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EDITORIAL



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1. Are Universities Becoming Business – Driven.

Dr. Bhawna Sangeeta¹ and Yashika²

¹Assistant Professor, Modi University of Science & Technology, **India**

²Student, Modi University of Science & Technology, **India**

Abstract: Universities worldwide are experiencing a significant shift in their focus from being knowledge –driven institutions to becoming more business entities .This paper aims to explore the various factors driving this transformation and its potential impact on the education system.The first section of the paper discusses the increasing competition among universities to attract students and secure funding. With the rise in tuition fees and reduced public funding, universities have become more reliant on attracting students as customers and securing partnerships with corporations. This has resulted in universities prioritizing marketability and financial viability over



academic excellence. The second section examines the emergence of rankings and league tables as influential factors for universities' reputations. Institutions are now compelled to work towards improving their rankings by focusing on research output, citations, and graduate employment rates. This creates a pressure to prioritize certain subjects and disciplines to meet market demand, detracting from a well-rounded education. The third section explores the impact of commercialization on research and innovation. Universities have increasingly sought collaborations and partnerships with businesses, leading to the commercialization.

Keywords: Business- Driven Competition, Academic Excellence, Commercialization

Introduction

Universities have traditionally been institutions focused on the pursuit of knowledge and the holistic development of students. However, in recent years, there has been a noticeable shift towards a more business-driven approach in higher education. This transformation is primarily motivated by the need for universities to remain financially viable and



competitive in an increasingly globalized and market-driven world. One of the main driving forces behind this shift is the rising cost of education. As public funding for universities has decreased, institutions have been forced to explore alternative revenue streams to sustain their operations. Consequently, universities have started to prioritize revenue generation by attracting more students, especially those who are willing to pay higher tuition fees. This has led to an increased focus on marketing and branding efforts, as institutions strive to differentiate themselves and attract a larger pool of applicants. Additionally, universities are facing growing pressure to produce graduates who are ready to enter the job market. In response, many institutions have started to align their curriculum and programs with the needs of employers. This market-oriented approach aims to enhance graduate employability by equipping students with relevant skills and experiences that are in demand in the workforce. As a result, universities are increasingly offering specialized programs and partnerships with industry to ensure that their graduates are competitive in the job market.

Are University Become Business –Driven



Decades ago, the focus of universities was on education. Today things have been changed .They are now more aimed at attracting customers. The job of a university is to pass knowledge and help students apply it.This is why for long, they have aimed at educating students .But this seems to be changing. They are paying attention to teaching students. Their concern is raising their financial status. They don't care about the type of graduates they produce .All they want is more and more money.Yes,many universities are becoming more business driven in order to stay competitive in the global education market .They often focus on attracting students through market strategies, offeringcareer-oriented programs and courses, and prioritizing research and development that has direct commercial applications .Additionally universities are increasingly relying on corporate partnershipsand philanthropic donations for funding's,leading to a more business –oriented approach in order to secure financial support .This trend has also led to increased emphasis on profit generation through initiatives like online education programs, executive education offerings, and international campuses. However, it's



important to note that not all universities prioritize business objectives above educational ones, as there are still many institutions that prioritize academic excellence and research

The Higher Education Funding Council for England conducted a survey of 164 higher education institutions and discovered that the sector is becoming more business-oriented, is better at linking its research to the needs of industry, and is more cost-effective in setting up its own businesses than American universities. During the academic year that ended in 2003, the number of patents awarded to universities grew by 26% over the previous year. Universities now generate £168 million in revenue through consulting work with businesses and industry, and funding for regeneration projects that benefit local communities has climbed by 15 percent in recent years. Universities are being urged to increase their income from business

Academic Excellence: Academic performance is important for an institution for the good outcomes that lead to the job performance in the future the academic performance is not affected by age, gender, and place of



residence but they may also said those who live near to university can perform much better than other who live far from university. Academic Success is designed to help you with your journey. It's a handbook of the core skills for empowering students, whatever you are studying. Spending time learning and practising these skills will produce benefits that flow across all subjects throughout your years at university. Now that's a valuable investment. Not only can this knowledge improve your achievement, but it can also reduce the stress of being a student, and ultimately make your university experience more enjoyable. Academic Success is divided into five parts reflecting different aspects of the tertiary experience you will encounter **Part A:** Successful Beginnings addresses what it is like to be a new student at university. It begins with discussing the advantages of having a tertiary education. It then details the experiences of adjusting to university life and the benefits of connecting with the people who can support you through this time. There's also a chapter about succeeding as a First Nations student. **Part B:** Successful Foundations introduces basic skills in English language and Maths, and techniques for



accessing and working with information in your subject area. It will also explain the importance of academic integrity and acknowledging your sources of information. These chapters are valuable particularly if you're feeling unprepared for university or anxious about returning to study after years at home or in the workforce. They can build your confidence and prepare you for the new learning ahead. It is also a good place to check if there are any gaps in your understanding of the basic concepts you will rely on throughout your studies.

Part C: Successful Study Skills presents the everyday, core skills that successful students use while at university. These are methods applied by generations of students to manage time, set goals and beat procrastination. This discussion is followed by wealth of practical tips and tricks on reading efficiently, taking effective notes, organising a study space, and exploring ways to think critically, analytically and creatively about what you are learning.

Part D: Successful Assessment meets head-on the challenges of tertiary assessments. These chapters step you through the processes of writing assignments, constructing presentations, and preparing for exams. It also discusses what you can do if you



fail an assessment to turn it into future success. These chapters contain the pointers that can help you convert your hard work into strong grades that will ultimately earn your degree. **Part E:** Successful Futures explores what lies ahead when your university experience draws to a close. It has suggestions of what you can do now to assist your transition. There are ideas for improving your readiness for work in your preferred profession and for increasing your appeal to future employers in a competitive job market. It also explores your options of pathways for your life after graduation. A discussion of postgraduate study can help you decide if you want to pursue more study.

Commercialization of Higher Education

Commercialization is the process of bringing new products or services to the market. The broad function of commercialization includes production, distribution, marketing, sales, customer support and other important functions to achieve commercial success of a new product or service. Commercialization is a subset of the broader process of innovation. It is driven by market and profit motives, with



firms and others seeking to gain a positive return on investment in research, licensing, product development, and marketing, including through the creation of competitive niche markets. The Oxford English Dictionary defines commercialization as "the principles and practice of commerce; excessive adherence to financial return as a measure of worth". The Investopedia dictionary defines commercialization as "the process by which a new product or service is introduced to the general market. Commercialization is divided into phases, from initial introduction through mass production and adoption of the product. It takes into account the production, distribution, marketing, sales and customer support needed to achieve commercial success. According to the Merriam-Webster dictionary, commercialization means "to manage on a business basis for profit; or to develop commerce; or to exploit for profit; or to degrade". Today's education has serious and adverse effects on the society as most of the private educational institutions operate with the sole objective of making money. Since the enrollment of students increasing in the higher education there is a good



opportunity for the institutions to earn more money. More often students get cheated since the rules and regulations of the institutions were set with the motive of making profits. The educational reforms in India have led to the commercialization of education in recent days. It is bringing the financial elements in all aspects education including enrollment to schools, colleges and universities. As an impact this is changing the traditional concepts of education in the society, the student teacher relationship and attitude towards imparting knowledge. The enrollment in higher education has drastically increased over the last decade. During the year 2016-2017 the students enrollment in higher education to private institutions has increased to 18.5 million compared to 7.5 million in 2006-07. Whereas enrollment to central universities and state universities have just shown an increase of 0.9 and 5 million respectively. This clearly indicates that private universities and institutions have taken the lead with the race to regard to enrollment.



Conclusions: Some universities are still focused on educating students. They do not just impart knowledge. They also make sure that students can use that knowledge in real life. Congratulations to such kind. They are making society a better place. But other universities are losing direction. They are becoming more business driven. They aim at making money. As discussed, several signs show that universities are now more business driven.

*Firstly, universities are now focused on construction

* Secondly, universities are more attentive to commercial courses.

*Thirdly, universities prefer foreign students.

Why is this a Concern /When universities turn into business several problems will occur

Firstly, universities will not give quality education .This is because the focus is shifting learning to consumers.

Secondly students will not be able to use the acquired knowledge in real life. Thirdly, education will become more expensive. This means that less privileged students will not



get higher learning .In Short ,it will lead to lack of fairness in higher learning

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2. Semiotics in Animated Ad Commercials’ Liking Pattern of ‘Teenagers’ and its Influence on their Purchasing Behavior.

¹Dr. T. Yogesh Babu and ²Dr. P. John
Adinarayana

¹Former Assistant Professor & Head, Department of Fine Arts, EIT, CASS, CBSS, Mainefhi, Adikeih, Eritrea , North East Africa , Africa, IIP PDF-2023 candidate from Eudoxia Research University- USA& ERC-**India**,

²Assistant Professor, Department of Fine Arts, Koneru Lakshmaiah University, Guntur, AP, **India**,

Abstract: The existing paper tries to see as to how youth perceived the television advertisement and what sort of animated commercials falls in their liking zones with the purpose thereof. The researchers additionally analyzed as to how the animated ad Animated commercials’ liking pattern prompted the purchase purpose of adolescent. The



prevailing paper targets the Adolescent era inside the age organization of 10-15 living in the Vijayawada regions. In all 775 respondents have been contacted either individually or thru mail, simplest 230 spoke back. The results found out that youth perceived commercial as an interesting and fun aspect which helps them to collect know-how approximately new merchandise and growing manufacturer's awareness. Majority of commercial which were liked by Adolescentsters and had a robust have an effect on have been from the class of bloodless-drinks, cell carrier vendors and a few different food items. Unique and exciting presentation, proper statistics and proper endorser were most critical cause that adolescence mentioned for purpose of liking classified ads. It turned into observed that the advertisement which fell in the liking zones had a huge influence on buy intention with 13% purchased the product and another 46% have a choice to strive the products. Consequently, marketers wishes to hold innovating and designing new techniques of verbal exchange (advertisements) for occupying a preferred space inside the thoughts of customers. The studies calls for product positioning and building logo focus round innovative and



thrilling presentation of idea and careful selection of celebrity whose appeals matches with the brand personality.

Keywords: Advertisement, Adolescent, Product, Behavior

Introduction:

The arena of leisure, specifically television and net media have seen an unprecedented upsurge in its content, variety, attain and choices for target audience. Television commercial being the most mighty and popular manner of verbal exchange and grabs massive investment in shape of money and efforts from the marketers (Jerry, 2008; Hinckley, 2009; Hopps, 2009; ASSOCHAM, 2011; Kantar Media, 2012). Consequently, Marketer's apparent hobbies are maximum influential customers and beneficial markets. Indian young people gives both a moneymaking marketplace because it constitutes biggest population inside the world (Ministry of adolescents affairs and guide, 2011; global exertions organization, 2012) and impact in shape of key member in circle of relatives selection making as they have got know-how about new merchandise because of higher get entry to modern internet media. Teenagers even though make a



moneymaking marketplace, however have a wide range of hobby and choices. Thereby, it becomes very hard for the entrepreneurs to tap this ability market which requires designing of advertisements that attracts their appeal and arouse hobby. Advertisement has constantly being a prime source of verbal exchange to people searching for products/services for marketer's thereby building emblem image and creating positioning. However, in current years the surge in range of channels and accessibility of television to a largest ever target audience, has on one hand accelerated the reach of marketers and unheard of final touch for space and occupancy inside the target market thoughts on the opposite hand. Advertising has now ended up the most crucial and powerful tool to persuade or influence consumers for desired effects by means of the entrepreneurs. Essentially popularization of the product is a first-rate intention of any advertisement (Ramaswami and Namakumari, 2004).

Literature Review: Animated advertisements have become increasingly prevalent in today's marketing landscape, captivating audiences with their creativity, humor, and



emotional appeal. Scholars and researchers have conducted numerous studies to explore the effectiveness and impact of animated ad commercials on consumer behavior, brand perception, and advertising strategies. **Effectiveness of Animation in Advertising** Research by McQuarrie and Mick (1999) suggests that animation in advertisements enhances message recall and comprehension compared to static or live-action ads. The dynamic nature of animation allows for creative storytelling and the visualization of abstract concepts, making it particularly effective in conveying complex messages to audiences (Vallaster & von Wallpach, 2013). **Emotional Engagement and Brand Recall** Studies have shown that animated ad commercials evoke strong emotional responses from viewers, leading to higher levels of brand recall and recognition (Gao et al., 2016). The use of vibrant colors, expressive characters, and imaginative narratives in animation captivates audiences and creates lasting impressions, thereby influencing consumer attitudes and purchase intentions (Hull, 2017). **Targeting Specific Audiences** specific demographic groups, including children, teenagers, and adults. Research by Macklin and



Kolbe (2013) suggests that animated commercials are particularly effective in engaging younger audiences due to their playful and entertaining nature. Moreover, animation allows advertisers to address sensitive or controversial topics in a lighthearted manner, facilitating communication with diverse audiences (Boguslawska-Tafelska, 2019).

Cultural and Cross-Cultural Perspectives Cross-cultural studies have examined the impact of animation in advertising across different cultural contexts. While some scholars argue that certain animation styles and themes may resonate more strongly with specific cultural groups (Basil et al., 2008), others emphasize the universal appeal of animation in transcending language and cultural barriers (Singh & Sonnenburg, 2012). Understanding cultural nuances is crucial for creating animated ad campaigns that resonate with diverse audiences while avoiding cultural stereotypes or misinterpretations (Albers-Miller & Stafford, 2015).

Future Directions and Innovations The evolving landscape of animation technology presents new opportunities and challenges for advertisers. Emerging trends such as 3D animation, virtual reality (VR), and interactive storytelling



offer novel ways to engage audiences and create immersive brand experiences (Chatterjee & Askegaard, 2016). Future research may explore the potential of artificial intelligence (AI) and machine learning in optimizing animated ad content based on real-time consumer feedback and behavioral data (Nelson-Field et al., 2019). **Television Advertisement and Adolescence Behavior:** TV commercial is one of the high-quality promoting, least expensive and most effective media of influencing the behavior of capability consumers. Via advertisement, marketers can attain a whole spectrum of consumers. The distinctiveness of television advertisement over different mediums is that it perceived as a combination of video and audio features and it presents products with instantaneous validity and prominence and offers the best possibility for creative advertising (Kavitha, 2006). Furthermore, reactions to television advertisements seem to be more potent than the reaction to print classified ads (Corlis, 1999). The marketers also discover it greater effective to use television in preference to print media to reach consumers, in part because of low literacy charge (Ciochetto, 2004; Bishnoi et al., 2009). Moreover, T.V.



advertisement plays a vital function in either introducing a product or reinforcing the familiarity of the product to make a higher choice in the course of shopping (Raven John et al, 2004). Use of nice characters is one of the important factors to make advertising effective and likable. Now, advertisers and marketers have realized that teens is a potential source of untapped target market as they spend lot of money on numerous items like rapid meals, bloodless-beverages, sporting, and beauty items, and many others. They also spend their cash on diverse family gadgets while exercise their emblem possibilities. Now not simplest this, in addition they have an effect on the own family buy selections through suggesting their emblem preference (Kotwal et al., 2008, Wang et al. 2008, Bishnoi and Sharma, 2009). Hence, this paper objectives to study the advertisement liking pattern of adolescent and its impact on their purchase conduct.

Objective of Research

1. To find out the most recalled and most liked advertisement by adolescence and the reason thereof.
2. To analyze the influence of TV advertisements on the purchase behavior of adolescence.



Research Methodology:

The prevailing research is exploratory cum descriptive in nature especially depends upon number one source of information. The prevailing paper targets the younger technology in the age group of 10-15 living in Andhra Pradesh State. They have a look at accomplished a web questionnaire survey to accumulate the records during Oct-Dec, 2022.

Analysis Table-1: Demographic Profile of Respondents

Variables	Respondents -230		Variables	Respondents -230	
	Number	Percent		Number	Percent
1. Gender			4. Parents Income Level (Rs.)		
MALE	142	61.7	Less than Rs 25000	50	21.7
FEMALE	88	38.3	Rs. 25000	92	40.0



			- 50000		
2.Education al Level			Rs. 51000 - 75000	28	12.2
8 th Standard	40	17.4	Abov e Rs. 75000	60	26.1
9 th Standard	72	31.3	5. Age (year s)		
10 th Standard	118	51.3	10-11 years	80	34.8
3.Residentia l Background			12-13 years	86	37.4
Urban	176	76.5	14-15 years	64	27.8
Rural	54	23.5			

Table-2: List of Most Recalled Ads by Adolescence

Sr. No.	Recalled	Fr	%	Reasons
1	Thumps up	26	17.3	Adventurous Appeal, Slogan, Creative Idea
2	Cadbury Dairy Milk	22	14.7	Popular Brand Name, Entertaining, Emotional Appeal



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3	Oreo	20	13.3	Celebrity, Informative, Music
4	Mountain Dew	18	12.0	Repeated Ad, Adventurous, Uniqueness
5	Sprite	18	12.0	Innovative Idea, Slogan, Attractive Model
6	Kinder Joy	14	9.3	Celebrity, Creativity, Slogan
7	Centre Fresh	14	9.3	Animation, Funny, Music
8	Pepsi	12	8.0	Celebrity, Entertaining, Slogan
9	Happydent	12	8.0	Graphics, Funny, Creative Idea
10	Maggi	10	6.7	Creative Idea, Famous brand
11	Bingo	10	6.7	Unique Idea, Emotional Appeal, Technology
12	Mazza	10	6.7	Funny, Entertaining, Celebrity
13	Lays	8	5.3	Creative Idea, Technology, Funny
14	Five star	8	5.3	Funny
15	Kwality Wall's	8	5.3	Celebrity, Funny, Informative
Total No. of Recalled Ads		150		

Source: Primary Data



For accumulating data, the purposive sampling method has been used. In all 775 respondents were contacted, handiest 230 had been patient enough to completely fill up the questionnaire. The information has been accumulated through dependent questionnaire designed with the help literature review. before carrying out a full-fledge survey, the advanced questionnaire become pre-tested on 55 respondents through personal interview and revised again with the help of suggested change. It became further suitably analyzed with the aid of calculating percentages, frequencies, go-tab and factor evaluation method. With a plethora of manufacturers and giant boost in various TV Animated commercials, the adolescent are being bombarded with records from all kind of merchandise. although, there are the few top maximum recalled Animated commercials that hit the respondents thoughts because of the numerous motives along with innovative/precise concept, including appealing superstar/model, thrilling slogans frequently repetition, recognition of logo call or they are the usage of the product and few different reasons? To recognize approximately recalled advert, researched requested open ended questions



from the respondents and they may be able to recollect the commercial of a hundred and fifty merchandise.

Table-3: List of Favorite Advertisement

Sr. No.	Favorite Ads	Fr	%
1	Cadbury Dairy Milk	22	18.3
2	Thumps up	20	16.7
3	Montain Dew	20	16.7
4	Centre Fresh	20	16.7
5	Lays	14	11.7
6	Five star	12	10.0
7	Pepsi	12	10.0
8	Bingo	10	8.3
9	Maggi	10	8.3
10	Kwality Wall's	8	6.7
	Total No. of Favorite Ads	120	

Out of them, top 10 Animated commercials have been selected based totally on frequency of advertisement remember by using respondents. Thumps up comes first within the top maximum recalled animated commercials by using respondents with due to its specific slogan with 17.3 % accompanied through Cadbury Dairy Milk (14.7%) due to popular emblem name and repeated advertisement. The



adolescence also provide large reaction to the melodious sound of Oreo (13.3 %). additionally they preferred the adventurous attraction shown in cool drinks ads of Mountain Dew (12%) and sprite with its famous punch line (12%). The others maximum recalled ad is from Kinder Joy which brought it to the 6th position with 9.3% followed with the aid of Centre Fresh, Pepsi, Happydent, Maggi, Bingo, Mazza, Five star is also take an excellent combat of their respective zone to their competitors. The commercial of Lays and Kwaliti Wall's additionally catching the teen's attention due to their creative concept and as well as funny enchantment proven in advertisement. For favorite advertisement, the researchers have been requested open ended query and that they preferred ads of one hundred twenty merchandise. Out of them, Cadbury Dairy Milk wins the coronary heart of adolescence by way of capturing 18% due to particular presentation of emotions of adolescence and properly use of jingle and music accompanied by using Thumps up, Mountain dew and Kinder Joy getting 16.7% each due to the renowned emblem, its presentation and specialty of classified ads. On 5th in the listing is Lays, the novelty and



technological development bagged it eleven.7% of the likes by using the kids.

Table-4: Reason for Liking the Advertisement

	Response	Percent of cases (Out of total respondents)
Adventurous Appeal	70	30.4%
Creativity/ Unique idea	172	74.8%
Emotional Appeal	70	30.4%
Graphics	26	11.3%
Celebrity	92	40.0%
Expert Advice	26	11.3%
Informative	76	33.0%
New Technology	60	26.1%
Total Respondents	230	

Source: Primary Data

Table-5: Impact of Favorite Ad on Purchase Intention

If you like an Ad, then what you do after?	Age of respondent			Total
	10-11	12-13	14-15	
Purchased	10	7 (8.1%)	31(21.9	48



the product	(12.5%)	14	%)	(20.5%)
Watched and forget	8 (10.0%)	9 (10.5%)	10 (15.6%)	27 (11.7%)
Shared with friends	26 (32.5%)	18 (32.6%)	13 (20.3%)	57 (24.7%)
Thought of buying the product	22 (27.5%)	30 (34.9%)	11 (17.2%)	63 (27.4%)
Will try the product	14 (17.5%)	12 (14.0%)	16 (25.0%)	42 (18.3%)
Total	80 (100.0%)	86 (100.0%)	64(100.0%)	230 (100.0%)

Source: Primary Data

Table-5a: Chi-Square Test

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.6419	8	0.006

The next maximum preferred advertisement if from Five star with 10% moreover, the adolescence additionally deliver special interest on commercial of various eatable items. The alternative classified ads liked with the aid of kids are Maggi



(10%) with slight difference with Kwaliti Wall's with catchy music and a few sharp enhancing lifted it manner past the blind-spot limbo that most excessive-exposure advertisements usually fall into. Now when the arena is transferring very speedy the want to seize consumer's eye has come to be very critical by means of the advertisers. The table 4 shows that creativity/specific idea (74.8%) is maximum vital cause for liking a specific advertisement by using adolescence. every other is celeb endorsement (40%) also located to be one of the critical motive for buying adolescence' attention. the other essential motives that grabbed the attention of kids protected informative advertisement (33.3%), adventurous enchantment (30.3%) and emotional enchantment (30.4%). The table-five offers a large variation in distribution of respondents throughout numerous age groups regarding youngster's conduct after looking their favorite commercial and effect on purchase aim. Chi rectangular table supports the good sized association between age organization and resultant influence on buy intention after watching the commercials. It exhibits that majority of the respondents belonging to 10-11 age



group, shared their favored commercials with friends while the age institution of 12-13 respondents, had a thought of purchasing the goods. but, the respondent of 14-15 age companies had aim to try the product.

Table-6: Purpose of Watching the Ads

	Fr	%
Knowledge	42	18.3
Entertainment	68	29.6
Information about new product	87	37.8
To see celebrities	33	14.3
Total	230	100.0

Source: Primary Data

Table-7: Influence of Advertisement on Purchasing Behavior

	STATEMENT	Mean Value
1	I often want to try products seen in TV Ads which I liked.	2.50
2	I thought of buying the product after watching the TV Ads	2.78
3	I feel more inclined to buy product after watching a TV Advertisement.	2.67
4	Using celebrities in TV Ads help me in remember the endorsed brand	2.40
5	TV Ads helps me to take better purchase	2.37



	decision.	
6	I buy products seen in TV Ad because of their famous brand name	2.75
7	I feel repetitive TV Ads increase the frequency of purchase.	2.65
8	I consciously tried to watch the Ad of product which I am looking to buy in near future.	2.30
9	TV Ads with their multiple ranges of brands and products confuse me	2.73
10	I switch to other brand after watching the TV Ads.	3.09
11	TV Ads help me find the required product more conveniently.	2.32
12	TV Ads influence me to buy the product, even though I do not require it.	3.15

(25%) and enormous quantity definitely purchased the product (21.9%). In totality, the table exhibits that the age businesses of 14-15 had been have an impact on most from classified ads which resulted both into purchase or aim to attempt the product.

The table 6 shows that majority of respondent see the commercial to get the information about new products (37.8%) whereas 29.6% respondent watch the advertisement for amusement reason followed with the aid of the know-how with 18.3%. One thing is obvious from the table that



most of the people respondents see advertisement as a main supply of facts (37.8+18.3). Meaning thereby that the youngster needs to get updated with modern-day fashion coming within the market. Celebrities did no longer appears to be in correct books of adolescence as most effective 14.3% respondents would really like to peer the celebs proven in advertisement. The table-7 indicates that the largely, the adolescence have the effective have an impact on TV advertisement on their shopping behavior. They see it as a handy device for making better bought decision and as well as would like to purchase the goods which they preferred but on the identical time, they sense that the TV ads does not impact them unnecessarily luring them into shopping for the products they don't want. Usual it could be stated that the adolescence have wonderful belief towards the commercial which represents a huge capacity for the advertiser to harness this opportunity for concentrated on their ability customers.

Conclusion

It is able to be concluded that majority of commercial that have a robust have an effect on consumer minds are from



the category of beverages to some other fast food items. The adolescence perceived advertisement as an interesting and fun which assist them to gather knowledge approximately new merchandise and creating manufacturers focus. The kids do not see advertisement something poor as they disagree regarding commercial creating confusion and influencing their behavior unnecessarily or developing a false logo photograph. For youngsters, the celebrity does now not go beyond in helping them to recollect the logo. with regards to the have an effect on of advertisement on purchase aim, there appears to be tremendous association specifically for the age group of 14-15.

Implication of Research

As in line with the effects, huge range of respondents just like the advertisement due to the modern idea or specific presentation not for the celeb endorsement as majority of recent commercial recalled and became into favourite advertisement do now not have any superstar endorsement i.e. Cadbury, Mountain Dew, Thumps up, Sprite, Lays and Maggi. The tacky and loud ads will lead to quick term remembrance however not high quality effect on



adolescence purchaser's purchase selection. Consequently, in place of spending the big sum of money on brand ambassadors, the entrepreneurs ought to attract the customers with an innovative and exciting concept and role the product inside the thoughts of customers. It would not most effective reduce the price but additionally resulted into the excessive earnings with increasing sale for the long time. But, the marketers want to be careful that simplest correct commercial and precise presentation does not lead to the assured sale. Therefore, the good advertisement may get success for attracting the clients for one time purchase, but for long time consumer retention, the quality of merchandise ought to meet the patron requirement.

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3 Study of Emerging Technology in Robotics: An Assessment.

Archana Balkrishna Yadav

Gujarat Technological University, **India**

Abstract: The automation sector is always developing emerging technologies that provide new chances to enhance product outcomes, expand quality accessibility, and cut costs. A few technological advancements in the 21st century, such as robotics and artificial intelligence, have the potential to automate a variety of jobs in the automation sector, such as manufacturing operations and product assembly. Research has shown that robots may enhance medical outcomes, save expenses, and boost product delivery efficiency. This study employs an exploratory research approach with a theoretical framework based on a survey of the literature to explore the facts and findings of technology and its applications in different industries.



Keywords: Automation Industry, artificial intelligence, Robotics technology. **Introduction**

Many frameworks and projects for the growth of manufacturing technology have been presented globally during the last ten years, including in the US, China, Russia, India, and various EU member states. Industry 4.0, which was first presented as a strategic goal in Germany in 2011 and has subsequently gained worldwide adoption, is an early example of such a framework [1]. The development of cyber-physical systems (CPS), which are "physical and engineered systems whose operations are monitored, coordinated, controlled and integrated by a computing and communication core," is the main emphasis of Industry 4.0, commonly referred to as the "Fourth Industrial Revolution." It has arisen as a response to the digitalization of manufacturing as well as a technical and economic force motivating the development of industrial digitization technologies [2]. Manufacturing technologies (such as robotics and other automated systems) and the platforms, infrastructures, and systems that enable coordinated control and connection between them—collectively referred to as



the "internet of things" (IoT)—are central to the vision of Industry 4.0 in the manufacturing context. In this paper, we examine the adoption of IoT-based technologies, such as cloud computing systems, simulation systems, and data infrastructures, and robotic technologies, including industrial and service robots, in the context of Industry 4.0. Specifically, we investigate whether these technologies have shown appreciable progress from previous capacities and if, seven or eight years after the advent of Industry 4.0, they are capable of delivering their anticipated advantages. Our research primarily focuses on Germany because the country is the origin of the term "Industry 4.0" and has the highest relative presence of the term in normative and legal state documents among other countries that have adopted it. This suggests that Germany has provided strong governmental and legislative support for the strategy. Furthermore, with 309 industrial robots per 10,000 workers, Germany has the greatest robot density among its European rivals [1] [3] Robotics innovations are always pushing the limits of what robots can do and how they interact with their environment. Robots are now able to learn from experience, adjust to



changing circumstances, and make judgements instantly thanks to developments in artificial intelligence and machine learning. Robots are now able to learn from mistakes and improve their performance thanks to reinforcement learning in particular [4]. Collaborative robots, or Cobots, are machines designed to collaborate with people and support them in a variety of activities. Physical boundaries are not necessary for these robots to perform securely in shared workplaces since they are outfitted with sensors and safety measures [4]. Autonomous Vehicles: Thanks to advancements in robotics and artificial intelligence, autonomous vehicles—such as drones and self-driving cars—are becoming more and more advanced. These cars have the power to completely transform sectors of the economy including logistics, transportation, and agriculture [5]. The field of soft robotics focuses on creating flexible and pliable robots that can interact with people and fragile things in a safer and more efficient manner. Applications include grippers for handling delicate objects, medical gadgets, and prostheses. Swarm robotics: Coordinating many robots to accomplish a shared objective is known as swarm robotics.



Swarm robots are inspired by the cooperative behaviour of social insects like ants and bees. They may cooperate to explore new areas, carry out search and rescue operations, and even construct buildings on their own [6]. Robotics Inspired by Biology: Scientists studying robotics are increasingly looking to biology for inspiration when creating robots that imitate the composition and actions of biological things. Robots that imitate the agility and mobility of animals like cheetahs and birds are examples, as are those with soft muscles inspired by the movement of octopuses and squids.

Related Work: A system known as the Internet of Things (IoT) depends on a collection of actual items communicating with one another on their own. IoT is an evolving global information architecture based on the Internet that makes it easier to interchange products and services. The Internet of Things will primarily focus on four areas: (1) logistics and transportation; (2) healthcare; (3) smart environments (home, workplace, and plant); and (4) personal and social [7]. The majority of robots and robotics in general had industrial uses between the 1960s and the 1990s. Streamlining production at industrial facilities was the main obstacle. These days, robots



are getting more and more commonplace and have remarkable strength and powers. Humans are assisted, accompanied, and nursed by service robots. Both in healthcare and in daily life, robots will be helpful. Many novel service robot applications are developed by service industries. In order to do given jobs, service robots share the human environment and display basic cognitive behaviour. That level of autonomy, system complexity, and human-centered applications are all to be expected [8]. Service robots will be more important in the future. A new use for human-centered technology and the service economy is service robots. According to recent research, the emergence of personal assistant and home robots portends a collaborative society between humans and robots. Figure 6 presents a three-phase robotics paradigm. The main stages of robotics are shown in this model [9]. It is anticipated that the number of Machine-to-Machine (M2) communication devices would increase gradually until 2020. By 2020, there should be around 50 billion intelligent items that can communicate with one another and work together with people. The Internet of Things (IoT) age will be ushered in



by this advancement. The increasing prevalence of robots in many daily activities is contributing to the continuing Internet of Intelligent Things (IoT) revolution, making IoT-assisted robotics applications a genuine possibility in the near future [10]. Many benefits, including improved productivity, safety, convenience, and health as well as more data, information, and knowledge that can be used by individuals and organisations, are being promised by new technologies. Potential drawbacks include threats to individual privacy, exaggerated expectations, and mind-bogglingly sophisticated technology [11].

Ai Technology Used In Robotics :

Computer Vision: Using OpenCV and Convolutional Neural Networks, computer vision is a fundamental robotics technique. Considerable progress has already been made in robotics and computer vision. NLP, or natural language processing, Voice instructions to a robot may be implemented using NLP. For instance, NLP and robotics are significant fields of study. Understanding Natural Language for Interaction with Human-Robots [12]. Edge Computing: Today's most popular architecture is the cloud. By contrast, Edge Computing applies analytics closer to the source of the



data rather than at the centralised nodes. AI is complimentary at the Cloud and Edge. Therefore, edge computing processes data close to its source, or at its place of origin, as opposed to sending it to the cloud. This often indicates that the gadget may not be connected all the time. AI and Edge are being employed in sophisticated robotics applications, such as autonomous vehicles and drones.

Complicated Occurrence Process: In order to react to an occurrence as fast as feasible, Complex Event Processing (CEP) aggregates input from many streaming sources to infer a more complicated event. A Change of State is a description of an occurrence. A complex event is made up of one or more occurrences. An automobile's airbag deployment, for instance, is a complicated event that depends on real-time input from many sensors. Robotics ex

Event-Processing in Autonomous Robot Programming makes advantage of this concept [13].

AI and Transfer Learning: Transfer learning is a method that transfers information from one issue solved to another. For instance, an orange may be identified using the same model that was used to identify apples. Transfer learning allows a pre-trained



model to be used to a different (similar) image recognition task. Just the last few layers of the new model are trained, saving time and money in comparison. When a model is trained in the cloud and deployed on the edge, transfer learning is applicable to mobile devices for inference at the edge [13]. AI Hardware Acceleration: While hardware acceleration at the microprocessor level is still in its infancy, robotics will likely benefit greatly from it as well [14]. Reinforcement Learning: Robotics can develop and simulate complex and challenging behaviours with the help of reinforcement learning. There is enough potential in the interaction between the disciplines to draw comparisons with the relationship between mathematics and physics. Further insights are provided by an overview of Reinforcement Learning in Robotics [15]. GANs: Generative Adversarial Networks (GANs) are a useful tool for improving data quality, particularly picture data. This may be useful in situations where training requires comparable data that is not readily accessible or when data is difficult to get. Thus, GANs might be used to robotics training. Mixed Reality: Another newly-emerging field is Mixed Reality. Its primary



use is in the area of PbD, or programming by demonstration. PbD uses a mix of real and virtual items to develop an algorithmic prototyping method. Emotion Research - Affective Computing: The study and creation of tools and systems capable of identifying, deciphering, processing, and simulating human affects (emotions) is known as affective computing. This area is multidisciplinary and encompasses computer science, cognitive science, and psychology. Rosalind Picard's 1995 work on emotional computing served as the impetus for the current field of study. The potential for AI to mimic empathy serves as one of the research's driving forces [16].

Application of Robotics Technology: Robotics technology finds application across various industries and sectors, contributing to increased efficiency, productivity, and safety. Here are some key areas where robotics technology is applied [4] [10]: 1. Manufacturing: Robotics has revolutionized manufacturing processes, particularly in industries such as automotive, electronics, and consumer goods. Robots are used for tasks such as assembly, welding, painting, material handling, and quality inspection, leading to



higher precision, consistency, and throughput. 2. Healthcare: Robotics technology is increasingly being adopted in healthcare for tasks such as surgery, rehabilitation, patient monitoring, and logistics. Surgical robots enable minimally invasive procedures with greater precision and reduced recovery times, while robotic exoskeletons assist patients with mobility impairments in rehabilitation 3. Logistics and Warehousing: With the rise of e-commerce, robotics plays a crucial role in logistics and warehousing operations. Autonomous mobile robots (AMRs) and automated guided vehicles (AGVs) are used for goods transportation, picking, packing, and inventory management, improving efficiency and order fulfilment speed.4. Agriculture: Robotics technology is transforming agriculture through the use of drones, autonomous tractors, and robotic harvesters. These robots help farmers monitor crops, apply pesticides and fertilizers more precisely, and harvest crops efficiently, leading to increased yields and reduced labour costs.5. Construction: In construction, robots are employed for tasks such as bricklaying, concrete pouring, demolition, and site inspection. Robotic construction equipment improves safety



by reducing the need for humans to perform hazardous tasks and accelerates project timelines through automation.⁶

Service and Hospitality: Robots are increasingly being deployed in service industries such as hotels, restaurants, and retail stores. Service robots greet guests, deliver room service, and assist with customer inquiries, enhancing the guest experience and freeing up human staff to focus on more complex tasks.⁷

Defence and Security: Robotics technology plays a critical role in defence and security applications, including surveillance, reconnaissance, bomb disposal, and border patrol. Unmanned aerial vehicles (UAVs) and unmanned ground vehicles (UGVs) are used for remote monitoring and response in hazardous environments.⁸

Education and Research: Robotics technology is used in educational institutions and research laboratories to teach robotics principles, conduct experiments, and develop new robotic systems. Educational robots provide hands-on learning opportunities for students of all ages, fostering interest in science, technology, engineering, and mathematics (STEM) fields.⁹

Environmental Monitoring and Exploration: Robots are



employed for environmental monitoring, exploration, and disaster response in harsh or inaccessible environments. Autonomous underwater vehicles (AUVs) and unmanned aerial vehicles (UAVs) are used to study marine ecosystems, map terrain, and assess disaster damage.¹⁰ Personal and Domestic Use: Robotics technology is increasingly finding its way into homes for tasks such as vacuuming, lawn mowing, and entertainment. Robotic vacuum cleaners, lawnmowers, and pet feeders automate household chores, while social robots provide companionship and entertainment for users. These are just a few examples of the diverse applications of robotics technology across different industries and sectors. As technology continues to advance, we can expect to see even greater integration of robotics into various aspects of our lives.

Challenges And Limitations: Automated procedures are becoming more and more necessary. According to Fortune Business Insights, by 2028, the industrial robot industry is expected to grow to \$31.3 billion. The potential financial and production advantages of robot deployment are becoming more and more apparent to manufacturers. Industrial robots



do have certain disadvantages, however. These are a few of the most typical restrictions they have, along with recommendations on how makers might get around them [17]. **Affordability:** Industrial robots often have a high initial cost, as well as ongoing setup and configuration expenses. The necessity for extra components and future maintenance expenses must also be taken into account by manufacturers. Similar to this, the robotics industry is continually changing, and new devices are always coming out. Certain businesses, particularly smaller ones, may find it challenging to make frequent investments in new robots because they risk going bankrupt while attempting to stay up to date with market trends. Industrial robots, however, may assist producers in cutting expenses in a number of ways. By optimising work, they may lower manufacturing costs and boost revenues. Robots are more likely to provide a rapid return on investment if they have a well-defined financial plan and investment strategy. Purchasing reconditioned robots is another wise move. Used robots are still functional and efficient, and they usually cost half as much as new ones. **Privacy:** Industrial robots have long been thought to



be hazardous in manufacturing settings. And for good reason—they are heavy, massive pieces of machinery with high velocity. Older devices are more vulnerable to hazardous collisions and mishaps since they even lack the sensory capacity to identify persons in close proximity. Because of this, a lot of manufacturers use cages or partitions to keep the robots and their human coworkers apart. Safety has lately risen to the top of the industrial automation priority list, mostly due to the emergence of collaborative robots—smaller, lighter machines designed especially to operate with people. More regulations have been put in place for cobots as well as large industrial robots. While much effort remains to be done to attain comprehensive production safety, there is no doubt about the direction of advancement. It is well acknowledged that the use of new technology to improve human safety includes presence detection systems, light curtains, and laser scanners. Conducting a customised risk assessment of each manufacturing line and providing staff with accident response training is another smart practice for manufacturers.



More Impossible To Form: Employing skilled technicians and programmers to supervise robot installation is necessary for businesses since industrial robots need specialised programming and training to carry out jobs. Furthermore, when new software is created or robots are introduced to the market, even seasoned employees may need to refresh their knowledge. A robot that has been improperly programmed may malfunction and endanger those around. But a new approach to robot training has emerged recently: low-code, or no-code, programming. Employees without coding expertise may setup a robot utilising drag-and-drop user interfaces and visual modelling. Because low-code and no-code platforms are so user-friendly, robots may be programmed to carry out many jobs simply by modifying their arm. Companies may now save time, money, and space by having someone without technical expertise make a simple modification instead of using many robots as they formerly did. With 84% of US, UK, Canadian, and Australian businesses using low-code development platforms to minimise coding requirements, the low-code and no-code platform trend is growing. It has been shown that industrial



robots expedite firms' return on investment, reduce labor-intensive tasks for humans, and maximise output. They are not without restrictions, however. They demand large investment and maintenance expenditures, are more difficult to train than people, and present safety risks. Manufacturers have good reason to be concerned about them, but they may be solved with careful planning and innovative technology.

Upgrade And Repair: One of the drawbacks of industrial robots and automation is maintenance and repair. Robotic systems may be difficult and need specialised knowledge to operate and repair, despite their numerous benefits, which include lower labour costs and higher production. Numerous parts, including software, electrical, and mechanical ones, make up robotic systems. Regular maintenance is necessary for every component to guarantee the system's dependability and effectiveness. For instance, to stop wear and damage, mechanical parts like motors, gears, and bearings need regular lubrication, inspection, and replacement. Age, wear, and climatic conditions may also cause electrical components including power supplies, controllers, and sensors to malfunction over time. In order to assure correct readings,



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maintenance of these components usually include testing, replacing, and calibrating malfunctioning components. Another essential component of robotic systems that has to be updated and maintained on a regular basis is the software. Compatibility problems, security flaws, and software bugs may lead to system malfunctions or reduce performance. The system may be kept safe and secure with regular software upgrades and maintenance. Robotic system repair may be a difficult, drawn-out operation that calls for specific knowledge. Because there might be a lot of different components involved, figuring out what caused a breakdown or malfunction can be difficult. Furthermore, certain tools or equipment that are hard to come by or need specialised expertise could be needed to fix a system.

Limited Ability To Change : One of the drawbacks of industrial automation and robots is their lack of flexibility. Although robotic systems have numerous benefits, they may not be able to execute jobs requiring complicated decision-making or adapt to changing situations. Typically, robotic systems are created and configured to carry out certain tasks in a particular manner. For instance, a robot in an assembly line may be



designed to carry out the same operation over and over, like welding seams or tightening fasteners. This method may be very dependable and efficient, but it can also restrict the system's capacity to change and adapt. In many industrial applications, robots can make sophisticated decisions or adjust to changing situations. For instance, a robot in a warehouse would have to manoeuvre past obstructions or modify its course when the surroundings change. Programming such jobs may be difficult, and advanced algorithms and sensors may be needed. The challenge of reprogramming or reconfiguring robotic devices is another drawback. Modifying the hardware setup or programming of the system might be laborious and need specialised knowledge. This may make it more difficult for the system to adjust to shifting circumstances or take on additional duties. Some of these constraints have been addressed in recent years by developments in artificial intelligence and machine learning. Robots may be able to learn from and adapt to new activities and situations thanks to these technologies, which may eliminate the need for intricate programming and hardware reconfiguration.

Future Recommendation:



Looking into the future, here are some recommendations for further advancements and applications of robotics technology:

Enhanced AI and Machine Learning Integration: Further integrate artificial intelligence and machine learning algorithms into robotics systems to enable more autonomous decision-making and adaptive behavior. This will improve robots' ability to learn from their environment, make predictions, and optimize performance over time.

Human-Robot Collaboration: Focus on developing robots that can seamlessly collaborate with humans in shared workspaces, combining the strengths of both to enhance productivity and safety. This includes improving human-robot interaction interfaces, safety features, and task allocation algorithms.

Robots for Healthcare Assistance: Continue developing robots for healthcare applications, such as patient care, telemedicine, and medical logistics. These robots can assist healthcare professionals in tasks such as patient monitoring, medication delivery, and physical therapy, particularly in aging populations where there is a growing demand for healthcare services.

Autonomous Vehicles for Transportation and Delivery: Invest in the development of



autonomous vehicles for transportation and delivery services, including self-driving cars, trucks, drones, and delivery robots. These vehicles can improve transportation efficiency, reduce traffic congestion, and lower carbon emissions while providing convenient and reliable delivery options for consumers. **Robots for Hazardous Environments:** Develop robots specifically designed for working in hazardous environments such as nuclear facilities, offshore oil rigs, and disaster zones. These robots should be able to withstand extreme conditions, perform complex tasks autonomously, and assist in disaster response and recovery efforts while minimizing human exposure to danger. **Personalized and Assistive Robotics:** Design robots that cater to individual needs and preferences, particularly in areas such as rehabilitation, eldercare, and disability assistance. These robots should be customizable, adaptable, and capable of providing personalized support to users based on their unique requirements. **Ethical and Responsible Robotics:** Prioritize the development of ethical and responsible robotics technologies, including robust safety mechanisms, privacy protections, and fairness considerations in AI



algorithms. This will help mitigate potential risks and ensure that robotics technologies are used in ways that benefit society as a whole. Interdisciplinary Collaboration: Encourage collaboration between robotics researchers, engineers, policymakers, ethicists, and end-users to ensure that robotics technologies address real-world challenges effectively and responsibly. Interdisciplinary approaches can lead to innovative solutions that take into account diverse perspectives and stakeholder needs. Sustainable Robotics Solutions: Develop robotics solutions that prioritize environmental sustainability, including energy-efficient designs, renewable energy sources, and recyclable materials. By minimizing resource consumption and environmental impact, robotics technologies can contribute to a more sustainable future. Education and Outreach: Invest in robotics education and outreach initiatives to foster interest and expertise in robotics among students, educators, and the general public. This includes providing access to robotics resources, training programs, and hands-on learning opportunities to inspire the next generation of roboticists and ensure that society is prepared to harness the full



potential of robotics technology. By pursuing these recommendations, we can continue to advance the field of robotics and unlock new opportunities to improve lives, enhance productivity, and address global challenges.

Conclusions

Enhancing autonomous decision-making and adaptive behaviour in robotics systems requires the integration of machine learning and artificial intelligence technologies. This will enhance robots' capacity for environmental learning, prediction, and long-term performance optimisation. Enhancing interaction interfaces, safety features, and job allocation algorithms are the main goals of human-robot cooperation. Robots are being created to help in healthcare, transportation, and dangerous settings, making delivery dependable and efficient. Individual requirements are being met via the construction of personalised and helpful robots, especially in the areas of rehabilitation and disability support. Prioritisation is being given to ethical and responsible robotics technology, including strong privacy safeguards, safety features, and fairness considerations in AI algorithms.



In order to efficiently and ethically handle real-world situations, interdisciplinary cooperation is encouraged. Energy-efficient designs and renewable energy sources are among the environmental sustainability factors that sustainable robotics solutions prioritise. The field of robotics can progress and the next generation of roboticists may be inspired by investing in outreach and education programmes in robotics.

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4. Newspapers in India in an era of digital media.

Dr. Kanta Kaveri Sonowal

Assistant Professor, Centre for Studies in Journalism and Mass Communication, Dibrugarh University, Assam-786004, India

Abstract: Newspaper in India completes more than 240 years of its existence. This precious medium of mass communication of 18th century India still bears special significance. It is in an era while number of new means of mass communication is available in Indian media market. In an era while Indian media consumers are enjoying a virtual world along with the real world. Now, newspaper is not only available in printed form but in digital form as well. Therefore, the reach ability of print media is enjoying a wider network of readership. This is primarily because of availability of the same in both offline and online mode. This paper is an attempt to understand characteristics of offline



and online readership. The study is based on both primary and secondary data. The study suggests that there are variation in case of offline and online readership. This variation signify changing pattern of newspaper readership. This changing pattern of readership indicates several facts including types of readership, age, sex, and preferred medium of mass communication.

Keywords: Newspaper, India, readership, offline, online

Introduction

Indian newspaper completes more than 240 years of its existence. To know more about this historic journey of newspaper we need to go back to second half of the 18th century. In 1780 an Englishman named James Augustus Hickey started the first ever newsprint in British India. The name of the newspaper was Bengal Gazette. This was the beginning of a glorious chapter of Indian newspaper and Indian journalism as well. Indian journalism has a glorious chapter. It witnesses historic ups and down of social, economic and political scenario of India. Among those the freedom struggle of India tops the list. At the beginning, the



language of newspapers in India was English. This trend continued till the first decade of 19th century. The second decade of 19th century marks the arrival of Indian language newspapers. It has added a new dimension to Indian newspapers signifying its potential as a powerful medium of mass communication. Print was the popular medium of mass communication for 18th and 19th century India. The 20th century India witnesses historic development with respect to electronic media. The pace of growth and development in this phase is to such an extent that drastic changes took place from analog to digital media.

Objective: The prime objective of this paper is to understand newspaper in India in an era of digital media. That is why this paper is an attempt to understand characteristics of offline and online readership.

Methodology

This study is based on primary and secondary data. Therefore, 20 number of newspaper readers have been taken as respondents. They are the primary source of information. On the other hand number of books, magazines, etc., are



taken as secondary data. **Newspaper in 21st century India**

According to majority of respondents, the special characteristics of newspaper in 21st century are wider reach and accessibility. This is primarily because of traditional, offline readership as well as online readership. This not only indicates changing pattern of readership but also draws attention towards some other important factors. This includes types of readership, age, sex and their preferred medium of mass communication. According to respondents there is a variation between online and offline readership. The age group between 25-30, 30-35, 40-45, mostly prefer digital version of newspaper. On the other hand, the age group between 50-55, 55-60, 60-65 and beyond that prefers newspaper in a printed form. **Printed newspaper Vs**

Digital newspaper According to maximum number of respondents there are certain advantages and disadvantages in both the medium. In case of printed newspaper, no need to rely on technology and external device to access the same. But it is not in case of digital version. On the other hand the emotion attached with printed newspaper rarely compare with digital newspaper. Technology, connectivity may be a



barrier in case of digital newspaper but it is usually not in case of printed newspaper.

Conclusion

Though newspaper in India completes more than 240 years of its existence but still it possesses a commendable position as far as mass media scenario of the country is concerned. At the beginning of the 21st century, experts were concerned about the future of newspaper. This is primarily because of smart digital tools of mass communication. But after two decades we can see a very promising future of print media industry ahead. In fact, with the arrival of digital media newspaper is getting a wider readership than earlier. It is true that there is variation of offline and online readership but there is no denying fact that newspaper is emerging as an evergreen, potential, reliable medium of mass communication.

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5. Comprehensive literature review of Sulphur(*Kanthakam*) with its medical value - A Siddha Medicinal Perspective.

Dr.Bamini Mithurendran¹ and Dr. Ranasinghe Mithurendran²

¹Senior Lecturer, Faculty of Siddha Medicine, Trincomalee Campus, Eastern University **Sri Lanka**

²Medical Officer, Siddha Teaching Hospital, Nilaveli road, Konesapuri, Trincomalee Eastern University **Sri Lanka**

Abstract: The Sulphur(*Kanthakam*) and Mercury unavoidable elements in Siddha Medicine parables as sun and moon or body and soul. Sulphur and Mercury are superior elements among *Padanam*. *Padana Maruthuvam* is one of the specialties of Siddha Medicine. Even though it possesses toxic effects these are very essential ingredients for Siddha Medicine Preparation. because siddha texts states numerous purification methodologies for peculiar medicinal preparations. the



Sulphur contain medicines were searched and documented throughout this review. Sulphur be ingredient for numerous internal and external medicines. And also sulphure be a supplement for lots of medicines. Based on the review of when the heavy metal be an ingredient for medicine along with Sulphur: heavy metallic effects are mostly neutralized by Sulphur. Incredible preparations are available in texts for diseases conditions. Such as *Kaddu*, *Kazhangu*, *pathangam*, *Senthooram*, *Meluku*, *Thailum*, *nei*, *Kuzhambu*, *Chooranam*, *Thiravakam*, *Pukai* ect. Sulphur can cure minor to major diseases. This review can be the documentary for the supernatural power of Sulphur in Siddha Medical world.

Keywords: Sulphur(Kanthakam), Pharmaceutical preparations, Siddha Excellence

Introduction

Sulphur is the 13th most abundant element on the earth. Sulphur that is mined or recovered from oil and gas production is known as brimstone or essential sulphur. Now Sulfur is essential to the global economy. As sulphuric acid, sulphates, bi sulphates in chemistry industry, refining



decolourizing in sugar factory, disinfectants in hospitals, gule, solvents, household refrigerators, bleaching delicate articles, preservative for wines, meat dry fruits, fumigant for bacteria fungal in plants, refining in petroleum products(Earnshaw A, 1997. Sulphur has its historical use in traditional healing practices. Sulfur has been used for centuries in various cultures for its medicinal properties. In ancient times, sulfur was believed to have healing properties and was used to treat a wide range of ailments, including skin conditions, respiratory issues, and digestive problems ect. (Darbandi,2018). Its long history of use in medicine highlights its enduring significance importance in the medical field due to its various therapeutic applications. futher plants, animals, and abundant metal and mineral resources found on Earth are used to make Siddha Medicines. Based on treatment modalities of siddha Medicine the *Padana Maruthuvam* is one of the specialty for Siddha Medicine (*Padanam* :Kind of Mineral. Among the padanam the Sulphur (*Kanthakam*) and Mercury unavoidable elements in Siddha Medicine (parable as sun and moon or Body and soul.)Sulphur and Mercury are more superior element



among *Padanam*. Sulphur be an ingredients for numerous internal and external medicines for numerous diseases condition. The Sulphur containing medicines range from simple preparations to the higher medicines like *Pashpam* and *Chendooram* which can be preserved life-long with its formulated purification process.

Methodology

This Comprehensive review gone through numerous literatures, books, journal articles, publications, documentary from traditional practice and web side as well as specially focus about the Sulphur (*Kanthakam*) in Siddha Medical, medical view other related perspective of Sulphur.

The Sulphur: Sulphur is the 13th most abundant element in the earth. Elemental sulfur can be found near hot springs and volcanic regions in many parts of the world, These deposits are polycrystalline, with the largest documented single crystal measuring 22×16×11 cm (P.C, 1981). Historically, Sicily was a major source of sulfur in the Industrial revolution (Kutney, 2007). Common naturally occurring sulfur compounds include the sulfide minerals,



such as pyrite (iron sulfide), cinnabar (mercury sulfide), galena (lead sulfide), sphalerite (zinc sulfide), and stibnite (antimony sulfide); and the sulfate minerals, such as gypsum (calcium sulfate), alunite (potassium aluminium sulfate), and barite (barium sulfate). Sulfur forms over 30 solid allotropes, more than any other element. (Steudel Ralf, 2003) Besides S_8 , several other rings are known (Steudel.R., 1982). The nonmetallic elemental Sulphur is abundantly available with the chemical symbol S, it is a bright yellow and crystalline solid at room temperature. Historically called as brimstone, which means "burning stone" (Earnshaw A, 1997). Most of the elemental sulfur is produced as a byproduct of removing sulfur-containing contaminants from natural gas and petroleum. The Common commercial use of the elemental sulphur is the production of sulfuric acid for sulfate and phosphate fertilizers, and other chemical processes. The sulfur was known in ancient times and is referred to in the torah (Genesis) English Translation of the Bible commonly referred to burning sulfur as "brimstone", giving rise to the term "Fire- and Brimstone" sermons, It is from this part of the Bible that hell is implied to "smell of



sulfur" (likely due to its association with volcanic activity) (Rapp, 2009) Indian alchemists, practitioners of "the science of chemicals" (sanskrit *rasaśāstra*), wrote extensively about the use of sulfur in alchemical operations with mercury, from the eighth century AD onwards. (White, 1996) . Economical importance of Sulphur. Sulfur is one of the chemical industry's most important raw materials. It is used principally as the derivative (sulfuric acid) in many chemical and industrial processes and is particularly important in the manufacture of phosphate fertilizers, the single largest end use for sulfur. Other key uses include rubber processing, cosmetics, and pharmaceutical applications. Sulfur's importance to industrial economies and its relative ease of transportation have made it a commodity of major international interest. It is derived as a by-product from operations such as petroleum refining, tar sands recovery, heavy oil and natural gas processing, and from coking and metallurgical plants. **Other important sulfur chemistry:** Sulfur reacts directly with methane to give carbon disulfide, which is used to manufacture cellophane and rayon. One of the uses of elemental sulfur is in vulcanization of rubber,



where polysulfide chains crosslink organic polymers. Large quantities of sulfites are used to bleach paper and to preserve dried fruit. Many surfactants and detergents (e.g. sodium lauryl sulfate) are sulfate derivatives. Calcium sulfate, gypsum, ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) is mined on the scale of 100 million tonnes each year for use in Portland cement and fertilizers. When silver-based photography was widespread, sodium and ammonium thiosulfate were widely used as "fixing agents". Sulfur is a component of gunpowder ("black powder") (Nehb, et al., 2006). **Human and Sulphur:** In living. It is either the seventh or eighth most abundant element in the human body by weight, about equal in abundance to potassium, and slightly greater than sodium and chlorine. A 70 kg (150 lb) human body contains about 140 grams of sulfur. Sulfur is the sixth most abundant macromineral in breast milk and the third most abundant mineral based on percentage of total body weight. The sulfur-containing amino acids (SAAs) are methionine, cysteine, cystine, homocysteine, homocystine, and taurine. Dietary SAA analysis and protein supplementation may be indicated for vegan athletes, children, or patients with HIV,



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because of an increased risk for SAA deficiency in these groups. Methylsulfonylmethane (MSM), a volatile component in the sulfur cycle, is another source of sulfur found in the human diet. Increases in serum sulfate may explain some of the therapeutic effects of MSM, DMSO, and glucosamine sulfate. Organic sulfur, as SAAs, can be used to increase synthesis of S-adenosylmethionine (SAME), glutathione (GSH), taurine, and N-acetylcysteine (NAC). MSM may be effective for the treatment of allergy, pain syndromes, athletic injuries, and bladder disorders. It is especially humans because it is important part of the amino acid methionine, which is an absolute dietary requirement for us. The amino acid cysteine also contains sulphur. The average person takes in around 900 mg of sulphur per day, mainly in the form of protein. methionine contain most of the sulfur, and the element is present in all polypeptides, proteins, and enzymes that contain these amino acids save for the vitamins biotin and thiamine, Disulfide bonds (S-S bonds) between cysteine residues in peptide chains are very important in protein assembly and structure. These covalent bonds between peptide chains



confer extra toughness and rigidity Neurological effects and behavioural changes, Disturbance of blood circulation- Heart damage, Effects on eyes and eyesight, Reproductive failure, Damage to immune systems, Stomach and gastrointestinal disorder, Damage to liver and kidney functions, Hearing defect, Disturbance of the hormonal metabolism, Dermatological effects, Suffocation and lung embolism and Pure powdered sulfur was used as a medicinal tonic and laxative (Nehb, et al., 2006) and cure the Skin disorders of Eczema, dry scalp, rashes, burns and abrasions.

Pharmaceuticals: Organosulfur compounds are used in pharmaceuticals, dyestuffs, and agrochemicals. Many drugs contain sulfur; early examples being antibacterial sulfonamides, known as *sulfa drugs*. Sulfur is a part of many bacterial defense molecules. Most β -lactam antibiotics, including the penicillins, cephalosporins and monolactams contain sulfur (J., 1996). Sulfur (specifically octasulfur, S_8) is used in pharmaceutical skin preparations for the treatment of acne and other conditions. It acts as a keratolytic agent and kills bacteria, fungi, scabies mites, and other parasites



(Springer., 1978). Precipitated sulfur and colloidal sulfur are used, in the form of lotions, creams, powders, soaps, and bath additives, for the treatment of acne vulgaris, acne rosacea, and seborrheic dermatitis.

Common adverse effects include irritation of the skin at the application site, such as dryness, stinging, itching, and peeling.

Siddha Medical View: Among the *Pasanam* raw material, the *Kanthakam* (Sulphur) is one of the important and unavoidable materials for medicinal preparations. It has other names of *Kaarilaiyin natham*, *Parai veeriyam*, *Senthooraththathy*, and *Rasa sronitham* ect (Thiyagarajan.R, 2009). According to siddha, there are different types of *Kanthakam* mentioned in the texts, but the golden yellow colour *Nellikai Kanthakam* commonly used for medicinal preparation some examples are *Kanthaka parpam*, *Sarvavida thodangalin kulikai*, *Kanthaka chenthooram*, *Kanthaka mezhuku*,

Toxicity: Sulfur has low in toxicity for the animal and human. Ingesting too much sulfur may cause a burning sensation or other toxic conditions. Breathing in sulfur dust can irritate the airways, skin and eyes. Blurred vision has also



been reported (Boone et al, 2017) If animals eat too much sulfur, it may be toxic and can be fatal. Signs of poisoning include stomach and intestines irritation, effects on the lungs, and neurologic disorders. Sulfur in excess can cause brain cell death, resulting in brain damage (include blindness, incoordination, seizures, death, and others.) Burning sulfur creates sulfur dioxide, a gas. If inhaled, coughing, shortness of breath, sore throat, and labored breathing, and Eye irritation has also been reported (Boone et al, 2017) even though it possess toxicity Sulphur use for siddha Medicine preparation. **Method of Purifications:** More than 24 methods of purification mentioned in the Siddha texts Each purification which specific to the Medicine preparations.

Antidotes”The antidote for sulphur poison were mentioned in the siddha texts. For an example the antidote factify/neutralised by the preparation of Decoction made with *Neeli verpattai* (root of *Indigofera tinctoria*), *Milaku* (*Piper nigrum*) and *Seerakam* (*Cuminum cyminum*)

Chart 1: Number of preparations Based on Disease

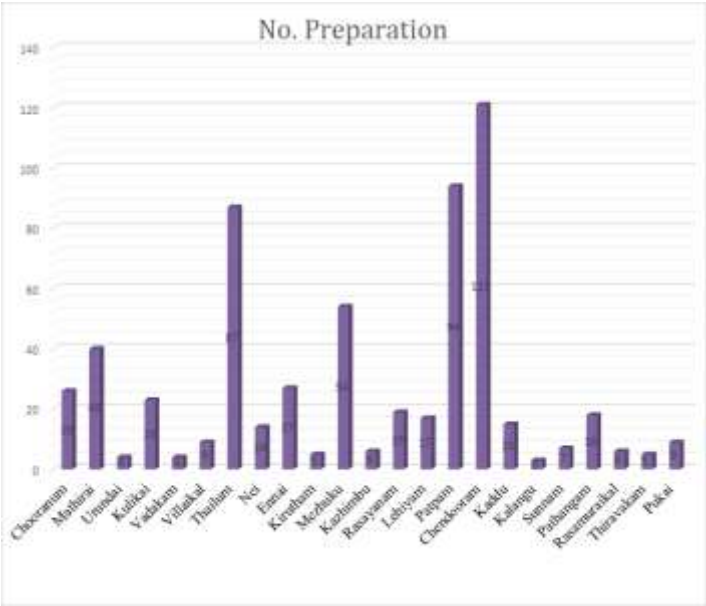


Chart 2: Number of preparations Based on type of Medicine

Conclusion and Suggestions: Siddhars States countless simple remedies, purification methods, preparation method and medicines with indication with th ereferenc of Sulphur(*Kanthakam*). Based on Disease condition sulphur mostly involve the preparation for fever, skin diseases and respiratory diseases conditions. With the condition of type of



medicine concern superior medicines of patpam, chendooram and thailum mainly possess the sulphur. Siddha medicine usage disappearing because of out of passion over time. In addition Plants and animals base medicine most expensive and seasonal and regional dependence.

The Sulphur is abundantly available cost effective element in earth for Siddha Medicine Preparation. Based on this review almost all the disease can be cure by this sulphur preparation. The Sulphur is distilled information from Siddha Literature for medicine, Sulphur for medical field to use for healthy World with research

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6. Development And Evaluation of an Anti-Acne Herbal Cosmeceutical Formulation Using Curcumin as a Bioactive Compound and Aloe Vera Gel.

Harshal A. Pawar¹ and Girish Nihalani²

¹Assistant Professor, Department of Pharmacognosy / Quality Assurance, Dr. L. H. Hiranandani College of Pharmacy, Ulhasnagar-3, Maharashtra, **India**

²Research Fellow, Product Development, Teva Pharmaceuticals, Weston FL 33331, **USA**.

Abstract: Acne vulgaris is a chronic inflammatory disorder of the pilosebaceous follicle, resulting in polymorphic cutaneous lesions such as comedones, papules, cysts, pustules, and abscesses. Curcumin, derived from the rhizomes of *Curcuma longa* (Family: Zingiberaceae), exhibits potent antioxidant, wound healing, and anti-inflammatory properties. Aloe vera gel has been reported to possess



protective effects against radiation-induced skin damage, moisturizing properties, and antimicrobial activity. This study aimed to develop a herbal anti-acne cosmeceutical formulation using bioactive component curcumin and aloe vera gel. The formulated gel was assessed for various physicochemical properties including pH, spreadability, viscosity, drug content, and antioxidant activity. Furthermore, the optimized gel formulation was evaluated for its in vitro anti-acne activity against *Propionibacterium acnes*. The developed cosmeceutical anti-acne gel formulation containing curcumin and aloe vera was found to be comparable to a commercially available marketed anti-acne product. Stability studies indicated that the formulated product remained stable for three months under accelerated conditions.

Keywords: Anti-acne, Curcumin, *Aloe-vera*, Antioxidant activity, Gel

Introduction

Cosmeceuticals are cosmetic products with biologically active ingredients purporting to have medical or drug-like benefits.



A cosmeceutical is an ingredient with medical properties that manifests beneficial topical actions and provides protection against degenerative skin conditions. The word “Cosmeceuticals” was popularized by Albert M Kligman in the late 1970’s. It encompasses cosmetic actives with therapeutic, disease fighting, or healing properties, serving as a bridge between personal care products and pharmaceuticals. Like cosmetics, cosmeceuticals are topically applied, but they contain ingredients that influence the biological function of the skin¹. *Acne vulgaris* is a chronic inflammatory disorder of the pilosebaceous units. Its prevalence is highest in adolescence, where the individual counters several psycho-social changes². It is a pleomorphic disorder and manifest at any time during life but it most commonly presents between ages of 12-24, which estimates of 85% of population affected. Multifactorial nature of acne has been elucidated in recent years. An improved understanding of the pathophysiology of acne leads to rational therapy for successful treatment. The individual lesions of *Acne vulgaris* are divisible into three types: non-inflamed lesions, inflamed lesions and scars. Typical lesions



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of acne include comedones, inflammatory papules and pustules. Nodules and cysts occur in more severe acne that can cause scarring and psychological distress. Acne happens when sebaceous (oil) glands attached to the hair follicles are stimulated at the time of puberty by elevated levels of male hormones ³. Sebum (oil) is a natural substance which lubricates and protects the skin. Associated with increased oil production is a change in the manner in which the skin cells mature so that they are predisposed to clog the follicular openings or pores. The clogged hair follicle gradually enlarges, producing a bump. As the follicle enlarges, the wall may rupture, allowing irritating substances and normal skin bacteria access into the deeper layers of the skin, ultimately producing inflammation ⁴. . The synthetic drugs conventionally may cause lots of side effects. Excessive and prolonged use of drugs may lead to resistance in acne causing bacteria. Natural products from plants, animals and mineral sources have the capacity of treatment of different human diseases. The use of herbal medicine is becoming very popular due to toxicity and side effects of synthetic medicines ⁵.Turmeric is a spice that comes from the



rhizomes *Curcuma longa*, a member of the ginger (Family: Zingiberaceae). The active constituents of turmeric are the curcuminoids which is a mixture of curcumin (diferuloylmethane), demethoxycurcumin and bis-demethoxycurcumin. Turmeric's primary biologically active component is curcumin. Curcumin makes up approximately 90% of the curcuminoid content in turmeric ⁶. Literature survey revealed that curcumin possesses potent antioxidant, wound-healing, and anti-inflammatory properties, which may prove to be therapeutic against acne. Turmeric is considered safe in amounts found in foods and when taken orally and topically in medicinal quantities. Clinical research indicates that Curcumin may have potential as a therapeutic agent in diseases such as inflammatory bowel disease, pancreatitis, arthritis, chronic anterior uveitis and certain type of cancer ². A natural product that is nowadays frequently used in the field of cosmetology is Aloe botanically named as *Aloe-Vera* (Family: Liliaceae) ⁷. It has been known and used for centuries for its health, beauty, medicinal and skin care properties. The name *Aloe-Vera* derives from the Arabic word "Alloch" means shining bitter substance whereas



“vera” in Latin means true. It contains 75 potential constituents which includes vitamins (B12, Folic acid, Vitamin A, Choline), enzymes (Aliaase, alkaline phosphatase, amylase), minerals, sugars, anthraquinones (Aloin and emodin), fatty acids (Cholesterol, campesterol, β -sitosterol and lupeol), harmones (Auxins and gibberellins) and others including amino acids (Leucine, Iso-leucine) salicylic acid, lignin and saponin glycosides ⁸. *Aloe-vera* gel has been reported to have a protective effect against radiation damaging the skin. Upon application of *Aloe-vera* gel an antioxidant protein metallothionein is generated in the skin which scavenges hydroxyl radicals and prevents suppression of superoxide dismutase and glutathione peroxidase in the skin. Mucopolysaccharide helps in binding moisture into the skin. Aloe stimulates fibroblast which produces collagen and elastin fibers which make the skin more elastic and less wrinkled. Lupeol, salicylic acid, urea nitrogen, cinnamonic acid, phenols and sulfur are the six antiseptic agents present in *Aloe-vera* having inhibitory action against fungi, bacteria and viruses ⁹. Benzoyl peroxide, Azelaic acid and topical retinoids (Tretinoin and Adapalene) are used in treatment of



mild acne. Moderate acne is treated by Erythromycin and Clindamycin (Topical antibiotics), Tetracycline and Erythromycin (Oral antibiotics), Isotretinoin, Estrogen and Estrogen containing oral contraceptives (Hormonal Therapy). Severe acne is treated by Isotretinoin. Side-effects associated the synthetic drugs are mild irritation, dryness, contact dermatitis, nausea, diarrhea, sore and red eyes, itchy skin and bacterial resistance mostly due to antibiotics. Natural drugs from the plants are gaining popularity than synthetic drugs because of several advantages such as often having fewer side-effects, better patient tolerance, being relatively less expensive and acceptable due to a long history of use. The objective of the present research work was to formulate and evaluate the herbal topical gel formulation for treatment of acne which is as effective as marketed formulation.

Materials And Methods

Materials: The leaves of *Aloe-vera* plant were collected from the botanical garden of Dr. L. H. Hiranandani College of Pharmacy, Ulhasnagar (India) in the month of January 2015. An herbarium of the leaf has been prepared and preserved in the Quality assurance laboratory of the college. Curcumin



(Batch No. K085/02411101X30, Curcumin, Crystalline Purity: 97%) was purchased from High Purity Chemicals Private Limited, Mumbai (India). All other chemicals and reagents used in the study were of the analytical reagent grade.

Preformulation studies: Identification of Curcumin and Preparation of its Calibration curve: Standard curve of curcumin was constructed by preparing various solutions of curcumin in the concentration range of $1\mu\text{g/ml}$ to $7\mu\text{g/ml}$. Standard solution($5\mu\text{g/ml}$) was scanned between 300nm to 500nm. Absorbance of these solutions were taken at 420nm using UV spectrophotometry (Make: UV-Visible Spectrophotometer, Shimadzu, model 1800) having two matched quartz cells with 1 cm path length. The calibration curve of concentration verses absorbance was plotted and correlation coefficient was determined.

Compatibility study: FTIR Spectroscopy: Compatibility studies were carried out to know the possible chemical interactions between curcumin and other excipients used in the formulation. A physical mixture of drug with all the excipients was prepared to study the compatibility. Drug



excipient compatibility studies were carried out using FTIR spectroscopy. The FTIR spectra's were recorded in between $400\text{--}4000\text{ cm}^{-1}$ using the FTIR Spectrophotometer (Make: IR Affinity 1, Shimadzu, Class1 Laser Product). **B. By Differential Scanning Calorimetry (DSC)** The possibility of drug–excipient interaction was further investigated by differential scanning calorimetry. The analysis was performed using Mettler Toledo 821e DSC (Mettler Toledo, Switzerland). 10 mg of each sample was used for the study. Samples were heated in Aluminum pan at a rate of $10\text{ }^{\circ}\text{C}/\text{min}$ within temperature range of $30\text{--}305\text{ }^{\circ}\text{C}$ under a nitrogen flow of $10\text{ ml}/\text{min}$. Alumina was used as a reference standard. **Formulation development Aloe-vera gel preparation** **A. Isolation of Aloe-vera gel:** The inner mucilaginous parenchymatous tissues of leaves of *Aloe-vera* plants were separated out with the help of sterile knife. This mucilaginous, viscous parenchymatous tissue was homogenized in a blender at maximum 30 rpm within 30 minutes after collection in order to avoid enzymatic browning reaction. The pH of aloe gel was adjusted between



3.0 and 3.5 by adding citric acid to improve the flavor of *Aloe-vera* gel juice ^{7,8-12}.

B. Preparation of Carbopol gel base Methyl paraben and Propyl paraben were dissolved in distilled water prior to the addition of the gelling agent. Carbopol gel was prepared by soaking Carbopol 940 in water and then neutralizing it with Triethanolamine to adjust the pH to normal skin pH range and to this mixture 1.25 g of aloe extract was added to get the final Carbopol gel base ^{7,8-12}. The composition of the optimized Carbopol gel formulation and the role of each ingredient used is summarized in Table 1.

Table 1: Composition of Carbopol Gel

Ingredients	Quantity (g)
<i>Aloe-vera</i> gel	0.2
Citric acid (anhydrous)	q. s. to adjust pH to 3-3.5
Carbopol 940	0.02
Triethanolamine	q. s. to adjust pH to neutral
Methyl paraben	0.02
Propyl paraben	0.01



Water

q. s. to 10

q.s.: Quantity sufficient

Preparation of Topical Cosmeceutical gel : The solubility of curcumin in ethanol was determined and it was found to be 10 mg/3ml. For the preparation of cosmeceutical gel, initially ethanolic solution of 10 mg curcumin was prepared. This ethanolic solution was filtered using Whatman filter paper No. 40 and added to 10 g of Carbopol gel base and mixed to get homogeneous formulation.

Evaluation of Cosmeceutical gel The prepared gel was evaluated for the following parameters:

Physical evaluation Physical parameters such as color and appearance were checked visually against contrast backgrounds¹³.

Measurement of pH: pH of the gel was measured by using Digital pH meter. The pH meter was calibrated with standard buffer solution having pH 4 and 7 before use. One gram of formulation was dissolved in about 10 ml of distilled water and stirred until it forms uniform dispersion, kept it aside for 2 hours. The volume was made up to 100 ml and pH of the dispersion was measured with the help of calibrated pH meter ¹⁴.

Spreadibility: Spreadibility was determined by the apparatus



consisting of a wooden block, provided by a pulley at one end. By this method, spreadability was measured on the basis of slip and drag characteristics of gels. An excess of gel (about 2 g) under study was placed on the fixed ground slide. Then was sandwiched between the ground slide and another glass slide provided with the hook having the dimension of ground slide. A 100 g weight was placed on the top of the two slides for 5 minutes to expel air and to provide a uniform film of the gel between the slides. Excess of the gel was scrapped off from the edges. The top plate was then subjected to pull of 50 g weight with the help of string attached to the hook and the time (in seconds) required by the top slide to cover a distance of 30 cm was noted. A shorter interval indicates better spreadability. Spreadability was calculated using the following formula

$$S = M \times \frac{L}{T}$$

Where, S = Spreadability

M = Weight in the pan (tied to the upper slide)

L = Length moved by the glass slide and



T = Time (in sec.) taken to separate the slide completely from each other ^[10].

Viscosity: Viscosity of gel was measured by using Brookfield viscometer with spindle no. 6 at 10 rpm for 2 minutes at room temperature ^{13,14}. **Determination of drug content**

The drug content of the cosmeceutical gel was determined by previously validated UV spectroscopic method. In this method about 100 mg of the gel was dissolved in 10ml ethanol to get a solution of concentration 10,000 $\mu\text{g/ml}$. This stock solution was sufficiently diluted to get final concentration of about 5 $\mu\text{g/ml}$. The absorbance of this solution was measured and the drug content was calculated by using the calibration curve equation constructed using ethanol ¹⁵. **Antioxidant study** Antioxidant activity was evaluated for the formulated gel by H_2O_2 free radical scavenging method using reported in previously published literature ^{16,17}. The ability of the formulations to scavenge hydrogen peroxide was estimated using literature method. A solution of hydrogen peroxide (25mmol/l) was prepared in phosphate buffer (pH 7.4). The sample of diluted formulation (1–5 % v/v) was added to hydrogen peroxide



solution (0.6 ml). Absorbance of sample solutions at 230 nm was taken after 10 min against a blank solution having phosphate buffer in absence of hydrogen peroxide. For each concentration, a separate blank sample was used¹⁶⁻¹⁸. The percentage scavenging activity of hydrogen peroxide by sample and standard ascorbic acid were calculated using the following formula:

% Scavenging Activity

$$= \frac{[Absorbance\ of\ Control - Absorbance\ of\ Sample]}{Absorbance\ of\ Control} \times 100$$

Anti-acne study

Broth dilution method was used to evaluate the antibacterial activity. It is one of the non-automated *invitro* bacterial susceptibility tests. This classic method yields a quantitative result for the number of antimicrobial agents that is needed to inhibit growth of specific microorganisms. It is carried out in tubes as per the procedure laid down in previously published literature.^{19,20}

This procedure involved preparing two-fold dilutions of gel sample 5, 25, 50, 100, 250 and 500 µg/ml in a liquid growth medium dispensed in test tubes and DMSO (Dimethyl sulfoxide) was used as diluent / vehicle to get desired



concentration of drugs to test upon standard bacterial strains. The tubes containing samples to be tested were inoculated with a standardized bacterial (bacterial strains should be mentioned clearly using *Italic*) suspension of $1-5 \times 10^5$ CFU/ml. Following overnight incubation at 37°C , the tubes were examined for visible bacterial growth as evidenced by turbidity. The lowest concentration of gel sample that prevented growth represented the minimal inhibitory concentration (MIC) ¹⁹.

Stability study: The stability study was carried out as per ICH guidelines. The formulated gel was filled in the wide mouth glass containers and stored at temperature and relative humidity condition of $40^\circ\text{C} \pm 2^\circ\text{C} / 75\% \pm 5\% \text{ RH}$ for a period of three months. The gel was evaluated for Appearance, pH and Drug content ²⁰.

Results And Discussion By FTIR spectroscopy

FTIR spectrum of curcumin showed a characteristic stretching band of O-H at 3512 cm^{-1} . The peak at 2922 cm^{-1} represents C-H stretching and 1602 cm^{-1} peak was assigned to C=C symmetric aromatic ring stretching. The peak at 1510 cm^{-1} represents C=O, while enol C-O peak was



obtained at 1280 cm^{-1} and benzoate trans-C-H vibration was at 962 cm^{-1} . The FTIR spectrum of the curcumin was matching with the FTIR spectrum reported in literature⁴.

The peaks obtained in the spectrum of the physical mixture correlates with the peaks of drug spectrum. It does not show any well-defined interaction between curcumin and excipients. This indicates that the drug is compatible with the formulation components. The spectra for pure drug and the physical mixture are depicted in Fig. 3 and 4 respectively.

By Differential Scanning Calorimetry (DSC): DSC thermogram of curcumin showed a sharp endothermic peak at $180\text{ }^{\circ}\text{C}$ which is corresponding to melting point of the pure curcumin (i.e. $183\text{ }^{\circ}\text{C}$). Thermographs obtained by DSC studies, revealed that the melting point of pure curcumin is $180\text{ }^{\circ}\text{C}$ and that of the curcumin in the formulation is 176.2°C . As there is no much difference in the melting point of the drug in the thermographs of curcumin and that of in the formulation, it may be concluded that, the drug is in the same pure state even in the formulation without interacting with the excipients used. However, the thermogram was



slightly shifted towards lower side due to excipient effect. Figure 5 and 6 represents the DSC thermogram of pure curcumin and optimized gel formulation of curcumin.

Formulation studies: Formulation Development: The excipients were selected based on the information available in previously published literature. The concentration of each excipient was optimized based on trial and error. Curcumin has a potent antioxidant, wound healing and anti-inflammatory property. *Aloe-vera* gel has been reported to have a protective effect against radiation damaging the skin and moisturizing property. Therefore, these two ingredients were selected for the preparation of anti-acne gel. Carbopol 940 was used as a gelling agent and triethanolamine was used to adjust the PH. Citric acid was added to the formulation to avoids browning reaction. Methyl paraben and Propyl paraben were incorporated as a preservative. **Evaluation of the gel formulation** The results of evaluation of the prepared cosmeceutical gel are summarized in table 3. **Table 3: Evaluation results of the formulated gel**

<u>Parameters</u>	<u>Results</u>
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The pH of the gel was about neutral indicating that the developed gel formulation

<u>Appearance</u>	<u>Yellow</u>
<u>Spreadability</u>	<u>75 g cm/sec</u>
<u>Viscosity</u>	<u>40,000 cps</u>
<u>pH</u>	<u>6.8</u>
<u>Drug content (Assay)</u>	<u>100.68% W/W</u>

will not cause skin irritation when applied topically. Viscosity gives the consistency to the gel that restricts it from flowing off the skin. Viscosity of 40,000 cps gives a consistency of gel which is desired and spreadibility of 75 g cm/sec helps in formation of uniform layer when applied.

Antioxidant study

The results of antioxidant activity of ascorbic acid and cosmeceutical gel by H₂O₂ assay method are summarized in table 4 and table 5 respectively.

Table 4: Percent inhibition of free radicals by H₂O₂ assay method (Ascorbic acid)



Concentration(µg/ml)	Absorbance	% Inhibition
2	0.1950	56.75
4	0.1880	58.30
6	0.1763	60.90
8	0.1105	75.49
10	0.1009	77.62

Table 5: Percent inhibition of free radicals by H₂O₂ assay method (Cosmeceutical gel)

Concentration (µg/ml)	Absorbance	% Inhibition
2	0.2689	40.36
4	0.2579	42.8
6	0.1645	63.51
8	0.1332	70.45
10	0.108	76.04

It was clear from the above result that the free radicals were scavenged by the test compounds in a dose dependent manner. The standard ascorbic acid showed percent scavenging activity of 77.62% at a concentration of 10 µg/ml



with an IC_{50} Value of $33.31\mu\text{g/ml}$, whereas the cosmeceutical gel showed percent scavenging activity of 76.04% with an IC_{50} Value of $15.94\mu\text{g/ml}$ at lower concentration. The present study indicated that the cosmeceutical gel exhibits better free radical scavenging activity as compared to the standard Ascorbic acid. The graphical representation of free radical scavenging activity of Ascorbic acid and cosmeceutical gel are depicted in figure 7 and figure 8 respectively.

Anti-acne study: The results of anti-acne activity of cosmeceutical gel and marketed anti-acne gel formulation are represented in table 6. Table 6: Comparative study of anti-acne activity of cosmeceutical gel and marketed gel on *Propionibacterium acnes*

From the above results, it is clear that the anti-acne activity of cosmeceutical gel is comparable with that of synthetic marketed anti-acne gel (standard). The zone of inhibition of cosmeceutical gel obtained was 21 mm whereas that of the synthetic marketed anti-acne gel was 23 mm. This indicated that the formulated cosmeceutical gel exhibits good anti-acne activity and can be used to treat *Acne vulgaris*. Being herbal



the developed cosmeceutical products is safe as compared with the synthetic counterparts. The phytoconstituent in cosmeceutical gel responsible for anti-acne activity is curcumin (diferuloylmethane) which is a flavonoid curcuminoid having potent antioxidant, wound healing and anti-inflammatory properties that proves to be therapeutically active against acne.^{14, 15}

3.1Stability studies

The results of stability study of cosmeceutical gel are summarized in the table 7.

Table 7: Results of stability study

Parameter	Initial	1st Month	2nd Month	3rd Month
Physical Appearance	Yellow color	No Change	No Change	No Change
pH	6.8	6.9	6.79	6.8
Drug Content (% W/W)	100.68	100.34	99.82	99.22

The results of stability studies indicated that the developed formulation is stable for three months at accelerated stability conditions as per ICH guidelines.



Conclusion

Cosmetics and skin care products are important part of everyday grooming. Protecting and preserving the skin is essential to good health. Our skin, the largest organ in the body, separates, and protects the internal environment from the external one. Cosmeceuticals are topical agents that are distributed across broad spectrum of materials, lying somewhere between pure cosmetics (lipstick and rouge) and pure drug (antibiotics, corticosteroids). Selection of the right excipients is of utmost importance for the successful development of a topical drug delivery system. Curcumin was successfully formulated into a gel using *Aloe-vera* as a gel base. The developed cosmeceutical gel exhibits good *in vitro* antioxidant as well as antibacterial activity.

Conflict of Interest

The authors declare that there is no conflict of interests regarding the publication of this paper.

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7. Technology, cognition and ethics: reflections on artificial intelligence and neural development

Fabio Morandín-Ahuerma¹, Abelardo Romero-Fernández and Rodrigo López-Casas

BUAP, 4 Sur #104, Centro, Puebla, **Mexico.**

Abstract: Artificial intelligence aims to increase productivity and enhance people's abilities to perform tasks efficiently. However, excessive use of artificial intelligence, such as large language models (LLMs) like ChatGPT, Gemini, Copilot, LLaMa, Bing, among others, can have the opposite effect. The automation of processes by machines may pose a threat to users' neural development, which could lead to decreased neural growth and stimulation due to reliance on self-generated language use. This chapter explores the brain mechanisms involved in creativity and the intellectual development of writing. Subsequently, the intellectual



impersonation provided by generative models is analyzed, and how this affects the user's cognitive abilities. Additionally, the ethical implications of this complex topic are explored. Finally, guidelines and recommendations are shared for the proper use of this type of tool, aiming to take advantage of their benefits without compromising academic integrity or the analytical and creative abilities of individuals.

Keywords: Large language models; ChatGPT; neural development; cognitive abilities; ethical implications.

Introduction

If a child does their friend's homework, several things can happen, first, the child who does the homework is capable of doing a good job, and the child who receives the homework completes the assignment without the teacher suspecting it was done by someone else. As a result, the child who receives the homework may obtain a good grade without putting in any effort. The first consequence is that the child who receives the homework doesn't learn or develop any intellectual skills. If a child always relies on others to do their homework, they are not acquiring the necessary knowledge and skills to learn and academically grow. In the long run,



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this could affect their creative and analytical abilities, as well as their ability to face challenges. Additionally, their self-esteem and confidence may diminish, knowing that they are unable to complete a task on their own. On the other hand, there is an important ethical component, as there is a risk of being caught. If the child who receives the homework is unable to present it consistently with their level of skill or knowledge, or if the teacher suspects that someone else did the homework, there is a risk of being exposed. This can lead to negative consequences, such as a poor grade or even disciplinary measures as punishment for cheating. This story illustrates how blind trust in external systems, such as large language models technology like ChatGPT, Gemini, Copilot, LLaMa, Bing, Claude, Poe, Grok, and others, can negatively affect learning and personal development if a balanced approach between intellectual work and AI assistance is not promoted (Rudolph et al., 2023). Those who overly rely on AI tools, especially for academic tasks, are at risk of seemingly not developing their cognitive skills autonomously (Baron, 2023). It is still too early to know the consequences of extensive use of LLMs and how this will impact future



generations (Zhou et al., 2023). By no means is the intention here to defend a "Luddite" stance. The Luddites during the Industrial Revolution were a labor movement of those who feared that machines would replace their artisanal labor, and as a form of protest, they would destroy the machines themselves. However, from a philosophical standpoint, as some contemporary thinkers have already been doing (Bostrom, 2023), some timely warnings must be issued regarding the implications of being subservient to AI.

Biological correlates: One of the fundamental objectives of writing is to communicate ideas clearly and originally. This requires the coordination of linguistic skills, memory, attention, and reasoning. At the brain level, although there is still no complete certainty, certain intellectual functions have been located in various areas of the brain such as the prefrontal, temporal, and parietal cortices playing vital roles (Shah et al., 2013). The intricate network of brain mechanisms underlying creativity and intellectual development in writing is a complex mosaic (Swart, 2019; Levitin, 2017). A central element of this cognitive activity is the prefrontal cortex, particularly the dorsolateral prefrontal



cortex, which orchestrates higher-order functions such as planning, organization, and goal setting, crucial for coherent and structured writing (Shah et al., 2013). At the same time, the temporal lobe, specifically the left hemisphere, plays a fundamental role in language processing, allowing access to vocabulary, grammar rules, and semantic knowledge that form the basis of competent writing (Graessner, 2021). As the frontal cortex, particularly the left inferior frontal gyrus, participates in word generation and selection, the parietal cortex takes over spatial processing, attention control, and working memory, facilitating the integration of visual-spatial information during the writing process (Huff et al., 2023). The hippocampus, a center for memory formation and consolidation, adds depth to writing by allowing the writer to draw on past experiences and personal anecdotes (Bisaz et al., 2014). Surprisingly, the cerebellum, typically associated with motor control, contributes to cognitive processes by aiding in the coordination of fine motor movements essential for handwriting or typing (Liu et al., 2015). In the dance of creativity, the Default Mode Network (DMN) emerges as the conductor, leading a symphony of brain regions involved in



internal thinking, imagination, and introspection (Smallwood et al., 2021). Activated during moments of creative thinking, the DMN provides fertile ground for the development of new and original written content. It is crucial to recognize the interconnected nature of these brain mechanisms, as multiple regions collaborate to support the intricate cognitive processes involved in writing and creative expression. Furthermore, individual differences in brain structure and function contribute to the fabric of writing skills observed among individuals (Fink et al., 2015). However, the emergence of powerful artificial intelligence tools raises questions about their implications for the intellectual and cognitive development of the aforementioned areas (Floridi, 2023). Intellectual refers to the ability to use mental skills to understand abstract ideas, solve complex problems, and learn new information. Cognitive pertains to the mental processes that enable the acquisition and processing of information, such as perception, attention, memory, thinking, reasoning, and language (Wang et al., 2020). **Large language models (LLMs)** Large language models (LLMs) are artificial intelligence tools that can read, summarize, and translate



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texts, as well as predict future words in a sentence, allowing them to generate sentences that resemble how humans speak and write. These large language models are trained on massive amounts of text data and can understand and generate written communication with great precision (Floridi, 2023). Language models are a central component of natural language processing (NLP), which is a subfield of artificial intelligence (AI). An excellent language model is one that has been trained on large amounts of text data, typically using deep learning techniques and neural networks. It is a computational model with parameters that are adjusted to text data sets to learn patterns, structures, and semantics of language (Radford et al., 2023). Language models are becoming capable of performing a variety of linguistic tasks, not only text generation, but also contextualization, literature review, sentiment analysis, answering even tricky questions, humor, and, of course, automatic translation and text summarization with high precision and performance surpassing that of humans (Chang et al., 2023). However, while LLMs can produce impressive imitations of human-like texts, they lack true understanding and awareness as they



operate based on patterns and statistical associations. Consequently, the generated text may sometimes lack connotative meaning, sensitivity to context, or a true understanding of the world. This is what Searle (1980) referred to as the "Chinese room": an individual who does not speak Chinese could follow a set of rules to manipulate Chinese symbols and provide responses to questions in Chinese, but still would not understand the meaning of what they are doing. **The state of the art** According to Sok and Heng (2023) and Hao (2023), there are various benefits and challenges in the use of ChatGPT and other AI tools in the educational field. These tools offer new ways to complete school tasks and can facilitate the creation of learning assessments, improve pedagogical practices, provide personalized tutoring, and streamline the idea generation process. However, they also raise concerns about students' overreliance on these tools, which can negatively affect the development of critical thinking, problem-solving, imagination, and research skills. The tension between technology and education, known as TET, lies in finding a balance between the appropriate use of these technologies



and the promotion of meaningful learning and the development of relevant skills for students (Montenegro-Rueda, 2023; Morandín-Ahuerma, 2023). According to Sok and Heng (2023), the instant access to answers and direct solutions provided by these AI tools can diminish students' critical thinking and problem-solving abilities. If students become accustomed to relying solely on these tools for answers, they may miss out on the opportunity to develop their own analytical and creative thinking (Hao, 2023). Furthermore, it has been observed that excessive use of these tools can limit students' imagination and research capabilities, as they rely on machine-generated answers instead of exploring on their own and generating original ideas (Sok & Heng, 2023). Ultimately, this can have a negative impact on intellectual growth and the acquisition of fundamental skills necessary for learning and personal development (Montenegro-Rueda, 2023). Some studies have addressed the relationship between the use of AI technologies in education and the development of cognitive skills. For example, a study by Ahmad et al. (2023) examined the impact of AI tools on the critical thinking of university



students. The results indicated that while these tools can improve efficiency in problem-solving, they can also diminish the capacities to develop analytical, creative, and investigative thinking (Zhou et al., 2023). Kaebnick et al. (2023) conducted a comprehensive review on the use of chatbots in the context of academic publishing. The authors highlight that LLMs are being widely used in different sectors, including not only academia but also healthcare, customer service, request routing, and information gathering. Kaebnick et al. (2023) mention that LLMs have diverse potential applications, such as summarizing lengthy articles, generating presentation drafts, or assisting researchers, students, and educators in generating ideas and writing reasonably good essays on specific topics. However, the limitations of ChatGPT, acknowledged by its own creators, are also pointed out. These limitations include the possibility of generating incorrect or incoherent answers, as well as exhibiting biased behavior in its responses. According to Bahrini (2023), some disadvantages and limitations of LLMs are the presence of biases in the generated answers due to biases in the training data, as well as occasional generation of



nonsensical results, known as "hallucinations." Of course, although LLMs have the ability to generate natural responses, they lack the inferential and critical understanding that develops empathetic ability and creativity in humans. Zhou et al. (2023) also raises concerns that the use of LLMs may have negative effects on human thinking and judgment abilities. This is because users may become dependent on artificial intelligence to obtain answers and solutions, instead of developing and exercising their own cognitive skills. Additionally, the author mentions that the use of LLMs poses challenges in terms of academic integrity. It is noted that the model's ability to generate coherent and human-like responses and content can be exploited for fraudulent purposes, such as generating deceptive or even false academic content. Finally, Floridi (2023) analyzed the limitations and potential of LLMs to successfully process texts but lack intelligence, understanding, or cognitive capability. The article concludes that LLMs should not be relied upon for complex reasoning or crucial information but could be used to gain an understanding of the content and context of a text, rather than a replacement for human input.



Conclusion: This chapter analyzed the effects of the increasing use of LLMs like ChatGPT on human cognitive development. The findings point out that while they represent powerful tools, their overuse could impact skills such as critical thinking and autonomous problem-solving. Excessive use of LLMs can have negative consequences on cognitive abilities if a critical and analytical sense of content is not developed. If users become accustomed to obtaining quick and direct answers without questioning the provided information, they risk diminishing their capacity for critical thinking, analysis, and synthesis. Critical and analytical thinking is crucial for learning, informed decision-making, and solving complex problems. However, the misuse of LLMs as the sole source of information can weaken these cognitive skills as they are not exercised or strengthened. Additionally, synaptic connections and optimal brain functioning can also be affected by the lack of cognitive exercises and challenges. Therefore, it is important to promote a balanced approach between technology and other strategies that fully engage human skills. To maximize the benefits of LLMs without compromising learning, it is



recommended to encourage critical analysis of their responses and complement their use with activities that foster cognitive development. Only through a holistic approach can the optimal utilization of their potential in service of humanity be ensured. Continuous research on this highly relevant topic is required. Users should be encouraged to question, analyze, and evaluate the provided information rather than passively accepting it. Additionally, a balance between the use of technology and other forms of learning that involve the active engagement of human cognitive skills should be fostered. Long-term controlled experimental studies are recommended to accurately measure the impact of prolonged use of LLMs on academic performance and cognitive skills. Specific neural mechanisms involved can be analyzed using neuroimaging techniques to better understand the underlying processes. Furthermore, a balanced approach is needed to harness the potential of technologies without compromising cognitive development. Further interdisciplinary research is required to provide practical guidelines on their educational application and content generation in complementary ways with human capabilities.



This will ensure that AI tools remain a support to human intelligence and expression rather than a replacement. It is expected that this work will foster interdisciplinary collaboration among cognitive neuroscience, psychology, education, philosophy, and artificial intelligence to comprehensively address this challenge. Addressing this topic will allow for tracking initial findings and optimizing the conceptual framework regarding this issue with academic, psychological, and social repercussions. If, instead of doing the homework, his partner had taught the child how to do it himself, how to study, and how to research, it would surely have helped him more than simply pretending to be him. If he had not supplanted him and, instead, had guided and helped him as a tutor or a cordial teacher, the benefit he would have given him would have been much greater than simply to have done his homework. AI is very useful, but to learn to use it responsibly will be necessary.

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8. A Comprehensive Review on Data AnalyticsBased Digital Marketing.

Monalisa Pattanayak¹ and Dr. A. Udaya Shankar²

¹Ph.D. Research Scholar, Department of Business Management KLU Business School, KL University, Vijayawada, Andhra Pradesh, **India**

²Associate Professor, Department of Business Management KLU Business School, KL University, Vijayawada, Andhra Pradesh, **India**

Abstract: Data analytics plays a vital role in achieving high levels of success and efficiency in contemporary digital marketing. This review article explores the intricate relationship between data analytics and digital marketing strategies, focusing on how companies can leverage data to improve their marketing efforts and achieve superior outcomes. The article introduces fundamental concepts of data analytics in digital marketing, including predictive



modelling, segmentation, and sentiment analysis. The paper delves into the various data sources available to marketers, such as website analytics, social media metrics, CRM systems, and third-party data vendors. The report highlights the substantial impact of data analytics on several aspects of digital marketing, including client segmentation, customized targeting, content optimization, and campaign effectiveness evaluation. This assessment highlights the vital role of data analytics in shaping the future of digital marketing. The document offers guidance and suggestions for marketers to effectively utilize data-driven methods to boost business expansion, improve consumer interaction, and sustain a competitive advantage in a demanding setting.

Keywords – Digital Marketing, Artificial Intelligence, Data Analytics and Prediction Techniques.

Introduction to Data Analytics in Digital Marketing: In today's digital era, the abundance of data generated by online activities presents both a challenge and an opportunity for marketers. Traditional methods of marketing are being reshaped by the advent of data analytics, offering



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unprecedented insights into consumer behaviour, preferences, and interactions. This introduction sets the stage for understanding the intersection of data analytics and digital marketing, highlighting the significance of leveraging data-driven approaches to achieve marketing objectives effectively. Digital marketing has evolved significantly over the years, propelled by advancements in technology and changes in consumer behaviour. From the early days of static websites and email campaigns to the dynamic landscape of social media, mobile apps, and e-commerce platforms, the digital marketing ecosystem has undergone rapid transformation. Today, consumers are more connected than ever before, engaging with brands across multiple digital touch points throughout their customer journey. At the heart of this evolution lies data analytics, which empowers marketers to make informed decisions based on actionable insights derived from data. By harnessing the power of data analytics, marketers can gain a deeper understanding of their target audience, identify emerging trends, and optimize their marketing strategies for maximum impact. Whether it's analyzing website traffic, tracking social media engagement,



or measuring campaign performance, data analytics provides the foundation for data-driven decision-making in digital marketing. To effectively leverage data analytics in digital marketing, marketers must familiarize themselves with key concepts and techniques. These include data collection and integration, data analysis and visualization, customer segmentation and targeting, and performance measurement and optimization. By mastering these key concepts, marketers can unlock the full potential of data analytics to drive success in their digital marketing initiatives.

Fundamentals of Data Analytics Techniques: Data analytics techniques are fundamental tools used to extract valuable insights from vast amounts of data. These techniques encompass a range of methods and approaches designed to uncover patterns, trends, and correlations within datasets. Understanding the fundamentals of data analytics techniques is essential for professionals across various industries seeking to harness the power of data to drive informed decision-making and gain a competitive edge. Below are some key fundamentals of data analytics techniques:

Descriptive Analytics: Descriptive analytics involves analyzing historical data to understand



what has happened in the past. It focuses on summarizing and interpreting data to provide insights into trends, patterns, and relationships. Descriptive analytics techniques include data visualization, summary statistics, and exploratory data analysis. Diagnostic Analytics: Diagnostic analytics aims to identify the causes of past events or trends. It involves deeper analysis to understand why certain outcomes occurred and what factors contributed to them. Diagnostic analytics techniques include root cause analysis, regression analysis, and hypothesis testing. Predictive Analytics: Predictive analytics utilizes statistical algorithms and machine learning techniques to forecast future trends and behaviours based on historical data. It involves building predictive models that can be used to make informed predictions and anticipate outcomes. Predictive analytics techniques include regression analysis, time series forecasting, and machine learning algorithms such as decision trees and neural networks. Prescriptive Analytics: Prescriptive analytics goes beyond predicting future outcomes by recommending actions to optimize decision-making. It leverages insights from predictive models to identify the best course of action and



make data-driven recommendations. Prescriptive analytics techniques include optimization algorithms, simulation modelling, and decision support systems. Machine Learning: Machine learning is a subset of artificial intelligence that enables systems to learn from data and improve performance over time without being explicitly programmed. It encompasses a variety of techniques, including supervised learning, unsupervised learning, and reinforcement learning, which are used to train models to perform specific tasks such as classification, clustering, and regression. Big Data Analytics: Big data analytics involves processing and analyzing large and complex datasets that exceed the capabilities of traditional data processing applications. It requires specialized techniques and technologies, such as distributed computing frameworks like Hadoop and Spark, to extract insights from massive volumes of structured and unstructured data. Data Mining: Data mining is the process of discovering patterns and relationships within data to extract actionable insights. It involves applying various statistical and machine learning techniques to identify hidden patterns, anomalies, and trends that can inform decision-



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making. Data mining techniques include clustering, association rule mining, and anomaly detection. Data Sources for Digital Marketing Analytics Data sources for digital marketing analytics refer to the diverse range of platforms, tools, and sources that provide valuable data insights into the performance and effectiveness of digital marketing campaigns. These sources encompass various online channels and touch points where user interactions occur, enabling marketers to track and analyze key metrics to optimize their marketing strategies. Here are some common data sources for digital marketing analytics: Website Analytics Platforms: Platforms like Google Analytics provide comprehensive data on website traffic, user behaviour, and engagement metrics. Metrics include page views, bounce rates, session duration, and conversion rates. Insights help understand user interactions and identify areas for enhancement. Social Media Platforms: Facebook, witter, Instagram, LinkedIn, and YouTube offer built-in analytics tools. Insights cover audience demographics, engagement metrics, and campaign performance. Metrics include likes, shares, comments, clicks, and impressions. Email Marketing



Platforms: Services like Mailchimp, Constant Contact, and HubSpot provide analytics features. Metrics tracked include email open rates, click-through rates, bounce rates, and conversion rates. Analysis aids in evaluating campaign performance and enhancing overall effectiveness. Digital Advertising Platforms: Google Ads, Facebook Ads, LinkedIn Ads, and Twitter Ads offer detailed analytics on ad performance. Metrics include impressions, clicks, click-through rates (CTR), conversions, and return on ad spend (ROAS). Real-time monitoring facilitates optimization of ad campaigns. Customer Relationship Management (CRM) Systems: CRM systems like Salesforce, HubSpot CRM, and Zoho CRM store crucial customer data. Integration with digital marketing analytics enables tracking of customer journeys and personalized marketing campaigns. E-commerce Platforms: Platforms such as Shopify, WooCommerce, and Magento furnish data on online sales and customer behaviour. Insights include product performance, cart abandonment rates, and sales metrics. Analysis aids in optimizing product listings, pricing strategies, and promotional efforts. Strategy Transformative



Impact of Data Analytics on Digital Marketing Data analytics has significantly ow marketers see, interact with, and tailor their strategies to their target audience in digital marketing. Data analytics has transformed traditional marketing by offering marketers unparalleled access to actionable insights obtained from extensive data produced by internet activity. This transition has had a significant and varied impact, altering important elements of digital marketing strategies and processes. Data analytics in digital marketing allows for a more profound understanding of consumer behaviour and preferences. Marketers can gain a thorough grasp of their audience's requirements, interests, and motivations by analysing data from sources like website visits, social media interactions, email engagements, and purchase histories. Having this detailed information allows marketers to develop highly customized and focused marketing strategies that connect with their target audience on a profound level, resulting in increased engagement and conversion rates. Data analytics has enabled marketers to enhance their marketing tactics in real time through data-driven decision-making. Marketers can swiftly detect trends, patterns, and



improvement opportunities by consistently tracking key performance indicators (KPIs) like website traffic, click-through rates, conversion rates, and return on investment (ROI). Marketers can adjust their tactics quickly using this agile marketing technique to ensure their campaigns stay relevant and effective in a constantly changing digital environment. Data analytics has transformed how marketers evaluate the effectiveness of their marketing campaigns. Marketers traditionally used trailing indications like sales data or survey feedback to assess their campaign effectiveness. With the emergence of data analytics, marketers can now utilize real-time indicators to receive immediate feedback on the efficacy of their marketing efforts. Marketers can now make data-driven optimizations quickly and effectively, maximizing the effectiveness of their marketing spending. Data analytics has contributed to the growth of predictive analytics and machine learning in digital marketing, allowing marketers to predict client wants and behaviour with exceptional precision. Marketers can use sophisticated algorithms and predictive models to recognize patterns, predict future results, and adjust their marketing strategy in



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advance to take advantage of new opportunities. Utilizing this predictive marketing strategy allows marketers to anticipate trends and provide more personalized and timely communication to their target demographic, thereby improving the entire customer experience. Customer Segmentation and Personalization Strategies Customer segmentation and personalization strategies using data analytics are essential for modern digital marketers aiming to boost customer engagement, increase conversions, and optimize ROI. Data analytics allows marketers to categorize their target audience into distinct segments based on demographic, behavioural, and psychographic attributes, enabling personalized marketing efforts tailored to each segment's unique preferences and needs. One significant advantage of customer segmentation is the ability to deliver relevant and timely marketing messages to different audience segments by analyzing data on past interactions, purchase histories, browsing behaviours, and demographic information. For instance, a retailer can create separate email campaigns targeting bargain hunters, luxury shoppers, and eco-conscious consumers, featuring products and



promotions tailored to each segment's specific interests. Data analytics also enables the implementation of dynamic content personalization strategies, allowing marketers to adjust website content, product recommendations, email content, and digital ads in real-time based on individual customer preferences and behaviours. For example, an e-commerce website can use browsing history and purchase data to display personalized product recommendations to each visitor, thereby increasing the likelihood of conversion. Moreover, data analytics facilitates the deployment of predictive analytics models that anticipate customer behaviour and preferences, enabling proactive engagement with customers at key touch points in their buyer journey. By analyzing historical data and identifying patterns and trends, marketers can predict future actions such as product purchases, subscription renewals, and churn rates, allowing them to deliver targeted marketing messages and offers at the right time and place. For instance, a subscription-based service can use predictive analytics to identify customers at risk of churn and offer personalized incentives or discounts to encourage retention. In conclusion, customer



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segmentation and personalization strategies using data analytics are crucial for modern digital marketing efforts. By leveraging data-driven insights to divide their audience into distinct segments and deliver personalized experiences at scale, marketers can enhance customer engagement, drive conversions, and foster long-term customer loyalty. As the digital landscape evolves, data analytics will continue to play a vital role in helping marketers stay ahead of the curve and deliver value to their customers in a highly competitive marketplace.

6. Content Optimization and Performance Measurement

Conclusion: This thorough assessment highlights the significant impact of data analytics on changing the digital marketing industry. By incorporating sophisticated analytics methods, organizations can obtain profound insights into consumer behaviour, preferences, and trends, allowing them to customize their marketing plans with exceptional accuracy. Businesses can improve their marketing efficacy and get better results by using data-driven methods for consumer segmentation, personalization, content optimization, and performance monitoring. The case studies



in this paper demonstrate the practical effects of data analytics on digital marketing, highlighting how top organizations have achieved significant success by utilizing data effectively. It is important to acknowledge the difficulties and moral aspects linked to data-driven marketing, such as privacy issues, data security vulnerabilities, and the risk of algorithmic prejudice. To tackle these concerns effectively, a strategic focus on data governance, regulatory compliance, and transparent data utilization is essential. In the future, data analytics in digital marketing will show great potential with advanced technologies like artificial intelligence, machine learning, and predictive analytics set to transform marketing strategies. As organizations invest in data-driven capabilities and foster data-driven cultures, they will be more prepared to manage the changing digital world, predict market trends, and provide engaging experiences that appeal to consumers. The merging of data analytics and digital marketing signifies a fundamental change in how organizations interact with their audiences and promote growth in a more linked world. Organizations may leverage data-driven strategies to discover



new opportunities for innovation, differentiation, and value creation, positioning themselves for long-term success in the digital era.

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9. A Conceptual Study of Manpower planning in the Indian banking sector

Poonam¹ and Dr. Savita Choudhary²

¹Research Scholar, Department of Management Studies, Swami Keshvanand Institute of Technology, Management & Gramothan, Rajasthan Technical University, Kota, **India**

²Associate Professor, Department of Management Studies, Swami Keshvanand Institute of Technology, Management & Gramothan, Rajasthan Technical University, Kota, **India**

Abstract: Planning for manpower is essential to an organization's performance, especially in fast-paced industries like banking. Because manpower planning improves employee engagement, productivity, and work satisfaction and helps the business attract and retain top people, it is critical to the success of the banking industry. The Indian banking industry is the largest service sector, and it is crucial to both economic growth and workforce planning. It has become apparent that maintaining the industry's performance depends on it. Manpower planning



plays a crucial role in the growth and development of the banking sector in India. The structure of the Indian banking industry and the efficacy of workforce planning are covered in the current study. Secondary data has been collected for this paper. The study's main objective is to provide an in-depth analysis of the situation of personnel planning in the Indian banking industry today, emphasizing how it influences the sector's expansion and advancement. The significance of workforce planning in the Indian banking industry is emphasized in the study's conclusion. The study emphasizes the significance of matching workforce strategies with corporate goals through a thorough analysis of the body of existing literature and empirical investigations. The article ends by emphasizing how important it is for Indian banks to use the right manpower planning models in order to guarantee the industry's best performance and long-term expansion.

Keywords: Manpower planning, Indian Banking Sector, Growth, development, Effectiveness.

Introduction: The Manpower Planning Concept Manpower resources are productively used through personnel



management. Another name for this is manpower management. Managing manpower involves selecting the right kind of workers when needed. It also considers modernizing the current workforce. The first step in managing manpower is workforce planning. In an organization, every manager interacts with individuals as a personnel man. Planning is the process of utilizing the resources at hand to carry out production plans within an organization efficiently. Following the preparation or creation of plans, individuals are grouped to accomplish organizational goals. Coordination, motivation, and management of the many organizational operations are the focus of planning. A key component of human resource management is manpower planning. The consequences of improper staffing in any kind of organization. The manpower planning is a growing concept. It is extremely pertinent to the service industry, such as banking. The single biggest input used in the banking sector is human labor. The degree of production and efficiency of this input is reflected in the level of customer service that banks provide as well as in the growth, productivity, and profitability of the bank in



the long run. As a result, banks now place a high priority on workforce.

The main objective of the study:

- (1) To study the concept manpower planning.
- (2) To study the structure of Indian banking sector.
- (3) To study the importance of Manpower Planning in industries like banking.

Conceptual Clarification: The process an organization employs to make sure it has the correct number and kind of people to produce a specific level of production or services in the future is known as manpower planning. Businesses who don't plan for their workforce or human resources may find it difficult to supply the labor they will require in the future. They can have an excess of labor or a labor shortage. The planning of an organization's future labor needs is the focus of human resource planning. It also consists of preparations for managerial succession and replacement. The process by which management decides how to transition an organization from its existing manpower position to its desired manpower position is known as human resource planning. Through planning a management strives to have



the right number and the right kinds of people at the right places, at the right time, to do things which result in both the organisation and the individual receiving the maximum long-range benefit. **Definitions: Coleman** defined Human Resource Planning (Manpower planning) as the process of determining manpower requirements and the means for meeting those requirements in order to carry out the integrated plan of the organisation. **According to Wikstrom**, human resource planning or manpower planning consists of a series of activities, viz., (a) Forecasting future labor needs can be done mathematically using trends in the economy and industry advancements as a guide, or it can be done qualitatively using estimations derived from a company's unique future objectives.; (b) Implementing stock of the available workforce and determining the degree to which it is being used as efficiently as possible;(c) Predicting labor shortages by extrapolating current resources into the future and contrasting them with the anticipated needs to assess their quantitative and qualitative sufficiency;(d) To guarantee that future labor needs are appropriately addressed, planning the required programs of requirements,



selection, training, development, utilization, transfer, promotion, incentive, and remuneration is essential. Planning for human resources is a two-edged sword. When implemented effectively, it maximizes the utilization of human resources, lowers high absenteeism and excessive labor turnover, boosts productivity, and helps an organization achieve its goals. When misused, it causes interruptions to the work flow, reduced output, decreased job satisfaction, elevated production costs, and ongoing difficulties for the management staff. Manpower planning is therefore a crucial task for an organization's performance and should only be disregarded at great risk.

Nature: The Human resource in any organization is the most complex of the resources. It is the most valuable of the resources. Human resource has the ability to think, to be creative and improve itself. **Human resource is complex for the following reasons:** 1. Individuals differ from one another in many aspects, including appearance, personalities, levels of education, skills, and more. Particular individuals with the capacity to perform particular tasks are needed by an organization. 2. It is challenging to move human



resources around. They are always required at a certain location. It is simpler to transfer money. 3. A surplus of human resources can be detrimental to earnings. An excessive number of individuals are a waste of money. There's always something to do with extra money if you have it. 4. Individuals are erratic; they might choose to quit the company, refuse to comply with changes, or be unable to perform the duties of their jobs. **Process & Steps:**The Process & Steps in Manpower Planning refers to a process by which organisations ensure that they have the right number of people at the right place, at the right time capable of performing different jobs efficiently. **Manpower planning involves the following steps: Analysis of Organisational Plans and Objectives:** Planning for manpower is a component of an organization's overall plan. Plans pertaining to technology, manufacturing, finance, marketing, expansion, and diversification provide an estimate of the amount of work that will be done in the future. Every plan can be broken down into more in-depth programs and sub-plans. Selecting the time frame for which personnel plans need to be created is also essential. It is important to



be clear about the future organization structure and job design. Any modifications to the organization structure should also be carefully considered in order to project future personnel needs.

Forecasting Demand for Human Resources: Human resource planning starts with the estimation of the number and type of personnel required at different levels and in different departments. **The main steps involved in Manpower process are:** to ascertain and recognize the demands for human resources, both current and future to identify and recruit the required number of persons to select the right number and type from the available people. to hire and place in the positions for which they are qualified to provide information to the selected people about the nature of work assigned to them to promote or to transfer as per the needs and the performance of employees to denote if the employees are disinterested or their performance is not up to the mark to terminate if they are not needed or their performance is below standard and shows no hopes of improvement. It is the most crucial and critical area of human resource development. Therefore, during the hiring, selection, training, and placement of staff,



human resource development managers must pay close attention to matching the appropriate man to the right job. This necessitates implementing a methodical process to finish the hiring and selecting process. **Forecasting Supply of Human Resources:** The assignment of employees to various departments in accordance with the workload and needs of those departments is one of the key facets of human resources planning. It is important to take promotions and transfers into account when assigning personnel to various departments. The distribution of human resources should be designed such that all available labor is utilized to guarantee the efficient operation of every department. **Estimating Manpower Gaps:** A comparison of supply and demand estimates can be used to determine net human resource requirements or manpower gaps. Such a comparison will indicate a future human resource excess or shortfall. Whereas surplus indicates unnecessary workers who should be let go or redistributed, deficits indicate the quantity of workers who should be hired from outside. Similar gaps could exist in aptitude, skills, and knowledge. Workers with lower qualifications may receive training, while



those with greater talents may be offered more fulfilling positions. **Matching Demand and Supply:** One of the goals of human resource planning is to evaluate the supply and demand for human resources and match the two in order to identify any shortages or surpluses in terms of quantity and kind on either side. This will help the HR department determine whether there is an overstaffing or understaffing situation. Plans are made to close the staffing deficiencies after they are recognized. Retrenchment and redeployment in other areas may be plans to deal with the excess manpower after consulting with the trade unions. Retirement on one's own volition may help convince people to give up. Plans for hiring, choosing, transferring, promoting, and training can be used to close the deficit. Realistic plans for the procurement and development of manpower should be made after considering the macro and micro environment which affect the manpower objectives of the organisation. **Indian Banking Sector: Structure Of Indian Banks**

Classification of Banks in India:

The RBI: The Reserve Bank of India was established on April 1935 as the Central Bank of India and nationalized on



1st January, 1949. RBI regulates monitors and controls the financial system in India.

The key factors that influence manpower planning in the Indian banking sector include:

1.Growth and Expansion: The banking sector in India has been growing at a fast pace, and this has led to an increase in the number of banks and the services they provide. This growth has created a need for efficient manpower planning to ensure that banks have the right number of employees with the necessary skills to meet the demands of the industry.

2.Training and Development: With the growth of banks, there is a need for efficient and well-trained staff members to handle the needs of customers. Banks are offering traditional and advanced services like SMS banking, ATM, internet banking, priority banking, and demat. Therefore, banks need to provide training and development programs to their employees to ensure that they have the necessary skills to handle the needs of customers

3.Recruitment Planning: Recruitment planning is a crucial factor in manpower planning. Banks need to hire the right



people with the necessary skills and educational background to ensure that they can perform their duties efficiently. However, recruitment should not be done in a mechanical way, and banks should consider the real value of the candidates to the institution

4.Employee Motivation and Satisfaction: Employee motivation and satisfaction are essential factors in manpower planning. HR managers need to develop strategies that encourage employee motivation and satisfaction to reduce attrition rates. Monetary needs are not the only drive for an individual, and HR managers need to realize that a sense of belongingness must be imbibed in employees

5.Financial Inclusion: Banks need to focus on financial inclusion, especially in rural areas, to bring the hitherto population that was denied access to banking services. This process requires efficient manpower planning to ensure that banks have the right number of employees with the necessary skills to meet the demands of the rural population.

6.Cross-Cultural Training: With multinational organizations on the rise, HR managers need to focus on



issues such as cross-cultural training to avoid problems that can arise because of differences in culture. In summary, the key factors that influence manpower planning in the Indian banking sector include growth and expansion, training and development, recruitment planning, employee motivation and satisfaction, financial inclusion, and cross-cultural training.

Research Methodology: This research is based in secondary data Collected from different government Officials websites, studies, and books related to the topic of study in order to understand and investigate the manpower planning and performance of workers in organisations. The research will serve to help acquire useful information or knowledge about the subject area. Under this study not only topic under consideration is theorized, but also formulates and discusses some ingredients that are very fundamental to enable the management of organisations plan and strategically manage manpower to improve workers performance. **Findings:** As per the study, the existence of banks in India is mostly dependent on workforce planning. It is important to remember that when banks hire the right



people, give them the necessary training, and treat them well, these employees not only deliver quality work but also tend to boost the likelihood that the bank will survive in India. As a result, prudent personnel planning on the part of bank management will boost the institution's longevity as well as its performance. The study makes it evident that the old personnel plan provides a solid foundation for developing the new one. It also emphasizes the significance of manpower planning for the Indian banking industry and offers a framework for discussing the subject in a variety of settings.

Conclusion: The procedure an organization employs to make sure it has the correct number and sort of people to reach a specific performance level in the future is known as manpower planning. Planning for manpower is a crucial component of any organization. Businesses who don't plan for their workforce or human resources may find it difficult to supply the labor they will require in the future. They can have an excess of labor or a labor shortage. Many businesses are interacting with Indian consumers in the dark. Real-time and consistent data about employee work patterns is lacking.



Since the workforce in India is growing younger, businesses require an up-to-date picture of their personnel. There is an obvious lack of engagement opportunities for last-mile workers, or what firms refer to as "aam aadmi." They have strict productivity standards, but their level of engagement with engagement activities is relatively low. Employers in India must pay much more attention to their inclusive workforce by using more intelligent human resource solutions. Employers who want to collect human resource data from their workforce should engage in more insightful, fact-based conversations. This will directly affect improved efficacy, policy management, and compliance. When it comes to manpower planning, it can be difficult to assign probability objectively because it's possible that all future contingencies are unknown. Concerning the Indian banking system, numerous research has addressed the qualitative aspects of labor difficulties. There will inevitably be a void in the leadership pipeline due to the anticipated rise in senior and middle management executive retirements. This action will probably have an impact on human resource management as a whole. Over the next few years, the public



sector banks will see an unparalleled loss of skills and competencies due to the retirement of senior and middle management leaders. The idea of manpower planning is expanding. It is extremely pertinent to the service industry, such as banking. The single biggest input used in the banking sector is human labor. The degree of production and efficiency of this input is reflected in the level of customer service that banks provide as well as in the growth, productivity, and profitability of the bank in the long run. As a result, banks now place a high priority on workforce planning.

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10. The Impact of Unnat Bharat Abhiyan on Service Learning and Community Engagement: A Study of Dogra Degree College, Jammu J&K UT.

Mr. Balwant Singh

Assistant Professor {Sociology}, and PI, Coordinator, Dogra Degree College {Affiliated to the University of Jammu} Bari Brahmana, Jammu, **India**

Abstract: The first primary concern of any nation should be education, and the Indian government has been implementing several programs to bring education to every corner of the country. Several goals, including raising the literacy rate, enhancing the standard of education, boosting skill-based learning, promoting technical education, stimulating innovations, and empowering institutions, were at the top of the list and made considerable advancements throughout time. In general, both private institutions and government institutions are welcome to participate in



government activities. The most important component of education is maintaining social connections. There were few possibilities for engagement with society at large in the higher education curriculum. The study highlights the "Unnat Bharat Abhiyan" (UBA) experience of the Dogra Degree College. Dogra Degree College [Non-technical Institute], affiliated to the University of Jammu has been a Participating Institution {PI} of UBA since 30th May 2022. The project helped employees and students grasp social evolution, comprehend their place in society, use technological advancements, and produce things that are used in society. This therefore gave students a platform to use their expertise to solve challenges in the present. Dogra Degree College, a participating institution, adopted five villages {Palli, Upper Kartholi, Meensarkar, Lower Kartholi & Smailpur} using the UBA framework, carried out village and household surveys, and identified the issues in the adopted villages that called for technology interventions. The study also observed that up to 20 activities were organised by UBA Cell. There were more than 350 students and 16 faculty members who took part in the village survey and household



survey. To ensure households' active involvement in all UBA activities, the government funded the participating institute, DDC to conduct a household survey. Students who participated in the program reported that it improved their academic performance and altered their attitudes about society.

Keywords: Dogra Degree College, Community Engagement, Unnat Bharat Abhiyan, Service Learning, Students, Govt. Initiative

Introduction: The Indian government's Unnat Bharat Abhiyan (UBA) initiative was launched in 2014 at the Indian Institute of Technology (IIT) in Delhi, India. The work of IIT Delhi in the areas of rural development and appropriate technology has made headlines. The Rural Technology Action Group (RuTAG) coordinators, along with a number of Non-Governmental Organizations (NGOs) and educational institutions, all made contributions to the development of the concept of service-learning integration. With the assistance of educational institutions, the UBA's specific mission is to revolutionize rural development



processes and provide the framework for an inclusive India. The UBA's goal is to help educational institutions become more socially conscious, identify issues, and build skills to meet the demands of developing professions. As a prospective mentoring institution, participating institute, subject expert, nonprofit organization, development agency, philanthropist, CSR (Corporate Social Responsibility) promoter, NSS (National Service Scheme) participant, or enthusiastic volunteer, among other roles, you can become a stakeholder in UBA. (Unnat Bharat Abhiyan, 2014 Initiative of the Government of India. A method of teaching known as "service-learning" aims to meet academic learning objectives while encouraging students to perform meaningful community service. Through activities that are built around community needs, students grow and learn. They encounter things while engaging in community interventions. They express their reflections through writing, creating a way for future development on the social, intellectual, and personal levels. 1992 (Duckenfield & Swanson). Service-learning practitioners have offered various tips on the myths to avoid when using the methodology for learning. Instead of tackling



all of the concepts at once, teachers might incorporate a few of them into their curriculum gradually. (2011) Anderson. Projects including community service-learning are designed to help students acquire a range of abilities, perspectives, and dispositions that also satisfy the demands of academic evaluation. Scharrarer (2006). Numerous programs have shown the benefits of service-learning pedagogy in terms of raising cognitive levels. (2010) Angelar. Bielefeldt. Dogra Degree College, Bari Brahmana, Samba, established in 2008, is currently offering three-degree undergraduate programs in business administration, arts, and commerce. On May 30, 2022, Dogra Degree College became associated with UBA as PI [Non-technical Institute].

Objectives of the Study: 1. To highlight the value of service learning in contemporary society. 2. To encourage community service among college students. 3. To use volunteers to raise public awareness of various socio-environmental health issues. 4. To use a variety of skill development programs to help students develop as individuals. 5. To identify issues related to development in collaboration with the rural community.



Methodology: To achieve inclusive societal development, the UBA Participating Institutions are provided with specific requirements to undertake service-learning on the institution's behalf. There is a predetermined hierarchy that all stakeholders must adhere to participate in the program and contribute their unique contributions. To clearly make a difference, structured networks with a huge number of institutions working together and a consistent way to organize, carry out, and monitor the actions are necessary. Encouraging synergistic collaboration between relevant ministries, neighbourhood Panchayat Raj institutions (PRIs), volunteer organizations, and UBA members is also essential (see Figure 1). The match has just been envisioned thus far and is only being staged. The National Coordinating Institute is responsible for fully implementing the scheme by coordinating with all the stakeholders and with the support of Regional Coordinating Institutes in the region. The Ministry of Education is at the top of the hierarchy for the UBA Framework for the involvement of educational institutions in societal development, followed by the National Steering Committee to make policy decisions,



review the program regularly, and make changes as necessary. Participating Institutes are the academic institutions that are expected to work with neighboring villages in the given framework and connect villages with students. Regional Coordinating Institutes monitor the progress of the work carried out by the Participating Institutes and train the faculty to plan activities related to community engagement. The function of district, panchayat, and volunteer organization representatives is to assist students in their academic and social innovations. Dogra Degree College, Bari Brahmana, Samba, established in 2008, is currently offering three-degree undergraduate programs in business administration, arts, and commerce. On May 30, 2022, Dogra Degree College became associated with UBA as PI [Non-technical Institute]. The PI's duties include adopting villages, conducting village and household surveys, developing action plans and gram panchayat development plans, and involving himself or herself in technical initiatives in the villages. The coordinator from the PI is responsible for carrying out the procedure for adopting a community. The coordinator selects a village close to the institution



where students can participate in learning about the hamlet's numerous facets. The relevant panchayat officials must be informed of this, and a request to adopt the village under the UBA Scheme must be made to the district collector. It would receive the district collector's approval and be updated in the records. To add the UBA Regional and National Coordinating Institutes to the PI site, the approval letter can be provided to them. The information appears in the PI's portal as soon as the NCI accepts the acceptance of the village. The village survey can be undertaken by PI as a preliminary step. Basic information on the villages is required for village surveys and is obtained from the village executives. Students are needed to carry the household survey forms to the village and conduct the survey once the village survey is finished. The household survey aims to gather information such as complete demographic data, gender-specific population throughout age categories, poverty line across the majority caste section, and more. Aadhar protection, coverage of government and bank initiatives, Migration Hypothesis, facilities, such as those for education, literacy, and health Access to drinking water,



sanitization services, composting pits, and both toilet-equipped and non-equipped households, homes' types, Village connectedness, infrastructure, type of land, pattern of land use, and sources of irrigation profile of forestry and horticulture. fertilizers and chemicals usage agricultural output, animals as assets number of cattle, the pattern of work, earnings analysis, source of power and energy, and use of fuels for cooking. In order to have a basic picture of the livelihood and resources of the village, faculty, and students are expected to look through the survey forms. The participating institution learns about and observes different aspects of society while the data is gathered. Students will get access to actual challenges so they may apply what they learn and get better at learning. Five villages were adopted, and surveys of the villages' residents and households were undertaken by Dogra Degree College students. Both learners and instructors were able to convert their concepts into academic projects using the UBA framework's systematic methodology, earning credit while using the finished goods to assist the community. For faculty, several workshops have



been planned to help them support students' social involvement.

Results and Discussion: Dogra Degree College adopted 5 clusters of villages in 2022 and continues to work with them to support students in understanding the culture. The villages that DDC has adopted are thoroughly described in Figure 2. The coordinator visited every village and discussed the inclusion of students in societal growth. The UBA Portal has been updated with the PI's login information and updated with details on the significant villagers. Dogra Degree College adopted 5 clusters of villages in 2022 and continues to work with them to support students in understanding the culture. The villages that DDC has adopted are thoroughly described in Figure 2. The coordinator visited every village and discussed the inclusion of students in societal growth. The UBA Portal has been updated with the PI's login information and updated with details on the significant villagers.

Fig. 2 Option of adding village in the UBA Portal login of PI



articipating Institute {PI}, Dogra Degree College, Bari
Brahmana, Samba J&K UT Unnat Bharat Abhiyan {UBA}
Survey Statistics At A Glance

Village Surveys Under UBA

VILLA GE NAME	BLOC K	DISTR ICT	DA TE	FACU LTY	STUDENTS REPRESENT ATIVE
Palli	Bari Brahm ana	Samba	11- 06- 2022	Mr. Balwan t Singh	Ritika Kundal
Smailpu r	Bari Brahm ana	Samba	08- 05- 2023	Mr. Balwan t Singh	Chiranjeev Singh
Karthol i Upper	Bari Brahm ana	Samba	28- 01- 2023	Mr. Balwan t Singh	Chiranjeev Singh
Meensa rkar	Bari Brahm ana	Samba	03- 11- 2023	Mr. Balwan t Singh	Maniya Bhardwaj
Karthol i Lower	Bari Brahm ana	Samba	04- 11- 2023	Mr. Balwan t Singh	Jatin Sharma

BASELINE HOUSEHOLD SURVEYS UNDER UBA

VILL AGE	BL OC	DIS TRI	D AT	TOTA L	NO. OF	NO .	NA ME
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NAME	K	CT	E	HOUS EHOL D	HOUS EHOL D SURV EYED	OF ST UD EN TS Part icip ate d	OF FAC ULT Y
Palli	Bari Brah man a	Sam ba	04- 06- 20 22 to 11- 06- 20 22	550	420	30	Mr. Balw ant Singh
Smail pur	Bari Brah man a	Sam ba	23- 03- 20 23 to 29- 03- 20 23	800	295	50	Mr. Balw ant Singh Ms. Priya nka Shar ma
Kart holi Uppe r	Bari Brah man a	Sam ba	28- 01- 20 23	890	300	90	Mr. Balw ant Singh



July 3, 2024



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							Ms. Shikha Gupta Mr. Rinkal Gupta Mr. Rishav Sharma
Meen sarkar	Bari Brahman a	Sam ba	11-10-2023 to 20-10-2023	800	500	100	Mr. Balwant Singh Ms Shiva ni Men gi Mr. Ravi nder Kum ar Mr Rink



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							al Gupt a Mr. Guls han Shar ma Ms Kajal Shar ma
Kart holi Lowe r	Bari Brah man a	Sam ba	04- 11- 20 23	750	300	31	Mr. Balw ant Singh Ms Kanc han Dube y Ms. Ama npree t Kaur Ms. Shiva ni Kash yap



							Ms. Rach na Deci Ms. Palak Gupt a
Total				3790	1815	301	14

Table:1 UBA Survey at a Glance {Source: Primary Data}

After household data was gathered, students had access to a wide range of issue statements that matched their areas of interest. All of the students have developed the abilities necessary to collaborate with the community to produce new ideas. About 90 students have stated that participating in UBA activities at DDC considerably boosted their confidence. Information about UBA events and students who benefited from them is provided in Table 1 and Fig 4.

The students were honored by RCI, IIT Jammu Team members, and representatives of sponsored villages by giving them mementos. The felicitation program was a very kind act on the part of the UBA. They also praised the kids' initiative and said that recognizing deserving people inspired



others to do the same and encouraged them to continue serving society.

Unnat Bharat Cell of Regional Coordinating Institute -Indian Institute of Technology Jammu is pleased to recognize PI, Coordinator Mr. Balwant Singh, Dogra Degree College Bari Brahmana Jammu as one of the best-performing institutions of Unnat Bharat Abhiyan, {a flagship program of Ministry of Education, Govt. of India}in Jammu Province and Ladakh UT, in the quarter of 1st and 2nd 2023-2024

Unnat Bharat Abhiyan 2.0
Community Engagement and Social Responsibility
{UGC MOOC Course}

Name of the Students	Department/Semester	Fieldwork
Chiranjeev Singh	BA 3 rd year	Completed 30 hrs
Jatin Sharma	BA 3 rd year	Completed 30 hrs
Aradhana Pandey	BA 3 rd year	Completed 30 hrs
Sandeep Kumar	BA 3 rd year	Completed 30 hrs
Taniya	BA 3 rd year	Completed



		30 hrs
Nandini Bhau	BA 3 rd year	Completed 30 hrs
Kashavi Charak	BA 2 nd year	Completed 30 hrs
Anish Pawar	BA 2 nd year	Completed 30 hrs
Khushi Bhagat	BA 2 nd year	Completed 30 hrs
Priyanka Charak	BBA 2 nd year	Completed 30 hrs
Diksha Kumari	BBA 2 nd year	Completed 30 hrs
Siya Sharma	BBA 2 nd year	Completed 30 hrs
Gracy Bongal	BBA 2 nd year	Completed 30 hrs

Table 3: List of enrolled students in UBA online Swayam UGC MOOC 2 credit course” Community Engagement and Social Responsibility” under Unnat Bharat Abhiyan 2.0 Unnat Bharat Abhiyan “Community Engagement and Social Responsibility” is a 2-credit course that awards 1 credit for theory and 1 credit for fieldwork. The course now has more than 13 participants from Dogra Degree College. The students have successfully completed 30 hours fieldwork in adopted villages for “Community Engagement and Social Responsibility” India is a nation of villages; hence rural



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development is a must for the country's advancement. The numerous facets of rural life and its evolution in India are discussed in this course. It promotes the value of self-help organizations in community development. The well-being of the people is a major focus of the training. Additionally, the definitions of literacy and employment have been developed in the context of rural Indian culture and its multifaceted growth. This course emphasizes social networking's role as a conduit between Indian citizens and various government programs. For the benefit of the pupils, explanations of sensitivity to the environment and education, security and Vigor, passion for physical, mental, and spiritual health, as well as simple living and lofty thinking, have been provided. The course also discusses the advantages of research- and innovation-based community participation. Students will be able to comprehend the numerous issues facing every community and potential solutions. The students must respect and learn from Indian cultures' unique wisdom, which is derived from their ancestors' and lived experiences, in order to develop their ability to improve other communities. In a nutshell, this course will assist the



students in establishing a connection with the nation's true essence. The six types of community engagement are: integrating knowledge with volunteer work, doing community-based participatory research, sharing information with the community, creating new curricula and courses, hiring practitioners as instructors, and student-led social innovation (Tandon, 2014). Technological advancements open opportunities for students to have a deeper comprehension of difficulties. Additionally, the effort supports students' development of ethical reasoning and civic duty. Learning through service (LTS) can be used to instruct students on broad ethical issues. (2016) (Angela R. Bielefeldt). The main driving force behind educational institutions and students spending time on social interventions while putting what they have learned in class into practice is financial assistance. The improvement of lives and the creation of wealth would result from skill development using these interventions as pedagogies. The possibilities for social immersion in local service projects are broad. (Gregory Bixler) 2014. It is important to intentionally invest time in the community to acquire the intricacies



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required for the nation's cultural, economic, and technological development. In view of the students' reflections, Students should be encouraged to use service learning as a way to acquire professional life skills. (2013) Carberry, Adam.

6. Main Key Findings: A baseline household survey was carried out by the Dogra Degree College UBA cell in the five adopted villages of Palli, Meensarkar, Kartholi Upper, Kartholi Lower & Smailpur, Bari Brahmana, and Samba. The volunteers were systematically distributed throughout several wards in accordance with the plans of the UBA cell DDC. The representatives of the Village Sarpanch of Smailpur, Sh. Balwant Singh, the Sarpanch of Upper Kartholi, Sh. Tarsem Singh, the Sarpanch of Palli, and Sh. Randhir Sharma, the Sarpanch of Lower Kartholi, Sh. Angrez Singh as well as the ward members who shared the details of all the houses that needed to be surveyed and assigned an assistant to ensure a smooth survey process, provided the DDC survey team with full support. All these wards' homes were surveyed by volunteers who collected data on a variety of issues, including general household information, the waste



collection system, family member information, migration status, details about government programs for the villagers, sources of energy, and power and water, significant issues with village agriculture inputs, info on landholding, etc. During the data collection process, the volunteers identified that many villagers were either not enrolled in any government schemes or had not received any benefits from them. A few instances of such schemes include the PM Jan Dhan Yojana, Sukanya Samridhi Yojana, Mudra Yojana, PM Suraksha Bima Yojana, Atal Pension Yojana, Fasal Bima Yojana, PM Awas Yojana, Janani Suraksha Yojana, Kaushal Vikas Yojana, and others. The Volunteers discovered that these individuals needed family planning counseling, which the volunteers also provided, and that the families were extended. However, it wasn't the only issue. There were also a lot of other problems, such as poor living conditions, social taboos, roads, trash, drainage systems, homelessness, and health issues. The Volunteers also found that the pollution from the surrounding industry was the main problem in the community. The villagers' health was being negatively impacted by the pollutants coming from the factory region,



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which was leading to an increased risk of heart disease, lung troubles, and other ailments. Furthermore, the canal water was becoming contaminated by the untreated water that the companies were discharging, rendering it unsafe for human consumption. The village's groundwater's flavor and quality had also been changed by the pollution. The villages have highlighted a need for improved healthcare services and awareness initiatives due to limited access to healthcare facilities. The population of the village is diverse. A typical home consists of four to five people. The main source of income for many households in the village is agriculture. On the other hand, diversification of livelihood options and skill development are required. Although the hamlet has schools, there is a need for better facilities and kid-focused learning opportunities. The villagers emphasized the necessity for a garbage collection system, sanitary amenities, and an electrical supply.

Conclusion: Students are more motivated to work on projects that preserve both their academic learning objectives and their desire to give back to society as a result of this service learning. With the help of educational institutions, the



goal of a society that is indigenous and inclusive is being achieved. The government financing provided for these programs further increased student and instructor motivation. Additionally, it was seen that the UBA-related activities enhanced the learning. The college was able to use a government initiative to introduce pupils to their social responsibility. Further research is advised on how to effectively include such activities into curricula through academic projects, motivate with considerable credit, and create more socially useful outcomes in India.

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Special Edition.



11. Determinants In The Indecent Use of Syntax.

Bonisiwe Happiness Maphumulo

Eudoxia Research Centre (ERC), India, Eudoxia Research University (ERU), **USA**

Abstract: Syntax is a vital component of language and its proficiency depends on the knowledge of its lexis. However, there are concerns in relation to teaching and learning of it, hence this paper aims to unearth determinants in the indecent use of syntax in learners doing English as first Additional language. The paper is located within qualitative research approach which is underpinned by Interpretivism paradigm and case study as a research design. Information rich participants were purposively selected for data collection; teachers who have taught language for more than five years and learners who are doing English as First Additional Language. A sample of 4 educators and 6 learners in one selected primary school was used. Data was thereafter



analyzed using thematic analysis. The findings revealed that learners who are socio-economically disadvantaged face significant consequences in learning syntax. This includes declining performance in written tasks because of lack of school necessities such as reading materials. Adding to this is the minimal parental involvement in children's learning. Lack of exposure to reading materials seems to be a major determinant that contributes to indecent use of syntax. Recommendation was that for English Second Language learners to gain knowledge of language use, they need to have access to print media, technological advanced reading materials and a conducive well-resourced environment, in order for effective learning to take place. If, on the other hand, the financial needs of the learners are met adequately, probably their language performance may be enhanced. Learner performance is chiefly a yield of mental and economic satisfaction. If a learner is mentally and socially satisfied, then positive results will reflect his/her performance in almost everything.

Keywords: determinant, indecent, syntax



Introduction: Indecent use of syntax adversely affect learner's academic performance. For this reason, the paper aims to surface the determinants in the indecent use of syntax in learners doing English as First Additional Language. In view of this (Sebota, 2016) argues that the use of syntax is not an educational hurdle affecting only learners in primary schools. From the recent literature, it appears' that among other contributing factors, socio-economic status and learners' exposure to English are the most dominant leading factors that impedes the accurate use of syntax in EFAL learners. (Thobejahane, 2018) postulates that EFAL learners' home environments does not provide effective support for language acquisition, as learners' linguistic environment plays a crucial role in their literacy skills development. On the other hand, insufficient exposure to print media and support from home, cause learners to struggle to grasp the content of syntax taught through the English medium, and this negatively affect their academic performance and their writing skills (Thobejahane, 2018). Jenny (2015) avows that living in a text-oriented society, all learners need to be accurate in syntax, but achieving this goal



is particularly daunting to learners who are learning English as their second language. Attending to challenges arising from syntax use is vital because, although English home language is not compulsory in schools but it is the dominant language of learning and teaching (LoLT). The paper is framed under qualitative approach in order for participants to bring out their experiences on this matter. **Theoretical Framework: Linguistic Theory:** This paper is framed under Linguistic theory as it deals with language properties. Linguistic theory was developed by Noam Chomsky in 1928 who is now known as the father of modern linguistics. Chomsky is a distinguished linguist who described language as a grammar that is largely independent of language use (Hosni, 2019). This theory argues that language acquisition is governed by universal, underlying grammatical rules that are common to all typically developing humans. This theory is not new and has been reviewed by many theorists. Linguistic theory came to be known in the late 19th Century by Neogrammarians. Neogrammarians examined sound alterations and sound laws which lead to sound change (Schmid, 2012). In the 20th Century, Structuralism was



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introduced by Ferdinand de Saussure supplementing Neogrammarianism. Structuralists scrutinised language structure and sound image. Structuralists held that everything has meaning. In the late 20th Century, Post-structuralism emerged. It was introduced by Jacques Derrida. Post-structuralists built on critiques of Saussure's linguistic insights. Post-structuralists were of the view that grammar of a language has rules and structures. Years later Noam Chomsky introduced Generative Grammar which builds upon Post-structuralism. This model has been dominant formal linguistics and in recent decades. It has refined Linguistic theory. One of Chomsky's theoretical insights reveals that humans were born with a predisposition to learn the grammar of a language. Human beings are pre-wired to learn the grammar of a language, and are born with basic rules for language, intact (Hosni, 2019), Hosni is of the notion that the human brain is ready-made to acquire the grammar of a language quickly at specific stages in the development process. **Principles Of Linguistic Theory: *Phonology (study of speech sounds):*** Phonology is the branch of linguistics concerned with the study of speech



sounds with reference to their distribution and patterning (Odden, 2013), the principles that govern the way sounds are organised in languages, and the variations that occur are explained. Phonology aims to analyse an individual language to determine which sound units are used and which pattern they form, and involve the comparison of the properties of different sound systems (Odden, 2013). ***Morphology (study of word formation)*** This branch examines the internal makeup and structure of words, as well as the patterns and principles underlying their composition (Schmid, 2015). Words are analysed in terms of morphemes (components of words that are carriers of meaning). The major areas of morphology are: inflectional morphology which deals with grammar; derivational morphology which is word formation which deals with patterns and rules guiding the formation of words. ***Semantics (meaning of words and sentences)*** This branch of linguistics studies the meaning of words and sentences (Oliveria, 2004). It is of the view that sentences should be meaningful and valid. Semantics largely determines grammar comprehension. One of the central issues with semantics is the distinction between literal and figurative



meaning. Literal meaning takes the concept at face value while figurative utilizes similes and metaphors for example to represent meaning and convey greater emotion (Sasha, 2015). ***Syntax (rules of grammar with regards to sentence structure)*** This branch of linguistics involves the rules underlying the way words are arranged. Meaningfully. One cannot just place words in any order to make a meaningful sentence (Nuin, 2019). There are certain rules for making sentences e.g. the main device for showing relationships among words is word order: subject is the initial position, the verb then the object; transposing them changes the meaning. Syntax is a form of grammar concerned with the order of words in sentences.

Research Methodology

The paper is channeled by the predominant research question: what are the determinants in the indecent use of syntax in Efal learners? This paper adopted a qualitative research method based on interpretive paradigm and followed a case study as a research design. In this study, the researcher intended to unearth the determinants in the indecent use of syntax in Efal learners. According to



(Moodley, 2013), qualitative research, which is a study of phenomena in their natural settings, attempts to make sense of, or to interpret phenomena in terms of the meanings people attach to them. The target population comprised of 4 educators and 6 learners from one primary school located in Umfolozi circuit in the province of KwaZulu-Natal under King Cetshwayo District, Richards Bay area was selected purposively. Both teachers and learners varied in gender, age, and experience in the field of education. Participants were selected subject to their availability and willingness to take part in the study as well as meeting the requirement of the study. The researcher's judgment was used to choose teachers who were knowledgeable of the subject matter, who have been in the field for more than five years and those who were considered to be information-rich. In terms of selecting learners, the researcher selected learners aged between 10 to 11 years in Grade 5 doing EFAL. The study consisted of ten (10) participants who were interviewed (4 educators as well as 6 learners); six interviewees were recorded as 4 participants did not consent to being recorded. Interviews were transcribed and analyzed using thematic



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analysis. The participants in the study consisted of both male and female educators aged 30 to 55 as well as male and female learners aged 10 to 11. The reason for selecting 4 educators is that the study will focus on 1 selected primary school; usually there are a few educators teaching that particular grade, so it will be difficult to equate number of teachers with a number of learners.

Results And Discussion

The findings presented herein provide evidence that learners who are socio-economically disadvantaged face significant consequences in learning syntax. This includes declining performance in written tasks because of lack of school necessities such as reading materials. Adding to this is the minimal parental involvement in children's learning. Lack of exposure to reading materials seems to be a major determinant that contributes to indecent use of syntax. The literature further reveals that insufficient financial resources, and lack of educational attainment are also barriers to parental involvement in school. Many parents suffer from low self-esteem and others did not experience success in school themselves and therefore lack the knowledge and



confidence to help their children. Parents who did not experience success in school may view the schooling process negatively. Parents may be intimidated by the language, the curriculum, and the staff; consequently they avoid communication with the school. Some learners live with illiterate parents who have never attended school before and it becomes difficult for them to be hands-on when it comes to school work. According to Egbule (2010), finance is the avenue through which the learners' bills are paid. If there is a shortage in the learner's finances, this will probably affect his/her academic performance adversely. For the learner to gain knowledge of language use, she/he needs to have access to print media, technological advanced reading materials and a conducive well-resourced environment, in order for effective learning to take place. If, on the other hand, the financial needs of the learners are met adequately, probably their language performance may be enhanced (Egbule, 2010). Performance is chiefly a yield of mental and economic satisfaction with a particular thing. If a person is mentally and socially satisfied, then positive results will reflect his/her performance in almost everything (Walid, 2018). The biggest



aspect that plays a vital role in directing the performance of EFAL learners, is mental satisfaction. Economic prosperity or economic flow will ultimately enhance the performance level of a learner towards learning syntax accurately (Walid, 2018).

Conclusion: This paper has reached the conclusion that the EFAL learners face myriads challenges related to syntax. One of the alarming factor is that most EFAL learners come from disadvantaged families who cannot provide school necessitates for them such as advanced reading materials. Thus, they encounter challenges in using appropriate syntax when writing because of limited vocabulary. Being exposed to different reading materials drills and enhance vocabulary which they need to construct meaningful sentences. Apart from all this, reading books and being exposed to other reading technologies can make EFAL learners develop their verbal and non- verbal communication skills in and outside the classroom.

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