



**SHRIMATHI DEVKUNVAR NANALAL BHATT  
VAISHNAV COLLEGE FOR WOMEN (AUTONOMOUS)**  
OWNED AND MANAGED BY CORK INDUSTRIES CHARITIES TRUST  
(Affiliated to the University of Madras and Accredited with 'A+' Grade by NAAC)  
Chromepet, Chennai - 600 044.

**CRITERION III - RESEARCH, INNOVATION AND EXTENSION**

**3.4.3 Number of research papers in the Journals notified on UGC website during the last five years**

**LIST OF RESEARCH PUBLICATION – 2021-2022**

S.No	Title of the Paper	Name of the author/s	Department	Name of the Journal	Link
1	Maanbumigu Maathari	S.Lakshmi	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
2	Ulaviyal Nokkil Puranjeri Iruththa Kaathai	Padmavilasini	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
3	Pugarila Pugar	P. Radha	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
4	kannagiyan gunalanum Mathaviyin mana nalanum	S. Chenjulakshmi	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
5	Silapathigarathil -Aram	P. Sudha	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
6	Silapathigarathil - Madhurain maanpugal	P. Vijayarani	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
7	Silapathigaram Unarthum Vazhvizhal Nerigal	R. Vasanthakumari	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
8	Silapathigarathil - manitham	S.Menaka	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
9	Silapathigarathil mullai nila makkal- panbaattu paarvai	T.Saraswathy	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
10	Silappathigarathil Ariviyal	V. Leelavathi	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
11	Isai karuvigal - silapathigaram matrum Aatrupadai noolgalil - Or Opeedu	K. Gayathri	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
12	Ilakiyangalil Yavanargal	S. Menaka	Tamil	Modern Thamizh Research	<a href="#">VIEW</a>
13	Whatsapp Enabled English Language Teaching- Improving	Beena Anil	B.A English	Indian Journal of Educational Technology (IJET)	<a href="#">VIEW</a>



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	Speaking Skill through Language Tasks				
14	In search of Self Hood - Portrayal of the Female characters in Gloria Naylor's novel "The Women of Brewster's Place"	K. Kanthimathi	B.A English	Shodhsamhita: Journal of Fundamental & comparative Research	<a href="#">VIEW</a>
15	Re- creation and redemption in Gloria Naylor's "Linden Hills"	K. Kanthimathi	B.A English	International Journal of Humanities, Law and Social Sciences	<a href="#">VIEW</a>
16	A Soul of No Importance and Her Resurgence: Stephen King's Outrageous Carrie White	S. Sivaranjani	B.A English	European Journal of Molecular & Clinical Medicine	<a href="#">VIEW</a>
17	D-Lucky Edge Labeling of Strong and Weak Human Chain Networks	S.Hemalatha	B.Sc Mathematics	Journal of Physics: Conference Series	<a href="#">VIEW</a>
18	Mathematical Model For The Response Of HPA Axis Applying Gompertz - Makeham Distribution In Association With Analytic Univalent Functions	V. G. Shanthi	B.Sc Mathematics	Turkish Journal of Computer and Mathematics Education	<a href="#">VIEW</a>
19	Perfect Matching of an Undirected Complete graph based on Algebraic Multiplicity	S.Hemalatha	B.Sc Mathematics	Indian Journal of Natural Sciences	<a href="#">VIEW</a>
20	Perfect Matching of Dendrimer based on Geometric Multiplicity	Hemalatha S	B.Sc Mathematics	Asian Journal of Organic and Medicinal chemistry	<a href="#">VIEW</a>
21	Some Ideals In B-Almost Distributive Fuzzy Lattices	K. Rekhalakshmi	B.Sc Mathematics	Journal of Design Engineering	<a href="#">VIEW</a>
22	An Enhanced method of securing data using Graph Labeling	D.A.Angel Sherin	B.Sc Mathematics	INDIAN JOURNAL OF NATURAL SCIENCES	<a href="#">VIEW</a>
23	Privacy Preserving Message using Padovan Sequence	D.A.Angel Sherin	B.Sc Mathematics	Journal of Physics: Conference Series	<a href="#">VIEW</a>
24	The Vulnerability of Covid-19 on the Leaners group in west region of Tamilnadu: a brief report	S.R.Prathiba	B.Sc Mathematics	Bulletin Monumental Journal	<a href="#">VIEW</a>
25	Skew B-Almost Distributive Fuzzy Lattices	K. Rekhalakshmi	B.Sc Mathematics	Journal AIP Conference Proceedings	<a href="#">VIEW</a>
26	Hiding a message using quintuple square and	D.A.Angel Sherin	B.Sc Mathematics	AIP Conference Proceedings	<a href="#">VIEW</a>





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	inspection of planar graph				
27	Implementation of Structural Topic Modelling for Abstract Mining from CORD - 19	G.Vijayasree	B.Sc Statistics	Lecture Notes in Networks and Systems	<a href="#">VIEW</a>
28	Forecasting the Emission of Carbon-di-Oxide Equivalent in Key Sectors of India using ARIMA Model	G.Vijayasree	B.Sc Statistics	Ecology Environment & Conservation	<a href="#">VIEW</a>
29	Synthesis, spectroscopic investigation, crystal structure analysis, quantum chemical study, biological activity and molecular docking of three isatin derivatives,	S. Lakshmi	BSc., Physics	Structural Chemistry	<a href="#">VIEW</a>
30	Synthesis, Characterization, Biological and DFT Studies of Charge-Transfer Complexes of Antihyperlipidemic Drug Atorvastatin Calcium with Iodine, Chloranil, and DDQ	S.Niranjani	B.Sc Chemistry	Journal of Molecular Liquids	<a href="#">VIEW</a>
31	Synthesis, Characterization, Biological and DFT Studies of Charge-Transfer Complexes of Antihyperlipidemic Drug Atorvastatin Calcium with Iodine, Chloranil, and DDQ	C.B. Nirmala	B.Sc Plant Biology and Biotechnology	Journal of Molecular Liquids	<a href="#">VIEW</a>
32	Ultrastructural studies on the Corticating filament of Chara zeylanica	G. Rani	Bsc., PB&PBT	Environmental and Experimental Biology	<a href="#">VIEW</a>
33	Real-time Vehicle Detection implementing Deep Convolutional Neural Network features Data Augmentation Technique	R Radha	B.Sc Computer Science	Indian Journal of Science and Technology	<a href="#">VIEW</a>
34	Comparative Analysis on Deep Learning Approaches for Heavy-Vehicle Detection based on Data Augmentation	R.Radha	B.Sc Computer Science	Journal of Scientific Research	<a href="#">VIEW</a>



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	and Transfer-Learning techniques				
35	A Hybrid of Proposed Filtration and Feature Selections to Enhance the Model Performance	R.Radha	B.Sc Computer Science	INDIAN JOURNAL OF SCIENCE AND TECHNOLOGY	<a href="#">VIEW</a>
36	Classification Of Tomato Diseases Using Ensemble Learning	R.Radha	B.Sc Computer Science	ICTACT Journal on Soft Computing	<a href="#">VIEW</a>
37	A Survey on Application of Information Retrieval Models Using NLP	S. Gomathi	B.Sc Computer Science	International Journal of Aquatic Science	<a href="#">VIEW</a>
38	A Survey On Application Of Information Retrieval Models Using NLP	M. Lavanya	B.Sc Computer Science	INTERNATIONAL JOURNAL OF AQUATIC SCIENCE	<a href="#">VIEW</a>
39	Development and Evaluation of Bamboo Shoot Soup Cube	K. Suganya	B.Sc. Clinical Nutrition and Dietetics	International Journal of Innovative Research in Technology (e-journal)	<a href="#">VIEW</a>
40	Evolution from 1G To 5G In the Mobile Era	S.Meenakshi	BCA	Anvesak Impact Factor -6.2	<a href="#">VIEW</a>
41	Classification of Ovarian Cyst Using Regularized Convolution Neural Network with Data Augmentation Techniques	S.Jeevitha	BCA	Lecture Notes in Networks and Systems book series (LNNS,volume 351)	<a href="#">VIEW</a>
42	A Study On Customer's Awareness And Perception Towards Green Banking	P.Brindha	BBA	THE JOURNAL OF ORIENTAL RESEARCH MADRAS	<a href="#">VIEW</a>
43	A Study On Working Capital Management Of Lenovo Group Limited	N.Vidhya	BBA	WESLEYAN JOURNAL OF RESEARCH	<a href="#">VIEW</a>
44	A comparative study on performance of selected mutual funds in india	N.Vidhya	BBA	UTKAL HISTORICAL RESEARCH JOURNAL	<a href="#">VIEW</a>
45	An Analysis on the Awareness of Security Practice in Online Banking	G. Tamilselvi	Commerce	Journal of the Oriental Institute	<a href="#">VIEW</a>
46	Shopping Cart Abandonment and Innovative Practices on Mobile Applications	N. Vinupriya	Commerce	Journal of the Oriental Institute M.S. University of Baroda	<a href="#">VIEW</a>
47	Research on Awareness Of The Concept Augmented Reality Among Women College Students	S I Fathima Farhana	Commerce	Journal of Oriental Institute	<a href="#">VIEW</a>





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48	Research on Awareness Of The Concept Augmented Reality Among Women College Students	A. Jayadharani	Commerce	Journal of Oriental Institute	<a href="#">VIEW</a>
49	Awareness and Attitude of consumers towards Automated Marketing, International Conference on Innovative Business Practises of E-Commerce in Contemporary World 4.0	S. Bharani Lakshmi	Commerce	Journal of Oriental Institute	<a href="#">VIEW</a>
50	A study on consumer preference towards packed milk shakes in Chennai city	R.Savithri	Commerce	Utkal Historical Research Journal	<a href="#">VIEW</a>
51	Influence of Repeat Purchase Behaviour on developing affinity A Study on Women Online clothing shoppers in Chennai	R.Savithri	Commerce	Utkal Historical Research Journal	<a href="#">VIEW</a>
52	Effect Of E-Learning On Student's Academic Performance At College Level	R.Savithri	Commerce	Palarch's Journal of Archaeology of Egypt/Egyptology	<a href="#">VIEW</a>
53	Entrepreneurship and startup policy of India and its impact	R. Savithri	Commerce	Palarch's Journal of Archaeology of Egypt/Egyptology	<a href="#">VIEW</a>
54	A Study On Consciousness Of Consumers Towards Organic Food Products"	A.Asma Zainab	Commerce	ANVESAK	<a href="#">VIEW</a>
55	A study on customer satisfaction towards organic food products with special reference to Chennai city	R.Neela Anuradha	Commerce	Shodhsamhita : Journal of Fundamental & Comparative Research Vol. VII, No. 12(IX) : 2021	<a href="#">VIEW</a>
56	Consumer behaviour towards organic food products in the chennai city	R.Neela Anuradha	Commerce	wesleyan Journal of Research	<a href="#">VIEW</a>
57	Insight of COVID -19 Vaccinations among collegiate students' - An Analytical approach	K. Shyamala	B.Com CS	Journal of the oriental institute	<a href="#">VIEW</a>
58	A study on customer Attitude towards eco-friendly products and the	K. Shyamala	B.Com (CS)	International journal of Humanities, Law and Social Sciences	<a href="#">VIEW</a>



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	factors influencing it				
59	A study on Instagram influencers on Consumer buying behaviour	Y. Kalaivani	B.Com A & F	Journal of the Oriental Institute	<a href="#">VIEW</a>
60	How Pandemic has influenced the Purchasing behaviour of the consumers (with special reference to online shopping)	Y. Kalaivani	B.Com A & F	International journal of health sciences	<a href="#">VIEW</a>
61	Influence of repeat purchase behaviour on developing affinity' 'A study on women online clothing shoppers in chennai"	T.Metilda Devakirubai	B.Com A & F	Utkal Historical Research Journal	<a href="#">VIEW</a>
62	A Study on Consumer Preference towards Packed Milkshakes in Chennai City	R.Srividhya	B.Com A & F	Utkal Historical Research Journal	<a href="#">VIEW</a>
63	A Study On Consciousness Of Consumers Towards Organic Food Products"	Y.Kalaivani	B.Com A & F	ANVESAK	<a href="#">VIEW</a>
64	A comparative study on online and offline shopping – pandemic period	Y. Kalaivani	B.Com A & F	ANVESAK	<a href="#">VIEW</a>
65	"Impact of Emotional intelligence of students performance in academic achievement among Undergraduate students"	A. Saranya	B.Com A & F	ANVESAK	<a href="#">VIEW</a>
66	Talent Management - A Study with special reference to Chennai port trust	Y. Kalaivani	B.Com A & F	ANVESAK	<a href="#">VIEW</a>
67	"Impact of Emotional intelligence of students performance in academic achievement among Undergraduate students"	Y. Kalaivani	B.Com A & F	ANVESAK	<a href="#">VIEW</a>
68	A study on Consumer Awareness towards E-banking services	K.R. Radhika	B.Com A & F	ANVESAK	<a href="#">VIEW</a>
69	Impact of Social Media on consumer behaviour- An Empirical Study	K.Latha	B.Com Honors	Journal of Fundamental & Comparative Research	<a href="#">VIEW</a>





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70	Recent Trends In Education During Pandemic Period - A Parent Centric Study With Special Reference To Chennai City	R.Sangeetha	B.Com ISM	JOURNAL OF MODERN THAMIZH RESEARCH	<a href="#">VIEW</a>
71	A Study on Students facing the digital and techonological issues in the academic year 2020-21	K.Malarvizhi	B.Com ISM	Utkal Historical Research Journal	<a href="#">VIEW</a>
72	A study on supervisor job satisfaciton with special reference to ground handling services in chennai airport	K.Malarvizhi	B.Com ISM	Utkal Historical Research Journal	<a href="#">VIEW</a>
73	Effect Of E-Learning On Student's Academic Performance At College Level	T Y Balakamakshi	B.Com (BIM)	Palarch's Journal of Archaeology of Egypt/Egyptology	<a href="#">VIEW</a>
74	Insight of COVID -19 Vaccinations among collegiate students' - An Analytical approach	R. Subhasri	B.Com PA	Journal of the oriental institute	<a href="#">VIEW</a>
75	Impact of COVID – 19 on Collegiate Students' Life Style – An analysis	R Subhasri	B.Com PA	Turkish Online Journal of Qualitative Inquiry (TOJQI) ,	<a href="#">VIEW</a>
76	A study on customer Attitude towards eco-friendly products and the factors influencing it	K. Nirmala	B.Com (CA)	International journal of Health Sciences	<a href="#">VIEW</a>
77	Accessible & Engaging Voices: Teaching English to Adult Second Language Learners with visual impairment,	J. Karthika	M.A. English	British Journal of Visual Impairment,	<a href="#">VIEW</a>
78	A study on work life balance of employees in media sector	Mahisha suramardhini	MHRM	Journal of management & Entrepreneurship	<a href="#">VIEW</a>
79	Mathematical Model For The Response Of Hpa Axis Applying Gompertz - Makeham Distribution In Association With Analytic Univalent Functions.	S. Alamelu.	M.Sc.Applicable Mathematics	Turkish Journal of Computer and Mathematics Education	<a href="#">VIEW</a>
80	Complementary Tree Domination of Corona Product of Cycle Cn with	S.Jayalakshmi	M.Sc.Applicable Mathematics	Design Engineering	<a href="#">VIEW</a>



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	Some Standard graphs				
81	Screening Of Indole Acetic Acid Production By Phosphate Solubilizing Bacterium	L.Sheeja	M.Sc PBPBT	International Journal of Creative Research Thoughts	<a href="#">VIEW</a>
82	A Review on Video Sharing over Content Centric Networks	C. Victoria Priscilla	M.Sc Computer Science	Computer Networks, Big Data and IoT	<a href="#">VIEW</a>
83	Classification of Ovarian Cyst Using Regularized Convolution Neural Network with Data Augmentation Techniques	N. Priya	M.Sc Computer Science	SpringerLink	<a href="#">VIEW</a>
84	A two-phase feature selection technique using mutual information and XGB-RFE for credit card fraud detection	C. Victoria Priscilla	M.Sc Computer Science	International Journal of Advanced Technology and Engineering Exploration,	<a href="#">VIEW</a>
85	Cancer Drug Classification using Artificial Neural Network with Feature Selection	N. Priya	M.Sc Computer Science	IEEE	<a href="#">VIEW</a>
86	Impact of COVID – 19 on Collegiate Students' Life Style – An analysis	M. Mahadevi	M.Sc Computer Science	Turkish Online Journal of Qualitative Inquiry (TOJQI) ,	<a href="#">VIEW</a>
87	Analyzing purchase pattern network of Amazon products for product recommendations across the Network groups	M.Mahadevi	M.Sc Computer Science	Shodhsamhita : Journal of Fundamental & Comparative Research	<a href="#">VIEW</a>
88	Evaluating the Social Network Graph of Top 100 Twitter Celebrities Using Centrality Measures	M.Mahadevi	M.Sc Computer Science	Shodhsamhita : Journal of Fundamental & Comparative Research	<a href="#">VIEW</a>
89	Understanding virtual classroom friendship pattern using Social Network Analysis	M.Mahadevi	M.Sc Computer Science	Design Engineering	<a href="#">VIEW</a>
90	Acute and subacute Toxicity studies of putru pathangam, A siddha Herbo formulation in Rats	S.Rajeswari	M.Sc Computer Science	Indian Journal of Natural sciences	<a href="#">VIEW</a>





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91	Opinion Mining in Tamil Tweets using Dense Neural Network Architecture	S.Rajeswari	M.Sc Computer Science	Design Engineering,	<a href="#">VIEW</a>
92	Insight of COVID -19 Vaccinations among collegiate students' - An Analytical approach	T. Anitha	M.Com	Journal of the oriental institute	<a href="#">VIEW</a>
93	Entrepreneurship and Startup Policy of India and Its Impact	R.Harini	M.Com CS	Palarch's Journal of Archaeology of Egypt/Egyptology	<a href="#">VIEW</a>
94	Analysing the Influence of Customer Engagement towards Brand Loyalty: An Empirical Study	S. Kamakshi	M.Com A & F	Journal of the Oriental Institute	<a href="#">VIEW</a>
95	Talent Management - A Study with special reference to Chennai port trust	S.Kamakshi	M.Com A & F	ANVESAK	<a href="#">VIEW</a>
96	A study on problems and its influence on organizational commitment among IT employees in Chennai City	S.Bindhu	M.Com A & F	UTKL Historical Research Journal	<a href="#">VIEW</a>



## மாண்புமிகு மாதரி

**முனைவர் சு. லட்சுமி**

உதவிப் பேராசிரியர், தமிழ்த்துறை,  
கலைப்புல முதன்மையர் (சுய உதவிப்பிரிவு)  
ஸ்ரீமதி தேவகுன்வர் நானாலால் பட் மகளிர் வைணவக் கல்லூரி,  
குரோம்பேட்டை, சென்னை 600044.

**ஆய்வுச் சுருக்கம்**

சிலம்பில் திருப்பம் தரும் காதையான அடைக்கலக் காதையின் இறுதிப் பகுதியில் மாதரியை அறிமுகம் செய்கிறார் இளங்கோவடிகள். அப்பொழுது மாதரி, கண்ணகியை அடைக்கலமாகப் பெறுகிறாள்.

கோவலன் கண்ணகியைத் தன் இருப்பிடத்திற்கு அழைத்துச் செல்கிறாள். அவர்களுக்கு உரிய வசதிகளை ஏற்படுத்திக் கொடுத்தாள். ஆய்ச்சியர் குரவையால் அவளுடைய தலைமைப் பண்பினை அறிய முடிகிறது. ஆயர் குலத்தைத் தீமையிலிருந்து காக்க மாயவனை எண்ணி, குரவைக் கூத்து நிகழ்த்திப் பின் வைகையில் நீராடச் செல்கிறாள். தன்னிடம் ஒப்படைக்கப்பட்ட அடைக்கலப் பொருளை இழந்த நிலையில் இவள் உயிரிழந்த செய்தியை மாடலன் வாயிலாக கங்கைக்கரையில் அறிகிறோம்.

**முன்னுரை**

ஐம்பெரும் காப்பியங்களுள் முதன்மைத் தன்மை பெற்று விளங்கும் சிலப்பதிகாரம் 'குடிமக்கள் காப்பியம்' என்று பெயர் பெற்று விளங்குகிறது. இளங்கோவடிகள் தம்முடைய காப்பிய மாந்தர்களை மிக உயர்ந்த பண்புடையவர்களாகப் படைத்தளித்திருப்பார்.

இந்நூலில் காதையின் இடையில் அடைக்கலக் காதையில் இளங்கோவடிகளால் அறிமுகம் செய்யப்படும் ஆயர்குல மடந்தையே மாதரி என்ற கதாபாத்திரம் இந்தக் கதாபாத்திரம் ஒரு சில காதைகளில் மட்டுமே தோன்றினாலும்

படிப்பவர் நெஞ்சங்களில் நீங்காது இடம் பெறக் கூடிய அளவிற்கு இளங்கோவடிகள் அந்தக் கதாபாத்திரத்தின் மேன்மைத் தன்மையை மிக அழகாக எடுத்துரைத்திருப்பார். ஆயர் குலத்தைச் சார்ந்த மாதரியின் மிக உயர்ந்த குணநலன்களை எடுத்தியம்பி, அவளுடைய வாழ்வியல் வழி அவளின் பண்பு நலன்களை உணர்த்தி, ஆயர்குல மக்கள் நாகரிகம் பண்பாடு விருந்தோம்பல் உள்ளிட்ட பண்புகளைக் காத்து நின்றமை பற்றியும் மாதரி தான் சொன்ன சொல்லுக்காகத் தன் உயிரையே நீத்த நிலையையும் கண்டுணர்தலே இக்கட்டுரையின் நோக்கமாகும்.

கலைச் சொற்கள் : மாதரி - பூங்கண்  
இயக்கி - ஆயர் முதுமகள் - ஐயை -  
குடப்பால் உறையாமை - தீ நிமித்தங்கள் -  
குரவைக் கூத்து - குரங்குக்கை வானவன்  
முதுமகள் மாதரி

ஒரு கதாபாத்திரத்தின் உயர்வு தாழ்வு என்பது அப்பாத்திரத்தின் பண்பு நலன்களைப் பொருத்தே அமையும். "தக்கார் தகவிலார் என்பது அவரவர் எச்சத்தாற் காணப் படும்" என்பார் வள்ளுவர்.

மேலும் பெருமை என்பதைக் குலத்தினால் பெறுவாரும் உள் செயலினால் பெறுவாரும் உள். என்று கூறுவர். இதில் மாதரி இரண்டாம் வகையைச் சார்ந்தவள். அவள் மேற்கொண்ட செயல்களே அவள் பெருமைக்குக் காரணமாய் அமைந்து அவளைக் குன்றின் மேலிட்ட விளக்காய் மிளிர்ச் செய்கிறது.

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காராண்டு ஆய்விதழ்) 9,10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN: 2321-984X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9,10 October 2021 - Special Issue (ISSN: 2321-984X)  
இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிப்பதிகாரம்  
கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீ மத் சிவஞான பாலய சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்



## உளவியல் நோக்கில் புறஞ்சேரி இறுத்த காதை

(முனைவர் கோ. பத்மவிவாசினி)

தமிழ்த்துறைத் தலைவர் (கயந்திராபிடி)

ஸ்ரீமதி தேவகுன்வர் நானாவால் பி. பாக்லிர் கைவைக்க கல்லூரி,

சுரோமோடை, சென்னை-44

ஆய்வுச்சுருக்கம்

படைப்பாளியின் உளவெளிப்பாடாக அமைவதே இலக்கியங்கள் படைப்பாளி தான் காண விரும்பும் சமுதாயத்தை படைப்பினூடே வெளிப்படுத்துகின்றான். அவ்வகையில் அனைத்து இலக்கியங்களும் உளவியலாய்விற்கு உட்பட்டதாகும். அவ்வாறு இளங்கோவடிகளின் உளச் சிந்தனைகளின் வெளிப்பாடாகவே சிலப்பதிகாரத்தின் புறஞ்சேரி இறுத்த காதை அமைந்துள்ளது என்பதனை உளவியலாளர்களின் சில கோட்பாடுகளுடன் பொருத்திப் பார்க்க முடியும். கோவலன், காரணத்துடன் முடிவெடுக்கும் திறனையும் (Inductive Reasoning - Decision Making) கண்ணகியிடம் செய்கையால் தான் உடன் இருப்பதை உணர்த்துவதன் வாயிலாகச் சொற்கள் அல்லாத தொடர்பையும் (Non Verbal Communication) எதிர்பார்ப்பில்லாத கோசிகன் குணத்தைப் பச்சாதாப, பரோபகாரக் கருதுகோளுடன் இங்குப் பொருத்திப் பார்க்கப்பட்டுள்ளது.

முன்னுரை

காலந் தோறும் மாறிவரும் இலக்கியங்களை மரபு அடிப்படையிலும் புதிது புதிதாகத் தோன்றும் இலக்கியக் கொள்கைகள் அடிப்படையிலும், சில தனித்த நெறிமுறைகள் கொண்டு ஆராய்வதே இலக்கியத் திறனாய்வு எனப்படும் இலக்கியங்கள் அடிப்படையில் மனித மனம் சார்ந்தே அமைகின்றன. இலக்கியம் குறித்த மிக நுட்பமான சொல்லாடலை வளர்த்தெடுப்பதற்கு பெரிதும் துணை நின்ற உளவியல் கோட்பாடுகளைக் கொண்டு சிலப்பதிகாரத்தில் புறஞ்சேரி இறுத்த காதையை

உளவியல் நோக்கில் ஆராய்வதே இக்கட்டுரையின் நோக்கமாகும்.

கலைச்சொற்கள்: உளவியல் கோட்பாடுகள் தொகுப்பு வழி பகுத்தறிதல் சிக்மண்ட் பிராய்டு - சொற்கள் அல்லாத தொடர்பு பச்சாதாபம் - பரோபகாரம் கருதுகோள் கோசிகமாணி பனித்தீவு நனவிலி மனம் முடுண்ட பகுதி - ஆர்வம் - நெருக்கம் அர்ப்பணிப்பு

உளவியல் திறனாய்வு

மனித மனத்தின் செயல் கூறுகளைப் புரிந்து கொள்வதற்குச் சிக்மண்ட் பிராய்டு என்பவர் வளர்த்தெடுத்த ஒரு துறை தான் உளவியல் துறை. இத்துறை வழங்கிய மனம் குறித்த பல்வேறு கருத்தாக்கங்களை முன் வைத்து இலக்கியத்தை அணுகித் திறனாய்கின்ற முறையைத் தான் உளவியல் அணுகுமுறை என்கிறோம்.

மனிதனின் மன உணர்வுகளை அறிவியல் சார்ந்து புரிந்து கொள்ள உதவுவது உளவியல் ஆகும். உளவியல் (psychology) கோட்பாடு என்பது 200 ஆண்டுகளுக்கு மேலானது. மனம் மிகச் சிக்கலான பரந்த தத்துவமாதலால் உளவியலின் சிற்சில பகுதிகளையே ஆராய்ச்சியாளர்கள் அவரவர் நோக்கும் நிலைக்கு ஏற்றவாறு அறிந்து தெரிவித்துள்ளனர். மனிதரிடம் தோன்றும் நிகழ்ச்சி ஒரு நிலையில் இல்லாமல் மாறுபடும் அக்காட்சியில் தெளிந்தவர்கள் தான் அதைப் புரிந்து கொண்டு கொள்கைகளை வகுக்க முடியும் அவ்வாறு வகுத்த கோட்பாடுகளை நாம் இப்பகுதியோடு பொருத்திக் காணலாம்.

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 9,10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN : 2321-984X)

Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9,10 October 2021 - Special Issue (ISSN : 2321-984X)

இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிலப்பதிகாரம்

கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீமதி சிவகுமார பாய் சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்



முதுமுனைவர் **ப. இராதா**  
தமிழ்த்துறை, உதலிப் பேரரசியார்,  
தமிழ்நாடு நூலாலம் பட்டமகளிர் வைகாசி கல்லூரி,  
சென்னை - 44.

ஆய்வுச் சுருக்கம்

புறந்தமிழர் இலக்கியங்கள் காலத்தின் கண்ணாயாக இருந்துள்ளது என்பதைச் சிலப்பதிகாரம் மெய்ப்பிக்கின்றது. புலவர்கள் பொய் உரைத்ததில்லை என்பதை கடல் அகழாய்வுகள், தொல்லியல் ஆய்வுகளின் வாயிலாகப் பல்வேறு தொல் பொருள் சான்றுகளின் வாயிலாக மெய்ப்பிக்கப் படுகின்றது. புனர் நகரத்தில் போ மடந்தையாக இருந்த கண்ணகி, மதுரையில் அனைவரும் அவள் குறித்துப் பேசும்படியாகவும், வஞ்சி மாநகரில் அவளையே தேய்மையாகவும் வணங்கும் படிப் போற்றப்படுகின்றாள். குடும்பத்தில் ஆடவன் சரியில்லையெனில் குடும்பமும், நாடாளும் மன்னவன் சரியில்லையெனில் நாடும் சிறப்பாக அமையாது என்பதற்குக் கோலவணம், பாண்டிய மன்னனும் சான்று. “பெரும்பொய் புகாரின் பதியே” என்று கண்ணகி வழக்குரைக் காதையில் கூறுவதன் வாயிலாகப் புகார் நகரம் புகார் இல்லா நகரமாக இருந்துள்ளமைக்கு அந்நாட்டு மன்னரின் சிறந்த ஆட்சி சான்றாகத் திகழ்கின்றது.

தமிழ் பெருங்காப்பியங்களில் ஒன்றான சிலப்பதிகாரத்தில் புகார் நகரம் என்ற பெயரில் உள்ள இந்நகரம் “பூம்புகார்” “காவிரிப்பூம்பட்டினம்” என்ற பெயர்களில் அழைக்கப்பட்டது. காவிரி ஆறு கடலில் புகுமிடத்தில் இருந்த பட்டினம் என்பதால் காவிரிப்பூம்பட்டினம் என்றும் ஆறு புகுமிடம் என்பது “புகும் ஆறு” என மருவிப் “புகு” ஆகி, மேலும் மருவிப் “புகார்” என அழைக்கப்படுகின்றது.

புகார் - “காவிரிப்பூம்பட்டினம். இது கடல் கொண்டு, சிலப்பதிகாரம்”<sup>1</sup> என்று புனர் என்பதற்கான விளக்கத்தை அறிதான சிந்தாமணி உரைக்கின்றது. மேலும், கழகத் தமிழகராதி “ஆற்றுமுகம், கழிமுகம், காவிரிப்பூம்பட்டினம், கயில நிறம், மந்தாரம், முகில், பவிப்பலம், பெருங்குச்சல், முறையிடு, அவமதிப்பு விளைவிக்கும் செய்”<sup>2</sup> என்று கூறுகின்றது. “கழிமுகம், மந்தாரம், மேகம், bar-mouth of a river, cloudiness, cloud. தீங்கு; பாதிப்பு போன்றவற்றை உரியவர்களின் கவனத்துக்குக் கொண்டு வரும் முறையில் எழுத்து முலமாகவோ, வகைச்சொல் முலமாகவோ தெரிவிக்கும் முறையிடு, the formal complain@

அல்லங்காடி, நாளங்காடி, வெள்ளிடை மன்றம், இலஞ்சி மன்றம், பட்டிப்பாக்கம், மருவூர்ப்பாக்கம், பட்டிபை, பரத்தா முன்குரை

காலம் கடந்து வாழும் படைப்புகள் ஒரு சில அலற்றுள் குறிப்பிடத்தக்க ஒன்றாக விளங்குவது சிலப்பதிகாரம் முயோத்தர்களின்

நகரம் தமிழ்நாடு (பன்னாட்டு மருத்துவ ஆய்வு) 9,10 அக்டோபர் 2021 - நியாயம் (ISSN: 2321-984X)  
Modern Thaman Research (A Quarterly International Multilateral Thaman Journal) 9,10 October 2021 - Special Issue (ISSN: 2321-984X)

மயம் ஆகம் அறக்கட்டளை, திண்டிவனம், தமிழ்நாடு, ஸ்ரீ மத் சிலஞ்சை பாலம் சுவாமிநாதர் தமிழ், கலை, அறிவியல் கல்லூரி, மயம்

முதுமுனைவர் **ப. இராதா**

logged by the retrieved.”<sup>3</sup> என்று புகார் என்றும் சொல் குறித்து நம்மாழை தமிழ் அகராதி குறிப்பிடுகின்றது.

“புகார் என்ற சொல்லுக்கு ஆற்றுமுகம் என்பது பொருள். “புகார்ப் புஞ்சு பெருங்கலம்” என்கிறது புறநானூறு. காவிரி கடலோடு கலக்கும் இடமும் அதனைச் சார்ந்த மனற்பரப்பும் தாழ்ந்த பூக்காடு நிறைந்த பகுதியாகும். அங்கு புனை முதலிய மரங்கள் செழித்திருந்தன. இக்காரணத்தால் புகார் என்பது “பூங்காடல்”, “பூமலி பெருந்துறை என்று பட்டினப்பாலை கூறும். எனவே, “பூக்காடல்” என்பது “பூம்புகார்” என வழங்குதல் இயல்பியன்றோ! ஆற்று முகத்தை புனர்த்தம் புகார் என்றும் பெயர் அல்லித்தில் அமைந்த நகரத்திற்கும் பெயராயிற்று.”<sup>4</sup>

மேலும் நாட்டின் நாகரிகத்தின் முக்கிய அடையாளமாக, காவிரி ஆறு கடலில் கலக்கும் இடத்தில் வீற்றிருந்த பூம்புகார் நகரம் சோழப் பேரரசர்களின் தலைநகராகவும், துறைமுகப்பட்டினமாகவும் இருந்தது காவிரிப்பூம்பட்டினம். இது, பூம்புகார் என்ற பெயரில் அழைக்கப்படுகிறது. கடல்கோள் (சனாமி) காரணமாக, இந்த நகரம் அழிந்து போனது என்பதை மணிமேகலையின் வாயிலாக அறிபலாம்.

“மனங்கவல் கெடுத்தது மாதர் கடல்கோள் அறவண வடிகளுந் தாயரு மங்குலிட்டு இறவா திப்பிப் புஞ்சுத்து கேட்டும்...”<sup>5</sup> இறவாடம் நூற்றாண்டில் இந்தியா வந்த ரோம் நாட்டு கற்றுலா பயணி தாலமி, பூம்புகார் முக்கிய வணிக நகரமாக இருந்ததாகக் குறிப்பிட்டுள்ளார். புகார்- அந்நியர் யாரும் நகருக்குள் புகமுடியாது, எல்லிதமான புகாரும் நகரத்தில் இருந்ததில்லை, சோழப் பேரரசு போலவே புகழ் பெற்றது புகார் நகரம்.

ஆகையால் புளங்கரைப் பேற்றுலோம் என்று ஆசிரியர் இயற்கையை வழிபட்டு நூலைத் தொடங்குகிறார். மறை பொழிந்து உழவு மகிழ்வோடு இருந்துள்ளனர் என்பதை மக்கள் வாழ்த்துப் பாலின் வாயிலாக அறிபமுடிகின்றது.

“பூம்புகார் போற்றுகும் பூம்புகார் போற்றுகும்!

வீங்குநர் வேலி உலகிற்கு அவன் குலத்தோடு

ஒங்கிப் பரந்தோருகலான்...”<sup>6</sup>

“அருகாரர் இக்களப்பிடு செய்கின்ற காலத்தே புகார் நகரம் கடல் வயிறுபுக்கு மறைந்து போனமை கருதி அந்நகரத்தின் மறைந்து போயினும் அதன் புகழ் அக்காவிரி நாடன் புகழோடு இல்லவருள்ள துணையும் பரந்து ஒருகும் அத்துணைப் பெருமையுடையதானான் அதனைப்போற்றுகும் என்றவாறு.”<sup>7</sup> எந்த தெய்வத்தின் பெயரையும் கூறாமல் இவங்கோலவர்கள் சிவம்பில் மங்கல வாழ்த்துப் பாடலில் திங்கள், சூரியன், மாமறை, புகார் போன்றவன் என்று புகழும் கொத்து இறைவன் இவன் தான் என்று கூறிப் பின்னர் இவன் ஏற்றத்தோல் புதுமையாகப் படைத்துள்ளார். பூம்புகார் நகரைப் போற்றுவோம்.

“பொதியில் ஆயினும் இமயம் ஆயினும் பதிவெழு அறியாப் பழங்குடி கெழிய பொதுஅறு சிறப்பின் புகாரே ஆயினும்...”<sup>8</sup>

அகத்தியர் வாழும் பொதிய மலையாளமும், இறைவன் வீற்றிருக்கும் இமயமலையாளமும் இங்குள்ள மக்கள் இந்நகரைவிட்டு அங்குப் போய் வாழ எண்ணமாட்டார்கள்.

“நாகநீள் நாகநாடு அதனொடு கோகம் நீள் புகழ் மன்னும் புகார் நன்...”<sup>9</sup>

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Modern Thaman Research (A Quarterly International Multilateral Thaman Journal) 9,10 October 2021 - Special Issue (ISSN: 2321-984X)

மயம் ஆகம் அறக்கட்டளை, திண்டிவனம், தமிழ்நாடு, ஸ்ரீ மத் சிலஞ்சை பாலம் சுவாமிநாதர் தமிழ், கலை, அறிவியல் கல்லூரி, மயம்



## கண்ணகியின் குணநலனும் மாதவியின் மன நலனும்

முனைவர் **சீ. செஞ்சுலட்சுமி**

உதவிப் பேராசிரியர்,  
ஸ்ரீமதி தேவ்குன்வர் நானாலால் பட் மகளிர் வைணவக் கல்லூரி,  
குரோம்பேட்டை, சென்னை-600 044.

ஆய்வுச் சுருக்கம்

தமிழின் முதல் காப்பியமாம் சிலப்பதிகாரத்தில் எதிரெதிர் கதை மாந்தர்களாகத் திகழும் கண்ணகி, மாதவி ஆகியோரின் குணநலன்களை இருவேறு கோணங்களில் படைக்கப்பட்டுள்ளமை காப்பிய ஆசிரியரான இளங்கோவடிகளாரின் தனிச்சிறப்பு. எனவே உயரிய பண்புகளைக் கொண்ட இல்லத்தரசியாம் கண்ணகியின் குணநலனும், ஆடலரசி மாதவியின் மனநலமும் ஆராய முற்பட்டதே இந்த ஆய்வாகும். இம்மைப் பயனை மட்டுமன்றி மறுமைக்கும் உறுதி பயப்பன வாகிய சிறந்த இல்லறக் கடமைகளைக் கணவன் உடன் இல்லாததால் செய்ய இயலாது தவிக்கும் கண்ணகியின் குண நலனும், சுயநலம் என்ற ஒன்றையே தன் குறிக்கோளாகக் கொண்ட மாதவியின் மனநலனும் காப்பியத்தின் சில நிகழ்வுகள் தெளிவுறுத்துகிறது. இவற்றை விளக்குவதே கண்ணகியின் குண நலனும் மாதவியின் மனநலனும் என்னும் பொருண்மைத்தான இக்கட்டுரை.

கலைச்சொற்கள்:

வடமீன், அமிழ்து, நாடகம், சலதி, பரத்தர், பண்டி, கண்கூடு வரி

முன்னுரை

பழந்தமிழில் இலக்கிய வகைமை பல நிலைத்து அவற்றுள் காப்பியம் சிறந்த வகைமைத்து அனைத்துக் காப்பியங்களிலும் சிலப்பதிகாரம் முதன்மைத்து முத்தமிழ்க் காப்பியமான சிலம்பின் இன்றியமையாக

கதைமாந்தராம் கோவலன், கண்ணகி, மாதவி ஆகியோரைச் சுற்றிக் கதை பின்னப்பட்டிருக்கும் கோவலன் கண்ணகியை மணம் புரிந்தவன் செல்வநிலையுடன் இளமைத் துள்ளலும் நிறைந்த கோவலன், மாதவி என்னும் ஆடல் நங்கையின் பால் ஈடுபாடு கொண்டு, தன் செல்வம் அனைத்தையும் புகார் நகரில் இழந்து, இழந்த செல்வத்தை மீட்கப் புறப்பட்டு மதுரையில் கொல்லப்படுகிறான். அவனது இறப்பிற்கு நீதி கேட்கும் தீரம் மிகுந்த மனைவியான கண்ணகி இறுதியில் தெய்வநிலை எய்துகிறாள். இதே காப்பியத்தில் கணிகையர் குலத்தில் தோன்றியவள் ஆயினும், தான் கோவலன் ஒருவனுக்கே சொந்தமானவள் என்னும் நினைப்போடு வாழ்ந்தவள் மாதவி. ஆனாலும் பிறன்மனைப் பேராளன் கோவலன் என்பதை உணர்ந்தும் அவனைத் தன்னிடமே தக்க வைத்துக்கொண்ட சுயநலமி எனவே தெய்வக் குணத்தால் உயர்ந்த கண்ணகியும் சுயநலத்தால் தாழ்ந்த மாதவியும் இங்கே ஆராயப்பட வேண்டியவர். அதனால்தான் ஆய்வுப் பொருண்மையாகக் கண்ணகியும் குணநலனும் மாதவியின் மன நலனும் என்ற தலைப்பு தேர்ந்தெடுக்கப்பட்டுள்ளது.

கண்ணகி

ஞாயிறு, திங்கள், மழை என அனைத்தையும் போற்றிய ஆசிரியர் இளங்கோவடிகள் இவற்றின் சிறப்பைப் போற்றும் நகராக விளங்கும் புகார் நகரை

பூம்புகார் போற்றுவும் பூம்புகார் போற்றுவும்

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 9,10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN: 2321-984X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9,10 October 2021 - Special Issue (ISSN : 2321-984X)  
இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையின் சிலப்பதிகாரம்  
கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீ மத் சிவஞான பாலய சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்



## சிலப்பதிகாரத்தில் அறம்

முனைவர் ப.சுதா

உதவிப் பேராசிரியர், தமிழ்த் துறை  
ஸ்ரீமதி தேவ் குன்வர் நானாலால் பட் வைணவ மகளிர் கல்லூரி  
குரோம்பேட்டை.

ஆய்வுச் சுருக்கம்

இலக்கியங்கள் மனித வாழ்க்கையைப் பிரதிபலிப்பன. மனிதர்களின் வாழ்க்கை இலக்கியங்களில் பதிவு செய்யப் பட்டிருப்பதை காலம் காலமாக நம் தமிழ் மொழியில் எழுந்த இலக்கியங்கள் வெளிப்படுத்துகின்றன. சிலப்பதிகார காப்பியத்தில் வாழ்க்கை பற்றியும், வாழ்வின் அறங்கள் பற்றியும் சுவைபட இளங்கோவடிகள் எடுத்துக் காட்டுகிறார். கண்ணகி, கோவலன் மாதவி போன்ற தலைமைப் பாத்திரங்களின் வழியாகவும், ஐயை, மாதரி போன்ற துணைப் பாத்திரங்கள் வழியாகவும் பற்பல வாழ்வியல் அறங்கள் எடுத்துக்காட்டப் பெறுகின்றன. இவை தவிர கவுந்தியடிகள் அறிவுறுத்தும் அறங்கள் வழியாகவும் வாழ்வியல் அறங்கள் வெளிப்படுத்தப் பெற்றுள்ளன.

கண்ணகி, மாதவி போன்ற கதாப்பாத்திரங்கள் மூலம் வாழ்வின் அறங்களை அவர்கள் எவ்வாறு வழுவாமல் காக்கிறார்கள் என்பதே கூறுவதே ஆய்வின் நோக்கமாகும்.

துறவு வாழ்க்கை என்பது பற்றற்றான் பற்றினைப் பற்ற அனைத்துப் பற்றுகளையும் விட்டுவிடுவது ஆகும். இவ்வாறு இல்லறத்தின் வாயிலாகவும் துறவறத்தின் வாயிலாகவும் அறம் எவ்வாறு கட்டமைக்கப்பட்டுள்ளது என்பதை சிலப்பதிகாரத்தின் வழி வெளிக் கொணருவதாக இக்கட்டுரை அமைகிறது.

முன்னுரை

வாழ்வியல் அறமானது இல்லறம், துறவறம் என்று இருவகையில் பெண்களை

மட்டுமே மையப் பொருளாகக் கொண்டு ஆராயும் நோக்கோடு இக்கட்டுரையானது கட்டமைக்கப்படுகிறது. அன்பும் அறனும் உடையது இல்லவாழ்க்கை என்று கூறும் திருவள்ளுவர் வாக்கின் உண்மைத் தன்மையை இளங்கோவடிகளும் வெளிப்படுத்துகிறார்

“அரசியல் பிழைத் தோர்கு அறம் கூற்றாகும்

உரை சால் பத்தினியை உயர்ந்தோர் யேத்துவர்

ஊழ்வினை யுருத்து வந்து ஊட்டும்”

என்ற சிலப்பதிகாரம் காட்டும் மூன்று உண்மைகளின் வழி அறமே வாழ்வின் ஆதாரமானது என்பது புலனாகிறது. ஆறத்தின் வழி நின்று எவ்வாறு கண்ணகி, மாதவி, கவுந்தியடிகள் பாத்திரப்படைப்பு உள்ளது என்பதைக் இக்கட்டுரை ஆராய்கின்றது.

கண்ணகியின் அறம்

எண்ணம் தூமையாக இருக்கும்போதுதான் மனிதர்கள் கூறக்கூடிய சொற்களும் அவர்கள் செய்யக்கூடிய செயல்களும் தூய்மையாக இருக்கும். இதைதான் வள்ளுவர்

“மனத்துக் கண் மாசிலன் ஆதல் அனைத்தறன்

ஆகுல நீர பிற” (1) குறள்-34

என்று குறிப்பிடுகிறார்.

அருந்ததியின் கற்பையும் திருமகளின் வடிவத்தையும் ஒத்தவளாக கருதப் படும் கண்ணகி என்று இளங்கோவடிகள் அறிமுகப்படுத்துகிறார்.

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 9,10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN: 2321-984X)

Modern Thamizh Research (A Quarterly International Multilateral Thamizh Journal) 9,10 October 2021 - Special Issue (ISSN: 2321-984X)

இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிலப்பதிகாரம்

கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீமத் சிவஞான பாலய சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்



## சிலப்பதிகாரத்தில் மதுரையின் மாண்புகள்

திருமதி. பொ.விஜயராணி

உதவிப் பேராசிரியர், தமிழ்த்துறை

ஸ்ரீமதி தேவ்குன்வர் நானாலால் பட் மகளிர் வைணவக் கல்லூரி

### ஆய்வுச்சுருக்கம்

தமிழின் முதன்மையான காப்பியமாகவும், முத்தமிழ்க் காப்பியமாகவும் திகழும் சிலப்பதிகாரம் சேர, சோழ, பாண்டியர்களின் தலைநகரங்களாகிய புகார், மதுரை, வஞ்சி ஆகிய மூன்று நகரங்களின் பெயரால் புகார்க்காண்டம், மதுரைக்காண்டம், வஞ்சிக்காண்டம் என்னும் முப்பெரும் பிரிவுகளை உடையதாகக் காணப்படுகிறது. இவற்றில் காடுகாண் காதை முதல் கட்டுரை காதை வரை 13 காதைகளை உடையதாக மதுரைக்காண்டம் திகழ்கிறது. மதுரைக் காண்டத்தின் முதல் நான்கு காதைகளில் மதுரை நகரின் அக அழகு, புற அழகு, இயற்கை வளம், ஊரின் அமைப்பு, சமயம், வாணிபம், மன்னனுடைய சிறப்புப் பண்புகள் ஆகியன எடுத்துரைக்கப் பட்டுள்ளன.

### கலைச்சொற்கள்

அறுவை வீதி - துணிக் கடைத்தெரு  
மணிவண்ணன் - திருமால் சாத ரூபம்  
கிளிச்சிறை ஆடகம் சாம்பூநதம் - பொன்னின் வகைகள்

### முன்னுரை

சங்கம் வைத்து தமிழ் வளர்த்த பாண்டிய நாட்டின் சிறப்பை எடுத்துக் கூற இளங்கோவடிகள் மதுரைக் காண்டம் என்ற காண்டத்தை வைத்து சிலப்பதிகாரத்தை சிறப்புறச் செய்தார். இதன் கதைமாந்தராம் கோவலன், கண்ணகி தன் வாழ்க்கைப் பயணத்தைத் தொடர ஏதுவான இடம் என்று மதுரையைத் தேர்ந்தெடுத்து புகாரிலிருந்து மதுரையை நோக்கி செல்வர். வணிகச்

சிறப்புடைய மதுரையை இளங்கோவடிகள் போற்றியமை மதுரைக் காண்டத்தின் வழி அறியலாம்.

### மதுரை பெயர்க் காரணம்

பாண்டிய நாட்டின் பழமையான தலைநகராம் ஈராயிரம் ஆண்டுகளாக இணையில்லாப் பெருமையுடன் விளங்குவது மதுரை நகர். மதுரை என்றால் இனிமை என்பது பொருள். இதனை பாண்டியன் தூய்மை செய்யுமாறு சோமசுந்தரப் பெருமானிடம் வேண்டி, அவர் தன் சடையில் அணிந்த பிறைமதியின்று தோன்றிய நல்லமுதால் நகரைத் தூய்மை செய்தார். அதனால் இந்நகர் மதுரை எனப்பட்டது என்கின்றார் பரஞ்சோதியார். தமிழைப் பாடிய புலவர் பலரும் தமிழோடு சேர்த்து மதுரையையும் புகழ்ந்து உரைக்கின்றனர். அத்தகைய பல்வேறு சிறப்புகளைத் தன்னகத்தே கொண்ட நகராக மதுரை மாநகர் திகழ்கிறது.

### இயற்கை வளம்

வையை ஆற்றின் கரையில் அமைந்துள்ள வளமான நகரமாக மதுரை விளங்குகிறது. இவ்வூருக்குச் செல்ல இடப்பக்க வழி, வலப்பக்க வழி, நடு வழி என்று மூன்று வழிகள் இருப்பதாகவும், அவ்வழியில் தேனொழுகும் மலர்ச் சோலைகளும், பொய்கைகளும் சிறகுகளையுடைய வண்டுகள் செவ்வழிப்பண் ஒலிக்கும் பொய்கைகளோடு கூடிய வயல்களையும் கடந்து செல்லவேண்டும் என்பதை,

“... செவ்வழி பண்ணின் சிறை வண்டு  
அரற்றும்

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்)-9,10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN: 2321-984X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9,10 October 2021 - Special Issue (ISSN : 2321-984X)

இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிலப்பதிகாரம்

கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீ மத் சிவஞான பாலய சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்



## சிலப்பதிகாரம் உணர்த்தும் வாழ்வியல் நெறிகள்

**திருமதி இரா. வசந்தகுமாரி**

உதவிப் பேராசிரியர், தமிழ்த்துறை,

ஸ்ரீமதி தேவகுன்வர் நானாலாஸ்டட் மகளிர் வைணவக் கல்லூரி,  
குரோம்பேட்டை, சென்னை 44.

**ஆய்வுச் சுருக்கம்**

பழந்தமிழர்கள் சிறந்த வாழ்க்கை வளமும் இலக்கியச் செறிவும், குறிக்கோள் பலவும் கொண்டு வாழ்வாங்கு வாழ்ந்தனர். அவர்கள் வாழ்வுக் காலத்தில் இருந்த நீதிகளைக் கதைபொதி பாடல்களாக அமைத்துக் காப்பிய வகைகளில் பெருங் காப்பிய இலக்கணங்களுக்குரிய தனிச்சிறப்புடன் முதன்மையான காப்பியமாகப் போற்றப்படும் சிலப்பதிகாரத்தில் காணப்படுகின்ற வாழ்வியல் நெறிகளுள் 'தெய்வம் தொழல்', 'இல்லறம் பேணல்' ஆகிய நெறிகளை விளக்கும் வகையில் இக்கட்டுரை அமைகிறது.

**கலைச்சொற்கள்**

வாழ்வியல் நெறிகள் - ஊழ்வினை - பரத்தமை  
-பேராண்மை - நீட்சி

**முன்னுரை**

பெறுவதற்கு அரிய மானிடப் பிறவியைப் பெற்ற நாம் இன் மண்ணில் நல்ல வண்ணம் வாழ்வதற்கு நன்னெறிகளைப் பின்பற்றி வாழ வேண்டுமென்பதற்காக சிறந்த வாழ்வியல் நெறிகளைப் படைத்தவர்கள் நம் தமிழர். அத்தகைய சிறப்புகளைப் பெற்ற முதல்காப்பியமான சிலப்பதிகாரம் வாயிலாக வெளிப்படும் 'குடிப்பிறப்பு, செல்வம், கல்வி, புகழ், கொடை, விருந்தோம்பல், போன்ற நெறிகளில் 'இல்லறம் பேணல், தெய்வம் தொழல்' என்ற வாழ்வியல் நெறிகளைப் பற்றி விளக்க முறையில் இக்கட்டுரை எடுத்துரைக்கின்றது.

அறவழியில் நடந்து நன்னெறி'யில் பொருளீட்டிப் பொருளால் வாழ்க்கையை மேம்படுத்தி இன்புற்றுப் பின் வீடு அடைதல் என்பதே நம் முன்னோர் கண்ட வாழ்வியல் தத்துவம். இத்தத்துவங்களை இலக்கியங்களின் ஊடாக நாம் கற்றுணர்ந்து நம் வாழ்வில் உயரிய நெறிகளை வருத்துக் கொண்டு மேலான சீரிய வாழ்வினை வாழ்ந்து. வரும் தலைமுறையினருக்கு உதாரணமாக விளங்குவதற்கு இவ்விலக்கியங்கள் நமக்குக் கருவியாக உள்ளன. சிலப்பதிகாரக் காப்பியத்தின் ஊடாக வெளிப்படுகின்ற வாழ்வியல் நெறிகளுள் முதன்மையானதாக 'தெய்வம் தொழல்' என்ற நிலையை நோக்கலாம்.

**தெய்வம் தொழல்**

உலக உயிர்களுக்கெல்லாம் முதலாவதாக விளங்குபவன் இறைவன். நாம் எந்த ஒரு செயலைத் தொடங்கினாலும் முதலில் அச்செயல் தடையின்றி சிறந்த முறையில் சிறப்பாக நிறைவடைய வேண்டி இறைவனைத் தொழுது செயலினைத் தொடங்குவது மரபு. அதன் நீட்சியாகவே நூல்களில் முதலில் இறை வணக்கப் பாடல்கள் இடம் பெற்றிருப்பதை நாம் காணலாம். இதனை

'அகர முதல எழுத்தெல்லாம் ஆதி  
பகவன் முதற்றே உலகு' 1

என்றே வள்ளுவரும் குறிப்பிட்டுள்ளார்.

மனிதன் நாடோடிகளாக வாழ்ந்த நிலையில் இயற்கைச் சீற்றங்களைக் கண்டு



## சிலப்பதிகாரத்தில் மனிதம்

**முனைவர் செ.மேனகா**

உதவிப்பேராசிரியர்

ஸ்ரீமதி தேவ்குன்வர் நானாலால் பட் மகளிர் வைணவக் கல்லூரி  
குரோம்பேட்டை

**முன்னுரை**

தமிழ் என்றால் மனிதம். கிரேக்க லத்தீன் இலக்கியங்களில் பழிக்குப் பழி என முழங்கிய நேரத்தில் தமிழ் இலக்கியங்களில் மனிதமும் மனிதநேயமும் மேலோங்கி இருந்தன.

பிறிதின் நோய் தன் நோய்போல் போற்றும் பண்பும், வாடிய பயிரைக் கண்டு வாடும் பண்பும், வாழையடி வாழையென வந்த மனித உறவினைப் போற்றும் பண்பும் தமிழ் மொழியின் உயிர்நாடியாகும். தமிழனின் அடையாளமாகும்.

தெய்வங்களையும், அரசர்களையும் தலைவர்களாகக் கொண்டு காப்பியங்கள் பாடப்பெற்ற காலத்தில் மனிதம் பற்றி, மனிதனின் வாழ்க்கை குறிக்கோள் பற்றி சிந்தித்த முதல் காப்பியம் சிலப்பதிகாரம். சிலப்பின் முதல் நோக்கம் மனிதத்தை முழு நிலைபெறச் செய்வது தான். மனிதம் தெய்வ நிலை அடைதல் வேண்டும். இளங்கோ வாழ்க்கைப் பற்றி மிகுதியாகச் சிந்திக்கின்றார்.

உயிரின் தன்மை என்ன? இம்மைக்குள் இன்பம் எது? மறுமைக்கு இன்பம் பயப்பது எது? செம்மையாக நிற்கும் இன்பம் எது? என்றெல்லாம் சிந்திக்கின்றார்..

வாழ்வின் நாதமாக மனிதம் அமைய வேண்டும் என்பதை உணர்ந்த இளங்கோவடிகள் பிறர்க்குக் கவலையையும், துன்பத்தையும் தரும் செயல்களில் ஈடுபடுவதை முறையாக கைவிடுதல் வேண்டும் என்றும், தானங்கள் செய்து தவநெறி மேற்கொண்டு, பிறர் செய்த உதவியை மறவாமல் இருக்க வேண்டும் என்பதோடு,

பொய் சாட்சி சொல்லாமல் உண்மையைக் கடைபிடித்தல் மனிதநேயம் என்று உணர்த்துகின்றார்.

“பொய்யுரை அஞ்சுமின்; புறஞ் சொற் போற்றுமின்  
ஊனுடன் துறமின்; உயிர்க் கொலை நீங்குமின்;  
தானஞ் செய்ம்மின்; தவம் பல தாங்குமின்;  
செய்ந்நன்றி கொல்லன்மின்;  
பிறர்மனை அஞ்சுமின்;  
பிழையுயிர் ஓம்புமின்.....  
(வரம் தரும் காதை 193-197)

**ஆய்வுச்சுருக்கம்**

சிலப்பதிகார வழி பெறப்படும் மனிதநேய சிந்தனைகளை நிரல்படுத்திப் பார்ப்பதே இக்கட்டுரையின் நோக்கமாக அமைகின்றது. தனிமனிதனின் மனிதநேயமே சமுதாய நேயமாக உலக நேயமாக மலர்கிறது. சிலப்பதிகாரத்தின் கதைமாந்தர்கள் வழி மனிதம் வெளிப்படுவதையும் மனிதம் பற்றி இளங்கோவடிகள் பார்வை எவ்வாறு? என்ற கோணத்தில் ஆராய முயல்வதே இக்கட்டுரையின் நோக்கமாக அமைகின்றது.

சிலப்பதிகாரத்தின் கதைமாந்தர்கள் வழி மனிதம்

**கோவலன்**

காப்பியத் தலைவன் கோவலன். மதுரைக் காண்டத்தில் கோவலன் மிகச்சிறந்த மனித நேயச் சிந்தனை மிக்கவனாக காட்டுகின்றார். கோவலனைப் பற்றின நமது கணிப்புப் பிழைபடக் கூடாதென்றால், அவன்

நவீனத் தமிழாபு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 9.10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN: 2321-984X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9.10 October 2021 - Special Issue (ISSN : 2321-984X)

இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிலப்பதிகாரம்

கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீ மத் சிவஞான பாலய சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்

முனை

கொ

இரா

கோ

அறி

தன்ன

அவ

கோ

மது

அப்ப

இள

பெரு

இறப்

கோ

இளங்

கால

விள

குண்டு

குண்டு

நமக்கு

என்று

இல்லை

மணி

வறி

பொழி

நடை

ஒருவ

தன்னு

அம்மு

மாடல

இளங்

குன்றம்

தனக்கா

“கடவத

சுறிப்

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## சிலப்பதிகாரத்தில் முல்லைநில மக்கள் - ஓர் பண்பாட்டுப்பார்வை

**முனைவர் து.சரஸ்வதி**

உதவி பேராசிரியர், தமிழ்த்துறை,  
ஸ்ரீமதி தேவகுன்வர் நானாலாஸ்பட் மகளிர் வைணவக்கல்லூரி,  
குரோம்பேட்டை, சென்னை-44

**முன்னுரை:**

உலகத்துச் சிறந்த காவியங்களெல்லாம் உயர்ந்தோரையும் வேந்தர்களையும் தம் தலைவராகக் கொண்டிருக்கும் போது தமிழன் படைத்துத்தந்த முழுமுதற்காப்பியம் சிலம்பு என்றால் அது மிகையாகாது. உள்ளத்தால் உயர்ந்த சாதாரணப் பெண்ணைக் காப்பியத்தின் தலைவியாய்க் கொண்டதால் குடிமக்கள் காப்பியமாயிற்று. தமிழகத்தை ஒன்றுப்படுத்திய ஒற்றுமைக் காப்பியம். தமிழின் இயல், இசை, நாடகம் என்ற மூன்றையும் முழுமையாய் அளித்த முத்தமிழ்க் காப்பியம். தமிழர்களின் அறிவுக் களஞ்சியமாகவும், பண்பாட்டுப் பெட்டகமாகவும் திகழும் உன்னதக்காப்பியம். இலக்கிய உலகிலும், மக்கள் வாழ்வியலிலும், உன்னதங்களை உயர்த்திக் காட்டிய ஒப்பற்ற காப்பியமான சிலம்பில் ஆயார்களான முல்லைநிலமக்களின் வாழ்விலை பண்பாட்டு நோக்கில் எடுத்துரைப்பதே இக்கட்டுரையின் நோக்கமாகும்.

**பண்பாடு விளக்கம்**

ஆங்கிலத்தில் உரடவரசந எனப்படும் சொல்லைத் தமிழில். பண்பாடு என்று குறிப்பிடுகின்றோம். பண்பாடு உடையவரைக் சான்றோர் என்றும், ஒழுக்கமுடையோர் என்றும், ஒழுக்கமுடையோர் என்றும் அழைத்தனர். உழவுத் தொழில் எவ்வாறு நிலத்தைப் பண்படுத்துகின்றதோ அவ்வாறே மனத்தையும் மக்களையும் பண்படுத்துவது பண்பு. இச் சொல்லைத் தான் பண்பாடு எனும்

பொருளில் பண்டைத் தமிழ் இலக்கியங்களில் நூலாசிரியர்கள் பயன்படுத்தியுள்ளார்கள். திருக்குறளில்

பண்பு உடையார்ப் பட்டுண்டு உலகம்  
அதுஇன்றேல்  
மண்புக்கு மாய்வது மன்.1

என்றும் பண்பாடு குறித்த சொற்கள் வருவதைக்காண முடிகிறது. எனவே பண்பாடு குறித்த சொல் வருவதைக்காண முடிகிறது. எனவே பண்பாடு என்றால் ஓர் இனத்தாரின் கொள்கைகள் கோட்பாடுகள், நோக்கங்கள் இலட்சியங்கள், வாழ்க்கைமுறைகள், பழக்க வழக்கங்கள், சமூகச் சட்டங்கள், களவொழுக்கம், கற்பொழுக்கம், அகத்திணை, புறத்திணை மரபுகள் இலக்கிய மரபுகள் அரசியலமைப்புகள். ஆடை, அணிகலன்கள் திருவிழாக்கள், உணவு, பொழுபோக்கு விளையாட்டுகள் ஆகியவற்றைக் குறிக்கும்.

ஐந்திணை பாகுபாடு மக்கள் நிலைப்பெற்று ஓரிடத்தில் தங்கியிருக்கையோடு இயைந்து வாழ தொடங்கிய காலகட்டத்தில், நிலவாரியாக பகுக்கப்பட்டது. அதனை தொல்காப்பியத்தில்,

“மாயோன் மேய காடுறை உலகமும்  
சேயோன் மேய மைவரை உலகமும்  
வேந்தன் மேய தீம்புனல் உலகமும்  
வருணன் மேயா பெருமணல் உலகமும்  
முல்லை குறிஞ்சிமருதம் நெய்தலெனச்  
சொல்லிய முறையாற் சொல்லவும்  
படுமே”2

என்று தொல்காப்பியர் வரையறுத்திருக்கிறார்.

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 9,10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN : 2321-984X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9,10 October 2021 - Special Issue (ISSN : 2321-984X)  
இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிலப்பதிகாரம்  
கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீமதி சிவஞான பாலய் சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்



## சிலப்பதிகாரத்தில் அறிவியல்

**முனைவர் வே. லீலாவதி**

உதவிப்பேராசிரியர், தமிழ்த்துறை,  
ஸ்ரீமதி தேவ்குன்வர் நானாலால் பட் மகளிர் வைணவக் கல்லூரி,  
குரோம்பேட்டை, சென்னை-44.

**ஆய்வுச் சாரம்**

தமிழரின் தனிப்பெருஞ்செல்வம், எல்லோராலும் விரும்பிக் கற்கப் படும் ஒப்பற்றக் காப்பியம் சிலப்பதிகாரம் ஆகும். சங்கம் மருவிய காலத்தில் எழுந்த ஐம்பெருங் காப்பியங்களில் ஒன்றான சிலப்பதிகாரத்தில், வானியல், வேதியியல், நகர கட்டமைப்பு இன்னும் வேறு சம்மந்தமான அறிவியல் செய்திகளும் பேசப்பட்டுள்ளது. இயற்கையான சந்திரனையும், சூரியனையும், மாமழையையும் ஒரே நேரத்தில் ஏற்றிப் போற்றும் இலக்கியமேதையாய், விண்வெளிபேசும் விஞ்ஞானியாய் இளங்கோவடிகள் திகழ்கிறார். பழந்தமிழர் காதலையும், வீரத்தையும் இரு கண்களாக கருதி இருந்தனர். அதைத் தாண்டி அறிவியலையும் சிந்தித்துள்ளனர் என்பதை இலக்கியங்கள் வழி அறியமுடிகிறது. அதன் பொருட்டு சிலப்பதிகாரத்தில் அறிவியல் செய்திகள் எவ்வாறு இடம்பெற்றுள்ளன என்பதை ஆராய்வதே இக்கட்டுரையின் நோக்கமாகும்.

**கருச்சொற்கள்:** அறிவியல், வானவூர்தி, வேதியியல், பருப்பொருளின் இயல்பு, சந்திர மண்டலம், பழந்தமிழர்களின் பகுத்தறிவு, விண்மீன், காலக் கணக்கீட்டாளர்கள், நீர்க்கடிகாரம், நாழிகைக் கணக்கீடு.

**முன்னுரை**

தமிழ் காப்பியங்களில் ஒப்புயர்வற்ற பெரும் பெருமைக்குரிய காப்பியமாகப் போற்றப்படுவது சிலப்பதிகாரம் ஆகும். தமிழகத்தில் சமயம் சார்ந்த இலக்கியங்கள்

எத்தனையோ காலத்தை விளங்குகின்றன. அதிலும் சிலப்பதிகாரம் போற்றப்படக்கூடிய விளங்குகின்றது. இலக்கியங்களின் வழி அறம் பொருள், இன்பம், கலை, பண்பாடு, நாகரிகம் இயற்கையைப் பேணல், அறிவியல் எல்லைப் பல்வேறு வாழ்வியல் கூறுகளைத் தெளிவாக அறிந்து கொள்ளலாம். பழந்தமிழ் இலக்கியங்களில் விரிந்து கிடக்கும் அறிவியல் சிந்தனைகள் இன்றைய நவீன அறிவியல் கண்டுபிடிப்புகளுக்கு முன்னோடியாக இருந்து கொண்டிருக்கின்றன. கண்ணகியின் கற்பத்தினை எடுத்துக்காட்டும் சிலப்பதிகாரத்தில் அறிவியல் சிந்தனைகள் இடம்பெற்றுள்ளதை ஆராயும் விதத்தில் இக்கட்டுரை அமைந்துள்ளது.

**கருத்துரை**

அறிவியல் என்றதும் நம் நினைவுக்கு வருவது கண்ணாடிக் குடுவைகளும், நுட்பமான கருவிகள் கொண்ட ஆய்வுக் கூடங்களும், விண்வெளிக் கலங்களும், கனிப்பொறி போன்ற அறிவியலின் கண்டுபிடிப்புக் கருவிகளும் தங்க ஆனால் ஆதிகாலத்தில் மரங்களில் தவழ்ந்து கொண்டிருந்த மனிதன், என்று தன் இரண்டு கால்களையும் ஊன்றி நடக்கத் தொடங்கினான் அன்றைக்கே அறிவியலும் துளிரிவிடத் தொடங்கிவிட்டது. மனித வாழ்வில் அணுவில் தொடங்கி அண்டம் வரையிலும் அறிவியல் பரவிக் கிடக்கின்றது. அந்த அறிவியலை காப்போம்.

**அறிவியல் - விளக்கம்**

ஆச்சுபோர்டு ஆங்கில அகராதி

முதன்முதலாக 'scientist' என்ற சொல்

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 9,10 அக்டோபர் 2021 - சிறப்பு இதழ் (ISSN: 2321-884X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9,10 October 2021 - Special Issue (ISSN: 2321-884X)  
இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிலப்பதிகாரம்  
கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீ மத் சிவஞான பாலய சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மதுரை



## இசைக்கருவிகள் - சிலப்பதிகாரம் மற்றும் ஆற்றுப்படை நூல்களில் - ஓர் ஒப்பீடு

முனைவர் கி. காயத்ரி

உதவிப் பேராசிரியர், தமிழ்த்துறை,  
ஸ்ரீமதி தேவ்குன்வர் நானாலாபட் மகளிர் வைணவக் கல்லூரி,  
குரோம்பேட்டை, சென்னை - 44.

ஆய்வுச் சுருக்கம்

தமிழ் மக்கள் மிகப் பழங்காலத்திலிருந்தே அறிவுத்திறனால் இசையமைப்பு முறையை அறிந்தினர். ஐம் பெருங்காப்பியங்களில் ஒன்றான சிலப்பதிகாரத்தில் தமிழிசை பற்றிய பல செய்திகள் கூறப்பட்டுள்ளன. வாழ்வியலின் கற்பையும், நீதியையும் போற்றும் காப்பியமாகிய சிலப்பதிகாரத்தில் மாந்தர்களின் வாழ்வியலில் இசைக்கருவிகள் பெரும் பங்கு ஆற்றியுள்ளன. அதன் பொருட்டு சிலப்பதிகாரத்தில் இசைக்கருவிகளாகிய துளைக்கருவிகள், நரம்புக்கருவிகள், தோற்கருவிகள் பயன்பாடும், ஆற்றுப்படை நூல்களில் இசைக்கருவிகளின் பயன்பாட்டினையும் ஆராய்வதே இக்கட்டுரையின் நோக்கமாகும்.

கலைச்சொற்கள்

கொன்றைக்குழல், ஆம்பல்குழல், வேயங்குழல், வங்கியம், சகோடயாழ், செங்கோட்டியாழ், பேரியாழ், தண்ணுமை.

முன்னுரை

இசை என்னும் சொல் இசைவிப்பது, தன்வயப்படுத்துவது எனப் பொருள்படும். இசை கேட்போரைப் பிணிக்கும் தகைமை உடையது. இசைக்கு இளகாதவன் கொலை செய்யவும் துணிவான் என்று இசையின் தன்மை முகமாக எடுத்தோதுகிறார் “ஷேக்ஸ்பியர்”. பழந்தமிழர் இசைத்தமிழை முத்தமிழுள் நடுநாயகமாக வைத்தனர். தமிழர்கள் தம் பிறப்பு முதல் இறப்பு

வரை இசையிலேயே வாழ்ந்து வருகின்றனர். இதற்கு அற்புத சக்தி வாய்ந்த இசையை வெளிப்படுத்தத் துணையாக நின்றவை இசைக்கருவிகள் ஆகும். தமிழ் இலக்கியங்களில் இசையும் இசைக்கருவிகளும் நெஞ்சை அள்ளும் சிலப்பதிகாரத்திலும் வறியவனை போற்றி இசைக்காக பெரும் கொடை கொடுத்த இசைக்கருவிவினை உடலோடு ஒட்டித் திரிந்த ஆற்றுப்படையில் கலைஞர்களின் வழியும் பெரும் இடத்தினை இக்கட்டுரை ஆராயும் விதத்தில் அமைந்துள்ளது. கருத்துரை

பண்டைத் தமிழர்கள் தம் வாழ்க்கையின் ஒரு கூறாக இசையையும் தம் செவிக்கு இன்பம் தரும் ஒலிபரப்பினைக் கொண்ட இசைக்கருவிகளையும் பல்வேறு இசை முறைகளையும் தன்னகத்தே கொண்டிருந்தனர்.

இசையைக் கேட்டு அனைத்து உயிர்களும் இன்புறும், விலங்குகள், பறவைகள், செடிகள், பாம்புகள் முதலிய உயிர்கள் இசையால் இன்பமடைகின்றன. பழந்தமிழர் கற்களை உரசி தீப்பொறியை உருவாக்கிய அக்கனமே ஆதிமனிதனால் ஒலியால் எழும் இசையும், ஒலி எழும்ப கருவியும் உருவாக்கப்பட்டது. ஆதி மனிதன் இயற்கை துணைக்கொண்டு கண்டுபிடிக்கப்பட்ட இசையும் கருவியும் அதன் முழுப்பரிணாமமே இன்றைய பல இசைக்கருவிகளும் ஆதாரமாய் விளங்குகின்றது.

நவீனத் தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 9,10 அக்டோபர் 2021 - சிறப்பிதழ் (ISSN: 2321-984X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 9,10 October 2021 - Special Issue (ISSN : 2321-984X)

இணையவழிப் பன்னாட்டு மாநாடு பன்முகப் பார்வையில் சிலப்பதிகாரம்  
கம்பன் கழகம் அறக்கட்டளை, திண்டிவனம், தமிழ்த்துறை, ஸ்ரீமதி சிவகுமார பாலய சுவாமிகள் தமிழ், கலை, அறிவியல் கல்லூரி, மயிலம்



அனைவரும் நம்முடைய வாழ்வில் அதனை மேற்கொண்டு நலமாக வாழ்வோமாக.

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□□□

நவீனத் தமிழியல் (பன்னாட்டுப் பன்னாட்டுத் தமிழ் அனைத்து ஆய்விதழ்) 30 டிசம்பர் 2021 - சிறப்புத் (ISSN: 2321-984X)

Modern Thannzh Research (A Quarterly International Multilateral Thannzh Journal) 30 December 2021 - Special Issue (ISSN : 2321-984X)

பன்னாட்டுக் கருத்தரங்கம் : பன்னாட்டுத் தமிழியல் கல்விநிறுவனம், காடாங்குளத்தூர் - 603 203 தமிழ்நாடு, ஆந்திரா

தமிழியல், தீவ், இராசாராம்நிறுவனம், சிறுபஞ்சமூலம், உமா பதிப்பகம், சென்னை - 603 203 தமிழ்நாடு, ஆந்திரா

## இலக்கியங்களில் யவனர்கள்

முனைவர் சே. மேனாகா  
ஸ்ரீமதி தேவகன்வர் நளாலால் பட்டமணி வைணவ கல்லூரி,  
குரோம்பேட்டை, சென்னை - 44

ஆய்வுச்சுருக்கம்

“இலக்கியங்களில் யவனர்கள்” என்ற தலைப்பில் யவனர்கள் யார்? இலக்கியங்களில் அவர்கள் பெறும் இடம், யவன தமிழக வணிக தொடர்பு, மொழிக்கலப்பு போன்றவை இந்தக் கட்டுரையில் இடம் பெற்றுள்ளன.

திறவுச்சொற்கள்

மத்திகை - குதிரை ஓட்டும் சம்மட்டி, கருங்கை - கரங்கம், கலம் - மரக்கலம், கன்னல் - காலத்தை அளக்கும் கருவி ஓரை - ஒரு மணி நேரம் 60 நிமிடம்

முன்னுரை

இரண்டாயிரம் ஆண்டுகளுக்கு முன்பே தமிழ் நாட்டினர் பல்வேறு நாட்டினருடன் வாணிபம் செய்து வந்தனர். வேறு பல மொழியினரும் பழனி வந்தனர். அயலநாட்டு வணிகர்கள் தமிழகத்துக்கு வந்து வாணிபம் செய்தனர். வாணிகத்தில் புகழ்பெற்ற காலிப்புட்டினர் துறைமுகத்தில் அபயநடுக்களமிருந்து வந்த வேற்றுமொழியினர் தங்கி இருந்தனர்.

தமிழ் நாட்டினரும் அவர்களோடு மொழிக் காற்புணர்ச்சி இல்லாமல் ஒன்றாக அன்புடன் பழகி வந்துள்ளனர் என்ற செய்தியைப் பட்டினப்பாலப் எடுத்தியம்புகிறது. காலிப்புட்டினர் வளத்தையும் சிறப்பையும் கருதி அங்கே பல நாட்டினர் வாணிபம் செய்து வந்திருக்கின்றார்கள். அவர்கள் காலிப்புட்டினருக்கு மக்களோடு ஒன்றுபட்டு வாழ்ந்துள்ளனர். இத்தகைய அரிய சிறப்புடைய காலிப்புட்டினர்தான்.



## Whatsapp Enabled English Language Teaching- Improving Speaking Skill through Language Tasks

Baena Anil

Assistant Professor of English

SDNB Vaishnav College for Women, Chrampet, Chennai, India

Email: pbaenanil@gmail.com

### Abstract

Technology is a boon in learning a language especially English as a second language. Learning English is a difficult task for most second language learners (SLL). Introducing language tasks in the classroom help learners to develop competitive skill, collaborative learning, coordination, interactive skill, exploration and goal setting. In today's world technology is synonymous with autonomous, collaborative and flexible learning. Technology-based tasks bring color on multiple platforms to narrate, listen and understand the language usage in various playful ways as well as generate ideas and discussion for reflective thinking and writing. This paper explores the use of language tasks through whatsapp that are helpful for learners to develop their speaking skill and shares a few websites and applications for teachers of English to use for teaching purposes.

**Keywords:** tasks, second language learning, technology, learner-centric, flexibility

### Introduction

The dissemination of technology's significance is unstoppable. Technology integrated education has encouraged users to think differently and innovatively. Technology-based language tasks are used by second language teachers in the classroom which echoes the idea of blended learning. Technology-based learning is synonymous with autonomous, collaborative and flexible learning. The paradigm shift in learning is infusing user-friendly technology based tasks. Educators are on the verge of understanding that what students study or how they study or where they study might be overboard or obsolete within a few years. In the fast-paced world, teachers should equip them with e-knowledge, as learners expect new knowledge from them.

Learning English language is a skill and developing the skill of second language learners is challenging as today's learners are techno-enabled users. Approximately, higher education learners in India use mobile phones more than three hours every day for leisure purposes. The addiction to mobile phones should be cashed on by converting their interest into a learning tool for learning English language. This paper has explored the possibility of using whatsapp on mobile phones to teach semi-rural second language learners of a college in Tamil Nadu, India.

### Literature Review

There is sufficient literature available pertaining to learning English as a second language and for this paper it is



## IN SEARCH OF SELF HOOD- PORTRAYAL OF THE FEMALE CHARACTERS IN GLORIA NAYLOR'S NOVEL "THE WOMEN OF BREWSTER PLACE"

**Gayathri.K.**, (Part- Time), Research Scholar in English, S.D.N.B Vaishnav College for Women, Chrompet, Chennai.  
Assistant Professor, Department of English, Shri Shankarlal Sundarbai Shasun Jain College for women, Chennai.

**Dr. K. Kanthimathi**, Assistant Professor, S. D. N. B. Vaishnav College for Women, Chrompet, Chennai.

The novel "The Women of Brewster Place" consists of seven interconnected short stories which revolve around an imaginary street symbolic of racist and sexist society. It features a group portrait of seven black women in one housing development. Naylor has used "a unified physical setting, a spirit of place...to provide a communal framework for the varied descriptions of the women who come to live in it." These women rely on one another for survival and for psychological support in combating the forces of oppression and isolation. Each of the woman has come to Brewster Place after some sort of a personal tragedy: Mattie Michael, who put her house up for collateral and lost it when her son jumped bail; Etta Mae, the attractive but aging blues singer, no longer able to permanently attract with her sexual favours a "promising rising black star" who "could move her...off of Brewster Place for good"(66); Ciel, a caring and devoted mother, burdened with entire responsibility of the family because of her faithless husband; Cora Lee, the single mother of six, trapped in a cycle of poverty and despair; and "the two" after being ostracized wherever they lived together.

The only exception is Kiswana who has by her own choice come to Brewster Place to live with the poor people to improve their condition. Each leaves the world she recognizes as a dead end and enters a world that is literally dead ended. These women, once they come to Brewster Place, become neighbours, then confidantes and finally sisters. Their world, Brewster Place, becomes a microcosm of the black community in general. Each woman and her experience are part of the experience of the community at large. Because each woman has different skills, insights, and experiences, their needs can be met by someone or some group. The novel's introductory chapter titled 'Dawn' refers at least to three communities, the Irish, those whom she refers to as the Mediterranean, and then the blacks, the first representative being Ben, who was hired as a janitor and handyman.

Naylor points out that migration has been one of the common experiences of the inhabitants of Brewster Place because all the mothers here have lost children to the call of a more comfortable life leaving behind the old. The succeeding generation is that of the "multi coloured Afric" (4) and they are to remain. Any narrative that intends to represent a particular community faces the possibility of dealing exclusively with stereotypes preoccupied with a desire to find homogeneity. Interestingly however, Naylor is equally concerned with achieving and understanding of the individual selves, more as prototypes than as stereotypes and this is true of the portrayal of all the women of Brewster Place.

Heightening "the individuality of her characters so that they are not merely seen as faceless 'female heads of households', while stressing their interrelationships", Barbara Christian points out that "Naylor establishes Brewster Place as a community in spite of its history of transients - a community with its own mores, strengths and weaknesses."

Naylor has no doubt portrayed Mattie as the main interlinking character in this novel, but in some cases the bonding between different women is achieved even without Mattie's presence. This can be viewed in the case of Cora Lee, a single mother of many children. Obsessed with plastic baby dolls right from her childhood, Cora had never appreciated the dolls intended for an increasingly mature child. Michael Awkward views Cora's responses to her dolls as an urge "to maintain a will full ignorance of the world and of herself."

Cora's inability to mature occasions her incapability later in life to care responsibly for her own growing children. Taking little thought of the psychological and economic consequences for her children, she still remains attracted to infants and does not hesitate in bringing them to the world. However, her care and love remains secluded only when they are infants; once they grow up they become simply incomprehensible nuisances for her whom she does not know how to care and nurture. As a result, all her children are undernourished, dirty, scholastically weak, and undisciplined.



*Kanpur Philosophers**ISSN 2348-8301**International Journal of humanities, Law and Social Sciences  
Published biannually by New Archaeological & Genological Society**Kanpur India**Vol. VIII, Issue VI : 2021***RE-CREATION AND REDEMPTION IN GLORIA NAYLORS NOVEL "LINDEN HILLS"****GAYATHRI.K.**, (Part- Time), Research Scholar in English, S.D.N.B Vaishnav College for Women, Chrompet, Chennai.

Assistant Professor, Department of English, Shri Shankarlal Sundarbai Shasun Jain College for women, Chennai.

**Dr. K. KANTHIMATHI**, Assistant Professor, S.D.N.B Vaishnav College for Women, Chrompet, Chennai.

Linden Hills is owned by Luther Nedeed, whose forefathers bought the land from white owners. Due to the appearance of his son, Luther suspects his wife Willa of disloyalty and locks both his child and wife in the basement. The story then explains about two men namely Willie and Lester of their odd jobs in suburb, and also exploring Willa's grief as she looks for a blanket for her dead son and reclaims her identity.

Their stories intertwine when Willie and Lester are hired by Luther to neat the Christmas tree. Willa gathers the courage to leave her prison and tackle Luther as Willie and Lester escape the house. A candle on the tree ignites the shroud carrying the dead child and the Nedeed house is consumed by the flames. Although Willie asks for help from the neighbors, they simply watch from their windows. This prompts Willie to leave and never return to Linden Hills.

A world away from Brewster Place, yet intimately connected to it, lies Linden Hills. With its showcase homes, elegant lawns, and other trappings of wealth, Linden Hills is not unlike other affluent black communities. But residence in this community is indisputable evidence of "making it." Although no one knows what the precise qualifications are, everyone knows that only certain people get to live there—and that they want to be among them. Once people get to Linden Hills, the quest continues, more subtle, but equally fierce: the goal is a house on Tupelo Drive, the epitome of achievement and visible success. No one notices that the property on Tupelo Drive goes back on sale quickly; no one questions why there are always vacancies at Linden Hills.

As such, in Linden Hills, Naylor seems to be denying the woman's story. In visionary feminism, she would seem to suggest an alternative to black feminism that argues for society's urgent need to create relationships between men and women with honour and dignity. Willa succeeds in death at Linden Hills



# A Soul of No Importance and Her Resurgence: Stephen King's Outrageous Carrie White

**\*S. Sivaranjani**, PhD Research Scholar, Department of English, School of Languages, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai-600117, Tamil Nadu, India. ORCID: 0000-0001-7987-5376. Email: shivamayil16@gmail.com

**\*\*E. Sugantha Ezhil Mary**, Associate Professor, Department of English, School of Languages, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Chennai-600117, Tamil Nadu, India. Email: suga80prince@gmail.com

\*First Author, \*\*Second-Author

## Abstract

This paper deals with analysis of the eponymous character of Carrie, one of the best characters crafted by Stephen King. Despite the success of the novel, Carrie received and still received negative remarks for the portrayal of the lead in a misogynistic manner and usage of gender-biased language. Whereas King magnifies only the position of a young girl; the deft handling of supernatural elements (telekinesis) in Carrie gives wings to her liberation thus keeping an end to her powerlessness despite possessing such an unearthly enormous power.

**Keywords:** Horror, power, blood, revenge.

## Introduction

Many people are bullied as teenagers or, a minimum, feel like outsiders. They are too fat or too ugly or too dumb. Or maybe they just aren't popular enough to feel comfortable inside their own skin. With the power to destroy their tormentors, would they do it? (Gresh Lois. H 2007)

Popular horror fiction writer Stephen Edwin King has created remarkable characters in his horror canon. The enormous popularity of his novels are due to the characters either who embellish their stand amongst all the odds of being the undefeatable odd like Carrie White, Danny Torrance, Gage Creed, Annie Wilkes of the novels *Carrie*, *The Shining*, *Pet Sematary* and *Misery* respectively. These novels have been regarded as the most sought books among avid horror readers of America and worldwide. Despite various criticisms faced by Stephen King for being the most successful and bestselling horror fiction writer who probably may not retain any literary values in his numerous works, there is a certainty of gaping expertise in the sculpture of his terrific characters.

What makes these characters very special? Almost all the characters are known for their soft subtle nature and in the case of Gage Creed who is a mere toddler at the phase of blabbering few words followed by constant requests from his parents could possibly know the hidden secrets of Jud Crandall and the entire locality after resurrection. How could Wendigo, the evil



# D- Lucky Edge Labeling of Strong and Weak Human Chain Networks

G. Rajini Ram<sup>1,2</sup>, S. Hemalatha<sup>3</sup>, K. Anitha<sup>4</sup>

<sup>1</sup>Department of Mathematics, Sri Sairam Engineering College, Chennai 44, India

<sup>2</sup>Research Scholar, S.D.N.B Vaishnav College for Women, Chromepet, Chennai 44, India, Affiliated to University of Madras,

<sup>3</sup>Department of Mathematics, S.D.N.B Vaishnav College for Women, Chromepet, Chennai 44, India

<sup>4</sup>Department of Mathematics, Sri Sairam Engineering College, Chennai 44, India

E-mail: <sup>1,2</sup>rajini.math@sairam.edu.in, <sup>3</sup>hemrav2008@gmail.com, <sup>4</sup>anitha.math@sairam.edu.in

**Abstract.** In this paper, we introduce two human chain networks namely Strong human chain and weak human chain network. Also, we have determined the D-Lucky edge number of Strong human chain and Weak human chain networks. These two networks have various application in Bus topology.

## 1. Introduction

Graph labeling is one of the best-studied subjects in Graph Theory. The key idea and concepts of Human chain and Lucky labeling were sourced from Anitha[1]. Also, Mirka Miller[2] given the proof for calculating the d-lucky labeling of graph. Further, computation of D-Lucky edge labeling introduced and proof given by Rajini Ram et.al [4]. Lucky labeling studied by many authors, for instance, see [1,2,3,4]. Here we introduce two human chain networks namely Strong human chain and Weak human chain network. Also, we have determined the D-Lucky edge number of Strong human chain and Weak human chain networks. These two networks have various application in Bus topology.

## 2. Preliminaries:

### 2.1. Definition:

Let  $f: v(G) \rightarrow N$  be labeling of the vertices of a graph by positive integers. Let  $S(v)$  denote the sum of labels of the neighbors of the vertex  $v$  in  $G$ . If  $v$  is an isolated vertex of  $G$ , we put  $S(v) = 0$ . A labeling is lucky if  $S(u) \neq S(v)$  whenever  $u$  and  $v$  are adjacent. The least integer  $k$  for which a graph  $G$  has a lucky labeling from the set  $\{1, 2, \dots, k\}$  is the lucky number of  $G$  denoted by  $\eta(G)$ .

### 2.2. Definition

Let  $l: v(G) \rightarrow V$  be a labeling of the vertices of a graph  $G$  by positive integer. Define  $c(u) = \sum_{v \in N(u)} l(v) + d(u)$ , where  $d(u)$  denotes the degree of  $u$  and  $N(u)$  denotes the open neighborhood of  $u$ . The labeling  $l$  is defined as d-lucky  $c(u) \neq c(v)$ , for every pair of adjacent vertices  $u$  and  $v$  in  $G$ . The graph  $G$  which admits d-lucky labeling is called d-lucky labeled graph and the d-lucky number is the least positive integer  $k$  such that  $G$  has d-lucky labeling from the set  $\{1, 2, \dots, k\}$ .

### 2.3. Definition

A Human chain graph  $HC_{n,m}(p, q)$  is obtained by a path  $u_1, u_2, \dots, u_{2n+1}, n \in N$  joining a cycle of length  $m(c_m)$  and Y-tree  $Y_{m+1}, m \geq 3$  to each  $u_{2i}$  for  $1 \leq i \leq n$ . The vertices of  $C_m$  and Y-tree are  $v_1, v_2, \dots, v_{(m-1)n}$  and  $w_1, w_2, \dots, w_{mn}$  respectively.

The vertex and edge sets of  $HC_{n,m}$  as follows:



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# Mathematical Model For The Response Of HPA Axis Applying Gompertz - Makeham Distribution In Association With Analytic Univalent Functions

V.G. Shanthi<sup>1</sup>, S. Alamelu<sup>2</sup>

Department of Mathematics, Shrimathi Devkunvar Nanalal Bhatt Valsnav College for Women, Chromepet, Chennai - 600 044

**Abstract:** The study here is to find the activity of Hypothalamic Pituitary Adrenal axis - HPA which is a major part of human system which controls reaction to stress by finding Cortisol level and the objective is to observe the response of the system over time due to stress by applying the Gompertz - Makeham distribution. Here we develop two functions  $f_1(z)$  and  $f_2(z)$  by using the class of analytic univalent functions in the open unit disc whose coefficients are considered as Probability density function of the above mentioned distribution, for which the Subordination property, Convex and Starlikeness hold. Current study leads us to a real life application by considering the effects on the response of HPA axis to acute stress. The concluded results coincide with the medical findings.

**Keywords:** Hypothalamic Pituitary Adrenal (HPA), Cortisol, Gompertz-Makeham Distribution, Analytic functions, Univalent functions and Subordination, Convex and Starlike functions.

AMS Classification: 60E, 62E, 30C45, 30C50, 30C80

## 1. Introduction

Gompertz Makeham distribution is widely used for Biological systems [1,6,10]. For comparing Random Variables [9] Stochastic dominance is widely used. The most common application of Stochastic dominance is based on the comparison of the Cumulative Distribution Function.

In our model, the assumptions are improved in this direction, and we utilize the approach of [3] and special cases are derived for our model.

### 1.1 Random Variables and Analytic Functions

Let  $\mathcal{A}$  be the class of functions  $f$  of the form  $f(z) = z + \sum_{t=2}^{\infty} a_t z^t$  which are analytic in the open unit disc  $\mathcal{U} = \{z: z \in \mathbb{C} \text{ and } |z| < 1\}$  and  $\mathcal{S}$  represents the class of all functions in  $\mathcal{A}$  which are univalent in  $\mathcal{U}$  [2]. Before proceeding to the main result, we make use of the following concepts.

- Stochastic Dominance: [7,9]
- Subordination: [4]

Here we focus on the Random Variable  $X$  and using the concept of subordination for the considered analytic functions  $f_1(z)$  and  $f_2(z)$  by assuming  $X \sim F$  with density  $f$  having different parameters. Before going for the main result, we make use of the following Lemma and Definition.

**Lemma [5]:** Let  $f(z) = \sum_{k=0}^{\infty} a_k z^k$  be analytic in  $\mathcal{U}$  and  $g(z) = \sum_{k=0}^{\infty} b_k z^k$  be analytic and convex in  $\mathcal{U}$ . If  $f(z) < g(z)$ , then  $|a_k| \leq |b_k|$ , for  $k = 1, 2, \dots$

**Definition [7]** A random variable  $X$ , is said to have a convex distribution if, for any  $x_1$  and  $x_2$  and any  $\lambda \in [0, 1]$ , the following relation is satisfied for the density  $f$ :

$$f\{\lambda x_1 + (1 - \lambda)x_2\} \leq \lambda f(x_1) + (1 - \lambda)f(x_2)$$

A function  $f(z)$  defined in the form  $f(z) = z + \sum_{t=2}^{\infty} a_t z^t$  which are analytic in the open unit disc  $\mathcal{U} = \{z: z \in \mathbb{C} \text{ and } |z| < 1\}$  is said to be convex of order  $\alpha$

$(0 \leq \alpha < 1)$  satisfies the condition  $\Re \left\{ 1 + \frac{zf''(z)}{f'(z)} \right\} > \alpha, z \in \mathcal{U}$

## 2. Development of Mathematical Model

Several studies [8] highlights the action of the Hypothalamic Pituitary Adrenal axis that controls reaction to stress and the response of the hormones. Here we consider the response of Cortisol to stress.

### 2.1 Assumptions of the Model

1. Participants are exposed with number of stresses.
2. Stress effect is the source for increase in Cortisol levels.





## Perfect Matching of an Undirected Complete Graph Based on Algebraic Multiplicity

Jini J<sup>1\*</sup> and Hemalatha S<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Mathematics, Kings Engineering College, Sriperumbudur, Chennai, Tamil Nadu & Research Scholar, S.D.N.B. Vaishnav College, Affiliated to University of Madras, Tamil Nadu, India.

<sup>2</sup>Assistant Professor, Department of Mathematics, S.D.N.B.Vaishnav College, Chrompet, Tamil Nadu, India.

Received: 07 Jun 2021

Revised: 26 Jun 2021

Accepted: 09 July 2021

### \*Address for Correspondence

Jini J

Assistant Professor,  
Department of Mathematics, Kings Engineering College,  
Sriperumbudur, Chennai, Tamil Nadu &  
Research Scholar, S.D.N.B. Vaishnav College,  
Affiliated to University of Madras, Tamil Nadu, India.  
E.Mail: jinigunaseelan@gmail.com



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### ABSTRACT

One of the important concepts of Graph Theory is Matching Theory. Several Concepts on Matching Theory has been dealt in [1, 2, 3]. The technique of maximum matching on directed graphs have been studied in [1]. In this paper, a new approach for finding maximum matching of an undirected complete graph based on largest Algebraic multiplicity of Eigen values using exact controllability network is studied. This concept has been used for a complete graph with vertices  $N = 4, 6, 8, \dots, 2V_n$  for  $V_n \geq 2$  and it is proved that the maximum matching obtained is a perfect matching. It will be interest to further study on their properties.

**Keywords:** Algebraic Multiplicity, Complete graph, Graph Theory, Matching, Maximum Matching.  
**AMS Classification Key:** 05C, 05C70, 911368, 15A18.

### INTRODUCTION

One of the important concepts of Graph Theory is Matching Theory. Under this topic we discuss the method to find maximum matching of an undirected complete graph using Largest Algebraic Multiplicity of Eigen values. Maximum Matching nodes can be obtained using the largest Algebraic multiplicity through the transpose of adjacency matrix. The maximum matching of an undirected complete graph is discussed under this topic. The basic

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## Perfect Matching of Dendrimer based on Geometric Multiplicity

Jini J<sup>1\*</sup> and Hemalatha S<sup>2</sup>

<sup>1</sup>Department of Mathematics, Kings Engineering College, Sriperumbudur, Chennai, Tamil Nadu, India

<sup>1</sup>Shrimathi Devkunvar Nanalal Bhatt Vaishnav College, Affiliated to University of Madras, Chrompet, Chennai, Tamil Nadu, India

<sup>2</sup>Department of Mathematics, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College, Affiliated to University of Madras, Chennai, Tamil Nadu, India

### ABSTRACT

Matching Theory is one of the important concepts of Graph Theory. Many Matching Theory concept has been dealt in [1, 2, 3, 4]. The technique of maximum matching on directed graphs have been studied in [1]. In this paper, a new approach for finding perfect matching of an undirected Dendrimer sparse graph based on largest geometric multiplicity of its Eigen values is studied. The adjacency matrix of an undirected Dendrimer graph is a sparse graph and it is related with the exact controllability network for finding the maximum matched nodes and the corresponding match edges using largest geometric multiplicity of Eigen values. The growth of the Dendrimer from core molecule is explained for first and second generation and it is extended to  $n_i$  - generation.

Keywords: Graph Theory, Matching, Maximum Matching, Geometric Multiplicity, sparse graph, Dendrimer graph, Molecular graph.

AMS Classification Key: 05C, 05C70, 911368, 15A18.

### INTRODUCTION

Matching theory is used not only to study the structure of a graph it also has a relation with chemical graph theory which is a branch of Mathematical chemistry. In this graph theory, it deal with molecular graph constructed by molecules and molecular compounds where the vertices correspond to the atoms and edges correspond to the chemical bond between the atoms. The molecular graph has a core molecule with branching groups to which other branching molecules are added in layers and it forms a spherical shape known as Dendrimers and each new layer is called a generation.

Dendrimers are hyperbranched with multivalent functional end groups and it is used in exploring drug delivery like anticancer, antiviral, antimalarial etc. There are many different types of Dendrimers containing different core molecules for drug delivery but among that poly (propyleneimine)-PPI Dendrimer has been most explored Dendrimer.

In this paper a new method is obtained to find the  $n_i$  - generation PPI Dendrimer through matching of an undirected PPI Dendrimer graph which is a sparse graph based on Geometric multiplicity of its Eigen values.

In an undirected graph the maximum set of edges without common nodes is known as maximum matching. Maximum Matching nodes can be obtained using the largest geometric multiplicity through the transpose of its adjacency matrix. The matching edges corresponding to the matching nodes are obtained through fundamental transformation. The maximum matching of an undirected sparse graph is discussed under this topic separately. The basic idea of this method is obtained from the exact controllability for Sparse Network. The Definitions and working rules are discussed before solving the problem.

### 2. PRELIMINARIES

**2.1. Definition (Sparse graph):** A graph is called sparse if the number of edges is much less than the possible number of edges.

$$\frac{n(n-1)}{2}$$

**Note:** An Undirected graph can have at most  $\frac{n(n-1)}{2}$  edges.

### 2.2. Largest Geometric Multiplicity

For an undirected graph the largest geometric multiplicity  $\mu(\lambda_j)$  of the Eigen value  $\lambda_j$  of  $A_j$  is obtained by

$$\mu(\lambda_j) = \dim V_{\lambda_j} = N - \text{rank} \{ \lambda_j I_N - A \}$$

Where  $\lambda_j$  ( $j = 1, 2, 3, \dots, N$ ) represent the distinct Eigen values of  $A$  and  $I_N$  is the unit matrix with the same as  $A$ .



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## Some Ideals In B-Almost Distributive Fuzzy Lattices

**K Rekhalakshmi, Dr V Maheswari**

**Keywords:** B- Almost Distributive Fuzzy Lattice (BADFL); Birkhoffcenter, Maximal element; Local Ideal; Super Ideal; Ultra ideal; Hyper ideal.

### ABSTRACT

In this paper, we introduced the concept of Local Ideals of B-ADFL. Some types of ideals such as Super Ideals, Ultra Ideals, Hyper Ideals are provided in a B- Almost Distributive Fuzzy Lattice and derive their properties. We obtain relationship between these ideals.

 PDF

#### HOW TO CITE

Dr V Maheswari, K. R. (2021). Some Ideals In B-Almost Distributive Fuzzy Lattices. *Design Engineering*, 3485-3496. Retrieved from <http://www.thedesignengineering.com/index.php/DE/article/view/3700>

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#### ISSUE

Vol 2021: Issue 06

#### SECTION





## An Enhanced Method of Securing Data using Labeling

D.A.Angel Sherin<sup>1</sup>, V.Maheswari<sup>2\*</sup> and V.Balaji<sup>3</sup>

<sup>1</sup>Research Scholar, Department of Mathematics, Vels Institute of Science, Technology and Advanced Studies (VISTAS), Pallavaram, Chennai, Tamil Nadu, India.

<sup>2</sup>Professor, Department of Mathematics, Vels Institute of Science, Technology and Advanced Studies (VISTAS), Pallavaram, Chennai, Tamil Nadu, India.

<sup>3</sup>Assistant Professor, PG and Research Department of Mathematics, Sacred Heart College, Tirupattur, Vellore Dt, Tamil Nadu, India.

Received: 02 July 2021

Revised: 20 July 2021

Accepted: 11 August 2021

### \*Address for Correspondence

V.Maheswari

Professor,

Department of Mathematics,

Vels Institute of Science, Technology and Advanced Studies (VISTAS),

Pallavaram, Chennai, Tamil Nadu, India.

Email: maheswari.sbs@velsuniv.ac.in



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### ABSTRACT

Present day network security plays a major role in any organization. All the security features come under cybersecurity. The cybersecurity depends on AI and machine learning for securing data from brute force attacks. The AI functioning can be developed using cryptic technology called cryptography. Cryptography is the study of transforming messages into concealed data to unforeseen recipients. Cryptography is ubiquitous from smashed to encrypted email, internet security, digital signaling, image processing and even encrypted file systems. In this paper, we are going to adhere to the concept of labeling with cryptography. Labeling is the special class of Graph theory. Labeling of EIL is the label on edge with certain constructive forms to privacy the message. We also discuss the EIL concept with different acyclic graphs. Masking and revealing the message is done by asymmetric keys with a unique algorithm. The algorithm is based on alphabet numbering and function volume. Now let's investigate whether the message transmitted is safe from trespassers.

2010 Mathematical subject classification Number: 05C78.

**Keywords:** Edge Injective Labeling, Star graph, Coconut tree graph, Spider tree graph, Function volume, clue.

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## Privacy Preserving Message using Padovan Sequence

**D A Angel Sherin<sup>1</sup>, V Maheswari<sup>1\*</sup> and V Balaji<sup>2</sup>**

<sup>1</sup>Department of Mathematics, Vels Institute of Science, Technology & Advanced Studies, Chennai – 600 117, Tamilnadu, India.

<sup>2</sup>Department of Mathematics, Sacred Heart College, Tirupattur – 635 601, Tamilnadu, India.

Corresponding Author: \*maheswari.sbs@velsuniv.ac.in

**Abstract.** An evolution of wireless technology created tremendous change in this era. Large quantities of messages are registered, altered and transmitted through wireless or network cable by fixed devices. Privacy of the transmitted message is a main concern in networks. A diversified encryption algorithm has been suggested in these years to preserve the message. We take the cyclic graph and label the edges with the Padovan sequence. The computation of the closed trail matrix is applied in matrix inversion algorithms to get the cipher text. The usage of the symmetric key is applied in the encryption and decryption process. This paper proposes matrix inversion algorithms to transfer the message from sender to receiver. And also we applied SageMath algorithm for drawing the cyclic graphs. The result shows that the proposed algorithm gives enhanced security and efficiency when correlated with existing algorithms.

**Keywords.** Edge Injective Labeling, Cyclic graph, Padovan sequence, Matrix inversion, closed trail matrix.

2010 Mathematical subject classification Number: 05C78.

### 1. Introduction

The Internet plays a major role in this era. Every second, large volumes of messages are transmitted among the devices. Considering the preservation of transmitted messages has endured a main area of concern. This functionality becomes very challenging since there is a rise of intruders and hackers. In the time of years, plenty of cryptographic algorithms have been used to protect the privacy of transmitted messages. The stability of the algorithms depended on the techniques used for controlling, implementing and sharing the secret keys. Secret keys are divided into symmetric and asymmetric keys. Symmetric algorithms mean using the same key for both encryption and decryption. The stability of this algorithm depends on how the key is transmitted between the sender and receiver in a secure manner. Asymmetric algorithm means two different keys inclusive of public and private keys. The private key is not transmitted but the public key is shared between the sender and the receiver. Acyclic graph is considered and vertices are numbered using function volume. Edge labeling is computed using edge injective labeling such that it forms a Padovan sequence. Encryption and decryption process is done using matrix inversion. This paper proposes a closed trail matrix inversion algorithm that reforms the security features of symmetric keys. Since we transmit the message using edge injective labeling on the cyclic graph it is safe and secure from intruders.

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# The Vulnerability of Covid -19 on the Learners group in Western Region of Tamilnadu: A brief report

A.Karthika

*Department of Science and Humanities  
Sri Krishna College of Engineering and Technology, Coimbatore, Tamilnadu , India*

S.R.Prathiba

*Department of Mathematics  
SDNB Vaishnav College for Women, Chennai, Tamilnadu , India*

**Abstract-** The measure of Vulnerability caused by Covid-19 has multiple dimensions. Identifying the effects caused by this pandemic period is essential to recover the younger generation. In this paper we discuss the impacts of covid-19 on learning group under various tiers like age, region and economy.

**Keywords – Covid-19, Impacts, Measures, Region.**

## I. INTRODUCTION

Since its outbreak in late December 2019, COVID-19 has wreaked havoc across the world. Corona Virus has attacked so many people and created a pandemic situation for the entire world. The disease made dark pages in Human diary. Even countries developed in both economy as well as science, like America, London, Japan are struggling a lot to overcome this period. Being a developing country this pandemic produced steps back in our growth in progress of Economy and Science.

Every critical sector has been affected intensely and also education has been hit hard. Students at every level schools, colleges, Institutes and universities have been profoundly impacted. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), over 800 million learners from around the world have been affected. NalandaWay Foundation envisioned that thousands of school-going children stuck at home for an indefinite and unforeseeable future would start to feel anxious and restless. This would in turn affect their mental health.

In this paper we would like to discuss the various aftereffects of covid-19 in different perspective.

## II. Incites of Covid – 19 on the learning sector:

Though they are not affected directly, they are witnessing the events happening around them. As a result various kinds of impacts are emerging in unexpected ways. Unhealthy life style and exploitation of gadgets are the main consequences of the lockdown period. But still there are subtle effects and can be classified under various factors.


### 2.1 Exploration with respect to age:

In this paper we have discussed the effects under age, region and economical basis. If we keenly observe the behavior of the learners group we can see the intense clout of Covid - 19 on different age group.



# Skew B – almost distributive fuzzy lattices

K. Rekhalakshmi; V. Maheswari ; V. Balaji

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*AIP Conference Proceedings* 2385, 130018 (2022)

<https://doi.org/10.1063/5.0070803>

Using the non commutative nature of an ADL we extend the concept of BADFLs to skew BADFLs. We also characterize skew BADFLs in terms of a congruence relation defined thereon and a few set of conditions associated with BADFL along with an induced boolean operation defined thereon. Further we show that every congruence class may be a maximal rectangular subalgebras of the skew BADFL.

Topics

**Fuzzy logic, Algebraic logic**

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# Hiding a Message using Quintuple Square and Inspection of Planar Graph

D. A. Angel Sherin<sup>1, b)</sup>, V. Maheswari<sup>1, a)</sup> and V. Balaji<sup>2, c)</sup>

<sup>1</sup> Department of Mathematics, Vels Institute of Science, Technology & Advanced Studies (VISTAS), Pallavaram, Chennai-117.

<sup>2</sup> PG and Research Department of Mathematics, Sacred Heart College, Tirupattur, Vellore Dt-635601.

<sup>a)</sup>Corresponding author: maheswari.sbs@velsuniv.ac.

<sup>b)</sup>d.a.angelsherin@gmail.com

<sup>c)</sup>pulibala70@gmail.com

**Abstract.** Cryptography plays a major role in hiding the data. It converts the plaintext into ciphertext in order to secure data. Ciphertext is a form of coding which should not reveal the secrecy. Quintuple Square is a 5x5 table grid with alphabets or symbols. This square table is used to get a ciphertext. Quintuple square encrypts the pairs of letters, which is hard to obtain the secret message. The recurrence of paired letters is 600 rather than the single letter in English alphabet. In this paper we encrypt the message using Playfair and Bifid Cipher. The message and transposition of Playfair is applied to get a planar graph with edge injective labeling and we confer the properties of planar graph.

**Keywords:** Playfair, Bifid, Cipher, Planar Graph and Properties.

2010 Mathematics Subject Classification Number: 05C78

## INTRODUCTION

Cryptography is a study of hiding a message from the brute force attack. Cryptography is interconnected with terms cryptanalysis and cryptology. Initially Cryptography was used in passing messages in British war. Slowly it made a greater impact when the world moved to adapt technology. All the old data is now converted into digital and saved in chips, so that it can be retrieved at any time and the storage space is less. A confidential message is passed to the receiver in cryptic forms. The conversion of a message into an unknown secret message is called cryptic form. Otherwise the conversion of messages into microdots, merging words with images and merging words in the form of audio are the examples of hiding the data.

Cryptography technique always focus into four objectives

1. Confidentiality
2. Integrity
3. Non-repudiation

International Conference on Advances in Materials, Computing and Communication Technologies  
AIP Conf. Proc. 2385, 130019-1–130019-10; <https://doi.org/10.1063/5.0070807>  
Published by AIP Publishing. 978-0-7354-4161-3/\$30.00

130019-1





# Implementation of Structural Topic Modelling for Abstract Mining from CORD – 19

S. K. M. Jeyasree<sup>(✉)</sup>, G. Vijayasree, and R. Geetha

Department of Statistics, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women,  
Chennai 600044, India

**Abstract.** This study implements the novel STM technique to understand the status of the ongoing discourse on “Innate Immunity” and “Adaptive Immunity” in peer-reviewed research papers. More specifically, twenty topics were extracted from the abstracts of scholarly articles from CORD – 19 to understand the inter-relations between the two types of Immunity. Using Structural Topic Modelling (STM), data visualization through tools such as topical content, topic perspective, and prevalence effect is presented for the extracted topics. A correlation map among the topics is obtained to identify the relationship among the topics.

**Keywords:** Structural topic modelling · CORD – 19 · Probability generative models · Abstract mining · Natural Language Processing

## 1 Introduction

The global SARS-CoV-19 coronavirus outbreak has prompted scientists, researchers, doctors, medics, and analysts to take inventive approaches across the board to combat the pandemic. A tremendous amount of data is gathered regarding the virus infections, transmission, implications on the human immune system, and treatment. Data collection in domains like virology, immunology, genetics, and other domain significantly benefits statisticians, scientists, and data analysts. However, the pooling, manipulation, and interpretation process are incredibly tedious, given the sheer volume of publications in a short period. Natural Language Processing (NLP) combined with machine learning has boundless scope in parsing through this voluminous data and obtaining the desired, valuable information.

Several NLP tools are widely adopted in text mining applications. Word embedding has become a popular study technique in NLP in recent years (Meng et al. 2020). This technique is applied in document retrieval applications such as spam detection, web search, customer review analysis, topic modelling, and others by extracting richer semantic content for document classification in text mining applications by mapping the words into numerical vector space (Sonbhadra et al. 2020). Topic modelling is a statistical technique for identifying a group of hidden topics, each of which is associated with a semantic idea. The topic model's most significant idea is to represent three key entities: document, word, and topic (Zhao et al. 2021). Text mining applications



# Forecasting the Emission of Carbon-di-oxide Equivalent in Key Sectors of India Using ARIMA Model

Deepa S.<sup>1</sup> and Vijayasree G.<sup>2</sup>

Research Department of Statistics

Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai,  
Tamil Nadu 600 044, India

(Received 21 July, 2021; Accepted 20 August, 2021)

## ABSTRACT

Climate Change is a global challenge and needs to be addressed immediately. The emission of Green House Gases in the atmosphere by anthropogenic factors is one of the major causes of Global Warming and Climate Change. India is working towards the control of global warming by focussing on controlling Green House Gas emissions. The emission of carbon-di-oxide in the atmosphere plays a predominant role in global warming. The Global Warming potential of the Green House Gases is measured in terms of carbon-di-oxide equivalent CO<sub>2</sub> (eq.). The annual CO<sub>2</sub> (eq.) emission data from 2005-2015 from four key sectors viz., Energy, Industry Process and Product Use (IPPU), Agriculture Forestry and Land Use (AFOLU), and the Waste sector were considered in the study. Classical Temporal disaggregation methods Denton, Denton Cholette, Chow - Lin, Fernandez, and Litterman methods were employed to disaggregate the low frequency (annual) data to high frequency (quarterly) data. The analysis revealed that the Chow - Lin method of disaggregation best suited to disaggregate the CO<sub>2</sub> (eq.) series for the three sectors except AFOLU with an Adjusted R square of 0.9 and the current Price GDP is the good indicator series for CO<sub>2</sub> (eq.). The disaggregated data is modelled using ARIMA modelling. The CO<sub>2</sub> (eq.) from 2021-Q1 to 2023-Q4 is forecasted using the fitted ARIMA model for each sector.

**Key words:** Climate change, Greenhouse gas, Carbon-di-oxide equivalent CO<sub>2</sub> (eq.), Temporal disaggregation, Forecasting.

## Introduction and Review of Literature

Climate change faced by mankind for the last two decades, has been acknowledged as a major global issue at various international forums, which requires a concerted global response.

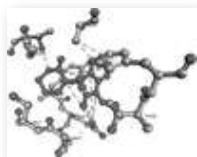
The emission of greenhouse gasses into the atmosphere has been identified as one of the major causes of climate change. The three major greenhouse gases (GHG) are Carbon dioxide (CO<sub>2</sub>), Methane (CH<sub>4</sub>) and Nitrous oxide (N<sub>2</sub>O), of which CO<sub>2</sub> contributes a significant 58.8% of the GHGs responsible for climate change (Pao and Tsai, 2011). "The Paris Agree-

ment" was adopted by 196 countries on December 12, 2015, to formulate a structure among various nations for controlling these emissions. The goal of the agreement is to limit global warming to well within 2 to 1.5 degrees Celsius.

India is the third largest emitter of GHGs in the world with roughly about 3 Giga tonnes of CO<sub>2</sub> (eq) and 7% of the global emissions and excessive usage of coal being the main source of these emissions. As per the Paris Climate Change Agreement 2015, India has committed to cut GHG emissions intensity of its GDP by 33-35 percent, increase non-fossil fuel power capacity to 40 % from 28%, add carbon sink

<sup>1</sup>Research Scholar, <sup>2</sup>Assistant Professor





## Synthesis, spectroscopic investigation, crystal structure analysis, quantum chemical study, biological activity and molecular docking of three isatin derivatives

S. Bargavi, S. Gouthaman, M. Sugunalakshmi and S. Lakshmi



Three isatin derivatives, namely, 1-allyl-3-hydroxy-3-(6-oxocyclohex-1-en-1-yl)indolin-2-one,  $C_{17}H_{17}NO_3$ , 1-ethyl-3-hydroxy-3-(6-oxocyclohex-1-en-1-yl)indolin-2-one,  $C_{16}H_{17}NO_3$ , and 5-bromo-3-hydroxy-1-methyl-3-(6-oxocyclohex-1-en-1-yl)indolin-2-one,  $C_{15}H_{14}BrNO_3$ , were synthesized, crystallized by the slow-evaporation technique, characterized by  $^1H$  and  $^{13}C$  NMR spectroscopy, and analysed by the single-crystal X-ray diffraction (XRD) method. Quantum chemical parameters, such as the energy of the highest occupied molecular orbital, energy of the lowest unoccupied molecular orbital, energy gap, electronic energy, ionization potential, chemical potential, global hardness, global softness and electrophilicity index, were calculated. The druglikeness and bioactivity scores of the compounds were calculated. The activities of these isatin derivatives against bacterial strains, such as *Eschericia coli*, *Proteus vulgaris*, *Shigella flexneri*, *Staphylococcus aureus* and *Micrococcus luteus*, and the fungal strain *Aspergillus niger*, were determined using the well-diffusion assay method. Molecular docking studies were carried out to predict the binding mode of the isatin compounds with the penicillin binding protein enzyme and to identify the interactions between the enzyme and the ligands under study.

**Keywords:** isatin derivatives; spectroscopy; crystal structure; quantum chemical calculations; druglikeness; bioactivity score; antimicrobial; molecular docking.

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### Supporting information



Crystallographic Information File (CIF)

<https://doi.org/10.1107/S2053229621004940/ef3014sup1.cif>

Contains datablocks I\_shelx, II\_shelx, III\_shelx, global



Structure factor file (CIF format)

[https://doi.org/10.1107/S2053229621004940/ef3014I\\_shelxsup2.hkl](https://doi.org/10.1107/S2053229621004940/ef3014I_shelxsup2.hkl)

Contains datablock I\_shelx



Structure factor file (CIF format)

[https://doi.org/10.1107/S2053229621004940/ef3014II\\_shelxsup3.hkl](https://doi.org/10.1107/S2053229621004940/ef3014II_shelxsup3.hkl)

Contains datablock II\_shelx



Structure factor file (CIF format)

[https://doi.org/10.1107/S2053229621004940/ef3014III\\_shelxsup4.hkl](https://doi.org/10.1107/S2053229621004940/ef3014III_shelxsup4.hkl)

Contains datablock III\_shelx



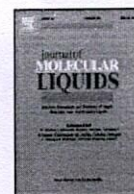
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Journal of Molecular Liquids

journal homepage: [www.elsevier.com/locate/molliq](http://www.elsevier.com/locate/molliq)

# Synthesis, characterization, biological and DFT studies of charge-transfer complexes of antihyperlipidemic drug atorvastatin calcium with Iodine, Chloranil, and DDQ

S. Niranjani<sup>a</sup>, C.B. Nirmala<sup>b</sup>, P. Rajkumar<sup>c</sup>, Goncagül Serdaroglu<sup>d</sup>, N. Jayaprakash<sup>e</sup>, K. Venkatachalam<sup>f,\*</sup>

<sup>a</sup>Department of Chemistry, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai 600 044, Tamil Nadu, India

<sup>b</sup>Department of Plant Biology and Plant Biotechnology, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai 600 044, Tamil Nadu, India

<sup>c</sup>PG Department of Physics, King Nandhivaram College of Arts and Science, Thellur-604 406, Affiliated to Thiruvalluvar University, Serkadu, Vellore-632 115, Tamil Nadu, India

<sup>d</sup>Sivas Cumhuriyet University, Department of Science Education, 58140 Sivas, Turkey

<sup>e</sup>Department of Chemistry, SRM Valliammai Engineering College (Autonomous), Chennai 603 203, Tamil Nadu, India

<sup>f</sup>Department of Analytical Chemistry, University of Madras, Guindy Campus, Chennai 600 025, Tamil Nadu, India

## ARTICLE INFO

### Article history:

Received 11 July 2021

Revised 9 October 2021

Accepted 15 October 2021

Available online 9 November 2021

### Keywords:

Atorvastatin calcium

Iodine

Chloranil

DDQ

Charge-transfer complexes

DFT

Antibacterial activity

## ABSTRACT

Extremely coloured charge-transfer complexes (CTCs) of antihyperlipidemic drug, atorvastatin calcium (ATC) acting as n-electron donor with the electron acceptors, namely, iodine as  $\sigma$ -acceptor, 2,3,4,6-tetrachloro-1,4-benzoquinone (chloranil, CHL), 2,3-dichloro-5,6-dicyano-1,4-benzoquinone (DDQ) as  $\pi$ -acceptors have been explored. Elemental analysis, thermal analysis, FTIR spectroscopy, Raman spectroscopy, NMR spectroscopy, and mass spectroscopy techniques were used to explain the chemical mechanism of the synthesized ATC-CTCs. It has been found that the stoichiometry of the complexes was to be 1:1 ratio in ATC-iodine and 1:2 ratio in ATC-CHL; ATC-DDQ. Elemental and mass analysis were confirmed the above ratio of ATC-CTCs which was  $[(ATC)I]_3$ ,  $[(ATC)(CHL)_2]$ , and  $[(ATC)(DDQ)_2]$  respectively. The biological activities of the formed ATC-CTCs were also tested against various bacterial strains. In addition, the frontier molecular orbitals (FMO) of the title compound was performed at the HF/6-311G\*\* level to display the favourable reactivity tendency and the best suitable site for the electrophilic and nucleophilic attacks. The natural bond orbital (NBO) analysis was employed to predict the possible non-covalent interactions and its result disclosed that the  $n \rightarrow \pi^*$  and  $\pi \rightarrow \pi^*$  interactions had a critical role in the enlightening of the stabilization of the compound. The achieved results are more appropriate for the estimation of antihyperlipidemic drug, ATC in pharmaceutical dosage forms.

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## 1. Introduction

Mulliken and his co-workers had introduced a new concept, which is known as charge-transfer complex (CTC). An attraction between a donor and an acceptor forms CTC having weak bonds in it [1]. Colored CTC, which is formed by the molecular interactions between donor and acceptor can generally be absorbed easily in apparent visible region [2]. The rate control, specificity and a lot of biochemical reversible reactions could be mainly administrated by this type of formation of CTC. This could make prominent role in

biomolecules [3,4]. The potential antimicrobial properties of CTC discloses against Gram-positive, Gram-negative bacteria and also against fungi [5–10].

Atorvastatin calcium (ATC) shown in Fig. 1, is a second generation, synthetic, statin category, 3-hydroxy-3-methylglutaryl-coenzyme A (HMG-CoA) reductase inhibitor [11]. This ATC is highly competent, effective antihyperlipidemic drug used for hypercholesterolaemia [12]. The HMG-CoA reductase is held responsible for the rate determination step in the mevalonate pathway of synthesis of cholesterol [13]. HMG-CoA inhibition employs to reduce cholesterol in human blood stream and enhance low density lipoprotein (LDL) receptors formation [14]. ATC is officially confirmed in United States Pharmacopoeia 34 (USP), Indian Pharmacopoeia (IP) [15,16]. Some antibacterial activities of ATC and other statins have been reported in the literatures [17,18].

ATC, atorvastatin calcium; CHL, 2,3,4,6-tetrachloro-1,4-benzoquinone; DDQ, 2,3-dichloro-5,6-dicyano-1,4-benzoquinone; CTC, charge-transfer complex; DFT, density functional theory.

\* Corresponding author.

E-mail address: [venkatachalam@unom.ac.in](mailto:venkatachalam@unom.ac.in) (K. Venkatachalam).

<https://doi.org/10.1016/j.molliq.2021.117862>

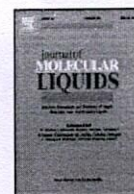
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Journal of Molecular Liquids

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<https://doi.org/10.1016/j.molliq.2021.117862>

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# Ultrastructural studies on the corticating filament of *Chara zeylanica*

Swetha Balakrishnan\*, Rani Govindarajan

Department of Plant Biology and Plant Biotechnology, S.D.N.B. Vaishnav College for Women,  
Chennai – 600 044, Tamil Nadu, India

\*Corresponding author, E-mail: swethabal@gmail.com



ISSN 2255-9582



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## Abstract

The morphology of charophytes have developed curiosity in many researchers to fully understand their cell structure, physiology, biochemistry and phylogeny. In this regard, a number of studies on the ultrastructure of the internodal cell of corticate and ecorticate members of charophytes have been carried out. Although there are several studies on the internodal cells, there are no detailed investigations on the ultrastructure of corticating filaments of the genus *Chara*. Hence, this paper focuses on the ultrastructural study of the corticating filaments of *Chara zeylanica*, observed under transmission electron microscope, along with the ultrastructure of the internodal cell. The study revealed the presence of charosomes on the cell wall of the corticating cells along with other cell inclusions such as amitotic nucleus, chloroplast, mitochondria, glycosome, echinoid bodies, lipids, endoplasmic reticulum and crystalline inclusions.

**Key words:** *Chara zeylanica*, corticating filament, ultrastructure.

**Abbreviations:** TEM, transmission electron microscopy.

## Introduction

Charophytes are a group of green algae that colonized fresh waters 450 to 500 million years ago and gave rise to land plants, thus bringing a great transformation in the world of plants. This transformation and evolution can be further understood with molecular studies on Charophytes. Charophytes are not only important from evolutionary aspects related to formation of land plants, as they also changed the biochemistry and natural history of the planet. Many features of Charophytes are similar to modern land plants and hence are used as model organisms for the study of cell biology, development, physiology, and ecology of plants (Delwiche, Cooper 2015; Lemieux et al. 2016). Hence, there are extensive ultrastructural studies on charophytes that throw more light on the evolution of land plants (Pickett-Heaps, Marchant 1972; Pickett-Heaps 1975; Becker, Marin 2009; Harholt et al. 2016). Studies on the taxonomic and phylogenetic relationship of charophytes is further substantiated and redefined by molecular analysis of chloroplast and nuclear genomes and transcriptomes (Delwiche, Cooper 2015).

The order Charales includes a single family Characeae, which is comprised of five genera: *Chara* Linnaeus, *Lamprothamnium* J.Groves, *Lychonothamnus* (Ruprecht) A.Braun., *Nitellopsis* Hy., *Nitella* C.Agardh, and *Tolypella* (A.Braun) A.Braun. The genus *Chara* includes macroscopic green algae having a main axis differentiated into nodes and internodes (Pal et al. 1962). The filamentous stem of

the plant and its branchlets are formed by large vacuolated internodal cells alternating with flat nodal cells. These internodal cells are surrounded by a layer of filamentous cortical cells. Each node bears a whorl of branchlets with nodes and internodes.

This is the only genus of the order Charales consisting of corticated members. *Chara* species with a corticating sheath are referred to as corticated species, e.g. *Chara zeylanica*, *Chara globularis*, *Chara brachypus*, and *Chara vulgaris*, and those that lack corticating sheath are referred to as ecorticated species e.g. *Chara corallina*, *Chara braunii*, and *Chara succinata* (Zaneveld 1940). While there are extensive ultrastructural studies on *Chara* (Crawley 1965; Pickett-Heaps 1967; Barton 1967; Franceschi, Lucas 1981; Lucas, Franceschi 1981; McLean, Juniper 1988; Cook et al. 1998; Stabenau et al. 2003), not much is known about the ultrastructure of the corticating threads surrounding the internodal cells of *Chara*.

The corticating sheath of charophytes is a key character in the identification of the species. The cortex may be haplo-, diplo- or triplostichous, based on the number of secondary filaments produced between two primary filaments of the corticating sheath (Wood, Imahori 1965). Also, the corticating filaments consist of nodes, which give rise to spine cells. Various characters of the spine cells also help in the identification of a species or sub-species. Further, the presence or absence of corticating cells in part or wholly in the branchlet is also a key character for determination of a species. As an example, in *C. globularis* the entire branchlet





## RESEARCH ARTICLE



## OPEN ACCESS

Received: 25.11.2021

Accepted: 30.12.2021

Published: 21.01.2022

**Citation:** Sowmya V, Radha R (2021) Real-time Vehicle Detection implementing Deep Convolutional Neural Network features Data Augmentation Technique. Indian Journal of Science and Technology 15(1): 44-53. <https://doi.org/10.17485/IJST/v15i1.1908>

\* **Corresponding author.**

v.sowmy81@yahoo.in

**Funding:** None

**Competing Interests:** None

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Published By Indian Society for Education and Environment (iSee)

**ISSN**

Print: 0974-6846

Electronic: 0974-5645

# Real-time Vehicle Detection implementing Deep Convolutional Neural Network features Data Augmentation Technique

V Sowmya<sup>1\*</sup>, R Radha<sup>2</sup>

<sup>1</sup> Research Scholar, Research Department of Computer Science, SDNBV College for Women, University of Madras, Chrompet, Chennai-600044, India.

<sup>2</sup> Associate Professor, Research Dept. of Computer Science, SDNBV College for Women, Chrompet, Chennai-600044, India.

## Abstract

**Background/Objectives:** In this progressive Hi-Tech ecosystem, the cutting-edge technologies in the Deep Learning techniques for Vehicle Detection and Classification engendered swift paradigm shifts in diverse operations through the deployment of convolutional neural models in the Traffic Surveillance System. The fundamental element of the Traffic management system constitutes a real-time dynamic image, which forms the base input for vehicle recognition systems. The deep model functionalities on these base static images are highly pragmatic, and a radical approach leads to its successful applicability. **Methods:** This study proposes Faster Region-based Convolutional Neural Network (R-CNN) technique for image-based vehicle detection with significant performance benefits. Essentially, the base network of a pre-trained deep model, fine-tuned VGG-16 is transformed into Faster R-CNN. At this stage, the framework is constructed for a customized finite-capacity vehicle dataset. Subsequently, it is applied to train and test the system. From the performance lens, for further system enhancement, the speedup Bottleneck, and Data Augmentation implementation improve training speed and accuracy. **Findings:** The Experiments demonstrate that the sensitivity factor is 93.5% which provides acceptable results of 87.6% with 0.42s in vehicle detection in aspects of accuracy and execution time. **Novelty :** For our customized dataset, the performance-enhanced detection framework shows an increase of 4% in sensitivity and 3.23s with respect to time as compared to the other existing models. The proposed research is designed for a novel Faster RCNN algorithm that is fine-tuned detection algorithm of vehicles integrating sophisticated approaches for dynamic transformation of the live traffic video stream recording by transposing these real-time traffic videos to image inputs to this optimized detection framework achieving a high sensitivity factor with an efficient computation stack benefiting cost and time.



## Comparative Analysis on Deep Learning Approaches for Heavy-Vehicle Detection based on Data Augmentation and Transfer-Learning techniques

V. Sowmya<sup>1\*</sup>, R. Radha<sup>2</sup>

<sup>1</sup>Research Department of Computer Science, SDNBV College for Women, University of Madras, Chennai, India

<sup>2</sup>Research Department of Computer Science, SDNBV College for Women, Chennai, India

Received 7 March 2021, accepted in final revised form 2 June 2021

### Abstract

Vehicle detection and recognition require demanding advanced computational intelligence and resources in a real-time traffic surveillance system for effective traffic management of all possible contingencies. One of the focus areas of deep intelligent systems is to facilitate vehicle detection and recognition techniques for robust traffic management of heavy vehicles. The following are such sophisticated mechanisms: Support Vector Machine (SVM), Convolutional Neural Networks (CNN), Regional Convolutional Neural Networks (R-CNN), You Only Look Once (YOLO) model, etcetera. Accordingly, it is pivotal to choose the precise algorithm for vehicle detection and recognition, which also addresses the real-time environment. In this study, a comparison of deep learning algorithms, such as the Faster R-CNN, YOLOv2, YOLOv3, and YOLOv4, are focused on diverse aspects of the features. Two entities for transport heavy vehicles, the buses and trucks, constitute detection and recognition elements in this proposed work. The mechanics of data augmentation and transfer-learning is implemented in the model; to build, execute, train, and test for detection and recognition to avoid over-fitting and improve speed and accuracy. Extensive empirical evaluation is conducted on two standard datasets such as COCO and PASCAL VOC 2007. Finally, comparative results and analyses are presented based on real-time.

**Keywords:** Deep-learning; Data augmentation; Transfer-learning; Vehicle detection.

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doi: <https://dx.doi.org/10.3329/jsr.v13i3.52332> J. Sci. Res. 13 (3), 809-820 (2021)

## 1. Introduction

The modern transportation infrastructure requires advanced technology to enable a smooth traffic management ecosystem to reduce traffic congestion caused by various classes of vehicles. One of the major contributors to this challenge is heavy vehicles. The heavy vehicles use existing regular roads that are more prone to space constraints and congestion of the roads leading to several challenges. The building of a road system does incur a high budget, and there are a lot of challenges like space allocation, geographic and climatic constraints. During rush hours, much congestion is just caused by heavy vehicles. A heavy

\* Corresponding author: [v.sowmy81@yahoo.in](mailto:v.sowmy81@yahoo.in)



## RESEARCH ARTICLE



### OPEN ACCESS

**Received:** 07.12.2020

**Accepted:** 05.07.2021

**Published:** 15.07.2021

**Citation:** Sujatha E, Radha R (2021) A Hybrid of Proposed Filtration and Feature Selections to Enhance the Model Performance. Indian Journal of Science and Technology 14(24): 2039-2050. <https://doi.org/10.17485/IJST/v14i24.2017>

\* **Corresponding author.**

sujatha.ravi19@gmail.com

**Funding:** None

**Competing Interests:** None

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Published By Indian Society for Education and Environment (ISEE)

**ISSN**

Print: 0974-6846

Electronic: 0974-5645

## A Hybrid of Proposed Filtration and Feature Selections to Enhance the Model Performance

**E Sujatha<sup>1\*</sup>, R Radha<sup>2</sup>**

<sup>1</sup> Research Scholar, Research Dept of Computer Science, SDNBV College for Women, University of Madras, Chrompet, Chennai, 600 044, India

<sup>2</sup> Associate Professor, Research Dept of Computer Science, SDNBV College for Women, Chrompet, Chennai, 600 044, India

### Abstract

**Objectives:** To extract and identify the subjective information of social media user from the unstructured data. To overcome the high dimensionality and sparsity those are the two major challenges in sentiment analysis of text datasets. To increase the model performance by using possibly minimum feature sets in a text classification problem. **Methods:** We proposed a new filtration method which is applied for the removal of correlated features and zero importance features in addition to the various feature selection methods. The various feature selections such as Mutual Info, Lasso, Recursive Feature Elimination and dimensionality reduction, Principal Component Analysis (PCA) have been used along with the proposed filtration to find the compelling features. This approach was evaluated using three Indian Government Schemes and these tweets were classified using Random Forest classifier. The performance was evaluated using various metrics such as accuracy, precision, recall, f1\_score, log loss and roc-auc. **Findings:** In this research, we proposed a model for selecting relevant and non-correlated feature subsets from the unstructured dataset. From this model, accuracy of 92% with the minimum log loss 0.22 was achieved through the minimum number of feature set. **Improvements:** This study proves that the performance of the model will be improved by overcoming those two problems (dimensionality and sparsity). Here various feature selection methods have been applied with the proposed filtration in order to minimize the number of features. The computing time and the model performance will be improved as a result of decreasing the features. And this will be more effective in case of large datasets. Even though Random Forest performs well in high dimensional datasets we need some more optimization.

**Keywords:** Mutual Information (MI); Lasso (L1); Recursive Feature Elimination (RFE); Random Forest (RF); Principal Component Analysis (PCA)



# CLASSIFICATION OF TOMATO DISEASES USING ENSEMBLE LEARNING

S. Jeyalakshmi and R. Radha

Department of Computer Science, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College For Women, India

## Abstract

A Plant disease is any dysfunction of a plant, caused by living organisms, which affects the quality and quantity of yield. These symptoms are visually shown on the plant leaves. This paper discusses classification of Tomato diseases such as Late Blight, Septoria Leaf Spot and Yellow leaf curl virus while distinguishing the healthy leaf at the same time. An experimental sample size of 1817 was considered in conducting this study. This work differentiates diseased tomato leaf images with healthy leaf images. The classifiers Random Forest, Multilayer Perceptron Neural Network and Support Vector Machines were trained and got a prediction accuracy of 88.74%, 89.84%, and 92.86% respectively in classifying diseases. Then, the prediction results of Random Forest, Multilayer Perceptron and Support Vector Machines were combined using Soft Voting classifier and obtained a highest accuracy of 93.13% in classifying tomato diseases.

## Keywords:

Tomato diseases, Support Vector Machines, Multilayer Perceptron, Random Forest, Voting Classifier

## 1. INTRODUCTION

A disease is any abnormal growth of a plant. Disease may damage some or all parts of a plant thereby causing loss of production. Any visually noticeable change in color is an evidence of plant disease. If the disease is left unattended, the disease may spread to neighboring plants and will result in severe loss. Hence, early diagnosis of these diseases is essential to reduce the loss.

In this study tomato disease such as Late Blight, Septoria Leaf Spot and Yellow Leaf Curl Virus were considered while differentiating the healthy leaves at the same time. Late Blight is one of the serious tomato diseases caused by the fungus *Phytophthora infestans* [1]. The disease spots appear as dark and water soaked on young leaves. The old leaves show greasy and grayish indefinite patches. Septoria leaf spot is a fungal disease that appears as a dark brown edge with a white or gray center [1]. As the disease develops the surrounding spots turn yellow causing the leaf to die. Tomato yellow Leaf curl disease is caused by Tomato yellow Leaf curl virus. The symptoms of leaves include reduction in size, upward cupping and marginal chlorosis [1]. Healthy tomato leaf and diseased leaves are shown in Fig.1.

The suggested work extracts color, histogram and texture features from infected leaf tissues and classifies the disease using random forest classifier, Multilayer perceptron neural network with one hidden layer and Support Vector Machine. Further, the prediction results were improved by the ensemble learning model soft voting classifier.

Section 2 describes the related work in this field. Section 3 discusses the Materials and methods used in this paper. Section 4 discusses the proposed algorithm in detail, Section 5 details results obtained while Section 5 gives the conclusion and future work.

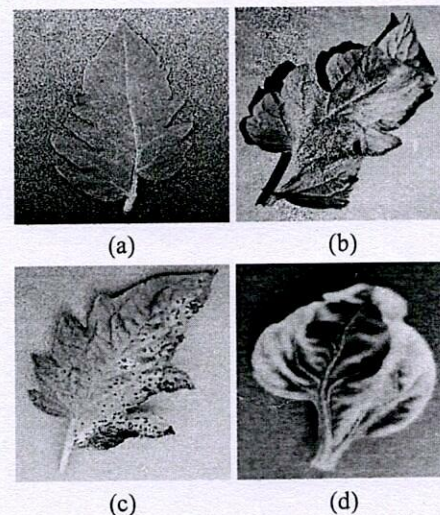


Fig.1. Types of Leaf Symptoms (a) Healthy (b) Late Blight (c) Septoria Spot (d) Yellow Leaf Curl Disease

## 2. LITERATURE SURVEY

Abed and Esmaeel [2] had extracted the features like Contrast, Correlation, Energy, Homogeneity, Mean, Standard Deviation, Entropy, Variance, Smoothness, Kurtosis, Skewness and Inverse Difference Moment (IDM) in detecting and classifying Bean diseases.

Jayamala Patil and Raj Kumar [3] had suggested the features namely Mean, Standard Deviation and Skewness of pixel values in R, G and B components to detect the diseases, Early blight, Late blight and Septoria leaf spot in tomato.

Juan-hua Zhu et al. [4] had extracted shape features such as area, perimeter, rectangularity, circularity and shape complexity of lesion region from chain code and segment Table. These parameters were used to identify the disease.

Arivazhagan et al. [5] proposed an algorithm for detecting bacterial, fungal and viral diseases on plants from plant leaves. In this work, the RGB image was converted into HSI (Hue Saturation and Intensity) color space and the Healthy region was masked from the plant leaf by thresholding the Hue component value of the leaf. Texture statistics namely, Contrast, Energy, Local homogeneity, Cluster shade and Cluster Prominence were calculated for useful segments by obtaining Grey level co-occurrence matrix. Tomato leaf was classified into types of diseases using Minimum distance criterion and Support Vector Machines and had obtained an accuracy of 95.24 and 92.5% with a training set size of 10 images and test set size of 27 images.

Patil and Raj Kumar [6] had proposed a method for detecting Grey spot and common rust diseases. The input RGB image was converted into Grey scale and Grey level co-occurrence matrix (GLCM) for different offset values specified by distance 'd' and



## A Survey on Application of Information Retrieval Models Using NLP

Dr.S.Gomathi<sup>1</sup>, Dr. M. Lavanya<sup>2</sup>

<sup>1,2</sup>Computer Science Department, SDNB Vaishnav College For Women Chromepet

Email: <sup>1</sup>gomathiganesh1978@gmail.com, <sup>2</sup>lavanyalalith1979@gmail.com

**Abstract:** Text mining accustomed establish the hidden patterns and to get a vital data from the great deal of unstructured knowledge it's going to written material also. Different field techniques like machine learning, visualization, text analysis, database technology, statistics, knowledge management, natural language processing are incorporated in text mining. It's thought about to be mostly booming area next to big data and artificial intelligence. There exist varied techniques, tools and applications in text mining. Information retrieval thought-about being a eminent application of text mining. Information retrieval could be a key technology for knowledge management. Information retrieval is the method of getting and presenting additional connected data from the biggest assortment of knowledge resources in step with to the user's need. This paper is a survey of discussing concerning varied application of Information Retrieval using NLP and available methods of information retrieval. This survey discusses concerning assorted models used in Information retrieval. Here we tend to conjointly list the research contribution and limitations of Information retrieval models found in various articles.

**Keywords:** Text mining, Information retrieval, NLP, Artificial Intelligence

### 1. INTRODUCTION

Information retrieval is mostly thought-about as a subfield of computer science that deals with the illustration, storage, and access of data [16],[17]. Information retrieval is worries with the organization and retrieval of information from massive database collections [21],[17]. It deals with the search for information and also the illustration, storage and organization of knowledge. Information retrieval is concerned with search processes in which a user needs to identify a subset of information which is relevant for his information need within a large amount of knowledge. The main goal of information retrieval system (IRS) is to "finding relevant information or a document that satisfies user information needs". [17] To attain this goal, IRSs typically follows the process like Indexing, filtering and Searching. The above three are the basic process in information retrieval. Documents are unit described summarized format in indexing. All stop and common words are removed in filtering steps. Searching is performed within the documents based on users need. The paper is organized in the following way section 2 discusses literature review. Section 3 discusses about various available models in information retrieval. Section 4 discusses about merits and demerits of information retrieval. Section 5 research gap and challenges in information retrieval and Section 6 gives conclusion.



## A Survey on Application of Information Retrieval Models Using NLP

Dr.S.Gomathi<sup>1</sup>, Dr. M. Lavanya<sup>2</sup>

<sup>1,2</sup>Computer Science Department, SDNR Valshnav College For Women Chromepet

Email: <sup>1</sup>gomathiganesh1978@gmail.com, <sup>2</sup>lavanyalalith1979@gmail.com

**Abstract:** Text mining accustomed establish the hidden patterns and to get a vital data from the great deal of unstructured knowledge it's going to written material also. Different field techniques like machine learning, visualization, text analysis, database technology, statistics, knowledge management, natural language processing are incorporated in text mining. It's thought about to be mostly booming area next to big data and artificial intelligence. There exist varied techniques, tools and applications in text mining. Information retrieval thought-about being a eminent application of text mining. Information retrieval could be a key technology for knowledge management. Information retrieval is the method of getting and presenting additional connected data from the biggest assortment of knowledge resources in step with to the user's need. This paper is a survey of discussing concerning varied application of Information Retrieval using NLP and available methods of information retrieval. This survey discusses concerning assorted models used in Information retrieval. Here we tend to conjointly list the research contribution and limitations of Information retrieval models found in various articles.

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# Development and Evaluation of Bamboo Shoot Soup Cube

R. Yamini<sup>1</sup>, K. Suganya<sup>2</sup>

<sup>1</sup>Research Scholar, PG Department of Home Science- Food Science, Nutrition and Dietetics, Srimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai

<sup>2</sup>Assistant professor, PG Department of Home Science- Food Science, Nutrition and Dietetics, Srimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai

**Abstract** - Bamboo shoots are young, edible bamboo plants which are considered as one of the underutilised vegetables that have just emerged from the ground. This study aims to formulate the new variety RTC soup cube that can be diluted in hot water to yield a nutritious soup. **Objectives:** The study was carried out to formulate and standardize the soup cube using bamboo shoot, to analyse the sensory properties, microbial (in room temperature and refrigeration temperature), physico-chemical properties and nutrients composition. **Methodology:** In this study, three different variation of soup cube (S1, S2 and S3) and one control soup cube (C) was prepared. The soup cube of different variations was reconstituted to prepare soup by diluting each 20 grams of cubes (C, S1, S2, S3) in 100 ml of hot water and was subjected to sensory evaluation on the basis of colour, consistency, flavour, taste and appearance by 10 untrained panel members using 9-point hedonic scale. **Results:** From the sensory analysis, S2 was selected as the best product. The formulated soup cube S2 contained 3.15 of ash (g/100g), 85.8 of moisture (g/100g), 47.9 of energy (Kcal), 8.60 of carbohydrate (g/100g), 1.71 of protein (g/100g), 0.74 of fat (g/100g), 3.22 of insoluble dietary fibre (g/100g), <0.5 of soluble dietary fibre (g/100g), 68.1 of calcium (mg/100g), 2.57 of potassium (mg/100g), 238 of sodium (mg/100g), 2.57 of iron (mg/100g) and 2.38 of copper (mg/100g). The presence of anti-nutrient in the final product S2 were below determination limit. The pH for 1st, 7th and 15th day were found to be 4.86, 4.78, and 4.53 respectively, titratable acidity for 1st, 7th and 15th were found to be similar (0.28). The microbial study such as total plate count for 1st, 7th and 15th at refrigeration temperature was found to be 16X10<sup>2</sup>, 27X10<sup>2</sup>, and 69X10<sup>2</sup> and yeast, mould and E.coli count were found to be less than 10 which shows the safety of product for the consumption till 15 days whereas under room temperature, the product was stable only for 3 days. **Conclusion:** Hence, it can be concluded that soup cube from bamboo shoot paste provides nutritional benefits and can be

recommended to all age group and it can be recommended to the people who want to reduce their weight, PCOS patient, calcium deficient patient.

**Index Terms** - Bamboo shoots, soup cube, soups, vegetable soup.

## I. INTRODUCTION

Now a days, Ready to Cook foods have become popular due to the fast-developing urban lifestyle, an increasing dominance of the nuclear family and rising disposable income. Ready To Cook (RTC) or convenience foods are foods that are processed to cook readily with very little extra efforts [4]. In other words, RTC are partially cooked products that can be used in a very convenient form within short duration [5]. Soup products available in market are considered one of the RTC product and soup is considered as fast form of cookery. It is the man's oldest food [6].

Soups are mostly prepared by combining the ingredients in either boiling water or in stock [7]. The soups and soup products are mostly prepared using ingredients such as meat, pulse, cream, fruits or vegetables or in combination. Among these, soups made of vegetables are commonly consumed. They are the main drivers which helps to achieve global nutritional security by providing nutrients such as vitamins and minerals.

In India, vegetable contributes total horticultural production of about 58.73%, producing about 162.89 million tonnes of vegetables. Though agro climatic condition permit India to grow more than 60 cultivation of vegetable crops, some vegetables are lesser known which has not given much attention and these vegetables with lesser known comes under category of underutilized vegetables.



**EVOLUTION FROM 1G TO 5G IN THE MOBILE ERA****Dr.J.Kamalakumari<sup>1</sup> & Dr.S.Meenakshi<sup>2</sup>**<sup>1,2</sup>*Assistant Professor SDNBVC for Women Chromepet, Chennai-600 044**kamalaramesh4@gmail.com**meenakshisankar2013@gmail.com*

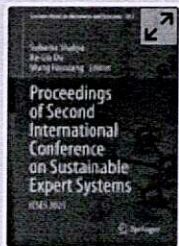
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**Abstract:**

The world has seen a lot of changes in the realm of communication. Today we no more use landlines. Everyone possesses a mobile phone that functions 24X7. Our handsets not only keep us connected with the world at large but also serve the purpose of entertainment gadget. From 1G to 2.5G and from 3G to 5G this world of telecommunications has seen a number of improvements along with improved performance with every passing day. Fifth generation (5G) is a upcoming mobile network technology which will probably be launched in India by 2018-2020 by various leading mobile operators. This paper is focused on all foregoing generations of mobile technology, developmental aspect of 5G technology and basic architecture/concept behind this mobile technology. Few researches have already been done on 5G mobile technology and these researches are mostly related to the development of World Wide Wireless Web (WWWW) and Dynamic Adhoc Wireless Networks (DAWN). 5G technology has few very unique features in term of speed/bandwidth which is greater than 1 Gbps, frequency band which is between 3GHZ to 300GHz, high definition video telephony, high definition multimedia streaming, multimedia newspapers, HD online TV, etc. which makes this technology differ and unique among all the available existing mobile technologies worldwide. Fifth generation is based on IPv6, flat IP and VOIP (Voice Over IP) technologies and through these feature, user will experience a high level of data transmission and call volume service.

**Keywords:** *LTE, 5G, 5G Architecture, Mobile Technology, WWW, OTA, etc.*





**Proceedings of Second International Conference on Sustainable Expert Systems** pp 199–209

[Home](#) > [Proceedings of Second International Conference on Sustainable Expert Systems](#) > Conference paper

# Classification of Ovarian Cyst Using Regularized Convolution Neural Network with Data Augmentation Techniques

N. Priya & S. Jeevitha

Conference paper | [First Online: 26 February 2022](#)

**446** Accesses | **1** Citations

Part of the [Lecture Notes in Networks and Systems](#) book series (LNNS, volume 351)

## Abstract

PCOS-polycystic ovary syndrome is one of the prevalent hormonal disorders which has currently affected women populations around the age group of 22–45, in their reproductive cycle. It has been widely observed that PCOS leads to infertility. Diagnosis of infertile has proceeded by using ultrasound images of follicles present in the ovary



## A STUDY ON CUSTOMER'S AWARENESS AND PERCEPTION TOWARDS GREEN BANKING\*

BY

DR. K. HARI \*

*Assistant Professor and Head, Department of Business Administration,  
Sri Subramaniya Swamy Govt Arts College, Tiruttani, Tamilnadu, India  
prof.k.hari@gmail.com*

**P. BRINDHA**

*Research Scholar, Assistant Professor,  
Department of Business Administration, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College  
for Women, Chennai, Tamilnadu, India  
brinda.mba@gmail.com*

### ABSTRACT

Finance and Banking play a vital role in framing public policies in today's business environment. In the modern era of globalization, it has become a challenge to keep the environment as well as society in fold and even keep our natural environment safe is the biggest need of an hour. Recent years banking sector has significant developments and investments; every banking sector is now focusing their attention to adopt green banking practices to create an identity in the services market. This study provides a guide to the current structure of the Green Banking security and highlights awareness level of customers about Green Banking, and their perception and satisfaction towards Green Banking with new technologies and its functioning.

### KEYWORDS

Green banking, Environment friendly, Sustainability.

### 1. Introduction

The concept of green banking has evolved as a phenomenon intruding into all the operations of banking, and is seen as an important strategy for facilitating sustainable development. Green banking is not only the Corporate Social Responsibility of an organization but also about making society livable without any damage to the environment. Green banking is also called an

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\* Received 10 May 2021, Accepted 18 May 2021, Published 28 June 2021

\* Correspondence Author





# A STUDY ON WORKING CAPITAL MANAGEMENT OF LENOVO GROUP LIMITED

**Dr. VIDYA.N**

ASSISTANT PROFESSOR, SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN  
vidya.00005@gmail.com

## ABSTRACT:

Working capital is the amount of funds required for meeting day to day expenses. Net Working capital is calculated as current assets minus current liabilities. Working capital management is described as the administration of all aspects of current assets and current liabilities.

This study is based on the financial statement provided by the Lenovo Group Limited. Lenovo Group Limited, often referred to as Lenovo, is a Chinese multinational technology company with headquarters in Beijing. It was founded in Beijing in August 1984.

This is a descriptive and analytical study fully based on secondary data published in annual reports of Lenovo Group Limited, journals and research articles. By analyzing the data, it was found that there is a net decrease in the changes of working capital and cash, and cash equivalents for the year 2017-2018 and increases in 2018-2019. The decrease in the changes of working capital is due to increase in current liabilities and decrease in current assets. The decrease in cash and cash equivalents may arise due to more outflows of cash and cash equivalents. This means there is an increase in current assets and decrease in current liabilities.

**KEYWORDS:** Working capital, turnover ratio, profitability

## INTRODUCTION

Working capital is the amount of funds required for meeting day to day expenses. The firm starts with cash. It purchases raw materials, employs workers and spends on expenditure like advertising, salaries, wages etc. Even then it may not have cash immediately, if sold on credit. The firm will have to use the own cash or fund required to meet out the expenses incurred until it gets back through sales revenue. This is called working capital. Net working capital is calculated as current assets minus current liabilities. If current assets are less than current liabilities, an entity has a working capital deficiency, also called working capital deficit. The management of working capital involves managing inventories, accounts receivable, accounts payable and cash.

## REVIEW OF LITERATURE

- SallaMarttonen, Sari Monto, TimoKarri (2013) studied "the profitable working capital management in industrial maintenance companies". The main objective of this study is to analyze the impact of working capital management on profitability. He used an analytical modeling method. The result reveals that there is a significant negative correlation between the operating working capital and the return on investment.
- TauringanaV (2013) in their study titled on the "relative importance of working capital management and its components to SMEs' profitability" with an objective, to report the results of investigation on working capital management. He used regression analysis to test the hypothesis. The result reveals that the management of accounts payable and receivable is important.
- ZeeshanRiaz, Naveed Ahmad, Nadeem Iqbal (2014) in their study on the relationship between working capital management and profitability, with an objective to find out if there is any significant relationship between profitability and capital management. The results reveal profitability and the average collection period. He used a regression method to find out the relationship.



## A COMPARATIVE STUDY ON PERFORMANCE OF SELECTED MUTUAL FUNDS IN INDIA

**Dr. VIDYA. N**

*Assistant Professor*

Department of commerce SDNB VAISHNAV COLLEGE FOR WOMEN

vidya.00005@gmail.com

**Dr. B. LATHA LAVANYA**

*Associate Professor*

MEASI Institute of Management

latha.lavanya@measimba.ac.in

**Dr. D. NISAR AHMED**

*Director*

MEASI Institute of Management

dnisar63@gmail.com

### Abstract

Mutual funds offer a way for a group of investors to effectively pool their money so they can invest in a wider range of investment instruments and take advantage of professional money management through the purchase of fund share. There are different range financial items, mutual fund which provides the highest return and least risk to the financial specialists. Development of different mutual fund schemes in the Indian capital market has been coming up one of the most investment returns in producing noteworthy speculation development. The Asset Management organizations are taking overwhelming part in financial related abundance and they advance speculation among the investors at present there are 80 Asset Management Companies (AMCs) contain the mutual fund industry. In this unique circumstance, close observing and execution assessment of mutual funds has gotten progressively important. This Mutual fund industry has seen brilliant development in recent years. This investigation is planned to assess implementation of mutual funds and furthermore to reviewing the job of advantage the management companies in reference to public and private sector. The primary objective of this investigation work is to analyse the related execution of selected mutual fund schemes through the factual parameters, for example, (beta, standard deviation, treynor's measure, Sharpe ratio). The findings of this study will supportive to investors for their investment in future.

**Keywords:** Mutual Fund, Financial execution, venture, Return, Risk, Net Asset Value.

### INTRODUCTION

Mutual fund refers to collective investments that pools cash from numerous investors and puts it in stocks, bonds, money market instruments, as well as different securities. Mutual funds have become priceless instrument for a wide scope of speculators, from people looking to put something aside for retirement to refined socialites concentrated on safeguarding their assets and businesspeople to make wealth. Mutual Fund is a trust that pools the reserve funds of numerous investors who share a typical monetary objective. Anyone with an investible overflow of as little as two or three thousand rupees can put resources into mutual fund units as indicated by their expressed objective and strategy. Mutual Fund Company pools cash from a gathering of individuals with normal speculation objectives to purchase securities, for example, stocks, bonds, money market instruments, a combination of these instruments, or significantly different assets to receive the reward of enhancement and expertly oversaw container of protections at a moderately ease. In a



## Journal

of the

## Oriental Institute

M.S. University of Baroda

ISSN: 0030-5324

### AN ANALYSIS ON THE AWARENESS OF SECURITY PRACTICES IN ONLINE BANKING

**Dr.G.Tamilselvi**, Assistant Professor, Department of Commerce, SDNB Vaishnav College for Women

**R.Ramalakshmi**, Guest Faculty, Department of Commerce, SDNB Vaishnav College for Women

#### ABSTRACT

The Banking system in India, we see now, has gone through various changes and developments. But now it has taken the phase of Advancement. After the introduction of Online Banking Services, Banks has been made available in pockets and in hands. It majorly eliminated the Geographic hindrance, from which, anywhere, anytime banking has made possible. On account of this, various studies were made, like Uses, Demerits, Impact of online Banking etc., But this study, is done, to analyse the awareness on Security issues that has been the biggest threat among online banking users and also explains the various types of online security threats that the fraudsters use to rob the hoardings. During the study the sample responses collected were 211 which was analysed using various statistical tests like Percentage analysis, Henry Garret Ranking test, Chi-Square Test, Mann Whitney U test and Relative importance Index method. The Results of the study revealed that there is a significant awareness among the respondents about the security issues in online banking services.

**Keywords:** *Security issues, awareness, threat, banking frauds.*

#### INTRODUCTION

The Banking sector in India has a glorifying history, behind its developments and change overs. Unlike other countries, India has a unique system of banking which includes individual of any class, any place, any occupation, any educational status, and so on. They play multiple roles in promoting, nurturing, supporting, monitoring, developing one of the world's largest economy, India.

The online banking system addresses the customer's demand, by providing anytime and anywhere service, imperatives from product to market, etc., by successfully handling the complex integration challenges at the back office. But, beyond the control of the banks, some sort of security issues and data breaches take place, and therefore banks cannot assure liability for such happenings. This causes a massive deployment in the use of online banking services.

The repercussions of these issues are very huge which may wipe off the savings or hoardings within an instant. The more the devices get connected to access the accounts, the more the risk of exposing your accounts to unscrupulous attacks. According to survey, every minute some 100 people are hacked globally. The emerging trend among hackers is that they deploy social engineering techniques to target bank employees for data breach. They target not only the centralized databases of banks, but also individual users and banking professionals to gain illegal access.

The Indian council on global relations reports that, recent interviews made with the representatives of the bank, payment gateway companies and cybersecurity professionals reveal that there are specific vulnerabilities in the nodes of digital banking systems. They include unsecured mobile phones, lack of updated systems, deficient cyber hygiene, etc., in the case of online banking users. And in the case of banks, the vulnerabilities are centralised data storage, lack of encryption, etc., which leads to cyber-attacks like insider threat, malware injection, spoofing of identities, distributed denial of service, man in the middle attacks etc., these vulnerabilities demonstrates the requirement of a critical cyber-security hygiene. Based on the above mentioned concepts, this study is made as an attempt to measure the level of awareness on security practices in online banking.



**SHOPPING CART ABANDONMENT AND INNOVATIVE PRACTICES ON MOBILE APPLICATIONS**

**R.MOHANAPRIYA, N.VINUPRIYA** GUEST FACULTY, DEPARTMENT OF COMMERCE,  
SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN,  
CHENNAI 600 044 : Mohanapriyaraj07@gmail.com, vinupriyaanitha@gmail.com

**ABSTRACT:** Mobile Applications have become a most popular means of shopping for majority of the consumers. These days' consumers prefer to have an easy shopping as the technologies have brought up a great change in the mind-set of the shoppers. Purchasing through online mobile apps makes it comfortable for the buyers to make choice and saves a lot of time for all the consumers in and around the world. Purchasers prefer to order online through various mobile applications, it also helps them in comparing the prices on other sites and make their purchases according to their convenience. The objective of the study were to find the most preferred online mobile app for shopping, to identify the reasons for shopping cart abandonment, to analyse the problem faced by the online shoppers, and to suggest measures to reduce the abandonment of shopping carts. The study was conducted by receiving the data from 50 online shoppers. The study was descriptive and analytical in nature. Appropriate statistical tools like SPSS and EXCEL were used to analyse the data. Chi square test has been used to find out the association between two variables. Data were presented in the form of charts and graphs.

**Keywords:** Mobile apps, shopping carts, online shoppers.

**1. INTRODUCTION:**

A Mobile application, is also called as a mobile app is a software application that has been devised to run on a mobile device. Applications are generally been downloaded through Google play stores. Let that be for shopping purpose, educational purpose, or entertainment purpose mobile apps have been playing a entirely different and an important role for people of all age groups. The major advantage of having a phone appliance is that the availability of various shopping operations. Exercising the usage of a mobile programme has subsequently raised in these coming years. In the shopping software's the add to cart option has been widely used by more than 75% of the shoppers. These cart options have made consumers drop the orders on cart without making a purchase.

**2. LITERATURE REVIEW:**

**Dr.krithika, Dr.Rajini.G (2018)**, in the study titled, "Persuading Attributes of Online Shopping Cart Abandonment" interprets the focus on the variables which has found that the perceived waiting time, online tracking and risk are the key influencing variable. Moreover online consumers are mostly time conscious, which leads to abandonment of carts.

**Guei-Hua Huang, Nikoloas Korfiatis, Chun-tuan Chang (2017)**, in the research paper, "Mobile shopping cart abandonment: The role of conflict, ambivalence and hesitation" states that the study aims to find why consumers hesitate to use the mobile apps and abandon their mobile shopping carts. The researcher has found that the consumers use the shopping cart has a tool with no intention to purchase immediately. This may also contribute to their ambivalence and checkout process.

**3 .RESEARCH METHODOLOGY:**

The study was descriptive and analytical in nature with convenience sampling method employed to collect data from 50 online shoppers through a well-structured questionnaire. Correlation tests were used to prove the hypotheses. Cross tabulation tables have been formulated to find significant association between the variables. The objectives of the study were:



**RESEARCH ON AWARENESS OF THE CONCEPT AUGMENTED REALITY AMONG  
WOMEN COLLEGE STUDENTS**

**Fathima Farhana S.I** *Assistant Professor & Research Scholar, Department of Commerce*  
**Jayadharani.A** *Assistant Professor & Research Scholar, Department of Commerce*  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai-600 044 :  
*syedfathimafarhana931@gmail.com ; jayadharania@gmail.com*

**Abstract:**

Augmented reality is an upgraded version of the real physical world by using digital observed elements, audio or other sensory stimuli delivered via technology. It is mainly used to promote products and services, launch marketing campaigns and collect user data. The present study discusses the awareness level of the concept of Augmented reality among college students. The research objective is to know the demographic profile and online purchase pattern of college students and to find out whether their family income effect has an influence over the augmented reality experience. Primary data was collected from 66 respondents through a structured questionnaire. Descriptive statistics were used to explain demographic variables of the respondents. T-test ranking analysis and ANOVA were used to achieve the desired objectives. The results show that fashion accessories are mostly preferred by the respondents and the majority had excellent experiences with augmented reality. With their experience, the majority of the respondents have felt that there would be better marketing strategies and promotion with augmented reality than Virtual reality. This improvement of technology can be significantly beneficial for creative businesses to demonstrate how the product will look when it is delivered.

**Keywords:** Augmented experience, Customer satisfaction, Virtual reality, Online purchase.

**Introduction:**

Augmented Reality is the new trend in marketing which helps its customers to try the products online before they buy. Any forward-looking businesses can use augmented reality experience in order to increase their business opportunities. It's always difficult for a vendor to satisfy their customers with customized products, but after AR it has become easy to provide tailored products to consumers. AR builds a bridge between customer expectation and seller fulfilment. Since AR provides touring experience to customers, they can pull out the products and can know additional and supplementary information of products. It also helps to improve the B2B process. Finally, AR is one which brings products to the meeting room and helps the consumer to make purchase decisions.

**Scope of the study:** The scope of the study is to conduct and survey the awareness and experience about Augmented Reality among college students.

**Review of Literature:**

Virginie Lavoie, Joel Mero and Anssi Tarkiainen (March 2021), "Consumer Behaviour with Augmented Reality in retail". The study purpose is to understand the reasons why consumers use augmented reality in retail, the expectations of retailers, how it improves decision making and enhances personalization of the virtual self along with the negative usage of virtual self. The paper adopts the future research direction and the need for more research on social augmented reality. To find out the answers for various questions of Augmented Reality, they conducted a systematic literature review and organized the results in a conceptual framework.



**RESEARCH ON AWARENESS OF THE CONCEPT AUGMENTED REALITY AMONG  
WOMEN COLLEGE STUDENTS**

**Fathima Farhana S.I** Assistant Professor & Research Scholar, Department of Commerce

**Jayadharani.A** Assistant Professor & Research Scholar, Department of Commerce

Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai-600 044 :  
syedfathimafarhana931@gmail.com ; jayadharania@gmail.com

**Abstract:**

Augmented reality is an upgraded version of the real physical world by using digital observed elements, audio or other sensory stimuli delivered via technology. It is mainly used to promote products and services, launch marketing campaigns and collect user data. The present study discusses the awareness level of the concept of Augmented reality among college students. The research objective is to know the demographic profile and online purchase pattern of college students and to find out whether their family income effect has an influence over the augmented reality experience. Primary data was collected from 66 respondents through a structured questionnaire. Descriptive statistics were used to explain demographic variables of the respondents. T-test ranking analysis and ANOVA were used to achieve the desired objectives. The results show that fashion accessories are mostly preferred by the respondents and the majority had excellent experiences with augmented reality. With their experience, the majority of the respondents have felt that there would be better marketing strategies and promotion with augmented reality than Virtual reality. This improvement of technology can be significantly beneficial for creative businesses to demonstrate how the product will look when it is delivered.

**Keywords:** Augmented experience, Customer satisfaction, Virtual reality, Online purchase.

**Introduction:**

Augmented Reality is the new trend in marketing which helps its customers to try the products online before they buy. Any forward-looking businesses can use augmented reality experience in order to increase their business opportunities. It's always difficult for a vendor to satisfy their customers with customized products, but after AR it has become easy to provide tailored products to consumers. AR builds a bridge between customer expectation and seller fulfilment. Since AR provides touring experience to customers, they can pull out the products and can know additional and supplementary information of products. It also helps to improve the B2B process. Finally, AR is one which brings products to the meeting room and helps the consumer to make purchase decisions.

**Scope of the study:** The scope of the study is to conduct and survey the awareness and experience about Augmented Reality among college students.

**Review of Literature:**

Virginie Lavoye, Joel Mero and Anssi Tarkiainen (March 2021), "Consumer Behaviour with Augmented Reality in retail". The study purpose is to understand the reasons why consumers use augmented reality in retail, the expectations of retailers, how it improves decision making and enhances personalization of the virtual self along with the negative usage of virtual self. The paper adopts the future research direction and the need for more research on social augmented reality. To find out the answers for various questions of Augmented Reality, they conducted a systematic literature review and organized the results in a conceptual framework.



## AWARENESS AND ATTITUDE OF CONSUMERS TOWARDS AUTOMATED MARKETING (A STUDY WITH SPECIAL REFERENCE TO CHENNAI CITY)

**Ms. Bharani Lakshmi. S**, Assistant Professor, Department of Commerce-SFS,  
SDNB Vaishnav College for Women

### Abstract

Automated marketing refers to a software platform used by the organization effectively market on various online channels such as e-mail, websites, social media etc. It helps in bringing new customers, to retain the existing customers for the product and to improve its existing sales. The objectives of the research paper are to study awareness of consumers towards automated marketing and its impact on their purchase decision. Hence, the researcher have tried to capture the data regarding the familiarity or ignorance of automated marketing messages/e-mails, customer inclination towards such messages and how they utilize that information to make a better decision for their purchase. For the research purpose, the study was conducted with a help of structured questionnaire. Questionnaire was circulated to 100 consumers in Chennai city. The collected data was tabulated and analyzed using percentage analysis and Karl Pearson's correlation. The results revealed that automated marketing affects the customer decision making process and it has some personalized interactions with the customers.

**Keywords:** *Automated Marketing, Ads, E-Mail*

### INTRODUCTION

#### MARKETING

**The American Marketing Association** defines marketing as an “organizational function and set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefit the organization and its stakeholders”.

#### CONSUMER AWARENESS

Consumer awareness refers to the act of making sure that the consumer or buyer of the product/service is aware of the specification and other details related to a product. Awareness plays a vital role in consumer decision process. Consumers have the right to be informed about the product, to choose the best product and safety aspects related to the product.

#### AUTOMATED MARKETING

Automated marketing or marketing automation is a software platform which is used by the marketing department of an organization in order to effectively market on various online channels such as e-mail, websites, social media etc., Marketing consultants and other marketing employees are benefitted by specifying their requirement, criteria and desired outcomes for the tasks which are interpreted, stored and executed by the software. This will help the organization to reduce human errors which results in increased efficiency. Marketing Automation platforms are used as a hosted or web-based solution, and no software installation is required by a customer.



# A STUDY ON CONSUMER PREFERENCE TOWARDS PACKED MILKSHAKES IN CHENNAI CITY

R. Srividhya

Part time Ph.D. Research Scholar, Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -44

Dr. R. Savithri

Associate Professor & Head, Research Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -44

## ABSTRACT

Consumer preference is defined as the subjective (individual) tastes, as measured by usefulness, of various package of goods. Milkshake is a sweet, cold beverage which is usually made from milk, ice cream and flavourings or sweeteners such as fruit syrup or chocolate sauce. The main aim of this study was to understand the consumer preference towards milkshakes. Data had been collected with the help of structured questionnaire which comprised of two parts. Part I dealt with demographic profile of the respondents and part II dealt with the preference of consumers as regards milkshakes in terms of flavors, brand and packaging. Convenient sampling technique was adopted and the questionnaire was circulated among 150 respondents in the city of Chennai. Percentage analysis, Chi square test, Correlation, Garrett Ranking and the weighted average were the tools used in the study. Percentage analysis was used to find out the demographic profile of the respondents. Chi-Square test was used to find out the relationship between the family monthly income and the purchase frequency of packed milkshakes. Correlation was applied to analyse the relationship between the family income per month and the amount spent by the respondents to buy the packed milkshakes.

Keywords: Consumer preference, Milkshakes, Brand preference, flavours, Packaging.

## INTRODUCTION

Consumer preference is defined as the subjective (individual) tastes, as measured by usefulness, of various package of goods. Consumer preference may differ from product to product on the basis of quality, price, taste and influence of peer group. Milkshake is a sweet, cold beverage which is usually made from milk, ice cream and flavourings or sweeteners such as fruit syrup or chocolate sauce. All producers need to understand the consumers' preferences, attitude, likes and dislikes in order to satisfy them, produce the commodities which in turn increase the sales. Hence the study of consumer preference gains reputation for any commodity in the field of marketing.

## NEED OF THE STUDY

The present study is carried out to analyse the consumer preference towards packed milkshakes. This study helps to know the factors behind consumer preferences towards packed milkshakes in Chennai and to find out the different attributes that influence the consumer to purchase milkshakes.

## REVIEW OF LITERATURE

- Sumeet Agarwal and Madhuri Devi M (2015), analysed the customers' preferences towards various soft drinks brands in Bhubaneswar and found that the determinants such as brand, price, taste, packaging, advertisement, size, colours were the reasons to consume the soft drinks. It was found that the respondents preferred plastic bottles packaging rather than the glass bottles.
- Anitha Ravi kumar (2016) examined that the consumer preference of cool drinks in Muscat and found that 46% of the respondents drank cool drinks during their travel. Chi square test revealed that the age, gender, occupation and price had no influence on brand preference of cool drinks but quality had an impact on the brand preference by the respondents.



# INFLUENCE OF REPEAT PURCHASE BEHAVIOUR ON DEVELOPING AFFINITY A STUDY ON WOMEN ONLINE CLOTHING SHOPPERS IN CHENNAI

**T. Metilda Devakirubai**

*Part-Time Ph.D. Research Scholar, Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai 600 044*

**Dr.R. Savithri**

*Associate Professor & Head, Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai 600 044*

## ABSTRACT

Every business needs to focus on developing affinity in order to make the customers to choose their particular brand or product. The repeat repurchase behaviour plays a vital role in the creation of loyalty which is converted into affinity. Affinity is a state where the people love to buy the same product, regularly chooses that particular product and also tell others about the product preferred by them. The present study focused on the determinant factors which were the root cause of repeat purchase behaviour of women consumers of clothes and its impact over creation of affinity towards a particular brand or a product through online shopping. Data were collected from 150 women online clothing shoppers in Chennai through a questionnaire. The data was analysed with the help of simple percentage analysis, chi-square analysis and factor analysis. The factors influencing the repeat purchase behaviour were Repurchase Intention, Customer Satisfaction, Delivery Standard, Product Attribute, Perceived Value and Discerning Price.

**Keywords:** Repeat Purchase Behavior, women online shoppers, affinity, determinants.

## INTRODUCTION

Repeat Purchase Behaviour varies from customer to customer based on their feelings towards a product and the benefits derived out of it. If a customer is really delighted and satisfied by consuming a product, they will intend to buy and use it again. According to Griffin (2003), every customer goes through five stages in a buying cycle. They are,

- Gaining awareness about a product
- Making an initial investment
- Evaluating post purchase
- Deciding to repurchase
- Repurchasing the same product

There are three crucial factors that turn the repeat consumer into loyal consumers. The first one is the operational excellence of the marketer by providing a reliable product at a competitive price with an ease of purchasing it. Secondly, the marketer has to identify customer intimacy and segment a market based on the targeted consumers by customizing the offers to meet the needs of the niche market. Finally, product leadership i.e. offering the customers, a leading-edge products and services

The rise in the working women in India is the main cause for an increase in the demand for women clothing. The change in the attitude and purchase pattern of clothes based on trend, comfort, price and behaviour of the women consumers, are the other reasons, significantly raising the demand for women wears. The impact of social media, the current fashion trends, fashion bloggers and influencers look for an evolutionary growth due to the benefits of doorstep delivery, easy price comparisons, convenience and better service among other competitive products, make it grow more at an impressive rate. Based on these potentials, the present study has explored upon the repeat purchase behaviour of the women online clothing consumers in Chennai city.



## PalArch's Journal of Archaeology of Egypt / Egyptology

### "EFFECT OF E- LEARNING ON STUDENT'S ACADEMIC PERFORMANCE AT COLLEGE LEVEL"

MRS. BALAKAMAKSHI T Y<sup>1</sup>, DR R SAVITHRI<sup>2</sup>

<sup>1</sup>Part-Time Ph.D. Research Scholar, Department of Commerce &  
Assistant Professor & Head- In Charge, Department of B.Com (Banking & Insurance  
Management) Shrimathi Devkunwar Nanalal Bhatt Vaishnav College For Women,  
Chennai 044.

<sup>2</sup>Associate Professor & Head, Department of Commerce  
Shrimathi Devkunwar Nanalal Bhatt Vaishnav College For Women, Chennai 044.

MRS. BALAKAMAKSHI T Y, DR R SAVITHRI, EFFECT OF E- LEARNING  
ON STUDENT'S ACADEMIC PERFORMANCE AT COLLEGE LEVEL, --  
Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(1). ISSN 1567-214x

**Keywords:** E-learning, Academic Performance, College level, Women.

#### ABSTRACT

The study highlights the effect of E-learning on students' academic learning performance at College level. The objective of the study was to find out the effects of E-learning on students' interest and learning. Responses were taken from 250 Women students from various Chennai Colleges using convenient sampling technique. The data was analyzed using the Percentage analysis and Chi- square test. The study found that E-learning provides time flexibility to the student. The study concluded that E-learning provides for effective time management and motivates students to learn independently. Thus, it is evident that the world is moving towards IoT much faster than expected.

#### INTRODUCTION

E-learning is the employment of technology to aid and enhance learning. It can be as simple as High School students watching a video documentary in class or as complex as an entire University course provided online. E-learning began decades ago with the introduction of televisions and over-head projectors in classrooms and has advanced to include interactive computer programmes, 3D simulations, video and telephone conferencing and real-time online discussion groups comprised of students from all over the world. With technological advances, E-learning has limitless possibilities.

Electronic learning (E-learning) is gaining popularity the World over. The Worldwide Web has left no stone un-turned in making E-learning reach out to the

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## PalArch's Journal of Archaeology of Egypt / Egyptology

### "ENTREPRENEURSHIP AND STARTUP POLICY OF INDIA AND ITS IMPACT"

.R.Harini<sup>1</sup>, Dr.R.Savithri<sup>2</sup>

<sup>1</sup>Part-time Research Scholar, Department of Commerce, Shrimathi Devkunvar Nanalal  
Bhatt Vaishnav College for Women, Chennai – 44.

<sup>2</sup>Research Guide, Associate Professor & Head, Department of Commerce, Shrimathi  
Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 44.

Email: [harinir.krishnan@gmail.com](mailto:harinir.krishnan@gmail.com)

.R.Harini, Dr.R.Savithri, ENTREPRENEURSHIP AND STARTUP POLICY OF  
INDIA AND ITS IMPACT, -- Palarch's Journal Of Archaeology Of  
Egypt/Egyptology 18(1). ISSN 1567-214x

**Keywords:** Entrepreneurship, startup, policies.

#### ABSTRACT

'An entrepreneur always searches for change, responds to it and exploits it as an opportunity' – Peter F.Drucker. This is a very famous explanation describing an entrepreneur. When an entrepreneur ideates new business or come up with new solution for an existing problem, he/she becomes a Innovative entrepreneur. When a new business idea gets converted into scalable economic model having potential market share, within a short span of time, it is termed as Start-up. Our Indian Government is promoting Entrepreneurship and Startup activity even at Higher education institutions. This paper tries to find out the various policies framed by the government in promoting entrepreneurship and startup which was instrumental in climbing the Global Innovation Index.

#### INTRODUCTION

Entrepreneur can be described as a person who takes all the risks and enjoys the rewards. A person who will not wait for an opportunity but creates it can be termed as Entrepreneur. When a person tries to scale up economically his/her idea, the person can be called an entrepreneur. Being an entrepreneur is a state of mind which tries to convert each and every idea into business opportunities. India in recent times has seen a drastic increase in young minds taking up Entrepreneurship. Policies like Start-up India, Make in India, Aathmanirbhar Bharat have sown the seeds of entrepreneurship in young minds.

#### INDIA'S POLICY FOR ENTREPRENEURSHIP AND STARTUP

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## A STUDY ON CONSCIOUSNESS OF CONSUMERS TOWARDS ORGANIC FOOD PRODUCTS

**Mrs.A.ASMA ZAINAB**, Research Scholar (Part-time), Department of Commerce,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 600 044.  
asma.zainab.a@gmail.com

**Dr.Y.KALAIVANI**, Research Supervisor, Associate Professor, Department of Commerce,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 600 044.  
[kalaivanimurugan2020@gmail.com](mailto:kalaivanimurugan2020@gmail.com)

### ABSTRACT:

The gradual switch to organic farming is primarily due to growing consumer concern about the health effects of accidental consumption of pesticides and fertilizers. Organic farming is better for the environment as its practice requires less pollution, soil erosion and energy. Avoiding pesticides in agriculture benefits not only nearby birds and animals, but also those who live near the farm. Not only does organic production help reduce public health risks, but there is increasing evidence that organically grown foods are rich in nutrients. This study analyses consumer awareness of organic foods, key influencing factors that influence consumers' decisions to buy organic foods, demographics, and barriers that prevent consumers from buying organic foods. This survey is a descriptive survey that collects data through a survey of 150 respondents. Simple random sampling is used to select samples. Statistical tools are used, the data is represented in pie charts and tables, presents a consumer demographic profile, and draw conclusions from the available data. The results of the research are crucial in promoting the organic food market both domestically and globally.

**KEYWORDS:** Awareness, Organic Food products, Conscious Consumers, Health Consciousness.

### INTRODUCTION:

Organic production is an overall system of farm management and food production that aims at sustainable agriculture, high-quality products and therefore the use of processes that don't harm neither the environment, nor human, plant or animal health and welfare. Consumers are anxious about food quality, production techniques and provenance and that they trust organic foods more easily. Various terms like 'bio', 'eco' and 'organic' are wont to ask organic products. the term 'organic' refers to an overall system of farm management and food production that aims at sustainable agriculture, high –quality products and therefore the use of processes that don't harm the environment, and human, plant or animal health and welfare. However, these widely used terms in food marketing have a spread of definitions, most of which are vague and assumed to imply foods that are minimally processed and every one of whose ingredients are natural products.

#### How to identify Organic food products?

The Natural Organic Certification Association has an organic certification program that requires all organic foods to meet strict government standards. These standards regulate how such foods are grown, handled and processed. Products marked as organic in the product description or packaging must be certified. Producers may also use the official Organic Label if certified. Natural Organic Certification Association also has guidelines for listing organic foods on product labels.

- **100% organic:** This description is used for fruits, vegetables, eggs, meat, or other ingredients from certified organic farms. It can also be used in multi-ingredient foods if all ingredients except salt and water are organically grown. These can have a seal.
- **Bio:** If foods rich in ingredients are labelled organic, at least 95% of the ingredients are certified organic, except for salt and water. Non-organic items must be from the list of approved additional ingredients. These can also have a seal.
- **Made organic:** If a product containing multiple ingredients consists of at least 70% certified organic ingredients, it can be labelled as a "Made with Organic" ingredient. For example, breakfast



**A STUDY ON CUSTOMER SATISFACTION TOWARDS ORGANIC FOOD PRODUCTS  
WITH SPECIAL REFERENCE TO CHENNAI CITY**

**Dr. Shrimathy Ramalingam**, The principal, Research Supervisor&Guide, Associate Professor& Head, Department of Commerce, Pachaiyyappa's college for women, Kancheepuram-631 503

**R.Neela Anuradha** Assistant Professor, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai-600 044

**Abstract:**

India is a blessed land with lot of potential to produce varieties of agro products because of its agro climate regions. This gives a positive signal for the organic producers to tap the market which emerges steadily in domestic market related to the export market. The adoption of organic farming is highly determined by market demand. Only a satisfied customer, turns out to be a regular consumer. Therefore this paper intends to evaluate the factors influencing customer satisfaction towards organic food products in Chennai city. . The results concluded that most of the consumer urban consumers prefer organic food products. Availability and price are the barriers identified in the organic food consumption.

**Key words:** Organic Products, Price, availability, Health Consciousness & Consumer Satisfaction.

**1. Introduction:**

In this modern world, many food production systems are unsustainable and compromise the capacity of Earth to meet the huge demands for food. Food systems must adopt immediate changes towards greater resource conservations and to enhance the nutritional needs of an increasingly urbanized planet. Lifestyle Modifications and increasing health awareness have lead to an emerging trend toward healthy food consumption. The fear of becoming victim to non-communicable diseases and increasing ailments such as diabetes and high blood pressure has contributed significantly to the gradual transition towards organic food. Consumers are aware that organic products assures long term health benefits and supply full of nutritional value to their body.

Organic farming is a production method that maintains the health of soil, environment and human beings. It depends on ecological processes, biodiversity and cycles suitable to prevailing local conditions, rather than the use of chemical inputs with adverse effects. Organic farming is a combination of tradition, innovation and science which benefit the shared environment and promote equitable relationships and a good quality of life for all. (IFOAM General Assembly, 2008) Organic agriculture aims to produce healthy and quality foods without using synthetic chemical products. Thus, organic agriculture not only protects the environment but also improves public health, impacting significant benefits both to the economy as well as to the social linkage of rural areas. In developing economies like India, food consumption style has drastically changed due to increase in the per capita disposable income, urbanization, global interaction, communication and information technologies, life style and family structure changes, education and health awareness, upliftment of households towards higher income groups

It is highly recognized that these had reverberations for food and health security, quality and environmental sustainability. Indian market reflects a massive contradiction with regard to organic food products. On one hand, it is emerging as an important player in the global market, especially in Europe, on the other hand the home market for organic food is still at nascent stage.

**2. Review of Literature:**

1. **OLIVER (1980)** has explored and indicated that one's attitudes capture the totality of the expectation level and it provides the baseline for other cognitions of an overall nature, particularly satisfaction. The cognitive post purchase responses patterns show the impact of customer satisfaction and also create repurchase intentions.





# CONSUMER BEHAVIOUR TOWARDS ORGANIC FOOD PRODUCTS IN THE CHENNAI CITY

**Dr. Srimathy Ramalingam, M.com., M.phil., PhD**

The Principal in charge, Research Supervisor, Associate Professor &  
Head, Department of Commerce, Pachaiyappa's college for women,  
kanchipuram-631 503

**R. Neela Anuradha M.com., M.phil., SET**

Assistant Professor,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai-600 044

## Abstract:

The growing health hazards like cancer, diabetes, nervous disorders have created awareness among consumers. Now the organic food is viewed as more superior from the point-of-view of health than that of the inorganic food. There is a wide acceptance of organic farming practices all over the world. This indicates the increasing awareness about organic food products and demand derived. This research results states that the major reason for purchasing organic food products is health, quality and safety consciousness. Organic consumers tend to be older and highly educated than the non-buyers. However, the major reasons for the lower market share of organic food product are due to lack of consumer information.

**Keywords:** *Organic food, healthy consciousness, environmental consciousness*

## INTRODUCTION:

Globally there is an increased awareness about environment consciousness and green world. Environment friendly products have obtained popularity among consumers because they are more aware about their health issues and also about environmental hazards. This resulted in the emergence of organic food. People who believe in health benefits, taste and protection of environment and believe to improve their life style have become the potential consumers of organic food. India is one of the most potential markets for organic food. Indian agriculture was primarily based on natural fertilizers like cow dung, plant decompose and human faeces. But with the evolution of green revolution in 1970's, more chemical fertilizers, pesticides have been used in farming. Organic foods can be defined as foods which are environmentally safe, produced using environmentally sound methods without involving modern synthetic inputs such as pesticides and chemical fertilizers, which do not contain genetically modified organisms, and are not processed using irradiation, industrial solvents, or chemical food additives. The choice of organic versus inorganic food is influenced by the perception of the health effect of organic foods. Households, who perceive organic foods as healthier, are more likely to purchase organic food, and they have a higher willingness to pay than other households (Andersen, 2017). Consumers are more willing to pay for a product when they believe that it is of superior quality and greater value. (Peter & Olson, 2010) Organic food is perceived as healthier and safer food and organic farming practices are perceived to be more environmentally sound. Foods which are not organic are taken as inorganic food for the purpose of this study.

## OBJECTIVES OF THE STUDY:

- To analyse the factors influencing consumer behavior towards organic food products.
- To analyse the factors creating awareness about organic food
- To analyse the purchasing pattern of organic food consumers.



## Journal

of the

## Oriental Institute

M.S. University of Baroda

ISSN: 0030-5324

### INSIGHT ON COVID -19 VACCINATIONS AMONG COLLEGIATE STUDENTS' – AN ANALYTICAL APPROACH

**Dr.R.SUBHASRI** Assistant professor, Department of B.Com (Professional Accounting), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet : subhasri.r@sdbnvc.edu.in.

**Dr. T.ANITHA** Associate professor, Department of M.Com (General), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet.anitha.t@sdbnvc.edu.in

**Dr.K.SHYAMALA** Assistant Professor, Department of B.Com (Corporate Secretaryship), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet. shyamala.k@sdbnvc.edu.in

#### ABSTRACT

Present Pandemic situation (COVID 19) is not new normal to the globe. Past history proves that many communicable diseases have spread from one person to another through contact with blood & bodily fluids, breathing the airborne virus and insect bites have infected the people in the past. All these situations were tackled by the government by finding the vaccination for the disease and the same trend is happening now. In this study, the researchers aim to identify the influencing source and opinion about the Vaccination of COVID 19 among the college students' (Young Citizen) and their overall insights.

Key words : Airborne virus, Communicable diseases and Vaccination of COVID 19.

#### INTRODUCTION

Coronavirus Disease makes the global itself the worst situation and obdurates each and every person in the world to work under the new environment and new normal. This infectious disease was caused by the SARS – COV-2 Virus. This disease causes respiratory illness and sometimes it will cause serious illness and require special medical treatment. People who are infected by diabetes, chronic respiratory disease, cancer, Cardiovascular diseases and older people are highly infected in this pandemic. The government is taking remedial measures to overcome this situation by providing vaccination to the people.

Vaccination is a medicine or medical product injected into the human being to gear up immunity to the body and fight against the virus. It will cause some side effects like mild fever, soreness, swelling, muscle pain, rashes or redness in the injected place. Vaccination for COVID 19 introduced only after the safety has been proved. But initially it shows a great threat to the public, side effects of vaccines are more than disease and some controversy has appeared that this COVID 19 vaccination causes death to the Cardiovascular diseases patients and now the problem has disappeared. Now, they understand and accept that all the controversies are an individual's problem and now the public are taking their vaccines without any fear. This study aims to find out what are the remedial measures taken by the government to overcome this pandemic situation and overall insights of the college students' towards COVID 19 vaccination .

#### REVIEW OF LITERATURE

Shan Qiao et al., (2020) investigated how risk exposures and risk perceptions of COVID-19 (e.g., perceived susceptibility, severity, and fear of COVID-19) as well as negative attitudes toward general vaccination were related to COVID vaccine acceptance among college students based on online survey data from 1062 college students in South Carolina. The researcher suggested that perceived severity and fear of COVID-19 were positively associated with vaccine acceptance. while



**How to Cite:**

Nirmala, K., & Shyamala, K. (2022). A study on customer attitude towards eco-friendly products and the factors influencing it. *International Journal of Health Sciences*, 6(S3), 1019-1030. <https://doi.org/10.53730/ijhs.v6nS3.5264>

## **A Study on Customer Attitude Towards Eco-Friendly Products and the Factors Influencing It**

**Nirmala K.**

Assistant Professor and Research Scholar, Department of B. Com (Computer Applications), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, India

Email: npnirmalapandian@gmail.com

**Shyamala K.**

Assistant Professor and Research Guide, Department of B. Com (CS), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, India

Email: Saatvikram@gmail.com

**Abstract**---This study investigates the moderating effects of customers' attitudinal qualities on the link between major demographical indicators and purchase intention for environmentally friendly items. Several possibilities have been offered. In Tamil Nadu, a questionnaire was created and circulated through an internet survey. There were a total of 545 valid replies received. This impact is consistent among consumers of various income levels. The knowledge and skill elements have no influence on customers' purchasing intentions. Factor analysis has been carried out on the variables of the Consumers attitude on Eco-friendly Product buying behaviour. One-Sample T-Test and Ranking Analysis are used to analyse Consumer Preference to buy an Environmental – Friendly Products. Cronbach's alpha is used in order to assess the construct reliability of the scale. This research adds to a better knowledge of the elements that influence eco-friendly products consumption intentions in Tamil Nadu, as well as consumer behaviour in developing nations. Furthermore, the findings give insight on the relevance of current situation in emerging economies and a specific industrial settings.

**Keywords**---customer attitude, eco-friendly products, green consumers, demographic factors, green brands, consumer intention.

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International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.

Corresponding author: Nirmala, K.; Email: npnirmalapandian@gmail.com

Manuscript submitted: 18 Nov 2021, Manuscript revised: 09 Feb 2022, Accepted for publication: 27 March 2022

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## Journal

of the

## Oriental Institute

M.S. University of Baroda

ISSN: 0030-5324

### A STUDY ON INSTAGRAM INFLUENCER'S IMPACT ON CONSUMER BUYING BEHAVIOUR

Mrs.C. VARALAKSHMI Research scholar (Full time) Department of commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -600 044.

Dr.Y. KALAIVANI Research guide, Associate professor, Department of commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -600 044.

#### ABSTRACT

Social media was created to digitally link people who would otherwise not have the opportunity to meet and communicate on a regular basis. The world transformed in the way people communicate and socialise from Six Degrees to Instagram. As an industry, social media has expanded to the point that it now not only allows people to connect, but also offers previously unimagined work prospects. From content creators to influencers, social media has provided opportunities for people to gain recognition, celebrity, and money while also serving as a platform for online purchasing. Influencing is a type of social media marketing in which an individual with expert knowledge of their industry uses it to promote the brands and products of others. The goal of this study was to see how social media influencers influence client purchase behaviour. The survey is based on 110 Instagram users who were from 15 to above 25 years old. The data were gathered using a structured questionnaire which was distributed online with random sampling. The research hypothesis was tested using correlation and regression analysis. The findings confirm the hypothesis that Influencers do affect the consumers in social media as long as some parameters. The majority of studies published concerning online consumer behaviour investigate mostly the trends in social media. This research was conducted exclusively via Instagram and focuses on how the Influencers affect the purchase intentions of their followers.

**Keyword:** social media, Instagram influencer, credibility, purchase behaviour, attitude.

#### 1. INTRODUCTION

The integration of the internet in the users' life gave an alternative dimension to their daily routine. Consumer behaviour, the way of life, and the velocity of living have changed, as the social relations of people. Internet development transferred the communication between customers and companies to the online environment. Gradually internet users became familiar with e-commerce and began to trust this context and order online. Companies started to cooperate with social media to promote their reputation and to interact with their loyal and prospective customers. This interaction of companies with social media affected eCommerce trends. This has led to a new type of commerce, online social commerce, which is defined as a type of commerce that includes social media practices and tools. It represents a new type of electronic commerce that was generated from the synergy between consumers and social media technology. This new type of commerce captivated the interest of researchers.

There has been increasing interest in research of leveraging and exploiting social media as an information source for inferring rich social facts and knowledge. From the one side marketers attempt to create social media posts aiming to increase the engagement between social network members, especially to the market share-target and their close contacts, friends and collaborators. On the other side, some researchers focus on predicting the popularity of business or even of social media, using the information of user-profiles and content posts. Research conducted by Beukeboom, Kerkhof, and de Vries showed products that following a brand's Facebook account relates to consumer behaviour, loyalty, and purchase intentions about the brand and its products.

Vol. 71, Issue. 01, No.14, January-March: 2022

Dr. Y. Kalaivani, M.Phil., Ph.D.,  
Research Guide & Supervisor  
Associate Professor  
Department of Commerce (SFS)  
SDNB Vaishnav College for Women  
Chromedai, Chennai - 600 044

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**How to Cite:**

Jothilingam, P., & Kalaivani, Y. (2022). How pandemic has influenced the purchasing behaviour of consumers : With special reference to online shopping. *International Journal of Health Sciences*, 6(S2), 1986–1995. <https://doi.org/10.53730/ijhs.v6nS2.5252>

## **How pandemic has influenced the purchasing behaviour of consumers: With special reference to online shopping**

**Priya Jothilingam**

Full Time Research Scholar, Department of Commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chrompet - 600044

**Y. Kalaivani**

Research Guide and Supervisor, Associate Professor, Department of Commerce(SFS), Srimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chrompet - 600044

**Abstract---**The world will never forget about the COVID-19 Pandemic which affected the whole world till now. The pandemic has influenced human life in each and every field, the world faced a complete lock down and the condition ruined the economy, global financial crisis, unemployment, and closing of schools and colleges. During pandemic people are afraid of offline shopping this attracts the attention of consumers to shop online and satisfy their needs. The study focuses on how pandemic has influenced the purchasing behaviour of consumers through online shopping. The objective of the study is to find out how pandemic has affected the online shopping and to measure the factors that will continue to have a positive impact on online shopping growth among customers during pandemic. Random samples of 100 consumers using online shopping have been taken for the study. The study poses some analytical methods such as Percentage analysis, factor analysis, Garrett ranking, chi-square test have been used. Findings of the study will be useful for the consumers to find out the facilities provided by online shopping companies and also helps the companies to overcome the competition by using different strategies to satisfy the consumers. The study imposes that every companies which provides online shopping facilities to concentrate on customer satisfaction and implementing proper strategies to make them more satisfied with their products.

**Keywords---**pandemic, online shopping, consumers, purchasing behaviour, human life, offline shopping, customer satisfaction, strategies.

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International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.

Corresponding author: Jothilingam, P.

Manuscript submitted: 27 Jan 2022, Manuscript revised: 18 Feb 2022, Accepted for publication: 09 March 2022  
1986



# INFLUENCE OF REPEAT PURCHASE BEHAVIOUR ON DEVELOPING AFFINITY A STUDY ON WOMEN ONLINE CLOTHING SHOPPERS IN CHENNAI

**T. Metilda Devakirubai**

*Part-Time Ph.D. Research Scholar, Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai 600 044*

**Dr.R. Savithri**

*Associate Professor & Head, Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai 600 044*

## ABSTRACT

Every business needs to focus on developing affinity in order to make the customers to choose their particular brand or product. The repeat repurchase behaviour plays a vital role in the creation of loyalty which is converted into affinity. Affinity is a state where the people love to buy the same product, regularly chooses that particular product and also tell others about the product preferred by them. The present study focused on the determinant factors which were the root cause of repeat purchase behaviour of women consumers of clothes and its impact over creation of affinity towards a particular brand or a product through online shopping. Data were collected from 150 women online clothing shoppers in Chennai through a questionnaire. The data was analysed with the help of simple percentage analysis, chi-square analysis and factor analysis. The factors influencing the repeat purchase behaviour were Repurchase Intention, Customer Satisfaction, Delivery Standard, Product Attribute, Perceived Value and Discerning Price.

**Keywords:** Repeat Purchase Behavior, women online shoppers, affinity, determinants.

## INTRODUCTION

Repeat Purchase Behaviour varies from customer to customer based on their feelings towards a product and the benefits derived out of it. If a customer is really delighted and satisfied by consuming a product, they will intend to buy and use it again. According to Griffin (2003), every customer goes through five stages in a buying cycle. They are,

- Gaining awareness about a product
- Making an initial investment
- Evaluating post purchase
- Deciding to repurchase
- Repurchasing the same product

There are three crucial factors that turn the repeat consumer into loyal consumers. The first one is the operational excellence the marketer by providing a reliable product at a competitive price with an ease of purchasing it. Secondly, the marketer has identify customer intimacy and segment a market based on the targeted consumers by customizing the offers to meet the needs the niche market. Finally, product leadership i.e. offering the customers, a leading-edge products and services

The rise in the working women in India is the main cause for an increase in the demand for women clothing. The change in the attitude and purchase pattern of clothes based on trend, comfort, price and behaviour of the women consumers, are the other reasons, significantly raising the demand for women wears. The impact of social media, the current fashion trends, fashion bloggers and influencers look for an evolutionary growth due to the benefits of doorstep delivery, easy price comparisons, convenience and better among other competitive products, make it grow more at an impressive rate. Based on these potentials, the present study has explored upon the repeat purchase behaviour of the women online clothing consumers in Chennai city.



# A STUDY ON CONSUMER PREFERENCE TOWARDS PACKED MILKSHAKES IN CHENNAI CITY

**R. Srividhya**

Part time Ph.D. Research Scholar, Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -44

**Dr. R. Savithri**

Associate Professor & Head, Research Department of Commerce  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -44

## ABSTRACT

Consumer preference is defined as the subjective (individual) tastes, as measured by usefulness, of various package of goods. Milkshake is a sweet, cold beverage which is usually made from milk, ice cream and flavourings or sweeteners such as fruit syrup or chocolate sauce. The main aim of this study was to understand the consumer preference towards milkshakes. Data had been collected with the help of structured questionnaire which comprised of two parts. Part I dealt with demographic profile of the respondents and part II dealt with the preference of consumers as regards milkshakes in terms of flavors, brand and packaging. Convenient sampling technique was adopted and the questionnaire was circulated among 150 respondents in the city of Chennai. Percentage analysis, Chi square test, Correlation, Garrett Ranking and the weighted average were the tools used in the study. Percentage analysis was used to find out the demographic profile of the respondents. Chi-Square test was used to find out the relationship between the family monthly income and the purchase frequency of packed milkshakes. Correlation was applied to analyse the relationship between the family income per month and the amount spent by the respondents to buy the packed milkshakes.

**Keywords:** Consumer preference, Milkshakes, Brand preference, flavours, Packaging.

## INTRODUCTION

Consumer preference is defined as the subjective (individual) tastes, as measured by usefulness, of various package of goods. Consumer preference may differ from product to product on the basis of quality, price, taste and influence of peer group. Milkshake is a sweet, cold beverage which is usually made from milk, ice cream and flavourings or sweeteners such as fruit syrup or chocolate sauce. All producers need to understand the consumers' preferences, attitude, likes and dislikes in order to satisfy them, produce the commodities which in turn increase the sales. Hence the study of consumer preference gains reputation for any commodity in the field of marketing.

## NEED OF THE STUDY

The present study is carried out to analyse the consumer preference towards packed milkshakes. This study helps to know the factors behind consumer preferences towards packed milkshakes in Chennai and to find out the different attributes that influence the consumer to purchase milkshakes.

## REVIEW OF LITERATURE

- Sumeet Agarwal and Madhuri Devi M (2015), analysed the customers' preferences towards various soft drinks brands in Bhillai and found that the determinants such as brand, price, taste, packaging, advertisement, size, colours were the reasons to consume the soft drinks. It was found that the respondents preferred plastic bottles packaging rather than the glass bottles.
- Anitha Ravi kumar (2016) examined that the consumer preference of cool drinks in Muscat and found that 46% of the respondents drank cool drinks during their travel. Chi square test revealed that the age, gender, occupation and price had no influence on brand preference of cool drinks but quality had an impact on the brand preference by the respondents.



## A STUDY ON CONSCIOUSNESS OF CONSUMERS TOWARDS ORGANIC FOOD PRODUCTS

Mrs.A.ASMA ZAINAB, Research Scholar (Part-time), Department of Commerce,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 600 044.  
asma.zainab.a@gmail.com

Dr.Y.KALAIIVANI, Research Supervisor, Associate Professor, Department of Commerce,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 600 044.  
[kalaivanimurugan2020@gmail.com](mailto:kalaivanimurugan2020@gmail.com)

### ABSTRACT:

The gradual switch to organic farming is primarily due to growing consumer concern about the health effects of accidental consumption of pesticides and fertilizers. Organic farming is better for the environment as its practice requires less pollution, soil erosion and energy. Avoiding pesticides in agriculture benefits not only nearby birds and animals, but also those who live near the farm. Not only does organic production help reduce public health risks, but there is increasing evidence that organically grown foods are rich in nutrients. This study analyses consumer awareness of organic foods, key influencing factors that influence consumers' decisions to buy organic foods, demographics, and barriers that prevent consumers from buying organic foods. This survey is a descriptive survey that collects data through a survey of 150 respondents. Simple random sampling is used to select samples. Statistical tools are used, the data is represented in pie charts and tables, presents a consumer demographic profile, and draw conclusions from the available data. The results of the research are crucial in promoting the organic food market both domestically and globally.

**KEYWORDS:** Awareness, Organic Food products, Conscious Consumers, Health Consciousness.

### INTRODUCTION:

Organic production is an overall system of farm management and food production that aims at sustainable agriculture, high-quality products and therefore the use of processes that don't harm neither the environment, nor human, plant or animal health and welfare. Consumers are anxious about food quality, production techniques and provenance and that they trust organic foods more easily. Various terms like 'bio', 'eco' and 'organic' are wont to ask organic products. the term 'organic' refers to an overall system of farm management and food production that aims at sustainable agriculture, high –quality products and therefore the use of processes that don't harm the environment, and human, plant or animal health and welfare. However, these widely used terms in food marketing have a spread of definitions, most of which are vague and assumed to imply foods that are minimally processed and every one of whose ingredients are natural products.

#### How to identify Organic food products?

The Natural Organic Certification Association has an organic certification program that requires all organic foods to meet strict government standards. These standards regulate how such foods are grown, handled and processed. Products marked as organic in the product description or packaging must be certified. Producers may also use the official Organic Label if certified. Natural Organic Certification Association also has guidelines for listing organic foods on product labels.

- **100% organic:** This description is used for fruits, vegetables, eggs, meat, or other ingredients from certified organic farms. It can also be used in multi-ingredient foods if all ingredients except salt and water are organically grown. These can have a seal.

- **Bio:** If foods rich in ingredients are labelled organic, at least 95% of the ingredients are certified organic, except for salt and water. Non-organic items must be from the list of approved additional ingredients. These can also have a seal.

- **Made organic:** If a product containing multiple ingredients consists of at least 70% certified organic ingredients, it can be labelled as a "Made with Organic" ingredient. For example, breakfast



## A COMPARATIVE STUDY ON ONLINE AND OFFLINE SHOPPING – POST PANDEMIC PERIOD

Mrs.C. VARALAKSHMI, Research scholar (Full time) Department of commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -600 044.

Dr.Y. KALAIVANI, Research guide, Associate professor, Department of commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -600 044.

### ABSTRACT

*In India, the retail sector is one of the fastest growing. It is one of the economy's pillars, accounting for roughly 10% of the country's GDP. The Indian retail market is projected to be over US\$ 600 billion, making it one of the world's top five in terms of economic value. Indian customers are picky when it comes to their purchases. Consumer preferences differ depending on whether they favour online or offline purchasing in the post pandemic period. Both the internet and traditional shopping have their own set of benefits and drawbacks. Online shopping eliminates the need to travel long distances, provides more variety, is available 24 hours a day, offers substantial discounts, and allows for customer reviews. On the other hand, Traditional shopping, on the other hand, allows shoppers to examine things in person, which is not possible with internet purchasing. Consumers can purchase both online and offline, depending on their inclinations at a given time. The total respondent for this study is 100. Primary data is collected by using the simple questionnaire methods among the age group of 18 to 42 in and around. Basic percentage analysis is used to determine whether the majority of respondents choose to purchase things online or offline. For the purposes of analysis, the SPSS 23.0 statistics application is employed. It is postulated that online and offline products influence brand equity, image, value, awareness, variety, offers. To find the percentage, Rank analysis and see if there is a significant difference between the components, cross tabulation and Chi square analysis are used. The study's main goal is to find out if they prefer to shop for things online or in-person. This results in fundamentally different behaviours between the two modes of shopping at any one time.*

**Key words:** consumer, online shopping, offline shopping, internet, preference.

### INTRODUCTION

In recent years, online shopping has exploded in popularity. The internet has captured the interest of the retail business in recent years. Hundreds of millions of people shop on the internet. Purchasing products from traditional markets, on the other hand, has been going on for years. Many clients prefer to buy offline so that they may inspect the product and take control of it immediately after paying for it. Customer loyalty in today's society is based on a continual capacity to deliver quality, value, and satisfaction. Some people prefer to shop offline, while others prefer to shop online, and still others do both.

Online purchasing has been increasingly popular in recent years. In recent years, the retail industry has been increasingly interested in the internet. Hundreds of millions of people use the internet to do their shopping. Traditional markets, on the other hand, have been a source of merchandise for many years. Many customers prefer to buy offline so that they may check and control the merchandise right after paying for it. In today's environment, customer loyalty is predicated on the ability to consistently deliver quality, value, and satisfaction. Some people like shopping in stores, while others prefer shopping online, and still others do both. During the information gathering stage, the study focuses on the consumer's decision to shop on the internet versus at traditional businesses. However, people prefer internet shopping because it is more convenient and less expensive. When making any purchase decision, whether online or offline, consumers should be cognizant of the medium of purchase. Consumers should select the channel that best meets their needs and fulfils their desires.

Customer loyalty in today's society is based on a continual capacity to deliver quality, value, and satisfaction. Some people prefer to shop offline, while others prefer to shop online, and many people do both. The study focuses on the consumer's decision to shop on the internet versus at traditional businesses.



## IMPACT OF EMOTIONAL INTELLIGENCE ON STUDENTS' PERFORMANCE IN ACADEMIC ACHIEVEMENTS AMONG UNDERGRADUATE STUDENTS

**Ms. A. SARANYA** Research Scholar (Part-Time), Assistant Professor, Department of Commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai - 600 044.

**Dr. Y. KALAIVANI** Research Supervisor, Associate Professor, Department of Commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai - 600 044.

### Abstract

*In the contemporary world, students have multiple roles like Education, extracurricular activities, upgrading technical skills and communication skills, pursuing certification courses in order to balance and become successful in all their roles, they require emotional intelligence rather than the intelligence quotient. Emotional intelligence can be defined as understanding the emotions of their own and the people around them. The study examines the impact of emotional intelligence on students' performance on academic achievements. The structured questionnaires were used to collect the data. Data was collected among students from various colleges in Chennai city. Percentage analysis and factor analysis were used. The study revealed that self-confidence, self-determinants, self-awareness, commitment and task completion are predominant factors that influence the emotional intelligence of students' performance in academic achievements.*

**Keywords :** Emotional Intelligence, Academic achievement, self-confidence, self-determinants, task completion.

### 1. INTRODUCTION

"It is not enough to be smart and hardworking. To have the added edge for success, students must also be able to understand and manage emotions."

**-Carolyn MacCann, Yixin Jiang and Luke E. R. Brown**

Education is the most effective tool to bring prosperity to society and the foundation to a nation's overall development. Intelligence and success are no longer considered in the same light as they previously were. New theories of intelligence have been introduced, which modified the traditional approach. Educational psychologists and researchers acknowledged that emotions are central to learning and teaching.

According to Goelman (1995) Emotional Intelligence may be more important for personal success than IQ. Unless IQ emotional intelligence can be improved.

#### 1.1. EMOTIONAL INTELLIGENCE

Emotional Intelligence can be defined as "Understanding one's own feelings, empathy for the feelings of others and the regulation of emotion in a way that enhances living".

Emotional Intelligence refers to the ability to understand, control, and assess emotions. It is referred to as emotional intelligence. It is the capacity that one possesses or abstains from over a period to generate optimum results in relationship with oneself and others. It's also the ability to keep track of one's own and others' feelings and emotions, to distinguish between them, and to utilize that information to direct one's thoughts and actions.

#### 1.2. APPLICATION OF EMOTIONAL INTELLIGENCE IN H.R PRACTICES

**Filling organizational positions:** Various types of positions are created in a company. If these jobs are filled by people who meet the job requirements, an organisation is more likely to prosper. Emotional intelligence has recently received a lot of attention in the recruitment and selection process because of its importance in professional success. **Work Life :** Organizational productivity is influenced by the quality of one's work life. Workplace life is concerned with the



TALENT MANAGEMENT- A STUDY WITH SPECIAL REFERENCE TO CHENNAI  
PORT TRUST

**Dr.Y.Kalaivani** & **Dr.S.Kamakshi** Associate Professor, Department of Accounting and Finance,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai-600 044.  
kalaivanimurugan2020@gmail.com ; sdnkams1979@gmail.com

**ABSTRACT**

This study is an attempt to study about the Talent Management Practices at Chennai Port Trust. Chennai Port is the third oldest port among the 12 major ports, is an emerging hub port in the East Coast of India. This gateway port for all cargo has completed 137 years of glorious service to the nation's maritime trade. Talent Management refers to recruiting, managing, assessing, maintaining the most valuable resource of any organisation. This empirical research paper will provide insights about the various Talent management practices followed in Chennai Port trust and its impact on the performance of employees.

*Key words: Talent Management, Organisation Performance, Human Resource*

**INTRODUCTION**

Talent Management is also called as Human Capital Management. The importance of hiring talented and efficient employees makes very easy for the organisation to achieve its goals effectively and efficiently.

Organisation should acquire right person with the right skills in the right job at the right time to reach its objective . They usually face the important issue of talent limitation issues more than issues relating to capital. So it makes Talent Management a crucial effort for every organisation as it has significant relationship with the performance of organisation.

**LITERATURE REVIEW**

Puja Sareenand Shikha Mishra(2016) on the topic A Study of Talent Management and Its Impact on Performance of Organizations among 206 IT professionals working in NCR. The statistical tools used in the study were t- test, Correlation and Regression. The results of the study revealed that the impact of the dimensions such as recruiting and attracting, compensation and rewarding, succession planning came out to be high on the dependent variable which is the organizational performance as compared to the dimensions such as training and development and also defining and retaining talent whose impact on the performance of the organization is a little less. The employees also feel that the organizations in the IT industry need to focus a little more on their talent retention strategies in order to minimize attrition and hence, enhance the overall organizational performance.

Yona Sakaja Mangusho ,Raphael Kipkoech Murei and Eunice Nelima (2015) on the topic "Evaluation of Talent Management on Employees Performance in Beverage Industry: A Case of Delmonte Kenya Limited" among 83 respondents in Del Monte , Kenya. The study concluded that the job retention such as competitive salary packages and rewards motivated the employees of Del Monte. The study further established that attraction through attractive packages motivated the employees of Del Monte. The study established that through career management practices such as job rotation, the organization was able to enhanced employee competence hence achieve high employee performance. The study also established that through a clear plan for the career growth and progression the organization was able to develop its talent which directly influenced employee performance.

Rita Kagwiria lyria(2013) on the topic "Role of Talent Management on Organization Performance in Companies Listed in Nairobi Security Exchange in Kenya: Literature Review" has concluded that most of the talent management studies were done in other countries and to the researcher's knowledge there is limited empirical study done locally. Also most of talent management studies reviewed did not directly link talent management with the organization performance and therefore, there is a need to fill



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Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai -600 044.

**Dr.Y. KALAIVANI** Research Supervisor, Associate professor, Department of commerce, Shrimathi  
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**Filling organizational positions:** Various types of positions are created in a company. If these jobs are filled by people who meet the job requirements, an organisation is more likely to prosper. Emotional intelligence has recently received a lot of attention in the recruitment and selection process because of its importance in professional success. **Work Life :** Organizational productivity is influenced by the quality of one's work life. Workplace life is concerned with the



## A STUDY ON CONSUMER AWARENESS TOWARDS E-BANKING SERVICES

**Dr. K.R. Radhika**, Assistant Professor, B.Com (Accounting & Finance) Shrimathi Devkunvar  
Nanalal Bhatt, Vaishnav College for Women Vaishnav College for Women

### Abstract

This paper deals with consumer awareness towards e-banking services with particular reference to the Chengalpattu district of Tamil Nadu. The study identifies the challenges consumers face while availing of E-banking services. The self-administered questionnaire was developed to collect primary data. The data were analyzed using statistical measures such as percentage analysis and the chi-square test. The analysis of this study identified that the surveyed population are aware of online banking services provided by the public sector bank. The study concludes that a lack of customer safety and privacy was the significant challenges faced by online respondents while availing the e-banking services.

**Keywords:** e-consumers, security, convenience, awareness, perception

### 1. INTRODUCTION

The electronic banking system provides its customers with various services that can be conveniently operated from the place. It gives an end number of benefits to its customers like online bank enquiry, money transfer, and many services related to banking. With the trend of the growing generation nowadays, Internet banking plays a vital role in the economic development of the country. After globalization, the advancement in technology has made many Indian private banks offer internet banking services. Also, 24 hours of e-banking services make it very convenient for the banks' clients. Moreover, easy accessibility of the internet has made it possible to do all banking transactions from a remote location even without stepping into a physical financial structure. There are many advantages with e-banking services offered and there are many challenges faced in the e-banking sector.

### 2. LITERATURE REVIEW

Uday Singh Rajput (2015) studied customer perception on e-banking services among 285 respondents. This study focused on customers' perception towards selected commercial e-banking services in Gwalior. The study concludes that 45% of the surveyed population had a positive perception and are satisfied with the services provided by e-banking.

Elavarasi, Surulivel (2014) conducted a study on customer awareness and preference towards e-banking services of SBI banks among 200 respondents in Kumbakonam city. Samples were analyzed through percentage analysis and correlation. The study concludes that the younger generation is more attracted to e-banking than older people. The study's findings also prove that the private bank provides better services compared to public banks.

Amutha (2016) conducted a study on consumer awareness towards e-banking among 100 respondents. The study focused on consumers' preferences towards online banking services. Data were analyzed through statistical tools such as simple percentage analysis, F-statistic, Chi-square test. The study concluded that most of the surveyed respondents are aware of all the banking services.

Satyabhama and Samundeswari (2019) researched customer satisfaction towards internet banking services in the Thoothukudi district among 120 respondents. The Convenience sampling method was used to analyze the data. The study's findings conclude that as customers are started using android phones which enable them to transact more through online. This paved the way for many global players enter into the banking sector.



# IMPACT OF SOCIAL MEDIA ON CONSUMER BEHAVIOUR- AN EMPIRICAL STUDY

**Dr.K.Latha,** Assistant Professor in Department of Commerce, Shrimathi Deekshavathi Nanabai Bhatt Vaidya College for Women, Chennai, Tamilnadu

**V.Santhana Lakshmi,** Civil Engineering, Meenakshi Sundararajan Engineering College, Chennai, Tamilnadu

## ABSTRACT

Social Media is an important element for the net business. It is an art of manufacturing site visitors to web site for generating business through on-line social group. It enables to build critical business touch and to run reputed commercial enterprise on the net. Most social media systems have integrated information analytics gear, enabling agencies to tracking the growth, achievement, and participation of ad campaigns. Companies cope with number of stakeholders through social media advertisements and marketing, including cutting-edge and potential clients, modern-day and capacity employees, bloggers, and the general public. Social networking websites are primarily based on constructing virtual communities that lets purchasers to express their needs, wishes and values, on line. Social media advertising then connects these clients and audiences to groups that percentage the equal needs, desires, and values. Some examples of popular social networking web sites over the years are Facebook, Instagram, Twitter, TikTok, MySpace, LinkedIn, and Snapchat. The objective of this paper is to investigate experimentally the job of web-based media in customers' dynamic cycles. A quantitative overview examines up what degree experiences are altered by the use of social media. Electronic interpersonal interaction has connected with buyers, as promoters have zero command over the substance, timing, or repeat of online conversations among customers. Results show that web-based media use impacts customer fulfilment in the phases of data search and elective assessment, with fulfilment getting enhanced as the shopper moves along the cycle towards the last buy choice and post-buy assessment.

**Keywords:** Social media, Social community websites, consumer behaviour and business.

## INTRODUCTION

Web-based media is the common collaboration among individuals where they make, offer or trade data and thoughts in virtual networks. It has turned into the fundamental need and nature of individuals to be social. The dynamite improvements in interchanges and creative and shocking diversion have empowered admittance to give a voice to individuals who might never have been heard. The current age is sufficiently lucky to observe the absolute most astounding innovative improvements ever. It has turned into the fury of this age.

## CONSUMERS

Any person who buys items for their own utilization and not to assembling or resale is referred as consumer. A purchaser is the person who chooses whetherto purchase a thing at the market or somebody who is influencedby ad and promoting. They are the end-clients in the appropriation chain of labour and products. Purchasers are individuals who purchase the item oradministration and may or probably won't utilize it. The individual who at last uses the item or administration is the customer.

## CUSTOMER DECISION PROCESS

Buyers are the people who buy or consume items that are proposed to them. The shopper purchasing conduct shall be puzzling and hard on occasion. The receptiveness and straightforwardness of data have fundamentally affected the unique methodology.

Customer conduct can be grouped into five phases -

- Problem detection
- Data Search



# RECENT TRENDS IN EDUCATION DURING PANDEMIC PERIOD - A PARENT CENTRIC STUDY WITH SPECIAL REFERENCE TO CHENNAI CITY

**Dr. R. SANGEETHA**

Assistant professor, Head of the Department, B.Com (Information Systems Management),  
Shrimathi Devkunvar Nanalal Bhatt, Vaishnav College for Women, Chrompet, Chennai 600 044.

## INTRODUCTION

The year 2020 began with an unfavourable note with the flare-up of pneumonia that was first found in Wuhan city of China. The illness spread across the world and has been proclaimed as a pandemic by the World Health Organization on the 30th of January 2020. The pandemic affected each area of the general public viz. Exchange, schooling, transporting, auto, and so on. Government of India requested absolute conclusion of Organizations and instructive establishments the same to contain the infection. The determination of instructive foundations drives the understudies and their folks into a condition of perplexity affecting the last evaluations. Understudy assessment, what's more, understudy security becomes two significant marks of thought. To guarantee understudy security and continuous training, Institutions decided on web-based showing utilizing different stages accessible, for example, Zoom, Microsoft groups, WebEx, Google classroom, and Online schooling. This study attempts to identify the impact of online class, preparation of online competition, online examination and interaction with teachers

## OBJECTIVES OF THE STUDY

1. To know the demographic profile of the respondents
2. To learn about the impact of online class

3. To know about the adaptation of online examination

## SCOPE OF THE STUDY

1. This study is extended to 200 respondents who belong to Chennai city
2. This is to study about the parents' perception in Recent trends in education during the pandemic period
3. The study has covered only the Parent's review

## LIMITATION OF THE STUDY

1. The study was conducted only in Chennai city
2. The study is limited to 200 respondents
3. It is not easy to judge the results with a limited number of samples
4. Information given by the respondents might be biased because the questionnaire were framed on assumptions about the parents perceptions
5. Result of the research has been given based on the respondents answer so this won't show true data

## REVIEW OF LITERATURE

Arpita Banerjee Mukherjee (2021) The objective of the study was to know about the implementation

மீனாதி தமிழாய்வு (பன்னாட்டுப் பன்முகத் தமிழ் காலாண்டு ஆய்விதழ்) 3-5 ஜூன், 2021 - சிறப்பிதழ் (ISSN 2321-984X)  
Modern Tamizh Research (A Quarterly International Multilateral Tamizh Journal) 3 to 5 June, 2021 - Special Issue (ISSN 2321-984X)  
Three Days Multi-Disciplinary International Webinar On "The Impact of Liberalization, Privatization and Globalization [ICLPG-2021]"  
Organized by: P.G. & Research Department of History, C. Abdul Hakeem College (Autonomous), Melvisham, Ranipet District, Tamil Nadu



# A STUDY ON STUDENTS FACING THE DIGITAL AND TECHNOLOGICAL ISSUES IN THE ACADEMIC YEAR 2020-21

**Dr. K. Malarvizhi**

*Assistant Professor, Department of Commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women- Chrompet*

## Abstract

The education system all over the world has gone through a dramatic change. There is a huge amount of transformation arising in the technology. Through this, the research paper an attempt has made to discuss and examine the challenges faced by the students in digital education system, to analyse technical equipment provided by the institutions, to find the arrangements made by the family for digital education and to determine student's impact to attend the classes regularly. The research was conducted to 150 school and college students in Chennai city.

**Keywords:** Digital classes, Google classroom, New technology

## INTRODUCTION

In the pandemic period, the education system in India has gone through a drastic change. There is huge modification arising in the educational system during the pandemic period as a result of digital and new technology creation. Because of the pandemic the students are forcibly moving towards digital education which addresses all the issues and challenges.

Digital education can be defined as the use of combination of technology, digital content and unstructured the education system. In the Academic year 2020-21 the Technology has been the strongest factor in shaping the education system. The schools are showing the utmost support for the development of technology in the digital classroom by providing hardware such as laptops, modem, simcard, providing internet connectivity, and implementation of programs that are especially designed to improve computer literacy for both teachers and students. The Teachers, Students and the Parents appreciate the benefits of new digital educational system, but they also face some demerits and technological challenges. From acquisition of new technology equipment the students and parents are facing economical problem in the pandemic. Through this research paper, an attempt has been made to discuss the challenges in digital education system and the issues faced both by the teachers and students which will shape the future digital educational system of our coming generations for the betterment.

## STATEMENT OF THE PROBLEM:

In this study we discuss about the technological issues faced by the students in the Academic year 2020-21.

## OBJECTIVES OF THE STUDY

- To examine the challenges faced by the students in digital education system.
- To analyse technical equipment provided by the institutions.
- To find the arrangements made by the family for digital education.
- To determine student's impact to attend the class regularly.

## REVIEW OF LITERATURE

Wikramanayake,(2005) "Impact of Digital Technology on Education" University of Colombo School of Computing. The study examines the process of generation, creation and acquisition of knowledge through the technology, uses of ICT to



# A STUDY ON SUPERVISOR JOB SATISFACTION WITH SPECIAL REFERENCE TO GROUND HANDLING SERVICES IN CHENNAI AIRPORT

**Dr. K. MALARVIZHI**

Assistant Professor, Department of Commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women- Chrompet

## ABSTRACT

Today's world is so competitive in the entire field. It is very difficult and risky to find a stable and secure job. This happens especially in cities. Though people from villages and towns mainly shift to city to find job but they fail to find safe and secure job with a good income & proper work time. Most of the youngsters try to find job in airport ground handling service as the income is handfull for them, work time is fixed to 8 hours and when they wish to work over time, they can and get income for that work too. The qualification for the work is degree holders with quick learning skill. Even when the tender of a company gets over and a new company takes over the tender, their work is safe, stable and secure. Their job is secure as the new company can't appoint new workers and give training for them because they need workers who are experience in the field. Through this paper we will get to know the job satisfaction of the supervisors in the ground handling service in the airport. The study was conducted to the supervisors of The Bhadra International India Pvt.Ltd ground handling service. The tender of this company's ground handling service has been taken over by a new company, Broadcast Engineering Consultants India Limited (BECIL), the previous month. The data collected for this study is before pandemic and the sample size is 150 respondents.

**Keywords:** Job Satisfaction, Job Responsibilities, Work Place Support.

## INTRODUCTION:

Human resource is the most vulnerable and valuable asset comparing with any other resources as human resource make use of the other resources as the other resources can't get used up but itself. Human resources become capital when it gets educated and healthy. Human resource becomes liable when their skills gets utilized or expose it in their job. Mainly the work of the supervisors plays a major role in every job. As the supervisors guide, organize, coordinate, cooperate, motivate, communicate and shares the feelings of the workers who work below him. And mainly being the supervisor for the ground handling service needs perfect timing and liable in loading and unloading the goods in a safe manner. Job satisfaction is all about how one feels about one's job.

Job satisfaction is the coordination between workers and the supervisor. Job satisfaction acts as a motivation to work. Satisfaction means the simple feeling of attainment of any goal or objective. Job dissatisfaction brings absence of motivation at work. Hoppock offered one of the earliest definitions of job satisfaction when he described the construct as being any number of psychological, physiological, and environmental circumstances which leads a person to express satisfaction with their job.

## LITERATURE REVIEW:

Tulsee Giri Goswami, Richa Burman (2015), "Impact of work stress on job satisfaction and psychological wellbeing amongst police officers: workplace support as moderator", the study examine the impact of work stress on job satisfaction among police officers, impact of job stress on psychological wellbeing among them and the role of work place support as moderator in the relationship of work stress with job satisfaction and psychological wellbeing. The study found the impact of work stress on job satisfaction and psychological wellbeing among police officers and it considered as moderator in above mentioned relationship workplace support includes help from supervisors, peers and colleagues, sufficient workplace support will lead to enhance the level of job satisfaction and psychological wellbeing among officers.

Hari Prasad Pathak (2015) "Job Satisfaction of Employees in Commercial Banks" the study analyzes the level of job satisfaction among employees of commercial banks along with the consideration of gender, age and experience



## PalArch's Journal of Archaeology of Egypt / Egyptology

### "EFFECT OF E- LEARNING ON STUDENT'S ACADEMIC PERFORMANCE AT COLLEGE LEVEL"

**MRS. BALAKAMAKSHI T Y<sup>1</sup>, DR R SAVITHRI<sup>2</sup>**

<sup>1</sup>Part-Time Ph.D. Research Scholar, Department of Commerce &  
Assistant Professor & Head- In Charge, Department of B.Com (Banking & Insurance  
Management) Shrimathi Devkunwar Nanalal Bhatt Vaishnav College For Women,  
Chennai 044.

<sup>2</sup>Associate Professor & Head, Department of Commerce  
Shrimathi Devkunwar Nanalal Bhatt Vaishnav College For Women, Chennai 044.

**MRS. BALAKAMAKSHI T Y, DR R SAVITHRI, EFFECT OF E- LEARNING  
ON STUDENT'S ACADEMIC PERFORMANCE AT COLLEGE LEVEL, --  
Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(1). ISSN 1567-214x**

**Keywords: E-learning, Academic Performance, College level, Women.**

#### ABSTRACT

The study highlights the effect of E-learning on students' academic learning performance at College level. The objective of the study was to find out the effects of E-learning on students' interest and learning. Responses were taken from 250 Women students from various Chennai Colleges using convenient sampling technique. The data was analyzed using the Percentage analysis and Chi- square test. The study found that E-learning provides time flexibility to the student. The study concluded that E-learning provides for effective time management and motivates students to learn independently. Thus, it is evident that the world is moving towards IoT much faster than expected.

#### INTRODUCTION

E-learning is the employment of technology to aid and enhance learning. It can be as simple as High School students watching a video documentary in class or as complex as an entire University course provided online. E-learning began decades ago with the introduction of televisions and over-head projectors in classrooms and has advanced to include interactive computer programmes, 3D simulations, video and telephone conferencing and real-time online discussion groups comprised of students from all over the world. With technological advances, E-learning has limitless possibilities.

Electronic learning (E-learning) is gaining popularity the World over. The Worldwide Web has left no stone un-turned in making E-learning reach out to the

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## Oriental Institute

M.S. University of Baroda

ISSN: 0030-5324

### INSIGHT ON COVID -19 VACCINATIONS AMONG COLLEGIATE STUDENTS' – AN ANALYTICAL APPROACH

**Dr.R.SUBHASRI** Assistant professor, Department of B.Com (Professional Accounting), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet : subhasri.r@sdbnvc.edu.in.

**Dr. T.ANITHA** Associate professor, Department of M.Com (General), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet.anitha.t@sdbnvc.edu.in

**Dr.K.SHYAMALA** Assistant Professor, Department of B.Com (Corporate Secretaryship), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet.  
shyamala.k@sdbnvc.edu.in

#### ABSTRACT

Present Pandemic situation (COVID 19) is not new normal to the globe. Past history proves that many communicable diseases have spread from one person to another through contact with blood & bodily fluids, breathing the airborne virus and insect bites have infected the people in the past. All these situations were tackled by the government by finding the vaccination for the disease and the same trend is happening now. In this study, the researchers aim to identify the influencing source and opinion about the Vaccination of COVID 19 among the college students' (Young Citizen) and their overall insights.

**Key words :** Airborne virus, Communicable diseases and Vaccination of COVID 19.

#### INTRODUCTION

Coronavirus Disease makes the global itself the worst situation and obdurates each and every person in the world to work under the new environment and new normal. This infectious disease was caused by the SARS – COV-2 Virus. This disease causes respiratory illness and sometimes it will cause serious illness and require special medical treatment. People who are infected by diabetes, chronic respiratory disease, cancer, Cardiovascular diseases and older people are highly infected in this pandemic. The government is taking remedial measures to overcome this situation by providing vaccination to the people.

Vaccination is a medicine or medical product injected into the human being to gear up immunity to the body and fight against the virus. It will cause some side effects like mild fever, soreness, swelling, muscle pain, rashes or redness in the injected place. Vaccination for COVID 19 introduced only after the safety has been proved. But initially it shows a great threat to the public, side effects of vaccines are more than disease and some controversy has appeared that this COVID 19 vaccination causes death to the Cardiovascular diseases patients and now the problem has disappeared. Now, they understand and accept that all the controversies are an individual's problem and now the public are taking their vaccines without any fear. This study aims to find out what are the remedial measures taken by the government to overcome this pandemic situation and overall insights of the college students' towards COVID 19 vaccination .

#### REVIEW OF LITERATURE

Shan Qiao et al., (2020) investigated how risk exposures and risk perceptions of COVID-19 (e.g., perceived susceptibility, severity, and fear of COVID-19) as well as negative attitudes toward general vaccination were related to COVID vaccine acceptance among college students based on online survey data from 1062 college students in South Carolina. The researcher suggested that perceived severity and fear of COVID-19 were positively associated with vaccine acceptance. while



## Impact of COVID – 19 on Collegiate Students' Life Style – An analysis

Dr.R.Subhasri<sup>1</sup> & Dr.M.Mahadevi<sup>2</sup>

<sup>1</sup>Assistant professor, Department of B.Com Professional Accounting,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Subhasri.r@sdbnvc.edu.in.

<sup>2</sup>Associate Professor, PG Department of Computer Science,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet. [maxsaran@gmail.com](mailto:maxsaran@gmail.com).

### Abstract

Covid'19, the pandemic that started in 2019 is still on its wave affecting the lives and lifestyles of the people around the world. The new normal culture was introduced in the wake of the Covid'19 so that people's job, student's learning does not get affected because of this pandemic situation. But the new normal culture of online meetings, online classes, learning through e-content and writing exams online all are dependent on high speed internet connection, smart phones and laptops. This research article analyses the impact of Covid'19 on changes in the life style of college students. The research is confined to Chennai area. The research work has used survey using questionnaire method to collect the data and has used Percentage and Factor analysis method as research tools to analyse the data. It is identified from the research that there is a positive and negative change in Psychological, social, personal and habitual wellbeing of the students. These factors highly influence the life style of the college students and there is a notable change in the lifestyle of the students before and after Covid'19.

Keywords: Impact of Covid'19, psychological, social, personal, habitual, factor analysis

### INTRODUCTION

The outbreak of Covid'19 (Corona virus 2 that causes Severe Acute Respiratory Syndrome) started in the year December 2019 in China causing severe effects and impacts on the living of human beings and their life style. With the outbreak of Covid'19, people got connected through online meetings, video conferencing, online classes, e-content based learning, online games which had become part and routine of many people almost everywhere. The work from home culture has changed lifestyle of working people and online classes has changed lifestyle of the students, their learning capabilities, their responsibility as students and much more. Even though the online meetings and classes were introduced, not all were able to accustom this lifestyle because of their demographic, financial and family profile. To be more specific, more number of college students has changed their routines and have adopted different life style according to the prevailing pandemic situation and some could not adopt this new normal culture.

In the interest of knowing more on the changes adopted by the students, this research article has performed a survey with set of questions that are related to the change in the life style of collegiate students. The article focuses on knowing the demographic profile and identifies the factors that influence the psychological wellbeing of the students that has happened because of the changes in their routines and introduction of new culture.



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**How to Cite:**

Nirmala, K., & Shyamala, K. (2022). A study on customer attitude towards eco-friendly products and the factors influencing it. *International Journal of Health Sciences*, 6(S3), 1019–1030. <https://doi.org/10.53730/ijhs.v6nS3.5264>

## **A Study on Customer Attitude Towards Eco-Friendly Products and the Factors Influencing It**

**Nirmala K.**

Assistant Professor and Research Scholar, Department of B. Com (Computer Applications), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, India

Email: npnirmalapandian@gmail.com

**Shyamala K.**

Assistant Professor and Research Guide, Department of B. Com (CS), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, India

Email: Saatvikram@gmail.com

**Abstract**---This study investigates the moderating effects of customers' attitudinal qualities on the link between major demographical indicators and purchase intention for environmentally friendly items. Several possibilities have been offered. In Tamil Nadu, a questionnaire was created and circulated through an internet survey. There were a total of 545 valid replies received. This impact is consistent among consumers of various income levels. The knowledge and skill elements have no influence on customers' purchasing intentions. Factor analysis has been carried out on the variables of the Consumers attitude on Eco-friendly Product buying behaviour. One-Sample T-Test and Ranking Analysis are used to analyse Consumer Preference to buy an Environmental – Friendly Products. Cronbach's alpha is used in order to assess the construct reliability of the scale. This research adds to a better knowledge of the elements that influence eco-friendly products consumption intentions in Tamil Nadu, as well as consumer behaviour in developing nations. Furthermore, the findings give insight on the relevance of current situation in emerging economies and a specific industrial settings.

**Keywords**---customer attitude, eco-friendly products, green consumers, demographic factors, green brands, consumer intention.

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International Journal of Health Sciences ISSN 2550-6978 E-ISSN 2550-696X © 2022.

Corresponding author: Nirmala, K.; Email: npnirmalapandian@gmail.com


Manuscript submitted: 18 Nov 2021, Manuscript revised: 09 Feb 2022, Accepted for publication: 27 March 2022

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



 Restricted access | Research article | First published online January 25, 2022


## Accessible and engaging voices: Teaching English to adult second-language learners with visual impairment using WhatsApp voice notes in India


Karthika J  and Veena Selvam [View all authors and affiliations](#)


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 Contents

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### Abstract

This case study explored the possibility of using WhatsApp voice notes to teach English to adult learners with visual impairment. The study has documented in detail the challenges and advantages of learning teaching English through WhatsApp.

In this case study, both quantitative and qualitative data were collected and integrated and analysed to understand feasibility of using WhatsApp to teach English to learners with visual impairment. Even though the case study was primarily qualitative, some quantitative data were also collected and analysed numerically. The numerical data were analysed using descriptive statistics and reported using number in the form of tables and figures. Furthermore, non-numerical data were examined inductively and reported thematically.

The advantage of using WhatsApp voice notes was that it provided a platform for the learners to convey English and an opportunity to reflect on their own learning process and progress critically. It provided



## A STUDY ON WORK LIFE BALANCE OF THE EMPLOYEES IN MEDIA SECTOR

**Dr. Mahisha Suramardhini**

PG Department of Human Resource Management, Shrimathi Devkunvar Nanalal Bhatt Vaishnav  
College for Women (Autonomous)

### ABSTRACT:

The purpose of this research is to better understand the work-life balance of employees in the media business, which will lead to better organisational outcomes. In this connection, the research paper "Study on Work-Life Balance" was written to analyse a brief study of an organisation where work-life balance is a crucial factor in the current scenario. The goal of this research is to find common techniques for balancing work and personal life. This paper's major goal is to comprehend the dynamics of work-life balance.

The study utilised a descriptive research design. Primary data is gathered through questionnaires as the data collecting instrument. A total of 100 people participated in the study. In any sector, maintaining a healthy work-life balance is essential.

**Key words:** work-life balance

### INTRODUCTION:

Work-Life balance refers to an individual's ability to manage or strike a balance between remunerated work and personal or social commitments. Workplace life can have a variety of effects on organisational productivity as well as employee well-being.

This increased pressure has impacted the lives of employees in a variety of ways. It not only harms social norms, but it also causes a variety of bodily and psychological illnesses, such as heart disease, a weakened immune system, tight muscles, weariness, and jitteriness, to name a few. With longer working hours, there will be less time to spend with family and friends. If an employee is not mentally fulfilled or balanced, he will be unable to carry out his responsibilities with care and dedication.

Things, on the other hand, have taken a completely different direction now. Employee work-life balance is becoming a hot topic all around the world. Human resource issues are becoming increasingly important to a rising number of businesses. Leading businesses understand that great work-life outcomes for workers are critical components of a successful business strategy, from establishing work-life balance to the satisfactions of challenging work and career advancement.

### RESEARCH METHODOLOGY:

This study's research design is descriptive in nature. To investigate the study on employee welfare indicators, both primary and secondary data were used. The use of primary data via the questionnaire approach, on the other hand, is of particular interest. The information is acquired by a structured questionnaire, with a sample size of 100 people. Correlation and chi-square were the statistical tools utilised to analyse the data.

### LITREATURE REVIEW

Madipelli S., Sarma, Veluri V.S., Y. Chinnappaiah (2013) in the paper titled "Impact of Work Life Imbalance on Employee Personal Life- An Empirical study on select Insurance Employees". According to the report, men employees are thought to have a higher level of balance than female colleagues. To put this theory to the test, an analysis of employee perspectives was undertaken, and it was discovered



# MATHEMATICAL MODEL FOR THE RESPONSE OF HPA AXIS APPLYING GOMPERTZ - MAKEHAM DISTRIBUTION IN ASSOCIATION WITH ANALYTIC UNIVALENT FUNCTIONS

PDF (<https://turcomat.org/index.php/turkbilmat/article/view/1229/8571>)

Updated: 2021-05-01

## Versions:

2021-05-01 (2)

2021-04-11 (1) (<https://turcomat.org/index.php/turkbilmat/article/view/1229/version/1229>)

DOI: <https://doi.org/10.17762/turcomat.v12i4.1229> (<https://doi.org/10.17762/turcomat.v12i4.1229>)

V.G. Shanthi , S. Alamelu et. al.

## Abstract

The study here is to find the activity of Hypothalamic Pituitary Adrenal axis - **HPA** which is a major part of human system which controls reaction to stress by finding Cortisol level and the objective is to observe the response of the system over time due to stress by applying the Gompertz - Makeham distribution. Here we develop two functions  $f_1(z)$  and  $f_2(z)$  by using the class of analytic univalent functions in the open unit disc whose coefficients are considered as Probability density function of the above mentioned distribution, for which the Subordination property, Convex and Star likeness hold.

Current study leads us to a real life application by considering the effects on the response of HPA axis to acute stress. The concluded results coincide with the medical findings.

Issue

Vol. 12 No. 4 (2021) (<https://turcomat.org/index.php/turkbilmat/issue/view/37>)

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## Complementary Tree Domination of Corona Product of Cycle $C_n$ with Some Standard Graphs

P. Vidhya, S. Jayalakshmi

### ABSTRACT

A set  $D$  of a graph  $G = (V, E)$  is a dominating set of every vertex in  $V-D$  is adjacent to some vertex in  $D$ . The domination number  $\gamma(G)$  of  $G$  is the minimum cardinality of a dominating set. A dominating set  $D$  is called a complementary tree dominating set (ctd-set) if the induced subgraph  $\langle V-D \rangle$  is a tree. The minimum cardinality of a complementary tree dominating set is called the complementary tree domination number of  $G$  and is denoted by  $\gamma_{ctd}(G)$ . The corona product of  $G$  and  $H$  is the graph  $G \odot H$  obtained by taking one copy of  $G$ , called the center graph,  $|V(G)|$  copies of  $H$ , called the outer graph, and making the  $i^{\text{th}}$  vertex of  $G$  adjacent to every vertex of the  $i^{\text{th}}$  copy of  $H$ , where  $1 \leq i \leq |V(G)|$ . In this paper, complementary tree domination of corona product of cycle  $C_n$  with some standard graphs are determined.

 PDF

#### HOW TO CITE

P. Vidhya, S. Jayalakshmi. (2021). Complementary Tree Domination of Corona Product of Cycle  $C_n$  with Some Standard Graphs. *Design Engineering*, 5057 - 5065. Retrieved from <http://thedesigengineering.com/index.php/DE/article/view/7529>

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## SCREENING OF INDOLE ACETIC ACID PRODUCTION BY PHOSPHATE SOLUBILIZING BACTERIUM

<sup>1</sup>Sheeja\*. L, <sup>2</sup>Vidyasree. P

<sup>1</sup>Assistant Professor, <sup>2</sup>Post Graduate student

<sup>1</sup>Research Department of Plant Biology and Plant Biotechnology,  
<sup>1</sup>Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women,  
 Chromepet, Chennai, India

**Abstract:** Microorganisms are integral in the natural phosphorus cycle. Recently, phosphate solubilizing microorganisms (PSMs) have attracted the attention of agriculturists because it provides an ecofriendly and economically sound approach to overcome the P scarcity and its subsequent uptake by plants. This study has been undertaken for the isolation, screening and identification of phosphate solubilizing bacteria (PSB) from rhizosphere soil samples. The strain which showed maximum zone of phosphate solubilization is considered as the most potential one and chosen for further studies. The isolated PSB was identified by using morphological and biochemical characteristics up to genus level. The present investigation also dealt with growth study, IAA production. It was also found that, this isolate was able to grow well in pH range between 4.5– 6.8.

**Index Terms -** PSB, IAA, Biofertilizers, PSMs, Microorganisms, rhizosphere soil.

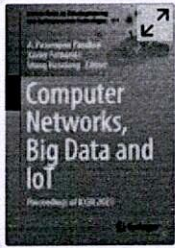
### 1. INTRODUCTION

The maintenance of high level soil phosphorus has been a major challenge to agricultural scientists, ecologists and farm managers because in most of the soils, phosphate is present in unavailable form due to complex formation with  $\text{Ca}^{2+}$ ,  $\text{Al}^{3+}$ ,  $\text{Fe}^{2+}$  or  $\text{Mn}^{2+}$  depending on soil pH and organic matter (Kuhad *et al.*, 2011). Because the availability of phosphorus to plants is restricted by various factors, it seems reasonable to study microorganisms that are able to solubilize phosphate from soil and promote its uptake by plants (Jana *et al.*, 2001). During the last 10 years knowledge on phosphate solubilizing microorganisms increased significantly (Richardson *et al.*, 2001; Rodriguez., 1999). Plant growth promoting bacteria (PGPB) are soil and rhizosphere bacteria that can benefit plant growth by different mechanisms (Glick, 1995), and Phosphate solubilization ability of the microorganisms is considered to be one of the most important traits associated with plant Phosphorus nutrition.

Phosphate Solubilizing Bacteria (PSB) are being used as bio fertilizer since 1950s (Kudashev, 1956; Krasilnikov, 1961). The growth of phosphate-solubilizing bacteria (PSB) often causes soil acidification, playing a key role in phosphorus solubilization (Alla, 1994). Therefore, PSB are considered the important solubilizers of insoluble inorganic phosphate. In turn, plants reimburse PSB with carbohydrates (Goldstein, 1995). Since the beginning of last century, many PSB have been isolated including, for example, those in *Bacillus*, *Pseudomonas*, *Erwinia*, *Agrobacterium*, *Serratia*, *Flavobacterium*, *Enterobacter*, *Micrococcus*, *Azotobacter*, *Bradyrhizobium*, *Salmonella*, *Alcaligenes*, *Chromobacterium*, *Arthrobacter*, *Streptomyces*, *Thiobacillus*, and *Escherichia* and include some fungi in genus *Penicillium*, *Aspergillus*, *Rhizopus*, *Fusarium*, and *Sclerotium* (Zhao and Lin, 2001).


Indole acetic acid (IAA) is one of the most physiologically active auxins. IAA is a common product of L-tryptophan metabolism by several microorganisms including PGPR (Lynch, 1985; Franken and Brunner, 1983). Microorganisms inhabiting rhizospheres of various plants are likely to synthesize and release auxin as secondary metabolites because of the rich supplies of substrates exuded from the roots compared with non rhizospheric soils (Kampert *et al.*, 1975; Strzelczyk and Pokojaska-Burdziej, 1984). Diverse soil microorganisms including bacteria (Muller *et al.*, 1989), fungi (Stein *et al.*, 1985) and algae (Finnie and Van, 1985) are capable of producing physiologically active quantities of auxins, which may exert pronounced effects on plant growth and establishment. Production of IAA by microbial isolate varies greatly among different species and strains and depends on the availability of substrate(s).





**Computer Networks, Big Data and IoT** pp 383–395

## A Review on Video Sharing over Content Centric Networks

**C. Victoria Priscilla** & **A. R. Charulatha** 

Conference paper | [First Online: 22 May 2022](#)

**468** Accesses

Part of the [Lecture Notes on Data Engineering and Communications Technologies](#) book series  
(LNDECT, volume 117)

### Abstract

The rise in wireless communication technologies has enabled the wireless mobile networks to play a key role in various Internet applications like social networks, mobile sensing, video streaming, etc. With this rising trend in mobile networks, many researchers have moved their focus on metrics to enhance quality of service and experience to the users on video streaming. The network providers need to provide hassle-free streaming, with high-quality resolution, instant start-up, less jitter to stay in competition and to increase their consumer base. This paper gives an overview of metrics required for achieving quality of viewing experience and





**Proceedings of Second International Conference on Sustainable Expert Systems** pp 199–209

Home > [Proceedings of Second International Conference on Sustainable Expert Systems](#) > Conference paper

# Classification of Ovarian Cyst Using Regularized Convolution Neural Network with Data Augmentation Techniques

N. Priya & S. Jeevitha

Conference paper | First Online: 26 February 2022

510 Accesses | 1 Citations

Part of the [Lecture Notes in Networks and Systems](#) book series (LNNS, volume 351)

## Abstract

PCOS-polycystic ovary syndrome is one of the prevalent hormonal disorders which has currently affected women populations around the age group of 22–45, in their reproductive cycle. It has been widely observed that PCOS leads to infertility. Diagnosis of infertile has proceeded by using ultrasound images of follicles present in the ovary and further examined by the features like the size of the follicles, number of follicles, age group of patients, and the hormonal test. Based on the features, ovaries are classified into three categories like Normal ovary, Cystic ovary, and PolyCystic ovary. Usually, the diameter of a follicle is more than 2–9 mm, and the count of the follicles is more than 12, then it is considered polycystic ovary. In this paper, the classification of the ovarian cyst is implemented by using the regularized CNN method. In additionally, the justification of the classification process also improved with the data augmentation method and more droplet layer techniques for better accuracy. In the proposed algorithm, the performance of the combined procedure is evaluated with the objective type of metrics and shows the accurate detection of the follicle and leads to conclude the classification of ovarian cyst.

## Keywords

**Convolution neural network (CNN)**   **Data augmentation**   **Segmentation**  
**Image enhancement**   **Polycystic ovarian syndrome (PCOS)**

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## A two-phase feature selection technique using mutual information and XGB-RFE for credit card fraud detection

C. Victoria Priscilla<sup>1</sup> and D. Padma Prabha<sup>2\*</sup>

PG Department of Computer Science, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women (Autonomous), Affiliated to University of Madras, Chennai, India<sup>1</sup>

Department of Computer Applications, Madras Christian College (Autonomous), Affiliated to University of Madras, Chennai, India<sup>2</sup>

Received: 17-August-2021; Revised: 18-December-2021; Accepted: 20-December-2021

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### Abstract

*With the rapid increase in online transactions, credit card fraud has become a serious menace. Machine Learning (ML) algorithms are beneficial in building a good model to detect fraudulent transactions. Dealing with high-dimensional and imbalanced dataset becomes a hinder in real-world applications like credit card fraud detection. To overcome this issue, feature selection a pre-processing technique is adopted considering the classification performance and computational efficiency. This paper proposes a new two-phase feature selection approach that integrates filter and wrapper methods to identify the significant feature subsets. In the first phase, Mutual Information (MI) has been adopted due to its computational efficiency to rank the features based on their feature importance. However, they cannot drop the less important features. Thus, a second phase is added to eliminate the redundant features using Recursive Feature Elimination (RFE) a wrapper method employed by 5-fold cross-validation. eXtreme Gradient Boosting (XGBoost) is adopted as the estimator for RFE by adjusting the class weights. The optimal features obtained from the proposed method were used in four boosting algorithms such as XGBoost, Gradient Boosting Machine (GBM), Classic Gradient Boosting (CatBoost) and Light Gradient Boosting Machine (LGBM) to analyse the performance of classification. The proposed approach has been applied to the credit card fraud detection dataset obtained from the IEEE-CIS, which consists of imbalance in the binary class target. The experimental outcome shows promising results in terms of Geometric mean (G-Mean) for XGBoost (84.8%) and LGBM (83.7%), the Area Under a Receiver Operating Character (ROC) Curve (AUC) has increased from 79.8% to 85.5% for XGBoost and also the computation time are reduced in training the classifiers.*

### Keywords

*Recursive feature elimination, Hyper-parameter optimization, Class imbalance, XGBoost, Binary classification.*

### 1.Introduction

In 2025, Nilson report pointed out that the gross credit card fraud worldwide has been expected to be \$35.31 billion [1]. It was found successful in fighting against criminals by Machine Learning (ML) models through analysing massive datasets generated, but still, the happening of fraud cannot be stopped [2]. The high volume of transactions needed to be processed to identify the fraud that does not happen frequently generating an imbalanced dataset [3]. The fraud considered as a legitimate transaction is the considerably higher cost than identifying a legitimate transaction as fraud [4]. As e-commerce widely grows, merchants are charged back for fraud loss generated [5].

ML models are developed to identify these anomalies in the credit card fraud detection problem, the supervised models are generally applied by many researchers to classify the binary targeted data.

Dealing with imbalanced data is a major challenge, focused on minimizing the error rate of the negative class while ignoring the positive class [6]. Facing the challenge of high dimensional imbalanced data in many real-world applications such as medical diagnostic, credit defaulters, fraud detection, etc. [7]. De Sá et al. [5] developed a customized classification algorithm that automatically generates the Bayesian network classifier to manage the class imbalance. Even though effective methods such as data level, algorithm level, hybrid and cost-sensitive learning is proposed by researchers to normalise the imbalanced

\*Author for correspondence



# Cancer Drug Classification using Artificial Neural Network with Feature Selection

G. Shobana  
Assistant Professor  
Department of Computer Applications  
Madras Christian College  
Chennai  
Affiliated to University of Madras  
Email: gmshobana@gmail.com

DR. N. Priya  
Associate Professor  
PG Department of Computer Science  
SDNB Vaishnav College for Women  
Chennai  
Affiliated to University of Madras  
Email: drnpriya2015@gmail.com

**Abstract**— Cancer is one of the life-threatening diseases that has become a common disease across the globe. It is a disease where the cells grow rapidly and irregularly. Cancer researchers have synthesized various compounds that have anticancer properties. With proliferating cheminformatic data, classification of the cancer drug becomes a challenge. Machine learning algorithms facilitate the classification of the drug type and hence reduces the lab expenses. This paper explores various supervised machine learning algorithms and their prediction of cancer drugs. Feature selection is applied to select the best and relevant feature which helps in higher prediction accuracy. Logistic Regression, Decision Tree, Artificial Neural Network and Random forest learning models are employed for the classification. Multi-Layer Perceptron achieved higher performance than the other machine learning models and the impact of feature selection on the prediction accuracy is investigated.

**Keywords**— Machine Learning, Logistic Regression, Decision Tree, Random Forest, Multi-Layer Perceptron

## I. INTRODUCTION

A huge number of people around the globe, suffer from various types of cancer. It affects people of all ages alike.

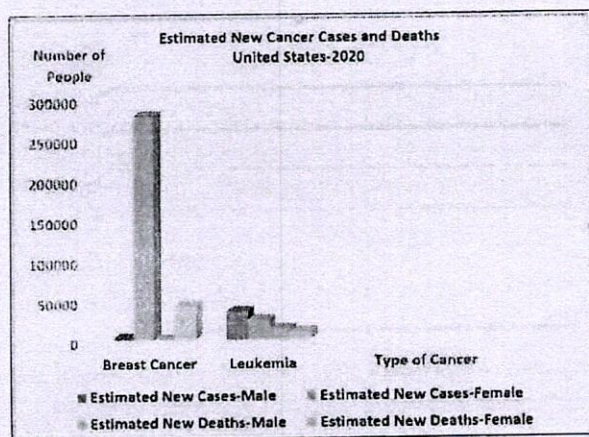


Figure 1. Estimated New Cancer Cases and Deaths in United States 2020 [1]  
Breast cancer is common among women and Leukemia is common among all ages of people. Estimated new cancer cases and deaths in the United States for the year 2020 is shown in Fig. 1. American Cancer Society has established the details and the estimated new cases of breast cancer have an alarming number of 2,76,480 [1]. Drug discovery scientists synthesize several new compounds with pharmaceutical properties. Some of them act as inhibitors to

cancer in common. These drugs help to prevent the irregular growth of cells. The next step in research would be to determine which particular type of cancer, the drug can benefit.

DRUG TYPE	NAME	STRUCTURE
Breast Cancer	Fluoxymesterone	
Leukemia	Clofarabino	
Other drug	Tetracycline	

Figure 2. Drug Structure for breast cancer, leukemia and others [3]

At this stage, instead of performing biological experiments on every newfound drug, machine learning techniques may be employed to classify the drug and select only a few potent drugs and then proceed with pre-clinical trials. Application of these learning algorithms to classify binary or multinomial drug type effectively reduces the cost incurred in pre-clinical trials. Fig. 2. Shows the structure of drugs used to treat breast cancer, Leukemia, and other diseases. Drugs like Gemcitabine hydrochloride, Capecitabine, Fluoxymesterone, Epirubicin, etc. are used as Breast cancer medicines. While drugs like Clofarabine, Nelarabine, Cytarabine, Dasatinib, Dexamethasone, etc. are used as Leukemia drugs. There are several drugs that are used to treat other types of diseases. KEGG is a repository that holds enormous details about diseases and drugs [2]. The dataset for the experiment was drawn from two databases ChEMBL and SWISS ADME. The drug-likeness, biological and chemical properties were observed from these databases [3]. 46 properties and 334



## Impact of COVID – 19 on Collegiate Students' Life Style – An analysis

Dr.R.Subhasri<sup>1</sup> & Dr.M.Mahadevi<sup>2</sup>

<sup>1</sup>Assistant professor, Department of B.Com Professional Accounting,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Subhasri.r@sdbnvc.edu.in.

<sup>2</sup>Associate Professor, PG Department of Computer Science,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet. [maxsaran@gmail.com](mailto:maxsaran@gmail.com).

### Abstract

Covid'19, the pandemic that started in 2019 is still on its wave affecting the lives and lifestyles of the people around the world. The new normal culture was introduced in the wake of the Covid'19 so that people's job, student's learning does not get affected because of this pandemic situation. But the new normal culture of online meetings, online classes, learning through e-content and writing exams online all are dependent on high speed internet connection, smart phones and laptops. This research article analyses the impact of Covid'19 on changes in the life style of college students. The research is confined to Chennai area. The research work has used survey using questionnaire method to collect the data and has used Percentage and Factor analysis method as research tools to analyse the data. It is identified from the research that there is a positive and negative change in Psychological, social, personal and habitual wellbeing of the students. These factors highly influence the life style of the college students and there is a notable change in the lifestyle of the students before and after Covid'19.

Keywords: Impact of Covid'19, psychological, social, personal, habitual, factor analysis

### INTRODUCTION

The outbreak of Covid'19 (Corona virus 2 that causes Severe Acute Respiratory Syndrome) started in the year December 2019 in China causing severe effects and impacts on the living of human beings and their life style. With the outbreak of Covid'19, people got connected through online meetings, video conferencing, online classes, e-content based learning, online games which had become part and routine of many people almost everywhere. The work from home culture has changed lifestyle of working people and online classes has changed lifestyle of the students, their learning capabilities, their responsibility as students and much more. Even though the online meetings and classes were introduced, not all were able to accustom this lifestyle because of their demographic, financial and family profile. To be more specific, more number of college students has changed their routines and have adopted different life style according to the prevailing pandemic situation and some could not adopt this new normal culture.

In the interest of knowing more on the changes adopted by the students, this research article has performed a survey with set of questions that are related to the change in the life style of collegiate students. The article focuses on knowing the demographic profile and identifies the factors that influence the psychological wellbeing of the students that has happened because of the changes in their routines and introduction of new culture.



## ANALYZING PURCHASE PATTERN NETWORK OF AMAZON PRODUCTS FOR PRODUCT RECOMMENDATIONS ACROSS THE NETWORK GROUPS

**Dr M.Mahadevi** Associate Professor, PG Department of Computer Science, Shrimathi Devkunvar

Nanalal Bhatt Vaishnav college for women, Chromepet :: [mahadevi.m@sdbvc.edu.in](mailto:mahadevi.m@sdbvc.edu.in),

**Sneha.S** Student, PG Department of Computer Science, Shrimathi Devkunvar Nanalal Bhatt Vaishnav  
college for women, Chromepet [snehasureshkumarsdbvc@gmail.com](mailto:snehasureshkumarsdbvc@gmail.com),

**Sandhya.T.V** Student, PG Department of Computer Science, Shrimathi Devkunvar Nanalal Bhatt  
Vaishnav college for women, Chromepet :: [sandhyatvsdbvc@gmail.com](mailto:sandhyatvsdbvc@gmail.com)

### ABSTRACT

Social Network analysis helps in identifying the product recommendations using purchase network model apart from the collaboration and friendship networks. The purchase network is developed by constructing the network model of the products and co-products relationship. To analyse purchasing patterns of the product in amazon, the study is made on a publicly available dynamic network dataset, namely Amazon co-purchase network dataset and the products which is most popular in the network are discovered. Products are taken as nodes while the relationship between the products as co-purchased products is represented as directed edges. The graph is constructed with 100 nodes and their respective co-purchased products relationships. The Social Network Analysis metrics such as Degree, Closeness, Eigenvector and Betweenness centrality are calculated for the network graph to identify some frequent product sets from the co-purchase market basket in terms of the product categories and subcategories. Some central entities are selected and group of such entities from the network are analysed using the metrics to recommend promoting some of the co-purchased products that may increase the sales of the selected items. The metrics also helps to identify the products that are purchased across the different groups thereby the recommendations flow in across the groups to increase the visibility of the co-products across the groups.

**Keywords:** Social Network Analysis, Amazon, Product recommendations, Degree centrality, Betweenness centrality, Eigenvector centrality, Closeness Centrality

### I. INTRODUCTION

Social network analysis (SNA) is keyword to study the network and graph theory concept. It is a tool to study the relationships, communication and interactions in a network and solve the problem using network[1]. In SNA, it requires the nodes and edges to build a network. There are several networks such as friendship, twitter, facebook etc. and some networks are specific to the problem domain like the collaboration networks, purchase networks, blogging networks. In each of the networks the base concept is to have a network graph with nodes and edges, the type of relationships makes the different type of networks.

This article mainly focuses on creating a purchase network of books/CD products along with its co-purchased books/CD in Amazon. The books/CD are considered as nodes and the “co-purchased” is the relationship defined between the nodes of the network. The most popular book/CD and its co-purchased book is identified using SNA metrics like the Degree centrality. SNA metrics like the betweenness and closeness centrality helps in identifying the products that are purchased by different groups and are suggested as recommendations to increase the visibility of the co-purchased products.

### II. LITERATURE REVIEW

Sobia Wassana, Xi et.al in this article [2], online stores like Amazon, flipkart, myntra etc. provides a website for customers to express their opinions about different items. users would search different



**Shodhsamhita** : Journal of Fundamental & Comparative Research

Vol. VII, No. 8 : 2021

ISSN: 2277-7067

# **EVALUATING THE SOCIAL NETWORK GRAPH OF TOP 100 TWITTER CELEBRITIES USING CENTRALITY MEASURES**

**Dr M Mahadevi** Associate Professor, PG Department of Computer Science Shrimathi Devkunvar

Nanalal Bhatt Vaishnav College for women Chromepet, Chennai-44 :: [mahadevi.m@sdbvc.edu.in](mailto:mahadevi.m@sdbvc.edu.in)

**E.Swetha** Student, PG Department of Computer Science Shrimathi Devkunvar Nanalal Bhatt Vaishnav  
College for women Chromepet, Chennai-44. [swetha.sdbvc@gmail.com](mailto:swetha.sdbvc@gmail.com)

**S.Saranya** Student, PG Department of Computer Science Shrimathi Devkunvar Nanalal Bhatt Vaishnav  
College for women Chromepet, Chennai-44 :: [saranya.sdbvc@gmail.com](mailto:saranya.sdbvc@gmail.com)

## **Abstract**

Social media, a networking source possesses enormous information in it. Extracting the information from those social media will help us in various fields. Twitter allows the user to post tweets of limited number of characters and share the tweet to their followers. Twitter allows application developer to access those tweets for their purpose. This article focuses on constructing the social network graph of the top 100 twitter celebrities who have the highest number of followers across the globe. The dataset is created by considering top 100 twitter celebrities, their followers and following each other among the celebrity network. The Social Network Analysis (SNA) measurements of centrality, degree, closeness, eigenvector and betweenness have been widely used to capture the patterns in the follower's network of collected data. The objective of this article is to identify the top 5 active participant of the network irrespective of the number of followers who posts more tweets in the network, the top 5 people who are interacting in more than one group other than this network and tweets are shared to many people, the most influential person of the group whose tweets are liked by many people and the most informative person of the group whose tweets are retweeted many times using SNA metrics. This metrics interprets that the characteristics of the people like most popular, influential, bridging across several groups and informative has lead them to have more number of followers and to be as the top 100 twitter celebrities.

**Keywords** Social Network Analysis, Twitter, Centrality measures, Degree Centrality, Closeness Centrality, Eigenvector Centrality, Betweenness Centrality.

## **I. INTRODUCTION**

A social network is a social structure made up of a set of social actors it's the practice of expanding the number of one's business and or social contact by making connection through individual, of an through social media sites [1] Twitter is one such social media that allows the user to post tweets of limited number of characters and share the tweet to their followers. In Twitter network people login to their own twitter account and they are allowed to follow other twitter users, follow any public tweets that is addressed with hashtag, can be followed by other twitters too.

This article constructs the social network graph of the top 100 twitter celebrities who have the highest number of followers across the globe. The objective of this article is to identify the top 5 celebrities of the network, the number of followers who posts more tweets, who are interacting in more than one group, who are influential person of the group whose tweets are liked by many people and the most informative person of the group whose tweets are retweeted many times using SNA metrics.

## **II. LITERATURE REVIEW**

*Namugera, F* [2] have presented the article on Uganda's leading print dataset. The data analysis was acquired from Uganda's leading print and non-print media companies via the Twitter platform in order



## UNDERSTANDING VIRTUAL CLASSROOM FRIENDSHIP PATTERN USING SOCIAL NETWORK ANALYSIS

**Dr M.Mahadevi,**

Associate Professor, PG Department of Computer Science, ShrimathiDevkunvarNanalal Bhatt  
Vaishnavcollege for women, Chromepet

**[mahadevi.m@sdbnvc.edu.in](mailto:mahadevi.m@sdbnvc.edu.in)**

**C. Kamala**

Student, PG Department of Computer Science, ShrimathiDevkunvarNanalal Bhatt Vaishnav college for  
women, Chromepet

**[kamalac.sdbnvc@gmail.com](mailto:kamalac.sdbnvc@gmail.com)**

**S.Hemalatha**

Student, PG Department of Computer Science, ShrimathiDevkunvarNanalal Bhatt Vaishnav college for  
women, Chromepet

**[S.hemalatha.sdbnvc@gmail.com](mailto:S.hemalatha.sdbnvc@gmail.com)**

**N.Monika**

Student, PG Department of Computer Science, ShrimathiDevkunvarNanalal Bhatt Vaishnav college for  
women, Chromepet

**[monikasdbnvc@gmail.com](mailto:monikasdbnvc@gmail.com)**

### *ABSTRACT*

Wellman (1997) defined social networking as the set of meaningful relationship based connections among the set of people or other social entities such as business organisations. This paper is an attempt to collect data from the students of a virtual classroom, interpret how they are socially connected to each other and focuses on understanding the friendship relationship between students using Social Network Analysis (SNA). Social Network comprises of actors (nodes) and the ties (edges) that connects the actors[1]. Data set is created using Questionnaire method. Questionnaire is a valuable tool for collecting the data and in this article three questions related to the social relationship were posted to the students to understand their friendship pattern as they were attending only the online classes. Four different Social network graph is constructed for the student dataset based on the questions. SNA metrics like Degree centrality, Betweenness centrality, Closeness centrality and Eigen vector centrality measures are applied to find out the behaviour of the students in the network. By applying the social network analysis metrics, the behaviour of the students is noted and based on the results the characteristics of the students are interpreted as most popular, helping hand of the class, gossipers, bridges and the Gray cardinal. This main objective of this article is to bring out the psychological assessment of students, their feelings, their relationships with their classmates in a virtual classroom environment.

[1]





## RESEARCH ARTICLE

## Acute and Subacute Toxicity Studies of Putru Pathangam, A Siddha Herbo Mineral Formulation in Rats

S. Visweswaran<sup>1\*</sup>, N.J. Muthukumar<sup>2</sup>, S. Rajeswari<sup>3</sup>, S. Iyswarya<sup>4</sup> and M. Murugesan<sup>5</sup>

<sup>1</sup>Associate professor, Dept. of Gunapadam, National Institute of Siddha, Chennai, Tamilnadu, India

<sup>2</sup>Professor, Dept. of Sirappu maruthuvam, National Institute of Siddha, Chennai, Tamilnadu, India

<sup>3</sup>Assistant professor, PG Dept. of Computer science, Shrimathi Devkunvar Nanalal Bhatt , Vaishnav College for Women, Chennai, Tamilnadu, India.

<sup>4</sup>Lecturer, Dept. of Gunapadam, SriSairam Siddha medical college, Chennai, Tamilnadu, India.

<sup>5</sup>Former Dean, National Institute of Siddha, Chennai, Tamilnadu, India.

Received: 04 Aug 2021

Revised: 18 Aug 2021

Accepted: 11 Sep 2021

### \*Address for Correspondence

**S. Visweswaran**

Associate professor,

Dept. of Gunapadam,

National Institute of Siddha,

Chennai, Tamilnadu, India.

Email: svisu11@gmail.com



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### ABSTRACT

Researchers say cancer treatment will gradually improve and perhaps in another thirty years we may boast something that works for several types of cancers. In view of the fact that cancer panacea is long way off according to modern scientists, it is high time we have to explore the remedies described in Siddha system of Medicine. Many formulations has been mentioned in various Siddha classical texts. Putru pathangam is one among them indicated for putru noi ( cancer)To explore the effectiveness and safety of Siddha medicine to scientific world, Putur pathangam has been subjected to acute and sub acute toxicity study to prove the safety of the medicine and this study proved the safety of the medicine Putru pathangam, which is indicated for putru noi.

**key words;** Putru pathangam, putrunoi, Siddha, cancer, toxicity

### INTRODUCTION

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## Opinion Mining in Tamil Tweets using Dense Neural Network (DNN) Architecture

**Dr. S. Gokila**

Associate Professor, Department of Computing and Sciences,  
Hindustan Institute of Technology and Science  
Chennai, India  
sgokilas@gmail.com

**Dr. S. Rajeswari,**

Assistant Professor, PG Department of Computer Science,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai, India  
vrajee2008@gmail.com

*Abstract* - Tamil is one of the Indian languages which still requires the state of the art model for Opinion mining or Sentiment Analysis(SA). It aims to extract the opinions from tweets, reviews and comments for development of NLP(Natural Language Processing) in Tamil Language. Therefore, this article proposed a Neural Network model to analyze the Tamil tweets into two polarities as Positive and Negative. The work comprises different phases such as its own Tamil corpus creation with 1015 Tamil tweets, Word Vectorization and Classification. A Deep learning based Dense Neural Network (DNN) architecture was trained with word vectors for finding the positive and negative comments. The proposed model works well in the manually annotated corpus without removing the stop words and sentimental symbols like emojis'. It is observed that the proposed model gives better accuracy of 86% when compared with the Machine Learning algorithm.

*Index Terms* - Dense Neural Network, Natural Language Processing, Tweet, Tamil

### I. INTRODUCTION

The technology can be affordable by all only when it supports the regional language. Especially in countries like India where more regional languages are in use. Such an extravasation is happening in day to day life. The E-Commerce business, entertainment channels and even a Delivery systems are also accepting the public's opinion. Those technology oriented activities are ready to receive the review in regional language. Many sensitive decision making activities are kept in a common feedback system. Such an opinion polling allows comments in regional language that definitely will get multiple and vast varieties of views. In such circumstances systemized auto analysis is required to predict the view of their customer and consumer[13]. One such domain that gets the comment is the commercial/entertainment platform. The Tamil Tweets about the movies and other movie components are taken for prediction.

[5706]



## Journal

of the

## Oriental Institute

M.S. University of Baroda

ISSN: 0030-5324

### INSIGHT ON COVID -19 VACCINATIONS AMONG COLLEGIATE STUDENTS' – AN ANALYTICAL APPROACH

**Dr.R.SUBHASRI** Assistant professor, Department of B.Com (Professional Accounting), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet : subhasri.r@sdbnvc.edu.in.

**Dr. T.ANITHA** Associate professor, Department of M.Com (General), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet.anitha.t@sdbnvc.edu.in

**Dr.K.SHYAMALA** Assistant Professor, Department of B.Com (Corporate Secretaryship), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet. shyamala.k@sdbnvc.edu.in

#### ABSTRACT

Present Pandemic situation (COVID 19) is not new normal to the globe. Past history proves that many communicable diseases have spread from one person to another through contact with blood & bodily fluids, breathing the airborne virus and insect bites have infected the people in the past. All these situations were tackled by the government by finding the vaccination for the disease and the same trend is happening now. In this study, the researchers aim to identify the influencing source and opinion about the Vaccination of COVID 19 among the college students' (Young Citizen) and their overall insights.

Key words : Airborne virus, Communicable diseases and Vaccination of COVID 19.

#### INTRODUCTION

Coronavirus Disease makes the global itself the worst situation and obdurates each and every person in the world to work under the new environment and new normal. This infectious disease was caused by the SARS – COV-2 Virus. This disease causes respiratory illness and sometimes it will cause serious illness and require special medical treatment. People who are infected by diabetes, chronic respiratory disease, cancer, Cardiovascular diseases and older people are highly infected in this pandemic. The government is taking remedial measures to overcome this situation by providing vaccination to the people.

Vaccination is a medicine or medical product injected into the human being to gear up immunity to the body and fight against the virus. It will cause some side effects like mild fever, soreness, swelling, muscle pain, rashes or redness in the injected place. Vaccination for COVID 19 introduced only after the safety has been proved. But initially it shows a great threat to the public, side effects of vaccines are more than disease and some controversy has appeared that this COVID 19 vaccination causes death to the Cardiovascular diseases patients and now the problem has disappeared. Now, they understand and accept that all the controversies are an individual's problem and now the public are taking their vaccines without any fear. This study aims to find out what are the remedial measures taken by the government to overcome this pandemic situation and overall insights of the college students' towards COVID 19 vaccination .

#### REVIEW OF LITERATURE

Shan Qiao et al., (2020) investigated how risk exposures and risk perceptions of COVID-19 (e.g., perceived susceptibility, severity, and fear of COVID-19) as well as negative attitudes toward general vaccination were related to COVID vaccine acceptance among college students based on online survey data from 1062 college students in South Carolina. The researcher suggested that perceived severity and fear of COVID-19 were positively associated with vaccine acceptance. while



## PalArch's Journal of Archaeology of Egypt / Egyptology

### "ENTREPRENEURSHIP AND STARTUP POLICY OF INDIA AND ITS IMPACT"

**.R.Harini<sup>1</sup>, Dr.R.Savithri<sup>2</sup>**

<sup>1</sup>Part-time Research Scholar, Department of Commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 44.

<sup>2</sup>Research Guide, Associate Professor & Head, Department of Commerce, Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 44.

Email: [harinir.krishnan@gmail.com](mailto:harinir.krishnan@gmail.com)

**.R.Harini, Dr.R.Savithri, ENTREPRENEURSHIP AND STARTUP POLICY OF  
INDIA AND ITS IMPACT, -- Palarch's Journal Of Archaeology Of  
Egypt/Egyptology 18(1). ISSN 1567-214x**

**Keywords: Entrepreneurship, startup, policies.**

#### ABSTRACT

'An entrepreneur always searches for change, responds to it and exploits it as an opportunity' – Peter F.Drucker. This is a very famous explanation describing an entrepreneur. When an entrepreneur ideates new business or come up with new solution for an existing problem, he/she becomes a Innovative entrepreneur. When a new business idea gets converted into scalable economic model having potential market share, within a short span of time, it is termed as Start-up. Our Indian Government is promoting Entrepreneurship and Startup activity even at Higher education institutions. This paper tries to find out the various policies framed by the government in promoting entrepreneurship and startup which was instrumental in climbing the Global Innovation Index.

#### INTRODUCTION

Entrepreneur can be described as a person who takes all the risks and enjoys the rewards. A person who will not wait for an opportunity but creates it can be termed as Entrepreneur. When a person tries to scale up economically his/her idea, the person can be called an entrepreneur. Being an entrepreneur is a state of mind which tries to convert each and every idea into business opportunities. India in recent times has seen a drastic increase in young minds taking up Entrepreneurship. Policies like Start-up India, Make in India, Aathmanirbhar Bharat have sown the seeds of entrepreneurship in young minds.

#### INDIA'S POLICY FOR ENTREPRENEURSHIP AND STARTUP

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**Journal**

of the

**Oriental Institute**

M.S. University of Baroda

ISSN: 0030-5324

**ANALYSING THE INFLUENCE OF CUSTOMER ENGAGEMENT TOWARDS BRAND LOYALTY: AN EMPIRICAL STUDY**

**JAYASREE. S** Full Time Ph.D. Research Scholar, Research Department of Commerce,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 600044.

jayasreesaravanan99@gmail.com

**Dr. S. KAMAKSHI** Research Guide and Supervisor, Associate Professor, Department of Commerce  
(SFS), Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chennai – 600044 :

kamakshiselvamuthukumar@sdbvc.edu.in

**ABSTRACT**

Customer Engagement is one of the most important aspect of generating more revenue than the company which is less connected with the customers. A Company's intentional, consistent approach that provides value at every Customer interaction helps to retain Customers and increase Brand Loyalty. Increasing Brand Loyalty helps to improve Customer's willingness to make an effort to do business with the organisation and to actively advocate and recommend the Brand and its Product/Service offerings to others. This paper carries out empirical research to know the type of Customer Engagement activity which Customers like the most and to identify the factors which promotes Brand Loyalty through Customer Engagement.

**KEY WORDS:** Customer Engagement, Brand Loyalty, Influence and Customer Relationship.

**INTRODUCTION**

Customer Engagement is the process of cultivation of relationship between the Company and the Customers by way of interacting through a variety of channels inorder to retain Customers and increase Brand Loyalty. Brand Loyalty is a pattern of Consumer behaviour where the consumer gets attached to a particular brand and repeatedly purchase the Products / Services produced by the same brand regardless of deficiencies, alternatives or changes in the environment. This paper aims to study how Customer Engagement influences Brand Loyalty.

**LITERATURE REVIEW**

- Gokhan Aydin , Nimet Uray, Gokhan Silahtaroglu (2021) in their study on the topic "How to Engage Consumers through Effective Social Media Use – Guidelines for Consumer Goods Companies from an Emerging Market" opted Observation Method to collect the data through Content Analysis utilizing a Structural Observation form. Machine Language Algorithms were applied to establish a high level of prediction accuracy and ensure that they generated managerial implications. Decision tree, Random forest decision tree, Logistics Regression and Artificial Neural Networks were the Algorithms that were used in the analysis. The study found that Decision tree learning was the best performing algorithm along with insights obtained from Random forest decision trees and the second best performing algorithm was Artificial Neural Networks. Social Media platform, brand and days between posts emerged as notable primary factors that consistently ranked in the top tiers of the Decision trees. Random forest tree algorithm highlighted the significant role of the Social Media platform, Brand and days between posts as criteria affecting total engagement. Artificial Neural Network Sensitivity analysis also emphasized the significant



## TALENT MANAGEMENT- A STUDY WITH SPECIAL REFERENCE TO CHENNAI PORT TRUST

Dr.Y.Kalaivani & Dr.S.Kamakshi Associate Professor, Department of Accounting and Finance,  
Shrimathi Devkunvar Nanalal Bhatt Vaishnav College for Women, Chromepet, Chennai-600 044.  
kalaivanimurugan2020@gmail.com ; sdnkams1979@gmail.com

### ABSTRACT

This study is an attempt to study about the Talent Management Practices at Chennai Port Trust. Chennai Port is the third oldest port among the 12 major ports, is an emerging hub port in the East Coast of India. This gateway port for all cargo has completed 137 years of glorious service to the nation's maritime trade. Talent Management refers to recruiting, managing, assessing, maintaining the most valuable resource of any organisation. This empirical research paper will provide insights about the various Talent management practices followed in Chennai Port trust and its impact on the performance of employees.

*Key words: Talent Management, Organisation Performance, Human Resource*

### INTRODUCTION

Talent Management is also called as Human Capital Management. The importance of hiring talented and efficient employees makes very easy for the organisation to achieve its goals effectively and efficiently.

Organisation should acquire right person with the right skills in the right job at the right time to reach its objective . They usually face the important issue of talent limitation issues more than issues relating to capital. So it makes Talent Management a crucial effort for every organisation as it has significant relationship with the performance of organisation.

### LITERATURE REVIEW

Puja Sareenand Shikha Mishra(2016) on the topic A Study of Talent Management and Its Impact on Performance of Organizations among 206 IT professionals working in NCR. The statistical tools used in the study were t- test, Correlation and Regression. The results of the study revealed that the impact of the dimensions such as recruiting and attracting, compensation and rewarding, succession planning came out to be high on the dependent variable which is the organizational performance as compared to the dimensions such as training and development and also defining and retaining talent whose impact on the performance of the organization is a little less. The employees also feel that the organizations in the IT industry need to focus a little more on their talent retention strategies in order to minimize attrition and hence, enhance the overall organizational performance.

Yona Sakaja Mangusho ,Raphael Kipkoech Murei and Eunice Nelima (2015) on the topic "Evaluation of Talent Management on Employees Performance in Beverage Industry: A Case of Delmonte Kenya Limited" among 83 respondents in Del Monte , Kenya. The study concluded that the job retention such as competitive salary packages and rewards motivated the employees of Del Monte. The study further established that attraction through attractive packages motivated the employees of Del Monte. The study established that through career management practices such as job rotation, the organization was able to enhanced employee competence hence achieve high employee performance. The study also established that through a clear plan for the career growth and progression the organization was able to develop its talent which directly influenced employee performance.

Rita Kagwiria Iyria(2013) on the topic "Role of Talent Management on Organization Performance in Companies Listed in Nairobi Security Exchange in Kenya: Literature Review" has concluded that most of the talent management studies were done in other countries and to the researcher's knowledge there is limited empirical study done locally. Also most of talent management studies reviewed did not directly link talent management with the organization performance and therefore, there is a need to fill



# A STUDY ON PROBLEMS AND ITS INFLUENCE ON ORGANISATIONAL COMMITMENT AMONG INFORMATION TECHNOLOGY (IT) EMPLOYEES IN CHENNAI CITY

**S.Bindhu M.Com.,M.Phil.**

*Research scholar, Sri Paramakalyani college, Alwarkurichi, Manonmaniam Sundaranar University,  
Abishiekapatti, Tirunelveli-627012.Tamil Nadu, India.*

**Dr.R.Sivasankari M.com. ,M.Phil. ,Ph.d. ,SET**

*Assistant professor,Department of Commerce (SF), Sri Paramakalyani college, Alwarkurichi, Manonmaniam Sundaranar  
University, Abishiekapatti, Tirunelveli-627012.Tamil Nadu, India.*

## ABSTRACT

Organizational commitment plays an important role in influencing whether an employee will stay with the organization for a longer period of time. Organizational commitment is psychological attachment in their work. IT sector is a booming sector for economic development. Hence, the present study is conducted to explore the extent of problems faced by the IT sector employees in Chennai city. The study investigates the factor responsible for organizational commitment and its influence among the selected 100 IT sector employees in the study area. The study has used percentage, garret's ranking technique, weighted average method for analysis. Simple random sampling technique has been used to select 100 employees and the study revealed that detachment from family is the major problem. The study also discovered that the work environment and current employer are considered as major factor for organizational commitment. Work life balance is very important issue in human resource management field and has vital impact on the productivity and growth of both the organization and employee.

**Keywords:** organizational commitment, work life balance ,IT employees, psychological attachment.

## INTRODUCTION

Organizational commitment is defined as a view of an employee's psychology towards their attachment to the organization. Organizational commitment must be created among employees with their satisfaction beyond the problems faced by them in the job. Organisational commitments make the employees to have loyalty and work for a longer period. Now a days Information technology sector plays an important role in economical development and also there are more employment opportunity in IT sector boom .Pay and perks are more satisfied at the same time lot of commitments and deadlines are lead to un predictable stress level to the employees during the working time . Work life balance is the determination of level of preference given to professional life and personal life in an individual person. Organizational commitment is creating some affection on work .

Organizational commitment is creating positive feel and making motivation to achieve organizational goals. There exists three distinct types of organizational commitment: Affective commitment . Continuance commitment Normative commitment.

## REVIEW OF LITERATURE

Jave jyoti (2019) studied relationship between work life balance and organizational commitment in academic sector. Researcher considered the 82 respondents from engineering institute and management institutes. the results that were yielded show that work life balance has come to center stage in academics as well.

Stefanus ramangkit(2019) analyzed work life balance as a predictor of organizational commitment is a multidimensional approach . from 90 respondents the study came out with the findings that the dimensions of work life balance time balance , involvement balance , and satisfaction balance) positively affects organizational commitment.

Cem berk (2018) TURKEY, studied the effect of work life balance on organizational commitment of accounts, this search is unique in combining work life balance and organizational commitment in work might be related to work life