

United Nations Development Programme (UNDP). (2010). Human Development Report 2010. New York, USA: UNDP.

Working Paper

Alkire, S., & Santos, M. E. (2010). Acute Multidimensional Poverty: A new index for developing countries. OPHI Working Paper 38. London, UK: University of Oxford.

XIBA Business Review

(Biannual Journal)

SUBSCRIPTION DETAILS

Dispatch Address:-

The Editor-in-Chief,

XIBA Business Review

Xavier Institute of Business Administration

St.Xavier's College (Autonomous)

Palayamkottai

Tirunelveli- 627002

Ph- 0462 -4264441/4264442

Subscription Amount for Year 2022

	Print	Print+Online
Indian Region	Rs 2700	Rs 3400
International	USD 150	USD 180
Price mentioned is for Academic Institutions & Individual. Pricing for Corporate Available on request. Price is Subject to Change without prior notice.		

Payment can be made through D.D at par cheque in favour of **"Society of St. Francis Xavier"** payable at **Tirunelveli** and send to above mentioned address.

Disclaimer

The views expressed in the Journal are of Authors, Publishers, Editor or Editorial Team cannot be held responsible for errors or any consequences arising from the use of Information contained herein. While care has been taken to ensure the authenticity of the published material, still publisher accepts no responsibility for their inaccuracy.

Post Acceptance

Further information: For accepted manuscripts the publisher will supply proofs to the corresponding author prior to publication. This stage is to be used only to correct errors that may have been introduced during the production process. Prompt return of the corrected proofs, preferably within two days of receipt, will minimize the risk of the paper being held over to a later issue. Once your article is published online no further amendments can be made. Free access to the final PDF offprint of your article will be available via author services only. Please therefore sign up for author services if you would like to access your article PDF offprint and enjoy the many other benefits the service offers. Further offprints and copies of the journal may be ordered.

Copyright

ABOUT XIBA

St.Xavier's College is run by the Jesuits (Society of Jesus) in the name of society of St.Francis Xavier, a body registered under the Societies Registration Act, (S.No.3 of 1920-21) having its office at Palayamkottai. The College was started in 1923 by dedicated French Jesuit Missionaries in Palayamkottai. In recognition of its service and to increase its efficiency and still further, autonomy was conferred on St.Xavier's College with effect from June 1987 The College was accredited with Five Stars by the National Assessment and Accreditation Council (NAAC) on 17th April 2000. The College was re-accredited with 'A' Grade by NAAC in April 2006. UGC conferred on the College the status of "College with Potential for Excellence" in 2004 and for the second time in 2010. The college was again reaccredited in the third cycle with "A" Grade by NAAC with CGPA 3.50 in the year 2012. The college was re-accredited with 'A++' Grade by NAAC in September 2019 and with a CGPA of 3.66, during the fourth cycle of accreditation under NAAC.

XIBA was started in August 2012 as the

Department of Master of Business Administration, approved by AICTE and to Manonmaniam Sundaranar University, Tirunelveli. Xavier Institute of Business Administration (XIBA) offers a 2-year Master's programme (M.B.A.). It is a Jesuit B School run by Jesuits of Tamil Nadu, who run LIBA Chennai, XLRI-Jamshedpur, XIM – Bhuvaneswar and JIM –Trichy. XIBA has elevated as Research Centre in Business Administration in the Year 2019. XIBA is in a lush green environment inside the St. Xavier's College and has a team of well qualified and highly dedicated faculty, is led by Jesuit priests, who together strive towards holistic development of the students. XIBA since then has grown in strength and is actively working with Industries in this region to develop future leaders who are driven by Excellence and Ethics. XIBA has produced over 400 managers and has admitted its 9th Batch of students in July 2021.

The core of XIBA education lies in forming leaders who make a difference positively in the lives of people in its every activity, be it academic or non-academic. XIBA aims at formation of character of students.

And forms excellent leaders with ethics.

Our Vision

To form competent, committed, creative and compassionate leaders who excel in what they feel, think and act with values of justice, peace and love

Our Mission

• To unearth innate talents and build positive self-image
• To build skills that make the students become able individuals
• To acquire knowledge that shapes the students become capable persons
• To develop an attitude that helps to be socially responsible
• To gain confidence to become entrepreneurs
• To help students become global citizens with local concerns