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**Assessing Millets Consumption Behaviour among Youth of Delhi Urban: A Survey Based Study**

**Shalini Gupta**

National Forensic Science University, Gandhinagar,  
Gujarat, India

**Dr. N. Rajamannar**

Corresponding Author  
Rashtriya Raksha University, Lucknow Campus,  
Lucknow, India

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**Abstract**

Presently the government and industrial sector are paying attention towards the SDG goal number 3 for health and wellbeing. To build health, wellbeing of people and dealing with major health issues such as malnutrition, diabetes, moreover resilience for farmers to combat climate change millets (Sorghum, Finger millet, Pearl millet, Kodo millet) play key role. To comprehend people behaviour, awareness and consumption practice in India's Capital, a study carried on 140 individuals from four major zones of Delhi using a questionnaire, and the remarks were imperilled to analysis using statistical tool. Among 140 respondents 81.3% people believe that millets are healthy and 13.7% of people are not sure about health benefits of millets. 33.8% of people believe that millets are rich in iron and good for overall health. The major reason found that respondents do not eat millets frequently belonged to the reactions such as not liking the taste (27.9%) and limited availability (24.3%). It was found that for creating awareness and reaching to urban consumers via social media platform range share 44.6%. There was a moderate positive correlation between family income and frequency of consumption i.e.  $r$  value =0.42. In conclusion, to boost consumption of millet in urban areas there is a need to develop delicious products to satisfy the taste of consumers, and also improving accessibility, affordability of millet products in urban local supermarkets.

**Keywords:** Millets, Health Benefit, Awareness, Consumer Behaviour

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**Introduction**

In present scenario of uncertainty, most of the people are suffering from minor or major health issues due to poor food habits and consumption of fine cereals and junk food made of them led to rise in serious health issues. Moreover, farmers are also suffering from the pressure of producing demanded crops specifically wheat, rice, maize etc. Which result in overexploitation water, other resources, and soil pollution. Here climate change plays crucial role in causing these adversities due to human needs and action. Hence introduction of millet among the society is the need of an hour to deal with undernourished, malnutrition and further human health issues. Identifying nutritious and sustainable diet that can boost utility of underrated crops, like quinoa, pearl, finger, kodo millet, sorghum due to their climate resilience property and enriched nutrition value. It is quite clear that among edible plants, only three crops i.e rice, maize, and wheat, contribute to 60% of caloric intake. Instead, the sustainable development goals (SDGs) have its determined goal of eradicating malnourishment by the year of 2030. To achieve goal, intrusions are necessary for replacing the common grains consumption (rice, wheat, and maize) with millets as nutritious grains. Millet crops are also known as super food that is beneficial for the people, planet, and farmer. Also, these are rich in protein ratio, minerals such as iron, zinc, and calcium which deliver health benefits to all generation and genders. These crops are known for their flexibility, survival ability under harsh environmental condition like high to moderate temperature ranges and in less fertile soil, and require less irrigation, resistant to pest, and low to no requirement of fertilizers (Saleh et al., 2013). Thus, possess minor carbon footprint than the present conventional staples.

India is the chief producer as well as consumer of different millet varieties in rural and semiurban areas. Customarily, various food products and beverages are being prepared from these grains however, their utility value in the Indian food basket has been weakened (Joanna and Kumar, 2019). From 1962 to 2010, India's per capita consumption of millets fell drastically. Likewise a study reported that per capita consumption of pearl millet declined in both rural and urban regions of India (Basavaraj et al., 2010). The consumption of refined grains increased, as it is studied and proven that consumption of refined grain is linked type II diabetes mellitus and obesity (Radhika et al., 2009). The Government of India started promotional initiatives among the citizens and supportive scheme for farmers for millet production. Government also providing funding assistance for entrepreneurs for manufacturing of millet related products at commercial scale. The perception on millet is changing in present scenario which shows greater health consciousness of people (Umanath et al., 2018) and is the right stage to assess current knowledge, and practices related to millets, which will lay the framework to promote millet as a staple food effectually. A limited number of studies have investigated the perceptions, and awareness on millets. Thus, present study is focused on assessing consumers' perceptions, consumption pattern and attitude on millets using a survey covering capital region Delhi, India.

### Literature Review

India is facing the challenge of over nutrition in urban areas along with undernutrition in rural and urban slum areas. The prevalence of overweight or obesity, coronary disease, incidence of cancer is growing faster in urban areas compared with the rural areas (Umamageswari et al., 2023). The transition of food consumption patterns affects nutritional intake. Consumer awareness on nutritional diet has a strong relationship to the healthy lifestyle and disease prevention. The cereal market in India has also seen significant growth of more than 17% (Business Wire, 2019). Compared to rice and wheat, millet is considered five times superior in terms of nutritional value (Rao et al., 2017). But even after contributing 10% to India's foodgrain basket with an annual production of 18 million tons, it is not being consumed in the same proportion as mainstream cereals i.e. that is rice and wheat (Padmalini et al., 2023). Millets are sustainable food options to achieve nutritional security. Due to their favourable environmental qualities and health benefits, these crops are receiving a lot of attention (Sukumaran et al., 2023). Green Revolution and subsequent development policies by the government that emphasized promoting rice and wheat crops on account of food security, the consumption and cultivation of millet crops have declined drastically in recent decades. Owing to the mounting awareness of the nutritional, health, and environmental benefits of millets, interest has been revived in millet cultivation as well as consumption (NAAS, 2013; Anbukkani et al., 2017; Kane-Potaka et al., 2021). Millets thrive in arid regions, requiring only 300-400 mm of water thus conserving vital water resources. Environmental-friendly: Millets stand out as carbon-neutral crops, absorbing carbon from the environment equivalent to their carbon emissions, in contrast to rice and wheat. Millets exhibit unparalleled resilience in harsh, hot, and drought-prone environments, often as the last standing crop, securing their place as a sustainable food source amid worsening climatic conditions and a boon for small farmers (Sendhil et al., 2023). Further, the Indian government, recognizing the importance of millets, has launched several development initiatives to promote the cultivation and consumption of millets. Several state governments in India have also launched promotional programs like the Millet Village Scheme with respect to Kerala and Odisha Millets Mission in 2017 with respect to Odisha.

### Research Objective

Present study is focused on assessing consumers' perceptions, consumption pattern and attitude on millets. Research objective is to collect primary data on awareness, attitudes, and consumption pattern among urban consumers in Delhi.

### Method

To collect primary data on awareness, attitudes, and consumption pattern among urban consumers in Delhi, survey was conducted. Obtained data was statistically analysed to find out p value of significance and relationship between variables (Creswell and Creswell, 2017; Irianto, 2015). Respondents was selected using non-probability; convenience sampling method was used which provided access to large numbers of women, men in selected study areas. People Participation in the survey was voluntary and anonymous. Participants were informed upfront for study purpose and use of the data. As a result, a total of 140 individuals from different zones in Delhi including New Delhi, Old Delhi, Delhi Cantonment, Delhi NCR participated in the online survey. The participants were provided with a link of a IIMR factsheet about nutritional value of millets and millet recipes at the end of the survey.

### Questionnaire and Data Analysis

An organized questionnaire was developed about benefits of millets and including it intake frequency, consumption patterns, socioeconomic information of the participants. Several reputed research papers were reviewed to ensure the validity and clarity of the questions (Joanna et al., 2021). The survey was administered to college students, and women in service, homemaker over the course of February-march 2024. Obtained numeric data were systematized, coded, and subjected to statistical analysis. In this study existing guidelines of sample size selection is depended on sample to variable ratio which suggests a minimum observation-to-variable ratio of 10:1 (Hair et al., 2018). 140 observations were subjected to analysis against 14 variables (questions) (Table 1). Inferential statistical tools, including correlation, and p value, were performed to examine the influence of socioeconomic factors, market availability on consumption habits, intake frequency and perceptions toward millets.

### Results

Among the respondents, 120 were female and 20 were male, and their average age was between 18-19 years. In particular, women constituted an even higher proportion of grocery shoppers (Table 1). It was identified that the awareness of millets was prevalent from past years, 81.3% respondents thought millets are healthy, 13.4% of respondents were not sure that millets are healthy (Table 2). 27.3% respondent belief it is good for health of women, is high in iron (33.8%), and is good for diabetes (23%). The rest of the participants (45%) thought that

it was good for bone, and overall health. Most (64%) of the respondents were reasonably or 27.3% highly health conscious (table 2). Source of information on health and foods was, mostly through social sources, the largest being social media with 44.6% of the participants opting for it, while TV shows were the sources for 20.9%, and family and friends were the sources for 47.5%. The other influential information sources were courses (10.8%), newspapers (2.9%), and books 4.8% (Figure 1). Although there was a considerable proportion of consumers eating millets moderately (55.4%) consume once in a month, only 28.8% consume millet frequently i.e. more times a week. there was also a proportion of people who had never consumed millets (15.8% consumed millets never or up to two times a year, Figure 2). The most common form in which millets eaten as chapati, as reported by 55% of the respondents. Breakfast porridge, which is one of the traditional forms of consumption, stood at the top at 29.5% (Figure 3). Figure 4 presents the reasons stated for the consumption of millets. The major reason participant belief it is overall healthy food (62.1%). The second major reasons for eating millets as served at home (28.6%) and its taste (15.7%) (figure 4). The survey further enquired why people did not consume millets. Nearly 27.9% of the respondents did not like the taste followed by cooking time (25%) and limited availability (24.3%) (figure 5). Table 3 shows the correlation between the reasons stated for consumption of millets and family income of the respondents. The latter group, when not consuming millets frequently, attributed it to unfavourable taste and limited availability.

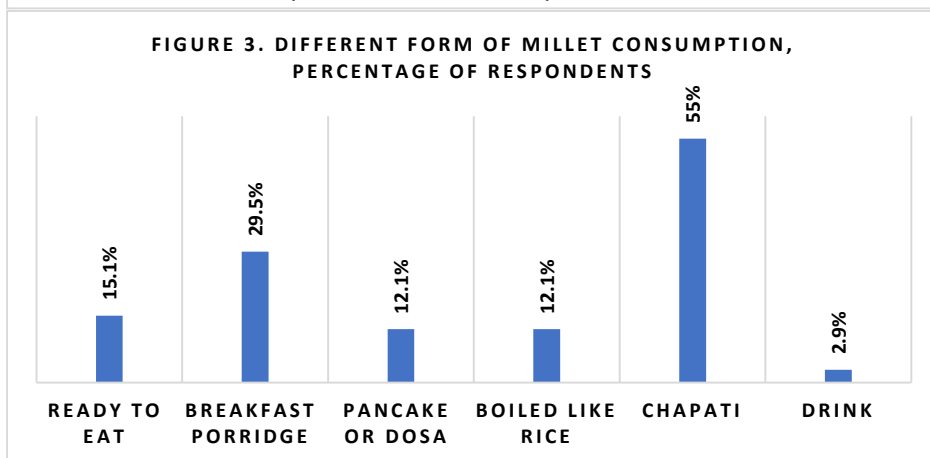
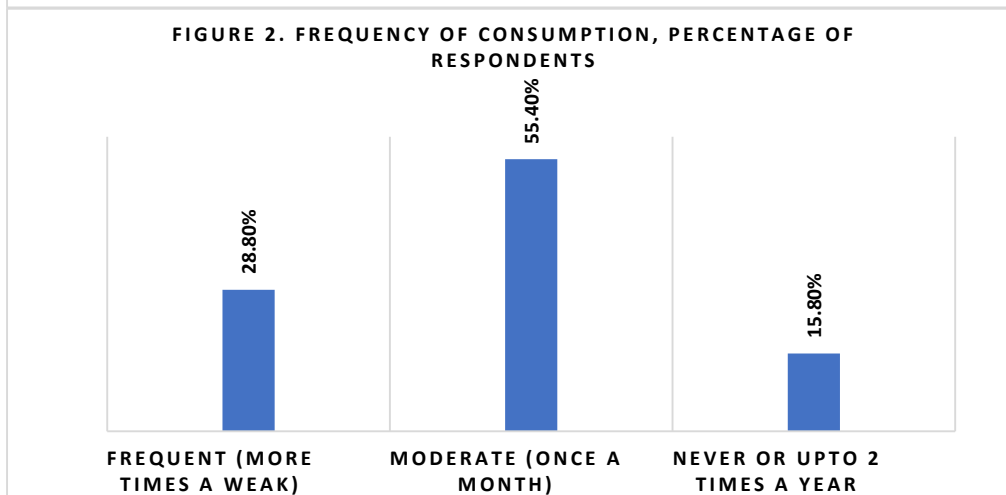
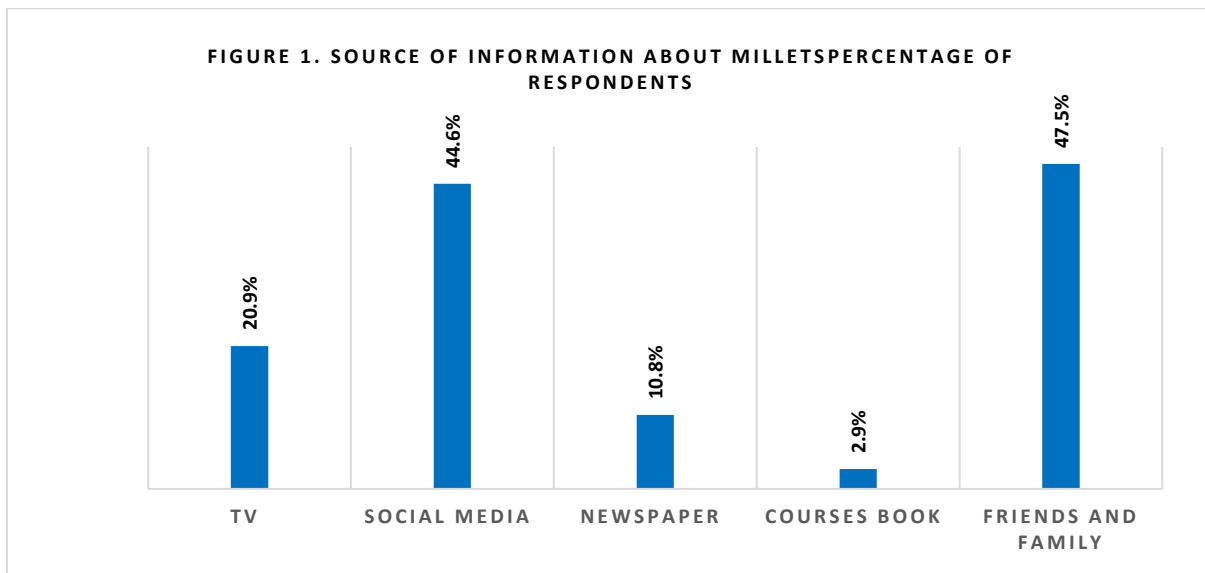
**Table 1. Demographic Distribution of Respondents**

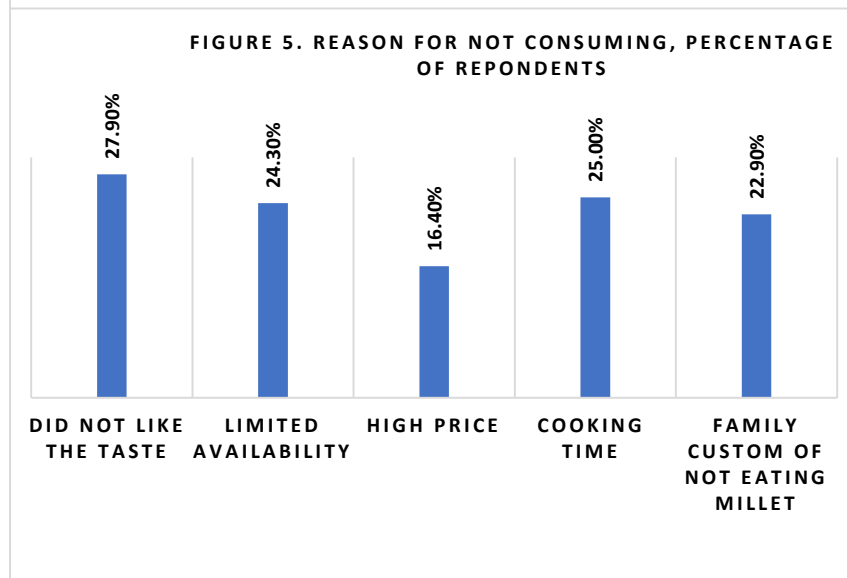
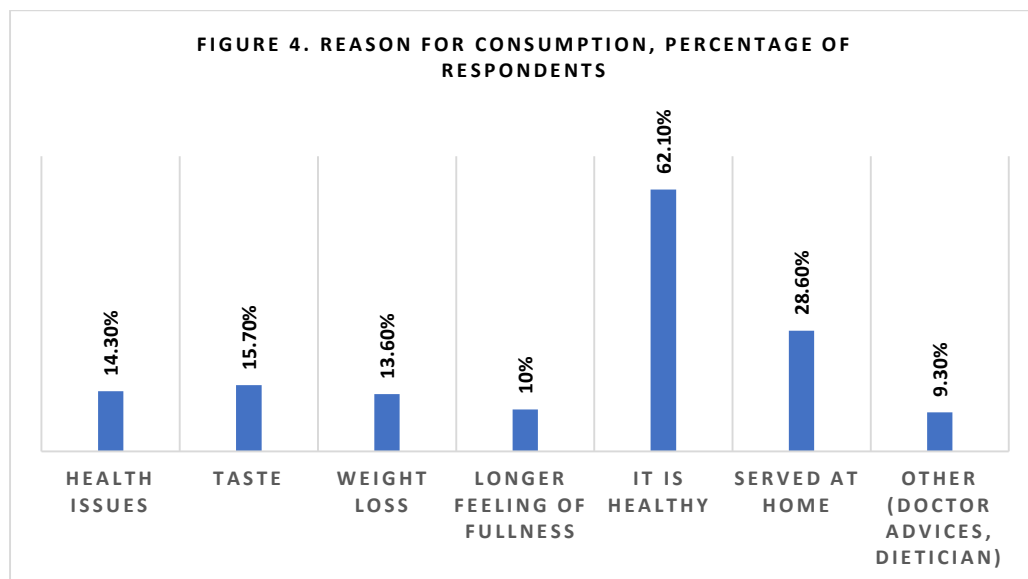
Demographic Character	Frequency	Percentage (%)
<b>GENDER</b>		
FEMALE	120	85.71
MALE	20	14.28
<b>AGE</b>		
18-19	83	59.2%
25-30	57	40.7%
<b>Education Level</b>		
GRADUATE	100	71.42
POSTGRADUATE	20	14.28
INTERMEDIATE	20	14.28
<b>Family Income</b>		
<20000	16	11.42
20000-40000	30	21.42
40000-60000	25	17.85
>60000	69	49.25

**Table 2. Health consciousness of the participants**

Question	Answer	% of respondent
<b>Do you think millets are healthy?</b>	Yes	81.30%
	Maybe	13.70%
	No	0.70%
	Don't know	4.30%
<b>What do you think is healthy about millets?</b>	Good for women	27.30%
	High in iron	33.80%
	High in calcium	25.90%
	Good for diabetes	23%
	Good for pregnancy	4.30%
	Good for babies	5.80%
	Good for cancer	4.30%

	Other reasons (e.g., good for bones, skin, hair)	45.30%
<b>How health conscious are you?</b>	Very	27.30%
	Reasonably	64%
	Not so or not at all	8.60%





**Table 3. Correlation between respondents’ family income and reasons for consumption and not consuming millets**

Variables		r value	p value
Family Income	Frequency of consumption of millet	0.42	*0.058
	Reason of consuming millet	0.099	**0.013
	Reason for not consuming millet	0.08	**0.018
Frequency of consumption of millet	Reason for not consuming millet	0.18	*0.056

\*\*Significant at 0.01%, \*Significant at 0.05%

**Discussion**

India is one of the largest producers and exporter of millets, but millet production is still restricted to states namely Karnataka, Tamil Nadu, j revealed that health problems, weight loss, and taste were major factors for consumption as also reported by Kane-Potaka et al., 2021. Moreover, demographic factors such as age, qualification and income play significant role in consumption of millets as per the present finding, these factors are also evident in study Rizwana et al., 2023. However, there remains a significant knowledge gap in understanding the multifaceted drivers that influence millet consumption. Shah et al (2023) highlight regular consumers demonstrated a strong awareness of the environmental benefits of millet cultivation, while occasional consumers showed limited awareness and motivation. Present study reason for not consuming millets is limited

availability as also examined by Sukumaran et al 2023, if the supply would be sufficient to meet the demands in the near future and affordability can influence the consumption pattern India. financial assistance provided to promote farmers for better yield and production showed that millet production has been steadily increasing in India, driven by increasing demand for the crop due to its growing popularity as a health food. But again this demand is limited by different social classes with varied financial background. Despite its potential, millet production in India is still facing numerous challenges that need to be addressed such as the adoption of improved farming practices and post-harvest technologies. The development of new marketing strategies to increase sale and the promotion of millet consumption through reducing the market retail price and awareness campaigns, advertisements and social media platforms. Government schemes for Promotion of Millets: The Government has taken several steps for promotion of Millets and help farmers in cultivation of millets. Integrated Cereals Development Programmes in Coarse Cereals (ICDP CC) which comes under Macro Management of Agriculture, Rainfed Area Development Programme (RADP). Also, Initiative for Nutritional Security through Intensive Millet Promotion under Rashtriya Krishi Vikas Yojana (RKVY) to increase domestic and global demand and achieve the goal of nutritional security. The Government celebrated The National Year of Millets in 2018 in view of the nutritional value of the millets and Millets were included under the POSHAN Mission Abhiyan. In the current Union Budget 2023-24, the Government has renamed millets as Shree Anna i.e. best among all food grains (Raj et al., 2023). Equally important is understanding the initial knowledge, practices, and individual attitude toward these traditional crops while planning and implementing any nutrition-related interventions using them.

### Conclusion

Present study conducted for assessing millet consumption behaviour among urban dwellers to know their health consciousness level and awareness about millet consumption. The above findings highlight the major factors responsible for millet consumption are health problems, weight loss, and taste. Moreover, demographic factors such as age, qualification and income also play significant role in consumption. High market value and limited availability of millet products are the reasons observed for not consuming it as a staple food in this study. The findings of this study may be useful for policymakers as well as different stakeholders, for instance food companies, nutritionists and researchers, who intend to promote consumption of millets under government programs. The findings imply a need to work on reducing market retail value on millet products, cereals and to promote the benefits of millets, create awareness of various ways of cooking millets to satisfy taste preferences and change the perception of millets, which would in turn lead to an increase in their consumption. The social media platform is emerging as a major source of information dissemination increasing awareness about millet.

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## Digital Marketing and Its Impact: Conceptual Framework

**Ms. Jayashri Sadanand Lokhande**

Research Scholar

Department of Commerce and Management, Shivaji  
University, Kolhapur, Maharashtra, India

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### Abstract

The purpose of this review is to examine the effects of digital marketing and its importance for both consumers and marketers. This article begins with an introduction to digital marketing, followed by the tools of digital marketing, the difference between traditional and digital marketing, and the advantages, disadvantages and importance of digital marketing in modern times.

The world is moving from analog to digital, and marketing is no exception. As technology advances, so does the use of digital marketing, social media marketing, and search engine marketing. The number of internet users is increasing rapidly and digital marketing has benefited the most as it is mostly dependent on the internet. The buying behaviour of consumers is changing and they are more inclined towards digital marketing instead of traditional marketing.

**Keywords:** Marketing, Internet, Digital, Technology, Search engine.

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### Introduction

Technologies like desktop computers, mobile phones and other digital media and platforms to advertise products and services in the market. Its development in the 1990s and 2000s changed the way brands and companies use technology in marketing. As digital platforms have become more and more integrated into marketing plans and daily life and as people increasingly use digital devices instead of visiting physical stores, digital marketing campaigns have become increasingly common, using search engine optimization (SEO), search engine marketing (SEM), content marketing, influencer marketing, content automation, campaign marketing, data marketing, e-commerce marketing, social media marketing, social media optimization, direct marketing, display advertising, e-books and optical discs and games have become commonplace. Digital marketing extends to non-internet channels that provide digital media such as television, mobile phones (SMS and MMS), pagers and mobile phone ringtones. Expansion into non-internet channels separates digital marketing from online marketing.

### Digital Marketing Components

#### Search Engine Marketing

A search engine is a web-based tool that help to users find the information which they are looking for. Examples of search engines are Google, Yahoo, Bing, Baidu, etc. Search engine marketing means any activity that increases the ranking of users and websites in any search engine. There are two types of search engine optimization in search engine marketing (SEO) and paid search.

#### E-mail

There are many reasons why it's so hard to replace email as a medium to high ROI channel for your business, but one thing you can't take away from email is its versatility. While email may not be the newest technology available, it allows you to implement the latest trends in content marketing, such as personalization and automation, without breaking your marketing budget. Mail can support other marketing goals, so it's no surprise that 73% and 63% of B2B marketers say email is their best tool for generating leads and 63% for increasing revenue.

In addition to generating leads and generating revenue, email can help you in many other ways:

- Email has become so widespread that it reached 3.9 billion users in 2020 and is expected to grow to 4.3 billion users in 2023, which is more than half of the world's population!
- Email still delivers the best returns: 73% of survey respondents rate the channel as excellent compared to 72% and 67% for search engine optimization and paid search respectively.
- For every dollar spent on email marketing, you can expect an average ROI of \$42.
- Up to 62% of openings are made via mobile and 10% on desktop.

### **Social Media**

Social media marketing is on this list for very good reasons, but it's not just social media that's hitting the 3.81 billion mark. Social media has evolved from a channel that people use to make personal connections to bigger, bigger and better than originally thought.

- Facebook: It is the number one social media platform. The company can advertise its products and services on Facebook.
- LinkedIn: Professionals write their profiles on LinkedIn and can share it with others. The company also creates its own profile, and LinkedIn connects these two points, companies and professionals.
- Google+: It is Google's social network where users can easily connect based on common interests and friendship.
- Twitter: Its strategy is to increase brand awareness and sales, attract new followers and leads and increase conversions.

### **Affiliate Marketing**

In affiliate marketing, a company rewards affiliates for each customer or visitor they bring to the company and website through their marketing efforts or strategy on behalf of the company. The Intelligent Passive Income of Pat Flynn and quote; Affiliate marketing earns a commission for promoting other people and (or companies) products. You find a product you like, promote it to others and earn a share of the profits for every sale you make and make.

### **Online Display Advertisement**

Traditional Marketing refers to any business placing a poster or billboard on either side of the road or publishing an advertisement in a magazine/newspaper to advertise its product or service. Online advertising is the digital version of this. Today, a marketer can use online display advertising to achieve the same goal. Display ads are of different types like video ads, banners, interactive ads and interactive multimedia ads etc. Display advertising is good for attracting attention thanks to graphic ads.

### **Comparison between Traditional and Digital Marketing**

Traditional marketing is the best known form of marketing. Most people are used to traditional marketing because of its longevity. Some examples of traditional marketing are tangible items such as advertisements in newspapers or magazines. It also includes a billboard, a brochure, an advertisement on television or radio, a poster, etc. It is a non-digital marketing method. Instead, digital marketing uses different digital channels to reach customers.

Traditional marketing refers to marketing that uses traditional channels or media for marketing communication. Digital marketing refers to the marketing of products and services through digital channels such as the Internet, smartphone, display advertising and other digital media.

### **Advantages of Digital Marketing**

The most important advantage of digital marketing is that it is possible to reach the target audience in a cost-effective and measurable way. Other benefits of digital marketing include building brand loyalty and increasing online sales.

- Global reach - a website allows you to discover new markets and trade globally with only a small investment.
- Lower costs - A properly planned and the targeted digital marketing campaign can reach the right customers at a much lower cost than the traditional marketing methods.
- Trackable, Measurable Results - Measuring your online marketing with web analytics and other web metrics tools makes it easy to determine the effectiveness of your campaign. Get detailed information about how customers use your website or respond to your ads.
- Personalization - If your customer database is linked to your website, you can greet them with targeted offers whenever someone visits your website. The more they buy from you, the more you can refine your customer profile and market to them effectively.
- Transparency - By participating and carefully managing social media, you can build customer loyalty and build a reputation for being easy to communicate with.
- Social Currency - Digital marketing allows you to create engaging campaigns using content marketing tactics. This content (images, videos, articles) can gain social currency - passed from user to user and spread virally.

- ❑ Better Conversion Tests - When you have a website, your customers are just a few clicks away from making a purchase. Unlike other mediums that require people to get up and call or go to a store, digital marketing can be seamless and immediate.

#### **Disadvantages of Digital Marketing**

- ❑ Skills and Training - You need to ensure that your staff has the necessary knowledge and expertise to successfully implement digital marketing. Tools, platforms, and trends change quickly, and it's important to stay up-to-date.
- ❑ Time consuming - tasks like optimizing online advertising campaigns and creating marketing content can take a lot of time. To ensure ROI, it is important to measure results.
- ❑ Strong Competition – While you can reach a global audience through digital marketing, you also face global competition. Among the many online messages directed at consumers, it can be difficult to stand out from the competition and gain attention.
- ❑ Complaints and Feedback - Any negative feedback about your brand can be visible to your audience on the social media and review sites also. Providing effective customer service online can be difficult. Negative comments or failure to respond effectively can damage your brand image.
- ❑ Data security and protection issues - There are several legal aspects involved in collecting customer data and using it for digital marketing purposes.

#### **Importance and Benefits of Digital Marketing**

- ❑ Better Reach- Today many people around the world spend their time online. They browse the internet looking for your products. Maximizing your online presence is key to capitalizing on this huge audience. This is where digital marketing comes in. Digital marketing is all about reaching the right people at the same time. Therefore, you need to start by having an attractive online store that is easy to navigate to improve your audience. In this process, various digital marketing tools - Pay Per Click Marketing, Social Media Marketing, Search Engine Optimization, Content Marketing and many more - can ultimately help you build your brand.
- ❑ Can compete with big companies- Competitor analysis is a key function of digital marketing. The operation is necessary to keep up with the competition, especially among fast growing brands like Myntra, Amazon, Big basket, Walmart. Companies are also trying to push the envelope through multi-channel marketing, which consists of PPC, SEO, social media and many other means. This approach helps both small and large companies achieve their goals and level the playing field.
- ❑ Increase Brand Awareness for Small Businesses- Digital marketing is a boon for businesses. Big companies use digital marketing to stay stable in the competitive environment. In contrast, small businesses use Internet marketing to reach thriving markets and increase brand awareness among large corporations.
- ❑ Sales growth- One of the key aspects of digital marketing is that their CRO (Conversion Optimization) can be measured in real time. The data helps you understand the overall percentage of searches that convert into sales leads. PPC, social media marketing, SEO services, affiliate marketing are some of the active channels to communicate and get high conversions.
- ❑ Return on Investment- If you want to know the value of digital media, look at the profit and loss metrics it brings to a business. The ROI of digital marketing determines the value of your marketing campaigns. For example, compared to other mediums such as email marketing, content marketing, PPC, social media campaigns; SEO is known to produce a higher ROI. Based on key metrics such as sessions and bounce, organic traffic generated by SEO shows a 40% higher revenue increase than any other marketing strategy.
- ❑ Maintaining Brand Reputation- Developing a strong brand reputation in the online world has become very important because brand reputation strengthens one's ability to stay in the market. This further increases the importance of digital marketing in this regard as well.
- ❑ Can target ideal audiences- Imagine reaching the right audience for your business niche is a great opportunity. This is exactly what digital marketing helps to achieve. You can analyze the online behavior of your audience and take action to achieve optimal performance. When you reach the right audience, you get more traffic, which leads to better campaigns.
- ❑ Stay ahead of your competition- The digital market is incredibly competitive, especially in online business. So you want potential customers to find you through your top reviews and other actions initiated by digital marketing services. With these steps, you can finally move towards the right business goals together with

your client. Every successful company must also monitor the activities of its competitors. How do they interact with customers? What makes them unique? Competitor analysis will help you understand all of the above questions and develop strategies that will work best for you.

- Different channels to increase traffic- There are many different ways to make your business successful in the marketing world. Business owners have the freedom to use SEO services, PPC services, content marketing services and even social media campaigns to increase their website traffic.
- Collaboration with mobile customers- We are connected to the mobile world, because nowadays people take their devices like smartphones and laptops with them on the go. Almost all websites, after Google's mobile-first update, have been developed in such a way that they are easily accessible on mobile. Maybe mobile users are more common now than ever, and mobile users are likely to buy.

### Conclusion

Individuals are investing more in online content, and companies trying to understand this fact in their advertising strategy must adapt quickly. The more time people spend online each year, the more the digital platform they use plays an ever-evolving role in their lives. The main objective of Digital India is to promote digital media in our country. As people can access the digital platform anytime and anywhere in the world, companies need to transform their marketing strategy from traditional to digital.

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**Emotional Intelligence and Work- Life Balance among the Faculty Members of Higher Education  
Institution of Jammu and Kashmir, UT**

**Aabid Yousuf**  
Research Scholar,

**Dr. Aasim Mir**  
Gulzarpora Awantipora

**Dr. Gaurav Seghal**  
Gulzarpora Awantipora

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**Abstract**

The aim of the study is to measure the correlation between emotional intelligence and work life balance of the faculty members of Higher Educational Institution of Jammu and Kashmir UT. The method of this study is descriptive with quantitative designs. The population of the study comprises only the teaching faculty members of HEI of Jammu and Kashmir UT. A random sampling techniques is used to collect primary data through a well structured questionnaire was distributed among the teaching faculty members only of the Govt. degree colleges of both the devising of Jammu and Kashmir division. Data was entered and analyzed by using SPSS software latest version. Results reveal about strong positive and statistically significant correlation between emotional intelligence and job satisfaction. Moreover, this positive and statistically significant correlation was seen between job satisfaction and all components of emotional intelligence. All qualities of emotional intelligence, as well as overall emotional intelligence scores, showed a significant positive correlation with work-life balance scores; which were statistically significant;  $p < 0.05$ . There was a statistically significant positive correlation between all components of emotional intelligence and work-life balance. Hence it is important for higher education institutions to concentrate on those practices that promote emotional intelligence among the teaching faculty members

**Keywords:** Emotional intelligence, work-life balance, teaching faculty. HEI, Jammu and Kashmir

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**Introduction**

Teaching faculty members play an important role in shaping the “intellectual. Social and emotional development of the students” According to the Aristotle, “those who educate children’s well are more to be honored than those who produce them: for those only gave them life, those the art of living well”. The intricate interplay between emotional intelligence (EI) and work-life balance (WLB) is a critical aspect of professional well-being, particularly in demanding roles like faculty positions. Emotional intelligence is an essential factor responsible for the better performance in work and family life and it facilitate to minimize the stress Vasumathi et; al, (2019). Emotional intelligence is the capacity to recognize, use, grasp and regulate emotions in a healthy way, in order to reduce stress, communicate clearly, empathize with others and diffuse conflict Ganesan et; al., (2022). Peter Salovey and John D Mayer define emotional intelligence as the subset of social intelligence that involves the ability to monitor one’s own and others feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and action’s in their well known article “Emotional intelligence (1990).work – life balance is one of the critical aspect to enhance teacher efficiency and satisfaction in the context of students learning. Work life balance among Indian teachers serving in different academic stream across university and colleges. The emerged outcome’s is that designation of the teacher. Their nature of appointment, the academic stream in which they are teaching and the nature of their serving institutions affect their quality of work-life balance Puniaet;al.(2013). Work life balance is a critical aspect of faculty well-being, quality of working life and can significantly impact their job satisfaction, productivity and overall mental health Noor, K. M (2011). Work life balance has become a key feature of much current government, practitioner and academic debate. Is s to be believed that balancing the work life with a personal or family life can be challenging and its impact on personal satisfaction in their work and personal life’s role (Broers 2005, Dundas 2005, Eikhof et al., 2007). The ability to balance workplace’s needs and personal life’s needs is perceived as an important issue among the faculty members of HEI of Jammu and Kashmir UT.

This research focuses on exploring this relationship among faculty members in Higher Education Institutions (HEIs) of Jammu and Kashmir Union Territory (UT).

**Literature of review**

The literature of review gives us a background knowledge related to the various aspect and tools and techniques that are used in the previous paper and it will also help in findings the research gaps. So, that it will be easy for the new researchers scholar to identify the research topics and do their research. Emotional intelligence in teachers has been shown to influence their comfort level, self- efficacy, job happiness and interpersonal interaction with the students. Therefore, emotional intelligence has a direct impact on how students are taught and teach Ganesan et al., (2022).Research indicates a significant relationship between emotional intelligence and work- life balance among the faculty members in higher education institutions. Emotional intelligence shows how to help educators to mange stress, improve job satisfaction and enhance interpersonal relationships

with the students Ganesan et al., (2022). The further studies on emotional intelligence suggested that faculty members with higher emotional intelligence are better able to plan their work, avoid long working hours and maintain a healthier work- life balance Vasumathi et al ., (2019). However, the relationship between the emotional intelligence and work- life balance may not vary significantly across different age groups, tenure or job types Mardatillah et al ., (2018). S Naz et al., (2021) focus to explore the relationship with the work- life balance of women at the university levels. The research findings that the majority of the women had high emotional intelligence with a high work – life balance. There is a significant correlation between emotional intelligence and work- life balance of working women. It was concluded that high emotional intelligence leads to a high work life balance. Mahanta, M. (2015) researcher tries to understand the relationship between emotional intelligence and work- life balance among the executives belonging to the private companies. The findings of the study indicate that there exists the significant difference amongst employees with high, moderate and low emotional intelligence on two dimensions of work- life balance and overall work- life balance. Mardhatillah et al., (2018) fisher (1999) stated that work life balance can be attained when a person experience more enhancement and less conflict with regard to his work and non- work issues. Researcher measure work life balance by using the scale developed by fisher (1999). While emotional intelligence is measured by wrong and law’s emotional intelligence (WLEIS) 2002. The research result indicated that, there is a significant relationship between emotional intelligence and work life balance and emotional intelligence across different age, tenure and job type, it is also found that, the sub scale. Punia et al., (2013) the researcher develop a conceptual linkage between life- work balance and emotional intelligence. The effect of emotions in an individual’s personal life environment is of primary importance in the development of emotional intelligence.

**Research objectives:**

- To investigate the correlation between emotional intelligence and work-life balance among faculty members of
- To identify factors influencing emotional intelligence and work-life balance in this context.

**Research methodology**

Descriptive statistics is followed in this study. The statistical sample of this study is 1032 faculty members from both the divisions of Jammu and Kashmir UT. The teaching faculty members of the educational institutions are given by a well structured questionnaire and filled by given them response and questionnaire was collected by the researcher himself from the respondents. Apart from the researcher develop question for the questionnaire, some questions were adopted from the emotional intelligence scale developed by Law et al., (2004) and the work life balance scale . part 1 consists of demographic profile that requires participants to provide information such as gender, qualification, marital status, year of experience, taking care of children’s and hours spend on the work in a day. Part II of the questionnaire consists of the various items of emotional intelligence and work- life balance. Emotional intelligence consists of the 4 variables and work life balance also consists of 4 variables, each item’s have sub items to deeply understand the emotional intelligence and work life balance among the faculty members of HEI of the Jammu and Kashmir.

**Descriptive Statistics**

	Mean	Std. Deviation	N
Emotional Intelligence	4.0810	.28592	1027
Work-life balance	3.7362	.29281	1018

Table 1

Table 1 provides the description of emotional intelligence and work- life balance in terms of mean, and standard deviation.

Table 2 reveal that the total Mean for emotional intelligence (4.08) and Standard Deviation for emotional intelligence (S.D) of (.28). in the same way total mean for Work- Life Balance (3.73) and Standard Deviation for Work life balance is (.29) . which means that the emotional intelligence average balance on work life balance among the faculty members of Jammu and Kashmir.

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
EI	Equal variances assumed	.108	.742	-.530	1028	.596	-.00987	.01863	-.04643	.02669
	Equal variances not assumed			-.536	774.090	.592	-.00987	.01840	-.04599	.02625

Table 2

Table 3 show the significant difference of emotional intelligence and work life balance between male and female. An independent variable t-test was conducted to compare emotional intelligence for gender(Male and female). There were significant difference df 1028 t (-.530) p value is .596 in the scores with mean scores for male M 4.0774 S.D .290 and for female group M 4.08 S.D for female .277. the magnitude of the difference in the means difference MD -.0099. from the below tble shows that there are significant difference between emotional intelligence among the male and female.

**Group Statistics**

	Gender	N	Mean	Std. Deviation	Std. Error Mean
EI	Male	666	4.0774	.29008	.01124
	Female	364	4.0873	.27794	.01457

Table 3

Table 3 show the significant difference of emotional intelligence and work life balance between male and female. An independent variable t-test was conducted to compare Work- life Balance intelligence for Gender (Male and female). There were significant difference DF 1028 t (-2.38) p value is .17 in the scores with mean scores for male M 317 for male and 3.76 for female S.D .298 fro male and for female group .277 . The magnitude of the difference in the means difference MD -.045. from the below table shows that there are significant difference of work life balance between among the male and female.

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
WLB	Equal variances assumed	.701	.403	-2.387	1028	.017	-.04533	.01899	-.08260	-.00807
	Equal variances not assumed			-2.439	793.777	.015	-.04533	.01859	-.08183	-.00884

Table 4

**Correlations**

		EI	WLB
EI	Pearson Correlation	1	.136**
	Sig. (2-tailed)		.000
	N	1030	1030
WLB	Pearson Correlation	.136**	1
	Sig. (2-tailed)	.000	
	N	1030	1030

Table 5: Correlation is significant at the 0.01 level (2-tailed).

Correlation between emotional intelligence and work -life balance. From the Above table 5 it was shown that there is a significant correlation between Emotional Intelligence and Work life Balance among the faculty members of HEI of Jammu and Kashmir.

#### Research findings

- Faculty members in the region may face specific challenges to work-life balance due to factors such as socio-cultural norms, infrastructure, and security concerns.
- Emotional intelligence may play a crucial role in helping faculty members cope with these challenges and maintain a healthy work-life balance.
- Factors such as organizational support, leadership style, and job demands may influence both EI and WLB.

#### Suggestion and recommendations

- Developing targeted interventions to enhance emotional intelligence among faculty members.
- Implementing policies and programs to improve work-life balance in HEIs.
- Providing insights for policymakers and administrators to create a supportive work environment.

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## **Illuminating the Untapped Insights: A Systematic Literature Review of Employee Cynicism in The Workplace**

**Sneha P.**

Research Scholar,  
Research and PG Department of Commerce, MES Keveeyam College Valanchery,  
Malappuram (D.T), Kerala, India,

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### **Abstract**

Employee cynicism; the negative attitude of employees developed by virtue of loss of trust in the organization, has become a significant challenge in the workplace as it impacts employees' trust, commitment, engagement, and overall workplace morale. This systematic literature review aspires to identify the antecedents, drivers, and outcomes of employee cynicism, alongside analyzing its theoretical foundations to provide actionable insights for future researchers. By following PRISMA guidelines the search process afforded 107 research articles from the two prominent databases i.e., Scopus and WOS and after screening 20 research articles were selected for the final study. The findings revealed significant antecedents, drivers, and outcomes of employee cynicism at individual and organizational levels. It also highlighted the Conservation of Resources (COR) theory and Job-Demands Resources (JD-R) model as prominent theoretical foundations that either subsidize or heighten employee cynicism. Additionally, this review provided significant directions for future researchers.

**Keywords:** Employee Cynicism, Antecedents, Drivers, Outcomes, Systematic Literature Review

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### **Introduction**

In the present-day corporate landscape, organizations are striving to retain skilful, productive, and satisfied employees. Simultaneously, nurturing a trust-based relationship with them is equally important. However, the majority of organizations struggle to fulfill this requirement and literature shows that cynicism among employees has accelerated in recent years (Serrano Archimi et al., 2018). Actually, cynicism is not a new construct and studies in 1990s portrayed the presence of cynicism in workplace (Chiaburu et al., 2013; Kanter & Mirvis, 1989; Mirvis & Kanter, 1991; Reichers et al., 1997). The roots of cynicism can be traced back to the ancient Greek cynics (Dean et al., 1998). The most often mentioned two major cynics are Antisthenes and Diogenes of Sinope (Dhar, 2009). According to them, individual wisdom was treated to be the highest virtue, and they questioned and criticized the majority's values and laws and customs (Copleston, 1962). The concept of cynicism has changed a lot and it has become a focus of study in various social sciences disciplines (Andersson, 1996; Dean et al., 1998). In the organizational behaviour literature, cynicism as a focal point of investigation was established recently and it remains in its first stage of scientific research development (Cole et al., 2006; Treadway et al., 2004; Wanous et al., 2000).

In the organization sciences, the work-related cynicism was explored in two major lines of research. The first one was the development and functioning of cynicism during the early stages of a work career, i.e., in the stage of socialization. In the early stage of a work career, an employee enters into an organization with a set of expectations, and in reality, he or she may have to experience a vast set of unmet expectations and unexpected events, thus a reality shock is happening there (Blau, 1964). In response to these employees tend to detach from their work roles and adopt a cynical attitude towards their organization and clients. This attitude is often referred to as occupational cynicism and this line of research primarily focuses on the professions like health care, social work, and police (Becker & Geer, 1958; Blau, 1964; Dhar, 2009; Meyerson, 1990; Niederhoffer, 1967). The second one was the presence of cynicism among employees in response to the adverse organizational circumstances. It is often called employee cynicism or organizational cynicism (Dean et al., 1998; Dhar, 2009).

In the new millennium employees were found to be more cynical, especially in organizational settings filled with scandals, mistrust, politics, and opportunistic behaviours (Abubakar & Arasli, 2016; Chiaburu et al., 2013; Twenge et al., 2004). Cynicism is often represented as a unpleasant relationship between employer and employees developed as a result of long working hours, work intensification, ineffective leadership and management, and layering and downsizing of organizations (Bunting, 2004). After repeated exposure to such an unpleasant environment, employees will be overwhelmed with negative thoughts and emotions and express some sort of disparaging behaviour towards the organization. These employees will then feel that their voice is not heard by their higher officials and they distrust the organizational policies and practices which then

ultimately get reflected in reduced levels of performance or even no performance from the employees (Kuo et al., 2015).

Dean et al., (1998) defined cynicism as “negative behavior in an organization that is characterized by a belief about the insufficient integration environment in an organization, negative feelings for the organization, and the tendency of showing the abusive behavior towards the organization”. According to them employee cynicism is defined as “a tendency to engage in disparaging and critical behavior toward the organization in a way that is consistent with their belief that it lacks integrity”. They also opined that cynical employees will have strong criticism toward their organizational leaders in a language and tone that is cynical, they tend to reduce their discretionary behaviours and be reluctant to go beyond what is strictly required from them (Neves, 2012; Serrano Archimi et al., 2018). Such employees are often characterized by frustration, hopelessness, and disillusionment and they believe that the principles of honesty, sincerity, and fairness are violated to protect the self-interest of individuals (Dhar, 2009). Andersson (1996) and Dean et al., (1998) observed that cynicism has affective, cognitive, and emotional components. The affective component consists of the emotional reactions of the employees towards the organization, the cognitive component implies that the employee felt the lack of sincerity, honesty, and integrity in the organization and the behavioural component denotes the critical expressions and negative tendencies of employees towards the organization (Durrah, 2020). The cynicism can develop over time as employees are working in an environment that is supposed to have characteristics like excessive workload, hectic work schedules, inappropriate leadership, and inadequate resource support. Generally, employees tend to express their feeling of cynicism through pessimism, frustration, distrust, and contempt towards the organization (Abraham, 2000). Once cynicism is developed it may either remain high for many employees or it may decline if proper corrective action is taken (Mantler et al., 2015). Researchers from the past opined that cynicism would lead to several negative consequences like lower levels of job satisfaction, organizational commitment, work motivation, higher tendency to engage in counterproductive work behaviours, and adversely affected in-role as well extra-role performance (Andersson & Bateman, 1997; Brandes et al., 1999; Chiaburu et al., 2013; Cole et al., 2006; Johnson & O’Leary-Kelly, 2003; Mantler et al., 2015; Serrano Archimi et al., 2018; Wanous et al., 2000).

Though the concept of cynicism has its roots in the ancient period, the cynicism literature is varied and scanty. A systematic study of employee cynicism, its potential antecedents, drivers, and outcomes in the workplace is still infancy. Hence this study intends to undertake a systematic literature review on employee cynicism to achieve the following research objectives;

- To identify the antecedents, drivers, and outcomes of employee cynicism in the workplace.
- To analyse the theoretical foundations concerning employee cynicism in the literature.
- To offer directions for future research to identify the significance of employee cynicism in the workplace.

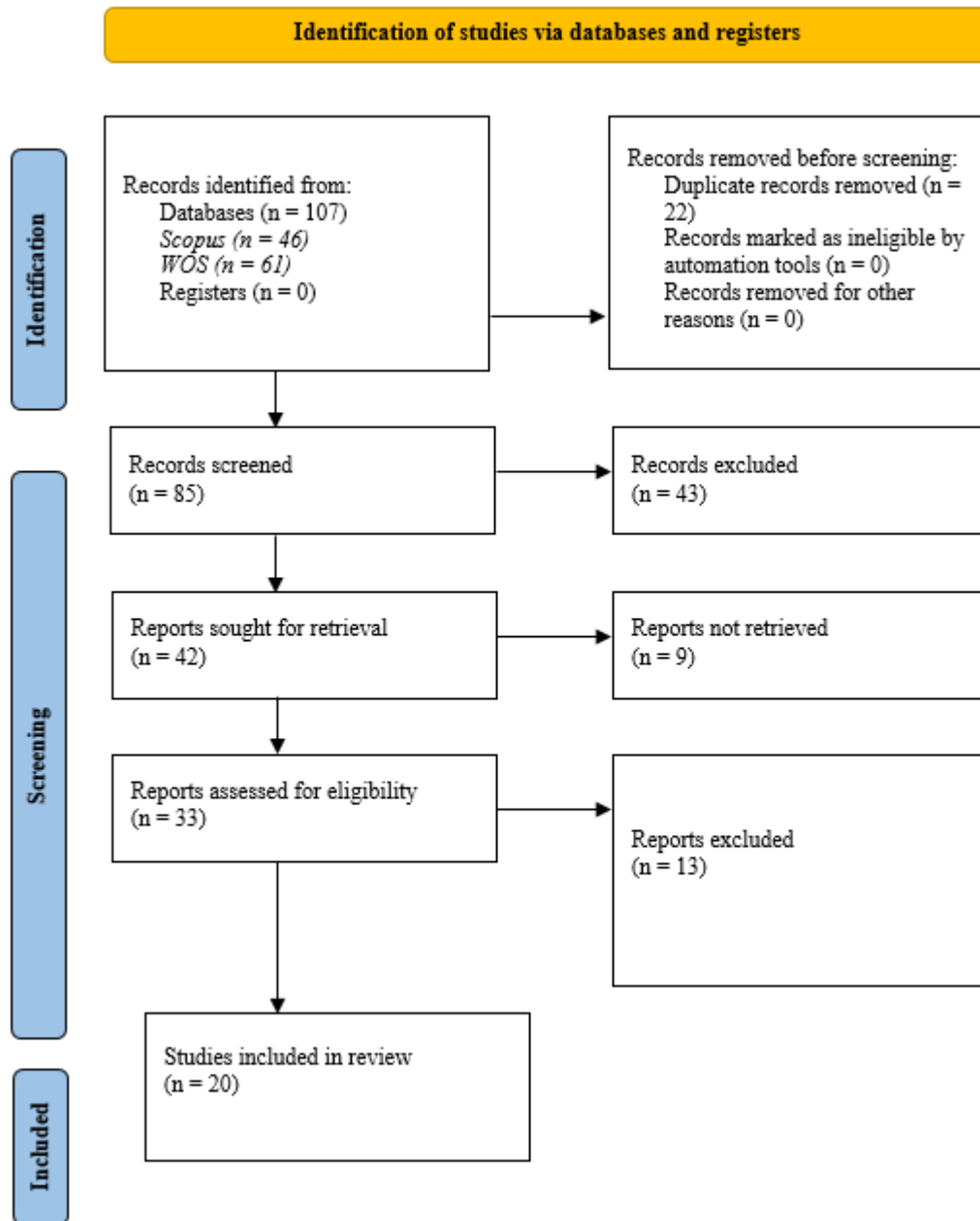
## Method

A Systematic Literature Review (SLR) is defined as a “systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work made by researchers, scholars, and practitioners” (Fernández Del Amo et al., 2018). Here the SLR is conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method. To understand what has been done the past researchers on a particular topic the SLR is a good option (Ataur Rahman & Masudur Rahman, 2023). The SLR is different from other review methods in the sense that it adopts a replicable, scientific, and transparent review procedure and it minimizes the chance of bias during the process of searching, identification, screening, and reporting (Mengist et al., 2020). Hence it ensures significant and reliable findings from the literature review.

In the first step, two databases i.e., Scopus and WOS were selected for collecting the research papers related to employee cynicism for conducting the SLR. The keywords which were entered under elements title, abstract, and keywords for obtaining the research papers were “Employee cynicism”, “Cynicism”, “Employee cynicism management”, and “Employee’s cynicism” using the Boolean operator “OR” to broaden the search results. As a result, a total of 107 studies were retrieved from these two databases after limiting the results to “Business Management and Accounting, Social Sciences, and Psychology” subject areas in Scopus, “Management, Psychology applied, Psychology multidisciplinary, and Social Sciences interdisciplinary” WOS categories, and “English” language on August 16 2024. In the next step out of the 107 studies, 22 duplicate studies were removed and 42 studies were selected after a thorough reading of abstracts only. Out of the screened 42 studied 9 were unable to retrieve and 33 were retrieved. In the final stage a detailed reading of the selected 33 studies

was conducted then 13 studies were removed that were not properly focusing on the concept of employee cynicism and 20 studies were included for review. The whole search process is depicted in Figure 1.

**PRISMA flow diagram**



**Figure.1 PRISMA flow diagram of the included studies**

**Table. 1 Article included in the review process**

Author & Year	Antecedents	Mediators	Moderators	Outcomes	Theory
(Chiaburu et al., 2013)	Negative affectivity, Positive affectivity, Trait cynicism, Perceived organizational support, Perceived justice, Psychological strain, Psychological contract violation, Perceived organizational politics.	NA	NA	Job satisfaction, Job performance, Organizational commitment, Intention to quit.	NA
(Megeirhi et al., 2020)	Perceived tolerance for workplace incivility	Cynicism	Income level	Job search behaviour	Conservation of Resources Theory (COR)
(Abubakar et al., 2017)	Favouritism/ Nepotism	Employee cynicism	Gender	Withdrawal behaviour	Job Demands-Resources Model (JDR Model)
(Srivastava & Adams, 2011)	Cynicism	Job enrichment, Leader-member exchange, Co-worker support	NA	Job satisfaction	NA
(Aljawarneh & Atan, 2018)	Tolerance to workplace incivility	Employee cynicism	NA	Knowledge hiding behaviour, Job search behaviour	Conservation of Resources Theory (COR), Psychological Ownership Theory
(Rho et al., 2021)	Negative affectivity, Organizational identification, Colleague cynicism, Trust in management, Perceived resource availability, Participative work environment	NA	NA	Administrative reform, Cynicism, Support for the change	NA
(Kim et al., 2009)	Top management competence, Top management trustworthiness	Employee cynicism	NA	Organizational commitment, Job performance	NA
(Dedahanov, 2022)	Abusive supervision	Employee cynicism	Positive reappraisal	Employee voice (Promotive voice)	NA
(Kuo et al., 2015)	Psychological contract violation, Abusive supervision	Gossip (Job-related and Non-job related)	NA	Employee cynicism	Social Information Theory, Social Cognitive Theory

Author & Year	Antecedents	Mediators	Moderators	Outcomes	Theory
(English & Chalon, 2011)	Employee cynicism, Perceived fairness of change management and personnel practices	NA	NA	Affective organizational commitment	NA
(Durrah, 2020)	Injustice perception	Employee's cynicism	NA	Work alienation	NA
(Bufquin, 2020)	Social judgments of supervisors, Social judgments of co-workers	Exhaustion, Employee's cynicism	NA	Turnover intentions	NA
(Abubakar & Arasli, 2016)	Employee cynicism	NA	Procedural justice	Intention to sabotage	NA
(Bommer et al., 2005)	Transformational leader behavior	NA	NA	Employee cynicism about organizational change	Social Learning Theory
(Cole et al., 2006)	Perceived supervisor support, Psychological hardiness	Emotion (positive emotion and negative emotion)	NA	Employee cynicism	Affective Events Theory
(Nicholson et al., 2014)	Civility	NA	NA	Workplace cynicism	Job Demands-Resources Model (JDR Model)
(Mantler et al., 2015)	Intention to leave, Job change	NA	NA	Cynicism	NA
(Nan & Selamat, 2022)	Organizational justice	Perceived organizational support	NA	Employee cynicism	Social Exchange Theory
(Serrano Archimi et al., 2018)	Perceived corporate social responsibility	Organizational trust	NA	Employee cynicism	NA
(Abubakar et al., 2018)	Tolerance to workplace incivility, Employee cynicism	NA	NA	Job search behaviour	NA

### Analysis and Synthesis

The thrust of a systematic literature review is the analysis and synthesis of the filtered studies. This section deals with the publication trend analysis, focus country analysis, ADO analysis, and theoretical foundations of the selected literature. The antecedents, mediators, moderators, outcomes, and theoretical foundations of the reviewed articles are shown in Table 1.

### Publication trend

The publication trend of articles on employee cynicism in both Scopus and WOS shows a significant increasing trend post-2017, with more articles between 2022 to 2024. Earlier years showed minimal and fluctuating research activity on employee cynicism, but after 2017 it took a turning point with consistent and growing interest in the topic. Both databases showed the peak years as 2023 and 2024, depicting that the topic of employee cynicism is gaining more academic attention and now its boom period is going on.

### Focus country

The Scopus and WOS showed that developed nations like USA, UK, and Canada dominated the research landscape of employee cynicism and China, Pakistan, and Turkey were identified as the emerging research hubs. Though developed countries dominated the landscape, developing countries are also making notable contributions and their engagement in research is expected to increase through collaborative efforts. So, the diverse geographical spread of research on employee cynicism indicates that the research is becoming more globalized.

### ADO Analysis

From the 20 articles reviewed various antecedents, drivers, and outcomes of employee cynicism were identified. It is shown in the figure. 2.

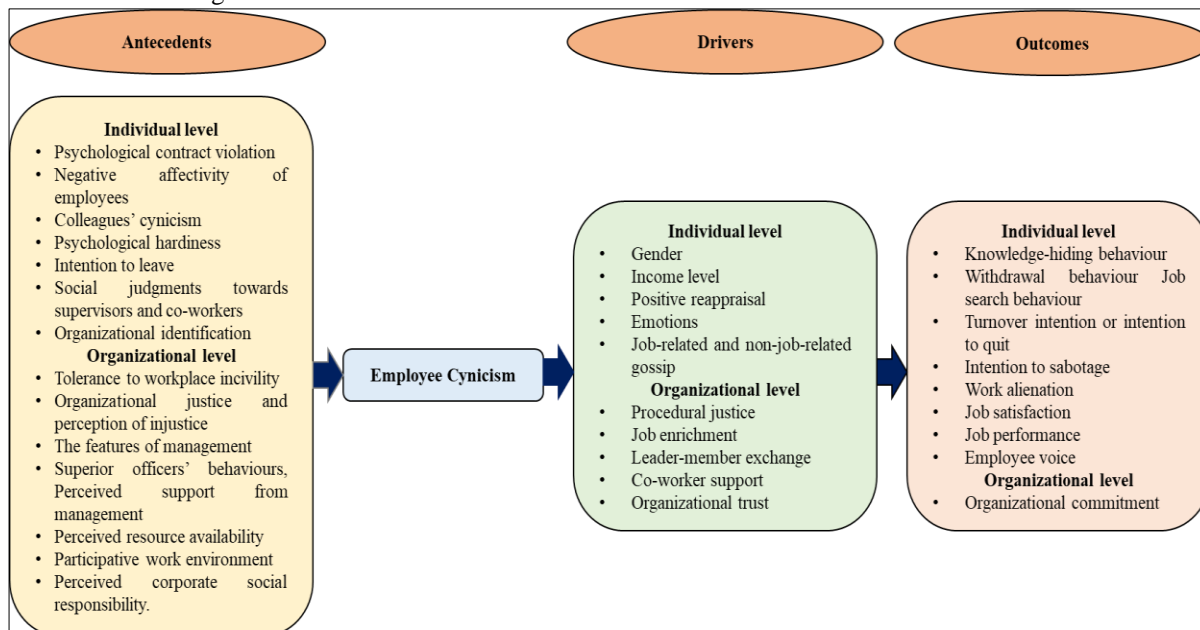


Figure. 2 ADO Framework

### Antecedents

Out of the 20 articles taken for this systematic review, the majority identified various antecedents to employee cynicism. A few identified employee cynicism as an antecedent of job satisfaction (Chiaburu et al., 2013; Srivastava & Adams, 2011), job performance (Chiaburu et al., 2013), organizational commitment (Chiaburu et al., 2013; English & Chalon, 2011), intention to quit (Chiaburu et al., 2013), job search behaviour (Abubakar et al., 2018), and intention to sabotage (Abubakar & Arasli, 2016). Hence higher levels of cynicism among the employees will lead to higher intention to quit, intention to sabotage, and job search behaviour and lower job satisfaction, job performance, and organizational commitment.

The major antecedents of employee cynicism identified can be divided into two i.e., at the individual level and the organizational level. The individual-level antecedents include psychological contract violation, negative affectivity of employees, colleagues' cynicism, psychological hardiness, intention to leave, social judgments towards supervisors and co-workers, and organizational identification. The organizational level antecedents include tolerance to workplace incivility, organizational justice and perception of injustice, the features of management, like their competence and trustworthiness, superior officers' behaviours, such as abusive supervision and transformational leadership, perceived support from management, perceived resource availability, participative work environment, and perceived corporate social responsibility.

Psychological contract violation denotes an employee's perception that his/her organization failed to fulfill their work-related promises. Kuo et al., (2015) recognized that psychological contract violation as an antecedent of employee cynicism, which may lead to affective and emotional responses of employees and the development of a cynic attitude that their organization is not trustworthy or they lack integrity.

Psychological hardiness of an employee signifies their ability to face and cope with adverse or challenging situations. Cole et al., (2006) emphasise that the more an employee's psychological hardiness the more positive attitude and positive emotions the individual is feeling and which in turn ensures lower levels of cynicism among them.

Intention to leave reflects the individual's thoughts and feelings regarding quitting their current job. Mantler et al., (2015) identified that cynicism will be high for employees having lower levels of intention to leave who remained at their same job and those who experienced internal job changes despite lower levels of intention to leave.

Social judgements towards superiors and co-workers refers to the perception that an employee holds about the attitudes, behaviours, and actions of the superiors and co-workers. Bufquin (2020) affirms that social judgments toward supervisors and co-workers are significant predictors of employee cynicism. When employees judge their co-workers and supervisors as competent, warm, and moral persons it will subside the cynic attitude of employees.

Tolerance to workplace incivility refers to an organizational climate that is unresponsive to uncivil behaviours in the workplace. Aljawarneh & Atan (2018) and Megeirhi et al., (2020) identified the tolerance to workplace incivility as a significant antecedent of employee cynicism. The workplace incivility and organizations' unresponsive to that will enhance the negative emotions of employees, leading to heightened cynicism.

Organizational justice perception means the perception of an employee regarding the fairness of treatment they received from their organization. Durrah (2020) and Nan & Selamat (2022) assert that organizational justice and perception of injustice will influence the employees' cynicism i.e., the perception of injustice will enhance the cynic attitude among employees and the perception of justice will curtail the same.

The features of management like their competence (Kim et al., 2009), their trustworthiness (Rho et al., 2021) and the superior officers' behaviours like abusive supervision (Dedahanov, 2022), transformational leadership behaviour (Bommer et al., 2005), and perceived support from them (Cole et al., 2006) were also found to be the predictors of employee cynicism. A management that is so trustworthy, and competent and the superior officers who exhibit transformational leadership and exert much support to their subordinates are said to lessen the cynic attitude of employees and they tend to generate some sort of trust-based relationship with employees.

Corporate Social Responsibility (CSR) indicates a business model where organizations integrate environmental and social concerns in their operations and interactions. Serrano Archimi et al., (2018) affirm that perceived corporate social responsibility is a significant antecedent of employee cynicism i.e., the CSR initiatives of an organization create a positive impression about the organization in the minds of employees and in turn enhance the general perception of a superior officer and reduce the cynic attitude of employees.

Rho et al., (2021) stated that the negative affectivity of employees, colleagues' cynicism, perceived resource availability, organizational identification, and a participative work environment are the antecedents of employee cynicism. Employees exhibiting higher negative affectivity are more prone to the experiences of negative aspects of work environment and they exhibit a distrustful and cynical attitude towards their organization. Increased belief that an employee's colleague has a cynical attitude towards the organization will also engage the employee to develop a cynical attitude. Adequate resource availability, a feeling of identification within the organization, and an organizational environment that is so participative in nature will lessen the feeling of cynicism among employees.

### **Drivers**

Identifying the factors that drive employee cynicism to various desired as well as undesired outcomes is of greater importance. The major drivers of employee cynicism identified at the individual level are gender, income level, positive reappraisal, emotions, and job-related and non-job-related gossip. At the organizational level drivers like procedural justice, job enrichment, leader-member exchange, co-worker support, and organizational trust were identified.

The demographic factors like income level and gender were identified as significant moderators of the relationship between employee cynicism and its outcomes. When employees perceive uncivil behaviours, they tend to exhibit a cynic attitude, which in turn increases job search behaviour among employees. When the income level of an employee is high, the influence of organizational tolerance to workplace incivility on job search behaviour through employee cynicism will be reduced and vice versa (Megeirhi et al., 2020). Abubakar et al., (2017) identified that women employees are more likely to exert work withdrawal behaviour than men employees when cynicism is at higher levels.

Srivastava and Adams (2011) identified job enrichment, leader-member exchange, and co-worker support as significant drivers of employee cynicism. Job enrichment refers to a method for motivating employees by devising a job to have more challenging and interesting tasks, which often requires more skills from employees and more pay from the organization. Leader-member exchange describes the nature of relationship established between a leader and a subordinate (Gerstner & Day, 1997). Co-worker support implies the quality of relationship between the worker and his/her colleagues. Srivastava and Adams (2011) admit that an employee having higher levels of cynicism will have less job satisfaction because he/she will feel that the job is less enriched, the leader-member exchange quality is low, and they receive less support from co-workers.

Positive reappraisal is the strategy of reinterpreting negative events and occurrences positively. Dedahanov (2022) states that positive reappraisal in the workplace, moderates the influence of abusive supervision on employee cynicism i.e., employees who receive abusive supervision as well as who have positive reappraisal behaviour are less likely to have cynic attitude as they modify their thoughts about the unpleasant behaviour from their supervisors and vice versa.

Gossip refers to the informal and light conversation about other people's attitudes, behaviours, and actions. Kuo et al., (2015) opined that job-related as well as non-job related gossip influence employee cynicism i.e., the job related gossip causes cynicism and non-job related gossip reduces the cynicism of employees. They also state that the psychological contract violation and abusive supervision experienced by employees influence job-

related and non-related gossip and the psychological contract violation influences the employees to exhibit a cynic attitude through job-related gossip.

The employees' perception of support from the organization, justice, and organizational trust were also found to have significant influence on employee cynicism. Abubakar and Arasli (2016) declared that the organizational justice deflate or inflate the influence of employee cynicism on the intention to sabotage. Nan and Selamat (2022) affirms that organizations can improve the employees' perception of organizational support and lessen the employee cynicism by improving organizational justice practices. Serrano Archimi et al., (2018) identified that the CSR initiatives by an organization influences the organizational trust, which in turn negatively influences the employee cynicism. Cole et al., (2006) reported that perceived support that an employee felt from their supervisor and their psychological hardiness lead to more positive emotions and lessen the negative emotions of employees and employees' cynicism increases with increase in negative emotions and lessen with increase in positive emotions.

### **Outcomes**

The literature identified various outcomes of employee cynicism at individual and organizational levels. Knowledge-hiding behaviour, withdrawal behaviour, job search behaviour, turnover intention or intention to quit, intention to sabotage, work alienation, job satisfaction, job performance, and employee voice were identified at the individual level. At the organizational level organizational commitment was identified.

Knowledge hiding behaviour refers to an intentional negative organizational behaviour of withholding or concealing valuable information and it may have positive as well as negative intentions (Connelly et al., 2012). The cynical attitudes of employees heightened by the tolerance to workplace incivility lead employees to feel that the organization undervalues them and it makes them unwilling to share their knowledge, fearing that others will exploit the knowledge for their benefit (Aljawarneh & Atan, 2018).

Withdrawal behaviour is the tendency of an employee to reduce the time spent on their job responsibilities as a result of dissatisfaction (Hanisch & Hulin, 1990). It includes actions like arriving late and leaving early, absenteeism, taking leaves unnecessarily or it may be a fake one. Abubakar et al., (2017) states that employees become more cynic as they feel the presence of favouritism or nepotism which in turn enhances their work withdrawal behaviour.

Job search behaviour of an employee denotes the search for more alternative job opportunities and collecting information about them. Employee cynicism was found to have a positive influence on the job search behaviour of employees. When employees tolerate uncivil behaviours in the workplace they exhibit cynical attitudes. The cynical attitude is often said to be an early form of escape and this will lead to the job search behaviours from the employees before quitting the current one (Abubakar et al., 2018; Aljawarneh & Atan, 2018; Megeirhi et al., 2020).

Turnover intention or intention to quit refers to the intention of an employee to leave their current job and switch to another one. When an employee has a cynical attitude towards their organization they tend to have negative attitude towards their job role as well as the organization which lessen their satisfaction and commitment and enhance their intention to quit that particular organization (Bufquin, 2020; Chiaburu et al., 2013).

Intention to sabotage is a negative attitude that an employee hold towards an organization. According to Abubakar & Arasli (2016) intention to sabotage refers to "a negative dispositional attitude, negative destructive state of mind which is characterized by alienation, withdrawal, and termination". They confirm that employee cynicism will enhance the tendency to exhibit deviant behaviours like the sabotage intentions and justice climate in an organization may heighten or lessen the same.

Work alienation is an employee's feeling of disconnection from their job role, coworkers, and the organization. According to Kobasa et al., (1982) work alienation is "a representation of an unenthusiastic attitude toward the work that indicates a low level of engagement with the job role". Durrah (2020) proved that the cynicism of employees significantly influences their work alienation, as cynicism increases the work alienation increases. Moreover, they revealed that the injustice perception of employees often enhances their cynicism which in turn enhances work alienation.

Job satisfaction can be defined as a "pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Chiaburu et al., 2013; Locke, 1976). An employee's cynical attitude will lead to reduced levels of job satisfaction. Because the negative feelings developed as a result of cynicism will negatively influence the job experiences of employees and they feel that the job is less enriched, the quality of leader-member exchange is low, and coworker support is also lacking (Chiaburu et al., 2013; Srivastava & Adams, 2011).

Job performance assesses the contribution of an employee toward the achievement of organizational objectives. Having a cynical attitude towards an organization may motivate them to lower their contribution to the success of that organization, which results in a lower level of job performance (Chiaburu et al., 2013; Kim et al., 2009).

The cynical employees often express their frustration and disappointment towards the organization by lowering their performance.

Employee promotive voice implies the voicing of innovative ideas to improve the functioning of the overall organization. The promotive voice aims at developing the organization and making it a better one. When the employees are suspicious about the intentions and motives of their top-level management as well as the total organization they will withdraw from providing suggestions for organizational improvement, hence employee cynicism negatively influences the promotive voice of employees (Dedahanov, 2022).

Organizational commitment refers to an employee's emotional attachment towards the organization, their intention to stay with the organization on account of the limited alternative opportunities or the cost of leaving, and the felt obligation to continue membership in the organization. Employees with higher levels of cynicism will have lower levels of commitment towards the organization. Cynic employees will have lower levels of trust and higher levels of negative affect on the organization hence they exhibit lower levels of commitment also (Chiaburu et al., 2013; English & Chalon, 2011; Kim et al., 2009).

### **Theoretical Foundations**

This review identified various theoretical foundations for studying employee cynicism i.e., conservation of resources theory, job demands-resources model, psychological ownership theory, social constructivism, social information theory, social cognitive theory, social learning theory, affective events theory, and social exchange theory. Considering all these theories and models the conservation of resources theory and job demands-resources model were identified as the prominent theoretical foundations.

The conservation of resources theory implies that individuals aspire to protect their valued resources and when they are threatened with resource loss, they will become stressed (Hobfoll, 1989). The workplace incivility and tolerance of that will deplete employees' valued resources and they tend to exhibit cynical behaviours as well as job-seeking behaviours (Aljawarneh & Atan, 2018; Megeirhi et al., 2020). The job demands-resources model underlines the importance of job demands like emotional strains and workload and job resources like feedback and support in influencing the employees' attitudes and wellbeing (Demerouti et al., 2001). High job demands and limited job resources will enhance the stress, cynicism, and physical and mental health issues of employees (Abubakar et al., 2017; Bakker & Demerouti, 2007; Nicholson et al., 2014).

The theories like social information theory, social cognitive theory, and social learning theory analyse how workplace interactions like gossip influence employee attitudes and enhance cynical behaviours (Bommer et al., 2005; Kuo et al., 2015). The affective events theory stresses the role of emotional outbursts to workplace events in moulding the attitudes of employees (Cole et al., 2006). While the social exchange theory highlights the reciprocity, the connection between negative perceptions in the workplace to withdrawal behaviours like cynicism (Nan & Selamat, 2022). Together, these theoretical underpinnings provide a detailed understanding of the nature of employee cynicism.

### **Discussion and Directions for Future Research**

This systematic literature review offers a detailed exploration of employee cynicism in the workplace, pointing out its antecedents, drivers, outcomes, theoretical foundations, publication trends, and geographical focus. The employee cynicism was identified as a significant antecedent of several workplace outcomes. It detrimentally influences employees' performance, satisfaction, and commitment while enhancing their sabotage, job-searching behaviours, and turnover intentions. The antecedents of employee cynicism were identified at individual and organizational levels. At the individual level the psychological hardiness, social judgments of supervisors and colleagues, psychological contract violation, negative affectivity, intention to leave, and organizational identification were identified to play the role antecedents. Then the organizational level antecedents include perceptions of justice and injustice, tolerance for workplace incivility, transformational leadership, abusive supervision, participative work environments, management competence and trustworthiness, and corporate social responsibility initiatives. Future researchers could probe more deeply how these antecedents connect with and affect employee cynicism. In addition, the role played by cultural dimensions could also be explored, as these aspects have a unique influence on the development of employee cynicism and its consequences.

The drivers of employee cynicism identified in this review include both individual and organizational levels factors. The individual level drivers include gender, income level, positive reappraisal, emotional responses, and job-related and non-job-related gossip. At the organizational level the drivers such as job enrichment, organizational trust, procedural justice, co-worker support, and leader-member exchange were identified. Both these individual and organizational level drivers were found to play a pivotal role in shaping the orbit of employee cynicism. The upcoming researchers could explore how these drivers mediate or moderate the linkage between identified antecedents and outcomes of employee cynicism while recognizing the strategies to lessen the adverse effects.

Employee cynicism was found to impact both individual and organizational level outcomes. The outcomes such as work alienation, knowledge-hiding behavior, sabotage, employee voice, job search behavior, withdrawal behavior, turnover intentions, job performance, and job satisfaction were founded at the individual level. At the organizational level organizational commitment was identified as a prominent outcome. However, the influence of employee cynicism on broader outcomes such as financial performance, productivity, customer related outcomes such as satisfaction, service quality, etc. needs more attention. Future researchers could delve more into these kinds of broader outcomes.

This review highlighted the prominent theoretical backgrounds of employee cynicism as the conservation of resources theory and job demands-resources model. Even though some other theoretical frameworks were identified these two were the most frequently applied frameworks. The future studies could shed light on more theoretical backgrounds associated with employee cynicism.

From a methodological perspective, the majority of the studies were found to be in cross-sectional nature, pointing to the need for longitudinal research on employee cynicism. Future researchers could explore more about cynicism by using qualitative approaches. The publication trend and focus country analysis reveal a notable hike in scholarly initiatives in cynicism literature dominated by developed nations.

### Conclusion

This systematic literature review was started to identify the antecedents, drivers, outcomes, and theoretical foundations of employee cynicism. The review divulged a set of antecedents of employee cynicism at the individual and organizational levels, such as psychological contract violation, psychological hardiness, intention to leave, negative affectivity of employees, social judgments towards supervisors and co-workers, colleagues' cynicism, organizational identification, tolerance to workplace incivility, the features of management, like their competence and trustworthiness, organizational justice and perception of injustice, superior officers' behaviours, such as abusive supervision and transformational leadership, perceived resource availability, participative work environment, perceived support from management, and perceived corporate social responsibility. This implies that an organization should address these factors to lessen the possibility of enhancing employee cynicism. The drivers identified including gender, income level, emotions, positive reappraisal, job-related and non-job-related gossip, procedural justice, co-worker support, leader-member exchange, job enrichment, and organizational trust also imply that to reduce employee cynicism action should be taken to address these mentioned factors. The outcomes identified, including knowledge-hiding behaviour, work alienation, job search behaviour, turnover intention or intention to quit, withdrawal behaviour, intention to sabotage, job satisfaction, job performance, employee voice, and organizational commitment unveil the far-reaching repercussions of employee cynicism. Finally, the linkage between these identified antecedents, drivers, and outcomes was found to have theoretical foundations prominently conservation of resources theory and job-demands resources model.

### Declaration of Conflicting Interest

*All authors declare that they have no conflicts of interest.*

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## The Dynamics of Employee Engagement: Investigating Its Influence on Job Satisfaction in the Workplace

**Vidhya S**  
Teaching fellow, MBA, IFMR GSB-KREA  
UNIVERSITY, India

**Vaneeta Aggarwal**  
Corresponding Author  
Assistant Professor, University of Madras, India

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### Abstract

This paper examines the complex interdependency between job satisfaction and employee engagement, and how these factors work together to positively impact organizational performance. Since most of a person's life is spent working, the level of motivation and interest that employees achieve becomes an overarching determinant of productivity, satisfaction, and overall wellness. In the highly competitive and dynamic business world of today, organizations need to acknowledge and foster the correlation between employee engagement and job satisfaction in a bid to sustain a motivated labor force and long-term success.

Employee involvement is the degree to which employees are actively encouraged to take part in decision-making, contribute their ideas, and claim ownership of their responsibilities and roles. When workers feel appreciated and part of the group, they are more likely to be emotionally and mentally engaged in their job. This increased level of engagement boosts job satisfaction, which is a central psychological state that indicates how satisfied people are with their jobs, roles, and work settings. Job satisfaction, in turn, has an important role in shaping employee behavior, lowering turnover intentions, and building organizational loyalty. There is increasing research evidence that reinforces the idea that employee engagement is a bridge between satisfaction and involvement. Engaged workers have increased levels of energy, are more attached to organizational objectives, and have higher levels of performance on a consistent basis. This article brings together multiple studies and empirical evidence that continue to indicate a strong link between employee engagement and job satisfaction. Evidence indicates that employees who report greater job satisfaction are frequently individuals who feel strongly connected and committed to their organization and work.

In addition, organizations that support a culture of inclusion and engagement not only experience enhanced employee morale but also registered increases in productivity and profitability. The findings of the study emphasize that by building an environment conducive to employee engagement—via open communication, recognition, career development opportunities, and encouraging leadership—organizations can more effectively foster motivated and engaged employees. Such engaged employees become more contributive to organizational goals and create a sustainable source of competitive advantage for the organization in the marketplace. In summary, investment in initiatives that increase employee engagement and participation is necessary to create a strong, high-performing organization. As this essay illustrates, higher employee engagement results in higher job satisfaction, which ultimately translates to better performance, innovation, and organizational growth.

**Keywords:** Employee Engagement, Job Satisfaction, Attrition, IBM SPSS 20

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### Introduction

An organization's human capital, or people resources, are essential to its survival. They are one of the production variables that help the company grow. They make a substantial contribution since they are a vital component of the many functional areas of the business. They are working for the company to achieve its goals. Megginson<sup>1</sup> argues that "human resources represent the entirety of the inherent abilities, acquired knowledge, and skills as exemplified in the talents and aptitudes of its employees, whereas, from the viewpoint of the individual enterprise, they are knowledge, skills, creative abilities, talents, and attitudes obtained in the population." Employees are the most valuable resource of a company. Managers of human resources are more concerned with how happy workers form a productive workforce. The desire for work-related organizational environments can be driven by several factors for managers and employees. Managers need content employees because they care about their employees. Results-driven managers seek happy employees since they may work more productively, miss a few days of work, and stay on the job longer. Furthermore, happy employees usually produce higher-quality work than their unhappy counterparts. Studies on workplace humanization indicate that contented employees generate higher output, and contented people lead to more efficient organizations.

Work satisfaction is a significant determinant of attrition. It has significantly greater credit than monetary values. Offering appealing benefits and a stimulating work environment will make employees very happy, which will increase employee turnover and decrease attrition. Job satisfaction is a key element that could reduce attrition. Satisfied employees grow into pillars, and the company grows gradually with them. The assessment indicates that approximately 20.16% of respondents are satisfied with their positions and their jobs. These people are the Brand executives; they have a strong sense of loyalty to their employer. They remain because of

their dedication and perseverance, even when the organization provides competitive pay and performance reviews.

They are the company's constituents and help it achieve its objectives. Companies must make sure they stay that way as part of their mission. The companies must maintain them as such. Employee dissatisfaction percentages hover around 1.52% in every firm. They don't appear to be happy where they are right now. Instead of creating space for advancement, they are always criticizing the business. Since 0.51% of people seem to be dissatisfied, these categories include resignation and position changes. The corporations nevertheless need to give these people a serious assessment, even though their share may have been little in contrast. Review shows that not many people don't care about their jobs. They are not satisfied, but they are also not happy with their work.

### **Need for the Study**

Employee satisfaction, often known as job satisfaction (JS), refers to a person's emotional state regarding their position at work (Warr & Inceoglu, 2012). The outcome of an employee's labour is determined by their level of satisfaction, which is reflected in the profit they generate. Absenteeism and volatility are two more variables that have a strong relationship with satisfaction. These two elements have a direct impact on a company's efficiency and successful growth. research on job happiness was first conducted by psychologists in the early 1920s of the 20th century. One of the earliest studies of this type was conducted in a Western Electric Company unit and demonstrated that working productivity rose independently of changes in the workers' physical perspectives and adverse situations. The purpose of the studies was to identify more effective strategies for influencing worker productivity. Among the initial variables with a rate of variability in an organization are communications regarding the job position, attention to occupational safety, duration of employment, and satisfaction levels

### **Literature Review**

Work satisfaction and employees' engagement are some of the best-researched constructs in both organizational behavior and human resource management, approximately individual employee performance and team dynamics as well as intensive and permanent impact on general organizational success. Those two factors, besides being essential drivers of productivity, also strongly influence workplace culture and long-run stability of every organization. Because organizations quickly realize the value of human capital as a strategic asset, how employee engagement influences job satisfaction it has become the central theme of scholarly research and real-world application.

The connection between employee engagement and job satisfaction has garnered considerable interest because of its multifaceted, intricate nature. Researchers and doctors alike have also discovered that engaged employees, who are emotionally committed, are mentally concentrated, and are physically engaged in their work, their work is more likely to be satisfactory. This subsequently translates into improved performance outcomes, such as high productivity, low turnover, and higher organizational commitment (Massey and Schneider, 2008). Job satisfaction, however, has been known to be a major determinant of employee well-being, retention, and motivation for many years. This is the general attitude of an individual towards his work, influenced by both internal (eg, sense of meaningful work, opportunities for development) and external factors (eg, pay, working status, and job safety).

The association between employee engagement and job satisfaction has been consistently confirmed by recent studies, demonstrating a strong, positive, and reciprocal association between the two variables. Employee engagement—made up of emotional commitment, passion, and deep attachment to work—has been found to strongly influence job satisfaction. Existing literature, which includes work conducted by Rai and Maheshwari (2021) and Albrecht et al. (2022), confirms that the most engaged employees are the most satisfied with their jobs, their responsibilities, and where they work. These employees are likely to get meaning from work, perceive that leadership is with them, and are motivated by reward and career advancement opportunities. Conversely, high levels of job satisfaction result in increased engagement through the development of a positive emotional climate, reduced stress, and discretionary effort. Gallup's (2023) large-scale survey also confirmed this relationship, indicating that organizations with higher employee engagement scores also had significantly higher satisfaction and retention rates. The study also noted that companies which actively invest in workers' well-being, communication, and empowerment have greater alignment between engagement and satisfaction levels. This synergistic interdependence further leads to a virtuous cycle where engagement drives satisfaction and satisfaction stimulates engagement, leading to improved productivity, innovation, and organizational commitment. Engagement and satisfaction are thus both essential to foster in order to create a high-performing, resilient team in the fast-changing workplaces of today. Job satisfaction often varies with the total years of work experience, reflecting changes in employees' expectations, values, and career trajectories over time. Several studies have explored this relationship, with findings suggesting that job satisfaction tends to increase with

experience—particularly in the early to mid stages of a career—before plateauing or slightly declining in later years. According to a study conducted by Ng and Feldman (2010), the most experienced employees tend to be more satisfied with their jobs due to higher job mastery, stability, and organization familiarity. Experienced employees are also more realistic in their expectations, which assists them in controlling stress and having a positive work attitude. This has been supported by research by Kosteas (2011), which states that years of experience do lead to increased perceived autonomy and competence, both of which are good predictors of job satisfaction. Some research, however, such as that by Bader, Hashim, and Zaharim (2013), purports that after some time, job satisfaction might decrease because of stagnation, insufficient new challenges, or failure to achieve long-term career aspirations. More recently, a study by Jena and Pradhan (2021) highlighted that generational differences and evolving career motivations also influence how job satisfaction aligns with experience levels, particularly in fast-changing industries. Generally, the dynamics between total experience and job satisfaction are complex—while experience typically increases satisfaction via skill acquisition, security, and professional identity, it needs to be balanced by ongoing growth potential in order to maintain high rates of engagement and satisfaction.

In a Kahn (1990) article, emotional engagement is first defined as the self-actualization of the employee in performing the organizational task allocation: in engagement, individuals use and express themselves physically, emotionally, literally, and conceptually in role performances. All such stressors and stress symptoms created by the organizations, including all these, were identified by Kang and Singh (2006). The research ended by concluding that workers indicated stringent rules, poor interrelations, poor organizational environments, work inhibitors, and thoughtless authorities as major stress inducers. Aggressiveness, changing thoughts, anxiety, and poor performance are some typical stress intermediary indicators. The researchers recommended, in the study, that the company construct a climate of trust and respect and reward, participation, and effective communication, and sensitize the administrators to the needs of the employees. Mwakidimi, D., et al. (2015). Their report Pay and Work Effects of the Impact of HRM Techniques on Employee Retention at Kenya Power Company Ltd. is the name of a research paper. The variables examined in the research will be centered on three independent variables, namely pay structures, placement, and leadership. All the points that have been mentioned above are usually considered to be the key drivers of employee retention and, if well managed, are able to produce a high rate of retention of key staff. In 2014, Shanmuga and Vijayadurai explained that "the emotional attachment of an employee to their work, their colleagues, or their organization, which can be both positive or negative, influences their emotion in learning and work performance." Schaufeli, the author, and other colleagues in 2006 p. 702 explained that "work engagement is a positive, work-related state of mind characterized by vigor, dedication, and absorption." Saks (2006) explains employee engagement includes a unique and distinct construct because it involves behavioural, emotional, and cognitive processes related to effort allocation towards individual performance. Schaufeli et al. in 2002. This is work engagement, and it is a rewarding, enriching experience that is job-related and defined by vigor, dedication, and absorption. Once again, Maslach et al. (2001) contend that if exhaustions, cynicism, and inefficacy can be considered burnout, then the reverse of the three dimensions is engagement, which is defined by energy, involvement, and efficacy. The outcome of this study has shown that the more content the employees are with the condition of their lives, the more they engage with their work (Vorina, 2013). They proceeded to demonstrate that employee engagement levels would mirror the growth of ICT skill development, as depicted by Vorina, David, and Vrabčič-Vukotić (2013). The study managed to accomplish the above objectives by relating Rathi's (2011) results on the three organizational commitment facets: affective—belonging, portraying a sense of concern; behavioral—behaving in support of one's commitment; Bedford College Students' Union; and the domain of psychological well-being. As expounded by way of figures, two sets of past employee engagement measures have been discovered in existing studies. This research quantifies the impact of organizational culture, work satisfaction, and leadership style on employee performance (Ratnasari Sri Langgeng et al. 2020). Adhikari (2009) states that employee erosion and harassment causes in the software industry can be categorized into four types, which are job concomitant, employer-related issues, employee capability, and compensation.

Out of these four factors that surfaced, compensation appeared to have the smallest impact on erosion. Hewitts Associates (2006), Sherman et al. (2006), Abassi and Hollman (2000), and Hewitts Associates (2006) all cite a number of reasons why staff decide to leave these types of businesses: the management style; poor recruitment practices; lack of recognition; an unfriendly work environment; and no competitive wage structure. Other reasons may be not being promoted, not receiving training or advancing, doing nothing stimulating, and insecurity in the job. Certain intrinsic and extrinsic drivers would be of help. In accordance with Homand Gaertner (2000), there are certain appropriate antecedents for employee retention or turnover that consist of job satisfaction, organizational commitment, job search, alternative comparisons, withdrawal cognitions, and intentions to leave. As Schuler et al. (2011) noted, "Retention strategies should include the following: managers' promises regarding talent management of all employees—not just the "talent" few; willingness to search for recruits globally; manager accountability for talent losses; and pay based on retention benefits." Research

findings by Company Tangetal (2000) suggest that retention of employees is positively correlated with only a level of an employee's job satisfaction. Semih and Tugba (2016) carried out research that tested the local change in standard deviation between labor market satisfaction and job position satisfaction. The results indicate a change in job satisfaction. The link between marital status and job satisfaction has been a topic of growing interest, as individual life factors like marriage can have a considerable influence on workplace attitudes and overall well-being. Research indicates that marital status plays a considerable role in shaping job satisfaction, with married individuals often reporting higher levels of satisfaction compared to their unmarried counterparts. A study by Stutzer and Frey (2006) suggested that marriage tends to provide emotional stability, social support, and a sense of responsibility, which can positively impact one's attitude toward work and overall life satisfaction. In addition, married workers can enjoy dual sources of financial and emotional security, which are associated with lower stress levels and a better work-life balance. Later research has also analyzed this link in cross-cultural and organizational settings. For instance, Gazioglu and Tansel (2020) established that married people in developing nations, where family support systems are stronger, reported much greater job satisfaction than single or divorced people. On the other hand, there is some evidence that single people might have less work-family conflict, which may result in greater job satisfaction in some high-demand professions (Lopez & Ramos, 2019). Furthermore, gender dynamics play a considerable part in this relationship; a study by Jena and Pradhan (2021) found that married women, particularly from dual-career families, can experience specific difficulties in juggling family obligations against career pressures and consequently may see their job satisfaction impacted differently than that of their male counterparts. In general, marital status positively correlates with job satisfaction because of the buffering influences of emotional and social support, which in turn often accompany marriage. It is essential, however, to also recognize that personal conditions like gender roles, culture, and organizational work-life balance efforts moderate this relationship. As work-family life changes in contemporary society, increasingly sophisticated research is needed to completely grasp how marital status crosses over with job satisfaction across demographic groups.

### Research Objectives

H<sub>01</sub>: There is no significant correlation between employee engagement and job satisfaction within the organization.

H<sub>02</sub>: There is no significant difference in job satisfaction among individuals with total years of experience.

H<sub>03</sub>: There is no significant difference in job satisfaction or marital status of the individual.

### Research Methodology

The study involved participants within the corporate IT park in Chennai, which is located in the southern part of India. The target population included those persons, 18 years and above, in different establishments, business places, or organizations in this area. The participants were selected from different locations and towns in Chennai, and a total of 100 respondents were administered. Out of them, 36 were male (36%) while 64 were females (64%).

In this research, the questionnaire was developed with twenty closed-ended questions. It comprised four questions relating to demographic data, like gender, age, marital status, and total company experience. Although the questionnaire was developed by the author Vorina (2017), the part that aims at assessing the level of engagement of the employees is the Utrecht Work Engagement Scale. The collection of the data took place through distributing the Google questionnaires from 4/1/2024 to 14/4/2024. During this period, the authors conducted interviews with colleagues, neighbours from the IT park, friends, and acquaintances. All the participants spent approximately five minutes completing the developed questionnaire. The procedure was developed to be easy to implement so the participants would feel free to engage with the provided questions. In this approach, it was possible to guarantee a high level of self-organizing learning and the reliability of the responses received. Data processing: The collected data were analyzed using IBM SPSS, version 20. We have also used the Microsoft tools Word and Excel. Regarding the purpose and objectives of the research, we used the ANOVA test, the independent T-test, and correlation analysis.

### Data Collection

Primary data in this study was collected through a survey method using a structured questionnaire. The questionnaire was designed to capture specific information relevant to the research objectives. To ensure the accuracy and reliability of the responses, a Likert scale was used to measure the attitudes, opinions, and perceptions of the respondents. The Likert scale provided a range of responses (such as strongly agree, agree, neutral, disagree, and strongly disagree), allowing for a detailed analysis of the data collected from the

participants. This approach enabled the researcher to gather quantitative data that could be analyzed systematically.

In Table 1, the consistency of scale has been assessed through Cronbach’s alpha. The generally accepted value for Cronbach’s alpha is 0.70. Here, as in all the components, Cronbach’s alpha is more than 0.70, which shows the internal consistency of the questionnaire.

**Table 1**

Component	Cronbach’s alpha	Number of questions	Source
Employee Engagement	0.867	12	Anton Vorina, ECONOMIC THEMES (2017)
Job Satisfaction	0.872	8	Anton Vorina, ECONOMIC THEMES (2017)

**Data Analysis and Findings**

Table 2 presents the demographic details of the sample population. Among the age categories, 48% are between 18 and 25 years old, 18% fall into the 26-35 year range, another 18% are aged 36-45, and 16% are over 45 years old. Gender distribution shows that 64% of the sample are women, while 36% are men. Regarding marital status, 52% of the individuals are unmarried, and 48% are married. In terms of professional experience, 44% of the population have more than 6 years of experience, whereas 42% have 2 years of experience or less, and 2-4 years experienced individuals are 8%, whereas the other 6% are experienced for 4-6 years.

**Table 2**

Demographic Variable		Frequency	Percentage
Age	18-25	48	48%
	26-35	18	18%
	36-45	18	18%
	45 above	16	16%
<i>Total</i>		100	100%
Gender	Female	64	64%
	Male	36	36%
<i>Total</i>		100	100%
Marital Status	Unmarried	52	52%
	Married	48	48%
<i>Total</i>		100	100%
Total years of experience	Below 2 years	42	42%
	2-4 years	8	8%
	4-6 years	6	6%
	6+ years	44	44%
<i>Total</i>		100	100%

**Correlation Analysis**

Table 3 shows the correlation between dependent and independent variables such as: The value of the Pearson correlation coefficient between employee engagement and job satisfaction is 0.680, which indicates a high positive correlation between them. So, H<sub>11</sub> is accepted.

**Table 3**

**Correlations**

		EE	JS
EE	Pearson Correlation	1	.680**
	Sig. (2-tailed)		.000
	N	100	100
JS	Pearson Correlation	.680**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

**Anova**

Table 4 denotes that the P value is 0.004, which is less than 0.05, and hence  $H_{12}$  is accepted.

There is a significant difference in job satisfaction among individuals with total years of experience.

**Table 4**

JS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	257.365	3	85.788	4.804	.004
Within Groups	1714.195	96	17.856		
Total	1971.560	99			

Table 5 denotes that the P value is 0.005, which is less than 0.05, and hence  $H_{13}$  is accepted.

There is a significant difference in job satisfaction and the marital status of individuals.

**TABLE 5**

JS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	152.816	1	152.816	8.234	.005
Within Groups	1818.744	98	18.559		
Total	1971.560	99			

**Implication and Suggestions**

The findings of this study should be interpreted in light of certain underlying limitations. Firstly, the sample size was restricted to 100 respondents, which may not be sufficiently large to yield statistically robust conclusions or to capture the full spectrum of experiences and perceptions within the broader population. A small sample can introduce potential biases and limit the reliability and generalizability of the results. Secondly, the research was conducted within the confines of a single urban location, thereby restricting the geographical diversity of the sample. Given that organizational cultures, work environments, and employee expectations can vary significantly across regions, the findings may not be directly applicable to other cities, rural areas, or international contexts.

Moreover, the study was confined to a limited range of organizational settings, which may not account for the diversity of practices across different sectors, industries, or types of employment. This narrow focus may have overlooked important contextual factors that could significantly influence employee satisfaction and engagement. In light of these limitations, there is considerable scope for future research to expand upon and deepen the current findings.

Subsequent studies would benefit from incorporating larger and more diverse samples to enhance statistical reliability and the representativeness of the data. Expanding the geographic scope to include multiple cities, regions, or even countries would facilitate cross-cultural comparisons and provide a more holistic understanding of employee experiences. Additionally, examining a broader range of industries and organizational structures would help capture sector-specific dynamics and challenges, thereby contributing to a more comprehensive understanding of the factors that influence employee satisfaction and engagement.

**Conclusions and Managerial Implications**

The study has brought to light the importance of employee satisfaction in HR strategies for reducing the rate of attrition and enhancing employee involvement. This research indicates how interactions between these variables and influencing aspects may affect the overall level of satisfaction by systematically analyzing those aspects affecting employee satisfaction. From these results, which show a significant positive relationship between several influencing factors and the response variable of employee well-being, the specific interventions needed are those targeting and improving these areas. With this data, organizations can devise a strategic plan that would engender engagement, improve employee well-being, and eventually translate into better retention. It also brings out the fact that concerning job satisfaction and employee engagement, a strong correlation exists; the higher one's level of engagement, the happier a worker will be. In the demographic research, it can also be noted that in most cases, younger workers, particularly those between the ages of 18 and 25 years of age participate

more than older workers, indicating a high number of youths in the workforce. Moreover, the majority of female respondents show that females are more concerned and communicative about survey-based research. However, statistically speaking, there is no significant relationship between gender and independent variables in this study of job satisfaction and employee engagement. In addition, the present study does not indicate any significant association between age/work experience and employee engagement, possibly demonstrating that these factors may not influence the state of engagement in the current sample.

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## Effect of Metacognition Mastery Program on the Creative Thinking Skills of Primary School Students

**Zeenath P. Y.**

Research Scholar,  
Farook Training College, Research Centre in Education,  
University of Calicut, India

**Dr. Anees Mohammed C.**

Associate Professor,  
Farook Training College, Research Centre in  
Education, University of Calicut, India

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### Abstract

Metacognition-based education is highly beneficial for students as it empowers students to understand their own learning processes, enabling them to regulate their thoughts and strategies effectively. This approach encompasses better and long-term understanding of knowledge, ultimately leading to better academic performance. In lower classes, metacognitive strategies are particularly important as they help young learners develop self-awareness about their learning habits and preferences. By teaching these strategies early on, educators can instill a sense of ownership in students regarding their learning journey, promoting lifelong learning skills. The main purpose of this research is to examine the effect of the Metacognition Mastery Program (MMP) on creative thinking skills of primary school students. For this purpose, Experimental group only Pretest – Posttest Design was used in the research. The study group of the research consists of 35 fourth grade students. The Program was developed with Metacognition Strategies. The prepared program was implemented for 8 weeks. Here, one week of the program was conducted for the development of Creative Thinking Skills. The data of the study were collected through Achievement tests (pretest and posttest). Paired sample t-test was used to determine whether there is a significance difference between pre and post-tests. As a result of the research, a significant difference was found in terms of Creative Thinking skills, prior to and after conducting the study. In this respect, it is seen that the Metacognition based Program has a positive effect on Creative Thinking skills among fourth standard students.

**Keywords:** Meta cognition Mastery Program, Creative Thinking Skills, Primary School Students

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### Introduction

Metacognition and creativity are two important cognitive processes that play significant roles in human thinking and problem-solving. In the world of education, Metacognition is an emerging word gaining much popularity and importance. Metacognition means ‘thinking about thinking’. Flavell (1976) defined metacognition as referring to “one’s knowledge concerning one’s own cognitive processes and products or anything related to them, e.g., the learning-relevant properties of information or data”. Creativity is recognized as an essential 21<sup>st</sup> century skill. Creativity is the process of sensing difficulties, problems, gaps in information, missing elements, something askew: making guesses and formulating hypotheses about these deficiencies; evaluating and testing these guesses and hypotheses; possibly revising and retesting them and finally communicating the results. “Creative thinking can be regarded as a metacognitive process in which the combination of individual’s cognitive knowledge and action evaluation results in creation” (Jia et al., 2019). In the vibrant ocean of education, the interplay between metacognition and the cultivation of creative thinking skills among primary school students stands as an area ripe for exploration and innovation.

The significance of this study exceeds the traditional boundaries of education, resonating deeply with the soul of nurturing adaptable, creative minds. Understanding the symbiotic relationship between metacognition and the development of creative thinking skills among primary school students offers a paradigm shift in educational practices. It not only enriches their academic experiences, but also equips them with the cognitive tools to navigate the complex landscape of innovation in an ever evolving world. This exploration holds the ability to revolutionize the pedagogical approaches, empowering the educators to tailor teaching methods that foster not only academic excellence, but also the divergent and inventive thinking vital for success in the dynamic challenges of the future. “Metacognitive experiences are more important in the generative stage of creativity, whereas metacognitive knowledge is more influential in the exploratory stages” (Preiss, 2022).

Metacognition-based learning interventions can significantly enhance creative thinking skills in primary school students. By fostering awareness and regulation of their own cognitive processes, these interventions empower students to think more creatively and approach problems with innovative solutions. Metacognitive strategies encourage students to evaluate different approaches to problem-solving. This flexibility allows them to explore various solutions and think outside the box, which is essential for creative thinking. Students learn to reflect on the effectiveness of different strategies they use, enabling them to adapt and refine their approaches based on past experiences. This reflective practice fosters a deeper understanding of how to tackle complex problems creatively. By becoming aware of their own thinking processes, students can identify their strengths and

weaknesses in creative tasks. This self-awareness helps them leverage their strengths while addressing areas that need improvement.

Metacognitive interventions encourage students to set specific goals for their creative projects and monitor their progress. This structured approach enhances motivation and encourages persistence in pursuing creative endeavors. Working in groups allows students to engage in metacognitive discussions about their thought processes. Sharing ideas and strategies with peers can stimulate creative thinking by exposing students to diverse perspectives and approaches. Collaborative environments foster feedback, which is crucial for creative development. Students learn to evaluate not only their own ideas but also those of others, leading to richer, more innovative outcomes. Metacognitive practices help students understand that failure is a part of the creative process. By reflecting on what went wrong and adjusting their strategies, they become more resilient and willing to take risks in their creative pursuits.

As students learn to monitor their progress and reflect on their efforts, they develop a sense of perseverance. This resilience is vital for creativity, as it encourages them to continue exploring ideas even when faced with challenges. Metacognition promotes critical evaluation of one's own ideas and those of others. Students learn to assess the feasibility and originality of different concepts, which enhances their ability to generate innovative solutions. By engaging in metacognitive reflection, students can make connections between seemingly unrelated ideas or concepts, fostering a more holistic approach to creativity.

Incorporating metacognitive strategies into educational practices for primary school students not only enhances their creative thinking skills but also equips them with essential tools for lifelong learning. By promoting self-awareness, flexible problem-solving, collaboration, resilience, and critical thinking, metacognition-based interventions create an environment where creativity can thrive. These skills are invaluable as students navigate increasingly complex academic and real-world challenges.

### **Review of Related Literature**

Hargrove (2012) conducted a study titled “Fostering creativity in the design studio: A framework towards effective pedagogical practices”. According to him, Design is a discipline of innovation: its essence is the creation of something new and unique. An assumption has been that the inclination and ability of a person to respond in novel and useful ways is largely inherited. Present research refutes this view, and it is now believed by many that, however creativity is defined, it is a form of behaviour that can be taught. Acknowledging this point leads to the questioning of how creativity is situated in the design curriculum. If, as present research suggests, most creativity training programmes are successful in that they encourage the development of metacognitive abilities, then the study of creativity as a self-regulatory metacognitive process is timely and important to design education.

Miranti and Wilujeng (2017) conducted a study titled “Creative Thinking Skills Enhancement Using Mind Mapping”. The aim of this study was to determine the improvement of students' creative thinking skill. The method used is quasi experiment, with design of non-equivalent control group design. The results showed that mind mapping method can significantly improve students' creative thinking ability.

Tohir (2019) conducted a study on Students' Creative Thinking Skills in Solving Mathematics Olympiad Problems Based on Metacognition Levels. The research aims to describe the level of creative thinking ability of students in solving mathematics olympiad problems based on students' metacognition levels by using the qualitative descriptive approach. The results exhibited that the level of creative thinking skills of the students in solving mathematics Olympiad questions were 29.41% (less creative), 41.18% (quite creative), 11.76% (creative) and 17.65% (very creative). On the other hand, the metacognitive level of SMPN 2 Jember students were 64.71% at level 2 (aware use), 23.53% at level 3 (strategic use) and 11.76% at level 4 (reflective use). In addition, the literatures indicate that there are several factors affecting the creative thinking skills and metacognition level, among them is an understanding of the information of the problem, compiling an appropriate strategies, skills of the chosen strategy, skills of answer elaboration, mastery of the Mathematics Olympiad material and a tendency to rely on the memorization or imitations based on previous or discussed solutions.

Yusnaeni et al. (2020) conducted a study on the Contribution of Metacognitive Skills and Creative Thinking Skills in 21st Century Learning. It was a correlational research related to the multiple correlation between metacognitive skills and creative thinking skills with students' cognitive learning results. The research aimed at investigating the contribution of metacognitive skills and creative thinking skills simultaneously on the cognitive learning results of 226 senior high school science students of Kupang, Indonesia. The results of the

research showed that metacognitive skills and creative thinking skill simultaneously had a high contribution on students' cognitive learning results as much as 62.78%. Based on this result, teachers need to empower students' metacognitive skills and creative thinking skills in learning because both thinking skills are required in 21st century.

### **Need and Significance of the Study**

Metacognition plays an important role in Revised Bloom's Taxonomy as it addresses the higher-order thinking skills and reflects a learner's capacity to manage their own cognitive processes. Revised Bloom's Taxonomy, developed by Anderson and Krathwohl, extends the original Bloom's Taxonomy by including the cognitive processes and knowledge dimensions. Metacognition is particularly relevant in the "Creating" and "Evaluating" levels of the taxonomy.

Metacognition is necessary when it comes to creating new ideas, designs, or solutions. Learners must be aware of their own thinking processes, monitor their progress, and make adjustments as required during the creative process. In the evaluating stage, one needs to make judgments and assess the validity and effectiveness of ideas or solutions. Metacognitive skills come into play as pupils reflect on their own criteria for evaluation, consider alternative perspectives, and monitor their own biases or assumptions.

Metacognition is essential for the development of primary school students as it plays an important role in their cognitive growth and academic success. Krathwohl's and Anderson's Revised Bloom's Taxonomy, which builds upon the original Bloom's Taxonomy, highlights the importance of metacognition in the cognitive processes of learning. Metacognition involves knowledge about one's own cognitive processes. This comprises understanding how one learns, monitors their understanding, and identifies areas of struggle. Primary school students who are aware of their thinking process are better furnished to choose suitable learning strategies and techniques that suit individual requirements (Metacognitive Knowledge). Students who can establish goals and plan their approach to a task are more probable to be self-directed learners, which is a key component of metacognition (Metacognitive strategies). Primary school students who can regulate their learning are more likely to identify when they need to pursue help, adjust their learning strategies, or revisit material to enhance their understanding (Metacognitive Regulation).

By reflecting on their thinking processes, primary school students can improve the ability to analyze problems, assess solutions, and apply critical thinking abilities to various academic tasks (Cognitive Skills). Metacognitive skills are transferable through different subjects and contexts. Pupils who improve strong metacognitive skills in one area can apply these skills to new and unfamiliar situations. The ability to transfer metacognitive skills is as important as students progress through primary school and encounter a broader range of subjects and challenges (Transfer of Metacognitive Skills).

This study addresses a critical need in education. In the primary years of schooling, children are like sponges, absorbing data and information and developing cognitive abilities. However, fostering creativity is often disregarded in traditional teaching methods. This study aims to throw light on the importance of incorporating metacognition into primary school education. By incorporating metacognitive strategies into teaching practices, educators can endow students to understand how they learn best, encouraging a more active and attentive approach to problem-solving and knowledge acquisition. This not only improves their academic performance but also arranges the foundation for a lifetime of creative thinking skills.

The significance of this study lies in its potential to transform primary education by stressing the link between metacognition and creativity. As educators embrace metacognition-based teaching programs, they equip students with valuable tools to navigate the challenges of learning, ultimately creating a generation of critical thinkers and innovators. By nurturing creativity at an early age, schools open the doors for the holistic development of students, preparing them to solve complex problems in an ever-changing world. This article aids as a catalyst for educational transformation, encouraging for a shift towards pedagogical practices which not only impart knowledge but also nurture the essential skills of metacognition and creativity in young learners.

### **Objective**

To find out whether there exists any positive effect of Metacognition Mastery Program (MMP) on Creative Thinking Skills of Fourth standard students in Kerala

### **Hypothesis**

There is a positive effect for Metacognition Mastery Program (MMP) on Creative Thinking Skills of Fourth standard students in Kerala

## Methodology of the Study

### Method

In this study, the effect of Metacognition Mastery Program (MMP) on the creative thinking skills of primary school students was investigated according to quantitative design. “Quantitative Research establishes statistically significant conclusions about a population by studying a representative sample of the population” (Lowhorn, 2007). The model of the research is Experimental Model. It was tested whether the independent variables (activities within the MMP) were effective on the dependent variable (creative thinking skills). In the pretest- posttest experimental group model, there is one group, the experimental group. 35 students from the 4th grade students studying at Creative High School in the Palakkad district were included. One class consisting of 35 students were selected randomly from 2 divisions. The groups were given a pre-test before the experimental application and a post-test after the application.

### Structure of MMP

The Metacognition Mastery Program for 4th standard students is designed to enhance the four essential skills: reading, writing, arithmetic, and communication. The program comprises nine modules, each targeting specific cognitive and academic competencies. Module 1: Mindfulness introduces students to practices that cultivate focus and self-awareness, establishing a strong foundation for effective learning. Following this, Module 2: Reading emphasizes comprehension strategies and encourages engagement with diverse texts, while Module 3: Writing focuses on developing clear and coherent writing skills across various formats. Module 4: Arithmetic provides hands-on activities to strengthen foundational math skills, and Module 5: Communication hones students' abilities to express their ideas confidently and effectively in both spoken and written forms.

The latter modules of the program build on these foundational skills by introducing advanced cognitive techniques. Module 6: Mnemonic Techniques equips students with memory strategies to enhance information retention. In Module 7: Analytical Thinking Skills, students engage in critical thinking exercises that challenge them to evaluate information and solve problems creatively. Module 8: Logical Reasoning focuses on developing structured thought processes through logic puzzles and reasoning tasks. Finally, Module 9: Creative Thinking Skills encourages innovation by allowing students to explore their imagination through brainstorming and creative projects. This comprehensive approach not only aims to improve academic performance but also fosters a mindset of lifelong learning and adaptability in students.

### Experimental Design

The study is a pre-test post test experimental group only design. The study group (n=35) of the research consists of 4th grade students studying at Creative High School in the Palakkad district of Kerala. The data, which are thought to serve the purpose of the research, were collected through Achievement tests.

### Data Collection Tools

Creative thinking Skills Test: The “Creative Thinking Skills Test”, developed by Anees & Zeenath (2022) consists of 12 questions. The tool was administered among 100 fourth standard students and Item Analysis was done. The final tool consisted of 10 questions. In order to ensure the Reliability of the test, 2 methods were adopted: Test-retest method and Cronbach’s alpha to ensure internal consistency and the test was administered in 2 different samples to ensure the External Consistency. Thus the reliability was ensured. The Face Validity and Content Validity was ensured by a panel of 5 experts consisting of 3 educationists and 2 primary teachers. Thus the Creative Thinking Skills Test was standardised.

Metacognition Mastery Program: In order to standardise the Metacognition Mastery Program, the content and items of the Program was discussed with panel of 5 experts consisting of 3 educationists and 2 primary teachers. Based on their suggestions, appropriate modifications were made wherever necessary. A Rating Scale were given to the panel to ensure the content validity and face validity. They rated the program in the dimensions provided in the scale. Thus the Metacognition Mastery Program was standardised.

### Data Collection

In this study, which was conducted to determine the effect of the Metacognition Mastery Program (MMP) on the creative thinking skills of primary school students, the program prepared with Metacognitive strategies and Neuro Linguistic Programming content was applied to the experimental group students for 6 weeks, 5 hours a week. Two weeks of the program was conducted for the development of Creative Thinking Skills. The suitability of the activities in the prepared program to the grade level was decided by taking the opinions of teacher educators and teachers.

In the first stage, a pre-test was conducted on the 35 students and their scores were recorded. In the next step, the MMP prepared within the scope of the research was started to be applied to the experimental group. The application was made in 30 hours. In the experimental group, the practice was continued for five days a week, one lesson per day, and continued for six weeks. Two weeks of the program were conducted for the development of Creative Thinking Skills. During the trainings, the motivation of the students was tried to be kept at a high level with verbal reinforcements. At the end of the 6-week period, posttest was applied and the scores of the Achievement test were recorded.

### Data Analysis

The data gathered from the investigation was analyzed using the SPSS package application. In beginning, the normality test was run over the discrepancies between the pretest posttest findings collected within the scope of the research in order to decide which statistical data analysis types would be employed in the data analysis. The Mean, SD, skewness, and kurtosis coefficients were investigated in this study to see if the data had a normal distribution. The tested values were found to be in the normal distribution ( $p < .05$ ). Since the data were in accordance with the normal distribution, t-test was used for the difference analysis of the paired groups, which is one of the parametric tests.

**Table 1**

Paired sample t-test Results Regarding the Pretest-Posttest Data of Experimental Group Creative Thinking Skills Scale

Test	N	$\bar{x}$	sd	df	t	p
Pre-test	35	15.44	6.249			
Post-test	35	28.09	3.866	34	15.331	.000

### Findings and Discussion

The objective of the study is to find out whether there exists any positive effect of Meta Cognition Mastery Program (MMP) on Creative Thinking Skills of Fourth standard students in Kerala. The results can be seen as follow:

The t-test was used to determine if the difference between the means of both groups is significant. According to the test findings, there was a statistically significant difference between the groups in terms of creative thinking skills. According to the research, the influence of MMP on the creative thinking skills of fourth standard primary school students was found after the application. The changes in the students' results were found to be significant in the process.

According to the findings, the difference between the experimental group's pretest-posttest averages is significant and that the Metacognition Mastery Program prepared with Metacognition and Neuro Linguistic Programming strategies were successful in establishing a considerable difference between pre-test and post-test scores. Thus, it can be concluded that the Metacognition Mastery Program (MMP) has a positive effect on creative thinking skills of fourth standard students.

### Suggestions for further study

The purpose of this study was to see how the Metacognition Mastery Program affected the creative thinking skills of fourth standard students. The following proposals for future studies, researchers, and practitioners are based on the experiences gained during the study process and the findings collected as a consequence of the research:

- The prepared program was implemented for 6 weeks. However, the duration of the program can be extended with the activities to be added in order to acquire good creative thinking habits permanently.
- In this research, the research data were collected using Creative thinking Skills Test. Quantitative data were obtained with this tool. In a similar study, observations and interviews can be made to obtain the opinions of students and teachers about the program, and the study can be supported with qualitative data.
- The program has been prepared considering the development level of primary school students. In a similar study, the effect of the program on creative thinking skills can be tested on different age groups with different activities to be added.

- In future studies, students from regions with different socioeconomic variables can be studied.
- The developed program can be easily applied by classroom teachers in the primary school period.
- It is thought that this program, which has an infrastructure that parents can easily apply at home, will provide great support to students in primary schools.

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**Effect of Metacognition Mastery Program on the Creative Thinking Skills of Primary School Students**

**Chuchu Alebachew**  
(Corresponding Author),  
Amhara Leadership Academy, Ethiopia

**Assabie Mihretie Kassa**  
Amhara Leadership Academy,  
Ethiopia

**Muhabaw Takele**  
Amhara Leadership Academy,  
Ethiopia

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**Abstract**

In the fast-changing world, organizational leadership has become more important and it is considered a critical success factor. In this regard, not only do top-level leaders need to show their capabilities, but all leaders at all levels of the organization also feel the need to develop the attributes of good leadership to achieve the desired results. The study assessed the attributes of good leadership practices in selected Bureaus of ANRS using a convergent parallel research design with a mixed research approach. The target population consisted of 315 employees and 116 directors from 10 selected Bureaus. Data was collected through closed-ended questionnaires. The results showed that employees perceived the extent of exercising the six BASICS of good leadership practices in the selected bureaus. Information and communication commitment were the most exercised, while aspiration values were the least. The study recommends the regional government develop a project to enhance the capacity development of middle-level leaders at the regional level.

**Keywords:** Attributes, Leadership, good leadership, government, government organizations.

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**Introduction**

With the emergence of social life, leadership emerged (Korejanl & Shahbazi, 2016). Modern leadership has a key role in the development of countries, nations, and organizations, as it has led to economic, political, social, and technological advancements in various aspects of life (Tsfaye & Kitaw, 2018). Poor leadership leads to more organizational failures than any cause, nullifying even the soundest organizations.

Effective leadership smooth the path towards goal accomplishment (Goitom, 2012). In order to direct, a group of people towards an organization's objective, leadership requires a position, personality, responsibility, influence process, and tool (Limsila, & Ogunlana, 2008). Effective leadership enhances management capacity and organizational performance, integrating human resource management components like recruitment, training, performance management, public service ethics, and succession planning (Hordofa, 2019). Douglas MacArthur's quote emphasizes the value of confidence, courage, and compassion in leadership, asserting that true leaders are not born but develop through equality and integrity (Anderson, 2015).

Ramnarayan and Kumar (2004), emphasize the importance of understanding methods to enhance performance in the public sector for enhanced productivity. Numerous nations have undergone reform their public sector to ensure transparency, accountability, and good governance while embracing new technology and strong leadership to maintain efficiency (Zerhiun & Tsfaye 2014).

Ethiopia's public service system has been in operation for 100 years, but many institutions lack visionary leadership and operate under poor conditions. Since 1991, the government has implemented reform programs, but these have not achieved their initial objectives, with poor leadership being a major challenge (McDowell, et al., 2002).

Public sector leadership is diverse, constantly changing, and influenced by tasks, environments, and abilities. Ethiopian government-owned organizations face scrutiny from stakeholders, requiring leaders to develop new strategies to meet customer demands and external pressures (Jean, 2019).

Effective leaders manage organizational complexity through strategic planning, organization, control, and problem-solving, ensuring quality service delivery through effective and high-quality leadership principles (Sudha, et al., 2016).

Effective leadership is crucial in organizations, requiring active decision-making, problem solving, and accountability in public sector sectors, demonstrating political loyalty and network governance (Knies, et al., 2016). Effective leadership theory suggests that leaders' characteristics, values, and knowledge significantly affect performance (Quigley & Hambrick, 2015). Though their roles in providing public service through appropriate strategies are still surprisingly limited, effective leaders play a key role in organisational settings.

Rather than creating a strategic plan to improve the performance of the organisation, leaders adopted routine mitigation strategies. Many public sector leaders struggle to introduce appropriate strategies and policies due to a lack of effective leadership (Ebrahim, 2018). Introducing good leadership can be a feasible option for organizations struggling with poor public service delivery and leadership inefficiency (Joyce, & Drumaux, 2014). A good leader consistently demonstrates a range of leadership attributes, focusing on not just meeting goals but also working with people and their interests to achieve them (Salazar, et al., 2018).

Researchers in public organizations and governments report revealed that, there is ineffective service delivery due to individuals' self-interest, corruption, and non-compliance with standards. Public complaints suggest

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leadership prioritizes keeping things as they are over managing change and adapting to new environments, failing to achieve predetermined goals (Hordofa, 2019). Generally, in the global competitive landscape, public sectors are becoming increasingly complex, non-linear, and strategically demanding, necessitating effective leadership (Kunnanatt, 2016). Due to this fact, Ethiopia's public institutions have undergone several reform processes, including leadership development and civil service reforms (Mengesha, et al., 2018). However, Effective leadership is a prevalent issue in public organizations, leading to poor staff performance, lack of motivation, and hindered growth and development. (Lemma & Eshete, 2018). Ethiopia faces numerous challenges, including inefficiency, flexibility, accountability, and poor performance in public sectors due to gaps in strategic planning and inadequate coordination (Hordofa, 2019).

Researchers found a significant lack of good leadership in public organizations in the Amhara region, leading to poor service delivery. Issues include inability to meet service standards, improper working hours, and delayed implementation of planned works. The lack of knowledge, skill, and attitude among leadership also contributes to corrupt practices and non-digitalization of service delivery. The current political turmoil further complicates these issues.

Now the question is what looks like the quality of the leadership? This study aimed to assess the practices of good leadership attributes in government organizations in ANRS.

## Literature Review

### Concept of good leadership

The term "concept of leadership" refers to a variety of beliefs about what it means to be a leader as well as the foundations and principles of leadership. It covers the characteristics and views of a prospective leader as well as elements that influence leadership style. Anyone managing a team to accomplish a common goal benefits from understanding leadership concepts. The leader may be able to identify the traits and abilities they might cultivate and know how to use them to engage their followers or team members. Leadership is the process by which an individual persuades others to achieve a goal and guides the organisation in a way that increases its coherence and cohesiveness. Leaders using their leadership qualities, which include knowledge, abilities, ethics, values, beliefs, and character, carry out this process.

He or she may have the authority to carry out specific tasks and objectives within the organisation because of his or her position as a manager, supervisor, lead, etc., but this authority does not make him or her a leader; rather, it merely makes him or her the boss. Leadership is different from bossing people around because it inspires followers to achieve lofty goals.

According to Bass' (1990) theory of leadership, there are three fundamental methods to describe how individuals develop into leaders. For a select few, the first two provide an explanation of leadership growth. These hypotheses are: People may naturally gravitate towards leadership roles due to certain personality traits. This is the Trait Theory. A crisis or important event may cause a person to rise to the occasion, which brings out extraordinary leadership qualities in an ordinary person. This is the Great Events Theory.

Becoming a leader is a choice. Leadership is a skill that can be learnt. The theory of transformational leadership is this. "Transformational Leadership," the main leadership model identified by Bass's 1990 theory, stresses a leader's capacity to inspire and motivate followers by appealing to their higher needs and forging a shared vision, transcending straightforward transactional exchanges. This guide is based on the most widely accepted theory now (Korejan & Shahbazi, 2016).

### Good Leaders

A good leader is someone who embraces and consistently demonstrates a broad range of leadership attributes as a foundation for how they work to get a job done. They understand that it is not just about meeting a mandate or achieving a stated goal, but that it is equally about the process of working with people and their interests to get there. Importantly, they understand that the process of working with people requires credibility, consistency, and sustainable buy-in. More significantly, a good leader recognises the qualities and traits required to be a good leader, strives to cultivate those qualities in both themselves and those under their supervision, and values the way consistency helps to define the working culture of an organization. So what qualities make someone a good leader in Government?

### Leaders in Government

When we refer to leaders in government, we are not talking simply about elected politicians. Even though most of what we are discussing is relevant to them and leaders outside of government, we are directing this paper to government workers and civil servants. Specifically, this paper is for government leaders at the middle level (directors) who have a lead role in the delivery of government programs, products, and services. Directors are government officials who supervise the work of others and are otherwise responsible for a service or program delivery mandate in government.

## **The BASICS**

Plecas, et al., (2018) have developed a list of attributes that they consider the BASICS of good leadership, and each of those is linked to a letter of acronyms. The six letters—Behaviour, Aspirations, Skills, Information, Communication and Sustainability commitments—are all generated from and supported by the inner core of the good leader. This inner core is the part of a person's character that relates to ethics, integrity and values.

### **The inner core of a Good leader**

Government leaders must not only possess the abilities and dispositions of effective leaders, but also steer their operations with a moral compass and an ethical, principled core. The BASICS of good leadership in government is based on this premise. As we have said, the behaviours, aspirations, skills, and commitments of good leaders flow from this inner core, and it is impossible to become a good leader without it. Good leadership is only possible if it flows from a strong inner core of good character and ethical thinking. The most effective leaders are guided by a strong set of principles, ethics, and a moral framework that enables them to function with integrity, transparency, honesty, compassion and consistency (Mihelič, et al., 2010).

This inner core of ethics and integrity is an essential component of being seen as an authentic leader—one whose inner values visibly align with their behaviour in a way that inspires trust and confidence and commands respect (Monaghan, 2012).

Generally, a leader's inner core consists of elements such as daringness, diligence, beliefs, values, emotional makeup, and behavioral tendencies. A strong inner core is characterized by maturity and strong values, providing a foundation for versatility and high-level execution. A strong inner core predicts a strong outer core, which includes skills and competencies such as critical thinking, strategic thinking, decision-making, talent leadership, and talent management. These elements of character define an individual's character and what kind of person they can be, making them the most important trait in a great leader. A strong inner core predicts a strong outer core, ensuring a leader's ability to navigate complex situations and achieve success. It is the elements of character that defines who you are as an individual and what kind of a person you can be, the most important trait in a great leader. When you think of a leader's or intern's inner core, you're looking at elements that most people don't see. They are aspects of character. To what extent are they daring? To what extent are they diligent? What are their beliefs and values? Their emotional makeup is undeniably important. As well as their behavioural tendencies. These are all the elements that exist within a person and can be very enduring in the sense that they are difficult to change. Inner core represents a couple of critical success factors. The first is maturity. A leader with a strong inner core is mature and has strong values. The maturity factor gives that leader a foundation for versatility. It is those two elements that truly provide the bridge to their high-level execution.

A strong inner core predicts a strong outer core in a leader. When considering the outer core, consider the skills and competencies that a typical leader possesses: critical thinking, strategic thinking, decision making, talent leadership, talent management, and so on—it is the elements of character that defines who you are as an individual and what kind of a person you can be, the most important trait in a great leader. When you think of a leader's or intern's inner core, you're looking at elements that most people don't see. They are aspects of character. To what extent are they daring? To what extent are they diligent? What are their beliefs and values? Their emotional makeup is undeniably important. As well as their behavioural tendencies. These are all the elements that exist within a person and can be very enduring in the sense that they are difficult to change.

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### **The Characteristics of Good Leadership**

Character is the most important trait in a leader, as it defines an individual's identity and character traits. The first step in completing tasks both individually and organizationally is to connect with one's character (Brian K, et al., 2007). Many behaviours are associated with good leadership, and we have clustered them into six areas. From our perspective, good leaders are collaborative, they care about people, they are good listeners and communicators, and they are results-focused, visionary, innovative and courageous (Plecas, et al., 2018). Leaders with character have been identified as authentic leaders. They exhibit consistency between their moral principles, values, and behaviour; they cultivate good psychological states like confidence, optimism, hope, and

resilience in themselves and their associates; and are widely known and respected for their integrity (Brian K.2007).

For leaders who work for the government, this means they care about the people who work for them and the people whose lives will be affected by decisions governments make. The inner core of the good leader will drive the leader's aspirations, ensuring that they achieve positive results in ways that are principled and attuned to the needs of others, not just for their personal goals or agenda. From this, it is clear that effective leadership in government requires both internal attributes and dedication as well as exterior behaviours and abilities.

### **Behaviors of Good Leaders**

The exercise of authority is linked to the individual's actions. The ability of a leader to shape a group's actions by establishing frameworks (like goal setting) that help the group-overcome obstacles and accomplish its objectives is what defines leadership behaviour. Leaders' personality may or may not be reflected in their leadership behaviour (Newton & Maierhofer, 2005). The behaviour of good leadership includes; fostering genuine collaboration; demonstrating a genuine concern for the well-being and success of colleagues and associates; investing in people, ensuring they are supported and developed; demonstrating a commitment to getting results; having the vision; encouraging innovation and leading with courage (Plecas, Squires & Garis, 2018).

The BASICS of leadership in government involve internal qualities, commitments, and external behaviours. A leader is a leader worries about people and work, guided by vision, ethics, and values. They are results-oriented, make sound decisions, and invest in their team. Effective leaders work collaboratively, harness creative energy, and challenge the status quo. That is, both exterior behaviours and abilities as well as internal attributes and commitments are necessary for effective leadership in government.

### **The Aspirations of a Good Leader**

The aspirations of good leaders link closely with their values and express themselves in their goals and their choices. Aspirations are personal goals leaders aim to achieve, influencing daily actions and behaviours. They are not organizational development goals but rather personal aspirations that remain ahead of them, despite their influence on daily actions. Social responsibility and a strong moral compass guide a good leader's aspirations. They are committed to collaboration, motivation, and excellence in all aspects of the organization. They are optimistic, balanced with thoughtful skepticism, and dedicated to their team and work. Their loyalty and integrity are guided by their ethical and moral compass, ensuring they do not conflict (Plecas et al., 2018)

According to Borgers and Kokkelmans (2022), aspirational leadership involves setting ambitious goals and delegating tasks to enhance team members' skills, future growth, and quality of life. It is comprehensive and all encompassing, providing a path for growth and promotion for managers and leaders. That is, aspirational leadership involves living up to government organization principles and culture, understanding what matters to people, empowering them to live by their convictions, taking accountability, and inspiring individuals at their level. It is not about giving commands or upholding hierarchy; it is about modelling behaviour and identifying problems.

### **Skills of a Leadership**

Leaders can enhance their success by developing and cultivating skills, but their application of these skills is influenced by their inner values. The leaders principled and ethical core skills guide their communication, conflict handling, coaching, team building, decision-making, and operational management. Employers and managers seek leadership qualities to achieve organizational objectives and improve work performance. Common leadership abilities include decision-making, communication, integrity, problem-solving, emotional intelligence, mentoring, and trust building. Leaders must possess these abilities and continually improve them, According to the Development Dimensions International (DDI) Global Leadership Forecast 2021 study, leaders who can quickly adapt and learn new skills are most effective ( Hays, 2024).

A good leader's skills include effective communication, providing vision and inspiration, coaching, mentoring, and evaluation. In this paper, these skills, which are important for government leaders, are clustered around three themes: communication skills, interpersonal skills, and the skills needed for strategic management, decision-making, and administration (Plecas, et al., 2018).

### **Information Commitments of a Leader**

According to Plecas, et al (2018), the information commitments of an effective leader run in four significant and interrelated directions: external, operational, interpersonal, and internal. These commitments create a consistent leadership practice that shows up in three key areas: information, communication, and sustainability. Commitments are not just aspirations, but a deep level of dedication and promise within ourselves. Good leaders

have personal commitments to continuous growth, seeking feedback for effectiveness. They also understand the needs and concerns of subordinates, colleagues, and stakeholders, fostering a healthy work culture and collaboration.

An informed leader is the ideal leader, but the meaning and intent of being informed are unclear. Good leadership is not dependent on academic degrees or certifications, but rather on utilizing knowledge to set oneself and others up for success. Holding a leadership position does not guarantee good leadership, as authority comes from structure and position, not from an assigned role. A true, authoritative leader is more than an assigned role (Drake & Watson, 2024). True leaders are different from those with titles because they are able to use knowledge creatively to raise questions. What distinguishes real leaders from those with titles is their capacity to pose pertinent, thought-provoking, perceptive, and illuminating questions. Facts and fact-finding are not necessary for good decision-making and authoritative leadership. Creatively informed leaders can lead individuals and groups to pursue new goals and ventures, while also fostering the creation of their information. Gathering and gathering information reveals trends, patterns, tendencies, opportunities, weaknesses, and strengths.

### **Communication Commitments of a Good Leader**

Communication is a key skill area for effective leaders. The ability to communicate well through a variety of mechanisms is part of the job of every leader of government. Good leaders show their commitment to communication through openness, transparency, and concern for others. This is expressed through active listening, encouraging input, and building processes for easy information flow. They also prioritize gratitude, openness, and accessibility to diverse perspectives. This fosters a positive work environment and encourages highly engaged employees. Commitments to active listening, consultation, and information sharing with government stakeholders are also essential. This approach helps reduce the "fortress mentality" and enhances effective public engagement (Hoch et al., 2018).

Effective leadership communication benefits both leaders and employees by keeping employees informed about individual and organizational goals, and increasing job satisfaction, morale, and confidence. Leaders who lack effective communication skills struggle to motivate their teams, resulting in lower production. Clear goals and teamwork boost productivity, engagement, and overall job performance (Vrdoljak, 2024). Effective leadership communication ensures team members are aware of opportunities and organizational obstacles, enabling them to make better decisions that ultimately improve the bottom line.

### **Sustainability Commitments of a Good Leader**

According to Visser and Courtice (2011), a sustainability leader is someone who motivates and encourages action for a better society. In other words, sustainability leaders are people who feel driven to change the world by being more conscious of who they are in relation to the environment. By doing this, they embrace fresh perspectives, methods of thinking, and ways of interacting that lead to creative, long-lasting solutions. Because governments are not self-serving organizations, leaders in government are in unique positions to provide visionary leadership that is responsible, sustainable, and innovative. Someone who motivates and encourages action for a better society is a sustainable leader.

Holistic organizational sustainability is viewed through two lenses: human and operational. Human sustainability involves a commitment to employee health, and well-being, and fostering a respectful work environment. Operational sustainability involves succession planning, supporting emerging leaders, and providing necessary training. It also involves nurturing positive relationships within the organization, for both internal and external stakeholders (Plecas, et al., 2018). Operational sustainability is a commitment to continuous improvement, quality, and excellence within an organization. It involves ongoing assessment, cross-comparison, and evaluation mechanisms. It also considers the institutional brand and corporate image, focusing on fiscal and environmental responsibility. Good leaders work to strengthen their organization's public perception.

Generally, the BASICS of good leadership emphasize sustainability commitments, focusing on human and operational aspects. They promote healthy workplaces, continuous growth, and professional development for future leaders. They also emphasize stakeholder relationships, social capital, and fiscal and environmental responsibility.

### **Empirical study**

With criticisms of insufficient motivation, communication, and accountability, Tesfaye and Zerihun's (2014) study on leadership effectiveness in Ethiopian public service organisations revealed that although changes have created a demanding society for improved services, leadership effectiveness is still below the necessary level.

In Nekemte town, Oromia regional state, Hordofa (2019) evaluated the excellent leadership techniques in several government agencies. The study's findings supported the notion that the leaders and position holders of various government offices in Nekemte town moderately set an example, spark a common goal, question the status quo, empower others to take action, and uplift the spirit.

Jaleta and Kebede (2023) evaluate leadership traits and how they affect the efficacy of leadership in Ethiopian public institutions. The study's findings showed that, out of the 50 leadership traits examined, only five had the highest mean value of five and were identified as the traits most frequently displayed by the study organization, 6 of them had with a high mean value with perceived strength and 13 of them were with the lowest mean value of 2 and with perceived limitation. The remaining 26 of them have 3 mean values which are considered as either with perceived strength or limitation. Additionally, with regard to the relationship between leadership effectiveness and leadership traits, this study found that leadership traits positively correlate with leadership effectiveness with  $(r=0.156, 0.265, 0.064, 0.174, 0.432, 0.292; P<0.001)$  which implies that leadership characteristics have a direct positive impact on leadership effectiveness.

'Factors affecting leadership effectiveness in public sector organisations' has been studied by Yiberta (2020). The results showed that the main elements influencing leadership effectiveness are professional skill, motivation, knowledge of what leadership is, work experience, and corruption.

Tariku et al. (2021) have conducted research on  $\diamond$ . The results showed that the effectiveness of leadership practices and status in the chosen industries need to be improved.

### The Research Gap

Research in the field is lacking, especially when it comes to the qualities of effective leadership in public service organisations. Thus, by employing the BASICS model to examine the qualities of effective leadership, the research gap is addressed.

### The study's Model

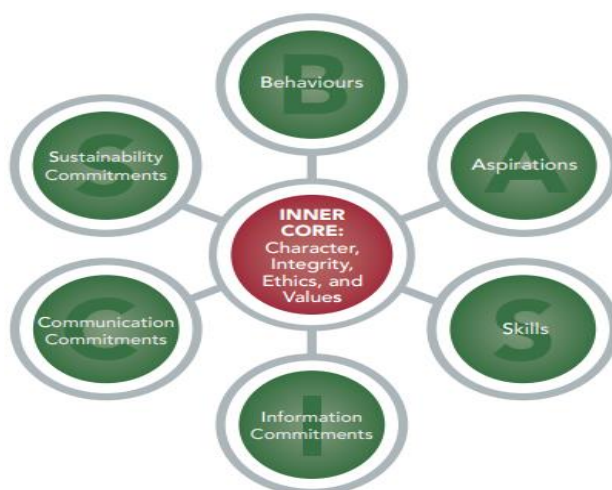


Figure 1: The BASICS Model

Source: Plecas, D., Squires, C., & Garis, L. (2018). *The Essentials of Good Leaders in Government*.

The above figure displays the BASIC model. As can be seen from the figure, inner core of the leader is as the center of all attributes of the good leader in government. This means that, unless otherwise other leaders attributes supported by the inner core, a leader may not be a good leader.

### Research Methodology

#### Research Design

Research design is a strategy for answering research questions by gathering and analyzing data. It is a blueprint for conducting a study (Creswell & Plano Clark, 2011). Quantitative cross-sectional survey methods are research techniques that are used to gather quantitative data. Therefore, study applied a quantitative research method.

### Population and Sampling Technique

According to Saunders (2012), population is a full set of cases from which a sample is taken. It is any complete group under investigation that shares some common set of characteristics. The population for this study was employees who work in government organizations of 52 ANRS Bureaus, commissions, institutes and Agencies. According to Oribhabor and Anyanwu (2019), sample size is the number of items that would be constituted in a research study 10% to 30% of the entire population is considered adequate. Therefore, to select samples of public organizations in the study area 20% is accurate. Due to this from the regional bureau, the researchers use 20% of 52 Bureaus, commissions, institutes and Agencies.

These 52 Bureaus, Agencies and commissions are clustered into three categories: Economic cluster; Social Cluster; and Administrative Cluster. By using the proportional sampling method, 10 bureaus were selected from these clusters. In this cluster, there were 1487 employees and taken as the population of the study. Then simple random sampling method was used to sample them.

### Sample Size Determination

The sample size of the study was determined based on the formula developed by (Yamane, 1967). Then, by applying a proportional and lottery, method (Kothari, 2004) individual participants were picked up from each Bureaus. Therefore, the sample size of this study was 315.

$$n = \frac{N}{1 + N(e)^2} = \frac{1487}{4.7175}$$

### Source of Data

A source of data is the origin of information that is used for analysis, research, or decision-making. The study used firsthand information to assess respondents' perceptions of the attributes of good middle-level leadership practices in government offices in Amhara National Regional State.

### Instruments and measures

This study applied structured questionnaires designed for directors and experts. The structured questionnaires were adapted from BASICS model and the items focus on good leadership attributes which include:- Inner Core, Behaviors, Aspirations, Skills, Information Commitments, Communication Commitments, Sustainability Commitments, and Human Sustainability Commitment. These Variable Measures are independent variables, consisting of eight themes with 47 items, and adapted from 360T and practised by Plecas et al, 2018). The values for each response item were measured based on a four-point Likert scale: 1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree.

### Methods of Data Analysis

The study used both descriptive statistics and inferential analysis. As a result, the structured questionnaire data were organized, coded, and presented in tables for clarity and readability. The data was then entered into SPSS version 25 for analysis. Descriptive statistics were utilized in the study to summarize demographic characteristics and research questions using mean and weighted averages based on the four-point Likert scale (Pimentel, 2019).

Concerning inferential statistics, the one-sample t-test was used to test whether the population differs from a fixed value. Therefore, to see the significant mean difference between experts' perceptions of their directors about the essentials of good leadership one sample t-test was employed.

### Validity and Reliability

The research's reliability was ensured with the Chronbach alpha reliability test and the result depicted in table 1 below.

**Table 1. Cronbach's Alpha reliability result**

Items	Employees		Directors	
	Cronbach's reliability	Alpha	Cronbach's reliability	Alpha
Inner Core Value	.903		.948	
behaviour values	.904		.944	
aspiration values	.906		.945	
Skill Values	.908		.942	
Information Commitment	.908		.945	
communication commitment values	.930		.943	

sustainable commitment communication human	.904	.945
sustainability commitment operation	.967	.949
Total reliability for 8 items	<b>0.928</b>	.952

As shown in Table 1, the obtained result assured that the items prepared for directors and employees Cronbach's alpha reliable test are 0.952 and 0.928 respectively. This result indicated that the collected data were considered excellent (Zeller et al (2005).

## Results and Discussion

### Results

#### Descriptive Analyses

Using the six BASICS models—inner core, behaviour, aspiration, skill, information commitment, communication commitment, sustainability commitment human, and sustainability commitment operational the study examines the components of good leadership in government. The mean and standard deviation were employed as descriptive statistics to compare the respondents' perceptions of the variables. The sample group's average level of agreement or disagreement with the various statements is indicated by the mean.

**Table 4.2. Summary of Descriptive Statistics**

Items related to the Essentials of Good Leader	Descriptive Statistics of Employees			Rank	Descriptive Statistics of Directors			Rank
	N	Mean	Sd.		N	Mean	Sd.	
1. Inner Core Value	297	2.08	.407		106	3.733	.4375	
2. Behavior values	297	2.10	.372	4	106	3.567	.4562	1
3. Aspiration values	297	2.06	.420	7	106	3.425	.4166	5
4. Skill Values	297	2.10	.412	4	106	3.412	.5182	7
5. Information Commitment	297	3.41	.412	1	106	3.417	.5320	6
6. Communication commitment values	297	2.49	.458	2	106	3.562	.4915	2
7. Sustainable commitment human	297	2.11	.412	3	106	3.477	.4965	4
8. Sustainability commitment operation	297	2.10	.412	4	106	3.551	.5315	3
Average	297	2.203			106	3.518		

Source: Own Field computation, 2024

Table 4.12 reveals that communication commitment is the most practiced essential of a good leader (Mean =3.41, SD. =0.412), while aspiration values are the least, contradicting directors' perceptions (Mean=2.06 and SD =420).

Directors perceive behavior values, communication commitment values, and sustainable commitment operation as essentials of good leadership, with the highest values being (Mean =3.562, SD=.4915) and (Mean =3.551, Sd=.5315) respectively. The study found that employees' perceptions of the six BASICS of good leadership practices model in selected bureau directors are low, with a weighted mean average of (2.2.) The average mean result for information communication commitment aligns with the BASICS of good leadership practice model, with an average score (Mean =3.417, SD = 0.412). Furthermore, the least exercised BASICS of the good leadership practice model are Aspiration values because the obtained mean result is low (Mean =2.06, Sd. =0.420).

### Discussion

Employees' perception of BASICS of good leadership practices in selected bureaus shows little focus on Behavior, Aspiration, Skill, commitment, and sustainability, with information communication commitment being the most exercised and aspiration least.

The study by Duressa and Debela (2014) found that Ethiopia's public service organizations are improving services, but their leadership effectiveness is not sufficient for global competitiveness. Critics argue that lack of motivation, communication, and commitment to reform are inadequate. The study also found high variation among managers in organizational performance areas, indicating that essential leadership elements like behavior, aspiration, skill, information, communication, commitment, and sustainability are not effective.

Similar to the above result, Tariku et al (2021) found that leadership effectiveness in selected sectors needs improvement, with essentials like behavior, aspiration, skill, information and communication, commitment, and sustainability not meeting expected standards.

To the contrary Hordofa's (2019) study found that government office leaders moderately model behavior, inspire a shared vision, challenge processes, enable others, and encourage the heart, enhancing the effectiveness of good leadership through behaviors, aspiration, skill, information, communication, commitment, and sustainability.

### Inferential Statistics

The one-sample t-test was used to compare a sample of data with a standard value or population mean, as demonstrated in the data from employees.

**Table 4.3. One-sample t-test results**

One-Sample Test						
Descriptive Statistics	Test Value = 2.5					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1. Inner Core Value	87.987	296	.000	2.080	2.03	2.13
2. Behavior values	97.124	296	.000	2.096	2.05	2.14
3. Aspiration values	84.570	296	.000	2.062	2.01	2.11
4. Skill Values	87.893	296	.000	2.100	2.05	2.15
5. Information Commitment	87.893	296	.000	2.100	2.05	2.15
6. Communication commitment values	93.807	296	.000	2.491	2.44	2.54
7. Sustainable commitment human	88.155	296	.000	2.106	2.06	2.15
8. Sustainability commitment operation	88.065	296	.000	2.104	2.06	2.15

The obtained result from Table 4.3 assures that the mean inner core score of employees about their directors has a statistical mean difference between among the groups and (M = 2.08) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 87.987$ ,  $p = .000$  (one-tailed).

The mean Behaviour score of employees about their directors has the statistical mean difference between among the groups and (M = 2.08) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 97.124$ ,  $p = .000$  (one-tailed).

The mean aspiration score of employees about their directors has a statistical mean difference between among the groups and (M = 2.06) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 84.570$ ,  $p = .000$  (one-tailed).

The mean skill score of employees about their directors has a statistical mean difference between among the groups and (M = 2.10) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 87.893$ ,  $p = .000$  (one-tailed).]

The mean information commitment score of employees about their directors has a statistical mean difference between among the groups and (M = 2.10) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 87.893$ ,  $p = .000$  (one-tailed).

The mean communication commitment score of employees about their directors has a statistical mean difference between among the groups and (M = 2.49) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 93.807$ ,  $p = .000$  (one-tailed).

The mean sustainable commitment human score of employees about their directors has a statistical mean difference between among the groups and (M = 2.10) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 88.155$ ,  $p = .000$  (one-tailed).

The mean sustainable commitment operational score of employees about their directors has a statistical mean difference between among the groups and (M = 2.10) was significantly lower than the standard inner core score (M = 2.5),  $t(296) = 88.065$ ,  $p = .000$  (one-tailed).

To sum up, the one sample t-test result indicated that all essentials of good leadership result showed that there is a significant mean difference among employees' perception about their directors because is  $P < 0.05$ .

## Summary of findings, Conclusion and Recommendation

### Summary of Findings

The study aimed to assess good leadership practices of middle-level leadership in the selected Bureaus of ANRS.

The study found that employees perceive directors as lacking in the inner core of character, integrity, ethics, and values, hindering their potential for good leadership.

Directors' responses show a strong inner core, with an average score of 3.28--4.00, but they lack a well-articulated inner core, which aids in developing effective leadership essentials.

The average mean score of employees' responses on good leader behavior indicates that public organizations lack essential elements of good leaders, such as goal setting and influence, which are crucial for group success and overcoming mutual problems.

The study found that while directors perceived good leadership behavior, they did not develop expected good leadership behavior to run duties and responsibilities in public organizations, contrary to the response of employees.

The average mean score of employees' responses on their directors' good leadership aspirations indicates a lack of good leadership aspirations, affecting public organization performance by not identifying employee needs and enabling them to live by those beliefs.

The study found that directors have good leadership aspirations, with an average mean score of 3.28--4.00. However, employees reported that they do not meet the expected aspirations of good leaders, which are crucial for delivering and embodying the organization's values and ethos.

Employees' average mean score (Mean=2.10, Sd. =0.412) on good leadership skills indicates a lack of inner core establishment in directors, affecting public organization performance. Key leadership skills include decision-making, communication, integrity, problem-solving, emotional intelligence, mentoring, and trust building.

The study found that directors perceived themselves as having good leadership behavior, with an average mean score of 3.28--4.00. However, employees reported that they did not acquire the expected skills of good leaders, such as decision-making, communication, integrity, problem-solving, emotional intelligence, mentoring, and trust building, which are crucial for public organizations.

Employees' responses indicate good leader information commitment, with an average score of 3.417. This commitment enhances public organizations' performance by demonstrating the essential qualities of a good leader, such as raising relevant, provocative, insightful, and path-finding questions.

The study found that directors perceived themselves as good leaders, with an average mean score of 3.28--4.00. They developed the expected information commitment to perform duties and responsibilities in public organizations, which helps them, raise relevant, provocative, insightful, and path-finding questions, distinguishing true leaders from those in leadership positions.

Employees' responses indicate that good leader communication commitment is low, with a mean score of 2.49, indicating little commitment from directors. This results in workers not understanding expectations, resulting in decreased job satisfaction, morale, and confidence.

The study found that while directors perceived good leadership behavior, they did not develop the expected good leader communication commitment to perform duties and responsibilities in public organizations. This contrasts with employees who reported that directors in selected organizations did not acquire clear and effective communication, which offers numerous benefits to employers and employees.

The average mean score (Mean=2.11, Sd. =0.412) of employees' responses on sustainable commitment human indicates that employees perceive their directors as lacking in sustainable development, hindering the performance of public organizations and highlighting the need for better leaders.

The study found that directors perceived themselves as having good leadership sustainable commitment, with an average mean score (Mean = 3.477, Sd. =.4965). This indicates that as directors responded they demonstrated a lot. However, they did not develop the expected commitment to perform duties and responsibilities in public organizations.

The average mean score (Mean=2.59, Sd. =0.843) of employees' responses on good leaders' sustainability commitment operational indicates that they perceive their directors as developing some level of good leadership, which can improve public organization performance by fulfilling essential leadership essentials.

The study found that directors perceived themselves as having good leadership sustainable commitment operational, with an average score (Mean = 3.551, Sd. =.5315). This indicates that the directors developed the expected good leader sustainable commitment operational to perform duties and responsibilities in public organizations, supporting the results from employees.

A good leader's communication commitment is perceived as the most practiced essential by employees (Mean =3.41, SD =0.412), while their aspiration values are less than directors' perceptions (Mean=2.06 and Sd. .420). Directors perceive behavior values, communication commitment values, and sustainable commitment operation as essentials of good leadership, with the highest values being 3.567, 3.562, and 3.551 respectively.

### Conclusion

Based on the findings of the research the following conclusions were drawn.

Employees perceive that their directors exhibit a little inner core establishment and this hinders them from being the fertile land of the essentials of good leadership because they do not have the inner core of leadership including Character, Integrity, Ethics and Values.

Besides this employees perceive their directors demonstrate little with regard to good leadership behaviour, good leadership aspiration, good leadership skills and developed good leader sustainable commitment.

Whereas employees perceive their directors they demonstrate a lot of good leader information commitment, they developed to some extent good leader communication commitment and relatively to some extent developed good leader sustainable commitment operation.

To sum up employees' perceptions the exercises of the six BASICS of good leadership practices model in the selected bureaus directors demonstrate a little; in line with the most exercised BASICS of good leadership practice model is information communication commitment and the least exercised BASICS of good leadership practice model is Aspiration.

Eventually, the one sample t-test result showed that there is a significant mean difference among employees' perceptions about their directors.

### Recommendation

Based on the findings of this study the following recommendations are forwarded:

- Employees perceive directors as lacking inner core establishment, hindering good leadership. To improve, the Government of ANRS and stakeholders should develop capacity development training for regional bureau directors.
- Employees perceive directors as lacking good leadership behaviour, aspiration, skill, and commitment. Regional governments should develop policies and strategies for middle-level regional leaders to improve these essentials.
- Employees perceive their directors as having strong information, communication, and sustainable commitment. Regional government should strengthen these by promoting continuous professional development and experience sharing among directors.
- Robust selection criteria should be developed and implemented to assign directors across different Bureaus.
- The regional government should create a project to improve the capacity of middle-level regional leaders through short-term training in public organizations related to good leadership essentials.
- Further studies should explore the attributes of good leadership practice on a large scale, spanning all levels of leadership and from regional bureaus to woreda levels.

### Limitation of the Study

The study title is only limited to middle-level leaders this may not give sufficient information or image about the practice of good leadership practice at all leadership levels and is suspended only at the regional Bureau.

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## Towards A Secure Digital Governance in India: Assessing Cybersecurity Initiatives and Strategy Therefore

**Prof. (Dr.) Shyam T. Shirsath**

<sup>1</sup>Department of Public Administration,  
Dr. Babasaheb Ambedkar Marathwada  
University, Chhatrapati  
Sambhajinagar, Maharashtra, India

**Mr. Swapnil S. Kumare**

Department of Public Administration, Dr. Babasaheb  
Ambedkar Marathwada University, Chhatrapati  
Sambhajinagar, Maharashtra, India

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### Abstract

Cyber security has become a very critical concern that needs the attention of researchers, academicians, and organizations to confidentially ensure the protection and security of information systems. After all Digital technology has transformed how governments deliver services, improved productivity and increased citizen engagement. Yet this digital transformation comes with a host of new cybersecurity challenges that could jeopardize the integrity, confidentiality and availability of government systems and data. This paper examines the critical need for balancing innovation with robust cybersecurity measures within government frameworks. It explores the dual imperatives of fostering technological advancements and ensuring the security of sensitive information against increasingly sophisticated cyber threats. By analyzing case studies of successful and unsuccessful cybersecurity projects in different governmental environments to reveal best practical futuristic technologies, but still effectively secure cyberspace. The paper also examines the importance of resilient policy, private partnerships and resiliency-related workforce training. The findings from the study aims to provide useful knowledge and evidence-based suggestions for policy making on innovation, as well as public administration in efforts regarding sustainable balance between innovating while maintaining safety in the public and private organization

**Keywords:** Cybersecurity, Government, Innovation, Digital transformation, Public & private sector, Cyber threats, Data security, Technological advancements

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### Introduction

Evidently, the existing environment characterized by a constant launch of new technologies makes the maintenance of proper cybersecurity levels a difficult task for government organizations. Decision makers in government are presented with the challenge of encouraging innovation while protecting the information and assets important to a nation. The focus of this research paper, lies on analyzing the contemporary and complex nature of cybersecurity governance frameworks, including the possible considerations and achievable strategies that the government agencies should focus on to improve their cybersecurity and protect their valuable digital resources adequately (Perumal et al., 2018). Governments have to embrace a radical change in the existing approach to cybersecurity governance that cannot be addressed through conventional IT-centric solutions. This calls for the inclusion of cybersecurity factors within the overall policy-making and implementation process in governmental context. In taking more of an enterprise approach for the government agency, it can improve the alignment of cybersecurity programs to the overall mission and objectives of the agency, as well as improve its responsiveness to the needs of the people it serves. Such an approach allows governments to promote the development of new technologies, advance their cybersecurity preparedness, and safeguard important data and infrastructure assets. Despite awareness by governments on the need to enhance cybersecurity measures, establishing proper governance frameworks remain a complex process.

### Research Objectives

This study aims to:

- Examine the contemporary challenges faced by government agencies in cybersecurity governance.
- Identify adaptive strategies to incorporate cybersecurity within policy-making and operational frameworks.
- Propose a balanced framework that allows government agencies to protect digital resources while fostering technological innovation.
- Assess effective cybersecurity practices in various governmental contexts and recommend improvements.

### **Research Methodology**

This research employs a Mixed Method Research Methodology, analyzing secondary data from case studies, policy documents, and recent literature on cybersecurity governance in government sectors. The study evaluates adaptive governance frameworks emphasizing organizational culture, workforce preparedness, and advanced technological integration.

### **Adaptive Cybersecurity Governance Framework**

The governments need to employ an adaptable approach of cybersecurity governance to ensure counter threats as they emerge while fully incorporating advances in technology. This framework should focus on cybersecurity-oriented workforce, and the process of changing organizational culture. (Perumal et al. , 2018) (Melaku, 2023) Moreover, government agencies remains relevant and prepared with the current and emerging dangers in cybersecurity to ensure that their protective strategy is align with operational requirements. The key components of an adaptive cybersecurity governance framework for government agencies should include such as consistent threat scanning and evaluation, the implementation of constant risk mitigation measures, good cooperation and information sharing among government agencies as well as with the private sector, an extensive education and sensitisation of employees towards cybersecurity, and the application of advanced technologies such as artificial intelligence and machine learning in risk detection and prevention. Therefore, urgent actions that are required to tackle the cybersecurity threats that confront a safety and stability of nation.

### **Balancing Innovation with Security**

The governments have now a challenge of balancing between adopting new technologies and at the same time ensuring their systems have strong security systems. On the one side, there is an opportunity that the advancement of IT technologies will assist in the improvement of governmental performance, quality of delivered service, as well as the ability to meet the new demands of society. Nonetheless, incorporation of these new technologies may also bring in some new threats and risks to the security that are avoidable. (Alenezi, 2022) Governments face the challenge of leveraging new technologies for enhanced performance and service delivery while ensuring robust cybersecurity. While technological advancements offer efficiency and responsiveness, they also introduce potential security threats, necessitating a careful balance between innovation and protective measures to mitigate risks effectively.

In order that all of this becomes a reality, it will be necessary for government agencies to begin to focus more on the role of security requirements in the processes of design, development, and deployment of these new technologies. This can be in form of; The use of secure software development methodologies, continuous security assessment and evaluation, and effective security incident management frameworks. Moreover, the government entities should assess how other cutting-edge technologies like artificial intelligence and machine learning can be applied to improve the cybersecurity perspective that would let the government entities create powerful and effective mechanisms for the perception, analysis, and response to the threats (Melaku, 2023) To ensure secure technology integration, government agencies must prioritize security in design, development, and deployment stages. This includes secure software practices, ongoing security assessments, and incident management. Leveraging AI and machine learning can further enhance cybersecurity, enabling better threat detection, analysis, and response mechanisms.

### **Technological Advancements and Cybersecurity Threats**

The development of the technology has not only created an opportunity for the government to improve its services but also a new threat to cybersecurity. The opponent has utilized these advances in technology to come up with complex attack strategies, which limit the usefulness of passive defence strategies. (Kuvan and Kimani, 2022) To counter these emerging threats, leading governments have moved away from the traditional fixed security systems to more flexible approaches to security. One of them is the use of artificial intelligence and machine learning as part of cybersecurity approaches. These technologies can help government agencies to identify threats and cyber risks in real-time, perform the data analysis and identification of patterns that could be behind them, and modify their security policies in order to put up with new threats and risks. In the same respect, new technologies such as cloud computing and the Internet of Things (IoT) may improve the efficiency and services of the government; however, these innovative technologies also present novel security threats that arise from their use. (Ghaffar, 2020); (Lasisi et al. , 2022) Technological advancements offer governments enhanced service delivery but also introduce sophisticated cybersecurity threats, as attackers exploit these innovations. Traditional, static defenses are insufficient, prompting a shift to adaptive security approaches incorporating AI and machine learning. These tools enable real-time threat detection, data analysis, and proactive policy adjustments. However, emerging technologies like cloud computing and IoT also require vigilant security measures to counter new vulnerabilities effectively.

### Reviews of Cybersecurity Initiatives

Cybersecurity initiatives have become essential as governments shift from passive to proactive defense strategies. Many countries are adopting AI-driven tools, continuous security assessments, and collaborative threat intelligence frameworks to combat complex cyber threats. These initiatives have improved real-time threat detection and response capabilities, strengthening national security. However, adapting to rapid technological changes remains a persistent challenge. Many State governments have implemented innovative cybersecurity initiatives to address the evolving threat landscape.

Policies	Key Initiatives	Impact
National Cyber Security Policy (NCSP) – 2013	<ul style="list-style-type: none"> <li>- Establishment of CERT-In (Indian Computer Emergency Response Team) to monitor and respond to cyber threats.</li> <li>- Promotion of a culture of cybersecurity awareness.</li> <li>- Development of a national-level mechanism for monitoring and defending against cyberattacks.</li> </ul>	Increased cooperation between public and private sectors, introduction of cybercrime investigation training programs, and guidelines for data security management.
Digital India Campaign - Cybersecurity Initiatives	<ul style="list-style-type: none"> <li>- Creation of Cyber Swachhta Kendra (Botnet Cleaning and Malware Analysis Centre) to assist individuals and organizations in detecting and preventing malware.</li> <li>- Promotion of the Cyber Surakshit Bharat Initiative, a public-private partnership to raise awareness about cybersecurity among government officials and organizations.</li> <li>- Establishment of e-Governance Security Infrastructure to protect government databases and digital platforms.</li> </ul>	Improved awareness among government employees and citizens, leading to increased adoption of safe online practices and secure use of digital services.
Maharashtra Cyber Security Project	<ul style="list-style-type: none"> <li>- Establishment of Maharashtra Cyber, the state's dedicated cybersecurity unit.</li> <li>- Cybersecurity training programs for police officers and public sector employees.</li> <li>- A focus on public-private partnerships to enhance cybersecurity practices.</li> </ul>	Increased awareness and preparedness of government departments in Maharashtra, along with the establishment of a dedicated Cybercrime Coordination Centre.
Tamil Nadu has proactively built a Cyber Crime Wing*	<ul style="list-style-type: none"> <li>- Setting up of specialized Cybercrime Cells in police stations.</li> <li>- Launch of cybercrime awareness campaigns and online portals for citizens to report crimes.</li> <li>- Introduction of specialized training programs for law enforcement to handle digital crimes.</li> </ul>	Faster response times in cybercrime investigations and increased public participation in reporting cyber incidents.
Karnataka's Cyber Crime Incident Report (CIR) Platform	<ul style="list-style-type: none"> <li>- The Cyber Crime Incident Report (CIR) platform, enabling citizens to report crimes like identity theft, hacking, and online fraud.</li> <li>- Collaboration with the central</li> </ul>	Significant reduction in investigation time and improvement in the state's cybercrime detection and resolution capabilities.

	government for enhanced cybercrime investigation training.	
CERT-Goa: State-Level Cybersecurity Efforts	<ul style="list-style-type: none"> <li>- Collaboration with national CERT bodies and private organizations to build a comprehensive cybersecurity framework.</li> <li>- Training programs for law enforcement, government officials, and educators to ensure better cyber safety practices.</li> </ul>	Increased response to cybersecurity incidents and improved preventive mechanisms at the state level.
CyberDome (Kerala)	<ul style="list-style-type: none"> <li>- Use of cutting-edge technologies like AI and Big Data analytics for cybercrime prevention.</li> <li>- CyberDome also plays a role in creating awareness through workshops, seminars, and partnerships with educational institutions.</li> </ul>	Improved collaboration between the police, tech industry, and academia, leading to faster identification and mitigation of cyber threats.
Meghalaya Cyber Security Policy	<ul style="list-style-type: none"> <li>- Cybersecurity capacity-building initiatives for state employees.</li> <li>- Implementation of robust security measures for digital platforms and public data.</li> </ul>	Enhanced readiness of state-level digital infrastructure and improved cyber hygiene practices among public officials.
Telangana Cyber security framework policy	<ul style="list-style-type: none"> <li>- Security Operations Centre (SOC): Real-time monitoring and threat detection.</li> <li>- Cyber Warrior Teams: Ethical hackers and experts auditing government systems.</li> <li>- Cyber Security Task Force: Collaboration with industry experts for knowledge sharing.</li> <li>- Partnership with NASSCOM: Skill development and best practices for cybersecurity.</li> <li>- Government Data Security Framework: Enforcing strong data protection measures.</li> <li>- Cybersecurity Training (TASK): Developing skilled professionals in cybersecurity.</li> <li>- Public Awareness Campaigns: Educating citizens on safe digital practices.</li> <li>- Cyber Crime Units: Specialized police units for cybercrime investigations.</li> </ul>	<ul style="list-style-type: none"> <li>- Improved infrastructure security: Reduced cyberattacks on government systems.</li> <li>- Public awareness: Safer online practices among citizens and government staff.</li> <li>- Better cybercrime handling: Faster investigation and resolution of cases.</li> <li>- Stronger public-private collaboration: Enhanced cybersecurity ecosystem.</li> <li>- Skilled workforce: Increased cybersecurity talent through training programs.</li> </ul>

India's cybersecurity initiatives across various states and national programs have greatly strengthened its digital resilience. Through policies like NCSP-2013 and Digital India's Cybersecurity Initiatives, along with state-specific projects, there is now enhanced cooperation, infrastructure security, and citizen awareness on safe digital practices. Specialized units, public-private partnerships, and training programs have cultivated a skilled cybersecurity workforce and improved state readiness to handle and mitigate cyber threats effectively.

## Issues in Contemporary Cyber security Initiatives:

### Fragmented Regulatory Framework

- India has no proper singular legislation that deals with the cybersecurity problem. Many organizations such as CERT-In, NCIIPC and others work under the ambit of different legal frameworks and hence there is a lot of synergy as well as variances in the way they function.
- Inter governmental relations are especially inadequate in terms of the coordination between central and state governments and across sectors.

### Insufficient Data Protection Laws

- Since natural justice does not require there to be a strict data protection law in the country, there are no strict laws protecting personal data and personal data can easily be misused and breached if there is no Personal Data Protection Bill in the country. It generates confusion on the extent of protection afforded to individuals' privacy and restrains implementation on safeguarding information.

### 3. Cybercrime

### Proliferation

- The situation has worsened over the recent past with high-profile cases of ransomware, phishing and identity theft to mention but a few going unaddressed by the authorities. Police forces around the world can be ill-prepared to deal with the more complex cybercrimes.
- Cybercrime is under-reported because people do not know or are too afraid to go to the police thus keeping the countermeasures reactive.

### 4. Skill Shortages

- It is seen that there is a severe scarcity of qualified cybersecurity professionals to work as an expert and executioner to enforce security measures. This shortage is common across both public and private sectors which has impacted response abilities in general.

### 5. Limited Public Awareness

- People of society, small companies, and some employees of government organizations have poor knowledge about the threats that exist in the cyber world. Awareness campaigns are still not sufficiently developed and are implemented in an unequal manner.

### 6. Weak Critical Infrastructure Protection

- It can be stated that important industry segments such as energy, transport, healthcare, and banking have risks of cyber threats. Although there are standard procedures for protecting CIIs, there is normally inadequate means for executing these measures because of shortage of cash and human capital.

### 7. Lag in Technological Upgradation

- The government and most of the public sector institutions still use outdated systems, and therefore are vulnerable to cyber. Later on, many government and public sectors still use old fashioned systems, and as a result are prone to cyber. Updates, patching systems and advanced security solutions which are supposed to be handled on a regular basis are sometimes done very rarely or not at all.

### 8. Ineffective Incident Response

- Cybersecurity IR continues to be reactive instead of proactive, and a significant number of agencies are not adequately equipped to deal with big attacks. These response mechanisms fail to offer adequate velocity, co-ordination and real time tracking response.

### 9. Challenges in Public-Private Collaboration

- Currently, cooperation between the government and private structures in the field of cybersecurity is rather ineffective. Threat information sharing and practices are usually informal with little or no well-defined frameworks even if many nations rely on public-private partnerships.

### 10. Cross-Border Cybersecurity Threats

•The attacks conducted by other states, including states-sponsored threats are quite complicated. The Indian policy framework facing a problem of not addressing cross border cybercrime issues pertaining to international cooperation and jurisdiction issues.

#### 11. Lack of Cybersecurity Budget

•A wide part of allocated budgets for cybersecurity are usually not enough, particularly for state-level projects and for small businesses. Lack of funding means that there is restricted capacity for the development of strong infrastructures, training of professionals as well as the procurement and adoption of advanced security solutions.

India's cybersecurity challenges stem from fragmented regulation, insufficient data protection, and limited incident response capacities. A lack of unified laws and intergovernmental coordination hinders cohesive action, while inadequate data protection and public awareness increase vulnerability. Skill shortages, outdated infrastructure, and reactive responses compromise security efforts. Public-private collaboration remains insufficient, exacerbating challenges in cross-border cybercrime and critical infrastructure protection. Budget constraints further limit state-level and small business capacities to adopt advanced security measures, resulting in a cybersecurity landscape struggling to match the rapid pace of cyber threats and technological advancement.

**Way forward:** To achieve secure digital governance in India, a comprehensive cybersecurity framework is essential. This includes enacting unified legislation to bridge regulatory gaps, establishing a stringent data protection law, and fostering robust coordination between central and state governments. Proactive public-private partnerships and clear threat-sharing frameworks can enhance security capabilities. Investing in cybersecurity training, improving public awareness, and securing critical infrastructure sectors are critical. Budget allocations should be optimized to strengthen state-level projects and equip government systems with advanced, regularly updated technologies. Additionally, India should bolster international cybersecurity collaboration to address cross-border threats effectively.

#### Recommendation and Strategies

Security must be embedded in the creation of new systems through secure software development (SSD), continuous security assessment (CSAM), and incident response planning (IRP). Leveraging AI and machine learning can further enhance real-time threat detection and response capabilities. Additionally, governments should foster interdepartmental and public-private collaboration to counter transnational cybersecurity threats effectively. Based on the analysis of the sources and the key considerations discussed, this research paper recommends the following strategies for government agencies to effectively balance innovation with security. (Gordon et al. , 2015) ; Alshaiikh, 2020) That is, the governments need to build a contextually sound, adaptive and developing cybersecurity governance framework that accommodates existing and emerging threats, new technologies, the requirement to shape the organizational culture and skills of its employees respectively. They should ensure that security is reflected as an inherent component of the creation of novel systems and applications, employing SSD, CSAM and an IRP (Ross et al. , 2016). To balance innovation with security, this research recommends that governments establish a flexible, contextually aware cybersecurity governance framework. This framework should adapt to evolving threats and technology, embed security from inception in systems through Secure Software Development (SSD), Continuous Security Assessment and Monitoring (CSAM), and Incident Response Plans (IRP). Leveraging AI and Machine Learning for real-time threat analysis, governments can improve proactive defense. Inter-agency and public-private collaboration will further strengthen resilience, addressing cross-border threats. Robust, adaptive policies promoting a culture of shared information and continuous improvement are essential for comprehensive cybersecurity.

Governments need to consider how they can leverage the certain new-age technologies which include AI and Machine learning in order to improve their cybersecurity posture in a manner that would allow them to better recognize, counter, and learn from threats in real time. Government should adopt structures where various government departments as well as other private industries work together and share information to fight the transnational threat indicated in this research. These following policies should adopt such as,

#### Adopt a Holistic Security Approach:

Governments should embed cybersecurity considerations in all stages of the technology life cycle during planning and design, to deployment and post implementation operations. That concept is simple: security must be built into all stages of the lifecycle of any technological solution, instead being tacked on at the end like a part to repair a washtub. This can help government be more proactive about addressing key vulnerabilities and

security risks before they even get to deployment, thereby improving the resiliency of their critical enterprise systems. (Release of SP 800-160 Volume 2 Developing Cyber Resilient Systems, 2019)

#### **Implement Robust Policies:**

National governments should implement and enforce guidelines for cybersecurity based on international norms, rules, and good practices (such as the National Institute of Standards and Technology Cybersecurity Framework or ISO/IEC 27001 Information Security Management System). These guidelines should be supported by appropriate policies that clearly assign roles and responsibilities to ensure consistency in implementation of security controls, risk management and Cyber-security incident response. Regular revisions and update of these policies are a crucial element to make them relevant enough in the time facing new ground threats. (Ross, 2018)

#### **Foster Public-Private Partnerships:**

Work with cyber-security experts in the private sector and ICT-industry partners to help them better understand what you may lack. Participate in collective efforts to strengthen the threat detection, incident response and data sharing mechanisms. It creates a public-private partnership by blending the innovative solutions and real time threat intelligence from leading commercial company to strengthen overall cyber defense of government agencies. (CYBERSECURITY STRATEGY, n.d)

#### **Invest in Workforce Training:**

Provide ongoing cybersecurity guidance to Public Service workers, brief them on new threats they should be facing and remind them the relevance of vigilant mindset regarding security. Train people with wide-ranging modules that provide government personnel the information and the ability to identify, prevent as well as safeguard in case of an ever-changing cybersecurity threat landscape. Stress the importance of security for every employee, and cultivate a cybersecurity mindset across all levels within government. (Newhouse et al., 2017)

#### **Promote a Culture of Security:**

Develop a culture of security- by -design for all government employees and stakeholders, stressing the message that cybersecurity is part – but not an obligation– to address. Enable them for the larger goal that, is to engage in actions reducing the risks and always be on high alert of upcoming threats keeping security mindful practices a part of their daily routines. Instill an ongoing sense of shared responsibility for maintaining awareness on everyone's part and further bolstering cybersecurity at large. (Sadik et al., 2020) robust cybersecurity strategy for government agencies requires a proactive and integrated approach, embedding security throughout the technology lifecycle. Governments should implement internationally aligned policies with clear roles, foster strong public-private partnerships, and continuously invest in workforce training. Cultivating a security-conscious culture across all organizational levels is essential to maintain vigilance and shared responsibility for cyber resilience. Together, these strategies create a resilient framework to address emerging cybersecurity threats while supporting innovation and efficiency in public services.

#### **Conclusion**

Governments must diligently pursue a balanced approach to leverage technological advancements while safeguarding cybersecurity. By establishing a comprehensive security agenda and formulating supportive policies, agencies can create a resilient framework capable of addressing evolving threats. Collaborating with private organizations enhances resource sharing and innovation, while continuous workforce training ensures employees are equipped to navigate the complexities of the cyber landscape.

Moreover, promoting a culture of security within government entities fosters a proactive mindset among all personnel, encouraging vigilance and responsibility in maintaining cybersecurity practices. This multifaceted strategy not only enables government agencies to effectively counter dynamic cyber threats but also protects critical systems and sensitive information. Ultimately, these efforts aim to deliver safe, efficient, and trustworthy public services, fostering confidence and resilience among citizens in an increasingly digital world. By prioritizing cybersecurity alongside technological innovation, governments can ensure that advancements benefit society without compromising security.

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## Impact of Online Business on Retail Business and Analytical Studies

**Pranit Prashant Khanderao**

Department of Business Administration and Research,  
Shri Sant. Gajanan Maharaj College of Engineering, Shegaon, Maharashtra, India

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### Abstract

The rapid growth of on-line business has substantially impacted the retail region, specially in the Indian grocery marketplace. With increasing net penetration, cell phone usage, and the upward thrust of e-trade structures like Big Basket, Blinkit, and Amazon sparkling, traditional brick-and-mortar grocery shops face demanding situations in maintaining their market percentage. This examine explores the impact of on-line grocery platforms on traditional retail organizations in India, studying purchaser behaviour, deliver chain disruptions, pricing strategies, and the role of technological improvements.

The studies highlight how factors consisting of comfort, aggressive pricing, and virtual fee options have shifted patron choices toward on-line grocery buying. additionally, the COVID-19 pandemic has improved the adoption of e-trade, leading to adjustments in shopping patterns and logistics operations. however, conventional grocery stores retain to play a crucial role, in particular in rural and semi-city areas, in which virtual penetration is exceptionally low.

This paper further discusses the model strategies of retail businesses, along with hybrid commercial enterprise models, digital transformation, and partnerships with on line shipping structures. The findings suggest that whilst online grocery platforms have disrupted the retail market, a balanced coexistence of both channels is possible thru innovation and strategic model. knowledge these dynamics can help retailers, policymakers, and agencies formulate powerful techniques to sustain increase in the evolving Indian grocery marketplace

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### Introduction

Online business has appreciably impacted retail enterprise via moving purchaser purchasing behaviour. Retail shops face extended opposition from e-trade giants. The evolution within the on-line business has significantly transformed the business version of the retail commercial enterprise. This influences the both purchaser conduct and retails operations. The upward push of e-trade has significantly affected the complete retailing enterprise. Online buying has allowed customers to shop for a plethora of preference in numerous items and offerings due to this, a revolution is taking location inside the retailing enterprise due to the fact the traditional brick-and-mortar shops needed to embody the brand-new change or be for all time left in the back of. Alongside e-trade, there is additionally a popular term referred to as e-commercial enterprise, due to which the enterprise of enterprises has accelerated electronically with the assist of internet by means of which they can attain to many clients, which increases their sales. There may be no specific definition of the terms E- trade and E-commercial enterprise; they're used interchangeably. Clearly, E-trade is part of E-business that makes a speciality of outside activities while E-business specializes in the both internal and outside sports of a business. E-trade brings a lot proper and awful influences on the special areas. Fulfilment to the e-commerce relies upon on reducing the negative factors and advantages on the identical time.

### Literature Review

**Dr. Atul Ramgade 2020** The retail quarter in India is developing at one of the globe's quickest charges. From 2015 to 2020, the retail quarter in India is predicted to increase at a CAGR Compound Annual increase charge of 16.7%. The fifth biggest retail marketplace inside the global is India. Google estimates that there are over 100 million net users in India, with half of them doing their buying on-line, a number that is rising yr after 12 months. There are a widespread number of companies, starting from brick-and-mortar shops to the ones selling consumables that have branched out online. The Indian public has embraced net purchasing in a massive manner. Many retails and FMCG firms are jumping at the e-trade bandwagon as India's on-line buying sector maintains to develop at a fee of 100 percentage every 12 months.

**Shashank Ranjan2024** It lets in clients to have extraordinary ease, huge products, reasonably-priced fees, and the ability of thinking about options even as relaxing of their very own houses hence, the conduct of customers has been transformed completely, and the traditional brick and mortar stores have step by step diminished out of existence.

**Dutta, Pradeep N 2023** as rightly predicted through Amitabh Kant the CEO of Niti Ayog, traditional agencies have long gone digital that allows you to maintain themselves inside the market because of its mere convenience inside the online platform. Brick-and-mortar stores haven't any alternative however to reinvent their techniques and integrate with the net platform by providing omnichannel seamlessly to preserve client purchases and dependable.

**Saha (2015)** throws emphasis over the darkish thing of the increasing fashion of on-line shopping over the numerous fixed save stores. Shops consist of a big segment of populace and more population depends upon those retailers. However, the appearance of e-shops with their appealing incentives and huge varieties has slapped on their face the worry of uncertainty and helplessness. This study examines the distinctive elements of the way retail firms are being affected and additionally the one-of-a-kind restoration mechanisms they are coming up with to counter those e-stores of their survival race. The paper also unravels the impact at the profitability of numerous issues because of the growing fashion for on-line purchasing. The periodicity of the study is not great, but an effective try has been made to enlighten the scenario at the side of concrete pointers.

Look at the impact of online shopping enjoy on hazard perception of specific forms of risks related to on-line buying, as well as how each type of danger belief influences online purchase intentions. Dai et al. (2014) proposed a conceptual version to illustrate the association among on line purchasing experience and perceptions of product, monetary, and privacy dangers related to online shopping, and how both enjoy and hazard perceptions impact on line purchasing intentions. It leads to the conclusion that experience with online shopping is a strong fantastic predictor for the web consumers' purpose to purchase each the non-digital and the virtual product categories tested.

**Shahriari (2015)**. Accept as true with that in current years, a revolution has taken area almost just like the industrial revolution which the world has entered the records age. It makes huge modifications inside the financial, social and cultural components. One component of this transformation is adjustments in economic family members between individuals, agencies, and governments. From paper paintings for industrial exchange among the people to electronic data on which the systems have based totally transactions by means of us, rely. In this text, we are going to speak about the benefits of e-commerce and its implication in the marketplace.

**Kaur (2015)**. Examine that net and world-extensive internet site had been the maximum interesting development in the field of information and verbal exchange generation inside the recent years. Internet and web technology have essentially changed the manner of commercial enterprise interacted, transacted and communicated with clients. Trade via the internet/ e-trade, customers has been experiencing speedy increase for the previous couple of a long time. it is widely known to most of the internet researches that the quantity of on-line business-to-patron (B2C) transactions is increasing yearly at a rapid pace. This has come to be a dynamic digital medium for promoting and buying the products and offerings. Purchasers use the internet for various purposes like searching the product functions, rate, evaluations, selecting the products via on line, setting order and making charge.

## Research Methodology

### Objectives

- 1] To Study the impact of E-Commerce on Customers Buying Behaviour.
- 2] To Study the factor that influence the Purchase Decision of Customers.
- 3] To Study the Post Purchase Behaviour of Customers.
- 4] To Study the Impact of Social Media Marketing and Technology on Customers Purchase Making Decision.

**Sampling Techniques:** Simple Random Techniques

**Sample Size:** 250 Respondents

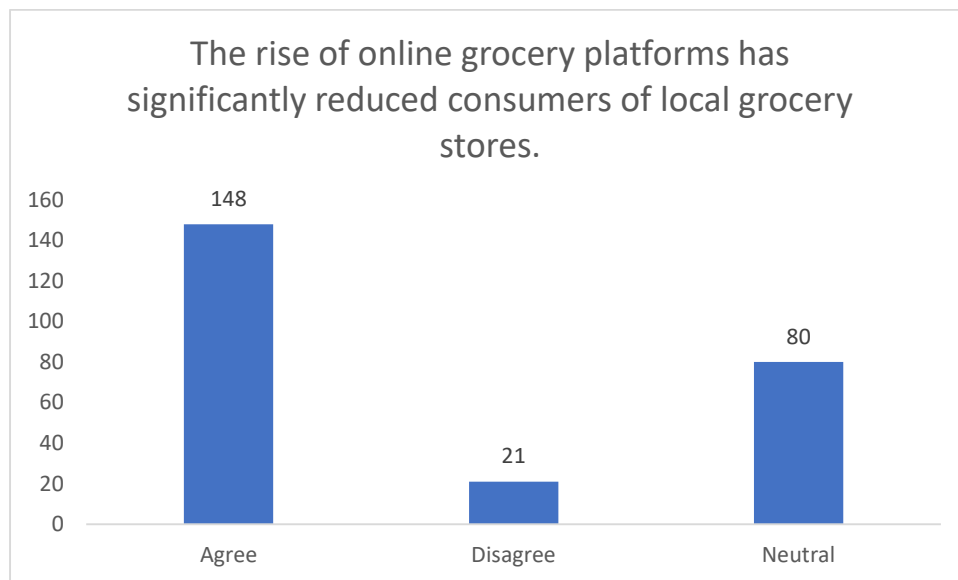
### Data Analysis

**Fig 1: Shows the responses of how often the customers make purchase online.**



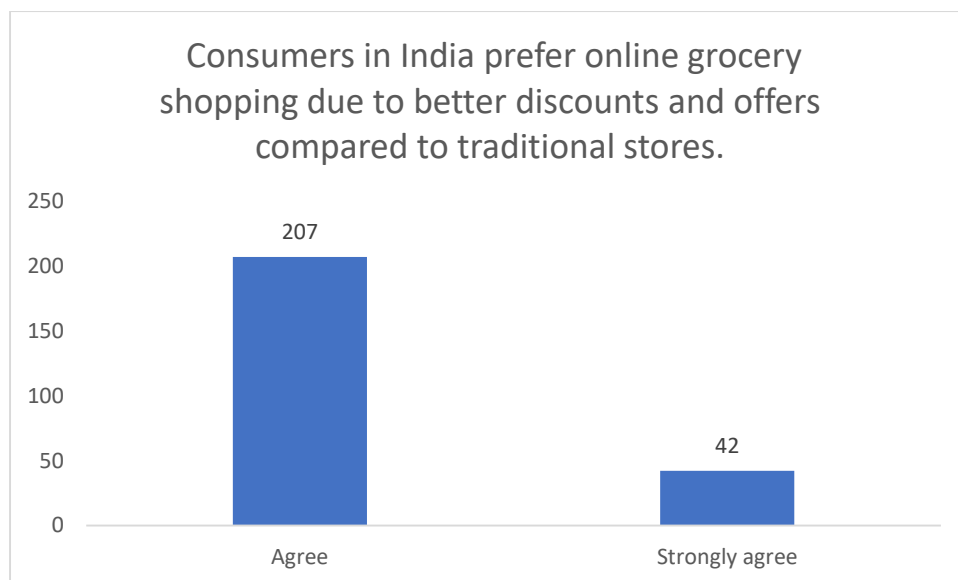
According to the survey it is found that out of 249 responses, 119 of the respondents makes online purchases on the monthly basis, 84 rarely makes online purchases and remaining 46 makes online purchases on the weekly basis.

**Fig 2: Shows the response of Consumers regarding the impact of online grocery platforms of local grocery stores.**



According to the research, it is found that out of 249 respondents, 148 respondents are agreed that the rise of online grocery platforms have reduce the consumers of local grocery stores.21 respondents are disagreed with this statement and 80 have neutral response.

**Fig 3: Shows the factor that influence the Purchase Decision of Customers.**



From the research, it is concluded that online grocery stores that offer better prices and discounts are more accepted by the consumers in the research it is found that 207 respondents are agree that they prefer online shopping because of the discounts and 42 respondents are strongly agreed with the statement.

**Fig 4: Shows the Post Purchase Behaviour of Consumers**



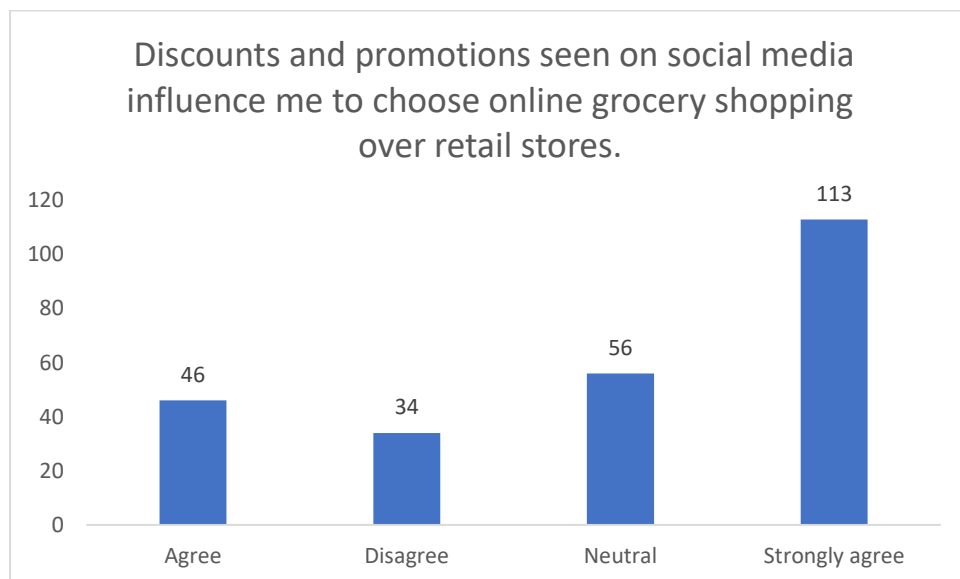
According to the research it is found that the return and refund policies of online shopping is more reliable than the retail store shopping 98 respondents are strongly agree with the statement and 151 respondents also agree with it, thus people choose online store over the retail store.

**Fig 5: Shows the preference of Customers while comparing better prices**



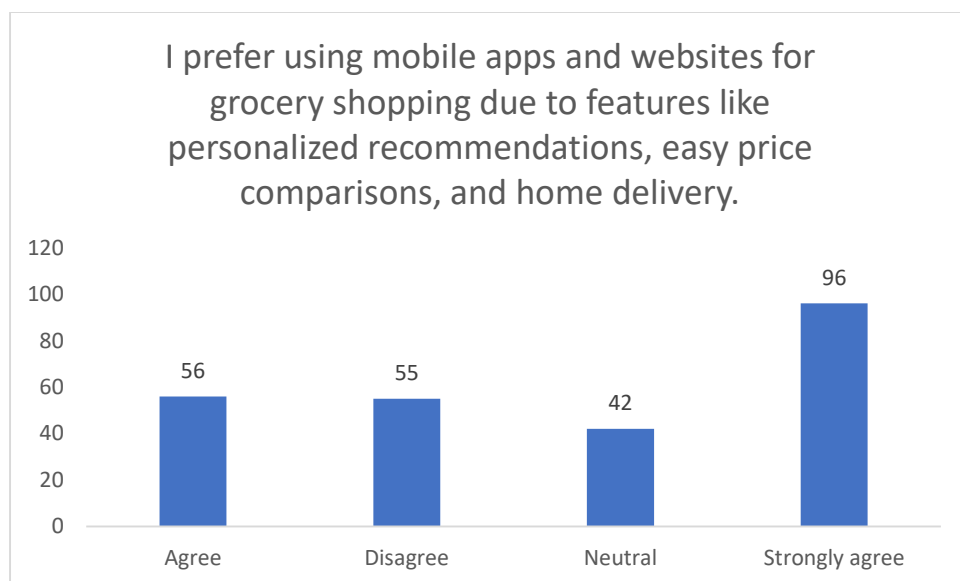
According to the survey it is found that out of 249 respondents, 182 respondents prefer online grocery shopping because the offers better prices and discounts while 67 of the respondents have neutral view regarding the statement.

**Fig 6: Shows the Impact of Social Media Marketing and Technology on Customers Purchase Making Decision.**



According to the it is found that 113 of the respondents are get influence by promotions seen on social media while 34 of the respondents are Disagree with the statement and 56 respondents shows neutral response.

**Fig 7: Shows use of mobile apps and websites promotes online purchases**



According to the research, it is found that 96 of the respondents use mobile apps and websites for the purchase of groceries as they provide features like personalized recommendations and home delivery and 55 respondents did not use in mobile app for purchase of groceries. 42 respondents having neutral response regarding the statement.

### Findings and Results

- The survey effects imply that on-line purchasing frequency varies among consumers. Out of 250 respondents, 119 make online purchases on a month-to-month basis, eighty four not often store online, and 46 make purchases weekly. This indicates that whilst online buying is popular, the frequency of use differs among consumers.
- The research findings highlight the effect of online grocery platforms on nearby grocery stores. A vast majority, 148 respondents, agreed that the rise of on-line grocery systems has reduced the variety of

customers visiting neighbourhood shops, while 21 respondents disagreed, and 80 maintained an impartial stance. This shows a noticeable shift in patron choice in the direction of online grocery buying.

- Pricing and discounts play important role inside the acceptance of online grocery stores. The research reveals that 207 respondents agreed that they decide on on-line shopping due to the supply of discounts, even as 42 respondents strongly agreed. these findings advocate that aggressive pricing and appealing reductions extensively influence client alternatives in online grocery purchasing.
- The have a look at also finds that customers perceive on-line shopping go back and refund guidelines as greater dependable than the ones of traditional retail shops. a few of the respondents, 98 strongly agreed, and 151 agreed with this view. this implies that customer-pleasant go back and refund rules contribute to the developing choice for on-line shops over bodily retail shops.
- Some other key locating is that higher pricing and discounts are the number one motives customers prefer on-line grocery buying. Out of 250 respondents, 182 favoured online grocery buying due to fee savings, at the same time as 67 respondents remained impartial. This reinforces the concept that price competitiveness is a giant thing riding online grocery adoption.
- Social media promotions play a great function in influencing purchaser behaviour. The research suggests that 113 respondents admitted being influenced through social media promotions, whereas 34 disagreed, and 56 had a neutral opinion. This indicates that online advertising techniques, specifically thru social media, efficaciously shape purchaser purchasing selections.

### Conclusion

The study's findings spotlight the developing choice for online buying, specifically for groceries, pushed by way of elements including pricing, reductions, comfort, and return regulations. The survey consequences monitor that whilst online purchasing is broadly adopted, the frequency of purchases varies among clients, with a substantial percentage buying either monthly or weekly.

A key perception from the studies is that online grocery structures are impacting nearby grocery stores. Most respondents agree with that the rise of online grocery structures has brought about a decline in foot visitors at traditional stores. This suggests a shift in consumer behaviour towards virtual purchasing, that can have lengthy-time period results on local retail corporations.

Pricing and reductions play a sizeable role in influencing consumer preferences. Maximum respondents agreed that they select on-line grocery shopping because of better deals and value financial savings. This indicates that competitive pricing techniques via online shops are powerful in attracting and retaining customers. Additionally, the provision of discounts complements patron loyalty and encourages frequent on-line purchasing. Any other important thing contributing to the preference for on-line purchasing is the reliability of go back and refund guidelines. Most respondents perceive on-line return and refund regulations as extra purchaser-friendly than those of retail shops. This belief complements believe and confidence in online shopping, making it a favoured preference over conventional retail stores. Moreover, the research highlights the robust influence of social media promotions on client behaviour. A sizeable wide variety of respondents admitted being encouraged by means of advertisements and promotions on social media systems. This underscores the significance of virtual advertising in shaping buying choices and attracting new customers to online buying systems.

In end, the examine confirms that online grocery buying is gaining popularity because of aggressive pricing, appealing discounts, dependable go back policies, and effective virtual advertising and marketing. The shift from traditional stores to online structures is obvious, with many clients deciding on e-commerce over physical retail. Companies aiming to amplify their on-line presence need to attention on affordability, patron-pleasant regulations, and robust social media engagement to meet evolving purchaser demands.

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“you cannot look ahead to customers to come back to you. (**Paul Graham**). you need to figure out in which they are, cross there and convey them lower back on your save.”

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**The Digital Divide, Gender And Education – Challenges For E-Governance among the Tribes of Odisha**

**Mr. Niranjana Sahu**

Faculty in Political Science, Govt. Degree College,  
Tentulikhunti, Odisha, India

**Dr. Gugulothu Srinu**

Asst Professor, Dept.of PA&PS, Central University of  
Kerala Periyar, Kasaragod, India

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**Abstract**

When we analyze the e-governance in the daily process of human life, it is so important to form a people's governance. In the current scenario, Technology Advancement plays a major role in every field of human life. From womb to tomb the human being is not only limited to being a social, political, economic, or cultural animal it also takes the role of a mechanical or technological animal. Technological advancement symbolizes the growth and development of human society towards a touchless society. If we make a close relationship from the past to the present where the men took the role of jungle men by staying in the jungle and depending on nature to now's present world i.e. a touchless world where there is the presence of Artificial Intelligence or Robotic Technology. Due to the presence of information and communication technology in the governance process the last time that was gone when people had to visit the office physically and wait for the service, now people can access all the needy services of the government from anywhere at any time without any delay and red-tapism. Society is run with technological advancement and trying to together all but the technological advancement creates a gap between haves and have not. The digital divide is defined as the gap between individual to individual, place to place, and community to community at different socio-economic levels concerning both access to information and use of information and technologies and their use. There are demands for gender equality and equality of both men and women in every sphere of day-to-day life. With the rise of technology, the role of both men and women become crucial in every field. However, we need to know how the digital divide separates the marginalized class from the mainstream of society and it also gives scope for the gap between men and women, educated and uneducated in access to technology and the internet. The research paper discovers how gender and education are behind the presence of a digital divide among the tribal youth of Odisha that restricted them to e-governance.

**Keywords:** Digital Divide, Gender inequality, Educational Inequality, e-Governance

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**Introduction**

The integration of information and communication technology with the governance process has significantly increased the service availability and offering of e-services to the people (Latupeirissa, et al., 2024). This transformation i.e. governance to e-governance with the advancement of information and communication technology, made the development and implementation of online services more effective and more cost effective. The proliferation of the internet, mobile phones, and digital gadgets enlarges the scope of e-governance that covers more and more individuals in the process of service delivery. E-Governance has emerged as a significant approach with the utilization of information and communication technology and available digital tools and platforms to deliver government services to the people with the end of improving transparency, efficiency, and accessibility (Geleta & Mishra, 2019). E-Governance or electronic Governance emphasizes on the use of information and communication in the process of day-to-day function of the government. The Government always tries to facilitate a well based proper service to the whole community of human being.

Digital Divide or Digital Gap is simply mean to a gap between the Haves and the Have Not. It is a gap between the individuals, business and geographical location at different socioeconomic levels with regards to their opportunities to access information and communication technology and their use of internet for variety of activities (OCED, 2001). The Adivasi, or the socially deprived people are the earlier residents of the earth. The indigenous individual who lives in the marginalized areas have a unique culture, tradition, language, social system, and custom. They always maintain their distinct feature that always mainstreams society. Due to geographical barriers, they are not much more conscious of the ongoing process, policies, and programs of the government. Because of the absence of proper communication facilities, they are disconnected from the day-to-day social, economic, political, and cultural processes of mainstream society. The government always try to connect the marginalized class with the process of governance. However, absence of proper communication, and network connectivity the government did not achieve its desired cent percentage. Most of the tribal regions are not connected with the government process and those regions remain, the people have to walk more than 5 KM to get access to the services that the government avails in the way of e-governance. However, for the tribal areas where the network connectivity and affordability are very low, it sets a barrier in the process of accessing and delivering services to the needy. The absence of proper network connectivity and affordability in socially

deprived areas is known as the digital divide where there is a discrepancy between the haves and the have-nots of the digital infrastructure and digital setup to access the services of the governance. Some of the media reports also highlighted that only 6 percent of households have internet connection facilities in rural Odisha. (Correspondence, 2020). Beyond the lack of proper network connectivity, the tribes are unable to afford the digital gadget and its use.

Besides the affordability and the issues of network connectivity issues, there is a presence of a digital divide due to different social and cultural aspects that vary across different geographical regions (Christopher G. Reddick, 2020). More particularly there is a gender digital divide that creates a gap between the male and female tribal individuals in access to digital gadgets and the internet as well as e-governance services. Chowdhury and Binder state that a gender gap in meaningful digital use accompanies the gender gap in digital access (Tyers-Chowdhury, 2022). They said that India accounts for half of the gender digital divide. Merely one-third of the internet users are women. Indian women are more likely less than 15 percent have own their mobile phone (Associate, 2021). More about that the tribal women are much less interested regarding education and access of information and communication technology. Due to traditional and cultural privileges, women's education and skills always become less important in tribal families. The family is mainly patriarchal, with less scope for education and the role of women is limited within the four wall of the home to serve the family. The government launched initiatives like Beti Bachao Beti Padhao, Sudakhya, Mission Shakti, PMGDISH, Digital India etc. for literacy, digital literacy, empowerment among women and inclusion of women in the day-to-day governance process. However, due to geographical location, absence of proper communication facilities, interest in women's education, and economic barriers it creates a gender divide. Women in tribal areas are more segregated from access to technology. They are in a disadvantageous position regarding using of ICT. In an unstarred question of Parliament, the Minister of Electronic and Information Technology replied to the question of Dr. Amar Patnaik regarding the steps taken by the ministry to address digital divide in the tribal areas, the measures taken by the government to make online education viable and feasible for tribal children in Odisha and schemes that launched by the government to address aforementioned issues. The respective Minister of concern Ministry replied that during the period 2014-2016, the Govt. of India had implemented the National Digital Literacy Mission (NDLM) and the Digital Saksharta Abhiyan (DISHA)

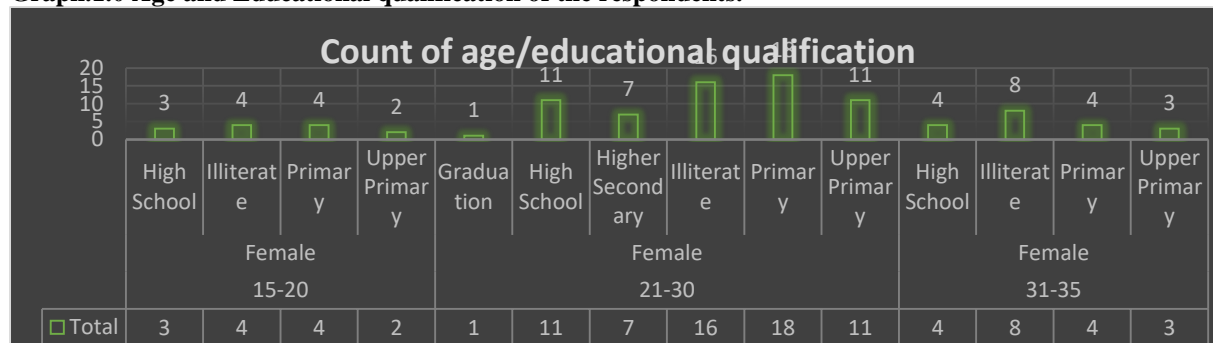
#### **Literature Review and theoretical framework**

The poor digital infrastructure, affordability issues, and cultural biases significantly hindered online education, especially for tribal girls (Nayak, 2022). The findings emphasize the need for rethinking the digital learning ecosystem and provide policy recommendations to address these educational inequalities. (Nayak, 2022). Bridging the digital divide is crucial for effective digital transformation, especially in education and business continuity during the Covid-19 crisis (Aissaoui, 2021). Equitable access to digital technologies is crucial for successful digitization, and policy interventions must address this issue to ensure that all segments of society can benefit from digital advancements (Harb, 2022). At the family and individual level, socio-economic and demographic disparities have led to a digital divide, resulting in unequal access to high-quality digital infrastructure, with some members being left behind due to affordability constraints. (Kanagawa & Toshihiko, 2008). Access to technology is only one aspect of the digital divide. Meaningful use of technology requires social inclusion, which may be achieved through literacy, education, and institutional support. The digital divide is portrayed as a multifaceted problem with social, cultural, and economic facets rather than being just a question of gadget ownership or internet connectivity (Warschauer, 2004). The gender-based digital gap, emphasizing the necessity to interpret statistics and inconsistencies in the data that is already accessible. The adoption of ICT by women in underdeveloped nations is impacted by systemic disparities pertaining to gender roles and socioeconomic position. To eliminate the gender-based digital divide, gender-aware digital policies are required (Hilbert, 2011).

#### **Research Questions:**

- How does digital literacy influence the ability of tribal women to access e-governance services in Odisha?
- What role do gender and educational disparities play in shaping digital exclusion among tribal communities?
- How do infrastructural and socio-cultural barriers affect the adoption of digital technologies among tribal women?
- What targeted strategies can bridge the digital divide and promote inclusive digital governance for marginalized tribal populations?

**Graph.1.0 Age and Educational qualification of the respondents.**



**Objectives:**

To examine how education and gender impact tribal women's access to digital technologies.  
To analyze barriers to e-governance participation among tribal women.

**Research Design and Methodology**

**Research Design**

The present study adopts a descriptive research design with a quantitative methodology to explore the digital divide, gender, and education among tribal women in the Nabarangpur district of Odisha.

**Study Area**

The study was conducted in the Tentulikhunti and Nabarangpur Blocks of Nabarangpur District, Odisha. As per the 2011 Census, tribal communities constitute approximately 56 percent of the district's total population, with a tribal population of 681,173 (INDIA, 2011).

**Literacy Profile**

According to the 2011 Census, Nabarangpur district recorded an overall literacy rate of 77.87 percent, with male literacy at 84.93 percent and female literacy at 70.75 percent (INDIA, 2011). In urban areas, the literate population comprises 59,844 individuals, including 32,763 males and 27,081 females (INDIA, 2011).

**Data Collection**

**Primary Data**

Primary data was collected directly from respondents through individual interviews. A structured questionnaire was designed with close-ended questions, incorporating binary, Likert scale, and multiple-choice formats. The sample consisted of 96 tribal women between the ages of 18 and 35 years.

To ensure clarity and respondent understanding, the questionnaires were initially prepared in the Odia language and subsequently translated into Desia language. Before beginning each interview, the researcher provided a clear explanation of the study's purpose, objectives, and significance. Data collection started by recording the educational qualifications of the respondents and concluded by exploring geographical barriers in relation to the digital divide. After completion of the fieldwork, responses were translated into English using Microsoft Excel for further analysis.

**Secondary Data**

Secondary data was gathered from various government reports and the official websites of both the Central Government of India and the State Government of Odisha to complement and support the primary findings.

**Tribes in Odisha**

Among India's states and union territories, Odisha occupies a unique place in terms of tribes. Odisha is the homeland for the majority of Scheduled Tribes. As per the latest data of Census 2011, Odisha has the third highest percentage of tribal population in India after Madhya Pradesh and Maharashtra. Odisha. The census data showed that the state the tribes constitute 22.85 percent of the total population of the state and contribute 9.17 percent to the total tribal population of the country. About 64 different tribal communities speak as many as 21 languages and 74 dialects (SCSTRTI, 2018). Their ethnographic culture, dialects, traditions, and diverse socio-economic features create a unique place for the tribes. Among the hundreds of tribal communities, some communities are more isolated, archaic, vulnerable, deprived, and backward compared to other tribal communities. They are known as the Particularly Vulnerable Tribal Group (PVTG).

The Government of India has identified fourteen numbers of PVTGs in Odisha through the Tribal Sub Plan under the 5<sup>th</sup> Five-Year Plan i.e. Birhor, Bondo, Chuktia Bhunjia, Didayi, Juang, Hill-Kharia, Dongria Kondh, Kutia Kondh, Lanjia Saora, Lodha, Mankirdia, Paudi Bhuyan, Saora (ODISHA, The PVTGs of Odisha, 2025). The Bhottoada, Gond, Paroja, Kandha, Omanatya, and Holva are the major tribes in Nabarangpur District (ODISHA, Nawrangpur, 2025). As per the government record, for the development of the tribes and tribal dominated districts, the government established nine numbers of Special Development Councils in nine tribal dominated districts, i.e. Mayurbhanj, Kendujhar, Sundergarh, Kandhamal, Gajapati, Koraput, Rayagada, Nowrangapur, and Malkangiri (SCSTRTI, 2018). The SDC covers 117 blocks, 2022 GPs, 18687 villages, and 14.05 lakh ST households of the above nine districts (SCSTRTI, 2018).



Image. 1.0: Districts with Special Development Council

**Empirical Findings from the Study**

There may be a digital gap on the basis of gender, education. Education and Gender are important determinants regarding the digital divide. As per the study, it analyzes the present of digital divide based on education and gender among the tribes by taking factors like availability of mobile phone, ability to operate mobile android phone, computer skills, digital gap among male and female, knowledge on ICT, accessibility of

different government services through e-governance, financial transaction through UPI, accessibility of services through Common Service Center (CSC), e-Literacy etc. The study more specifically examined the educational qualification and gender with other factors to determine the existence of digital divide among the tribal women.

**Table 1.0 Count of Educational Qualifications**

Educational Qualification	Count
Graduation	1
High School	18
Higher Secondary	7
Illiterate	28
Primary	26
Upper Primary	16

The above table shows the numeric data regarding the educational qualification of tribal women. As per the data, 44 percent of tribal women have completed their formal education up to upper primary level, 26 percent have completed their education up to higher secondary, and only 1 percent have completed their graduation. Furthermore the 29 percent of tribal women are illiterate; they can't write or read.

**Table1.2 Count of Respondents who have their mobile phone based on education**

Educational Qualification	Own Mobile (Yes)	Do Not Own Mobile (No)	Total
Illiterate	17	11	28
Primary	16	10	26
Upper Primary	10	6	16
High School	15	3	18
Higher Secondary	7	0	7
Graduation	1	0	1

Illiterate individuals (11) and those with primary education (10) represent the largest groups without mobile phones, while fewer respondents from high school (3) and upper primary (6) lack mobile access. On the other hand, mobile ownership is highest among illiterate individuals (17) and those with a high school education (15). The graduation category (1) appears to be underrepresented, likely due to a small sample size. Significant ownership is also observed among higher secondary (7) and primary (10) respondents. When comparing illiteracy and mobile ownership, more illiterate individuals own mobile phones (17) than those who do not (11), indicating growing mobile penetration regardless of educational background. Mobile access appears relatively balanced across different education levels, except for graduates, who are the least represented. The primary and upper primary groups exhibit a mixed pattern, with notable proportions both owning and not owning mobile phones.

Table 1.3 Mobile phone ownership types by educational qualification

Educational Qualification	Android (Smartphone)	Keypad
Graduation	1	0
High School	9	6
Higher Secondary	7	0
Illiterate	7	10
Primary	9	7
Upper Primary	8	2

**Smartphone (Android) Users:** The majority of Android smartphone users have higher education levels, including Graduation (1), High School (9), and Higher Secondary (7). Interestingly, even illiterate individuals (ownership count not visible in full) and those with primary (not fully visible) or upper primary education own smartphones.

**Keypad Phone Users:** Keypad phone ownership is more common among individuals with lower educational qualifications. High school, illiterate, primary, and upper primary respondents own keypad phones, suggesting that those with lower education levels prefer simpler phones. People with higher education levels (Graduation, Higher Secondary, High School) tend to own Android smartphones, while those with lower education levels (Illiterate, Primary, Upper Primary) are more likely to own keypad phones. Some illiterate individuals own smartphones, indicating increasing digital accessibility even among those with limited formal education. Keypad phones remain in use among individuals with lower education, possibly due to affordability and ease of use.

Table 1.4 Respondents have Smartphone Operating Knowledge

Educational Qualification	Don't Know (%)	Know (%)	Total Respondents
High School	38.90%	61.10%	18
Illiterate	89.30%	10.70%	28
Primary	53.80%	46.20%	26
Upper Primary	56.20%	43.80%	16
Graduation	0.00%	100.00%	1
Higher Secondary	0.00%	100.00%	7

Illiterate individuals struggle the most, with 89.3 percent unable to operate a smartphone. Graduates and Higher Secondary individuals have 100 percent smartphone literacy. Primary & Upper Primary levels show a mixed trend, with about 50 percent smartphone literacy. High school respondents have 61.1 percent proficiency, showing significant digital awareness.

Table 1.5 Respondents have computer knowledge based on Education

Educational Qualification	No Training (%)	Yes Training (%)	Total Respondents
Graduation	100.00%	0.00%	1
High School	94.40%	5.60%	18
Higher Secondary	100.00%	0.00%	7
Illiterate	100.00%	0.00%	28
Primary	100.00%	0.00%	26
Upper Primary	93.80%	6.20%	16

The survey of 96 respondents revealed a severe digital divide, with only 2.1 percent having received computer training. The breakdown by education level shows a lack of training across all levels, including graduates (100 percent) and higher secondary students (100 percent). Illiterate and primary groups have zero training, while high school and upper primary groups show some hope with at least one person receiving training. To address this issue, recommendations include introducing digital literacy programs, government or NGO intervention, incorporating basic computer education in schools, and focusing on women and marginalized groups. These initiatives can help

bridge the digital gap and ensure equal access to digital literacy for all. The findings highlight the need for urgent action to address the digital divide and promote digital inclusion.

Table 1.6 Gender and Digital Gap Data

Response	Count	Percentage (%)
Yes	56	58.33%
No	40	41.67%

The data analysis indicates that 58.3 percent of respondents agree that gender is a factor contributing to the digital gap between males and females, whereas 41.7 percent disagree. This suggests that a majority perceive gender-based barriers in accessing and utilizing digital resources. The digital gap can be influenced by socio-cultural norms, economic constraints, and educational disparities that limit women’s access to technology. However, a significant portion (41.7 percent) does not consider gender a decisive factor, which may imply that other variables, such as economic background or geographical location, are also crucial. This mixed perception highlights the need for further investigation into the root causes of digital inequality and the implementation of inclusive policies to bridge the gap. Addressing these disparities through education, digital literacy programs, and policy reforms can help ensure equal opportunities for both genders in the digital space.

Table 1.7 Women and Digital Access

Response	Count	Percentage
Yes	69	71.88%
No	27	28.13%

The data shows that 71.9 percent of respondents agree that women must have digital access, whereas 28.1 percent do not support this view. The majority acknowledges the importance of digital inclusion for women, which is crucial for education, employment, and overall empowerment. However, the 28.1 percent who disagree indicate persisting societal or cultural barriers that restrict women's access to digital tools. Addressing these challenges through awareness programs, policy interventions, and affordable digital infrastructure can bridge the gender digital divide. Ensuring equal digital access will enhance women's participation in the modern economy and promote overall societal progress.

Table 1.8 Women and ICT Knowledge based on Education

Educational Qualification	ICT Knowledge - No (%)	ICT Knowledge - Yes (%)

High School	16.67	2.08
Higher Secondary	3.13	4.17
Illiterate	29.17	0
Primary	25	2.08
Upper Primary	13.54	3.13
Graduation	0	1.04

The data shows that 87.5 percent of respondents lack ICT knowledge, while only 12.5 percent possess it. Among those without ICT knowledge, the largest group is illiterate (29.17 percent), followed by primary (25 percent) and high school (16.67 percent) educated individuals. This suggests that lower education levels correlate with a lack of ICT knowledge. Conversely, those with ICT knowledge are predominantly from higher secondary (4.17 percent), upper primary (3.13 percent), and high school (2.08 percent) backgrounds. A very small fraction (1.04 percent) of ICT-literate individuals hold a graduation degree. The results highlight a strong connection between education and ICT proficiency. Efforts should focus on integrating ICT training at all educational levels, especially among less educated groups, to bridge the digital divide.

Table 1.9 Women and Access to Government services through ICT

Educational Qualification	Aware (Yes)	Aware (No)	Total	% Aware
Illiterate	0	28	28	0.00 %
Primary	6	20	26	23.10 %
Upper Primary	5	11	16	31.30 %
High School	10	8	18	55.60 %
Higher Secondary	7	0	7	100.00 %
Graduation	1	0	1	100.00 %

The data reveals a strong correlation between educational qualification and awareness of accessing government websites. Among illiterate individuals, none are aware of how to access these sites. Awareness gradually increases with education: only 23.1 percent of those with primary education are aware, rising to 31.3 percent for upper primary and 55.6 percent for high school graduates. Notably, full awareness is observed among individuals with higher secondary education and above, reflecting 100 percent awareness in both categories. Overall, only 30.2 percent of the total respondents are aware, indicating a significant digital awareness gap, especially among those with lower educational backgrounds. Targeted digital literacy programs could bridge this divide.

Table 1.10 Women and knowledge of online payment through UPI based on Education

Educational Qualification	Unable to Use UPI (%)	Able to Use UPI (%)
Graduation	1.08	0
High School	13.98	5.38

Higher Secondary	2.15	5.38
Illiterate	30.11	0
Primary	22.58	5.38
Upper Primary	13.98	0

According to the research, just 16.13 percent of respondents can use a UPI payment app to transfer money, whilst 83.87 percent cannot. The biggest percentage of people who are illiterate (30.11 percent) are followed by those with only a primary education (22.58 percent) and those who have completed high school (13.98 percent). This implies that a lack of digital financial literacy is correlated with poorer educational attainment. In contrast, the majority of those who are able to send money via UPI are primary-, higher-, and high school-educated (5.38 percent, 5.38 percent, and 5.38 percent, respectively). The findings highlight how crucial it is to advance digital financial literacy, particularly among undereducated populations. The results show a glaring digital gap, which calls for targeted financial technology training to boost the use of digital payments at all educational levels.

Table 1.11 Women and Awareness on CSC

Educational Qualification	CSC Awareness	-	CSC Awareness
	No (%)		Yes (%)
High School	14.58		4.17
Higher Secondary	2.08		5.21
Illiterate	28.12		1.04
Primary	25		2.08
Upper Primary	13.54		3.12
Graduation	0		1.04

According to the research, just 16.67 percent of respondents are aware of Common Service Centers (CSCs), while 83.33 percent are not. Illiterate people are the most likely to be uninformed of CSCs (28.12 percent), followed by those with elementary education (25 percent), and high school education (14.58 percent). This suggests that those with less education have a sizable lack of digital awareness. On the other hand, those with higher secondary (5.21 percent), high school (4.17 percent), and upper primary (3.12 percent) education levels are more aware of CSCs. Just 1.04 percent of graduates and illiterate people are also aware of CSCs. This research emphasizes how important it is to raise knowledge of CSC, especially among the less educated people. Wider access to digital services may be ensured by bridging the knowledge gap through focused outreach campaigns and digital literacy efforts.

Table 1.12 Gender-Based Digital Access

Response	Count	Percentage (%)
Yes	65	67.71%
No	31	32.29%

According to the statistics, just 32.29 percent of respondents disagree with the statement that males in the household have greater access to digital technology than females, while 67.71 percent of respondents agree. This notable disparity draws attention to the perceived gender gap in the digital sphere, where men are thought to have greater access to and influence over digital tools and technology. Social standards, women's limited digital exposure, or a lack of investment in women's digital literacy might all contribute to this impression. The findings indicate that in order to lessen this digital disparity, gender-inclusive digital empowerment initiatives are required, guaranteeing equitable access and training opportunities for female household members.

Table 1.13 Barriers to Women's Digital Access – Social & Economic Factors

Response	Count	Percentage (%)
Yes	64	66.67%
No	32	33.33%

According to the findings, 33.33 percent of respondents dispute that societal customs and financial constraints prevent women from using the internet, whereas 66.67 percent of respondents hold this view. This implies that financial constraints, patriarchal ideals, and cultural standards are generally seen as major obstacles preventing women from utilizing digital technology. These limitations may restrict women's access to economic and educational possibilities, hence perpetuating gender and digital inequality. Designing inclusive policies that encourage women's engagement in the digital sphere requires an understanding of these systemic constraints. Financial support systems, gender-sensitive computer literacy initiatives, and community awareness should all be the focus of interventions.

Table 1.14 Urban vs. Rural Women's Digital Access

Response	Count	Percentage (%)
Yes	58	60.42%
No	38	39.58%

According to the research, 60.42 percent of respondents think metropolitan women have greater access to internet resources than their rural counterparts, while 39.58 percent disagree. This suggests that there is a widespread belief that women's access to digital resources is divided between urban and rural locations. Higher levels of digital access may result from the improved infrastructure, education, and exposure to digital services that urban settings frequently provide. However, rural women may encounter obstacles such as insufficient digital literacy, poor connectivity, and sociocultural constraints that hinder their ability to interact with digital platforms. Targeted interventions in remote regions are necessary to close this gap, including initiatives for women's digital literacy, upgrades to digital infrastructure, and community support for women's engagement in the digital sphere.

Table 1.15 Impact of Geographical Location on Digital Gap Among Women

Response	Count	Percentage (%)
Yes	66	68.75%
No	30	31.25%

The data shows that 31.25 percent of respondents disagree with the statement that geographic location has a significant role in the digital divide between women, while 68.75 percent of respondents agree. This demonstrates unequivocally the widespread belief that a woman's access to digital resources is greatly influenced by her residential location, whether it be urban or rural. The accessibility of training, the cost of digital tools, and the availability of digital infrastructure are frequently impacted by geographic differences. The digital gap is exacerbated for women in rural or isolated areas, who may face societal constraints, less educational possibilities, and poor internet connectivity. Localized initiatives are needed to close this gap, such as enhancing internet access in rural areas, setting up digital training at the community level, and addressing issues unique to a certain area that affect women.

**Suggestion**

Research and data analysis indicate that gender and education are the two main causes of social inequalities, particularly when it comes to involvement in the digital economy and access to digital services. Indigenous and underprivileged groups are most affected by the digital gap, which is made worse by gender inequality. Women have several obstacles while trying to access and use government e-services, especially those from rural and tribal areas.

One of the report's main conclusions is how gender significantly hinders indigenous communities' capacity to gain from e-governance programs. These populations are unable to engage in an increasingly digitalized administrative system due to a combination of factors, including poor educational attainment, economic

hardship, limited exposure to cellphones and computers, and a lack of digital literacy. For women, who are frequently disproportionately impacted by early marriage, traditional gender roles, and restricted mobility, this issue is made worse. Rural areas, particularly those with tribal inhabitants, are still generally cut off from ICT-based government, in contrast to metropolitan areas where digital penetration is comparatively greater. These villages are further isolated by the absence of essential infrastructure like transportation, internet access, and power. Thus, in addition to gender and education, physical location becomes a crucial element in widening the digital gap. The government must implement comprehensive, multifaceted policies that empower rural and tribal women in order to solve this urgent issue. This entails providing culturally sensitive, locally language-available, and customized e-learning and digital literacy programs in addition to guaranteeing access to formal education. In order to promote active involvement, these programs should also be offered via mobile units, community-based training facilities, and digital resource hubs run by women. To guarantee that government e-services are physically accessible to the underprivileged, additional Seva Kendras (service centers) must be built in rural and tribal areas. To promote diversity and trust, these centers should be manned by qualified individuals, including local women. The government should also make investments in the development of infrastructure, such as expanding internet networks and offering subsidies for reasonably priced digital gadgets. It is imperative that equal access to digital services be acknowledged as a basic right rather than a privilege. Digital literacy should be incorporated into the curriculum from a young age to ensure long-term sustainability, particularly in government-run and rural schools. Regardless of gender or origin, this will help cultivate a generation that is digitally literate and able to interact with e-governance systems. Additionally, the government has to create focused awareness efforts to educate the public—especially women—about the advantages and accessibility of e-services. Social stigmas should be addressed in these initiatives, and families should be urged to support women's access to digital services and education. Alternative service delivery methods, including community radio, satellite-based communication, and mobile vans, might temporarily fill the void left by infrastructure constraints that prevent digital services from being provided. Public-private partnerships should be investigated in the long run to introduce creative solutions to places that are difficult to access. In summary, closing the gender-based digital divide is a social and developmental necessity rather than only a technical problem. For all people, regardless of background, the promise of e-governance can only be fully fulfilled via inclusive, gender-sensitive, and location-specific solutions.

### **Ethical Statement**

The paper has not been submitted to any other journals for simultaneous consideration. The submitted work is original and has not been previously published in any form or language, either partially or fully. It is not an expansion of past work.

The study not divided into different pieces in order to enhance the number of submissions and submit them to multiple journals or one publication. The submitted paper was clearly and honestly prepared without fabrication, falsification, or inappropriate data modification.

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**Examining the Impact of Artificial Intelligence Technologies on Faculty Development:  
A Comprehensive Analysis for Educators and Scholars**

**Ms. Vijayashri Machindra Gurme**

Research Scholar,

Sydenham Institute of Management Studies and Research and Entrepreneurship Education,  
University of Mumbai, India

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**Abstract**

The development of Artificial Intelligence (AI) technologies is revolutionizing higher education in a significant way, offering new technologies to enhance faculty development, instruction, and research capability. This paper discusses the use of AI in faculty development, focusing on its use in customized learning, administrative effectiveness, and pedagogical innovation. Drawing from an assessment of the emerging trends in AI-based education, we discuss to what degree AI is facilitating professional development, easing faculty workload, and enhancing adaptive learning environments. The research also discusses issues such as ethical issues, resistance, and the digital divide. The research underscores the imperatives of AI training programs, institutionally, and policy interventions, which are geared towards effective AI deployment in higher education institutions. The systematic review provides insights to policymakers, researchers, and educators to develop faculty development in an AI-based system of education.

**Keywords:** Artificial Intelligence, Faculty Development, Higher Education, AI in Education, Pedagogical Innovation, Professional Growth, AI Ethics, Digital Transformation, Adaptive Learning, Educational Technology

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**Introduction**

Artificial Intelligence (AI) technologies increasingly impact a range of fields, among which academics is prominent. AI has been transforming the faculty development process within academics through support of advanced teaching tools, research, and staff development. AI systems make personalized learning opportunities available, manage routine administrative processes, and aid the teaching staff in curriculum building, testing, and interaction with students (Zawacki-Richter et al., 2019). AI technologies carry wide-ranging impacts on academics and educators that necessitate stringent consideration of how it affects staff development.

Faculty development is the highest degree of obligation in higher education from ongoing learning, skill improvement, and pedagogical development. AI-powered platforms such as intelligent tutoring systems, machine learning analysis, and auto graders are reengineering old pedagogies (Popenici & Kerr, 2017). AI-powered LMS and adaptive learning systems also help faculties offer more customized and efficient teaching (Ferguson et al., 2019). With all these benefits, however, some of the limitations such as ethical issues, protection of data, resistance to application of AI, and digital divide are real obstacles in effective usage of AI. Awareness regarding the use of AI in faculty development will provide impetus to policymaking and training programs to exploit its full potential of benefits and curtail its constraints. With the growth and spread of AI, its integration into faculty development programs will be essential to quality and innovation of academics at the university level (Luckin, 2018).

**AI Technologies in Education**

The application of artificial intelligence (AI) technologies in education has revolutionized pedagogical practice, teacher education, and student life. AI-powered applications such as intelligent tutoring systems, grading automation software, and adaptive learning systems are revolutionizing the pedagogic learning environment, providing educators with sophisticated pedagogical approaches and customized learning experiences for students. The application of AI in education also extends beyond classroom instructional learning, impacting faculty development through training, research support, and administrative efficiency (Luckin et al., 2018).

AI technology supports the development of evidence-based knowledge among faculty that instructs educators on how to augment pedagogical skills and subject matter to accommodate a variety of students' needs. For example, predictive modeling and learning analytics support teachers to identify students with problems and assist them immediately (Siemens & Baker, 2012). Furthermore, recommendation systems based on AI help instructors pick the best learning materials, and this aids in cultivating the learning culture of continuous professional development (Roll & Wylie, 2016). Although its potential is immense, AI application in faculty development is not without challenges, including ethical concerns, data security, and educators' requirements to acquire AI literacy. Researchers believe that AI can assist in teaching and administrative tasks but should complement and not replace human teachers for an equitable and ethical application of technology in education (Selwyn, 2019). In addition to this, faculty should be provided with ongoing training to utilize AI tools optimally and integrate them into their teaching practice.

### **Definition and Scope of AI**

Artificial Intelligence (AI) is the mimicking of human intelligence by machines with the aim of doing work that generally calls for cognitive operations like learning, reasoning, problem-solving, perception, and natural language understanding (Russell & Norvig, 2021). AI incorporates multiple subdisciplines such as machine learning, natural language processing, computer vision, and robotics that aim at developing smart systems with capabilities of automating and optimizing human decision-making (Goodfellow, Bengio, & Courville, 2016). AI technologies have a crucial role in educational and faculty development, ensuring maximization of pedagogical methodologies, streamlining administrative processes, and enhancing tailored learning experiences. AI-driven instruments, including intelligent tutoring systems and virtual teaching aids, learn based on the personal learning patterns, allowing teachers to provide more efficient and personalized teaching (Luckin et al., 2018).

### **Literature Review**

Artificial Intelligence (AI) has existed in higher education, and its impacts on the development of faculty have been tremendous. There has been research into the impact of AI on teaching practice, administrative practice, and professional development. Synthesis of the literature reports in this section reports on the impacts of AI intervention in faculty development, challenges, and opportunities.

### **AI in Faculty Development and Pedagogical Innovation**

Artificial intelligence technology is revolutionizing faculty development via data-driven learning and personalized recommendations. Artificial intelligence, machine learning algorithms, and adaptive learning models assist teachers in the building of pedagogical practice and enhancing student engagement (Zawacki-Richter et al., 2019). AI analysis will identify the students' learning behavior that affects teachers' instructional practice to meet specific students' needs (Ferguson et al., 2019). Furthermore, Natural Language Processing (NLP) technology expedites grading, feedback, and curriculum design, freeing faculty time and labor and creating time for research and mentoring (Popenici & Kerr, 2017).

### **Automation and Administrative Efficiency**

Administrative tasks are taken over by AI, allowing instructors to devote time to instruction and research. Scheduling, responding to student queries, and course management are facilitated by virtual assistants and chatbots (Selwyn, 2019). AI-based Learning Management Systems (LMS) encompass course automation and real-time analytics for enhanced learning outcomes (Luckin, 2018). Such technology enables successful faculty development through actionable feedback on teaching and student learning.

### **Challenges in AI Adoption for Faculty Development**

Though it is beneficial, its application in faculty development is constrained. Ethical issues regarding privacy of data, bias in algorithms, and openness are the major limitations (Zawacki-Richter et al., 2019). Faculties will be averse to the application of AI as well due to a lack of technical expertise, concerns that technology might take over their jobs, and lack of understanding of AI and education (Popenici & Kerr, 2017). In addition, differences in institutions' access of AI-based tools create a digital divide, restricting the potential of faculty members in applying AI to professional development (Selwyn, 2019).

### **The Future of AI in Faculty Development**

The continuous evolution of AI is going to bring about revolutionary changes in faculty development. With AI-facilitated mentorship programs, predictive student performance analytics, and immersive technologies such as virtual and augmented reality, pedagogy and faculty training will only get better (Ferguson et al., 2019). Institutional policies, ethical guidelines, and professional development programs must be established to make sure the AI is used ethically in higher education (Luckin, 2018).

### **Objectives**

To study and understand the effects of Artificial Intelligence technologies on higher education faculty development.

To examine AI applications for adaptive learning systems to enhance instructional outcomes

To analysis the effectiveness of AI teacher training programs and the institution's role to enable AI adoption

### **Historical Development of AI in Education**

The roots of AI in learning have been traced to the use of computer-aided instruction (CAI) in the early 1960s. Adaptive feedback and learning were facilitated through the first applications of AI-based software in learning,

which developed the foundation of intelligent tutoring systems (ITS) (Carbonell, 1970). These systems were later enhanced in the 1970s and 1980s with expert systems and rule-based reasoning to further expand instructional methods (Sleeman & Brown, 1982). With advances in machine learning and natural language processing during the 1990s, more sophisticated AI-based learning technologies such as AutoTutor and cognitive tutors became possible, with adaptive instruction and feedback in real time (Graesser et al., 1999). The advent of cloud computing and big data in the 2000s further enabled the development of AI in learning, which enabled learning analytics, adaptive learning platforms, and AI-based marking systems (Siemens & Long, 2011).

Artificial intelligence is now transforming education in new dimensions in deep learning, neural networks, and generative AI models that facilitate simulated immersive learning and faculty development. AI-powered tools like virtual reality training simulation and AI-generating content are facilitating teachers to enhance their teaching models and facilitate learning engagement (Luckin et al., 2018). Research and ethics in the wake of such advances are important to evolve the proper way of employing AI in education (Selwyn, 2019). Such a historical account brings the limelight on the ongoing evolution of AI in education and its increasing significance in faculty development. An awareness of such trends gives educators and researchers a firm grasp on the path of AI adoption and the potential AI has in the classroom.

### **Early Applications of AI in Education**

Among the earliest educational applications of AI were specifically to develop intelligent tutoring systems (ITS) and dynamic learning environments. Among the earliest AI-programmed educational projects was PLATO (Programmed Logic for Automatic Teaching Operations) at the University of Illinois in the 1960s that provided computer-delivered instruction as well as immediate feedback to students (Bitzer, 1962). Sometime during the same period, SCHOLAR, an AI-powered tutoring program, applied natural language processing to enable interactive learning (Carbonell, 1970).

In the 1970s and 1980s, applications of AI broadened as expert systems emerged that aimed to help teachers with instruction decision-making. Programs such as SOPHIE and GUIDON incorporated AI reasoning mechanisms to enable individualized teaching and assessment (Clancey, 1987). Cognitive tutors by the 1990s like the Anderson ACT-R model advanced personal learning even further using machine learning to personalize instruction material depending on students' performances (Anderson et al., 1995). These initial applications of AI set the foundations for modern learning technologies, showing how AI could enhance teaching practice and faculty growth. The development of these systems has influenced modern AI-based learning innovations ever since.

### **4.2. Current Applications of AI in Faculty Development**

AI is also being utilized to a greater extent to improve faculty development through the offering of individualized professional training, administrative work automation, and the refinement of instructional methods. One of the high-profile applications is AI-powered professional development platforms that provide faculty with personalized learning routes tailored to an educator's unique needs and areas of need (King et al., 2021). These platforms utilize machine learning to evaluate faculty performance and suggest specialized courses, workshops, and research papers.

Another key usage of AI faculty development is making use of analytics tools that have been empowered using AI to measure the effectiveness in teaching. LMS coupled with AI evaluates learners' participation, comments, and grading, thereby enabling teachers to streamline their methods of teaching (Siemens & Baker, 2012). Faculty members thus take on teaching strategies supported with evidence to impact the learners in their teaching sessions. AI is also used to make research and academic writing collaborative. AI-based research assistants, like auto-generated literature reviewers and citation tools, aid academics in researching and publishing more efficiently (Beck et al., 2020). The above technologies simplify research, enabling instructors to dedicate themselves to meaningful critique and creativity.

In addition, virtual teaching assistants and chatbots driven by artificial intelligence are enhancing teacher-student interactions through the management of routine questions, instant feedback, and academic support beyond regular classroom hours (Holmes et al., 2019). This enables teachers to dedicate more time to intricate teaching responsibilities and mentoring. The adoption of AI in teacher development is transforming how teachers learn skills, carry out research, and interact with learners. Although the technologies have a wide range of advantages, their adoption is hampered by challenges such as ethical issues, privacy of data, and the need for AI literacy among teachers if their use is to be efficient and responsible.

### **AI for Personalized Learning**

Artificial intelligence is transforming personalized learning through the customization of learning experiences for individual students based on their unique needs and styles of learning. With machine learning algorithms and adaptive learning systems, AI facilitates instructional content, pace, and assessment strategy customization to

maximize student interest and academic performance (Luckin et al., 2018). One of the most significant uses of AI in personalized learning is intelligent tutoring systems (ITS), which monitor the student interactions and offer real-time feedback and adapt teaching accordingly (VanLehn, 2011). AI-based recommendation systems also provide learning content recommendations based on a learner's learning trajectory and interests, supplementing self-directed learning (Chen et al., 2020).

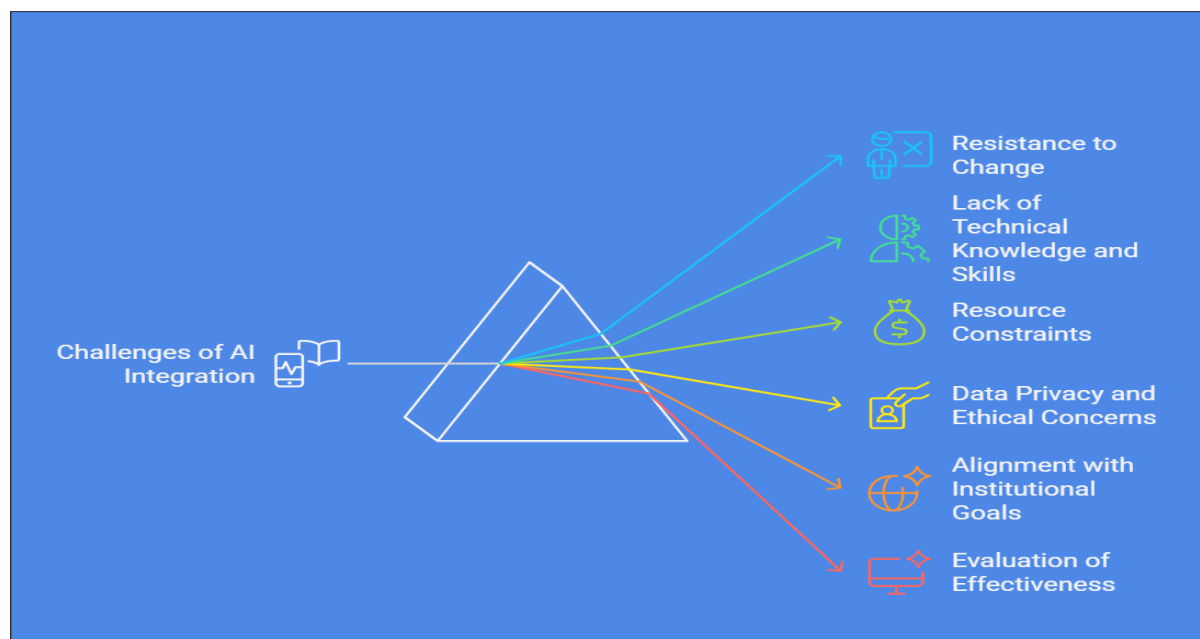
AI-based individualized learning systems also facilitate the development of faculties by evaluating teacher competence and suggesting focused professional growth. The systems assist faculty in building pedagogical skills through the identification of knowledge gaps and suggesting personalized training programs (King et al., 2021). While AI has its positives in personalization, data privacy and algorithmic bias are among the issues to be addressed in AI.

### Challenges and Opportunities of Using AI in Faculty Development

AI analytics provide feedback in real time about the teaching quality, and this enables the faculty members to keep refining their teaching approaches on a continuous basis. AI solutions also eliminate time-consuming tasks and enable the time for faculty members to devote more to research and student communication (Luckin et al., 2018). Additionally, adaptive learning programs powered by AI ensure personalized faculty development through the offerings of course and content suggestions that align with their own requirements. This provides on-going learning and development (King et al., 2021).

### Challenges of Using AI in Faculty Development

Figure 1 Challenges of Using AI in Faculty Development



#### Resistance to Change

Resistance to change by educators is one of the biggest hurdles to adopting AI in faculty development. Educators may see AI technologies as disruptive to their conventional pedagogies and professional development practices. Resistance may be due to a fear of losing their jobs, doubt about the efficacy of AI tools, or unease with new technologies. Based on Ertmer and Ottenbreit-Leftwich (2010), teachers' attitudes and beliefs play a great role in their willingness to use technology in their practices, the same case as the adoption of AI in faculty development.

#### Lack of Technical Knowledge and Skills

Effective adoption of AI in faculty development necessitates some technical knowledge, which many teachers might not possess. Such a skill gap can undermine the effective application of AI tools, limiting their ability to impact professional development. Trust and Whalen (2021) point out how the COVID-19 pandemic revealed the necessity for strong professional development with technology integration, stressing the importance of training faculty members on AI technologies as well.

### Resource Constraints

Incorporating AI-powered solutions into faculty development programs calls for huge technology, infrastructure, and support expenditures. Most learning institutions, especially those with strained finances, would not be able to commit enough resources towards incorporating AI. Bates (2015) contends that the limitation of resources tends to influence the incorporation of digital technologies, such as AI, into educational systems.

### Data Privacy and Ethical Concerns

AI technologies usually depend on massive datasets to operate optimally, creating issues of data privacy, security, and appropriate use. In the context of faculty growth, private information concerning teachers' performance and professional activities has to be treated with care. Williamson (2020) explains the consequences of datafication and automation of higher education, including possibilities of AI algorithm bias and the ethical dilemma of data collection.

### Alignment with Institutional Goals

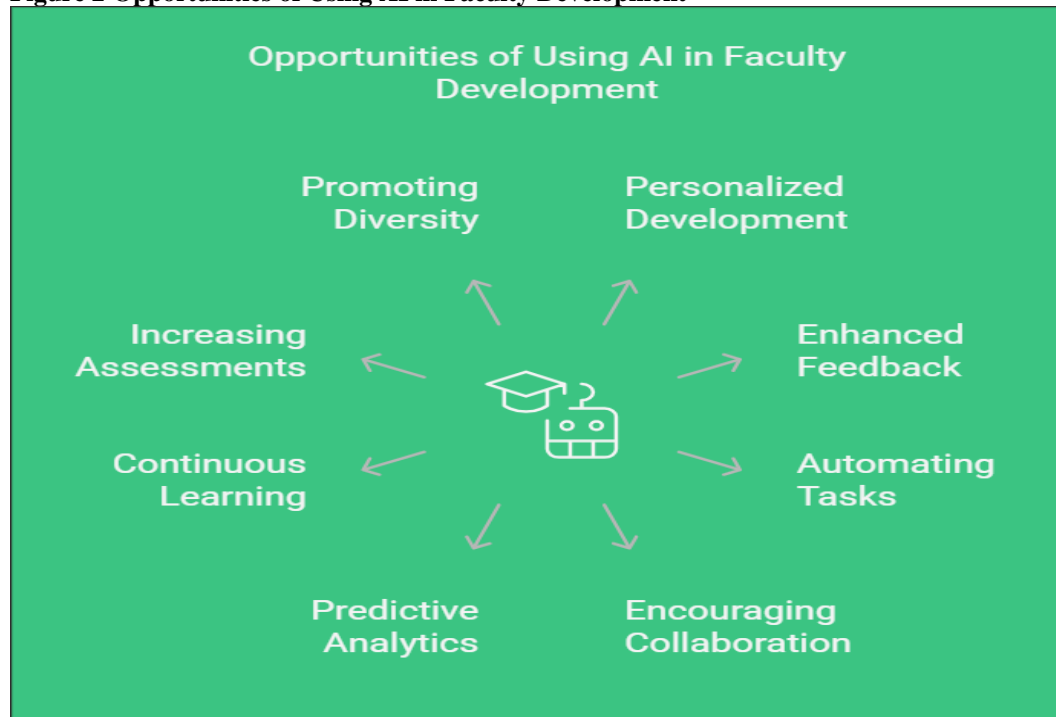
The other problem is how to make AI technology relevant to the specific goals and priorities of the faculty development program. AI-derived insights have to be actionable and relevant within the overall strategic picture of the institution. Reeves and Lin (2020) stress the need to align technology use with learning objectives, a philosophy that can similarly be applied in integrating AI.

### Evaluation of Effectiveness

It is difficult to measure the efficacy of AI in faculty development because there is no standardized measurement metric and method. It is hard to establish whether AI technologies have a positive effect on faculty development through strong evaluation systems. Gura (2020) identifies the challenge of measuring educational technologies, recommending the use of clear metrics and feedback systems.

### Opportunities of Using AI in Faculty Development

Figure 2 Opportunities of Using AI in Faculty Development



### Personalized Professional Development

AI technologies can read data on the performance of teachers, instructional styles, and professional requirements in a bid to design individualized learning paths. This is a personalized method that guarantees teachers receive their relevant and useful training, which improves their professional development. Siemens and Baker (2012) argue that AI-driven analytics can unveil wonderful insights regarding personalized learning that could also be used in professional development among instructors.

### Enhanced Feedback Mechanisms

Artificial intelligence (AI) programs like natural language processing (NLP) and sentiment analysis are capable of offering immediate feedback to educators. These programs are able to check instructional material, delivery of lectures, and student attendance levels and give positive improvement suggestions. Viberg et al. (2020) illustrate the ability of AI analytics in helping instructors through offering actionable feedback for good teaching practice.

#### **Automating Administrative Tasks**

AI may simplify the tedious administrative work, i.e., scheduling, data handling, and reporting. Streamlining administration enables staff to devote more time to fundamental tasks, i.e., teaching, scholarship, and professional development. Luckin et al. (2016) show that AI might simplify education processes and increase productivity as well as efficiency.

#### **Encouraging Collaboration and Knowledge Sharing**

AI-powered platforms can have the ability to enable collaboration among members of staff through connections with colleagues of shared research agendas or ongoing professional education requirements. Platforms can provide resources, suggest collaboration opportunities, and enable the sharing of knowledge among institutions. Chen et al. (2021) illustrate the application of AI to enable collaborative learning in universities that can be adapted into staff development programs.

#### **Predictive Analytics for Professional Growth**

AI is capable of forecasting the needs for faculty development based on previous information and identifying trends. Predictive analytics can help institutions develop proactive development programs and future-proof against gaps in skills. Nguyen et al. (2020) suggest that predictive models can inform and improve decision-making in learning spaces, such as in faculty development planning.

#### **Facilitating Continuous Learning**

AI can provide teachers with adaptive learning materials, including online courses, tutorials, and professional development units. These can be customized based on needs and foster continuous skills building and continuous learning. AI technologies can enable continuous and personalized professional development among teachers, as noted by Popenici and Kerr (2017).

#### **Increasing Assessment Procedures**

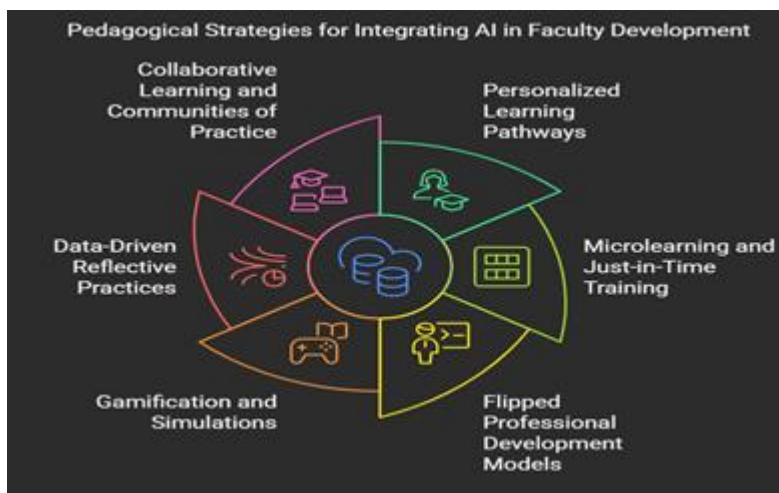
AI can enhance the assessment of teacher performance by using teaching performance, student opinion, and scholarship. AI-powered automated assessment platforms can offer neutral views that lead to transparent and equitable evaluation mechanisms. Williamson (2020) explains how the use of AI in data analysis can help bring about strong school systems of performance assessment.

#### **Promoting Diversity and Inclusion in Development Programs**

AI can help identify gaps in diversity and inclusion professional development programs. Through participation trends and feedback analysis, AI software can suggest means to make opportunities more inclusive for every faculty member. Araujo et al. (2020) note the potential of AI to promote equity and inclusion in educational development work.

#### **Pedagogical Strategies for Integrating AI in Faculty Development**

**Figure 3 Pedagogical Strategies for Integrating AI in Faculty Development**



### **Personalized Learning Pathways**

According to Siemens and Baker (2012), AI-based analytics allow for personalized learning through the identification of particular learning requirements and the customization of content delivery, which can be extremely valuable for faculty development.

### **Microlearning and Just-in-Time Training**

AI can also be used to offer microlearning in the form of small, context-specific learning modules to the faculty members on an as-required basis. The strategy allows instructors to receive bite-sized information and training in skills at the time when they require them, boosting the real-time applicability of the new knowledge. Margaryan, Littlejohn, and Milligan (2013) mention that microlearning strategies enhance professional development content's retention and appropriateness, especially if AI is integrated to offer context-specific resources.

### **Flipped Professional Development Models**

In a flipped model of faculty development, AI software can offer independent learning content (e.g., tutorials, videos, readings) prior to live or synchronous training sessions. Faculty can participate in more in-depth discussions and experiential learning during live sessions. The model encourages active learning and optimizes the impact of professional development efforts. Bergmann and Sams (2012) propose that the flipped model improves learning results by moving direct instruction to independent learning spaces so that group time can be dedicated to interactive learning.

### **Gamification and Simulations**

Simulations and gamified learning environments powered by AI can offer faculty experiential learning experiences. Educators can use these platforms to rehearse teaching methods, classroom management, and assessment methods in a risk-free virtual setting. Hung (2017) points out how simulations and gamification can increase engagement and offer real-world, scenario-based learning experiences in professional development.

### **Data-Driven Reflective Practices**

Faculty members can be supported by AI tools in reflecting on teaching practices by looking at classroom conversations, student reactions, and effectiveness of teaching. AI-derived data analytics and automatically generated reports are able to generate insights to allow educators to assess their approaches critically and detect room for development. Reflective practice is the backbone of professional development, states Schön (1983), and AI tools have the capability of supporting reflective practice by presenting facts-based, unbiased insights.

### **6. Collaborative Learning and Communities of Practice**

AI technologies can facilitate the development of virtual communities of practice in which faculty members work together, exchange resources, and discuss their profession. AI-based platforms can suggest peers with common interests, propose appropriate discussion topics, and enable collaborative projects. Wenger, McDermott, and Snyder (2002) highlight the importance of communities of practice in professional development and propose that AI can enhance these communities by enhancing networking and resource sharing.

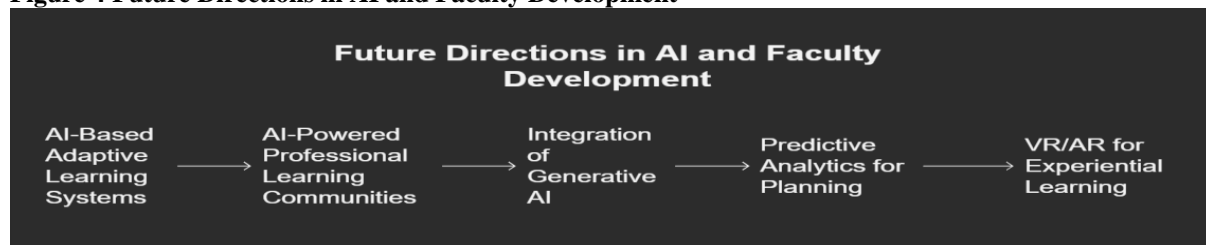
### Professional Development for Educators in AI Technologies

For effective implementation of AI technologies in education, the teaching staff must continuously improve in professional competence. There must be training activities for the development of AI literacy, which enables teachers to incorporate AI-driven tools effectively into their pedagogy (Holmes et al., 2019). It is one way in which professional growth of the teachers can be achieved by experience-based hands-on workshops with familiarization to the applications of AI like adaptive learning systems, intelligent tutoring systems, and learning analytics. These are workshops that introduce hands-on practice for the instructors and build self-assurance on the use of AI technologies for enriching instruction (Luckin et al., 2018).

Online professional development modules tailor-made for faculty members is another strategy. Personalized learning platforms based on AI can recommend specific modules based on the experience level and professional needs of the faculty members, hence making the learning efficient and focused (King et al., 2021). Mentorship schemes with veteran faculty members for AI application can be equally beneficial to teachers by offering peer learning and knowledge exchange. These peer programs enable teaching staff to exchange best practices and solve issues regarding AI application in learning (Siemens & Baker, 2012). By putting professional development in AI technologies at the forefront of their agenda, institutions can keep their faculty abreast of the latest education innovation, applying AI towards better teaching and student performance.

### Future Directions in AI and Faculty Development

Figure 4 Future Directions in AI and Faculty Development



### Enhanced Adaptive Learning Systems

Upcoming AI-based adaptive learning systems will be more advanced, delivering customized professional development on the basis of real-time analysis of faculty performance and instructional practice. Such systems will not just suggest individualized learning materials but also anticipate future training requirements through predictive analytics. As Siemens and Baker (2012) see it, the technological advancements in AI and learning analytics can immensely transform personalized learning experiences, which can be extrapolated to faculty development programs.

### AI-Powered Professional Learning Communities (PLCs)

AI technologies will increasingly enhance the creation of Professional Learning Communities by linking teachers with common interests and supporting collaboration through smart recommendation systems. The PLCs of the future might use AI to scan conversations, identify new trends, and suggest personalized content for professional development. Wenger et al. (2002) argue that the integration of AI in PLCs could enhance knowledge sharing and collaborative learning.

### Integration of Generative AI in Content Generation and Assessment

Large language models and generative AI models will be very important in designing assessments, giving feedback, and developing instructional material. They have the capability of helping instructors generate high-quality instructional content and facilitate administrative work so that there is more time spent on teaching and research. Luckin et al. (2016) are keen to identify the possibility of using generative AI in an educational context as a means to develop customized learning experiences.

### Predictive Analytics to Guide Professional Development Planning

Predictive analytics through AI will help institutions predict the development needs of their faculty through an analysis of data on instruction, student success, and education trends. Using such data will enable institutions to craft proactive and tailored professional development initiatives. Nguyen et al. (2020) mention applying predictive analytics to higher education and see its future as improving strategic planning for faculty development.

### **Virtual and Augmented Reality (VR/AR) for Experiential Learning**

Future faculty development programs will probably include VR and AR technologies driven by AI to deliver immersive learning experiences. These technologies have the ability to mimic classroom situations, enabling teachers to rehearse instructional methods and get AI-based feedback. Popenici and Kerr (2017) opine those immersive technologies, integrated with AI, can provide useful experiential learning experiences in professional development contexts.

### **Conclusion**

The incorporation of AI into faculty development offers a revolutionary chance to improve teaching efficiency and facilitate customized professional development. Although the potential advantages are tremendous—with benefits ranging from customized learning experience to efficient administration—solving challenges like data privacy, ethical implications, and digital awareness is important. With planning, judicious adoption, and continuous work with stakeholders, AI can become a catalyst for improving high-quality professional development and driving educational achievement in higher education.

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