ISBN No. 978-81-957386-4-9

# Advanced Studies in Multidisciplinary Research


:: Editor ::

**Dr. Sharda Gangwar**
Professor & HOD (Commerce)
Business Administration and Management
Institute for Excellence in Higher Education, Bhopal (M.P.)

:: Co-Editor ::

**Dr. Kailash Kumar Dewangan**
Assistant Professor (Mathematics)
Govt. Digvijay Autonomous College, Rajnandgaon

:: Co-Editor ::

**Vinod Kumar Ahirwar**
Librarian & HOD
Library Science Department
Govt. V.Y.T. PG Autonomous College, Durg

:: Co-Editor ::

**Dr. Mamta Singh**
Assistant Professor & HOD (Computer Science)
Sai College, Sector-6, Bhilai, Durg, Chhattisgarh, India

PUBLISHED BY

**SAI COLLEGE**
Street-69, Sector-6, Bhilai (C.G.)

**PREFACE**

We are delighted to publish our book entitled "Advanced Studies in Multidisciplinary Research". This book is the compilation of esteemed chapter of acknowledged experts in the fields of Commerce & Management, Mathematics, Computer Science, Library Science and Humanities. This book is published in the hopes of sharing the excitement found in the study of various fields. We developed this digital book with the goal of helping people achieve that feeling of accomplishment. The chapters in the book have been contributed by eminent scientists, academicians. Our special thanks and appreciation goes to experts and research workers whose contributions have enriched this book. Finally, we will always remain a debtor to all our well-wishers for their blessings, without which this book would not have come into existence.

Edited by:
Editor
Dr. Sharda Gangwar
Professor of Commerce
Bussiness Administration and Management
Institute for Excellence in Higher Education
Bhopal (M.P.)

Co-editor
Dr. Kailash Kumar Dewangan
Assistant Professor (Mathematics)
Govt. Digvijay Autonomous College

Co-editor
Vinod Kumar Ahirwar
Librarian and HOD
Library Science Department
Govt. V.Y.T. PG Autonomous College, Durg

Co-editor
Dr. Mamta Singh
Assistant Professor & HOD
Department of Computer Science
Sai College Sector-6, Bhilai

Sai Publication
Sai College
Sector-6. Bhilai.


ISBN: 978-81-957386-4-9

# Advanced Studies
# in
# Multidisciplinary Research

# CHAPTER -1

# EMPOWERING SMALL AND MEDIUM ENTERPRISES: THE ROLE OF NON-BANKING FINANCIAL INSTITUTIONS IN FOSTERING SUSTAINABLE GROWTH IN TWO-TIER CITIES OF CHHATTISGARH

**Vaishali Agrahari and Dr.Supriya Singh**
Department of Commerce and Management, Dr C.V. Raman University
agraharivaishali1@gmail.com

## Abstract

MSME has grown into a vibrant segment of the Indian economy during the past 50 years. By encouraging entrepreneurship and producing a large number of low-cost jobs, second only to agriculture, it boosts the economy and society. MSMEs help large firms as supplementary units. This sector promotes inclusion by contributing significantly to national industrial progress. MSMEs are spreading into all sectors of the economy, manufacturing a diverse range of goods and services for domestic and international markets. The Chhattisgarh government promotes MSMEs with a policy. Chhattisgarh is proud of its second place MSMEs development in India. The Central and State Governments of Chhattisgarh launched many MSMEs incentive initiatives. In a developing nation like India, Micro, Small, and Medium Enterprises (MSMEs) help reduce poverty, create jobs, promote rural development, and expand diverse development initiatives. Known as the backbone of the nation, MSMEs are crucial.

**Keywords:** ***NBFIs ,MSMEs, SMEs,***

## 1.1 BACKGROUND ON SMALL AND MEDIUM ENTERPRISES (SMEs) IN TWO-TIER CITIES OF CHHATTISGARH.

Small and Medium Enterprises (SMEs) are of great importance in the economic structure of Chhattisgarh, especially in its two-tier cities. These cities, known for their developing economic position, flourishing industrial sectors, and increasing urbanization, play a crucial role in the growth and expansion of small and medium-sized enterprises (SMEs). The importance of SMEs in these locations cannot be exaggerated, as they make a substantial contribution to employment, innovation, and the general economic expansion of the state (Agrawal & Agrawal, 2021).

i. **Economic Backbone:** The small and medium-sized enterprises (SMEs) located in the two-tier cities of Chhattisgarh play a crucial role in supporting the local economy. They function in multiple areas, such as manufacturing, services, and technology, which showcases the wide-ranging industrial foundation of the state. These firms play a crucial role in promoting entrepreneurship, creating job opportunities, and improving the competitiveness of local industries at both national and global levels.
ii. **Employment Generation:** SMEs have a crucial role in generating employment, which is one of their most notable contributions. They employ a significant proportion of the population, encompassing both skilled and unskilled workers. This is especially crucial in second-tier cities, where job prospects may otherwise be restricted. Small and medium-sized enterprises (SMEs)


Published by :Sai College, Bhilai

are also crucial in fostering skill development by providing training and hands-on experience that equip workers for the wider employment market.

iii. **Innovation and Technological Advancement:** SMEs frequently lead in innovation and technical improvement. Due to their inherent adaptability and enterprising nature, they readily embrace novel technologies and innovative methodologies. Their agility allows them to promptly address market demands more efficiently than larger firms, frequently resulting in the creation of innovative products and services that can stimulate economic expansion.

iv. **Challenges:** SMEs in two-tier cities of Chhattisgarh encounter numerous obstacles despite their noteworthy contributions. These factors encompass the availability of financial resources, obstacles imposed by regulations, and restricted entry into the market. Financial limitations, specifically, can impede the expansion and adaptability of these businesses. Furthermore, overcoming the challenges of understanding and complying with intricate regulations and identifying long-lasting markets for their offerings continue to be major hurdles.

v. **Government Initiatives:** The government of Chhattisgarh has implemented various measures to encourage small and medium-sized enterprises (SMEs) due to their significance. These encompass measures aimed at enhancing financial accessibility, streamlining regulatory processes, and implementing initiatives to facilitate market entry. These activities are essential for the ongoing expansion and progress of small and medium-sized enterprises (SMEs) in the region.

### 1.3IMPORTANCE OF SMEs IN THE REGIONAL ECONOMY

Small and Medium Enterprises (SMEs) are crucial for regional economies as they play an essential role in promoting growth, innovation, and socio-economic development (Patra, & Chaubey, 2014). (Kumar, et. al., 2018). Their significance in regional contexts, particularly in locations such as Chhattisgarh's two-tier cities, is complex and deep. SMEs make significant contributions to the area economy through various major means:

**Economic Growth:** Small and Medium Enterprises (SMEs) play a crucial role in boosting the Gross Domestic Product (GDP) of their respective regions. SMEs contribute to a wide range of economic sectors such as manufacturing, services, and technology. This involvement in many areas helps to stimulate diverse economic activity and fosters sustainable growth. They possess a high level of agility and are capable of swiftly adjusting to fluctuating market conditions, which frequently results in the creation of groundbreaking products and services that drive economic growth.

**Employment Opportunities:** SMEs play a crucial role in job creation, making it one of their most significant contributions to the regional economy. SMEs frequently serve as the primary source of employment in numerous areas, offering crucial job prospects to a wide range of individuals, encompassing both those with specialized skills and those without. This employment is not only focused on quantity, but also quality, as work inside SMEs typically provide distinctive learning environments where employees can acquire a wide range of skills and experiences.

**Social Cohesion:** Small and Medium Enterprises (SMEs) enhance social cohesion and promote stability in regional economies by promoting a more equitable distribution of wealth. They enhance the capacity of local communities by creating employment opportunities, hence fostering local economies through a boost in consumer expenditure. This can result in enhanced quality of life and the establishment of united, adaptable communities.

**Innovation and Competitiveness:** Small and Medium Enterprises (SMEs) play a crucial role in fostering innovation and enhancing competitiveness in regional economies. Their dimensions facilitate flexibility and adaptation, hence simplifying the implementation of novel technology or innovative procedures. This not only strengthens their competitive advantage but also cultivates a culture of innovation within the region, prompting more enterprises to engage in innovative practices and better their performance.

**Supply Chain and Industrial Linkages:** Small and Medium Enterprises (SMEs) play a vital role in both local and global supply networks. They frequently serve as suppliers, clients, and partners to larger firms, establishing a network of industrial connections that enhance the overall economy. These connections enable the smooth movement of commodities, services, and information, which improves the efficiency and productivity of the local economy.

**Access to Markets:**SMEs, particularly those involved in exporting, are crucial in gaining access to new markets. They contribute to the diversification of economic activities and decrease reliance on local markets, thus enhancing regional resilience to economic downturns. SMEs enhance the favorable perception and standing of their region on the global platform through their foreign endeavors.

**b. Government Revenue:** SMEs provide a substantial contribution to the fiscal revenue of regional governments through taxes and other levies. This revenue is essential for financing public services and infrastructure initiatives that provide advantages to the wider population.

**Environmental Sustainability:**Increasingly, SMEs are also becoming key players in promoting environmental sustainability. Many are adopting green practices and contributing to the circular economy, driven by regional policies and a global shift towards sustainability.

## 1.4DEFINITION AND TYPES OF NBFIs OPERATING IN INDIA, WITH A FOCUS ON CHHATTISGARH.

Non-Banking Financial Institutions in India have a crucial role in the financial ecosystem by providing a range of services that complement the banking industry. NBFIs are financial entities that lack a complete banking license or are not subject to oversight by a national or international banking regulatory agency. Their offerings encompass a variety of financial services such as loans, credit facilities, retirement planning, money markets, underwriting, and investment services (Rajeevan, Sulphey, & Rajasekar, 2015; Saxena, & Jagota, 2015; Kumar, G. 2023). The Reserve Bank of India (RBI) oversees and governs these institutions, ensuring that their operations are in line with the financial stability and integrity of the country.

**Types of NBFIs Operating in India:**

i. **i. Non-Banking Financial Companies (NBFCs):** NBFCs are businesses that are registered under the Companies Act and are involved in the lending and advances as well as the purchasing of marketable securities such as stocks, bonds, debentures, and securities issued by local or state governments. They play a vital role in offering banking services to individuals



Published by :Sai College, Bhilai

who do not have access to traditional banking, while also promoting competition and variety in the financial industry.

ii. **Housing Finance Companies (HFCs):** These are NBFIs that focus primarily on financing housing for individuals and families. They play a significant role in the housing sector by providing capital for residential real estate development and mortgages for homebuyers.

iii. **Microfinance Institutions (MFIs):** MFIs provide small loans and other financial services to those with low incomes or limited access to conventional banking services. Their goal is to facilitate economic and social advancement by promoting financial inclusion.

iv. **Asset Management Companies (AMCs):** AMCs manage mutual funds and provide various fund-based financial services to individual and institutional investors. They contribute significantly to the mobilization and efficient allocation of financial resources.

v. **Insurance Companies:** Though primarily engaged in the business of providing insurance products, these companies also offer investment products and are considered part of the broader NBFI landscape.

**NBFIs in Chhattisgarh:**

Non-Banking Financial Institutions are of great significance in Chhattisgarh, just like in the rest of India. They play a vital role in offering financial services, particularly in regions that lack access to services provided by conventional banks. Chhattisgarh, with its combination of urban and rural inhabitants, has witnessed the establishment of several Non-Banking Financial Companies (NBFCs), Microfinance Institutions (MFIs), and Housing Finance Companies (HFCs) to address the varied financial requirements of its residents.

**i. Non-Banking Financial firms (NBFCs) and Microfinance Institutions (MFIs):** have a crucial role in Chhattisgarh as they offer microloans, consumer financing, and other financial services to individuals and small firms who do not have access to conventional banking services. They have a vital function in offering assistance to SMEs, therefore making a substantial impact on the economic growth of the state.

**ii. HFCs:**HFCs, which provide affordable housing options and are essential to the growth of the state's real estate industry, are becoming more and more significant as a result of Chhattisgarh's urbanization.

**iii. Insurance Companies:** These entities provide a variety of life and non-life insurance products, which help ensure the financial stability and welfare of the population.

Non-Banking Financial Institutions (NBFIs) in Chhattisgarh play a crucial role in filling the void in financial services, facilitating wider access to financial resources, and bolstering economic endeavors in both urban and rural regions of the state. The regulatory supervision conducted by the RBI guarantees that these institutions uphold their financial soundness and integrity, hence enhancing the overall stability of the Indian financial system.

**1.5ROLE AND IMPORTANCE OF NBFIs IN SUPPORTING SMEs.**

NBFIs are crucial in providing essential support to SMEs, particularly in economies where conventional banking services may not adequately cater to the specific requirements of these enterprises (Adisesha, & Reddy, 2020; Dixit, 2022). NBFIs enhance the services offered by banks by providing specialized financial products and services specifically designed for SMEs. This article provides an in-depth analysis of the function and significance of NBFIs in their support of SMEs.

**(A) Facilitating Financial Access Customized Financial Solutions:** Non-bank financial Institutions (NBFIs) frequently provide specialized financial products for small and medium-sized enterprises (SMEs), such as term loans, asset-backed loans, invoice financing, and lease financing. These products specifically address the distinct needs of small and medium-sized organizations, offering flexible repayment periods and collateral requirements that are more suited to smaller businesses. NBFIs offer more lenient loan approval requirements compared to regular banks, facilitating SMEs' access to the necessary financing. This is especially advantageous for recently founded SMEsor those lacking a lengthy credit history.

**(B) Enhancing Competitiveness**

NBFIs support innovation by offering specialized financing solutions that enable SMEs to invest in new technologies and drive innovation, hence improving their competitiveness in the market. Through obtaining financial resources from NBFIs, SMEs are able to actively explore chances for growth, extend their business activities, and venture into new markets. This, in turn, plays a significant role in promoting economic diversity and enhancing resilience.

**(C) Financial Inclusion**

NBFIs frequently establish a stronger presence in rural or neglected regions where conventional banking infrastructure is lacking. This enhances the level of financial access for small and medium-sized enterprises situated in these regions, empowering them to make a more substantial impact on the local and national economy.

Specialized Knowledge and Services, Non-Bank Financial Institutions often focus on specific industries or sectors, allowing them to develop a profound comprehension of the particular difficulties and possibilities that Small and Medium Enterprises encounter. NBFIs possess the necessary knowledge and skills to provide guidance and financial offerings that are well-suited to the specific requirements of SMEs.

**(D) Risk Management and Advisory Services**

Non-bank financial institutions (NBFIs) offer risk management solutions to small and medium enterprises (SMEs), including credit insurance and derivatives, to enhance their ability to successfully handle financial risks.

NBFIs frequently provide advisory services to SMEs, which go beyond only financial products. These services encompass financial planning, market analysis, and company strategy creation, all aimed at promoting the long-term survival of these enterprises.

### (E) Promoting Innovation and Entrepreneurship

NBFIs, especially those that focus on venture capital and private equity, have a vital role in providing funding for creative startups and SMEs with significant growth potential. Such finance is crucial for enterprises that are deemed too precarious for conventional banks, yet possess the potential for substantial profits.

## 1.6REGULATORY FRAMEWORK GOVERNING NBFIS IN INDIA.

The regulatory framework for Non-Banking Financial Institutions (NBFIs) in India is specifically crafted to guarantee financial stability, safeguard investors, and uphold the integrity of the financial system. The Reserve Bank of India (RBI) is the main regulatory body responsible for supervising NBFIs. These institutions are categorized depending on their operations and the specific consumers they cater to (Titus, M. 2000; Singh, P. 2010). This regulatory framework comprises a range of acts, directives, and recommendations that are regularly revised to tackle rising financial concerns and market advancements.

### Regulatory Acts and Guidelines of significant importance

**The Reserve Bank of India Act of 1934:** The RBI Act serves as the fundamental legislative framework that governs the operations of Non-Banking Financial Institutions in India. According to this Act, Non-Banking Financial Institutions must register with the Reserve Bank of India (RBI), meet certain capital requirements, and comply with operational rules set by the RBI.

**Instructions Released by the Reserve Bank of India:** NBFIs are required to adhere to the directives given by the RBI under the RBI Act.

**The following items are included:**

**Non-Banking Financial Company -** Non-Systemically Important Non-Deposit taking Company (Reserve Bank) Non-Banking Financial Company (NBFC) refers to a company that provides financial services but is not a traditional bank. In this case, the NBFC is classified as a Non-Systemically Important Non-Deposit-taking Company by the Reserve Bank. According to the Reserve Bank of India Instructions, 2016, a non-banking financial company is a non-systemically important non-deposit-taking company.

**Prudential Norms:** The RBI has established prudential norms for NBFIs to ensure they operate within a framework of financial soundness. These principles pertain to the recognition of income, classification of assets, provision for bad and doubtful debts, and exposure limits.

**Fair Practices Code:** NBFIs are required to adopt a Fair Practices Code, as mandated by the RBI, to ensure fair treatment of their customers. This code covers transparency in contract terms, ethical conduct in recovery practices, and non-discrimination.

**Know Your Customer (KYC) Guidelines and Anti-Money Laundering (AML) Standards:** NBFIs must adhere to the KYC guidelines and AML standards set by the RBI to prevent fraud and illicit financial activities.

**Ombudsman Scheme for Non-Banking Financial Companies, 2018:** This scheme provides a mechanism for resolving complaints from customers of NBFIs regarding certain types of services and products.

**Recent Regulatory Updates**

The RBI frequently updates its regulatory framework to address new challenges and ensure the robustness of the financial sector. Recent updates have focused on enhancing transparency, improving governance standards, and strengthening risk management practices among NBFIs.

**Regulatory Oversight and Compliance**

The RBI monitors the compliance of NBFIs with the regulatory framework through regular submissions of financial statements, periodic inspections, and audits. Penalties, operational limitations, or the cancellation of the NBFI's registration are possible outcomes of non-compliance.

## 1.7 COMMON CHALLENGES FACED BY SMEs IN ACCESSING TRADITIONAL BANKING SERVICES.

Globally, small and medium-sized enterprises (SMEs) are vital for stimulating innovation, creating jobs, and advancing economic progress. Nonetheless, many small and medium-sized businesses SMEs still face significant challenges when it comes to using traditional banking services. These problems stem from the characteristics unique to SMEs as well as the intrinsic structure of traditional banks. Understanding these obstacles is crucial to improving financial inclusion and helping SMEs (Avevor, E. 2016; Peprah, C. 2016; Chilembo, T. 2021). The following are a few common challenges that SMEs face while trying to use traditional banking services:

**1. High Collateral Requirements**

**Issue:** Banks often require substantial collateral for loans, which many SMEs struggle to provide. This is particularly challenging for service-oriented or innovation-driven SMEs with few tangible assets.

**Impact:** High collateral requirements can prevent SMEs from accessing the capital they need for growth or operational needs, limiting their development and contribution to the economy.

**2. Strict Credit and Risk Assessment Criteria**

**Issue:** Traditional banks typically have strict credit scoring and risk assessment criteria, which may not favor SMEs, especially those that are new or have irregular income streams.

**Impact:** Many viable SMEs are deemed too risky and are either denied financing or offered unfavorable terms, stunting their ability to invest in growth opportunities.

**3. Lack of Tailored Financial Products**

**Issue**: Many traditional banks offer a one-size-fits-all approach to financial products, which may not meet the specific needs of SMEs, such as flexible repayment schedules or small line-of-credit requirements.



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

**Impact:** SMEs may find it difficult to find financial products that match their cash flow patterns and financing needs, leading to missed opportunities and operational inefficiencies.

**4. Long and Complex Application Processes**

**Issue:** The process of applying for loans or other banking services can be lengthy and complex, requiring significant documentation and time.

**Impact:** SMEs, often lacking dedicated finance teams, may find the application process burdensome and time-consuming, detracting from their focus on core business activities.

**5. Information Asymmetry**

**Issue:** There is often a gap in the information available to banks about the SME sector and the operational realities of SMEs themselves. This lack of understanding can lead to misaligned expectations and decisions.

**Impact:** Banks may be hesitant to lend to SMEs due to perceived risks, while SMEs may not apply for financing, assuming they will be rejected.

**6. High Costs and Fees**

**Issue:** The costs associated with banking services, including interest rates, fees, and charges, can be disproportionately high for SMEs compared to larger enterprises.

**Impact:** The high cost of financing can make bank loans unattractive or unsustainable for SMEs, leading them to rely on internal funds or informal sources of finance.

**7. Limited Relationship Banking**

**Issue:** The move towards digital banking has reduced the emphasis on relationship banking, where bank representatives have a deep understanding of their SME clients' businesses.

**Impact**: Without strong relationships, banks may be less likely to offer favorable terms or go the extra mile to understand and meet the needs of SME clients.

## 1.8HOW NBFIs ARE FILLING THE GAP LEFT BY TRADITIONAL BANKS IN SERVICING SMEs.

Non-Banking Financial Institutions (NBFIs) are now essential participants in addressing the deficiencies left by conventional banks, particularly in catering to Small and Medium Enterprises (SMEs). Their contribution has been crucial in tackling the distinct hurdles that SMEs encounter when trying to acquire banking services. NBFIs have successfully addressed the varied requirements of SMEs by providing them with adaptable, inventive, and customized financial solutions. This has resulted in the promotion and advancement of SMEs (Jain, Parbat, &Benhal, 2021; Panda, B. 2023). NBFIsare having a significant impact in the following ways:

**1. Offering Tailored Financial Products**



Published by :Sai College, Bhilai

**Flexibility:** NBFIs often provide more flexible financial products than traditional banks, designed with the SME's specific needs in mind. This includes flexible repayment schedules that align with the cash flow patterns of SMEs, reducing the financial strain on these businesses.

**Innovation:** NBFIs are known for their innovative financial products, such as invoice discounting, factoring, and merchant cash advances, which are not typically offered by traditional banks.

**2. Lowering Barriers to Access**

**Reduced Collateral Requirements:**NBFIs have reduced collateral requirements compared to traditional banks, which sometimes demand substantial collateral. This makes it easier for SMEs to meet the criteria for obtaining funding.

**Simplified Application Processes:** NBFIs streamline the application process, reducing paperwork and speeding up loan approval times. This responsiveness is crucial for SMEs that may require quick funding to seize business opportunities or manage cash flow issues.

**3. Specializing in Niche Markets**

**Industry Expertise:** Many NBFIs specialize in specific industries or sectors, allowing them to understand the unique challenges and opportunities within these niches. This specialized knowledge enables them to provide more relevant and effective financial solutions to SMEs operating in those sectors.

**Customized Advisory Services:** Beyond financial products, some NBFIs offer advisory services tailored to the needs of SMEs, services like financial management, market expansion plans, and company planning.

**4. Facilitating Credit for New and Small Businesses**

**Welcoming Startups and New Enterprises:** NBFIs are more inclined than traditional banks to service startups and new businesses without extensive credit histories. They often use alternative metrics to assess creditworthiness, such as the business model's viability, market potential, and the entrepreneur's experience.

**Microfinancing:** For very small businesses or micro-enterprises, NBFIs provide microloans that are typically not profitable for traditional banks due to their small size. This microfinancing is essential for grassroots economic development.

**5. Risk-Taking and Innovation**

**Higher Risk Appetite:** NBFIs generally have a higher risk appetite than traditional banks, making them more willing to fund SMEs considered too risky by conventional standards.

**Embracing Technology:** Many NBFIs leverage technology to improve service delivery, using digital platforms to offer easy access to finance, automate the lending process, and provide financial services at a lower cost.

## 1.9 IMPACT OF NBFIs ON THE OPERATIONAL AND GROWTH ASPECTS OF SMEs, WITH EXAMPLES.

NBFIs have had a substantial influence on the operational and growth aspects of SMEs by providing customized financial products and services. NBFIs have eased better access to financing, encouraged business expansion, and enhanced operational efficiency by specifically targeting the demands of SMEs (Hasan, & Islam, 2008; Khowaja, et. al., 2021). The following are significant effects of NBFIs on SMEs, demonstrated past examples:

**Enhancing Access to Capital**

**Example: Microloans for Women Entrepreneurs**

In many developing countries, NBFIs such as microfinance institutions have been pivotal in providing microloans to women entrepreneurs who run SMEs. These loans have enabled women to start or expand their businesses, even in the absence of traditional collateral. An example is the Grameen Bank in Bangladesh, which specializes in microloans to women in rural areas, significantly impacting the local economy by empowering women entrepreneurs.

**(i) Facilitating Business Expansion and Diversification**

**Example: Equipment Financing for Manufacturing SMEs**

A manufacturing SME looking to increase production capacity may turn to an NBFI for equipment financing. This allows the business to purchase or lease new machinery without a significant upfront investment, thereby facilitating expansion. Bajaj Finserv, an Indian NBFI, offers equipment financing with minimal documentation and quick disbursement, enabling SMEs to swiftly capitalize on growth opportunities.

**(ii) Improving Cash Flow Management**

**Example: Invoice Financing for a Logistics Company**

A logistics company facing delays in invoice payments from clients can use invoice financing from an NBFI to improve its cash flow. This arrangement allows the company to receive the majority of the invoice amount upfront from the NBFI, thereby ensuring that operational costs are covered without waiting for the client payments. Companies like Kabbage, operating in the fintech space, offer fast and flexible invoice financing solutions to SMEs.

**(iii) Supporting International Trade and Market Expansion**

**Example: Trade Financing for Exporters**

NBFIs provide trade financing solutions that are crucial for SMEs involved in international trade. For instance, an SME exporter can use letters of credit offered by NBFIs to ensure payment security from overseas buyers. Trade Finance Global, a UK-based NBFI, specializes in trade finance, offering solutions like letters of credit and export factoring, which help SMEs expand into new international markets with reduced risk.

**(iv) Offering Risk Management Solutions**



Published by :Sai College, Bhilai

**Example: Credit Insurance for Suppliers**

NBFIs provide credit insurance solutions that safeguard suppliers from the potential loss of payment by their purchasers. This is particularly valuable for SMEs with limited financial buffers. Euler Hermes is an example of an NBFI providing credit insurance, allowing SMEs to safely expand their customer base while mitigating the risk of bad debt.

**(v) Providing Financial Advisory and Market Access**

**Example: Advisory Services for Tech Startups**

Some NBFIs offer advisory services alongside financial products, assisting SMEs in areas such as financial planning, market analysis, and digital transformation. For example, Silicon Valley Bank (SVB) provides both financing and advisory services to tech startups, helping them navigate growth challenges and scale effectively.

## 10. CHALLENGES FACED BY NBFIs IN SERVICING SMEs IN TWO-TIER CITIES.

NBFIs play aimportant role in providing financial services to Small and Medium Enterprises (SMEs), especially in two-tier cities where traditional banking services may be limited. However, NBFIs face several challenges in servicing these SMEs, which can affect their ability to support the growth and sustainability of small businesses in these regions(Fila, J. 2018; Nanedo, & Donleavy, 2018). Understanding these challenges is key to improving financial inclusion and support for SMEs. Here are some of the challenges faced by NBFIs in servicing SMEs in two-tier cities:

### 1. Risk Assessment and Management

**Challenge:** Assessing the creditworthiness of SMEs, which often lack formal financial records or collateral, poses a significant challenge. This uncertainty increases the perceived risk, potentially leading to higher interest rates or stricter lending criteria.

**Impact:** It can limit access to finance for SMEs, hindering their growth and operational efficiency.

### 2. Regulatory Compliance

**Challenge:** NBFIs must comply with different regulatory obligations that can differ greatly between jurisdictions.. Complying with these regulations, especially in different two-tier cities with their local laws, can be complex and costly.

**Impact:** The burden of compliance can divert resources away from core activities, impacting the NBFI's ability to serve SMEs effectively.

### 3. Competition with Traditional Banks and Other NBFIs

**Challenge:** NBFIs face intense competition from traditional banks that have started to offer similar products tailored to SMEs. Additionally, the proliferation of fintech companies and other NBFIs increases competition within the sector.

**Impact:** This competition can squeeze profit margins and compel NBFIs to take on higher-risk clients to maintain their market share, potentially affecting their financial stability.

 ISBN : 978-81-957386-4-9

**4. Access to Capital**

**Challenge**: NBFIs themselves often face challenges in accessing capital at competitive rates, which can limit their lending capacity to SMEs.

**Impact:** Without sufficient capital, NBFIs may be unable to meet the demand for loans from SMEs, particularly during peak periods of business activity.

**5. Geographical and Infrastructure Limitations**

**Challenge:** Two-tier cities may lack the necessary infrastructure, such as reliable internet access, which is crucial for digital lending platforms. Geographical limitations can also make it difficult for NBFIs to reach potential SME clients and assess their operations.

**Impact:** These limitations can hinder the ability of NBFIs to provide timely and efficient services to SMEs in these regions.

**6. Customer Awareness and Financial Literacy**

**Challenge:** There is often a lack of awareness among SMEs in two-tier cities about the range of financial products available to them beyond traditional bank loans. Additionally, limited financial literacy can make it difficult for SMEs to understand and utilize these financial products effectively.

**Impact:** This lack of awareness and understanding can prevent SMEs from seeking and benefiting from the services offered by NBFIs.

**11. OPPORTUNITIES FOR NBFIs IN THE EVOLVING ECONOMIC LANDSCAPE OF CHHATTISGARH.**

**1. Promoting Industrial and Manufacturing Sectors:** Chhattisgarh possesses abundant mineral resources and has a robust foundation in industries such as steel, power, and mining. NBFIs can provide specific financial solutions for SMEs and bigger companies in many industries. These solutions include choices such as asset financing, working capital loans, and project financing. This assistance can facilitate the expansion of organizations' operations, enable investment in novel technology, and bolster productivity.

**2. Agricultural Financing and Value Chain Support:** Given the substantial reliance of the state's economy on agriculture, there exists a notable potential for NBFIs to offer specialized financial products for this industry. This encompasses agricultural loans, funding for machinery, and insurance offerings. Moreover, NBFIs can have a pivotal role in the value chain by providing financial solutions that facilitate the processing, storage, and distribution of agricultural products**.**

**3. Infrastructure Development:** Chhattisgarh's ongoing investments in infrastructure, such as roads, bridges, and energy projects, can be supported by NBFIs through finance. NBFIs can participate in project finance, public-private partnership (PPP) models, and bonds to support the state's infrastructure development objectives.

**4. Micro, Small, and Medium Enterprises (MSMEs) Growth:** The MSME sector is a critical driver of economic growth and employment in Chhattisgarh. NBFIs can offer a range of financial products to MSMEs, including microloans, invoice financing, and growth capital, addressing the gap left by traditional banking institutions(Sharma, P. 2015). Tailored financial advisory services can also support MSMEs in business planning, risk management, and market expansion.

**5. Renewable Energy Projects:** Chhattisgarh offers investment prospects in renewable energy projects, namely in solar and wind power, due to the growing emphasis on sustainable development. NBFIs have the ability to provide funding for these programs, thereby assisting the state in achieving its objectives of promoting sustainable energy sources and preserving the environment..

**6. Digital Finance and Fintech Innovation:** The push towards digitalization across India, including in Chhattisgarh, opens up avenues for NBFIs to innovate in digital finance solutions. This includes mobile banking, digital lending platforms, and blockchain applications for secure transactions (Ananth, et. al., 2004). By leveraging technology, NBFIs can enhance their service delivery, reach underserved markets, and provide more efficient financial services.

## 12. FUTURE TRENDS IN FINANCIAL SUPPORT FOR SMES BY NBFIS.

The financial assistance provided to Small and Medium Enterprises by Non-Banking Financial Institutions is undergoing significant changes due to developments in technology, alterations in regulations, and fluctuations in economic situations. In the future, numerous trends are expected to have a significant impact on the way NBFIs provide financial support to SMEs.

- **Digital and Technological Integration:**The process of digitalization is poised to completely transform how non-bank financial institutions assist small and medium enterprises. The integration of fintech technologies, blockchain technology, and artificial intelligence will enhance the efficiency and customization of financial services. Gomber et al. (2018) propose that integrating fintech innovations can significantly decrease transaction costs and improve the accessibility of financial services for SMEs.
- **Alternative Credit Scoring Models:** Using alternative data in credit scoring is a growing trend, as highlighted by (Jagtiani, & Lemieux, 2019). They discuss how fintech lenders incorporate a wide array of digital footprints to assess creditworthiness, potentially increasing SMEs' access to credit.
- **Focus on Sustainable Financing:** Sustainable and green financing is gaining traction among NBFIs, driven by increasing awareness of environmental and social governance (ESG) principles. As (Scholtens, B. 2017) points out, there is a growing demand for financing that supports environmental sustainability, with NBFIs playing a crucial role in funding SMEs committed to sustainable practices.
- **Peer-to-Peer Lending and Crowdfunding:** The expansion of peer-to-peer (P2P) lending and crowdfunding platforms represents a significant shift in how SMEs access funds. (Morse, A. 2015) suggests that these platforms democratize access to financial resources, enabling SMEs to bypass traditional financial intermediaries.
- **Regulatory Evolution:** The regulatory landscape for NBFIs is expected to evolve to better accommodate innovations in financial technology and services. (Cumming and Hornuf (2019) investigate the potential of regulatory sandboxes in balancing the promotion of innovation with the protection of consumer interests and financial stability.

## 13. ANALYSIS OF CURRENT POLICIES AFFECTING NBFIs AND SMEs.

 ISBN : 978-81-957386-4-9

The interaction between Non-Banking Financial Institutionsand Small and Medium Enterprises is greatly impacted by various policies at both the domestic and global levels. These policies, which seek to govern financial activities, foster economic growth, and guarantee financial stability, have significant consequences for the operational mechanics of NBFIs and the availability of financial services for SMEs. Below is an examination of the existing policies that have an impact on NBFIs and SMEs:

**1. Regulatory Policies for NBFIs:** The regulatory policies enforced by financial regulatory authorities like the Reserve Bank of India (RBI), the Financial Conduct Authority (FCA) in the UK, or the Consumer Financial Protection Bureau (CFPB) in the US, aim to maintain the stability and reliability of the financial system. The rules encompass capital adequacy criteria, liquidity norms, and risk management guidelines. Although tight regulatory requirements are intended to reduce systemic risks, they can also create difficulties NBFIs, thereby restricting their ability to successfully service SMEs.

**2. Access to Finance for SMEs:** Policies that aim to improve small and medium-sized enterprises' access to financial resources are crucial for promoting entrepreneurship and facilitating the growth of SMEs. This encompasses government-supported loan guarantee initiatives, such as the Small Business Administration (SBA) credit programs in the United States or the Credit Guarantee Fund Scheme for Micro and Small Enterprises (CGTMSE) in India. Implementing such rules can mitigate the risk for NBFIs and incentivize them to provide loans to (SMEs, thus improving SMEs' ability to get crucial financial resources.

**3. Interest Rate Policies:** The cost of borrowing for SMEs is directly influenced by interest rate policies that are set by central banks. Decreasing interest rates can diminish the expense of borrowing, so rendering loans more accessible to SMEs. Nevertheless, in a situation when interest rates are low, NBFIs may encounter limited interest spreads, thereby impacting their inclination to provide loans to more precarious sectors such as small and SMEs.

**4. Fintech Regulation:** The exponential expansion of fintech companies providing groundbreaking financial services to SMEs has compelled regulatory authorities to formulate tailored laws for this industry. Enacting policies that promote a conducive environment for fintech growth can enhance the efficiency and customization of financial services for SMEs. Nevertheless, the task of guaranteeing sufficient safeguards for consumers and maintaining financial stability in a swiftly changing fintech environment continues to be a difficult endeavor.

**5. Anti-Money Laundering (AML) and Know Your Customer (KYC) Regulations:** AML and KYC policies are implemented to thwart illicit financial activities and uphold the trustworthiness of financial transactions. While necessary, the compliance burden associated with these regulations can be significant for NBFIs, potentially increasing operational costs and affecting the efficiency of service delivery to SMEs.

**6. Tax Policies:**Tax policies, including corporate tax rates and tax incentives for SMEs, can have a substantial impact on the financial health of SMEs and their ability to access and afford financial services from NBFIs. Policies that offer tax advantages for SMEs or provide tax benefits for NBFIs lending to SMEs can support the growth and development of the SME sector.



**Published by :Sai College, Bhilai**

## 14. RECOMMENDATIONS FOR POLICY CHANGES TO PROMOTE THE GROWTH OF SMEs THROUGH NBFIs.

In order to foster the expansion of Small and Medium Enterprises through Non-Banking Financial Institutions, specific policy modifications are required. The objective of these modifications should be to optimize the operational effectiveness of NBFIs, promote the availability of financial resources for SMEs, and establish a regulatory framework that is conducive to their growth and development (Khowaja, et.al., 2021; Bhadauria, M. G. S. 2023). Here are various policy recommendations based on findings from the existing literature:

**1. Simplify Regulatory Requirements for NBFIs:** Regulatory simplification can help NBFIs operate more efficiently and extend more services to SMEs. Authorities could consider streamlining approval processes and reducing compliance burdens while maintaining financial stability. As suggested by (Cumming,& Johan, 2016), creating a more flexible regulatory framework for NBFIs can facilitate their growth and enable them to support SMEs more effectively.

**2. Enhance Government-Backed Loan Guarantee Programs:** Expanding government-backed loan guarantee programs can reduce the perceived risk of lending to SMEs, encouraging NBFIs to offer more loans to this sector. A study by (Uchida, Udell, &Yamori, 2012) highlights the effectiveness of loan guarantees in facilitating SME financing, recommending an expansion of such programs to enhance access to credit for SMEs.

**3. Promote Financial Literacy and Advisory Services:** Investing in financial literacy programs for SMEs can help them make better financial decisions and more effectively utilize NBFI services. NBFIs could be incentivized to offer advisory services to SMEs, covering areas like financial management, risk assessment, and growth strategies. This approach is consistent with the conclusions of (Lusardi, & Mitchell, 2014), who highlight the significance of financial literacy in enabling firms to obtain and handle financial resources.

**4. Foster Innovation through FinTech Partnerships:** Policies that encourage partnerships between NBFIs and FinTech companies can lead to the development of innovative financial products tailored to SMEs. Regulatory frameworks that support technological innovation in financial services, as discussed by Philippon, T. (2016), can enhance the efficiency and accessibility of financial services for SMEs.

**5. Develop Specialized Financing Instruments for SMEs:** Introducing specialized financing instruments, such as revenue-based financing or SME bonds, can provide SMEs with more options to meet their funding needs. Policymakers could facilitate the development of such instruments, potentially offering tax incentives or regulatory support to encourage their use. A report by (Kerr, Lerner, &Schoar, 2014) on the impact of alternative financing highlights the potential of innovative financial instruments to support SME growth.

**6. Enhance Cross-Border Financing Opportunities:** To support SMEs looking to expand internationally, policies should facilitate cross-border financing opportunities. This includes harmonizing regulatory standards and creating platforms for international financing collaborations. (Cassar, A. 2004) discusses the significance of cross-border financing for SME growth and the need for supportive.

## 15. CONCLUSION

Non-Bank Financial Institutions (NBFIs) are crucial in facilitating the expansion and long-term viability of Small and Medium Enterprises (SMEs) in Chhattisgarh. The strategic significance of Non-Bank Financial Institutions (NBFIs) is apparent in their capacity to offer adaptable, inventive, and easily obtainable financial solutions customized to the requirements of SMEs. In the process of regional development, the interdependent connection between NBFIs andSMEs is anticipated to become increasingly vital. This connection will contribute to economic expansion and facilitate the establishment of a strong and inclusive financial system in Chhattisgarh.

**Summary of key findings**

**Accessibility and Flexibility**: NBFIs provide financial services that are more accessible and flexible than those offered by regular banks, making them essential for SMEs that may not meet the strict requirements of conventional banking.

**Innovative Financial Products:**NBFIs play a crucial role in addressing the financing challenges encountered by SMEs by offering innovative financial products that are specifically designed to meet their unique needs. These products include invoice financing, microloans, and asset-based lending.

**Digital Integration:**The incorporation of digital technology by NBFIs has greatly increased the effectiveness of financial transactions, expanding access to funding for Small and Medium Enterprises (SMEs) and fostering a more equitable financial ecosystem in Chhattisgarh.

**Regulatory and Policy Challenges:**Regulatory and legislative obstacles persist in the realm of NBFIs, hindering their operating dynamics and their capacity to effectively assist SMEs in their growth.

**The strategic importance of NBFIs in fostering the growth of SMEs in Chhattisgarh**.

NBFIs have become important allies for SMEs in Chhattisgarh, playing an essential component in the economic progress of the area. By providing essential financial services, NBFIs enable SMEs to overcome liquidity constraints, invest in growth opportunities, and navigate the challenges of market expansion. Furthermore, NBFIs contribute to financial inclusion, ensuring that SMEs in underserved and rural areas of Chhattisgarh have access to the necessary financial resources to thrive.

## 16. FUTURE OUTLOOK FOR SMEs AND NBFIS IN THE REGION.

**The outlook for SMEs and NBFIs in Chhattisgarh appears promising, driven by several positive trends:**

**Technological Advancements**: Continued technological innovation is expected to streamline financial services further, making them more accessible and cost-effective for SMEs.

**Regulatory Reforms:** Anticipated regulatory reforms aimed at simplifying the operational environment for NBFIs could enhance their capacity to support SMEs, fostering a more vibrant entrepreneurial ecosystem in Chhattisgarh.

**Sustainable and Inclusive Growth:** The increasing focus on sustainable and inclusive growth presents opportunities for NBFIs to develop specialized financial products that support environmentally and socially responsible SMEs.

**Cross-sector Partnerships:** Collaborations between NBFIs, technology firms, and government agencies are likely to increase, leading to more integrated and comprehensive support services for SMEs.

**References**


- Adisesha, A., & Reddy, B. A. (2020) Performance of the MSME Sector in India: An Overview. AIMS Journal of Management, 36.
- Agrawal, S., & Agrawal, A. K. (2021) Position of MSME's in Chhattisgarh. Shodh samagam, Volume-04, Issue-03ISSN : 2581-6918
- Ananth, B., Barooah, B., Ruchismita, R., & Bhatnagar, A. (2004). A Blueprint for the Delivery of Comprehensive Financial Services to the Poor in India. Center for Micro Finance, Working Paper Series, December..
- Avevor, E. (2016). Challenges faced by SMEs when accessing fund from financial institutions in Ghana.
- Bhadauria, M. G. S. (2023). Role Of Non-Banking Financial Institutions Towards Sustainable Development of Small and Medium Enterprises. RivistaItaliana di FilosofiaAnalitica Junior, 14(2), 57-71.
- Cassar, A. (2004). The financing of business start-ups. Journal of Business Venturing, 19(2), 261-283.
- Chilembo, T. (2021). A study of the factors affecting small and medium enterprises (SMEs) access to finance. A case of Lusaka based SMEs.
- Cumming, D. J., &Hornuf, L. (2019). The Economics of Cryptocurrencies—Bitcoin and Beyond. Journal of Financial Regulation, 5(1), 1-30.
- Cumming, D., & Johan, S. (2016). The problems of and regulatory solutions to crowdfunding. University of Pennsylvania Journal of Business Law, 19, 607-669.
- Dixit, M. R. (2022) Role of Digital Marketing in the Growth of MSME Sector. Contribution of msme sector towards growth of 5-trillionindian economy, 67.
- Fila, J. (2018). Microfinance institutions in Poland–towards preventing social and financial exclusion. Economic and Environmental Studies, 18(2 (46)), 531-549.
- Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services. Journal of Management Information Systems, 35(1), 220-265.
- Hasan, R. A., & Islam, K. Z. (2008). Bridging the Gap between Microfinance and SME Financing in Bangladesh: unlocking the potentials. Daffodil International University Journal of Business and Economic, 3(1), 41-57.
- Jagtiani, J., & Lemieux, C. (2019). The Roles of Alternative Data and Machine Learning in Fintech Lending: Evidence from the LendingClub Consumer Platform. Financial Management, 48(4), 1009-1029.

- Jain, H., Parbat, T., &Benhal, R. (2021). Analysis of growth prospects of non-banking financial companies in india.
- Kerr, W. R., Lerner, J., &Schoar, A. (2014). The consequences of entrepreneurial finance: A regression discontinuity analysis. Review of Financial Studies, 27(1), 20-55.
- Khowaja, I. A., Talpur, U., Soomro, S. H., & Khan, M. S. (2021). The non-banking financial institutions in perspective of economic growth of Pakistan. Applied Economics Letters, 28(8), 701-706.
- Kumar, G. (2023). A Comprehensive Study of Micro, Small and Medium Enterprises (MSMEs) and their Role in Fostering Inclusive Economic Growth in India. International Journal of Education and Management Studies, 13(3), 338-343.
- Kumar, Y., Pandey, G., William Wordsworth, A. P., & Chauhan, J. S. (2018). Regional Imbalances in MSME Growth in India. Reflecting on India's Development: Employment, Skill and Health, 17-44.
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. Journal of Economic Literature, 52(1), 5-44.
- Morse, A. (2015). Peer-to-Peer Crowdfunding: Information and the Potential for Disruption in Consumer Lending. Annual Review of Financial Economics, 7, 463-482.
- Nanedo, P., & Donleavy, G. (2018). Exploration of Microfinance and its Effectiveness in Promoting Small Business Growth and Sustainability in Ghana.
- Panda, B. (2023). Asymmetric information and market failure in bank-nbfc co-lending model (Doctoral dissertation, Indian Institute of Technology, Kanpur).
- Patra, S., & Chaubey, D. S. (2014). Factors influencing industrial performance: An empirical study with special reference to the MSMEs of Uttarakhand state. International Journal of Management Technology (IJMT), 22(1), 12-28.
- Peprah, C. (2016). Challenges SMEs face in acquiring loans from banks: A comparative study between Finland and Ghana.
- Philippon, T. (2016). The FinTech opportunity. BIS Working Papers, No 655.
- Rajeevan, N., Sulphey, M. M., & Rajasekar, S. (2015). The critical role of micro, small & medium enterprises in employment generation: An Indian experience. Asian Social Science, 11(24), 258.
- Saxena, A., & Jagota, R. (2015). Should the MSMEs be governed the corporate way?. Indian Journal of Corporate Governance, 8(1), 54-67.
- Scholtens, B. (2017). Why Finance Should Care about Ecology. Trends in Ecology & Evolution, 32(7), 500-505.
- Sharma, P. (2015) Opportunities and challenges in the microfinance sector of India with special reference to Haryana. International Journal of Research in Management & Social Science, 26
- Singh, C., &Wasdani, P. (2016). Finance for micro, small, and medium-sized enterprises in India: Sources and challenges.
- Singh, P. (2010). Understanding the structure of Micro Finance Institutions in India and suggesting a Regulatory Framework. Finance and Accounting department, IIM Lucknow.
- Titus, M. (2000). Building the regulatory framework for microfinance in India. Small Enterprise Development, 11(4), 24-29.

 ISBN : 978-81-957386-4-9


- Tripathi, M. A., & Soni, R. K. Factors Affecting Financial Inclusion Practices on Rural masses in Durg Division.
- Uchida, H., Udell, G. F., &Yamori, N. (2012). Loan officers and relationship lending to SMEs. Journal of Financial Intermediation, 21(1), 97-122.

# CHAPTER -2

# VOCATIONAL EDUCATION

# (A STUDY ON GOVERNMENT SCHOOL OF SAGAR DISTRICT M.P, Bharat)

**Dr.Gyanandre Tripathi[1]and Dr. Abhishikha Patel[2]**

[1]Associate Professor, *G.S College of Commerce and Management, Jabalpur.*

*[2]Assistant Professor, Sai College, Sector 6 Bhilai*

gyanandre@gmail.com, patelabhishikha509@gmail.com

**ABSTRACT**

The aim of this paper is to identify vocational education programs conducting in the only EFA school, Pt. Ravi Shankar Shukla Government Girls Higher Secondary School of Sagar District of Madhya Pradesh State, Bharat.The duration of this study was from July 2022 to November 2023. Statistical population consists of 1400students from Pt. Ravi Shankar Shukla Government Girls Higher Secondary School of Sagar District of Madhya Pradeshamong which data was collected from 380of them and 200 was used for data analysis.A researcher-structured questionnaire was applied to measure the data. Descriptive statistics were used to analyse the collected data.Findings showed that vocational education in Beauty and wellness trade was most influential, comparatively IT and AI trades and also useful for students to become socially and financially independent self-employer at early age in their respective geographical territory.

**KEYWORDS:**EFA (Education for all), Vocational education, Education for Sustainable development (ESD).

## INTRODUCTION

Sustainable development is a development that addresses the needs of the present without compromising the abilities of forthcoming generations to meet their specific needs. The basic principle behind sustainable development is a combination of economic, social and environmental conditions that are shared by all of us***(Sulaiman, 2019)***. Technical and vocational educations are one of those ways by which a skilfully trained and graduated person becomes ready to commit and enter any related business.Education for sustainability utilizes the entire education system to provide students with what they need to do to transform our societies to achieve a sustainable future. Sustainable development should also include an acknowledgment and respect for the positive heritage and legacy of past generations. Among the economic, social, political, cultural, and educational systems in any country, undoubtedly the economic and educational systems have played the most significant role and they can change and develop any country by which that country can achieve sustainable development ***(Behroozi,2014)***. The introduction of vocational education or skill education programs in India began with the implementation of National Skill Qualification Framework (NSQF) through institutions of Higher Education***(Deshmukh, 2022)***. This is an opportunity to bridge the skill gap of learners and catering to requirements in various industry sectors of our country thereby improving employability of our youth. the objectives of the NEP and targets set out for the SDG 4 that is, “ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all.”

## REVIEW OF LITERATURE

1. **BELLO et al (2007)**researcher discussed in their study that “According to World Bank (2006), the term "youth" in general refers to those who are between the ages of 15 - 25.According to the National Policy on Education (NPE, 2004), “the aim of secondary school is to make a person to be productive to himself and the society.These courses are supposed to provide definite purpose and meaning to education by relating to occupational goals, provides technical knowledge and work skills necessary for employment, and develop abilities, attitudes, work habits and appreciation which contributes to a satisfying and productive life.”
2. **Mohammad Behroozi (2014)**has discussed in his study about The Function of Technical and Vocational Education and identified that Internal function consists of Curricular Participation (CP), Productivity Rate (PR), and Annual Growth Index and External Function of technical and vocational educations are Employment, Social Dimension Individual Dimension were the variables. he concluded that “the lack of government investment in technical and vocational sections including equipment of workshops, laboratories for technical education has brought out a steady growth and gradually has made it decrease and therefore, it has affected external function and has brought out social and individual inability and consequently it caused inability in technical and vocational sections to find appropriate jobs and get alumni ready for their working life.” this study was based on Bushehr city, Iran.
3. **Dr. R.K. Pathak (2020)**in his background note concluded that “Best practices in vocational education and training with focus on specific criteria which can be replicated in different institutions in the relevant areas need to be identified and shared at various levels to promote effectiveness in pedagogical and other aspects of implementation of VET.”
4. **Dr. Namita Sharma (2022)**discussed about Vocational Education and Nep 2020 in her study that “Vocational education provides learners with essential skills supporting their personal development, enhancing their employability and encouraging active citizenship. It boosts enterprise performance, competitiveness, research and innovation.” in her study she also discussed about Problems of Vocational Education in the Present Education System that are Irrelevance of courses leading to a mismatch between the labour market needs and the training skills • Lack of focus on emerging areas of industrial development • Inadequate syllabi being followed in schools and use of obsolete equipment • Lack of Institutions related to Vocational Education • Inadequate practical training skills acquired by the students which are not useful in practical life • Lack of good Teachers • Lack of social acceptability • Lack of employment opportunities • Shortage of practical • Shortage of continuous Education • Lack of Industry Participation • Lack of opportunities for continuous skill up-gradation. • Overall poor enrolment in vocational stream in such schools.
5. **Dr. Nilima Deshmukh (2022)**in her study about Regional Language and Vocational Education, discussed that “recommendation of the NEP 2020 advocating the mother tongue or regional language to be the medium of instruction for at least the primary or secondary levels is not new. The report of the Kothari Commission on Education and National Development as also the

Right to Education Act 2009 had also emphasized on the mother language as medium of instruction in school education." Low English language proficiency is one of the reasons for dropouts in higher education as well. Prof. M. P. Punia, Vice Chairman, AICTE listed out the industry observations about engineering graduates in the country most of which are related to lack of application of knowledge to real life situations and can be inferred as being due to low language proficiencies and practical training.

6. **Munish Saini et al (2022)**their study was on SDG 4 to extract the pattern of association among the indicators. the aim of this study was to look at the perspectives of the Sustainable Development Goals improvised to provide quality education. We also analyse the existing state of multiple initiatives implemented by the Indian government in the pathway to achieving objectives of quality education (SDG 4).India has made great headway toward executing the "Education for All" plan (Pandey, 2018) mentioned in their study.Several important programs and initiatives like Sarva Sikhsha Avyan were established as a basic right to provide obligatory elementary schooling for all children aged 6 to 14 years.the Indian government has launched a slew of activities aimed at highlighting and achieving SDG 4 goals. SWAYAM and DIKSHA among other attempts, have shown to be ineffective in the pandemic scenario.The government of India has created scholarship programs such as UDAAN16 to improve the spirit of women and encourage them to pursue technical and vocational education.
7. **Das and Navita (2022)**their study was about VOCATIONAL EDUCATION AND ENTREPRENEURSHIP IN NEP 2020. They emphasized in this study that "Technical skill which are not in demand, there's a gap which means there is a demand of skills and current skills are not sufficient for the industry so there's a demand for the future and the skills such as social skills, basic skills, system abilities, complex problem solving skills, and resource management strength are on the negative side, indicating that they are in excess and that industry does not require them.
8. **Gowhar (2022)**in his study CHALLENGES AND POSSIBLE SOLUTIONS OF VOCATIONAL EDUCATION AND TRAINING IN INDIA, he concluded that "Policy makers in India are continuously and strongly emphasizing on VET in order to produce skilled workforce highly demanded in the labor market. Although, numerous initiatives were taken by the government so far, yet the capacity of VET ecosystem in our country to meet the labor market requirements is limited. Much more efforts are required for restructuring and transforming the entire ecosystem of VET in order to make it much more progressive."
9. **Daniel et al (2022)**in their study The effectiveness of education for sustainable development revisited – a longitudinal study on secondary students' action competence for sustainability. They concluded that this study supports the argument that ESD as a teaching approach is effective for the development of action competence for sustainability among students. Moreover, this study also shows that teacher professional development initiatives can develop ESD teaching over time, at least the holistic dimension, and thereby promote student development of action competence for sustainability.
10. **Laskar (2023)**in his study investigate about Implementation of Vocational Education and its challengesinHailakandi District of Assam. He has mentioned in his study that "Challenges for Implementation of Vocational Education in Secondary Level Schools: a) Lack of funds is one of the major challenges discussed by majority of the respondents. b) Lack of employment opportunities due to shortage of industries and factories. c) Lack of proper infrastructure to

generate vocational courses. d) Shortage of trained teachers, well experienced faculties or skilled instructors for target course will be a major challenge. e) In order to provide required tools and equipment's for vocational courses a lot of resources are required which may lackbehind. f) Poor mind-set of the people and lack of social acceptability. g) There will be lack of industries and practical centres for internship while taking up such courses. h) Not everyone will be interested to take vocational courses if made compulsory. i) Students may give much importance to vocational course rather than theory. j) As the vocational courses involve practices and exposure/study trips, the requirement of huge financial allocation is necessary. k) From the grass root level itself more focus and motivation is required in order to inculcate interest among the students for choosing such vocation. l) Ignorance to vocational education with the mind-set that such courses are taken up only by dropouts. m) Vocational education maybe a hindrance to regular course while giving much importance to vocational course. n) It may be a huge burden for the already stressed education system with additional responsibilities."

## OBJECTIVES

- To find vocational courses conducting in the EFA school, Pt. Ravi Shankar Shukla **Government Girls Higher Secondary School** of Sagar District of Madhya Pradesh.
- To identify the most accepted trade among students.
- To investigate the benefit students getting.

## RESEARCH METHODOLOGY

Descriptive research based on primary and secondary data sources. random sampling methods used for data collection. Frequency and percentage analysis tools used for data analyses. Likert scale used for responses.

## DATA ANALYSIS, PRESENTATION AND INTERPRETATION

Total respondents participated in this study was 380 from 1400 students from class 9th to 12th out of which 200 was taken for data analysis as per the calculation by sample size calculator. net website. Demographic questions include class, language preferred, Trade learning. descriptive opinion questions include satisfaction level of trade training program.

**TABLE 1 Demographic responses**

| Demographic question | Options | Responses frequencies | Percentage |
|---|---|---|---|
| Class | $9^{th}$ | 45 | 22 |
| | $10^{th}$ | 38 | 19 |
| | $11^{th}$ | 68 | 34 |


Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

| | | | |
|---|---|---|---|
| | 12th | 49 | 25 |
| **Total** | | **200** | **100%** |
| **Language preferred** | English | 89 | 45% |
| | Hindi | 67 | 34% |
| | Bundelkhandi | 44 | 21% |
| **Total** | | **200** | **100%** |
| **Trade Learning** | Beauty and wellness | 114 | 57% |
| | IT | 27 | 13% |
| | AI | 59 | 30% |
| **Total** | | **200** | **100%** |

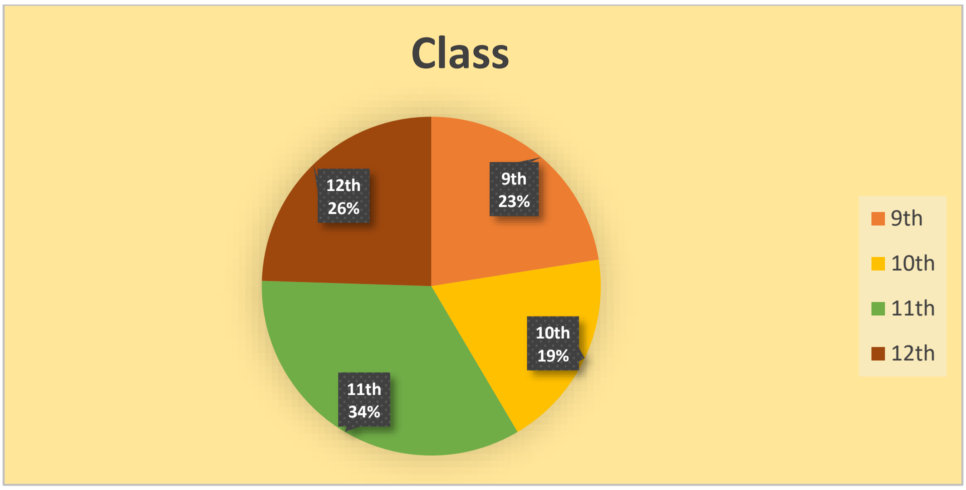



**Chart 1 Class**

**Interpretation:** This represents student from different classes. 34% students from 11th class participated in vocational learning trade.

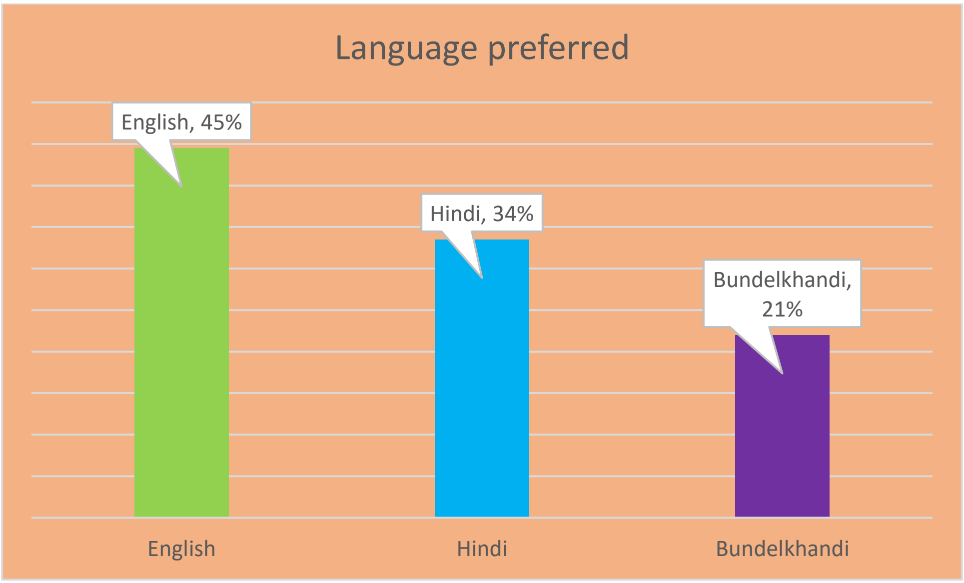



**Chart 2 Language Preferred**

**Interpretation:** This represents students' language preference, in which language they were most comfortable and easy for them to understand. English language was mostly accepted by students.

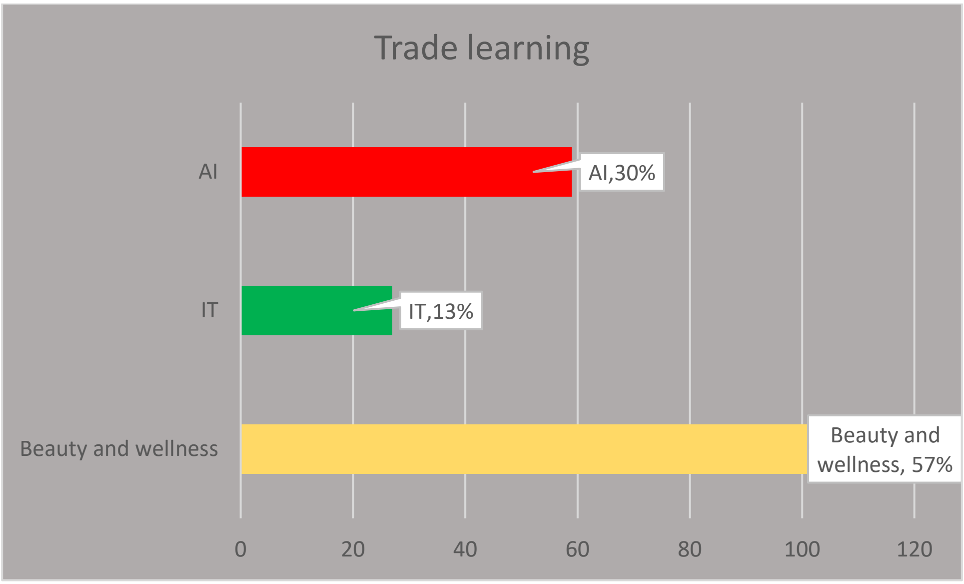



**Chart 3 Trade Learning**

**Interpretation:**This represents which trade is mostly learned by students. beauty and wellness have 57% students learning this trade.

**TABLE 2 Opinion questions include satisfaction level of trade training program**

| | Question | Response levels | | | | | Total |
|---|---|---|---|---|---|---|---|
| | | Strongly dissatisfied | Dissatisfied | neutral | satisfied | Strongly satisfied | |
| 1. | Are you satisfied with the trainer training methods? | 3 | 2 | 5 | 87 | 103 | 200 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2. | Are you satisfied with the career scope counselling for respective trade? | 1 | 4 | 21 | 76 | 98 | 200 |
| 3. | Are you satisfied with the Labs and equipment provided by the school administration? | 0 | 0 | 39 | 83 | 78 | 200 |
| 4. | Are you satisfied with the outcomes you are experiencing? | 0 | 0 | 0 | 63 | 137 | 200 |
| 5. | Are you satisfied with your performance after learning this trade? | 2 | 8 | 43 | 78 | 69 | 200 |

## FINDINGS

- After investigating the vocational courses conducting in EFA school, Pt. Ravi Shankar Shukla **Government Girls Higher Secondary School** of Sagar District of Madhya Pradesh there were three trades was active, they are Beauty and wellness, AI and IT.
- Beauty and Wellness was the most accepted trade among students.
- The benefits students experiencing after learning these courses were that they are

a) aware about themselves,
b) can use various social media platform for work purpose,
c) can generate self –income,
d) Get various platform to represent themselves and their talent and skill.

## CONCLUSION

After analysing the data collected as well as one to one information from school representative and secondary sources researcher concluded that vocational education is providing in this school genuinely in three trade with full facility along with support and platforms by state government so student can present their talent and skills.

While interview during survey it was found that school also provides life skill education called “UMANG” for girl students mental, physical and emotional health. the students get the opportunity to represent themselves in “ANUGUNJ” a cultural feast organize by state government at district level where schools of district can participate under various art activities.

This school also stream their EFA activities on You-tube channel “EFA School Media” and EFA School Radio. this initiative works as encouragement among students. At last researcher concluded that students are satisfied with Beauty and wellness trade training as the learn self-grooming, hygiene and basics of massage, makeup from which students also started earning within their geographical territory.

## LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study is limited to only one school and therefore the information regarding vocational education program is limited to the trades conducting in this school only. This study would be extended up to other schools of same district as well as comparative analysis also be done between private and government schools.

## ACKNOWLEDGEMENT

Researcher is grateful to Ms. MEENAKSHI PATEL - Ucch Madhyamik Shikshak, EFA school, Pt. Ravi Shankar Shukla Government Girls Higher Secondary School of Sagar District of Madhya Pradesh State, Bharatfor giving support and information needed for this article.

## ACTUAL SURVEY PHOTOGRAPHS

 ISBN : 978-81-957386-4-9


**AI and IT classes**

**Beauty and wellness education**


**Life skill education**



Published by :Sai College, Bhilai

**REFERENCES**


1. Mohammad Behroozi A Survey About The Function Of Technical And Vocational Education: An Empirical Study In Bushehr City Procedia - Social and Behavioral Sciences 143 (2014) 265 – 269
2. Dr. Md. Moazzam Sulaiman2019 Education for Sustainable DevelopmentIJCRT | Volume 7, Issue 4 December 2019 | ISSN: 2320-2882, 813-823
3. Dr. Nilima DeshmukhNEP 2020, Regional Language and Vocational Education2022 IJCRT | Volume 10, Issue 5 May 2022 | ISSN: 2320-2882, 276-278
4. Anita Pipere and Jyrki ReunamoDoing research on education for sustainable developmentInternational Journal of Sustainability in Higher Education Vol. 12 No. 2, 2011 pp. 110-124 q Emerald Group Publishing Limited 1467-6370 DOI 10.1108/14676371111118183
5. M. I. BELLO, I. M. DANJUMA and A. Y. ADAMUA Survey of Vocational Training Needs of 15 – 25 Years Old Out-of-School Youths in Bauchi MetropolisJournal of Career and Technical Education, Vol. 23, No. 1, Fall, 2007 – Page 55
6. Dr. Namita SharmaVocational Education and Nep 2020International Journal of Creative Research Thoughts (IJCRT) pp: 110-113
7. Dr. R.K. Pathak, PSSCIVE, NCERTReimagining Vocational Education and Skill-building Background Note
8. M. Sen Gupta Vocational and Technical Education Fifth chapter of educational survey report. pp: 1508-1543
9. Munish Saini, Eshan Sengupta, Madanjit Singh, Harnoor Singh, Jaswinder Singh Sustainable Development Goal for Quality Education (SDG 4): A study on SDG 4 to extract the pattern of association among the indicators of SDG 4 employing a genetic algorithmEducation and Information Technologies (2023) 28:2031–2069
10. Jenefer Das and Navita MalikVOCATIONAL EDUCATION AND ENTREPRENEURSHIP IN NEP 2020https://www.rajasthali.marudharacollege.ac.in Volume 1, Issue 3, Apr - Jun 2022
11. Merin Lukose and Pankhuri SharmaA Study on the Role of NEP 2020: Skill Development of StudentsAmity International Journal of Teacher Education (AIJTE), Volume 9, No.1. April 2023 pp: 115-120
12. Peter Glaviˇ cIdentifying Key Issues of Education for Sustainable DevelopmentSustainability 2020, 12, 6500; doi:10.3390/su12166500
13. Taj Uddin LaskarA study on NEP 2020: Implementation of Vocational Education and its challenges in Hailakandi District of AssamInternational Journal of Research Publication and Reviews, Vol 4, no 4, pp 940-950 April 2023
14. Daniel Olsson, N. Gericke & J. Boeve-de PauwThe effectiveness of education for sustainable development revisited – a longitudinal study on secondary students' action competence for sustainabilityEnvironmental Education Research 2022, VOL. 28, NO. 3, 405–429
15. Gowhar Rashid GanieNEP, 2020: CHALLENGES AND POSSIBLE SOLUTIONS OF VOCATIONAL EDUCATION AND TRAINING IN INDIAMar, 2022. VOL.14. ISSUE NO.1 https://hrdc.gujaratuniversity.ac.in/Ejournal.

# CHAPTER- 3

# ENTREPRENEURSHIP ANDINNOVATION

**Sakan Solanki**
Research Scholar, Hemchand Yadav University, Durg ,Chhattisgarh
Sakansolanki.vjs@gmail.com

## Introduction

Intoday'sworldglobaleconomyischangingrapidly.Inthistypeofsituation,thebusinessesmustbeverycompetitivetomake,sell newandcool productsthantheircompetitors.Thosecompanieswhicharedoingthis willgeta biggershareof themarketandalso onmoreprofit. Thisisbecauseinthischangingworldcompanieshavetoalwayscomeupwithinnovativeideasandproductsandbydoingthisitmakestwiceasmuchprofitasthosethatdon't.So,alwayshavefreshideasissuperimportantforacompanyto survive in the market.

In today's world, starting new businesses and coming up with new ideas is really important forcompanies to keep growing. This is true everywhere, not just in one place or industry. Startingnewbusinessesandbeinginnovativearecrucialforsuccess,especiallyinplaceswhereeconomiesare still growing a lot. Studies show that starting new businesses and being innovative go hand inhand.Todowellandlastlongintoday'sfast-changingworld,companiesneedbothentrepreneurshipand innovation.

## Meaningof Entrepreneurship

Due to globalization and fast development in the area of technology, the entire economy is linkedwith each other where various businesses from various countries can easily get connected andcompete with each other. Due to globalization industries facing innumerable challenges like forsurvival, regular advancement of technology but on the other side this opens up many new areasfor exploration. The exploration of new markets, new economy is not a cup of tea for everyonethiscanonly bedoneby anentrepreneurwhoisregardedasrisktakerinany newfield.Entrepreneurship is an important economic force that enable any individual to grab opportunitywhereotherfindsdifficult.Entrepreneursarepersonswhoseesnewopportunitiesasagreatchanceto create something new and useful to mankind. They are the person who are responsible forchangingthetraditionalmarkettomodernmarket,traditionaltechnologyistomoderntechnologiesTheresourceswhichareavailablearemoreeffectivelyandappropriatelyusedbyentrepreneurstogenerateproductiveusageandbythisithelpsinagrowthandimprovementofsociety.Entrepreneurshavebigimpactonsocietybycreatingnewproductsandbringingnewtechnologiesthisbrings competitions and goodqualityproducts to mankind.

## MeaningofInnovation

The term innovation is a multi-stage process and this is divided in three different stages first oneis coming up with fresh ideas, second is checking those ideas whether they are good or not, andthird one is related to its actual application. Thus, innovation plays a very important role whilestartinganewbusinessorstartups.Forthisinnovationmanagementisanareawherepracticesaredon


Published by :Sai College, Bhilai

etogetanedgeoverothersandthisconsistsoflikehownewfreshideasiscreated,itsassessingcriteria and how to make available of funds to make them happen. This is a tough task but veryessentialto get succeed in thesemodern businessworld.

**Whatquality shouldbethereforsuccessfulEntrepreneur:-**

Herearethesomeofthebestqualities ofan Entrepreneur:-

**1. Creativity: -** With Creativity only one can give birth to something new maybe it can be anyidea, product, shapes, solutions of any problems. No innovation is possible in the absence ofcreativity. Entrepreneurs are good at coming up with lots of ideas and trying them out not everyideaworkbuttheylearnalotfromtrying.Thiscreativityhelpstosolvetheproblemsinadifferentmannerandletsyou to think differently.

**2. Professionalism: -** The quality of professionalism is utmost for good entrepreneurs. Thismeanstheybehavewell withtheiremployeesandtheircustomerswhichhelpsmakethecompanya good place to work. Professionalism gives birth to other qualities like reliability and discipline.This means they can reach their goals in proper time; they are well organized and set an examplefor others. Being reliable means trust. In many businesses trust in the businessman is what keepseveryone motivated and also willing to put their best. That's why professionalism is one of themostessential and utmost important qualitythat an entrepreneur to have.

**3. Risk Taking: -** To start a business the ability of risk taking is essential for an entrepreneur.If you are not ready to try new things or explore unknown things you want find anything specialand exploring the special thing can actually makes difference among others in the market andprovidealongerreturntoo.RiskTakingincludesmanythingslikeusingandapplyingdifferentofmethodsisalsocomesunderrisk,why becauseitisdifferentwhatisgenerallyaccepted.Entrepreneurslooksrisk indifferentmannertheyarealwaysreadytoinvesttheirtimeandmoneyin exploring this new area. They also have a backup plan if that not works according to theirstandards.

**4. Passion: -** An Entrepreneur should be highly passionate for their work, when your work isthat which you love the most than it will very easier to stay very excited and it makes to get intouch with something new. For an Entrepreneur passion is very important driving force whichenablesabusinessmanto strivecontinuouslyforsomethingbetter.ThishelpsandEntrepreneurtoputinextratimeat workwhichcould reallypayoffSoonerorlater.DuringtheintroductionstageeverybusinessoranyventurefacesmanyhurdlesbuttoovercomefromthischallengetheoneandonlythingisthatanEntrepreneurshouldbepassionateanddeterminedforwhatheactuallywantstoachieve and this results into achievinghisgoal.

**5. Planning: -** To get things completed in a smooth manner for this planning remains a veryimportant. This act as a strong game plan before you actually act or actually perform in real lifesituation. It is about figuring out those things which you have and how to use this available thingin an effective manner to reach desired goals. The importance of planning means a lot when theexisting situation is complex to handle in such case proper planning makes things very easy toexecute.Planningis essential tradeof successful businessman.

**6. Knowledge: -** Proper knowledge isvery importantforbeing successful.AsuccessfulEntrepreneur is a person who has in-depth and full knowledge about its industry and niche areasofmarkets. With good knowledgeithelps to overcome tough situations.

Thiskeepsupdatedaboutwhat'sgoingonintheeconomyandwhatpeopleneedinthemarketyouare in. An Entrepreneur should be aware about any new trend in the market or any technologicaladvancement, any new entry of competitors in the market. Knowledge act as a guiding force andthis helps to stay ahead of competition. Sometime a small bit of new information can be veryhelpful for making a new plan. An entrepreneur must know his strength and weaknesses so thatthey can work upon it and can result in a stronger business. A successful entrepreneur is alwaystrying to level up his knowledge and that's why he is always a learner. The more an entrepreneurknowsabout its business, the easierit is to do wellin it.

**7. Empathy:** - One essential thing that are least discussed nowadays is understanding othersfeelings called as Empathy. Empathy means knowing what others are thinking and feeling. For agoodEntrepreneurthisisveryimportanttoknoweachandeverythingoftheiremployeeswhoareworkin g under him. Remember, this are the person’s who makes business/venture successful. So,this remains very important to understand and have caring mind set towards this employee.Unhappy and unsatisfied employees are not very determined for their task but an entrepreneurcreates working environment where employees were happy to engage themselves. Empathy dealswithwhatthingsmaketheiremployeesfeelmotivated?Howtheydotheirworkeffectivelyfortheacc omplishment of goals? With the help of empathy, the workplace can be created positive andcheerful. In the absence of empathy an entrepreneur can't get connected with their employees andthisresultsintononunderstandingbetweenthem.So,empathyisoneofthemostimportantqualityofan entrepreneur to have.

**8. Customers is Everything:-**For a successful business and for successful Businessmancustomeriseverything.Inabusinesstheultimateaimofbusinessistosatisfycustomerneeds withgood quality products and services at affordable prices. The customer is the one who consumesdifferent services or goods or both and provides profit to business by purchasing their productsand services. So, this is very important for an entrepreneur to look forward for their customers orprospectivecustomers.

**Types ofEntrepreneurs:-**

1. MixedEntrepreneurship

    (a) EmployeeEntrepreneurship

    (b) CapitalistEntrepreneurship

2. PureEntrepreneurship

3. SocialEntrepreneurship

4. CollaborativeEntrepreneurship

5. InternalEntrepreneurship
6. ExternalEntrepreneurship

**(A) Employee Entrepreneurship**: - In this type of entrepreneurship employee or workersof an organization or business take on task which are generally done by the owner or manager ofthe company. This task are done by employee without reducing the overall productivity. So,entrepreneurship is not a sole responsibility of an entrepreneur but these can also be done by anemployee as well. If entrepreneurship is performed by an executive director of a company so heuses the best methods in implementing the rules, guidelines and also ensures that the employeesofthefirmmustincreasestheirinterestforthebettermentoftheenterprise.Ifthisentrepreneurs hiptaskisperformedbyanyemployeeofanenterprise,heusestoprovideseveralgreatideastohigherdepar tmentor officialinorderto bringchanges incurrent systemor product andservices.

Thisemployeeentrepreneurshipisalsocalledas(InternalEntrepreneurshiporIntra-Preneurship),a couple of years back many entrepreneurs during the introduction stage of their business used todo multiple jobs themselves due to lack of trained employees in respective fields. This means anentrepreneur have to do everything like from management to supervision and controlling all partsof the business this result into more workload on an entrepreneur and his real entrepreneurialactivity which he supposed to do is actually got hindered but nowadays this is minimized asbusiness becomes more specialized, the owner of the company does not need to do everything bythemselves. Instead they have to focus more on Entrepreneurship activity and for an entrepreneuritwillbecomemorebeneficialto dedicatetheirtimeinsearchingnewprofitavenueswhileotherswill handle daytodaytasks of enterprise.

**(B) Capitalist Entrepreneurship: -** The second type of entrepreneurship is CapitalistEntrepreneurship. Capitalist Entrepreneurship is called when a businessman who is the owner ofcapitalanddecidestostartanewventuretomakeprofitfortheapplicationofanideaintopracticein the market for the purpose of profit generation an entrepreneur either have their own capital ifnot so they can borrow money as well to put an idea into practice. An entrepreneur act as aninvestorintheirowncompany,theyhavethemindsetofputtingtheirmoneyintheirownbusiness,this is good place to reinvest. However, today there are many other ways to get fund for businessideas like taking loan from banks or partnering with other businesses. So, the role of capitalistentrepreneuris not sothat much importantin today's business worldasit mayuseto be.

**2. PureEntrepreneurship:-**
PureEntrepreneurshipisjustoppositeofemployeeentrepreneurship.Inthistypeofentrepreneurshipacti vitiescannotbeperformedbyanyemployeesor any specific agents. This is because this entrepreneurship assumes that an entrepreneur is moreeffectivelycandoajobfortheaccomplishmentofgoalascomparedtoanyotheremployee.Underthe se all the activities are solely discovered by an entrepreneur which would give high profitableresultratherthanothers.Thisentrepreneurshipdoesnotneedthepossessionoffactorofproducti on.Thisisallaboutusingtheirskillsandpersonalitytocreategoodideasandmakethemhappen.

**3. Social Entrepreneurship: -** Social entrepreneurship comprises activities to help others.HereEntrepreneurfocusesonsolvingsocialproblemsandactivitiesrelatedtobenefitthecommunityofsocietyratherthanjustmakingprofit.Everyactivityofanentrepreneurunderthis

type of entrepreneurship is focused towards bringing positive impact on society while runningtheirbusiness efficiently.

**4. Collaborative Entrepreneurship: - C**ollaborative Entrepreneurship means workingtogethertohelpcooperativeentitiesmainlyfocusedareasunderthisentrepreneurshiparefarming,economicssectorsareincluded in it.

**5. Internal Entrepreneurship: -** Internal Entrepreneurship means taking initiative andhaving the mind set of a business owner even when working for any other company. This kind ofentrepreneurship assumes that the employees working in big companies are having inherententrepreneurial qualities and traits. This mindset and attitude can be developed by taking chargeoftheirtasks andpreparingbudgetsand controllingtheirdepartmentas autonomousentities.

Moreover,InternalEntrepreneurshipisacognitiveactandthisincludessomecharacteristicswhichare:-

(i) Thisis related with beingdetermined and workingveryhard.

(ii) Thisincludesentrepreneursmustberisktakenalwaysbutalsobecarefulabouttheconsequencesif thereany.

(iii) Thisisabouthowthedemandandsupplyisworkinginthemarketspeciallywhenitcomestofindingnewchances to succeed.

**6. External Entrepreneurship:- E**xternal Entrepreneurship refers to those outside elementwhichcanaffectthefunctioningofthecompanyitmaybedirectlyorindirectly.Thisentrepreneurship is of two types that is general and specific. General entrepreneurship deals withbig things and influences that impact the life and working of Companies. These are the factorswhichcannotbepinpointedexactlyandit’shardtosayhowmuchitisgoingtoaffectacompany.One key factor about this is that whatever situation or forces are happening outside will affecteverybusiness.

**TheRoleofKnowledgeinInnovation**

For an entrepreneur, having access to both technical and administrative knowledge is crucial fordriving innovation and growth. It's not just about individual success, but about empowering theentire team to learn, adapt, and excel. By making knowledge accessible to everyone involved,entrepreneurs can fosteracultureofcontinuous improvement and creativity.

Innovation isn't justabout sticking to what's worked in the past;it's about daring to thinkdifferently, applying new ideas, and making meaningful changes. Entrepreneurs should embraceamindsetofconstantlearningandevolution,alwaysseekingtorefineand enhancetheirmethods.

When it comes to managing knowledge, entrepreneurs have a unique opportunity to leveragetechnology and business practices to their advantage. By effectively organizing and utilizingknowledge resources, entrepreneurs can stay ahead of the curve and drive innovation in theirindustries.

Ultimately,theabilitytoeffectivelymanageknowledgeanddriveinnovationisakeyfactor inthesuccessofanyentrepreneurialventure.Byprioritizinglearning,adaptation,andforward-thinking,entrepreneurs can position themselves for long-term growth and success in a rapidly changingbusinesslandscape.

**EntrepreneurContributioninEconomicDevelopment**

India is one of the best places globally to start a business currently and placed second among 49countries,accordingtothenewGlobalEntrepreneurshipMonitor(GEM)2023/2024Report.Indiais doing well because it has good conditions for starting businesses, like supportive social andculturalnorms,andteachesaboutentrepreneurshipinschoolsandafterschool.It'soneofonlyfivecountrieswhereexperts think women haveenoughsupport and resources to start businesses.

Entrepreneurial development is crucial for economic progress as it drives various aspects ofgrowth.Firstly,entrepreneursplayavitalroleinincreasingpercapitaincomebyestablishingnewbusinesses and driving innovation, which historically has led to significant wealth generation insocieties.Additionally,theygenerateemploymentopportunities,particularlysignificantineconomies grappling with unemployment issues like India, where educated youth often struggletofindsuitablejobs.Furthermore,entrepreneursinspireotherstoventureintobusiness,creatinga rippleeffect ofentrepreneurial activity.

Moreover, entrepreneurs contribute to balanced regional development by setting up industries inlessdevelopedareas,therebyleveraginggovernmentincentivesandsubsidiestospreadeconomicgrowth across regions. They also increase the number and diversity of enterprises by introducingnewideas,products,andservices,fosteringhealthycompetitionandinnovationwithinthemarket.

In summary, entrepreneurial development is pivotal for driving economic growth and addressingvarioussocio-economicchallengesbycreatingopportunities,fosteringinnovation,andpromotingbalanceddevelopment across regions.

 ISBN : 978-81-957386-4-9


**Fig1.EmployeeMindsetvsEntrepreneur Mindset**

**Challenges foranEntrepreneur:-**

**1. Financial Challenges: -** The first challenges for every entrepreneur while starting newbusinessisgettingmoneytostartit.Aquestionarisesinthemindofbusinessmanisthatwhowillfund for their idea, imagination. New comers have to be really careful with their money becausetheydon'thavemuchoptionsforgettingmoneyfrommarketfortheirnewbusinessesbutthereareq uite some ways from where they can be funded like from bank or the government or may startcrowd funding program if they knows that there is a good demand for their product or services inthemarket.

**2. Cultural, language, Social and Institutional Barriers: -** In simple words theresearch shows that operating startups in another country can be really tough because their existcultural differences and communication barriers. A new entrepreneur might face struggle tounderstand local rules, communicate with customer or supplier and also faces difficulty whilegetting help from any organizations. Problem also exist while dealing with the Governmentspecially if not able to do conversation in local language, overall making networks with differentpeople,associates, suppliersand understandingthe local marketarecrucialforsuccess.

**3. Challenges in Market Penetration-** Starting a business in a new country can be toughforentrepreneurs. Onebigchallengeis not knowingenoughabout theindustrytheywant to workin there. Even if they're talented and excited, they need to figure out what people in that countrywant.Theymightseeaneedtheycanmeetintheircommunity.Theycangethelpfromamarketinga gencyorresearcher to find out what peopleneedand what theycan offer

Before starting a new business, it's important to have experience in that field. You need to gatherinformation about the market, the type of business, and what people want to buy. It's not wise tojust copywhat others have donewithout understandingwhyitworked forthem.

Another problem is finding new customers in a new country. If people don't know about



Published by :Sai College, Bhilai

yourbusiness or what you sell, it's hard to succeed. You need to reach out to them and let them knowwhatyouoffer.Goodmarketingandadvertisingcanhelp,butit'stricky,especiallyinanewplace.

To solve these problems, it's important to have a good marketing plan. This will help spread theword about your business and attract customers. But doing this in a new foreign country can be arealchallenge.

**4. ManpowerIssue-** Inbusinesses,havingexperiencedlocalemployeesiscrucialforovercoming barriers like language and culture. While the owner may have knowledge, they can'thandleeverythingalone.Employeesareessentialassetsforabusiness'ssuccess,astheycontributetoi tsgrowthanddifferentiateitfromcompetitors.However,findingskilledlocalscanbechallenging, especially for new businesses with limited resources. Entrepreneurs can overcomethis by being clear in job ads and using local agencies for recruitment, ensuring the right peoplearehired forthe job, leadingto smooth operationsand effectiveperformance.

**Chapter Summary: -** Entrepreneurship has changed over time as the economy has changed.Itinvolvestakingrisksandcomingupwithnewideas.It'sreallyimportantformakingtheeconom ygrow. An entrepreneur is someone who creates value and takes risks for rewards like money andfeeling good about what they do. Starting a business means leaving what you're doing now,thinkingaboutwhetherit's agoodidea,andlookingatwhathelpsorstopsyou.Differentkindsofbusinesses need different ways of making decisions. Being ethical, or doing what's right, is veryimportant in business. It helps both the person running the business and the community. Lastly,wetalk about how entrepreneurship helps theeconomygrow.

**References:-**


- Carayannis,E.G.,Samara,E.T.,&Bakouros,Y.L.(2015).Innovationandentrepreneurship. *Theory, policyand practice*, 218.
- Pahuja, Anurag and Sanjeev, Rinku, Introduction to Entrepreneurship (April 10, 2015).Available at SSRN: https://ssrn.com/abstract=2761878

orhttp://dx.doi.org/10.2139/ssrn.2761878

- Ifyouidentifywiththese10characteristicsyouarethinkinglikeanentrepreneur!(2023,June1).https://www.jbcnschool.edu.in/blog/characteristics-of-an-entrepreneur/
- Singh,S.K.,&Gaur,S.S.(2018).Entrepreneurshipandinnovationmanagementinemergingeconomies.Management decision, 56(1), 2-5.
- Kurian,V.(2024,February17).*India2ndbestplacetostartabusiness,saysUniversityofGlasgow Adam Smith Business School study*. BusinessLine.https://www.thehindubusinessline.com/news/india-2nd-best-place-to-start-a-business-says-university-of-glasgow-adam-smith-business-school-study/article67852203.ece
- MunnaPrawin.(2021,December15).EmployeeMindsetvsEntrepreneurMindset-Tilicho Labs -

Medium. *Medium*.https://medium.com/tilicholabs/employee-mindset-vs-entrepreneur-mindset-97a8210cfa1d

- Vafin, A. (2022). The Challenges Faced by Entrepreneurs While Starting and OperatingBusinessin aNew Country.*ScienceOpen Preprints*.

 ISBN : 978-81-957386-4-9

# CHAPTER -4

## INFLUENCEOFSOCIALMEDIAINCONSUMERBUYINGDECISIONS: -AREVIEW

**Dr. Ranjeeta Tiwari Mishra and Mr. Rajendra Pal**
Associate Professor,DepartmentofManagement, SanjayRungtaGroupofInstitutions,Bhilai.
Assistant Professor,DepartmentofCommerce, SanjayRungtaGroupofInstitutions,Bhilai
sonu.tiwari001@gmail.com

### ABSTRACT

SocialMediaistherecenttrendsofcommunication.Itprovidestheplatformofsharinginformationandalsofor the senseofmarketingandexchange.Nowaday’sbusinessandmarketingtakenaseparatespaceforconsumerasperassocialmediaisconcern.Majordemandsoftheconsumersatisfiedwiththeperfectmarketmixi.e.productandservices,competitive pricing, place utility and different offers and promotion. Social media influences thetarget consumer and focuses on buying decision as per the financial budget. It is a platform ofbuyers and the brand at the same time. Social Media reframe the marketing strategies i.e. morefocused and target oriented. It provides a two way platform for the betterment as it provide spacefor independent opinion and recommendation for the particular product and services.Consumerbuying decision is a choice based scenario in modern marketing age. It is influence with theexperience and accessibility of product and services in a particular market. Customer buyingdecision always prioritized with the option or the available choice with the competences of valueof money. Social marketing concept played important role in the selection of the particularcommodity with the high influence of the reviews and feedback of the customer.Social Mediaplatform provide anopen space for selectionof the product or services, buying or selling,promotionalspacefortheparticularsectorandmostimportantitprovidethemediumoffeedback andreview of the particular segment.This review paper highlights the factors ofinfluenceof social mediathat can affecttheConsumer buyingdecisions.

**Keywords**:ModernMarketing, BuyingDecisions,SocialMedia&influence

## I. INTRODUCTION

Marketing is the activity of exchange of goods and services between two or more parties. Itrequires a place to perform the trade of buy or sell of particular items that placeknown asmarket. Pre independence era majorly focused on the physical market and to in specific area andwere restricted with certain boundaries; but the phase of modern market is totally different fromthe earlier age. Modern Marketing fundamental associated with the flexibility of the place andmore easy options. After independence era majorly focus on the maximization approach of profitand sales. Modern Marketing fundamentals deal with the customer perception and demand. Ithighlyemphasizes on theeasypicks andconvenient options withuserfriendlybehavior.

Social media is a platform of technology and the communication. It is used in a vast mode as peras innovation of technology and marketing is concerns. It is also a great medium to advertise andpromote the existing product or services or any penetration activity. Social media marketing ismajorly focused on the sales maximization with adaptation of the customer centric approach.Customer centric approach tends towards the promotion of product andservices that is majorlyin the specific segmented area. Modern Marketing captures the mass from different social mediaplatform. It is the place where target of the market can be easily recognized. With the help of AIbasedsystemof communication;marketingof theidentifiedtargetgroupcanbeeasilyjustified.

Social Media are thecombination of differentwebsites,particular projectsand programsthathelp individuals to get benefited with the latest information, working conditions with propercommunication with their closed ones. Social Media can be treated as a great tool to perform anyaction of marketing. New and Small business finds social media is an opportunity to grow fast.As per the report Economic Times; about 3.8 people around the world inclined towards the socialmedia directly for the purpose of communication and entertainment. Social Media Networkingplayedavitalroleinthebusinessneeds.Mostoftheagenciesandorganizationsusethissocial media platform to direct connect with their target audience. It is direct space to watch the currentandlatest trends of themarket and with thepropersupport to theircustomer.

Consumer buying decision process is very crucial as per as marketing of any product or servicesare concern. It is the methods that emphasized on how the product or services got chosen by thetargetgroupofcustomer.Thesuccessofthemarketingisdependsonhoweffectivelyaninformation is used as a source of selection. Social media is the place that triggers the demandandneed of thecustomer.

## II. CONSUMERBUYINGDECISIONS-ALiteratureReview

The core of Consumer Buying Behavior is a success key to any business. Consumerbuying decision is the study of the fundamentals of an individual or a group of customers abouttheir selection, buying, avail and dispose ideas towards the particular product or services in ordertomeet theobjectives ofthe organizations.

The customized social media marketing analyzed the particular buying decision of aconsumer. After the analysis of personal behavior the pattern for future prediction can be easilydone as trends (Kumar, John & Senith 2014). According to Engel, Blackwell, and Mansard,“consumer behaviour is the actions and decision processes of people who purchase goods andservices for personal consumption”.According to Louden and Bitta,“consumer behaviour is thedecision process and physical activity, which individuals engage in when evaluating, acquiring,usingordisposingofgoodsandservices”(Chand,N.D.).AccordingtoLerne,“Consumerbeha viourinvolvesthestudy ofhowpeople--eitherindividually oringroups--acquire,use,experience, discard, and make decisions about goods, services, or even lifestyle practices such associally responsible andhealthy eating”(Perner, n.d.). The five stagesare intheconsumerbuying decision process is Problem recognition, Information search, Evaluation of alternatives,Purchasedecision, and post-purchasebehavior.

## III. RESEARCHOBJECTIVES

Thisresearchworkcomprises withfollowingresearchobjectives:

1. Tounderstandtheprocessofconsumer Buyingdecisioninmodernmarketingera.

 ISBN : 978-81-957386-4-9

2. To studythe influenceof Social Mediain Marketingin consumer decision making
3. Tostudythe relevanceof socialmediainconsumerbuyingdecisions.

## IV. METHODOLOGY

The main purpose of this study is to find out the most important factor of influence of socialmedia with special reference to the Consumer buying decisions. As per the researcher this workof review basically dealt with the facts and data available in different research papers, websitesand news paper. Basedon the secondary data researcherhas proposed factorial analysis toexactlyfindingout thetrends of social mediain buyingdecisions.

## V. SOCIALMEDIAANDMARKETINGTRENDS

Social Media marketing is the latest trends in the business, involvement of thetechnology has changed the phased of traditional marketing. Different marketingagenciesadoptedthesocialmediaplatformtodigitalizationtheprocessofmarketing from advertisement to selling.It also upgraded the system of feedbacktogear-upthe excellenceof theparticular segment.


**Fig.1:DifferentSocialMediaPlatformsfor Business**

In the latest age Facebook, Youtube, Instagram, Twiter, LinkedIn etc are the different socialmedia platforms that allow marketing agencies or business to publicize their product and servicesto the common people. The main agenda of the social media is that; it connected through thehandytechnologyandhasthepowertopromotetheenterpriseasanimportantandeffectivemode of promotion of sales. It is also referred a s Digital Marketing that influence the customersinmanyways.It could beconsidered as aonestop shop foreveryone.

Social Media influences the decision of customer based on the different points, specially positivereviews, inspired purchased behavior, offers and promotions shared by the others and via



Published by :Sai College, Bhilai

mediaand social websites and endorsement of the influencers or the celebrity or well known faces.These are some basic factors that played an important role on the customer influences towardsanypurchaseor buyingdecisions.

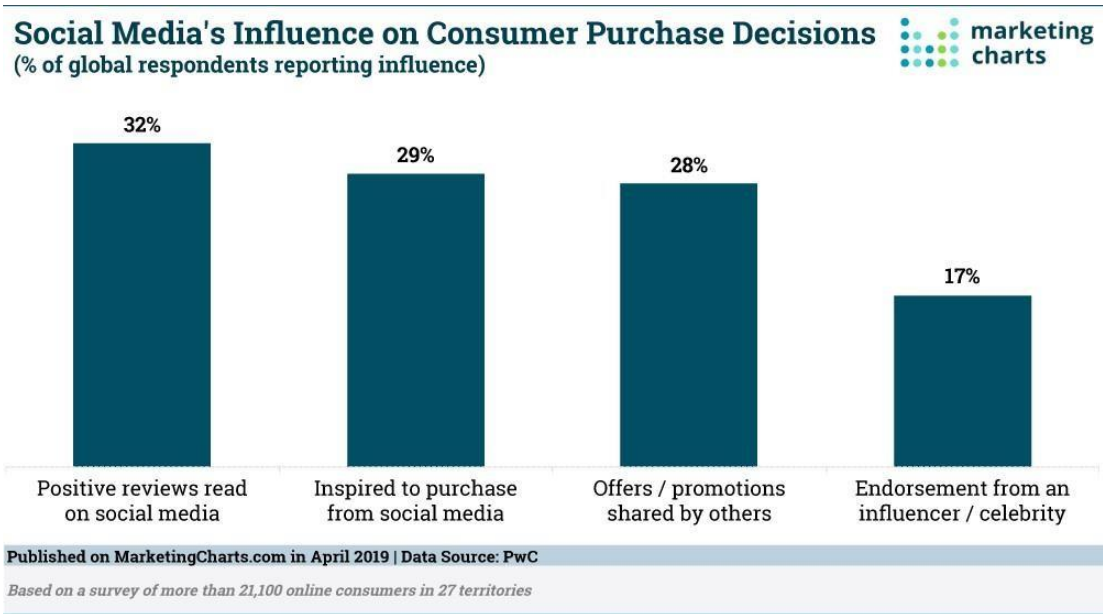



**Fig2:InfluencesfactorsofPurchasedecisions**
**Source:MarketingChart ofConsumerpurchasedandinfluencingdecisions**

Abovechartsclearlyexplainedthatsocialmediaplatformusesthevarioustechniquestopromoteanyproductorservices.Themainagendaofthesetechniquestohighlightstheproductin business line and improve the sales via networking. Need generation techniques is feasible inthismediumbecauseofthetechnicalup gradationof localmarket toglobalbusinesses.

## VI. CONSUMERBUYINGDECISIONPROCESS&SOCIALMEDIA

Consumer buying decision is a solely task associated to individual choices and the selection ofthe particular option as per convince of individual. Consumer buying decision process consists offivestagesofaconsumer'sdecision.Onsocialmediabusinessorganizationworkfortheefficiencyandeffectivelyforthe better promotional

### Stage1:Needrecognition

Need is the basic element of satisfaction. When need is satisfied at its highest level the decisionmaking goes smooth and effective. In the first step of consumer buying decision Need of theconsumer played an important role for the policy makers to target the market by the very quickand immediate response. It's very important for the customer to identify the ultimate demandedoftheparticular agegroup.

Recognition of need is played important roles it is the only criteria which decides that whatproduct is going to be in prioritized. The first stage in the consumer decision-makingprocess for a consumer is to figure out what they need. The most important thing thatleads someone to buy a product or service is their need for it. All buying decisions arebased onwhatpeopleneed.

Finding out what the customer needs is the first move to evaluating the Consumer DecisionMaking Process. Finding out what needs and wants the target market has can help with manymarketingdecisions.

**Stage2:Searchingandgatheringinformation**

People are usually skeptical when they have to choose between options.So they needall thefacts before they spend their money. After figuring out their need, the potential consumer movesonto thesecond stage: searchingfor andgathering information.

The buyer considers all the benefits and drawbacks of the purchase at this stage of their decision-making process. Because of changing styles and online shopping sites, consumers know muchmore about what they want to buy and can make better choices. Consumers can get informationfrom many different places, like books, magazines, the Internet, and reviews of products by otherpeople. It’s important to make a purchase decision, so the consumer shouldn’t be in a hurry whenlearningabout theproducts and brands on themarket.

- **Commercial Information Sources:** Important types include digital media, newsletters,TVads, salespeople, andpublicdisplays.
- **PreviousPurchaseExperiences:**Itisconsumers’pastexperiences withusingaproduct.
- **PersonalContacts:** Thisisaveryreliablesourceofinformationandimpactstheconsumer’s mind the most. Consumers usually talk to their friends, family, coworkers,and acquaintances about their needs and interests in different products and then use theiradviceto decide what tobuy.

**Stage3:Consideringthealternatives**

Thethirdstageintheconsumerdecision-makingprocessistocarefullylookatallthealternatives and substitutes on the market. Once consumers know what they need and where togetit, theywill start lookingforthebest deals or options.

At this stage, the consumer compares options based on price, product quality, quantity, value-added features, or other essential factors. Before choosing the productthat best meetsyourneeds, look at customer reviews and compare prices for the alternatives.After finding helpfulinformation, the consumer chooses the best product on the market based on their taste, style,income,or preference.

**Stage4:Buying theproductorservice**

After going through the above stages, the customer decides what to buy and where to buy it. Theconsumer makes a smart choice to buy a product based on his needs and wants after he haslookedatallthefacts.Needsandwantsareoftensparkedbymarketingcampaigns,recommendationsf rom friends and family, or sometimes byboth.



Published by :Sai College, Bhilai

**Stage5:Post-purchaseevaluation**

Inthelaststageoftheconsumerdecision-makingprocess,theconsumerevaluatesoranalyzesthe product they bought. They look at how helpful the product is, how satisfied they are with it,and how much it is worth to meet their needs. If consumers know that the product they boughtwas worth what theypaid forand met theirexpectations, theywill stick with that product.

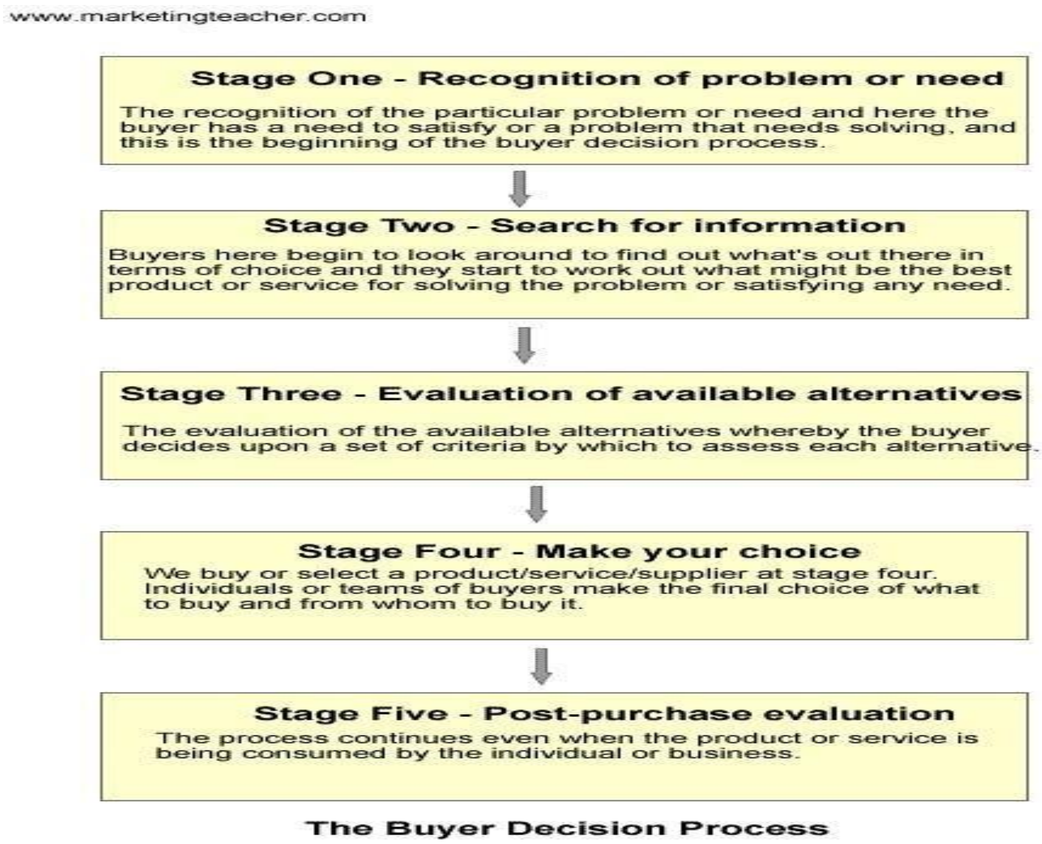



**Fig 3: Buyer Decision ProcessSource:Marketingteacher.com**

## VII. CONCLUSION

Socialmediaplaysanimportantroleinbuyer’sdecisioninmanyways.Nowaday’ssocialmediaupliftedw iththedifferentapplicationsandbrowsersforthepurposeofsalesandadvertisements. The core area of marketing adapted the modern techniques for promotion of theirproducts and services. People and Process are combined with the media and using the latesttechniques to increase the sales via promoting the attractive advertisement and branding with theinteractiveplatforms ofsocial media.

Many business agenciesand personal selling of any product uses social media platform toconnect the target customer for the one-to-one approach of sales; and that also intended towardsthe increase sales volume in short span. It is covered with many people without any social andcultural boundaries. It covers maximum customer those are active in social media channels.Social media marketing is playing high impact on mass buying or selling. It is high on demand.Due to technical up gradation maximum population and influencer culture is trending thereforethe influence of that social channels is one of the positive platform that covers maximum buyersor sellers in a short span. Facebook and Instagram are the highest surfing websites that

 ISBN : 978-81-957386-4-9

influencemoreon consumersand also fetch themaximum tradingbenefits.

Although thecharge of internet facility is costeffective in many areas but it is challenging forthe rural population due to the network unavailability or cut down of frequencies. That results thesales volume down in rural and remote area with consideration to social media platform.Socialmedia marketing is highly influencing among the Z generation and also the popular in all the agegroups. The core area of those segments is updated with the time and also impactful with thedifferent delivery Partner; these segments also benefited economically with the introduction ofsocialmediain marketingsegments.

**References**


1. (https://economictimes.indiatimes.com/definition/social-media)
2. (https://www.questionpro.com/blog/consumer-decision-making-process/)
3. (https://www.marketingcharts.com/charts/social-medias-influence-consumers-purchase-decisions)
4. Marketingteacher.com(https://www.marketingteacher.com/buyer-decision-process-2)
5. SocialMediaMarketing,TracyL.Tuten,MichaelR.Solomon,SAGE, Dec2014

# CHAPTER - 5

# International Relation –Definition,Value& Ethics, Importance, Analysis, Origin of Conflict, Expansion of Conflict, International Piece & Business

Dr, Jyoti Rani
Assistant Professor, Political Science, School of Arts &Humanities, YBN University, Ranchi,Jharkhand
mailtojyoti.rani@gmail.com

**Abstract**

This paper explores the complex landscape of international relations, delving into the dynamic interactions between nation-states, non-state actors, and supranational organizations. It examines the evolving nature of power, sovereignty, and globalization, highlighting the challenges posed by issues such as conflict resolution, human rights, and environmental sustainability. Furthermore, it analyzes the role of diplomacy, international law, and multilateralism in shaping global governance structures and fostering cooperation amidst diverse interests. Ultimately, the paper aims to provide insights into the prospects for peace, security, and development in an interconnected world.A comprehensive overview of the intricate dynamics and pressing issues within the realm of international relations. It addresses the evolving nature of state interactions in a rapidly changing world, emphasizing the significance of globalization, economic interdependence, and technological advancements. Furthermore, it delves into the complexities of power dynamics, security dilemmas, and diplomatic strategies employed by both state and non-state actors. Additionally, it examines key challenges such as transnational terrorism, climate change, and nuclear proliferation, highlighting the necessity for multilateral cooperation and diplomatic negotiations. Ultimately, this abstract seeks to provide a nuanced understanding of the contemporary international landscape and its implications for global stability and cooperation,Furthermore, it addresses the complexities of security challenges, including terrorism, cyber threats, and regional conflicts, and evaluates the efficacy of diplomatic efforts and multilateral institutions in promoting peace and cooperation. Through a critical analysis of current trends and challenges, this abstract seeks to contribute to a deeper understanding of the opportunities and obstacles facing the international community in the pursuit of global stability and prosperity.

**Keyword –** Nation state, Interdependence, Supranational, Peace and Security

## International Relation:

International relations is the study of interactions between nations, including diplomacy, trade, conflict, and cooperation. It encompasses a wide range of topics such as international law, global governance, security, human rights, and economic development.International relations is a field of study that focuses on the relationships and interactions between sovereign states and other international actors, such as international organizations, non-governmental organizations, and multinational corporations. It examines various aspects of global politics, including diplomacy, conflict resolution, international law, security, trade, and globalization.International relations, often abbreviated as IR, is an academic discipline that deals with the interactions among nation-states and other actors in the international system. It encompasses a wide range of topics including diplomacy, international law, conflict resolution, security studies, globalization and economic development.

The field seeks to understand the dynamics of world politics and the factors influencing the behavior of states and non-state actors on the global stage.

- International Relations is the discipline that tries to explain political activities across state boundaries ---- **Trevor Taylor**
- International relations discuss the forces, pressures and process that control the nature of human life, activities and thought in all human and group relations in the world community ---- **Palmer and Perkins**
- International Relations is a struggle for power among nations ---- **Prof. Hans Morgenthau**

**"Meaning of International Relation"**

International relations (IR) is a branch of political science that deals with interactions between sovereign states, as well as between states and other international actors, such as intergovernmental organizations, non-governmental organizations, and multinational corporations. It examines various aspects of international politics, including diplomacy, conflict resolution, international law, globalization, and the dynamics of power among nations.International relations (IR) refers to the study of interactions between states and other actors on the global stage, such as intergovernmental organizations, non-governmental organizations, multinational corporations, and individuals. It encompasses various aspects of international politics, including diplomacy, conflict resolution, trade, security, human rights, and global governance. The field seeks to understand the complexities of international affairs and analyze the factors that influence relationships between countries in the contemporary world.

International Relations (IR) is an academic and interdisciplinary field that focuses on the study of relationships between countries, including their interactions, behaviors, and decision-making processes. It examines the dynamics of global politics, diplomacy, conflict, cooperation, international law, and institutions. The aim of international relations is to understand the complexities of the international system and provide insights into how states and other actors navigate and shape the world order.

**“Values and Ethics of International Relations”**

The values and ethics of international relations encompass principles such as respect for sovereignty, human rights, equality, justice, and diplomacy. They guide interactions between nations, aiming to foster cooperation, resolve conflicts peacefully, and promote global stability. Upholding these values ensures fairness, transparency, and accountability in international affairs, contributing to a more peaceful and prosperous world.The values and ethics in international relations are rooted in principles such as:

1. Respect for Sovereignty: Recognizing the autonomy and territorial integrity of nations, without interference in their internal affairs.

2. Human Rights: Upholding the dignity, equality, and freedoms of all individuals, irrespective of nationality, race, gender, religion, or political belief.

3. Justice and Fairness: Promoting equitable and impartial treatment in international dealings, including trade, law, and conflict resolution.

4. Diplomacy and Dialogue: Resolving disputes through peaceful negotiations, dialogue, and collaboration, rather than resorting to coercion or violence.

5. International Law: Adhering to treaties, conventions, and agreements that govern the conduct of states and ensure accountability for violations.

6. Humanitarianism: Responding to humanitarian crises with compassion, aid, and protection for vulnerable populations, regardless of geopolitical considerations.

7. Environmental Sustainability: Recognizing the interconnectedness of environmental issues and promoting sustainable development practices to safeguard the planet for future generations.

8. Global Cooperation: Fostering multilateralism and collective action to address common challenges, such as climate change, poverty, pandemics, and terrorism.

“Ethics of international relations”

The ethics of international relations encompass the moral principles and standards that govern the behavior of states and other actors in the global arena. Key aspects of these ethics include:

1. Just War Theory: Evaluating the moral justifiability of resorting to war, including criteria such as just cause, proportionality, and discrimination between combatants and non-combatants.

2. Humanitarian Intervention: Examining the ethical considerations surrounding interventions in other countries to prevent or alleviate human suffering, while respecting principles such as sovereignty and non-interference.

3. Responsibility to Protect (R2P): Addressing the ethical obligation of the international community to protect populations from genocide, war crimes, ethnic cleansing, and crimes against humanity, even in the face of state sovereignty.

4. Ethical Diplomacy: Conducting diplomatic relations with honesty, integrity, and transparency, while striving to uphold shared values such as peace, human rights, and justice.

5. Global Justice: Promoting equitable distribution of resources, opportunities, and benefits across nations and peoples, while addressing systemic inequalities and injustices in the international system.

6. Environmental Ethics: Recognizing the moral imperative to protect the environment and address climate change, considering the impact of human actions on present and future generations worldwide.

7. Ethical Use of Power: Exercising power and influence responsibly, with due consideration for the rights, interests, and well-being of others, and avoiding actions that harm or exploit vulnerable populations.

8. Ethical Decision-Making: Applying ethical principles and values in policy formulation and decision-making processes at both national and international levels, considering the potential consequences of actions on individuals and societies.

Overall, the ethics of international relations seek to foster a more just, peaceful, and sustainable world by guiding the conduct of states and promoting cooperation, mutual respect, and the common good of humanity.

**"Importance of International Relation"**

International relations are crucial for several reasons:

1. Global Interconnectedness: In an increasingly interconnected world, nations depend on each other for trade, security, and addressing global challenges such as climate change, terrorism, and pandemics.

2. Peace and Security: Effective international relations are essential for maintaining peace and security among nations. Diplomatic efforts, treaties, and alliances help prevent conflicts and resolve disputes peacefully.

3. Economic Prosperity: Nations engage in international relations to foster economic cooperation, trade agreements, and investments, which contribute to economic growth and prosperity.

4. Cultural Exchange: International relations facilitate cultural exchange, understanding, and appreciation among nations. Diplomatic missions, educational programs, and people-to-people exchanges promote cross-cultural understanding and reduce misunderstandings and stereotypes.

5. Humanitarian Cooperation: Collaboration in international relations allows nations to address humanitarian crises, provide aid and support to vulnerable populations, and promote human rights globally.

6. Environmental Protection: Environmental challenges such as climate change, pollution, and biodiversity loss require international cooperation and agreements to address effectively.

7. Conflict Resolution: Diplomatic channels and international organizations play a crucial role in resolving conflicts, mediating disputes, and promoting reconciliation between nations.

In essence, international relations are vital for promoting peace, stability, prosperity, and cooperation in an increasingly interconnected global community.

**"Analysis on International Relations"**

International relations is a multidisciplinary field that examines the interactions between states, international organizations, non-state actors, and other global actors. It encompasses a wide range of topics, including diplomacy, conflict resolution, international law, globalization, economic relations, security studies, and more. One key aspect of international relations is the study of power dynamics among states, which often involves analyzing military capabilities, economic strength, and diplomatic influence. Theories such as realism, liberalism, and constructivism offer different perspectives on how states behave and interact in the international arena. Globalization has significantly impacted international relations by facilitating greater interconnectedness and interdependence among countries. This has led to increased cooperation on issues such as trade, climate change, and global health, but it has also sparked debates over sovereignty and the distribution of power. Security studies are another crucial area of analysis in international relations, focusing on the causes and consequences of conflict, as well as strategies for conflict prevention and resolution. Issues such as terrorism, nuclear proliferation, and cyber security have become increasingly important in the study of security. International institutions, such as the United Nations, the World Bank, and the International Monetary Fund, play a significant role in shaping global governance and managing international conflicts. However, they also face challenges such as power imbalances and institutional reform.

Overall, the analysis of international relations is essential for understanding the complexities of the modern world and addressing global challenges effectively. It requires interdisciplinary approaches and a nuanced understanding of historical, political, economic, and cultural factors influencing international interactions.

**“Critics on International Relations”**

Critics of international relations often highlight various shortcomings and challenges within the field. Some common criticisms include:

1. State-centric focus: Traditional international relations theory often prioritizes the actions and interests of states, neglecting the role of non-state actors such as multinational corporations, non-governmental organizations, and terrorist groups. Critics argue that this state-centric approach oversimplifies the complexities of global politics and fails to account for the influence of non-state actors.

2. Western bias: Critics argue that much of the theory and scholarship in international relations is Eurocentric and reflects a Western perspective. This bias can marginalize the experiences and viewpoints of non-Western countries and cultures, limiting the field's ability to provide a truly global understanding of international relations.

3. Gender imbalance: International relations has historically been dominated by male scholars and perspectives, leading to a lack of attention to gender issues and women's experiences in global politics. Critics argue that this gender imbalance perpetuates stereotypes and biases in the field and hinders efforts to address gender-based inequalities and conflicts.

4. Overemphasis on conflict: While conflict is certainly a significant aspect of international relations, critics argue that the field often focuses excessively on issues of war, security, and military power, neglecting the importance of cooperation, diplomacy, and peaceful resolution of disputes. This overemphasis on conflict can perpetuate a pessimistic view of global politics and hinder efforts to promote peace and stability.

5. Limited diversity of perspectives: Critics argue that there is a lack of diversity in terms of theoretical perspectives and methodologies within international relations scholarship. This limited diversity can lead to intellectual stagnation and hinder innovation in the field. Embracing a wider range of perspectives and approaches could enrich the study of international relations and lead to more nuanced analyses of global issues.

Overall, these criticisms highlight the need for international relations scholars to continually interrogate and challenge existing paradigms, strive for greater inclusivity and diversity, and remain open to new ideas and perspectives.’

**"Origin of Conflicts in respect of International Relations"**

Conflicts in international relations can stem from various sources, including:

1. Territorial Disputes: Conflicts often arise due to disagreements over land or maritime boundaries between countries.

2. Resource Scarcity: Competition over natural resources such as water, oil, and minerals can lead to conflicts between nations.

3. Ideological Differences: Disputes may emerge due to conflicting political ideologies, such as democracy vs authoritarianism or capitalism vs. socialism.

4. Ethnic or Religious Tensions: Historical grievances, ethnic rivalries, or religious differences can fuel conflicts between states or within regions.

5. Economic Interests: Disagreements over trade, tariffs, or economic policies can escalate into conflicts between nations.

6. Power Struggles: As countries vie for influence and dominance, power struggles can lead to tensions and conflicts, especially among major powers.

7. Historical Animosities: Lingering resentments from past conflicts or colonial legacies can contribute to present-day tensions between nations.

8. Security Dilemmas: Actions taken by one state to enhance its security may be perceived as threats by others, leading to a spiral of distrust and conflict.

9. Failed Diplomacy: Breakdowns in diplomatic efforts or failures to resolve disputes through negotiation can escalate tensions and lead to conflicts.

10. Proxy Wars: Conflicts fueled by external factors supporting opposing sides for strategic or ideological reasons can exacerbate tensions and prolong conflicts in other countries or regions.

These factors often interact in complex ways, and understanding the root causes of conflicts in international relations requires careful analysis of historical, political, economic, and social dynamics.

**"Expansion of Conflicts in respect of International Relations"**

The expansion of conflicts in international relations can occur through various mechanisms:

1. Escalation: Initial localized disputes can escalate due to miscalculations, retaliatory actions, or the involvement of additional actors, leading to a wider conflict.

2. Regionalization: Conflicts can spill over from one country to neighboring states, drawing in regional powers and exacerbating tensions across borders.

3. Globalization: In an interconnected world, conflicts can quickly spread beyond their original borders through trade, migration, or the involvement of global actors.

4. Proxy Involvement: External powers may intervene in conflicts by supporting opposing sides, turning local disputes into larger proxy wars with international ramifications.



Published by :Sai College, Bhilai

5. Media and Information: The media can play a role in amplifying conflicts, shaping public perceptions, and influencing international responses, potentially fueling the expansion of hostilities.

6. Alliances and Treaties: Formal alliances or defense treaties can drag multiple countries into conflicts, as members are obligated to support each other in times of war.

7. Non-State Actors: Transnational terrorist organizations, insurgent groups, or criminal networks can exploit conflicts to expand their influence or pursue their own agendas, further complicating the situation.

8. Cyber Warfare: With the increasing reliance on digital infrastructure, conflicts can expand into cyberspace, with states engaging in cyber-attacks against each other or targeting critical infrastructure.

9. Humanitarian Crisis: Escalating conflicts often lead to humanitarian crises, such as mass displacement, famine, or refugee flows, which can draw international attention and involvement.

10. Arms Proliferation: The spread of weapons and military technology can intensify conflicts and make them more difficult to resolve, as multiple actors become armed and entrenched in their positions.

Overall, the expansion of conflicts in international relations is often driven by a combination of geopolitical, economic, social, and technological factors, and addressing them requires a multifaceted approach involving diplomacy, conflict resolution, and cooperation among states.

**“International Peace and Business in respect of International Relations”**

International peace and business are deeply intertwined within the realm of international relations. Peaceful relations between nations create a conducive environment for business to thrive, as stability reduces risks and encourages investment and trade. Conversely, economic interdependence often fosters peaceful relations, as countries with strong economic ties have incentives to maintain stability and resolve conflicts peacefully to avoid disruption to trade and investment flows. Additionally, businesses can play a role in promoting peace through corporate social responsibility initiatives, fostering cross-cultural understanding, and participating in conflict resolution efforts. Overall, the relationship between international peace and business is symbiotic, with each reinforcing the other in the global arena.In the context of international relations, international peace and business are closely interconnected. Peaceful relations between nations create a stable environment that fosters economic cooperation, trade, and investment. Conversely, economic prosperity resulting from business activities can contribute to peace by providing incentives for nations to maintain stable relationships to protect their economic interests. Additionally, businesses often act as stakeholders in diplomacy, using their influence to promote peaceful resolutions to conflicts and mitigate tensions. Therefore, maintaining international peace is essential for facilitating business activities, while successful business interactions can contribute to fostering peaceful relations among nations.International peace and business are intricately connected within the realm of international relations. They are:

1. Economic Interdependence: Businesses operate globally, relying on complex supply chains and markets that span multiple countries. Economic interdependence fosters cooperation and reduces



Published by :Sai College, Bhilai

the likelihood of conflict, as countries with strong economic ties are less inclined to engage in hostilities that could disrupt trade and investments.

2. Conflict Resolution: Businesses often play a role in conflict resolution by fostering dialogue and collaboration between nations. Corporate diplomacy initiatives, such as joint ventures and trade agreements, can help build trust and facilitate peaceful negotiations between conflicting parties.

3. Soft Power: Economic success and the attractiveness of a nation's business environment can enhance its soft power, influencing other countries through persuasion and attraction rather than coercion. By promoting economic prosperity and stability, businesses contribute to the maintenance of international peace and security.

4. Corporate Social Responsibility (CSR): Many businesses engage in CSR activities aimed at promoting social and environmental sustainability, as well as peacebuilding initiatives in conflict-affected regions. These efforts contribute to the overall stability and well-being of societies, thereby indirectly supporting international peace.

5. Conflict Prevention: Businesses can contribute to conflict prevention by investing in fragile states, promoting development, and creating employment opportunities. By addressing underlying socio-economic grievances and fostering inclusive growth, businesses help mitigate the risk of conflict and instability.

In summary, the relationship between international peace and business underscores the importance of economic cooperation, corporate diplomacy, and responsible business practices in fostering stability and prosperity on a global scale.

**Conclusion -**

International relations are complex and dynamic, shaped by a multitude of factors including political ideologies, economic interests, cultural differences, and historical legacies. While cooperation and diplomacy are often sought after, conflicts and power struggles are inherent in the international system. Overall, navigating international relations requires a nuanced understanding of both state and non-state actors, their goals, and the interconnectedness of global issues.International relations are characterized by a continuous interplay of cooperation and conflict among nations, influenced by diverse factors such as political ideologies, economic interests, cultural differences, and historical contexts. While diplomacy and dialogue are essential for resolving disputes and fostering collaboration, competition for power and resources often leads to tensions and even confrontations. Ultimately, managing international relations demands a delicate balance of pragmatism, empathy, and strategic foresight to promote peace, stability, and mutual prosperity in a rapidly changing world.

In conclusion, international relations are multifaceted and dynamic, shaped by a complex interplay of political, economic, social, and cultural factors. While cooperation and diplomacy are vital for addressing global challenges and fostering mutual understanding, competition and conflict also play significant roles in shaping the behavior of states and other international actors. Navigating the complexities of international relations requires a combination of diplomacy, strategic thinking, and effective communication to promote peace, stability, and prosperity on a global scale.

**References –**

1. "The Tragedy of Great Power Politics" by John Mearsheimer

2. "Man, the State, and War" by Kenneth N. Waltz

3. "The Anarchical Society: A Study of Order in World Politics" by Hedley Bull

4. "The Clash of Civilizations and the Remaking of World Order" by Samuel P. Huntington

5. "Power and Interdependence" by Robert O. Keohane and Joseph S. Nye Jr.

6. "Theory of International Politics" by Kenneth N. Waltz

7. "Diplomacy" by Henry Kissinger

8. "Theories of International Relations" by Scott Burchill et al.

9. "Globalization of World Politics: An Introduction to International Relations" by John Baylis et al.

10."The Oxford Handbook of International Relations" edited by Christian Reus-Smit and Duncan Snidal

# CHAPTER -6

# Management –Nature,Value, Moral, Ethics, Importance and Characteristics

**Er. Shantanu Virnave**
Assistant Professor, Electrical Engineering, School of Engineering & Technology, YBN University, Ranchi,Jharkhand
virnaveshantanu@gmail.com

**Abstract**

An abstract on management could encompass various aspects such as theories, practices, challenges and trends in the field of management.It might explore topics like leadership styles, organizational behavior, strategic planning, decision-making processes and the impact of technology on modern management practices. An abstract could also touch upon the importance of effective communication, teamwork and adaptability in managing diverse teams and navigating dynamic business environments.Management encompasses the process of planning, organizing, directing and controlling resources to achieve organizational goals effectively and efficiently. It involves coordinating the efforts of individuals and groups to accomplish common objectives within a dynamic and often challenging environment.Effective management requires strong leadership, clear communication, strategic thinking, decision-making skills, and the ability to motivate and empower others. It is essential for ensuring the success and sustainability of businesses, non-profit organizations, government agencies, and other entities. Management practices continue to evolve in response to technological advancements, globalization, and shifting societal expectations, highlighting the importance of continuous learning and adaptation in today's dynamic world.Management is the practice of coordinating and overseeing the work of others to achieve organizational goals efficiently and effectively. It involves planning, organizing, leading, and controlling resources, processes, and people within an organization. Effective management requires skills in decision-making, problem-solving, communication, delegation, motivation, and leadership. It plays a crucial role in guiding the direction of an organization, optimizing performance, and adapting to changes in the internal and external environment. Management exists in various forms, including top-level strategic management, middle-level tactical management, and frontline operational management, each contributing to the overall success and sustainability of the organization.

**Keywords** –Leadership, Technology, Resources, Sustainability andTeamwork

**Management:**

As we all know for any types of works to be done in any place that may be office, household, business establishment, assembly or at any type of organization must be govern by the moral of management.For the smooth execution of any assigned work the basic work must be done which include proper planning, organizing, direction, co-ordination and control. These are the most important backbone or pillar of the management.

Planning helps us to perform or execute any work in a systematic manner. Organizing helps to mobilize the necessary resources and fix the responsibilities on particular individuals. Direction helps to gives directives, supervise and motivate peoples at work station or work place. Co-ordination plays a role of bridge or establishes a link between the various peoples.

Control helps us to know and understand that whether the plan has been successfully implemented in an easy and smooth manner such that targeted objectives laid down in the plan has been fully achieved successfully or some stone may be left ahead.

- Management is the arts of getting things done through people ------**Mark Parker Follette**
- Management is what a manager does ------ **Louis Allen**

**"Meaning of management"**

Management refers to the process of planning, organizing, directing, and controlling resources (such as people, finances, and materials) to achieve organizational goals efficiently and effectively. It involves decision-making, coordination, leadership, and overseeing activities within an organization to ensure objectives are met. Management is also regarded as the art of getting things done through others. A manager who is unable to make subordinates to work cannot be a successful manager. Management encompasses the coordination of resources, people, and processes within an organization to achieve its goals efficiently and effectively. It involves planning, organizing, leading, and controlling various activities to ensure smooth operations and optimal outcomes.

**"Nature of Management"**

The nature of management encompasses various aspects, including planning, organizing, leading, and controlling resources to achieve organizational goals effectively and efficiently. It involves decision-making, problem-solving, communication and coordinating efforts among individuals and teams within an organization. Management also deals with adapting to changes in the internal and external environment, fostering innovation, and ensuring the sustainable use of resources to achieve long-term success.

The nature of management involves several key elements:-

1. Goal-oriented: Management is focused on achieving specific objectives or goals within an organization.

2. Interdisciplinary: It draws upon various disciplines such as psychology, sociology, economics, and engineering to understand and manage human and organizational behavior.

3. Dynamic: Management practices evolve over time in response to changes in technology, society, and the business environment.

4. Universal: The principles of management apply across different industries, sectors, and organizational sizes.

5. Multi-dimensional: Management involves a range of functions, including planning, organizing, leading, and controlling, to ensure the effective utilization of resources.

6. Relational: It involves working with and through people to accomplish organizational objectives, requiring effective communication, motivation, and leadership skills.

7. Problem-solving: Managers are often tasked with identifying and addressing challenges or problems that arise within the organization.

 ISBN : 978-81-957386-4-9

8. Ethical: Management involves making decisions and taking actions that align with ethical standards and social responsibilities.

9. It is an on-going activity: Management is a continuous process.A stage may never be reached where one can say that management is totally irrelevant.

10. Management is a Profession: A Management is a professional like Engineers, Doctors and Lawyers. They may provide consultancy or advice to business persons to enhance and increase their business.

Overall, management is a complex and dynamic process that plays a crucial role in guiding organizations towards their goals while navigating various internal and external factors.

**"Value of management"**

Management holds significant value in various aspects of business, including organizational efficiency, goal achievement, resource optimization, and employee coordination. Effective management ensures tasks are completed efficiently, resources are utilized effectively, risks are minimized, and goals are met within specified timelines. It also fosters a positive work culture, enhances employee morale, and facilitates innovation and growth within an organization. Overall, management plays a crucial role in driving success and sustainability in businesses of all sizes and industries.

Management provides numerous benefits to organizations which include:

1. Direction and Coordination: Management sets goals, develops strategies, and coordinates efforts to achieve organizational objectives.

2. Efficiency and Productivity: Effective management ensures that resources are allocated optimally, processes are streamlined, and tasks are completed efficiently, leading to increased productivity.

3. Decision Making: Managers analyze data, assess risks, and make informed decisions to address challenges and capitalize on opportunities, guiding the organization towards success.

4. Employee Development: Management oversees training and development programs, provides feedback, and fosters a supportive work environment, enhancing employee skills, motivation, and satisfaction.

5. Conflict Resolution: Managers mediate conflicts, promote teamwork, and maintain a positive work culture, reducing disruptions and improving collaboration within the organization.

6. Innovation and Adaptability: Management encourages creativity, experimentation, and adaptation to change, driving innovation and ensuring the organization remains competitive in dynamic environments.

7. Customer Satisfaction: Through effective management of operations and customer service, organizations can meet or exceed customer expectations, fostering loyalty and positive brand reputation.

Overall, management is essential for achieving organizational goals, maximizing efficiency, and sustaining long-term success.



**Published by :Sai College, Bhilai**

 ISBN : 978-81-957386-4-9

“Value of management in aspect to day to day activities”

In day-to-day activities, management provides several key benefits:

1. Task Allocation: Management assigns tasks to employees based on their skills and workload, ensuring that work is distributed evenly and deadlines are met.

2. Priority Setting: Managers prioritize tasks and projects, helping employees focus on high-impact activities and manage their time effectively.

3. Problem Solving: Management addresses issues as they arise, providing guidance and resources to resolve problems efficiently and prevent them from escalating.

4. Communication: Managers facilitate communication within teams and across departments, ensuring that everyone is informed, aligned, and working towards common goals.

5. Performance Monitoring: Management tracks progress on tasks and projects, providing feedback and support to help employees perform at their best and achieve objectives.

6. Resource Management: Managers oversee the allocation of resources such as budget, equipment, and manpower, ensuring that they are used effectively to support operations.

7. Adaptation to Change: Management guides teams through changes in priorities, processes, or external factors, helping them adapt and stay focused on achieving results.

Overall, management plays a crucial role in guiding day-to-day activities, promoting efficiency, and maintaining organizational effectiveness.

**“Ethics of Management”**

Ethics in management refers to the principles and values that guide managerial decision-making and behavior towards employees, stakeholders, and the broader society. Key aspects of ethics in management include:

1. Integrity: Managers should demonstrate honesty, transparency, and consistency in their actions, adhering to moral and ethical standards even when faced with difficult decisions.

2. Respect: Management should treat employees, customers, suppliers, and other stakeholders with dignity and respect, valuing their perspectives, rights, and well-being.

3. Fairness: Managers should ensure that policies, procedures, and rewards are fair and equitable, avoiding favoritism, discrimination, or exploitation.

4. Responsibility: Management has a responsibility to consider the impact of their decisions on various stakeholders, including employees, customers, communities, and the environment, and to act in the best interest of society.

5. Accountability: Managers should take ownership of their actions and decisions, accepting responsibility for the consequences and striving to rectify any harm caused.

6. Law Compliance: Management should ensure that organizational practices and operations comply with relevant laws, regulations, and industry standards, upholding legal and ethical standards.



Published by :Sai College, Bhilai

7. Ethical Leadership: Managers should lead by example, fostering a culture of integrity, ethical behavior, and accountability throughout the organization.

By integrating ethical principles into management practices, organizations can build trust, reputation, and long-term success while contributing positively to society.

**"Moral of Management"**

The moral of management revolves around the ethical responsibilities and values that guide managerial decision-making and actions. It emphasizes the importance of integrity, fairness, respect, responsibility, and accountability in all aspects of managing people, resources, and operations within an organization. Ultimately, the moral of management underscores the need for leaders to prioritize ethical behavior, promote a positive work culture, and contribute to the well-being of employees, stakeholders, and society as a whole.The moral of management is to lead with integrity, fairness, and empathy, ensuring the well-being and development of both individuals and the organization as a whole. Effective management entails making decisions that prioritize ethical principles, foster a positive work environment, and contribute to the greater good of society. By upholding moral values, managers can inspire trust, loyalty, and collaboration among their team members, ultimately driving success and sustainability in the long term.

**"Importance of Management"**

The importance of management lies in its crucial role in organizing, planning, directing, and controlling resources within an organization to achieve its goals efficiently and effectively. Management ensures that tasks are allocated appropriately, processes are streamlined, and resources are utilized optimally, leading to increased productivity and profitability. Additionally, management provides leadership, guidance, and support to employees, fostering a positive work culture, enhancing morale, and promoting innovation and growth. Overall, management is essential for coordinating efforts, making informed decisions, and driving success in businesses of all sizes and industries.

**"Basic characteristics of management"**

These characteristics are essential for effective management in any organization, helping to achieve objectives and drive success. They are:-

1. Planning: Setting goals, defining strategies, and outlining steps to achieve objectives.
2. Organizing: Structuring resources, tasks, and responsibilities to facilitate goal attainment.

3. Leading: Motivating, guiding, and influencing individuals or teams towards the accomplishment of goals.

4. Controlling: Monitoring progress, evaluating performance, and making adjustments to ensure objectives are met.

5. Decision-making: Making effective choices based on analysis, evaluation, and consideration of alternatives.

6. Communication: Facilitating clear and effective exchange of information among stakeholders.

7. Problem-solving: Identifying issues, analyzing root causes, and implementing solutions to overcome challenges.

8. Adaptability: Being flexible and responsive to changes in the environment or circumstances.

9. Delegation: Entrusting tasks and responsibilities to others while maintaining accountability for outcomes.

10. Motivation: Inspiring and encouraging individuals to perform at their best to achieve organizational goals.

**“Types of Management”**

Management can be divided into several branches or fields, each focusing on specific aspects of organizational management and leadership. Some of the main branches of management include:

1. General Management: General management encompasses overall management activities that apply across all functional areas of an organization. It involves setting goals, planning, organizing, leading, and controlling resources to achieve organizational objectives.

2. Human Resource Management (HRM): HRM focuses on managing an organization's workforce, including recruitment, training, performance appraisal, compensation, and employee relations. It aims to ensure that the organization has the right people with the right skills in the right positions.

3. Operations Management: Operations management involves overseeing the production processes and delivery of goods and services. It includes activities such as production planning, inventory management, quality control, and supply chain management.

4. Financial Management: Financial management is concerned with managing an organization's finances, including budgeting, financial planning, investment decisions, and financial reporting. It aims to optimize the organization's financial resources and ensure long-term sustainability.

5. Marketing Management: Marketing management focuses on identifying and satisfying customer needs through product development, pricing, promotion, and distribution strategies. It involves market research, branding, advertising, and customer relationship management.

6. Strategic Management: Strategic management involves setting long-term goals and objectives for the organization, determining the best courses of action to achieve them, and adapting to changes in the external environment. It includes strategic planning, analysis, and implementation.

7. Information Technology (IT) Management: IT management deals with the planning, implementation, and maintenance of information technology systems and infrastructure within an organization. It includes managing hardware, software, networks, data security, and IT support services.

8. Project Management: Project management focuses on planning, organizing, and controlling resources to achieve specific goals within a defined timeframe and budget. It involves defining project scope, allocating tasks, managing risks, and ensuring project deliverables are met.

These branches of management are interconnected and often overlap, reflecting the multidisciplinary nature of management practice. Effective managers may need to draw on principles and techniques from multiple branches to address complex organizational challenges.

**Conclusion on management :**

The conclusion on management would depend on the context or the specific aspect of management being discussed as below:

Management is a multifaceted discipline that plays a crucial role in organizational success. It involves planning, organizing, leading, and controlling resources to achieve goals efficiently and effectively. Effective management fosters productivity, innovation, and employee satisfaction. Continuous improvement, adaptability, and ethical leadership are essential for sustainable success in today's dynamic business environment.In conclusion, management is the art and science of coordinating resources and people to achieve organizational objectives. It encompasses various functions such as planning, organizing, leading, and controlling. Effective management involves clear communication, strategic decision-making, and fostering a positive organizational culture. It's a dynamic field that requires adaptability and continuous learning to navigate the complexities of the modern business landscape.

**References for management :**

1. "The One Minute Manager" by Kenneth Blanchard and Spencer Johnson: This book offers simple and effective techniques for managing people and tasks efficiently.

2. "Good to Great: Why Some Companies Make the Leap... and Others Don't" by Jim Collins: Collins explores why certain companies excel while others falter, providing valuable insights into effective management strategies.

3. "The 7 Habits of Highly Effective People" by Stephen R. Covey: Covey presents seven principles for personal and professional effectiveness, which are widely applicable to management roles.

4. "First, Break All the Rules: What the World's Greatest Managers Do Differently" by Marcus Buckingham and Curt Coffman: Based on extensive research, this book challenges conventional management wisdom and offers practical advice for effective management.

5. "The Art of War" by Sun Tzu: Although not strictly a management book, Sun Tzu's classic offers timeless principles of strategy and leadership that are often applied in management contexts.

6. "Drive: The Surprising Truth about What Motivates Us" by Daniel H. Pink: Pink explores the science of motivation and how it applies to management, offering insights into how to inspire and lead teams effectively.

7. "Leaders Eat Last: Why Some Teams Pull Together and Others Don't" by Simon Sinek:Sinek discusses the importance of trust and collaboration within teams, offering valuable lessons for leaders on building strong organizational cultures.

8. "Radical Candor: Be a Kick-Ass Boss Without Losing Your Humanity" by Kim Scott: Scott presents a framework for giving and receiving feedback that promotes open communication and fosters personal growth within teams.

9. "Measure What Matters: Online Tools for Understanding Customers, Social Media, Engagement, and Key Relationships" by Katie Delahaye Paine: Paine introduces metrics and measurement techniques for evaluating the effectiveness of management strategies, particularly in the realm of digital and social media.

10. "The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses" by Eric Ries:Ries advocates for a lean and agile approach to management, emphasizing rapid experimentation and iterative development to drive business success.

# CHAPTER - 7

# COMMUNITYSUPPORTAND FINANCIALRESILIENCE

**AmalGeorge**
AssistantProfessor,DepartmentofCommerce,StJudesartsandsciencecollegeVellarikund.
Emailid: agp2873@gmail.com

**Abstract**

Inabstractterms,communitysupportandfinancialresilienceareinterdependentpillarsofsocietalstability and progress. Community support encompasses the collective strength derived frommutual aid, social cohesion, and a sense of belonging within a group. It's the foundation uponwhich individuals rely during challenging times, fostering empathy, cooperation, and a sharedresponsibility for each other's well-being. Financial resilience, on the other hand, refers to thecapacity of individuals and communities to withstand and recover from economic shocks andadversity. It involves robust financial planning, diversified resources, and adaptive strategies tonavigateuncertaintiesandsetbacks.Together,theseconceptsformasymbioticrelationship.Strongcommunity support fosters conditions conducive to financial resilience by providing networks ofassistance,knowledge-sharingplatforms,andemotionalsustenanceduringhardships.Conversely,financialresilienceenhancesthecapacityofcommunitiestooffermeaningfulsupportbyenablingindividuals to contribute effectively, share resources, and invest in community infrastructure andinitiatives

**Keywords:**Community,Support,Financialresilience ,Solidarity,Assistance

**Introduction:**

Inanever-changingworldfraughtwithuncertainties,theresilienceofcommunitiesandindividualsinthefaceoffinancialchallengesisparamount.
Theconceptsofcommunitysupportandfinancialresilienceintertwineintricately,formingthebedrockofsocietalstabilityandprogress. This two-page exploration delves into the essence of community support and financialresilience, unraveling their significance, interconnections, and implications for individuals andsocieties alike.At its core, community support embodies the collective strength derived
fromsharedvalues,mutualassistance,andempatheticconnectionsamongindividualswithinacommunity. It transcends geographical boundaries and encompasses diverse socio-economic,cultural, and demographic backgrounds. Community support manifests in myriad forms, rangingfrom informal networks of neighbors lending a helping hand during times of need to formalizedstructuresofcharitableorganizationsandnon-profitsdedicatedtofosteringcommunalwell-being.The essence of community support lies in its capacity to foster a sense of belonging, solidarity,and reciprocity. It thrives on the principle of "ubuntu," recognizing that the well-being of eachmember is intricately linked to the well-being of the entire community. In times of crisis, be itnaturaldisasters,economicdownturns,orhealthpandemics,theresilienceofcommunitieshingeson

their ability to mobilize collective resources, expertise, and compassion to alleviate sufferingand restore stability. Financial resilience denotes the ability of individuals, households, andcommunities to withstand and recover from economic shocks and adversities while maintainingtheirlong-termfinancialwell-being.Itencompassesaspectrumofskills,strategies,andresourcesaimedatmitigatingrisks,adaptingtochangingcircumstances,andsecuringsustainablelivelihoods.Financialresiliencetranscendsmerefinancialliteracy;itencompassesprudentfinancial management, diversified income streams, robust social support networks, and proactiveplanning for unforeseen contingencies. At its essence, financial resilience empowers individualsand communities to navigate economic uncertainties with confidence and foresight. It fosters amindset of preparedness rather than panic, encouraging proactive measures such as emergencysavings, insurance coverage, debt management, and investment in human capital. Moreover,financial resilience is intrinsically linked to broader socio-economic factors, including access toeducation,healthcare,housing,andemploymentopportunities,whichcollectivelyshapetheeconomiclandscapeofcommunities.Thenexusbetweencommunitysupportandfinancialresilience is not coincidental but symbiotic. Strong social bonds and cohesive communities serveas catalysts for enhancing financial resilience, while economic stability and access to financialresourcesbolsterthefoundationsofcommunitysupport.Recognizingandnurturingthissymbioticrelationshipisessentialforfosteringinclusivegrowth,socialcohesion,andsustainabledevelopment. Moreover, the COVID-19 pandemic has underscored the imperative of fortifyingbothcommunitysupportstructuresandfinancialresiliencemechanismsinthefaceofunprecedented challenges. From grassroots mutual aid initiatives to policy interventions aimed atbolsteringeconomicsafetynets,thepandemichaselicitedcollectiveresponsesthatunderscoretheresilienceinherent within communities.

**ChallengestoFinancialResilience:**

**EconomicInequality**:Thegapbetweenrichandpoorcontinuestowiden,leavingmanyvulnerableto financial hardship.

**JobInsecurity:**Precariousworkarrangements,automation,andglobalizationcanleadtoincomeinstability.

**PredatoryPractices**:Paydayloans,high-interestcreditcards,andpredatorylendingcantrappeoplein cycles of debt.

**Lack of FinancialLiteracy**:Manylack basicfinancialknowledge,makingit difficulttobudget,save,and makewiseinvestment choices.

**UnexpectedEvents**:Jobloss,illness,ornaturaldisasterscancausesignificantfinancialstrain.Buildinga Financially Resilient Community(1500 words)

**Financial Education Programs**:Offerworkshopsonbudgeting, saving,debtmanagement,responsiblecreditcarduse,andlong-termfinancialplanning.Considertargetingspecificvulnerablegroups like young adults,immigrants,or seniors.

 ISBN : 978-81-957386-4-9

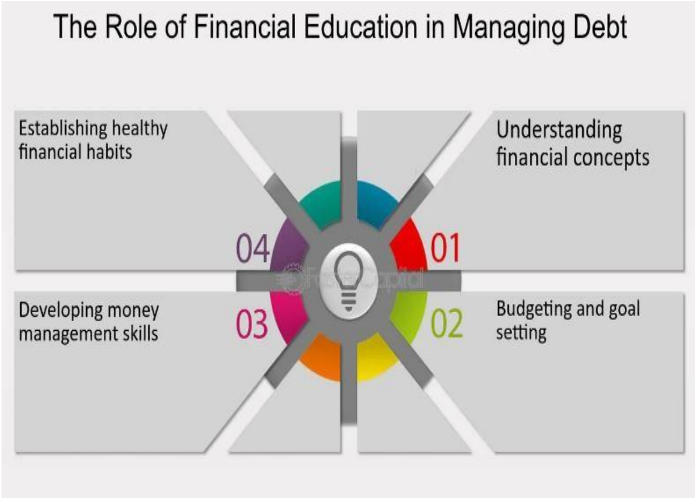



**Fig: 1. ShowingTheRole ofFinancialEducationinAvoidingDebt**

**CreditCounselingServices**:Providefreeorlow-costcreditcounselingtohelpindividualsdevelopdebt repaymentplans and improvecreditscores.

**SavingsInitiatives**:Promoteandfacilitateaccesstosafeandaffordablesavingsoptionslikecreditunionsor community development financialinstitutions (CDFIs).

Explorethepossibilityofmatchedsavingsprogramswherecontributionsarematchedbyemployers,community organizations, or governmentinitiatives.

**EmergencyAssistancePrograms**:Establishemergencyfundsorfoodbankstoprovidetemporaryfinancialrelief during hardship.

**Peer Support Groups**: Create spaces for individuals to share experiences, learn from each other,anddevelop a senseofcommunity.

**AdvocacyforFairPractices:**Lobbyforpoliciespromotinglivingwages,affordablehousing,consumerprotectionfrom predatorylending, andaccessible financialservices.

**LeveragingTechnology:**Developonlinefinancialliteracyresources,mobilebudgetingapps,andpeer-to-peerlending platforms toreachabroader audience.

Considerincorporatingfinancialliteracymodulesintoexistingsocialmediaplatforms.

**ThePowerofCollaboration**

**Partnerships**:Collaborationbetweennon-profitorganizations,governmentagencies,financialinstitutions,and faith-based groupsiscrucial foracomprehensiveapproach.



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9


**Fig.2.ShowingNPOpartnerships:emphasizingorientation aroundtheNPOaspoint-of-origin.**

**Community Leaders:**Engage trustedcommunity leadersto promotefinancialliteracyprogramsand encourageparticipation.

**WorkplaceInitiatives:**Encourageemployerstoofferfinancialwellnessprogramsaspartofemployeebe nefits.

**DataSharing**:Securelysharedatabetweenrelevantorganizationstoidentifyvulnerablepopulationsand tailor supportprograms accordingly.

Diagram(500words-convertedtotext description)
Createavisualrepresentationoftheinterconnectedelementsthatcontributetobuildingafinanciallyresili ent community.


**Fig.3.ShowingResilientCommunity.**

**Center**:Acentralcirclerepresenting"FinancialResilience."



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

**InnerCircles**:

- FinancialLiteracy
- AccesstoAffordable FinancialServices(savings,credit)
- SafetyNetPrograms(emergencyassistance,foodbanks)
- SupportiveCommunity(peersupportgroups,mentorship)

**OuterCircles:**

1. FairEconomicPolicies(livingwages,consumerprotection)
2. EducationalOpportunities
3. StableEmploymentOpportunities
4. AffordableHousing

**Arrows**: Depict the interconnectedness between the elements. For example, arrows could showhowfinancialliteracyempowersindividualstoaccessaffordable financialservices,whichinturncontributesto financial resilience.

**Defining Community:** Community is a complex concept with numerous definitions. At its core,a community is a group of individuals who share commonalities, creating a web of connection.These commonalities can be geographic location, ethnicity, religion, interests, experiences, orvalues.

**The Historical Significance of Community:** Humans are social creatures who have long reliedon communities for survival, support, and a sense of belonging. Early communities providedprotection,sharedresources,and fosteredculturalexchange.

Explorehistoricalexamplesofdifferenttypesofcommunities:hunter-gathererbands,agriculturalsettlements,medieval villages,and earlyurbancenters.

**TheEvolutionofCommunity**: Withmodernizationandglobalization,traditionalformsofcommunity have undergone significant changes. Geographical proximity no longer guaranteesstrongcommunity ties.

Discuss the rise of virtual communities, online social networks, and special interest groups thatfosterconnection across physical boundaries.

**TheBenefitsofCommunity**

**SocialSupport**:Communitiesprovideasenseofbelongingandconnection,whichcancontributeto mental and physical well-being. Having a network of people to rely on in times of need canreducestressand improvecoping mechanisms.

**Shared Values and Identity**: Communities provide a space to share values, traditions, andpractices.This strengthensindividual identityandfosters asenseofpurpose.

ISBN : 978-81-957386-4-9

**Collective Action**: Communities can work together to address common challenges, advocate forchange, and achieve shared goals. Examples range from neighborhood improvement projects tosocialjusticemovements.

**Diversity and Learning:** Communities offer opportunities to learn from people with differentbackgrounds,experiences,andperspectives.Thisfostersculturalexchangeandpromotestoleranceandunderstanding.

**Economic Benefits**: Strong communities can attract businesses, create jobs, and foster economicdevelopment.Localbusinessesthrivewhensupportedbyaloyalcustomerbasewithinthecommunity.

**ChallengestoaThrivingCommunity**

**Social Inequality:** Economic disparities, racial segregation, and social divisions can hinder thedevelopment of strong communities. Marginalized groups may feel excluded and lack access toresources.

**Geographic Disparity:** Urban sprawl, suburbanization, and gentrification can lead to impersonalenvironmentsdevoid of a senseof community.

**Technology and Social Isolation:** While technology can connect people globally, excessivereliance on social media can lead to feelings of isolation and a decline in face-to-face interactionswithinlocal communities.

**Rapid Change and Disruption:** Rapid globalization, economic restructuring, and technologicaladvancements can disrupt traditional community structures and create feelings of uncertainty anddisplacement.

**Loss of Shared Values**: Increasing individualism and societal fragmentation can erode sharedvaluesand makeit difficult tobuild trustand cooperation withincommunities.

**BuildingStrongerCommunities**

**Promoting Social Inclusion**: Focus on creating an inclusive environment where everyone feelswelcome and respected regardless of background. This involves addressing issues like racism,sexism,and homophobia.

**InvestinginPublicSpaces:**Createandmaintainparks,libraries,communitycenters,andculturalspaces that serveasgatheringplacesandfoster socialinteraction.

**EncouragingCivicEngagement**:Promotecitizenparticipationinlocalgovernment,volunteerism, and neighborhood initiatives. This strengthens the sense of ownership and builds abetterfuture forthecommunity.

**Fostering Intergenerational Dialogue**: Encourage interaction between people of different agegroups to bridge the knowledge gap and build bridges for understanding. Youth programs thatinvolvementorshipby oldercommunitymembersareapowerfulexample.

**Leveraging Technology for Good:** Utilize technology to promote community events,


Published by :Sai College, Bhilai

shareresources, and facilitate communication among members. This can be particularly helpful inreachingout to geographically dispersed populations.

Explorethepotentialofonlineplatformsforcommunityorganizingandcommunication.

**CommunityandSocialChange** :

**Community as a Catalyst for Change**: Strong communities can be powerful agents of socialchange. They can advocate for policies that promote social justice, environmental sustainability,andeconomicopportunity.

**Examples of Communities Driving Change:** Discuss historical and contemporary examples ofcommunitiesfighting forcivil rights,environmentalprotection, orworkers' rights.

**The Ripple Effect:** Community-driven change can have a ripple effect, inspiring others to takeactionand createamorejustandequitable society.

**Center:**Acirclerepresenting "Community."

**InnerCircles**:

- SharedValuesandIdentity
- SocialSupportNetworks
- CivicEngagementandParticipation
- InclusiveandWelcomingEnvironment

**Conclusion**

In the tapestry of human existence, the threads of community support and financial resilienceare woven together, forming a resilient fabric that withstands the tests of time and adversity.Through this exploration, we have delved into the essence of community support as thebedrock of solidarity, empathy, and collective strength, transcending boundaries to nurture asense of belonging and reciprocity among individuals. Similarly, we have unpacked themultifacetednatureoffinancialresilience,encompassingprudentfinancialmanagement,adaptive strategies, and access to resources that empower individuals and communities tonavigate economic uncertainties with confidence and foresight. From grassroots initiatives topolicy interventions, the symbiotic relationship between community support and financialresiliencehasbeenexemplifiedindiversecontexts,underscoringtheirintertwinedsignificance in fostering societal well-being and progress. As we navigate the complexities of the modernworld, marked by global challenges such as climate change, economic volatility, and publichealth crises, the imperatives of community support and financial resilience loom larger thanever. They serve as beacons of hope and resilience in times of crisis, guiding us towardspathways of collective action, inclusive growth, and sustainable development. In closing, letusrecognizethetransformativepowerinherentwithincommunitiesandindividualstoforgeafuture imbued with resilience, compassion, and solidarity. By fostering robust networks ofsupport, nurturing financial literacy, and advocating for equitable opportunities, we can builda world where every individual and community thrives, resilient in the face of adversity, andunitedin pursuit of ashared visionofprosperity and well-being forall.

**Reference:**


1. Putnam,R.D.(2000).Bowling Alone:TheCollapseandRevivalof AmericanCommunity.Simon andSchuster.
2. World Bank. (2013). Social Capital and Civil Society: Definitions, Concepts, andCurrent Evidence. Retrieved fromhttps://openknowledge.worldbank.org/handle/10986/16390
3. Aldrich, D. P., & Meyer, M. A. (2015). Social Capital and Community Resilience.AmericanBehavioral Scientist,59(2), 254–269.
4. Shiller,R.J.(2014).FinanceandtheGoodSociety.PrincetonUniversityPress.
5. Thaler, R. H., & Sunstein, C. R. (2009). Nudge: Improving Decisions About Health,Wealth,and Happiness. PenguinBooks.
6. FinancialResilience:UnderstandingthePsychologyofFinancialPlanningandProsperity.(2013).Journal ofFinancial Planning,26(2),38–42.
7. Collins, J. M., & O’Rourke, C. M. (2010). Financial Education and Counseling—StillHolding Promise.Journal of ConsumerAffairs, 44(3),483–498.
8. Lusardi,A.,&Mitchell,O.S.(2007).BabyBoomerRetirementSecurity:TheRolesofPlanning, Financial Literacy, and Housing Wealth. Journal of Monetary Economics,54(1),205–224.
9. Stiglitz, J. E., Sen, A., & Fitoussi, J.-P. (2010). Mismeasuring Our Lives: Why GDPDoesn'tAddUp.TheNewPress.
10. Patillo, C., Hertz, T., & Levin, T. (2012). Moving Up, Moving Out: The Rise ofAmerica'sBlackMiddleClassandHowIt'sChangingOurCities.BrookingsInstitutionPress.
11. OECD.(2017).FinancialResilience: A NewChallengeforFinancialEducation?Retrievedfromhttps://www.oecd.org/finance/financial-education/Financial-resilience-a-new-challenge-for-financial-education.pdf
12. Norris, F. H., Stevens, S. P., Pfefferbaum, B., Wyche, K. F., &Pfefferbaum, R. L.(2008). Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategyfor Disaster Readiness. American Journal of Community Psychology, 41(1–2), 127–150.
13. Finucane,M.L.,Slovic,P.,Mertz,C.K.,Flynn,J.,&Satterfield,T.A.(2000).Gender,Race,andPerceivedRisk:The‘WhiteMale’Effect.Health,Risk&Society,2(2),159–172.
14. Flora,C.B.,&Flora,J.L.(2004).RuralCommunities:LegacyandChange.WestviewPress.
15. United Nations Development Programme. (2016). Human Development Report 2016:Human Development for Everyone. Retrieved fromhttp://hdr.undp.org/sites/default/files/2016_human_development_report.pdf
16. National Research Council. (2012). Disaster Resilience: A National Imperative. TheNational
17. AcademiesPress.
18. Aldrich, D. P. (2012). Building Resilience: Social Capital in Post-Disaster Recovery.Universityof Chicago Press.
19. Federal Emergency Management Agency. (2011). Building Resilient Communities: AGuidanceforIntegratingHazardMitigationandCommunityPlanning.Retrievedfromhttps://ww

w.fema.gov/media-library-data/20130726-1549-20490-
a. 7919/building_resilient_communities_final.pdf

20. Norris, F. H., & Stevens, S. P. (2007). Community Resilience and the Principles ofMass Trauma Intervention. Psychiatry: Interpersonal and Biological Processes, 70(4),320–328.
21. Saha, S., & Mahapatra, S. S. (2018). Financial Resilience in the Face of Adversity: AConceptualFramework.Vision:TheJournalofBusinessPerspective,22(3),280–293.
22. WorldEconomicForum.(2020).GlobalRisksReport2020.Retrievedfromhttp://www3.weforum.org/docs/WEF_Global_Risk_Report_2020.pdf
23. Dabla-Norris, E., Kochhar, K., Suphaphiphat, N., Ricka, F., &Tsounta, E. (2015).Causes and Consequences of Income Inequality: A Global Perspective. InternationalMonetaryFund.
24. Lamond,J.E.,&Proverbs,D.G.(2013).TheUseofFinancialProductsforFloodRiskManagement and the Implications for Social Justice. International Journal of DisasterRisk Reduction, 5, 45–55.
25. Patel, S. S., Rogers, M. B., Amlôt, R., Rubin, G. J., & WhatDo WeMean by'Community Resilience'? A Systematic Literature Review of How It Is Defined in theLiterature.(2017).PLOSCurrentsDisasters.Edition1.doi:10.1371/currents.dis.db775aff25efc5ac4f0660ad9c9f7db2
26. Helliwell,J.F.,&Putnam,R.D.(2004).TheSocialContextofWell-Being.Philosophical Transactions of the Royal Society of London. Series B: BiologicalSciences,359(1449), 1435–1446.

 ISBN : 978-81-957386-4-9

# CHAPTER- 8

# The Psychology of Pricing: Understanding Consumer Perceptions

**Dr.Shweta Tiwari**
Associate Professor, Department of Commerce, Bhopal Institute of Technology.
Shweta.t123@gmail.com

## Abstract

Pricing psychology considers the context in which pricing is given, as it might impact consumer behaviour. Consumers are more inclined to buy a product if it is offered as a limited-time deal or shown with higher-priced products.Recognising consumer behaviour is critical for developing effective marketing strategies. Evidence suggests that psychological pricing conveys meaning to buyers. This study investigates the impact of psychological pricing on customer purchasing.Price perception, along with proximity and product freshness, is a key factor in customers' decision-making when shopping. Net promoter scores can assist determine whether customers are satisfied, but pricing perception is more likely to predict where they will spend their money behaviour.

**KEYWORDS**: Consumer Psychology, Consumer Perception,Social Factors,Cultural Factors,Personal Factors,Economic Factors,Price Perception and Pricing Strategies

## INTRODUCTION

To better understand consumers, the study of consumer psychology draws on a variety of academic fields, such as social psychology, marketing,behavioral economics, and other fields. Ideas in consumer psychology are designed to assess and comprehend customers and the decision-making process. Market research examines behavioral characteristics such usage rates, usage occasion, loyalty, brand advocacy, and willingness to recommend. It also looks at psychological aspects impacting customer behaviour like demographics, personalities, and lifestyles.Because the context of pricing can affect how consumers behave, pricing psychology also studies how pricing is presented. When a product is offered as a limited-time deal or placed next to more expensive items, for instance, customers are more likely to buy it.

## CONSUMER PSYCHOLOGY'S PAST

Walter Dill Scott and his early 1900s research are largely responsible for the relationship between psychology and consumerism. An advertising executive approached Scott, the director of Northwestern University's Psychological Laboratory, asking him to enhance his marketing strategy. In 1903, Scott wrote for the first time on the topic together in The Psychology of Advertising in Theory and Practice. Since then, he has kept an emphasis on using scientific understanding to solve business challenges. In the later years of his employment, Scott focused on studying human motivation and social control strategies.In the 1940s and 1950s, consumer behaviour and psychology kept developing as a separate topic within the marketing field. Two significant investigations published at the end of the 1950s criticised marketing for lacking methodological rigour, particularly for not using behavioural science research methodologies with a mathematical orientation.Mainstream marketing started to rely less on economics and more on other fields


Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

starting in the 1950s. The behavioural sciences, such as sociology, anthropology, and clinical psychology, were particularly included in this. The combination resulted in a renewed focus on the customer as the analytical unit. As a result, the field of marketing gained fresh, substantial knowledge. This covered concepts including brand loyalty, opinion leadership, and reference groups.Market segmentation also gained popularity, particularly demographic segmentation based on household lifecycle and the socioeconomic status index. The marketing discipline demonstrated a growing level of scientific sophistication in the development and testing processes of consumer psychology theories with the inclusion of consumer behaviour and psychology. A new set of instruments has been added by researchers more recently, including phenomenological interviewing, photo-elicitation techniques, and ethnography.Consumer behaviour is taught as a unit of study in practically all entry-level marketing programmes nowadays, as it is recognised as a significant marketing topic.

**DEFINATION :PSYCHOLOGY OF CONSUMER**

The study of human behaviour as it relates to consumer goods, including purchasing habits, customs, and preferences as well as responses to product packaging, marketing, and advertising, is known as consumer psychology.he mental and physical actions a customer does when looking for, assessing, choosing, and utilising goods and services are all included in their behaviour.

Customers trade resources, such as cash, taxes, time, and labour, for value in the marketplace.According to a formal definition, the topic is "the study of individuals, groups, or organisations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society-1."

Consumer psychology is a specialty area that studies how our thoughts, beliefs, feelings and perceptions influence how people buy and relate to goods and services. One formal definition of the field describes it as "the study of individuals, groups, or organizations and the processes they use to select, secure, use, and dispose of products, services, experiences, or ideas to satisfy needs and the impacts that these processes have on the consumer and society.

**FACTORS OF PSYCHOLOGY OF CONSUMER**

Social and cultural elements like family and roles, psychological ones like perception and attitudes, personal factors like age and lifestyle, and economic factors like consumer income and spending habits all influence consumer behaviour. Let's take a closer look at each of them.

**Elements That Affect Consumer Behaviour**

**Psychological Factors**

Deeply ingrained psychological elements impact consumers' purchasing decisions by understanding how their minds function. Fundamental components like motivation propel people to satisfy innate desires. Preferences can be shaped by learning based on prior encounters and outside information. Over time, attitudes and beliefs shape one's own positions towards certain companies or items.Finally, perception—the unique lens through which each person sees the world—can change significantly, leading to differing interpretations of the same information between customers. Recognising these subtleties can assist marketers in creating messages that resonate.

Psychological factor includes**:**

Motivation: A consumer is compelled to satisfy a demand by their inner desire. For instance, a person may purchase a luxury vehicle to satisfy a deeper need for prestige or self-worth in addition to using it for mobility.

Learning: is the process of gaining knowledge from outside sources and experience. For example, a consumer may purchase a particular brand of detergent because past usage has indicated that it is the most effective for them.

Attitudes and beliefs: are developed through time from a variety of sources, such as experiences and outside influences. A person who values environmental preservation may select eco-friendly goods.

Perception: How a customer understands and applies the information that is accessible to them. When two consumers see the same commercial, for instance, one may think it's educational, while the other may think it's manipulating.

Social Factors

Social elements highlight how society affects particular customers. Having a voice in group decisions allows the family to play a crucial role. Reference groups, which can include anybody from personal friends to famous people, frequently act as influences or standards to direct consumer decisions. Furthermore, a person's status and functions in society (such as being a manager or parent) might influence their purchasing decisions, leading them to look for goods and services that complement or improve their social standing.

**Social factors include:**

Family: Buying decisions might be influenced by family members. For example, parents may purchase a car based on its safety record, keeping their kids in mind.

Reference Groups: These are groups that a person looks to for validation or approval. If a celebrity, seen as a reference, endorses a product, their fans might be more inclined to buy it.

Roles and standing: Depending on one's job in society (e.g., parent, manager, student), one may make particular purchasing decisions. For example, a manager may purchase formal clothing to preserve their professional standing.

**Cultural Factors**

Personal factors are unique to each individual and differ significantly from one another. Age determines life-cycle demands, with younger people preferring different items than older people. Daily demands are highly influenced by one's occupation and lifestyle; for example, a tech worker may prioritise the latest devices, but a farmer may value agricultural gear. Personality, the fundamental characteristics that define an individual, influences purchasing decisions; extroverts may tend towards bold, attention-grabbing products, whilst introverts choose understated items.

Cultural factor include:

Culture: Social values, attitudes, and beliefs can impact consumer choices. In some cultures, for example, gold jewellery is often purchased because it represents wealth and rank.

Subculture: Groups within a culture share views and values. For example, the younger generation may be more prone to internet purchasing than the elder age.

Social Class: Each class has unique tastes. Luxury labels typically target the higher class, whilst bargain stores may target the middle or lower class.

Personal Factors:

As people age, their likes and preferences evolve. Teenagers may spend on electronics, whilst elderly folks may invest on health products.

Occupation& Lifestyle: Corporate executives may purchase formal apparel and a luxury car, whereas artists may prefer boho clothing and a vintage vehicle.

Personality: Extroverts may like flamboyant products, whilst introverts may choose for more subtle options.

**Economic Factors:**

Economic variables impact purchasing decisions through financial considerations. Personal income determines disposable income levels, which affects purchasing power. Consumer confidence and purchasing patterns are influenced by a country's overall economic status, whether it is growing or in recession. Liquid assets, or easily accessible finances, can also influence decisions; people with plentiful liquid assets may be more susceptible to impulsive or luxury purchases than those with stricter financial restraints.

‘Personal Income: How much someone earns directly affects their purchasing power. Someone with a high salary might not think twice about buying branded goods, while someone with a lower salary might look for deals’(2). Country Economic Situation: In a recession, even those with stable incomes might cut back on luxury items, prioritizing necessities.

Liquid Assets: The more liquid assets (like cash or assets easily converted into cash) someone has, the more they might be willing to spend on big-ticket items.

**Importance of consumer psychology:**

Understanding the psychological elements that influence consumer behaviour is a major problem for marketers and business owners. Consumer behaviour research seeks to understand how consumers make purchasing decisions, who buys specific products, and how products or services are consumed or experienced.According to research, the importance of psychology in consumer culture might be difficult to foresee, even for specialists. However, emerging research approaches such as ethnography and consumer neuroscience are revealing new light on how consumers make decisions, particularly in determining the intention-action gap, or the difference between what customers say and do.Social marketing, customised marketing, brand-name shopping, and the consumer's perception of the price of the commodity (directly expressed as the consumer's price sensitivity) are all important factors in understanding consumer attitudes and explaining how



Published by :Sai College, Bhilai

market demand reacts to price changes.Furthermore, building positive relationships with the target audience is critical for brand management. The tangible parts of brand management include the product or service itself, as well as its appearance, price, and packaging. Intangible factors include consumer encounters with the brand, as well as relationships with the brand's products or services. This market research can assist brand managers create the most effective and positive brand and advertising plan.

**Consumer Psychology Used by Marketers:**

Market research on the psychological aspects that influence consumer behaviour can help marketers and brand managers decide how to invest their time and money. Brand managers devise tactics for converting a suspect into a prospect, then a buyer, then a customer, and finally a brand champion.Brand management seeks to foster an emotional bond between a firm, its products and services, and its consumers and constituents. Brand managers and marketing managers may attempt to control the brand image; recognising the role of consumer psychology can aid in these decisions

**Price Perception and Pricing Strategies:**

The best way to demonstrate the use of price perception is with a value-based pricing plan, although customers' impressions should be considered with any pricing approach. Here's how to make sure your pricing meet your customers' expectations.

1. **Evaluate your products or services.**

Your sales volume isn't increasing. Perhaps you are not meeting your clients' needs, thus they are unwilling to pay premium costs. Examine how well your product meets the consumer's requirements and desires, how your consumers perceive it, and what kind of value they are willing to pay for.

So, the first step is to investigate your customers: discover their shortcomings and fears, then evaluate how well your solution solves them. Rethink your product's benefits and ensure that it actually meets the demands of purchasers. This is critical for raising your products' perceived worth.

2. **Evaluate your clients' purchasing power.**

Customer preferences and tastes are critical to developing an efficient pricing plan. If you can tailor your product or service to satisfy those specific needs, the perceived value will likely grow. However, you must ensure that customers can afford your products. Your pricing ranges should match your clients' estimated budgets.

3. **Adjust your prices.**

The perceived worth of your product or service is determined by how much your potential customers gain from purchasing it. Higher prices reflect quality to consumers, and they are willing to spend more for products that provide a little something extra.Premium brands are the best example of this. Perhaps it is time to demonstrate your potential clients all of the perks they will receive if they purchase your goods.However, if you cannot brag greater quality goods, do not overcharge; instead, ensure that your pricing correlate to the value you actually provide and remain competitive in comparison to your competitors' rates.

4. **Use customer value marketing.**

Customers are less likely to pay for your product since the market gives more options. This is because consumers will be able to compare your products to alternatives and have a greater selection.An excellent way to remain relevant in the face of strong competition is to incorporate your value proposition into your marketing plan, allowing your product or service to stand out. Brands that employ the perceived value strategy effectively showcase the distinguishing features of not just their products, but also the company itself.

**Price Perception:**

Before you implement any price plan, ask yourself, "What do customers think about my current pricing?" You can do surveys and experiments to find out, but keep two things in mind.First, price perception is a highly subjective concept that is influenced by a variety of psychological factors and experiences unique to each client. Second, this is not a constant value and may fluctuate over time under specific conditions.

As a result, rather than asking customers directly, you should analyse your sales volumes and consumer behaviour based on the amount you charge. This is where price intelligence software can help: it will provide statistics on purchases and competition rates, which may serve as a solid foundation for your pricing strategy.

**Consumer Price PerceptionAdjustment** Here are a few recommendations for correcting value perception by presenting prices for your products or services:

Make your price appear smaller.Our brain is wired to think in terms of amounts. It prioritises number size over value. So, if you want your pricing to appear cheaper, reduce the font size or avoid using decimals; a few pennies is unlikely to make a significant impact in your profit margin.

Use small-magnitude words.When selecting words to use near your price (visually), use those with the meaning "less" or "smaller". For example, "low maintenance cost" will be valued more than "high performance". The words you use will influence how others perceive your prices

“Separate the delivery and handling fees.At first appearance, including shipping costs in the product price appears to be a very convenient solution. However, when purchasers find competitors providing lower prices, they choose to acquire their things, even if shipping costs are charged individually at the checkout stage.”(3)

Track the market and be proactive.For e-commerce businesses in competitive niches, automate price analysis using Priceva's price optimisation tools and obtain data-driven pricing recommendations. These systems will deliver real-time market data, allowing you to maintain long-term pricing strategy.

**Influences price perception:**

Price perception is influenced by a variety of elements, including the overall value offered, product quality and the customer's previous experience with it, the brand's reputation, and marketing

 ISBN : 978-81-957386-4-9

activities. All of these elements can be classified as logical and psychological, or internal (depending on an individual customer's attitude and experience) and external (depending on the brand and market).

**The pricing is crucial to customers:**

Each customer has a unique budget and purchasing power. Everyone attempts to receive the best value for the amount they are willing to spend. Furthermore, consumers prefer to compare the costs of several things and establish a reference price for a specific product.

Price affects customer behaviour.Customers can select whether or not to buy a product based on how they perceive the price - fair or overblown - or turn to competitors for alternatives. Because price comparison is quite simple and quick in the e-commerce domain, customers frequently choose this factor over others.

**The Relationship between Consumer Psychology and Pricing :**
The link between consumer psychology and pricing is obvious. Understanding the psychological variables that drive consumer behaviour allows firms to make more educated pricing decisions. ‘For example, if a corporation understands that its target audience is particularly driven by environmental responsibility, it may choose to charge a higher price for its environmentally friendly products. If a corporation understands that its target audience is heavily impacted by perceived quality, it may choose to charge a higher price for premium products.Furthermore, consumer psychology can assist organisations understand how different pricing methods affect consumer behaviour. Companies, for example, can affect consumer behaviour and improve sales by employing psychological pricing methods such as odd pricing (selling a product at $19.99 rather than $20). They can also utilise promotions, such as discounts and sales, to appeal to customers' emotions and persuade them to buy.’(4)

**Conclusion:**

To summarise, consumer psychology and price are inextricably linked, and understanding the psychological aspects that drive customer behaviour is critical for firms to be successful in their pricing plans. Understanding the relationship between consumer psychology and pricing allows firms to make more educated pricing decisions, improve their competitiveness, and increase sales and profitability.Price is one of the most essential factors that customers consider. Pricing can either make your products more appealing or deter customers who believe you charge too much At the same time, price perceptions do not always reflect the true cost of a product or service, because its value varies among individuals. That is, there is no ideal price, but as a retailer, you should endeavour to offer the best cost to as many customers as possible.A well-thought-out pricing strategy combined with advanced price tracking software will allow you to achieve just that.

**References:**

1Solomon M. Consumer Psychology. Encyclopedia of Applied Psychology. 2004:483-492.
2Society for Consumer Psychology. SCP's culture and values.
3American Psychological Association. Careers in psychology
4Ayelet Fishbach and Ravi DharBookHandbook of Consumer Psychology

5 By Thomas Bennett Financial expert at Priceva

6 MBA HUB Marketing Management Consumer Psychology and Pricingunderstanding the connection

 ISBN : 978-81-957386-4-9

# CHAPTER- 9

# A STUDY OF CONSUMER BUYING BEHAVIOUR TOWARDS THE SPORTS BIKESSEGMENTINBHILAICITY

**Mr. Rajendra Pal[1] and Dr.RanjeetaTiwariMishra[2]**

[1]Assistant Professor,DepartmentofCommerce, SanjayRungtaGroupofInstitutions,Bhilai
[2]Associate Professor,Departmentof Management, SanjayRungtaGroupof Institutions,Bhilai.
palrajendra281@gmail.com

**ABSTRACT**

The study of consumerbehaviourislike a deepoceaninitself.Itisbelievedthatthefoundation of development of any country depends on the businesses running in that countryand the gate to the growth of the businesses depends on the demand of the consumers hence itis necessary for every business to study the behaviour of the consumers. In order to maintainthe status of self in the business world by producing goods according to the demand ofconsumers. There has been a lot of growth in the Indian two-wheeler sector at present ascompared to the past. It has seen tremendous growth in about half a century, in comparison toothercountrieswheretwo-wheelersareamajorcomponentoftransportation.Theseindustries started in 1955 when 350X bullets were commissioned for the first time by therecruited Indian army. They were especially needed for the rough and narrow roads in thenorthern and western regions of India. These bikes were manufactured by the Royal EnfieldCompany which was based in the United Kingdom. And it was first assembled in Chennai.Which were known as superbikes with high speed concerns. These bikes typically have apowerfulengine,lightweightframe,aerodynamicbodywork,andadvancedsuspensionsystems, which enable them to reach high speeds and handle tight corners with ease. Sportsbikes are often associated with racing and are popular among motorcycle enthusiasts whoenjoythethrillofhigh-speedriding.

**Keywords-**Consumerbuyingbehaviour,bikesegment,segmentation.

## I. INTRODUCTION:-

Understandingthebehaviourofconsumersisadisciplinedtask.Itisverydifficulttounderstand the behaviour of few members living in a family therefore; it is very difficult tounderstand the behaviour of consumers of a large society and country. In the present businessmarkets, the customer has become the supreme priority. In other words, the customer is theking of the market. All products are produced according to customer demand, so it is veryimportant to know in advance what customers want to buy, how much and from whom. Thecustomer is found to be the most important element of the market cycle. Customer is the lastelement of the market cycle. This concept seems completely correct as its usage completelydependsonthenatureanddemandofthecustomers.

 ISBN : 978-81-957386-4-9

Today Bhilai City is moving ahead on the path of progress with continuity. The employmentand income of the people here is also continuously increasing. Today, along with normal two-wheelers, sports bikes are also being seen peacefully in Bhilai city. Sports bike companieshave also started manufacturing sports bikes as per the needs and requirements of all types ofconsumers.

**Sports Bikes Buying Pattern**- Generally thefollowing things are observed by the sportsbike usersbefore purchasingthesportsbike-

- THELEVELOFAGES
- WHERETORIDE
- BODYTYPE
- FREQUENCYOFUSE
- ENGINEDISPLACEMENT
- RIDER'SPHYSIQUE
- RIDEQUALITYANDPRACTICALUSAGE
- PARTSANDACCESSORIES

## II. LETRATUREREVIEW,OBJECTIVEANDRESEARCHMETHODOLOGY:-

### A)LETRATUREREVIEW:-

- ReviewpaperonfactorsinfluencingConsumerBehaviour:AhmadHosaini,Dr.KuldeepChand Rojhe(May-June2020)Studiedandconcludedthat,Consumerbehaviour means that the consumer selects a product according to his needs and buysit. Consumer satisfaction gets the significant goal of business enterprise. The mostessential that to ensure consumer fulfilment lies In the recognizing of the consumer,his likes and dislikes, his expectation and encouragement, in short undertaking ofconsumer behaviour. So we have to find the clear requirements of consumers. Thereare different elements that effects on consumer behaviour. As the Change comes intheseelements,consumerbehaviouralsochangessuchasDemographicFactors,SocialFactors andCulturalFactors.
- Kanupriya ,Dr. Rita Anupreetkaur (2016) said in their Study about the consumerbehaviour for online shopping have stated that E-commerce means buying and sellingthrough the internet. E-commerce provides the facility of doing business 24 hours aday. They tried to study preliminary assessment, evaluation and understanding of thecharacteristics of online shopping. Consumer behaviour was studied in the study andthroughthat anattemptwasmadetoset correctiverulesfor e-commercebrands.
- Kaushal& Anand(2011)analysedthatfreedom cognizantpurchasersappreciatedrives the



Published by :Sai College, Bhilai

bicycle and furthermore feels pleased when they drive the bicycle. Thesepurchasers need to get great resale estimation of the bicycle. They also showed thataccommodation cognizant inspiration is most noteworthy when they purchase thebicycle. Accommodation cognizant purchasers feel that they are extremely helpful todrive on harsh & rough streets and furthermore be agreeable to drive in any event orsituation, for long excursion. The corroborative factor investigation results offer solidhelpfor thefive dimensional structures topurchasinginspirations of bicycle. Thethird huge inspiration of bicycle is freedom cognizant; as it is obvious from the namefor example these purchasers feel that bicycle gives feeling of autonomy when theydrive.

- Mundu,Trivedi&Kurade(2011)observedthatladiesadditionallyoffersignificanceto the solace level that the vehicle offers them. For the population whose averagesalary is Rs 40000 or less, both the mileage and air cost of the bike matter.. Purchasersare not very influenced by style and will in general incline toward vehicles that offer amileage more prominent than 45. Ladies from Pune city look for bikes with a highmileage and great taking care of. This study has revealed thatPune city has thehighest number of bikes per square kilometre. First time purchasers are increasinglyinfluencedbythecostofthevehicle.Theweightandthestatureofabikearelikewisegiven due significance. Ladies will in general base their purchasing choice on thesimplicityoftreatmentofthevehicle.
- Shanthi &Murugan (2011) identified the target groups and frame a strategic planningforthetwo-wheelerindustrytosatisfytheneedsofthesetargetgroups.Bikemanufacturersdesigntheproductsaspertheindianwomenconsumerandaccordingto Indian roads. It can be concluded that study of behavioural changes of womenconsumers is necessary in marketing women two wheelers. The Indian two-wheelerindustry has shown a rapid rate of growth in last one decade. In their study provides aframework that studies the relationship between the growths of two-wheeler industryon behavioural changesof women consumers.Thisstudy showsthebehaviouralchanges of women towards the two wheelers. This woman two-wheeler segment isdominatedbyJapanesemanufacturers.

### B)OBJECTIVE:-

In the appropriate research, an attempt was made to know: What is the behaviour and attitudeof the users towards Sorts bike in Bhilai city. And consumers are influenced by which stylesof sports bike and also what are the factors that influence their behaviour and opinion towardssportsbike. Thefollowingaretheobjective ofthe studyforthis researchwork:

1. To find out the psychology of consumers toward the selection of sports bikes in Bhilaicity
2. To understandthe marketfromthecustomers'perspectiveinBhilaicity
3. To Study of changing attitude of two-wheeler users from normal bike to sports bike inBhilaicity.



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

**C)RESEARCHMETHODOLOGY:-**

Researchmethodology referstothesystematicapproachusedtoconductresearchinaparticular field or discipline. It involves the techniques, methods, and procedures used toanalyze andcollectdatatoanswerresearchquestionsortesthypotheses.

Primary data was the data that was collected for the First time by the researcher. The primarydata were collected with specific set of objective to assess the Current status of any variablestudied.Primary data was collected using questionnaires. The area of the study refers toBhilai city. Secondary data is collected through various annual reports, magazines, websitesnewspapersand.Anditisusedfortheresearchpurpose.Simplerandomsamplingmethodhas beenusedinthestudyconductedhere.Thestudycoveredasampleoffewrespondentsbelongtothestudyarea,whowere ConsumingsportsbikeinBhilaicity

| Factors | Buying % |
|---|---|
| THE LEVELOFAGES | 5 |
| WHERETORIDE | 5 |
| BODY TYPE | 30 |
| FREQUENCYOFUSE | 10 |
| ENGINEDISPLACEMENT | 25 |
| RIDER'SPHYSIQUE | 5 |
| RIDE QUALITY AND PRACTICALUSAGE | 10 |
| PARTSAND ACCESSORIES | 10 |

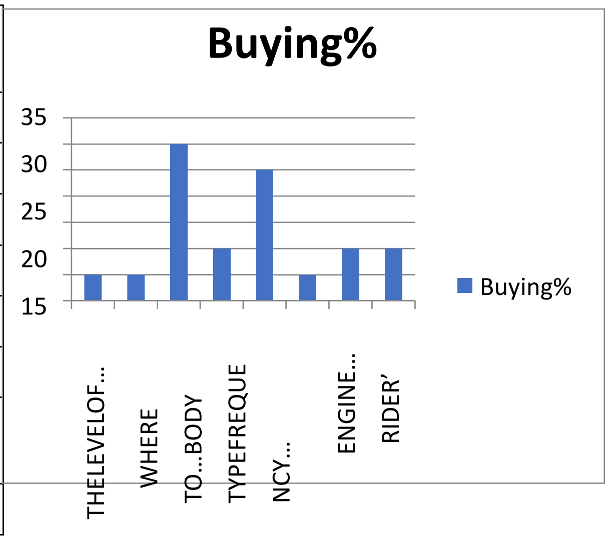



**Fig: FactorsofbuyingsportsbikeinBhilai**

The above table and graph shows that currently the consumption of sports bike inIndia is based on 30% of body type, 25% of engine displacement, 10% of frequency of use,10% of ride quality and practical usage, 10 % of parts and accessories, 5% of the level OFages,5%ofwheretoride,5%ofrider's physique.

**III. CONSUMERBEHAVIORTOWARDSSPORTSBIKESINBHILAICITY:-**

Therearefourtypesofconsumerbehaviorcategorizedbytheirlevelofinvolvementinapurchase.Thesear e:

- Complexbuyingbehaviour
- Dissonance-reducingbuyingbehaviour
- Habitualbuyingbehaviour



Published by :Sai College, Bhilai

 Variety-seekingbuyingbehaviour

**Complexbuyingbehaviour**:-Complexpurchasingbehavioroccurswhenaconsumer is highly involved in a purchase (These purchases are usually for high-valueitems) in complex purchasing behaviour, the consumer differentiates very closelybetween brands of goods. And how ever before purchasing the item one will study alltheoptionsavailableinthemarketanddecidetobuyForexample,suggestionsgiven

by customersbeforepurchasingamotorcycle,price,mileageof themotorcycle,availabilityofitsparts..Thisbehaviouristriggeredbyhighprice,infrequenttransactions, perceived risk and high levels of brand differences. Houses, Motorcycle,Cars, and electronics are all examples of products that may trigger complex buyingbehaviourinconsumers.

**Dissonance-ReducingBuyingBehaviour:-**Dissonancereducingpurchasingbehavior occurs when the consumer is highly involved in the purchase and perceiveslittle difference between brands Such customers will justify their purchases by findingreasons to overcome cognitive dissonance and justify their behavior. This type ofconsumermusthave done a lotof research before purchasing the product.. Forexample,he can read or collectreviewsfrom previous users of the productandcompare prices and features. And before taking any decision one can talk to thosefamiliesandmetrowhohaveusedthemearlier.

The easiest thing to do is to please these types of customers because you know exactlywhat they want and what they are trying to achieve by pricing them. And they want tobesatisfiedwiththeircustomersbecausetheyhavetakendecisions verythoughtfully.

**Habitualbuyingbehaviour:-**Habitualbuyersaregenerallythosebuyerswhopurchase goods as per their habit and daily routine. They generally deal in the samebrandof products. They usually don'tthinktoomuch abouttheirdecisions.Forexample, if a person normally buys Pepsi, he will likely buy the same product everytime.Habitualpurchasingbehaviorisofteninfluencedbytheprice,value,andavailability of an item. To which brand product are these consumers most loyal? Theyare less likely to switch brands because they give little thought to their purchasingdecisions.

**Variety-SeekingBuyingBehaviour**

Variety seeking purchasingbehavior occurs when consumers buy goods based ontheir mood and occasion they are more likely to switch brands and try a new productand this happens when switching costs are low. This behavior is often seen withconvenience products suchas cleaningandtoiletssupplies.

Customers who engage in variety-seeking buying behaviour are heavily influenced byfamily, friends and peer groups. They are also influenced by marketing informationthatfocusesonthefeaturesandbenefits oftheproduct.

 ISBN : 978-81-957386-4-9

## IV. FACTORSAFFECTINGCONSUMERBEHAVIOUR:-

**1. PSYCHOLOGICAL FACTORS: -** Human psychology is an important factor influencingconsumerbehaviour.Understandingthesefactorsisdifficultbutispowerful enough toinfluence purchasingdecisionssome psychologicalfactorsareasfollows–

**A. MOTIVATION: -** Every person has unique needs; hence they are always conscious ofthoseneedswhicharemostimportantfortheirlifesecurity.

**B. PERCEPTION:-**Consumerperceptionisamajorfactorthatinfluencesconsumerbehavior. Customer perception is a process that collects information about a customer andhowtocreateameaningfulvalueforthecustomer.


**C. LEARNING: -** When a person buys a thing,he gets moreinformation about that thingand he gets to learn a lot more. And learning occurs through experience over a short period oftime Knowledge. While skill can be gained through knowledge, practice can be acquired onlythrough experience.In cognitive sense,the consumerwill usehis knowledge andskills tofindsatisfactionandsatisfactionfromwhathe buys.

**D. ATTITUDES AND BELIEFS: -** Every consumer has certain unconscious preferencesandbeliefswhichinfluenceconsumers'purchasingdecisionsFromtheseprinciplestheconsumertakesapositiveapproach toarchitecture.Fromtheseprinciplestheconsumertakesa positive approach to architecture. This attitude plays a significant role in explain the brandimage of a product. Hence, marketers try hard to understand the attitude or behaviour of aconsumertodesigntheirmarketingcampaigns.

**2. SOCIAL FACTORS: -** Man is a social person, he does all his activities in a society, hencehe is influenced to a great extent by other people of the society. Man also imitates otherpeople and even changes his own purchasing decisions based on their behavior. Hence theirbuying behavior is influenced by other people around them. These factors are considered associalfactors.Somesocialfactorsaredescribedasfollows:-



**Published by :Sai College, Bhilai**

**A. FAMILY: -** It plays a very important role in understanding the indifference of a person'sbehavior. Seeing the family buying products makes them their priority since childhood andthisprioritycontinues tobeseentilltheygrowup.

**B. REFERENCE GROUPS: -** Reference group is a group of people with whom a personassociates himself. Generally, the purchasing behavior of all the people of reference group issimilarandwemutuallyinfluence eachother.

**C. ROLES AND STATUS: -** A person is affected by his role in the society. A person whooccupies a high position, his buying behavior will be according to his position and a personwhoworksinacompany,hisbuyingbehavior will beaccording tohisposition.

**3. CULTURAL FACTORS**: - Every person is associated with some community and everycommunity has an unconscious culture, in such a situation cultural factors also influence thepurchasingbehaviorofconsumers.Some culturalfactorsareasfollows:

**A.** CULTURE: - Cultural factors include core values, needs, preferences, and behaviors thatconsumers observe and learn by a consumerfrom theirnearfamily members and otherimportantpeoplearoundthem.

**B. SUBCULTURE: -** Within a cultural group, there exists many subcultures. These subcultural groups share the same set of beliefs and values. Subcultures can consist of peoplefromdifferentreligion,caste,geographiesandnationalities.Thesesubculturesbyitselfforma customersegment.

**C. SOCIAL CLASS:** - In this world, every society lives in the form of social class. Thesocialclassisnotjustdeterminedbytheincomeorprofit,butalsootherfactorssuchastheoccupation,educationandresidence,familybackground,andlocation.Socialclassisimportantforpredictingandpredictingconsumerbehavior.

**4. PERSONAL FACTORS: -** Personal factors of consumers also influence their decisionliketheirpersonalthinking,theirpersonalideas.Somepersonalfactorsareasfollows:

**A. AGE:** - Age is a major factor that greatly influences purchasing behavior. The preferencesof youth are different from those of middle-aged people and the preferences of both theseclassesare differentfromthepreferencesofthe elderlyclass.

**B. INCOME:** - Income has the ability to influence the buying behavior of a person. Higherincome gives higher purchasing power to consumers. When a consumer's income increases,he has more opportunities to spend and when consumer income decreases, he has feweropportunitiesandmeans tospend.

**C.** OCCUPATION: - Consumer's profession and business influence consumer behavior to agreat extent. A person tends to buy things that are appropriate to this/her profession. For Forexample, a doctor will buy clothes according to his profession and an advocate will buyclothesaccordingtohis profession.



Published by :Sai College, Bhilai

**5. ECONOMICFACTORS:**- Thepurchasinghabits anddecisionsof consumers alsodepend to a large extent on the economy of the particular market or country. When a nation isprosperous, the economy of that country becomes strong and there is sufficient supply ofgoods in the market such that consumers are able to buy. Economic factors have a significantimpact on purchasing a consumer's decision. Some important economic factors are describedasfollows:

**A. PERSONAL INCOME:** - When a person's project comes, then with him comes hispurchasing power. The project is prepared from the money left after spending the necessaryitems. When disposable income is high, expenditure on architecture is also high. And whendisposableincomedecreases,expenditureonarchitecturealsoreducesreciprocally.

**B. FAMILYINCOME:** -Theincomeofallthe membersofafamilyiscalledfamilyincome.Whenmorepeopleareearninginthefamily,thenapartfrom thebasicneedsofthefamily,theexpenditureongoodsandserviceswillalsobemore.Familieswithhigherfamilyincomescanaffordtospendmoremoneyonpropertydevelopmentthanfamilieswithlowerincomes.

**C. CONSUMER CREDIT:** - When a consumer is offered easy credit to purchase goods, itpromotes higher spending. Vendor has made it easier for its customers by providing serviceslike creditcard, installmentplan, hire-purchasing, loan service etc. When there is highercreditavailabletoconsumers,thepurchaseofcomfortand luxuryitemsincrease.

**V. OVERVIEW**:- Consumerbehaviourisawayofresearchandresearchforeveryproducer.There are different types of consumer classes in the market, in such a situation, it is a difficulttask to understand the needs of each consumer class and fulfil their wishes. But if this ishonestly researched in depth then the behaviour of consumers on the unconscious tour can bepredictedcarefully.Consumers'behaviourisdirectlyandindirectlyinfluencedbytheirpersonal actions, economic actions, social actions and political actions.A producer mustalways keep the consumers in prime consideration to have a strong strategy in the market andshouldstudytheirbehaviourdeeplybefore producing.

## VI. BENEFITS OF STUDYING SPORTS BIKE CONSUMER BEHAVIOR IN BHILAICITY:-

The present market is based on the preferences of customers, in such a situation, studying thebehaviour of consumers of every producer has the following benefits. To meet the needs ofsportsbikeconsumersinBhilaicityandtoincreasethedemandforsportsbikes,manufacturersneedtostudytheirbehavior.

1. At present, information about the behaviour of consumers towards sports bikes in BhilaiCityis obtained.
2. WhatcandeterminetheclassofsportsbikeconsumersinBhilaicity?.
3. InformationaboutsportsbikeconsumerdemandcanbeobtainedinBhilaicity.
4. Information can be obtained to understand the behaviour of sports bike consumers and

theFactors influencingthem.

5. Factorsthatgreatlyinfluencesportsbikeconsumer behaviourcanbecontrolled.

**VII. CONCLUSION:-** India is a unique country, where people of different cultures andnature live. The Indian business world is currently progressing very fast, the reason for this isthat today the producers are sensitive to the preferences of the consumers in the Indianmarkets.SportsbikesofmanycompaniescanbeseeninBhilaicitytodayInconclusion,thestudy on consumer perception towards sports bike utilization in Bhilai city revealed valuableinsights into the buyingbehaviour and preferences of sports bike consumers in the region.The study found that performance and looks were the top priorities forconsumers whenpurchasing a sports bike, while style and affordability were of lesser importance. What wasfound in the study is that most of the consumers buy sports bike because of their individualspirit and also because of being valuable to the owner of sports bike, they like to buy itthrough finance orloan.Overall,thestudy suggests thatsports bikemanufacturers anddealerships should focus on improving the Affordability and safety features of sports bikes,whilealsoensuringthatsparepartsarereadilyavailableandaffordable.Furthermore,promoting Responsible riding behaviour and minimizing noise pollution caused by sportsbikescouldhelpincreasecustomersatisfactionandloyalty.Byimplementingthesesuggestions, sportsbikemanufacturersanddealershipscouldhelpattractandretaincustomers,ultimatelydrivingsalesandrevenuegrowthinBhilaicity.

## REFERENCES:-


- Yang, C. C., Chen, J. S., & Chen, Y. Y. (2017). The impact of brand reputation onpurchasingintentionofsportsmotorcycles:Themoderatingeffectsofbrandperformanceand design.TransportationResearchPartA:PolicyandPractice,103,330-342.
- Sundaram,D.S.,Tamilarasi,A.,&Suresh,R.(2020).A studyonthefactorsinfluencing the purchase of sports bikes among young consumers in India. Journal ofBusinessandRetailManagementResearch,14(4),10-19.
- Aguirre, C., Lee, S., Lee, J., & Park, J. (2019). The relationship between motor cycletypeandriskyridingbehaviouramongKoreanmotorcyclists.
- Grigoroudis, E., Matsatsinis, N., &T soukatos, E. (2019). Factors affecting customersatisfactionandloyaltyinthemotorcycleindustry:Thecaseofsportsbikes.JournalofBusiness Research,96,218-231.
- Kim,M.,&Choi,Y.J.(2019).Theimpactofbrandpersonalityonconsumerperceptionofsports motorcycles.JournalofBrandManagement,26(3),276-289.

  Pongpat, N., Tongsopit, S., &Wongsurawat, W. (2020). Factors affecting customersatisfaction toward sports motorcycles in Thailand. International Journal of BusinessandManagement,15(8),223-233.
- Sharma,P.C.andPriya,(2018),IdentificationofFactorsInfluencingInvestors'Perception Towards Investment in Mutual Fund, Anusandhan, Vol.1, Issue-1, pp 33-38
- Malar Mathi, K., Krishna K. P. and Saraswathi, C. (2013), A study on consumerbuying

Behaviour towards Hero Motocorpin Erode, Global J. of Arts & Mgmt., 3 (1),pp23-2.8

- Kaushal,S.,& Anand,S.(2011).Anempiricalstudyofmotivationfactorsforpurchasingthebikes,AnnamalaiInternationalJournalofBusinessStudies&Research,3(1).

# CHAPTER- 10

# THE ROLEOF GENDER DIVERSITYIN CORPORATE LEADERSHIP

**Dr.Geetanjali Dangi Thakur**

**Assistant Professor, Department of Commerce, SAM GLOBAL UNIVERSITY**

## Abstract

Gender diversity refers to an even distribution of males and women. Computing, manufacturing, medical, and science are some of the most well-known industries with more male employees than girls.More often than not, a fair and productive working environment requires an equal balance of men and women. Gender diversity in the workplace means that men and women are hired at comparable rates, paid evenly, and given equal working chances and promotions.Women represent for 40% of the worldwide workforce, but just around 5% of them hold high managerial positions. Even so, the annual pay for males in the same positions are not comparable.Human rights apply to all people, including men and women. This signifies that women have equal human rights as men.However, women have historically faced discrimination in a variety of ways because they are born feminine rather than male.Even if there have been some advancements, this type of discrimination persists in our cultures. When explaining gender equality, it is best to begin with an explanation of the terms sex and gender: Sex: The biological and physiological differences that distinguish men and women. Gender is the socially constructed roles, behaviours, activities, and qualities that a society considers

**Keywords:**Gender Diversity,Corporate Leadership,Employment,Act

## Introduction:

Gender variety refers to gender identities that manifest themselves in ways that go beyond the binary paradigm.Many gender varied individuals find the concept of binary gender, which requires identifying as either male or female, to be restrictive. Some people would prefer the flexibility to switch genders or to have no gender identity at all. Others simply want the freedom to publicly oppose or challenge more conventional notions of gender.Gender varied persons define their identity as presenting something more outwardly authentic to the world, regardless of whether they consider themselves to be variously gendered or have no gender at all. It is crucial to note that numerous societies throughout history have acknowledged gender variation beyond masculine and feminine.Today, the internet has created a platform for people to discuss their common experiences with gender diversity, and much of the terminology used to express these experiences is still emerging. Misconceptions about the existence of numerous genders, each with its own set of norms, language, and pronouns, persist. Many of these statements are overblown, taking into consideration extremely specific and specialistic words, as well as highly individualised gender explorations.Non-binary, genderqueer, and X gender are valid labels for gender varied persons. Individuals, on the other hand, may use more specific personal phrases to represent themselves inside their peer group and safe spaces. There is a lot of disagreement about which pronouns are appropriate or should be used to denote gender diverse people.The singular 'they' pronoun (e.g., "they are taking their dog for a walk") is a commonly used pronoun structure that respects gender diversity, albeit it may not always be optimum. There are numerous more gender neutral pronouns that people can use (such as fae and eir), but it is important to use the pronoun that the gender varied person requests.Some individuals may struggle to accept and respect a change in name or pronouns. However, socially, we learn to accept and respect changes to people's names all the time, such as when they married! Many people, regardless of gender identity, want nicknames to be respected, and some cisgender people (those whose gender identification corresponds to their biological sex) can be insulted when they are misgendered (for example, if a woman is addressed as "he").The same ideas apply to people with different gender identities. While it is acceptable to make an error when someone has recently given their new name and/or pronoun, it is critical to practise and work towards getting it correctly all the time.*Gender diversity refers to the proportion of females to males in an organizational structure (school, company, courts, etc.) or workplace. The less the difference between the numbers of males and females, the greater is the diversity. Research on social and organizational behavior suggests that heterogeneous teams are more productive. As discussed in earlier chapters, diverse boards with directors with different traits and viewpoints can help in formulating suitable strategies, creative problem solving, and improving productivity, making boards more effective. There is a growing opinion that increasing the number of women on boards has a positive effect on performance, with several countries recommending quotas for women.*(1)

**Origin of Gender Diversity**

It wasn't long ago that many organisationsprioritised diversity issues, both morally and financially. Workplace diversity programmes first emerged in the mid-1960s, mostly as a result of the civil rights movement in the United States. Prior to this, many companies had long histories of discrimination, as well as a lack of cultural diversity, with no training, processes, or responsibility in place to address the issue.Organisations must now prioritise diversity, equity, and inclusion (DEI). DEI is crucial in all aspects of ESG related to the people who work for and are served by an organisation. It's virtually an unwritten rule that marketing tactics that promote social justice and conscience must be accompanied by concrete action. It is equally vital for businesses to create and maintain a positive environment for employees from all backgrounds. In fact, it is critical for organisations to ensure staff retention.So, how did we get here? Is there still a long way to go? While it's common to see job ads littered with DEI jargon, such as'regardless of age, gender, origin, sexual identity, culture, or disability,' all of which - on paper - suggest a business is embracing diversity, how effective are these businesses when it comes to fulfilling DEI in real time and in real terms? To identify the future of workplace diversity, we must examine its evolution across time.

A quick history of how workplace diversity has evolved.

To begin, let's look at some of the main changes and legislation that have been put in place since the civil rights movement to honour diversity and advance as a society in the United States:

 ISBN : 978-81-957386-4-9

In 1972, the Equal Employment Opportunity Commission got the power to file its own lawsuits. This was an amendment to Title VII of the Civil Rights Act. It meant that the EEOC might file lawsuits against individuals or businesses who may have discriminated against marginalised groups when hiring or promoting.
After signing the measure, President Nixon stated, "This legislation is an important step towards true equality on the job front."

n 1982, The Village Voice, a New York City newspaper, provided domestic partner benefits to LGBTQ+ workers.
The Village Voice was the first corporation to negotiate for employees in LGBTQ+ relationships to receive health coverage for their families.

***Sexual harassment in the workplace was prohibited - 1986**

**Workforce 2000 was commissioned by Secretary of Labor William Brock - 2000**
A study of economic and demographic data was carried out by the Hudson Institute. In terms of Workforce 2000, it focused on how the US would continue to become more diverse. This included businesses that needed to diversify in order to stay competitive*(2)

**Factors of Gender Diversity leadership**
Gender Diversity in Corporate Leadership: A Situational AnalysisHistorically, men have dominated corporate leadership positions.Systemic biases, cultural norms, and traditional gender roles all contribute to the gender gap in leadership.Gender

Gender Diversity of Corporate Leadership:

Historically, men have dominated corporate leadership positions. Systemic biases, cultural norms, and traditional gender roles all contribute to the gender divide in leadership. However, over the last few decades, people's perceptions of the benefits of gender diversity in leadership roles have evolved. A diverse leadership team can boost decision-making and innovation by bringing together a variety of perspectives, experiences, and ideas.However, the change has not resulted in faster progress. *According to McKinsey & Company, women continue to be underrepresented in business leadership around the world. Women make up a sizable proportion of the labour force, although their participation decreases as one advances up the corporate ladder. This issue is commonly referred to as the "glass ceiling," a metaphor for the impediment that prevents women from rising to the highest levels of leadership*(3).

**Benefits of Gender Diversity at Work**
Increased gender diversity in business leadership makes commercial sense, in addition to the moral imperative of gender equality. Businesses that promote gender equality and diversity stand to win significantly:

1. Diverse teams are better at problem-solving and decision-making, considering multiple perspectives and solutions. This diversity of perspectives can result in stronger, more unique responses to difficult challenges.

2.Improved Financial and Performance Results. According to research, there is a consistent relationship between financial performance and gender diversity in leadership. A research by the Peterson Institute for International Economics found that companies with at least 30% female executives can raise their net margin by 6 percentage points.

3.Increased talent retention and attraction. Businesses that promote diversity and equal opportunity are more likely to attract top talent from a wide range of backgrounds. A diverse and inviting workplace also increases employee satisfaction and reduces turnover rates.

4. Enhancing Brand Value and Reputation. Companies that demonstrate a commitment to social responsibility and diversity continue to attract more customers and investors. A company's brand image may benefit from a positive reputation for gender diversity.

5.Reducing groupthink. Teams with homogeneous leadership are more prone to groupthink when members follow the herd rather than critically assessing choices. Gender diversity counterbalances this inclination and encourages reasoned disagreement.

**Importance of Gender Diversity in Corporate Leadership:**

Organisations are understanding the value of diversity in leadership. Encouraging a gender-balanced leadership team is about more than just fairness and inclusion. It is a strategic decision that might have several advantages for your organisation.

1. Improved Decision-Making and Problem Solving

Gender-balanced leadership improves decision-making and problem-solving processes in businesses. A team is more balanced when its perspectives and experiences are diverse. A varied workforce brings new perspectives to the table. These are influenced by their individual life experiences, cultural backgrounds, and personal perspectives. This variety of viewpoints broadens the range of solutions examined. It also encourages a broader grasp of complex situations.Gender-balanced leadership promotes greater creativity and innovation. This enables businesses to draw on a broader reservoir of ideas and practices. Research has demonstrated that diverse teams, including female role models, produce more innovative ideas. It also demonstrates that they are better able to identify upcoming market trends and consumer demands. This creates an environment that promotes creative thinking and an innovative culture throughout the company.

2. Improved organisational performance.

Having more women in leadership positions can boost organisational performance. This is because firms may benefit from the different skill sets and knowledge available. A diverse workforce contributes a variety of complimentary talents, expertise, and experiences to the workplace. This variety of skill sets enables a more thorough and well-rounded approach to problem solving and decision-making.

 ISBN : 978-81-957386-4-9

A gender-balanced leadership team promotes a more comprehensive understanding of client demands and preferences. When varied perspectives are represented at the top, businesses gain significant insights into distinct customer dynamics and wants. This allows businesses to better tailor their products, services, and marketing tactics to the demands and tastes of a broad client base. This results in enhanced consumer satisfaction and loyalty.

2. Improved Representation and Role Models
Gender-balanced leadership is essential for offering better representation. If your company has great role models and leaders of both genders at the top, it sends a powerful message. Anyone, regardless of gender, can attain success and leadership positions in the business. Gender-balanced leadership is also an effective promoter for diversity and inclusion initiatives. When leaders of different genders join together, it is apparent that diversity is appreciated. It also demonstrates that everyone has an equal opportunity to contribute and achieve in the organisation. This portrayal of female role models promotes the recruitment, growth, and advancement of people from various backgrounds. Ultimately, this leads to a more inclusive and equal work environment.

4. Improved reputation and brand image.
Understanding the value of diversity in leadership improves your reputation and brand image. As a result, customers and stakeholders have a more positive perception. Customers now value and support firms that demonstrate a commitment to equality and inclusion. Having a gender-balanced leadership team demonstrates your commitment to promoting an equitable and diverse work environment. This builds trust, loyalty, and good brand connections among customers and stakeholders, so improving your brand reputation.

A few examples of women in leadership in successful businesses

*Chitra Ramkrishna, MD & CEO, National Stock Exchange, ensures to hire more women on merit basis.

Priya Nair, Executive Director, Home Care, Hindustan Unilever, realized her division made 45% of total revenues when she moved from an operation role to a strategic leadership role.

Arundhati Bhattacharya, Chairman, State Bank of India, introduced innovative initiatives in digital banking and delivered profitable growth for the largest bank of India.

Kirthiga Reddy, Managing Director, Facebook India, heads the advertising and sales division; with social media consumption Indian being the third largest in the world, she helps business partake in the consumer’s media consumption.*(4)

**Conclusion**

The issue of women and leadership is still relevant today.
This paper explores women's social and political leadership in a variety of industries and activities inside democratic political systems, in addition to the current state of play in high public office positions. We aim to challenge readers' perceptions of leadership and encourage them to consider the diverse ways women have influenced others and worked for social change.*Women have used

many leadership styles to influence others and drive societal change.This collection of essays examines women's leadership in various historical and contemporary contexts, highlighting its complexity, fluidity, and diversity throughout the twentieth century. This volume aims to showcase women's achievements while also highlighting unique elements of their leadership. The first highlight is the incredible diversity of women's leadership throughout history and geography*(5). This volume covers feminist perspectives and leadership, Indigenous women's leadership, local and global politics, leadership and the professions, women and culture, and social change movements, highlighting the significant contributions of women in bringing about change.*Second, while women themselves have often eschewed the term ‘leadership’, the ways in which women have undertaken roles and activities that required leadership—however loosely deepened—invite an analysis of the term that goes beyond the traditional and conventional masculine understandings of leadership. Finally, this is a timely publication, which highlights the factors that have enhanced and limited women’s opportunities to exercise leadership in a range of political, cultural and social gelds, both in the past and for the future. Women’s leadership in everyday life and on issues of immediate concern is also scrutinized in this volume. It is valuable to conclude with commentary on a contemporary event that highlights the gendered aspect of leadership at an everyday level.*(6)

**References**

1. A Reference Material. Applying RBA in the Project Cycle, p.11.
2. The Evolution of Diversity in the WorkplacePosted by John Wills
3. Ram Kumar Mishra, Shital Jhunjhunwala, in Diversity and the Effective Corporate Board, 2013
4. https://sustainometric.com/
5. Priti RaoIn their own words
6. Holds a postgraduate degree in Computer Science from the Indian Institute of Technology… Priti Rao, Linkedin
7. Content uploaded by Mary Tomsic

ISBN : 978-81-957386-4-9

# CHAPTER- 11

# THE DEMAND OF ETHNIC HOMELAND IN MANIPUR: A BLEAK PROPOSITION

**Dr.Huidrom Suraj Singh**
Assistant Professor, G.P. Women's College, Manipur-795001
surajhuidromcha@gmail.com

## ABSTRACT

Manipur, a northeastern state of India is blessed with countless enchanted wonders that surpass our wildest imaginations. Little India is a common nickname for this multicultural melting pot due to the abundance of Indian traditions, languages, festivals, and faiths. The locals have been getting along splendidly and sharing all kinds of life details for decades. But then things started to fall apart and cast an accusatory shadow. Ethnic identity and movements centered on it have grown in prominence in the state's political landscape during the past decade. The ethnic group that views itself as a population and/or development backwater has raised a rallying cry for its motherland. How did the hill tribes of Manipur, in particular, develop their separatist tendencies? Who is responsible for this?The State? The Centre? The rebel factions? The heads of the many ethnic groups, perhaps? What about the ordinary people of these ethnic groups? Will their thirst be satisfied by the demand? Is this really going to put an end to all this ethnic distrust and turmoil? The demand for an ethnic homeland in Manipur by the Nagas and Kukis has been a contentious issue with far-reaching implications. This proposition has ignited deep-seated tensions and complexities within the region, leading to social, political, and economic ramifications. As we delve deeper into this complex issue, it is imperative to understand the historical, cultural, and socio-political dimensions that have contributed to the fervent pursuit of an ethnic homeland by the Nagas and Kukis in Manipur.This study aims to examine and challenge the fundamental reasons underlying the need for a separate ethnic homeland, namely the demands for Greater Nagaland and Kukiland inside the state of Manipur.

## Understanding Ethnicity and Ethnic Identity:

Ethnic identity is a complex and multifaceted aspect of an individual's sense of self. It encompasses a person's sense of belonging to a particular ethnic group and the cultural practices, traditions, and values associated with that group. Understanding ethnicity and ethnic identity is crucial for appreciating the diversity within societies and the importance of acknowledging and respecting different cultural backgrounds.Ethnicity can be influenced by various factors such as language, religion, customs, and ancestry. It plays a significant role in shaping an individual's worldview and interactions within their community and the broader society. The study of ethnicity and ethnic identity is essential for promoting inclusivity, understanding social dynamics, and fostering a sense of unity among diverse groups.

Manipur is a fascinating land where people of many different communities and religions unite. Manipur's population is polygenetic and an amazing amalgamation of various races and cultures. Manipur, with a population of over 2.7 million, is home to three major groups: Kuki, Naga, and Meitei. While Meiteis — primarily settled in the four valley districts — want the territorial integrity


**Published by :Sai College, Bhilai**

of the State to be maintained, Kukis and Nagas are calling for separate administrative arrangements in the hill areas — Kukis for a Kukiland and Nagas to join a greater Nagaland.
Ethnicitywas first introduced in the governance of Manipur during colonial rule when the administration of the hill tribes was separated from that of Manipur Valley. The Maharaja was entrusted with the administration of the Meitei-inhabited valley with the help of Manipur State Durbar, while the President of the Manipur State Durbar, a British ICS officer, was to administer the hill tribes who were sub-divided into the Nagas and the Kukis. Thus, the contemporarymanifestation of ethnic alignment is creditable to the British indirect rule introduced in the hill's areas.
Despite many decades together under one political administrative unit, the sway of governance seems far from effectiveness. Historically, the interaction between the hills and valley were always based on mutual trust and respect. The classification and categorisation of people were recorded in the following words of Captain MacCulloch, "the Manipurians are, in civilisation only, a slight degree superior to the wild tribes by whom they are surrounded"(McCulloch, 1859).

**Historical Blunders:**
Among the valley people and hills, the Meitei Kings were the pioneers in adopting Hinduism and introducing manga-shengba[1], so becoming the first to embrace this religious tradition. After conquering their chiefs, they did not completely destroy or assimilate tribal settlements. Instead, they were granted self-governance to govern based on their traditional customs, while being under the authority of the Meitei lordship. The state administration adhered to this position even after Manipur was incorporated into the Indian Union. The MLR & LR Act of 1960 was a significant and transformative event in the history of Manipur.

According to the hill people of Manipur, the current state of deep divide can be attributed to the pursuit of Meetei hegemony. Nevertheless, there are concrete examples that substantiate this claim. Had the government redirected their attention towards the hilly regions, the perception of hill people being oppressed could have been eradicated. The lack of concern exhibited by the state administration towards the hills has resulted in the fragmentation of Manipur's societal structure.Upon reflection, it is crucial to bear in mind that the Centre is not involved in domestic matters and that any problem might be resolved internally. Nevertheless, the increasing lack of acceptance towards the hill people in the following decades has led to political turmoil.

**Naga's Political Aspiration:**
The Naga insurgency is a longstanding conflict in India's post-colonial history, originating from the early 20th century when the Naga people sought political autonomy. The Naga National Council was established in 1946, advocating for an independent state for the Nagas. After India gained independence in 1947, the National National Congress (NNC) proclaimed independence for Nagaland, but faced resistance from the Indian government. In 1951, the NNC claimed 99% of the Naga population voted in favor of an autonomous Nagaland. The Indian state responded with military intervention and diplomatic negotiations.

The Shillong Accord in 1975 was a notable attempt to achieve peace, but faced opposition from various factions, leading to a division within the NNC and the establishment of the National

[1] Mangba-Shengba denotes Manipuris notion of untouchability dividing the valley and hills dwellers


Published by :Sai College, Bhilai

Socialist Council of Nagaland in 1980. In 1988, the NSCN-IM and NSCN-K divided into two factions, fighting for an autonomous Nagaland or Greater Nagaland.In recent years, significant progress has been made in the pursuit of peace, particularly through the NSCN-IM. The 1997 ceasefire and the 2015 framework agreement with the Indian government aimed to provide a solid basis for a sustainable peace deal. However, the intricate nature of the matter, including Naga factions, state administrations, and the central government, has resulted in an incomplete resolution of the conflict.

**The Demand for Greater Nagalim:**

The political idea of "Greater Nagalim" is closely tied to the aspirations of the Naga people for political autonomy and sovereignty. The concept envisions the unification of all Naga-inhabited areas, which are currently spread across the Indian states of Nagaland, Assam, Manipur, and Arunachal Pradesh, as well as across the international border in Myanmar. Proponents of Greater Nagalim argue that these areas, culturally and ethnically tied through Naga tribes, should be administratively united under one entity.

A “Greater Nagalim” comprising “all contiguous Naga-inhabited areas”, along with Nagaland. That included several districts of Assam, Arunachal and Manipur, as also a large tract of Myanmar. The map of “Greater Nagalim” has about 1,20,000sq km, while the state of Nagaland consists of 16,527 sq km(“What Is Nagalim Archives,” 2023). The claims have always kept Assam, Manipur and Arunachal Pradesh wary of a peace settlement that might affect their territories. The Nagaland Assembly has endorsed the ‘Greater Nagalim’ demand — “Integration of all Naga-inhabited contiguous areas under one administrative umbrella” — as many as five times: in December 1964, August 1970, September 1994, December 2003 and as recently as on July 27, 2015.

This idea stems from the perception that the Naga tribes, which comprise various sub-tribes speaking different dialects and with distinct customs, share a common history and identity that predates the demarcation of the current state boundaries by British colonial authorities in the late 19th and early 20th centuries. The formation of these boundaries often ignored the traditional territories inhabited by the Nagas, leading to divisions across artificial state and national lines.

One of the primary groups advocating for Greater Nagalim is the National Socialist Council of Nagaland-Isak-Muivah, which has been engaged in a protracted insurgency and political dialogue with the Indian government. The NSCN-IM argues that bringing these areas together under a Greater Nagalim is essential to preserving and promoting the Naga way of life and self-determination.The demand for Greater Nagalim has been a point of friction with the Indian government and the neighbouring states. It entails the redrawing of state boundaries, which non-Naga populations and political groups in these states vehemently oppose, fearing the loss of territory and political control. It has been one of the major stumbling blocks in the peace negotiations between the NSCN-IM and the Indian government.

Peace talks have incorporated the idea of Greater Nagalim, with the Indian government recognizing the unique history and status of the Naga people in what is known as the 2015 Framework Agreement. However, exact details of this agreement and how it will address the Greater Nagalim aspiration without altering state boundaries remain unclear.The Naga quest for a political solution through Greater Nagalim remains a touchstone of politics in Northeast India and continues to significantly influence Naga identity, regional politics, and collective memory.**Starting**from the

 ISBN : 978-81-957386-4-9

1940s onwards various Naga organisations have raised the issue of merger of all Naga-inhabited areas into one administrative unit. However, none of the agreements gives the specifics for instance, the names of the tribes that constitute Nagaland or specific territories. This leaves a scope for escalating the demand in future. The history of demands and agreements shows that the territorial domain of the 'Greater Nagaland' demand is always increasing.

**Political stance of kukis:**

The insistence on establishing an independent Kuki State in India originated in the 1960s when the Kuki National Army (KNA) restated their position in a memorandum addressed to the former Prime Minister of India. The proponents contended that the Kuki region, which was forcibly incorporated into Manipur by the British without their consent, ought to be reclaimed by the Kuki community upon the British departure from the nation. Prior to British colonial intervention, numerous scholars from the Kuki tribes contended that the Kuki people resided in a self-governing and uninterrupted geographical region spanning from Nagaland and North Cachar Hills in the north to Arakan Hills in the south, and from Chittagong Hill Tracts and Tripura in the west to the Chindwin River in the east.

The Kukis consistently maintained alliances with the Manipuris, Tipperah, and Burmese throughout their history. Nevertheless, subsequent to the British involvement, there was a notable shift in power dynamics within the region, favouring the valley states. The northern region of their expansive country was partitioned and annexed to the Manipur kingdom without the agreement of the Kukis, and this arrangement persists to this day. The Kukis initiated a struggle to regain their northern land promptly upon its relinquishment to the Manipur monarchy, and this movement persists to this day.The Kuki intelligentsia have expressed their opposition to the Indian Constitution, contending that Article 244 and 244(A) as well as schedule (1 To 4) have established distinct administrative entities for the tribal communities residing in North Eastern India. Nevertheless, the Kukis, who possess comparable activities, culture, language, literature, and population to their indigenous counterparts, have been disregarded and regarded as non-natives within India.

The Kukis residing in the Churachandpur district have assumed a prominent position in their opposition to three measures that have just been approved in the State Assembly House. No other approach, such as a substantial economic package with a significant level of self-governance, will effectively halt this politically charged ethno-nationalist movement in the region.

**Stand Off Between Kukisand Nagas, 1992:**

The article "Violence and the Social Construction of Ethnic Identity" by James D. Fearon and David D. Laitin emphasises the influence of ethnic divisions on the formation of political identities. The Kukis and Nagas in Manipur have been a significant source of conflict, resulting in the loss of more than 1,000 lives, the destruction of thousands, and the displacement of tens of thousands. The war originated between the Thadou and Maring tribes, both of which were acknowledged as Kuki during the period of British colonial rule. The Kuki Inpi Manipur (KIM), the highest governing body of the Kuki community in Manipur, asserts that a total of 961 Kukis lost their lives, 360 villages were impacted, and 100,000 individuals were left without a place to live. The primary point of disagreement revolves around land, since the Kuki National Front (KNF) is advocating for the creation of a Kukiland region from the five hill districts of Manipur. The National Socialist Council



Published by :Sai College, Bhilai

of Nagaland (NSCN-IM) is directly challenged by this demand, as it seeks to establish a larger Nagaland by combining Chandel, Senapati, Tamenglong, and Ukhrul with Nagaland State. The objective of the NSCN-IM to expel the Kukis from these districts resulted in a phenomenon known as "ethnic cleansing," which subsequently propagated to several regions within the State, Nagaland, and Myanmar.

**Kuki-Meitei Violenceof 2023:**

The Kuki community demonstrated their political opposition to the state administration through the organisation of a protest rally coordinated by the All-Tribal Students Union (ATSUM). While the march was peaceful in numerous hill districts, especially those populated by the Nagas, it escalated into violence in districts inhabited by the Kuki tribes. The demonstrators resorted to violence as a method of articulating their emotions and targeted unsuspecting Meiteis who had been residing in the outskirts of these hilly regions for an extended period of time. On the terrible evening of May 3rd, 2023, numerous residences were set on fire, plundered, vandalised, and innocent lives were targeted. On May 5th, 2023, the Meitei community responded in the valley by employing a similar strategy of aggression. Amidst such circumstances, several innocent individuals from both factions were displaced and compelled to seek refuge in makeshift camps and diverse aid facilities. The suppression of aggression persists until the composition of the article. Neither party has begun a peace process. The blame game and mudslinging continue to take the centre stage. Both the state and central governments have failed to implement tangible measures to resolve this disorder. It is not incorrect to claim that the third parties appear to use the issue for political gain.

**Efforts of Reconciliation:**

For several decades, the Meiteis have played a pivotal role in bridging the gulf, effectively responding to evolving socio-political circumstances. The individuals in question have demonstrated patience in managing delicate circumstances, including instances of bandhs, strikes, and economic blockades occurring on national roadways. Numerous civilsociety organisations, groups, and associations, including AMUCO, UCM, HERICON, AMSU, DESAM, IPAK, IPSA, UPF, and SEACO, have played a crucial role in tackling ethnic tensions and disparities. Nevertheless, it is imperative to implement prudent strategies in order to address racial conflicts and disparities.

The African diaspora in America, particularly in the United States, serves as an illustration of the enslavement of Negroes by affluent white individuals, who transported them to the country to labour in agricultural areas. Individuals experienced a range of human rights violations, including torture, exploitation, and deprivation. However, they actively resisted and ultimately triumphed against these forms of prejudice and exploitation. Presently, the global community has recognised the apex of a black American President, so exemplifying the transformative and logical progression that has transpired.There has been considerable deliberation within the state on the government's neglect, deprivation, suppression, oppression, and racial prejudice. Nevertheless, a significant portion of individuals advocating for their rights and fundamental necessities have experienced exploitation at the hands of their own leaders and representatives. This instance exemplifies the use of Charles Darwin's "Survival for the Fittest" principle in societal dynamics, specifically in mountainous regions.

In order to address this state of insanity, it is crucial to comprehend that the coexistence of individuals has been prevalent for numerous centuries and will persist for future generations. Intellectuals hailing from both highlands and lowlands should collaborate intellectually to effect substantial transformations in the realms of politics, society, and economics. It is advisable for stakeholders to reconsider their political positions and adopt a comprehensive perspective in order to mitigate the curtailment. It is imperative to promote education and awareness within the administrative apparatus of the state, while also ensuring that the state government allocates adequate resources to the underdeveloped regions of the hills.

To uphold the integrity of the state, it is imperative for the government to establish mechanisms that promote accountability and transparency in its policy formulation and reform efforts.

**Conclusion:**

Based on the aforementioned events and observations, it becomes apparent that what initially originated as an internal matter has been recognised by specific stakeholders as possessing noteworthy political aspirations. Recognising the era of British colonial rule in India and the subsequent Indian independence movement is crucial. Given our geographical proximity to these occurrences, it is imperative that we be prepared to respond with utmost astuteness in order to safeguard the integrity of our state. We must instantly recognise that irrespective of our Meiteis, Nagas, or Kukis identity, we have essential similarities in terms of our cultures, traditions, physical characteristics, culinary preferences, and other aspects. Alternatively, the loss will exclusively be borne by us and will not impact any other entities. The present moment presents an appropriate occasion to provide forgiveness, release previous grievances, and advance towards a more enhanced and peaceful state of Manipur.

Prior to making any obligations to the NSCN (IM) and Kuki revolutionary groups about this topic, it is anticipated that the government will take into account the historical context, present conditions, and the preferences of the people in the North-East region. The covert nature of the interactions with the NSCN (IM) lacks public trust. It is imperative for the government to address the issue of inadequate credibility and transparency, as these elements possess the capacity to provoke a significant crisis within the region. It is advisable to conduct a comprehensive examination of the problem in Parliament and the pertinent State Assemblies. In order to attain permanent peace and communal harmony, it is imperative to actively engage the citizens of the NSCN (IM) leadership or any other relevant organisations in the ongoing peace process. Ultimately, it is imperative for the inhabitants of our state to remain well-informed about worldwide occurrences and actively strive to avert the dissemination of communal conflicts over the entire population. If a specific community consistently resists the maintenance of the state's integrity, while others irrationally incite disputes, it is ineffective to maintain a posture of silence and passivity. Implementing measures such as ethnic cleansing, massacres, blasphemy, or torching is unlikely to effectively address the challenges we face. It is imperative for every stakeholder to adopt a systematic and impartial approach when addressing ambiguities and misconceptions, starting from the outset.

**References:**


- Alexander Mackenzie. (2005). The North East Frontier of India. Delhi. p.154.
- Ch. Sekholal Kom. (2011). Ethnic Politics in the Hills of Manipur. Journal of Alternative Perspectives in the Social Sciences, 3(1), 153.
- District Gazetteers of India. (n.d.). Vol.11, p. 596.

- Dr. NehginpaoKipgen. (Year not provided). Intricacies of Kuki and Naga Ethnocentrism in Manipur.
- Ghosh, & Kumar. (2004, April 10). NSCN (IM)and the Roots of Naga Identity: Religion and Language. Mainstream, 1(1), 11-17.
- Hindustan Times. (2003). Retrieved from http://indianexpress.com/article/explained/simply-put-towards-accord-step-by-step/#sthash.rcwFAdoM.dpuf
- McCulloch, W. (1859). Account of the Valley of Munnipore and of the Hill Tribes: With aComparative Vocabulary of the Munnipore and Other Languages. Bengal Printing Company.
- Navigating the Kuki-Meitei Conflict in India’s Manipur State. (n.d.). Retrieved April 24, 2024, from https://thediplomat.com/2023/08/navigating-the-kuki-meitei-conflict-in-indias-manipur-state/
- NehkholunKipgen. (1993, October 1). Why not KUKILAND for Kukis? The Shillong Times.
- NSUD. (1996). Appendix II.
- NSUD. (1996). Appendix III.
- RadhabinodKoijam. (2001, July 13). Naga Ceasefire and Manipur. The Hindu.
- S. George Guite. (2013, July-December). Kuki State Demand in Manipur: The only viable option for the Kukis. Journal of North East India Studies, JNEIS Comment, 1, 1-13.
- Sajal Nag. (2002). Contesting Marginality: Ethnicity, Insurgency and Sub-nationalism in North-East India. New Delhi.
- Sanjoy Hazarika. (1995). Strangers of the Mist: Tales of War and Peace from India's Northeast. Penguin Books.
- SHITULF, TCLF and others endorse ATSUM’s “Solidarity Rally”: 03rd may23 ~ E-Pao! Headlines. (n.d.). Retrieved April 24, 2024, from https://e-pao.net/GP.asp?src=7..030523.may23
- T.H. Eriksen. (1991). Ethnicity versus Nationalism. Journal of Peace Research, 28(3).
- U.A. Shimray. (2007). Naga Population and Integration Movement. New Delhi.

# CHAPTER -12

# PROMOTING GREEN ECONOMY FOR ENHANCED ENVIRONMENTAL SUSTAINABILITY: A COMPREHENSIVE ANALYSIS

**Gitangshu Deva Sarma**
Research Scholar, Department of Economics, University of Science and Technology Meghalaya
g.d.sarma99@gmail.com

Abstract

Advocating for a greater green economy is definitely crucial in achieving enhanced ecological sustainability and to answer the pressing challenges of climate change, resource depletion, and ecological degradation. This article will draw a comprehensive picture of the main clusters, difficulties, and advantages pertinent to the transition to a green economy. Starting with the introduction of the concept and significance to the green economy, the paper then analyses the robust link between economic activities and conservation of environment. In its endeavour, it discusses the policy frameworks, technological innovations, business strategies, community engagement initiatives, and collaboration strategies that form the basis of green economy development. In addition to the sustainable economy's potential, the barriers have been identified which include limited resources, technology problems and policy implementation processes. Cases and success stories are used to visualize the best practices implementation among the sector of the local peoples. By adopting an interdisciplinary approach, such as literature review, case study analysis and stakeholder consultations, the work provides reinforcement on green economy goals. On the same note, collaboration is seen as the basis for a green future, as multisectoral partnership, and international research networks help spur innovation and sustainability. Through applying notions of sustainability, innovation and cooperation, the stakeholders can face the challenges before embarking on the sustainable and resilient path towards the desired future.

**Keywords:-**Green economy, Environmental sustainability, Policy frameworks, Technological innovations, Community involvement, Collaborative approaches.

## Introduction:

In the present age occupied with the issues of environmental deterioration and climate change, the matter of having a sustainable future is now a necessity for global growth. Based on this notion is the notion of green economy which tries to align development with environmental protection. Therefore, this introductory discourse concurs on a detailed explanation of green economy promotion as a tool to build sustainability.

Most fundamentally, the green economy is about changing the way we think of economics by going beyond those traditional models that persist in focusing on growth instead of ecological integrity. It applies an integrated framework, where the economy is operated on within the context of environmental conservation, social fairness, and sustainable future development. This change is not only moral obligation but a wise choice to confront the weighty issues as climate change, resource exhaustion and ecosystem degradation.

It is recognized that preserving the ecological interconnectivity and safeguarding biodiversity are the foundation on which a green economy is built. Circular economy represents transition from one-way ‘take - make - dispose’ process of production and consumption to a new model based on resource efficiency, waste minimization, and the closed loops systems. Through doing so, it hinges on promoting a decoupling of economic growth from the environment, availing the society with resilient and sustainable operations in different industries.

Vital is implementation of the process for green economy which includes policy creation, technology implementation, administrative reform and mass engagement. Consequently, well-designed policy measures that clearly define the regulatory framework and system of incentives and disincentive to economic stakeholders are a key ingredient for sustainable practices and development. Similarly, technology facilitates new investments in sustainable power, water, waste, and agriculture among other environmental areas.

Besides that, the institutional reform should be included, because the sustainability of principles must be integrated into all decision-making processes on all levels of governance and business. This amounts to strengthening partnerships between national and local governments, corporations, civil society groups, and academic institutions that will catalyse system change and instil a sense of sustainability in society. On the other side, the citizen and stakeholder engagement in designing a green economy is also of great value. This is achieved through awareness creation, education as well as participatory decision-making processes.

As a matter of fact, green economy development can be a wide-ranging activity that goes beyond the areas of economy, ecosystem and social equality. It calls for an economy that is not only very prosperous but also eco-friendly which promotes social equity. In our efforts to create a sustainable world, we must acknowledge the come togetherness of our actions and enthusiastically engage in collective actions for the sake of the children to come.

## 1. Methodologies:

The green economic process is investigated in the paper by means of research methods that provide a holistic view of the subject. Primarily, the literature review technique has been chosen to investigate the existing research, theories and empirical evidences in green economy development, environmental sustainability and associated fields I did so by conducting research in major sources like peer-reviewed journals, reports, books, and policy documents to draw expertise and points of view from diverse fields of experts. Besides acting as a demonstration platform, case study analysis also has the capability to highlight key successful green economy strategies through understanding real-world examples, lessons and best practices. Also, stakeholder consultations and experts’ interviews have been some of the methods employed to get direct insights from people and institutions who are already engaged in the green economics promotion project. The study has not only drawn in multiple disciplines and participant but also aimed at giving comprehensive and detailed understanding of challenges, opportunities and strategies for the purpose of creating this green economy to enhance the environmental sustainability.



Published by :Sai College, Bhilai

**2. Introduction to Green Economy and Environmental Sustainability:**

The idea of a green economy stands for the concept of an economic system that encourages the pursuit of sustainable development by integrating ecological aspects into all economic activities. It considers economic activities and processes from the point of view of minimizing environmental impacts, preserving natural resources and also promoting social equality. In essence, a green economy is an economy that strategically dismembers economic growth from environmental degradation thereby producing prosperity without dwarfing the future ability of generations to meet its needs. This systemic framework acknowledges the correlations among economic, social, and ecological spheres and consequently explores optimized results in all dimensions (UNEP, 2011).

The very essence of green economy is based on the understanding that economic well-being and environmental sustainability are fundamentally intertwined just like two inseparable factors. It focuses on realigning economic systems to fit within the biospheric boundaries of the planet and declaring that peoples' well-being in the end depends on the normal function of ecosystems. A green economy blurs the boundary between growth and preservation reaching for alternative paradigm known as more integral or inclusive development. It aims at innovation, entrepreneurship as well as investment in industries that produce good outcomes not only to the environment but also to the society. This results into a transition to a more sustainable and equitable society (Bebbington et al., 2008).

The significance of ecological sustainability in ensuring the well-being of the current and future generations becomes paramount. It embodies the guardianship of renewable resources, the conservation of biodiversity and the maintenance of equilibrium in the ecosystem. Not only as an intrinsic value itself, the sustainability of natural environments also contributes to the health of humans, livelihoods, and even economic growth. It lies in the basis of the generation of vital ecosystems services such as the production of clean air, potable water, fertile soil, and climate regulation that are the foundation of all life on earth. Similarly, the connection of environmental sustainability to social equity and justices is undeniable as these disadvantaged groups have to deal with the direct impacts of environmental degradation and climate change.

Additionally, environmental sustainability is significant for counteracting the negative impacts of the climate change which results into threatening ecosystems, economies, and societies all across the world. Through lowering greenhouse gas emissions, maintaining carbon sinks like forests and wetlands, and care to adjust to climate change, environmental sustainability is on the right side of the line to avoid the most disastrous effects of global warming. In addition, these efforts advance the development of approaches that strengthen climate-related shocks and stresses tolerability such as extreme weather, sea-level rise, and altered precipitations. Consequently, environmental consideration does not only reflect a moral obligation but will also provide strategic cushioning for the benefit of the present and future generations (IPCC, 2014; United Nations, 2019).

The interrelation between the green economy and the conservation of environment is of utmost importance to the pursuit of sustainability. Green economy refers to a new economic model that assists in accomplishing the preservation of the environment by imposing costs of environmental deterioration and encouraging investments in clean technologies solar energy and resource conservation. It leads to a shift toward sustainable production and consumption patterns which puts a lesser strain on biodiversity and limits the depletion of natural resources. In addition, the implementation of green technologies and measures can increase the strength of the environment and prevent some of the negative effects of climate change. Therefore, the green economy becomes the engines that perpetuate environmental conservation, inspiring a cordial relationship between the green eco-system and human activities (UNEP, 2011).

In addition, the stimulation of a green economy not only means environmental preservation but also makes it possible for people to get better social welfare and equality. Through green investment in renewable energy, sustainable infrastructure, and green jobs the green economy creates an environment for inclusive growth and alleviation of poverty, irrespective of the resource constraints of the area. Furthermore, such community-cantered approach establishes natives and indigenous peoples as guardians of natural resources, and this promotes participatory governance and sustainable utilization of resources. This detection of objectives leads to equitable sharing of benefits for conservation, which in turn promote the prosperity of the nation and increase its resilience (UNEP, 2011).

**3. Policy Framework for Green Economy:**

Government initiatives and regulations constitute one of the main pillars that contribute to the availability of a reliable policy framework and regulatory instruments that are needed to achieve a green economy transition. The projects involve all sorts of environmental processes including environmental regulations, land use planning, emission standards, and incentives for a broad deployment of renewable sources. For example, numerous countries have put in place carbon pricing mechanisms, such as carbon taxes and cap-and-trade systems, to internally impose the external costs of greenhouse gas emissions and so you provide incentives for low-carbon investments (World Bank, 2017). On the other hand, governments usually create regulatory authorities and agencies responsible for the environmental protection; sanctioning offences against environmental regulations and encouraging sustainable practices in the economy.

In addition to this, government interventions usually involve creating public-private partnerships and creating platforms for collaboration among the actors to help in sharing knowledge, transferring technology and building capacity. Such cooperation allows to use experience and resources of government entities as well as business representatives for combating the challenges which are more complicated (Linnenluecke et al., 2020). Government may develop green procurement policies for their own operations to steer private sector thereby making it an example for the adoption of sustainable practices throughout the supply chains (OECD, 2016).

International arrangements and treaties play the role of the lead motivator of global cooperation and synchronization of activities toward a greener economy. These agreements provide the basis for collective involvement of neighbouring countries in problem-solving on transboundary environmental issues, such as climate change, biodiversity conservation, marine, etc. The Paris Agreement, which is an internationally binding deal adopted under the framework of UNFCCC and aimed at weathering temperature rise of not more than 2C above pre-industrial levels, is one of the most significant agreements in the global fight against climate change (United Nations, 2016). Hence, like the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea which provide regulatory instruments through which biodiversity is conserved and ocean resources managed sustainably. These multilateral contracts enable countries to sign up to distinct



Published by :Sai College, Bhilai

targets, exchange best practices, and educate resource allocation on a global scale for the green economy.

Moreover, International agreements and treaties form the groundwork for building the culture of solidarity and sharing of expertise which enables countries to create and spread the best practices for sustainable development. These agreements usually have clauses that enable developing countries to take part in capacity building, technology transfer, and financial aid which strengthens their shift towards a green economy (UNEP, 2018). In addition to that, international cooperation stimulates the pooling of resources for green projects and initiatives through platforms like Green Climate Fund which was initiated with an aim of aiding climate adaptation and mitigation measures in developing nations (Green Climate Fund, n.d.).

The support of economic incentives helps to move businesses, industries and consumers to green practices and technologies. These incentives can have different shapes, include subsidies, tax benefits, grants, and lower interests for green investments. For example, most countries have schemes such as subsidies or feed tariffs to encourage renewable energy expansion like solar power, wind power and hydro, among others (BNEF, 2020). Likewise, tax credits or deductions may be enacted for the energy-efficient building retrofits, electric vehicles and energy-saving appliances. Not only that, green procurement policies are preferred by governments and businesses as they focus clearly on buying products and services that are friendly to environment, making a market demand for such goods and spurring innovations in green technologies (OECD, 2016).

Moreover, the economic incentives for environmentally friendly operation do not only spur invention and investment in clean technologies, but they also fill job market and help the economy grow. Research shows that green energy investments and energy efficiency improvements create viable job openings across sectors such as manufacturing, construction, and services (IRENA, 2019). In addition, the transition to a green economy can bolster competitive and resilient enterprises which are more vested in green strategies and are therefore more able to adapt to market fluctuations and regulatory requirements (Porter & van der Linde, 1995).

## 4. Technological Innovations Driving Green Economy:

The technology of renewable energy is the one that is pushing green economy towards cleaner and more sustainable options then the fossil fuels. Solar photo-voltaic (PV) and wind is known to be among the noteworthy renewable energy sources, as these sources utilize the limitless energy obtained from the sun and wind so as to generate electricity without significant harm to the environment (IRENA, 2020). Developments in solar PV technology, such as raised efficiency and more reasonable expenses, have made solar panels a common installation in homes, offices and utility systems. Also, the designs of wind turbines with greater efficiency in terms of size and engineering have made them able to reach wind energy in more geographical areas. Similarly other renewable energy technologies including hydropower, biomass, and geothermal energy also provide additional opportunities for diversified mixes of energy and to lesser extend fossil fuels (NREL, 2020).

Hence, alongside the implementation of energy storage technologies, renewables are re-shaping the exact renewable energy landscape by removing intermittency issues and improving energy grid flexibility. These machines include battery storage, pumped hydro storage, and grid-scale energy storage systems, which are important for storing excess renewable energy when the generation is high and then releasing it when the demand is at the peak (IEA, 2020). Progress in battery technology, especially the advent of Lithium-ion batteries and other emerging technologies like flow batteries and solid-state batteries, that are reducing costs and enhancing performance, increasingly make energy storage a possibility for the integration of renewable energy (IEA, 2021). Moreover, creative solutions like demand response and smart grids technology help power companies to optimize the use of energy for renewable energy sources and consequently decrease the dependence on fossil fuel-based power generations (Farhangi, 2010).

Sustainable agriculture practices are the key factor in achieving environmental sustainability ensuring food security in a way that keeps the agricultural activities ecological footprint low. These methods include a number of technologies that are dedicated to the improvement of the soils, saving water and lessening the chemical input. For instance, the use of conservation agriculture techniques like no-till farming and cover cropping helps to enhance the structure of soil, retain moisture and decrease emission of greenhouse gases (FAO, 2021). In the same vein, agroforestry systems combine trees and bushes with regular agricultural vegetations, therefore enhancing diversity, soil fertility, biodiversity, and climate resilience. Another advantage of precision agriculture is the precision agriculture technologies, such as GPS-guided equipment and remote sensing, that facilitate more accurate resource use, minimization of waste, and higher crop yields in a more sustainable way (Liu et al. 2020).

Moreover, the agroecological farming approach stimulates biodiversity conservation, soil health, and resilience to climate change and at the same time it enhances agricultural productivity and livelihood generation (IPES-Food, 2016). Agroecology combines traditional wisdom with scientific methods to shape farming systems that follow the leading of natural ecosystems and decrease the dependency on external inputs like synthetic fertilizers and pesticides. Thanks to biological diversity and soil regeneration through methods like crop rotation, polyculture and agroforestry implemented by agroecology, long-term sustainable and resilient agriculture systems are ensured (Altieri & Nicholls, 2020). Furthermore, the participatory nature of such research and extension provides farmers with collaborative knowledge creation means and adaptation of practices to local contexts, thereby reinforcing the community, and reducing vulnerability (Giller et al., 2021).

Application of the eco-friendly waste management solutions is crucial to reduce environmental pollution, save natural resources, and encourage a circular economy concept. The cutting-edge technologies for waste recycling and composting, as well as resource recovery, are critical for the development of the green economy by producing precious materials out of the waste. Likewise, innovation in the recycling industry introduces technologies for the recovery of metals, plastics, and paper from municipal solid waste, enabling them to avoid landfills and incinerators (Ellen MacArthur Foundation, 2019). Consequently, the organic waste management systems, with anaerobic digestion and worm composting converting the organic waste into biogas, compost, and biofertilizers, cut down greenhouse gases emission and close nutrient loops in the agricultural systems (EPA, 2020). Moreover, setting up separate producers' responsibility (EPR) schemes and product stewardship initiatives will drive manufacturers to design products with a life cycle thinking from the design stage which leads to more sustainable and environmental consumption and waste generation (OECD, 2018).

Also, while the technologies in waste-to-energy domain are innovative, they can offer a solution for turning organic waste into renewable energy, thereby supporting the move towards a circular economy (IPCC, 2018). Take the case of anaerobic digestion, which is used for the breakdown of organic waste in an oxygen-free environment. A biogas that can be employed in electricity generation, heating, and transport fuel is produced as a result (EPA, 2021). Similarly, thermal treatment processes involving incineration and gasification turn the non-recyclable waste into heat, stream or syngas which has many industrial processes as well as providing electricity (Bogner et al., 2019). These WTE technologies not only decrease the volume of waste into landfills but also replace the fossil fuels with displacing greenhouse gas emissions (IPCC, 2018).

**5. Business Strategies for Environmental Sustainability:**

Corporate Social Responsibility (CSR) has rapidly grown as a dominant tool by which businesses adopt environmental requirements and thus contribute to the sustainability of the environment. The instrument of environmental conservation that corporate social responsibility (CSR) covers includes the reduction of carbon emissions, a waste minimization, and investment in renewable sources of energy (Porter and Kramer 2011). A lot of organizations integrate environmental management systems, for instance ISO 14001 certification, to institutionalize environmental engagement and enactment of ecological regulations (Hahn & Kuhnen, 2013). Apart from this, companies tend to participate in philanthropic activities like tree planting marketing campaigns and habitat restoration projects with the aim of portraying their dedication to the environmental conservation and building good public relations with the stakeholders (Sarkis et al., 2011).

Thereafter, CSR environmental conservation initiatives will frequently involve the partnership of NGOs, academic institutions, and government agencies in order to benefit from their knowledge, resources, and networks. This will consequently lead to greater impacts (Bansal & Song, 2017). Teamwork will be manifested in ecosystem restoration projects, biodiversity conservation initiatives and environmental education programmes aimed at raising awareness and involving the local community (Ramus & Steger, 2000). Working together with external stakeholders is a way for organizations to deal more competently with environmental problems that are too complex for a single entity to resolve, and to contribute to this effort (Waddock, 2004).

Green Supply Chain Management (GSCM) integrates environmental factors into all steps of the supply chain beginning from sourcing of raw material through to end delivery of finished products to consumers (Srivastava, 2007). Organizations implement GSCM approaches to lessen the environmental impact and cut down on costs and burnish the reputation of the brand. This could start with the use of materials from sustainable suppliers, optimizing the routes for transportation to utilize less fuel, and also waste reduction and recycling programs (Seuring& Müller, 2008). Moreover, firms cooperate with makers to raise an environmental performance via joint initiatives, supplier audits, and capacity building programs (Carter and Rogers, 2008). Application of environmental criteria to the selection and assessment of suppliers is beneficial for the companies as it stimulates them to prefer suppliers with green policies (Handfield et al. (2014)).

Last but not least, the green supply chain management not only plays an important role in environmental sustainability but also brings efficiency, risk management (Pagell& Wu, 2009). Via developing transportation routes, decreasing energy consumption, and minimizing waste production, businesses can lessen their expenses and improve resource utilization effectiveness throughout the supply chain (Kumar et al., 2011). Moreover, green initiatives of the supply chains reduce the supply chain risks which involve environmental regulations, resource scarcity, and climate change impacts (Melville et al., 2009) as well. Those businesses which adopt sustainability in supply chain are more likely to gain an advantage through adaption against changes in regulatory requirements, consumer preferences, and stakeholder expectations which eventually enhance the business sustainability and resilience (Zhu et al. 2012).

Circular economy is a transformational model for business strategy which is intended to untangle the economic growth with the over-consumption of resources and negative environmental impact (Ellen MacArthur Foundation, 2013). In contrast to the linearly operating "take-make-and-dispose" system, circular economy models emphasize the efficient utilization of resources, waste minimization, and product lifecycle improvement. This may involve developing products that are durable, repairable and recyclable accompanied by strategies like remanufacturing, refurbishment and product sharing (Bocken et al., 2016). Enterprises are all about creating more worth out of waste streams and minimizing their dependence on limited resources through the implementation of circular economy principles (Rizos et al., 2016). In addition, circular economy models generate ideas and partnerships among different industries which then help to create closed-loop systems and circular supply chains (Geissdoerfer et al. 2017).

In addition, circular economy models incubators innovation and entrepreneurship because they create new business models and revenue streams (Bocken et al., 2017). Many corporations now look for options other than product sales by employing the principles of circular economy and using the model of product-as-service, leasing and sharing, so that utilization of resources is maximized (Tukker et al., 2015). Through a transition from a commodity-driven to a service-based business, companies can sustain product track, decrease the material use, and capture additional value in the product lifecycle (Frosch &Gallopoulos, 1989). Besides these, digital technologies as IoT, blockchain, and AI are the key enablers of circular economy business models as they offer product tracking, material traceability and resource optimization (Ellen MacArthur Foundation, 2019).

**6. Social Impact and Community Involvement:**

Communities act as the key factor in motivating the on-ground green activities and the preservation of the environment at the very beginning. Local communities' involvement in environmental conservation initiatives means that efforts will be tailored to a specific need, therefore ensuring that everyone owns, participates, and feels a sense of belonging. (Schusler et al., 2009). In many cases, communities are able to bring traditional knowledge and practices, apart from and possibly together with scientific knowledge, thus creating more holistic and culturally sensitive models for sustainability (Berkes et al., 2000). On the other hand, local community initiatives offer the community members and the groups the ability to come together and act jointly to face common challenges, leading to more cohesion and resilience in the face of environmental challenges (Adams et al., 2014).



Published by :Sai College, Bhilai

Communities are absolutely the first returners to take up the banner and drive the green initiatives by grassroots activism and from the bottom up. Their closeness to resources of environment and local information means they are unavoidable co-inhabitants in sustainable development (Reed 2008). Community-based organizations regularly play pivotal roles in this, enlivening people to deal with environmental problems and to agitate the Government for policy changes (Hanna &Vanclay, 2013). Additionally, local community initiatives can encourage social invention and the betterment of the downtrodden in order to make sure that the benefits associated with the environment are distributed in an equitable manner (Burchell et al., 2013). Green initiatives which cause amplification of people's wisdom and resources of communities will be able to do more and achieve sustainability in the long run, thus creating both the local and global permeability.

Education and awareness programs which are geared towards environmental education and awareness have been found to be effective tools of promoting sustainable behaviours and environmental stewardship culture. Through knowledge, skills, and resources, these services will make environmentally conscious decision-making and voluntary actions possible (UNESCO, 1978). Through environmental education efforts in schools, communities, and workplaces, we can inform people about environmental concerns and change the way people behave using this knowledge, in order to create a responsible relationship with the nature (Chawla, 1999). In addition to this, having an awareness of the environment at an early age will help form a stronger bond between people and nature and will be an important factor in teaching values of sustainability and environmental respect.

Modulation of environmental education and awareness schemes achieve the goal of instilling in individuals and communities a sense of responsibility and greener ways of conducting their life. These programs not only feed the knowledge on environmental issues but also foster the cognitive skills and develop the participants into social agents of change (Wals & Jickling, 2002). Through actively involving learners in outdoor activities, practical learning, and experiential learning opportunities, environmental education programs contribute to the enhancement of the environmental awareness and prompt a deeper understanding of ecological concepts (Kolb, 1984). In addition, environmental awareness programs utilize different communication media such as social networks, public ad campaigns, and community affairs to reach out to many people in the community and work together to take care of the environment (Corcoran & Wals, 2004).

Sustainable Development Goals (SDGs), being the global framework which aims to solve the social, economic, and environmental problems along with the path towards sustainable, and equitable future (UN General Assembly, 2015). The integration of environmental sustainability into SDGs underlines the relationship between human welfare and planetary health. This illustrates the need to change our economy to be more environmentally friendly (United Nations Environment Programme, 2011) Meeting the SDGs means working together within and across sectors, and involving different groups of stakeholders, such as national and state institutions, businesses, civilians, and local community, which should facilitate an all-inclusive and sustainable development (Le Blanc, 2015). Countries can ensure a parallelism between green economy policies and the sustainable development goals, using them to tack down a variety of issues simultaneously, pushing synergies and maximising impact (United Nations, 2021).

The Sustainable Development Goals (SDGs) constitute a strategy that covers the entire range of the global challenges, including the environment and economy, from poverty reduction to climate action (Le Blanc, 2015). The green economy principles within the goals of the Sustainable Development Goals testify how economic growth should be aligned to the environmental conservancy and social justice (United Nations Environment Programme, 2011). Investment in renewable energy, sustainable infrastructure as well as resource-efficient technologies is a way for countries to promote progress towards several SDGs simultaneously, provides opportunities to become more inclusive and sustainable (United Nations, 2021). Also, the implementation of the green economy strategies can work out problems, such as poverty reduction, job creation and improve the quality of living, which will result to strengthening the society and the ecosystems in the ongoing environmental change (ILO, 2020).

**7. Challenges and Opportunities in Implementing Green Economy:**

The financial problems are the major factors deterring the generalization of green investments and the development of the green economy as a whole. The high initial costs of green technology, limited financing alternatives, and the negative perception of financial risks are factors that hold businesses and investors back from preferring green technology (Worrell et al., 2014). Similarly, the absence of suitable financial tools and mechanisms, like subsidies, tax credits, and green bonds, cut across as the other key factor that slows down the enhancement of green projects and lowers their economic viability (Brunner et al., 2012). Lastly, financial institutions can be biased towards maximizing short-term return while ignoring the long-term sustainability goals resulting in low investment in green technology and sustainable infrastructure (Flammer & Bansal, 2017).

Uncertainties about return on investment and payback periods are the other financial puzzles that investment barriers in green sectors comprise in emerging fields and technologies. The drawn-out nature of many green projects, together with the ever-evolving regulatory environment and market shifts, lead to some risks that are detrimental to investors targeting short-term profits (Hinrichs-Arens et al., 2018). Further, the absence of commonly agreed standards and methods applied for assessing the financial performance and ecological effect of green investments, questions the clarity of decision making for investors and financiers (Büscher et al., 2016). Address these uncertainties through greater transparency, risk giving mechanism and innovative financial instruments tailored to green projects and for beneficiaries, creating an opportunity for investment in green projects (Boiral& Heras- Saizarbitoria, 2019).

For the implementation of eco-friendly economies, technological restrictions represent serious difficulties, especially in the context of those industries based on the fossil fuels and the outdated infrastructure. While the speed of the renewable energy technologies is wind-powered by technological innovation, the impediments such as technological lock-in, limited scalability, and technological gaps are still apparent (Cohen & Winn, 2007). While there, the level of difficulty and uncertainty when addressing new technologies, such as carbon capture and storage, bioenergy, and smart grids, are obstacles to their utilization and commercialization (Hepburn et al., 2021). To add to this, disparities in technological abilities between developed and developing countries make it harder for the countries to access and use green technologies, which, in turn, stops global efforts on the sustainable development (Ockwell et al., 2010).



Published by :Sai College, Bhilai

Another technology barrier for the put into place of green economy initiatives could be the intricate level of merging different technological solutions into the ordinary systems. Numerous times the promotion of eco-technologies demands considerable infrastructural changes and investments, and this could be hindered by institutional inertia and interests that help to stabilize the incumbent system (Nemet, 2006). Besides, the interoperability and technological compatibility of green technologies with the old systems produce technical problems that can cause the delay in deployment and increase the implementation cost (Jacobsson &Bergek, 2004). Furthermore, the speed of technological progress could exceed the regulatory policies and the financial incentives which may lead to confusion of investors and the developers' groups (Foxon et al., 2013). Achieving these technologies' bottlenecks necessitates coordination between policymakers, industry players, as well as research institutions that in turn can speed up technology development, address standardization issues, and create an environment for innovation (Markard et al., 2012).

Green economy implementation control challenges constitute one of the main obstacles hindering the execution of these projects and attainment of sustainability targets. Lack of uniform regulatory mechanisms, inconsistent policies and multiple policy priorities that are competing pose a serious risk to investors' confidence and make investment in green technologies and infrastructure for long-term planning difficult (Jenkins et al., 2017). Furthermore, policy inertia and opposition from the vested interests such as the fossil fuel industry, can be the major hindrance on achieving the most effective climate policies. Beyond that, national, regional, and international policies not having common coordination and coherence make the attempts of tackling environmental cross-cutting issues, and achieving global consensus on sustainability goals more difficult (Jordan et al., 2015).

The implementation of green economy policies encounter challenges that range from regulatory challenges and the complexity of coordinating at different levels of governance. In some situations, as multiple law systems are in play at the location, nationwide and global levels, confusion and administrative burden crop up for the business and stake holders (Selin & VanDeveer, 2007). In addition, this disadvantage could lead to dim scalability and replicability of successful green actions, meaning the significance of these actions would be limited (Jordan et al. 2012). Also, the absence of compliance agencies to monitor and encourage the fees negates the credibility and effectiveness of environmental laws resulting in gaps in implementation. These challenges of the policy implementation require, therefore, enhanced cooperation between the governments, the stakeholders and the international organizations to harmonize the regulatory processes, standardize the standards, and strengthen the accountability mechanisms (Howlett et.al., 2015).

## 8. Case Studies and Success Stories:

Costa Rica can be considered as a model country that has achieved this by implementing a green economy policy. For their part, by means of investments in renewable energy, reforestation programs and sustainable tourism Costa Rica has achieved great strides in the reduction of greenhouse gases emissions and preservation of biodiversity (Brenes, 2020). Furthermore, the country's dedication to renewable energy options like hydropower, wind, and geothermal energy has allowed it to produce most of its electricity from clean sources even [in reference to Lobo & Brown, 2021]. Costa Rica's green economy initiatives have not only protected the environment but also supported its economic growth while improving the peoples' development hence turning the country into a global leading sustainability trendsetter.



Published by :Sai College, Bhilai

Another illustrative instance concerns Denmark that has achieved a lot with regard to enhancing green economy policies and moving towards a small-carbon world. Having set aggressive renewable energy targets as well as making large investments in energy efficiency and sustainable urban planning, Denmark has seen a major decrease of greenhouse gas emissions (Skytte et al., 2018). Donor country's supportive regulatory environment, financial incentives and public-private partnership have helped numerous clean technology sectors, which has in turn created novel business opportunities and enhanced economic competitiveness (Sovacool and Kivimaa, 2015). Denmark's record on tapping into renewable energy sources and the advances in green innovations is a reflection of the value of pre-emptive government policies and flexible participation in the realization of sustainable development objectives.

It is worth mentioning that Unilever serves as a shining example of a multinational corporation that has been effectively integrating environmental sustainability with its business operations. Through its Sustainable Living Plan, Unilever intends to decrease its environmental footprint and expand its social responsibility (van Marrewijk& Werre, 2003.). Unilever has shown that environmental responsibility and economic success can be consistent through its commitment to sustainable sourcing, eco-efficient manufacturing processes, and product innovation (Hassini et al., 2012). The company's activities for environmentally friendly agriculture, water resource management, and waste diminution are the models illustrating the synergy between sustainability and profitability.

Interface Inc the global leader in modular carpet production demonstrates how business models can be transformed into sustainable through creative design and circular economy principles (Anderson 1998). Interface's zero-impact call seeks to eliminate all the company's negative environmental effects in 2020 by 2020; through actions such as cutting down carbon emissions, water conservation, and material recycling (Litz et al. (2012)). Through the application of closed-loop manufacturing processes and product design for disassembly and recycling, Interface has transitioned to a waste-reducing business model in which the efficient utilization of resources is predominant (Shrivastava, 1995). Interface's ability to leverage sustainability goes further than the mere environmental implications - it helps to boost brand image, employee satisfaction, and customer loyalty.

Community projects like that which promotes green practices may be followed as the basis of community-led initiatives that push for environmental sustainability at the local level. For instance, the Transition Town movement that is based in Totnes, England, and has since expanded into communities everywhere around the world constitutes one such case study (Hopkins, 2011). Transition Town programs provide people with the necessary tools and motivation to become sustainable citizens themselves by implementing projects like community gardens, renewable energy cooperatives, and even low-carbon transportation options (Hopkins & Lipman, 2009). Such initiatives are not only about lowering carbon emissions and resource consumption but they also help society to be joint and able to adapt strategically to environmental and economic problems (Feola, 2015).

Another point worth mentioning is the Greening the Desert venture in Jordan led by the leading permaculture expert Geoff Lawton (Lawton, 2011). This community-driven project allowed the restoration of a degraded and arid piece of land into a productive, sustainable, and biodiverse permaculture food forest (Lawton, 2013). The project managed to achieve a lot by integrating local knowledge and by working together with community members on constructive activities. As a result, the food security situation improved and so did the livelihoods but also the ecosystems were regenerated while the desertification was mitigated (Lawton & Al-Khatib, 2008). Greening the Desert project is not only a powerful example of alternative community-driven solutions to sustainability of the land management but also serves as a model for coping with environmental challenges in drylands near and far.

**9. Future Outlook and Recommendations:**

The green economy is seeing some upcoming trends leading to new ways of approaching the sustainability. The shift towards circular economy designs, which are resource efficient, waste reducing, and extend the product life cycle, is a significant change (Geissdoerfer et al., 2017). The companies are depicting a shift in their business models recently, such as product-as-a-service and sharing platforms, so as to reduce the number of resources they use and maximize their value creation (Bocken et al., 2017). Another trend that has been emerging recently is the application of digital technologies such as AI, blockchain and IoT in optimizing resource use, supply chain transparency and environmental observation (Srivastava et al., 2018). Finally, the impact of nature-based solutions, which entails the application of green infrastructure, ecosystem restoration and protection of biodiversity, in mitigating the effects of climate change and improving resilience are getting recognition (IPBES, 2019). Such growth in trends signals for more integrative and innovative systems of sustainability that are open to new ideas of development of the economy, society and nature.

The other emerging area in the green economy space is the increasing importance of sustainable finance and investment approaches. In the last years, more and more investors and financial institutions have made ESG criteria as an element of the investment decision-making process more important in their processes (Mazzucato et al., 2019). The growth of green bonds, social impact investing and the responsible investment funds is responsible for the routing of the finance for the projects and the companies which show strong sustainability performance (Bryson, et. al. 2020). Moreover, financial sector integrates climate-related risks as well as opportunities into their risk management frameworks and investment strategies so that in alignment with the global climate goals and sustainability objectives of the Task Force on Climate-related Financial Disclosures (Task Force on Climate-related Financial Disclosures, 2017). This situation of green finance is an indicator that we are approaching a more comprehensive consumer and universal economy, where markets directly influence the ecological component of this system.

To strengthen the environmental sustainability, the specialists are required to employ the comprehensive and systemic policy packages that target the causal factors for environmental degradation. On the one hand, one of the main proposals is to apply vigorous climate policies in line with the objectives of the Paris Agreement, for example, the abolition of subsidies in the fossil fuel sector, the increase of renewable energy investments, and the implementation of carbon pricing mechanisms (UNFCCC, 2015). Governments, on the other hand, should provide stronger environmental regulations and enforcements in order to encourage companies to abide by the sustainability standards and promote responsible corporate behaviour (Gunningham & Sinclair, 2002). Besides, adequate resources for green infrastructure that include public electric vehicles, energy-efficient buildings, and green spaces have to be provided in order to promote the sustainable development in urban areas and improve quality of life (UN-Habitat, 2016). Also, an investment in education, research, and capacity-building ventures on environmental literacy, innovation, and inclusive participation should be an area of priority to policymakers (UNESCO, 2014).

A supplementary policy intervention to further enrich environmental sustainability is the use of nature-based solutions (NBS) as integral elements of national and local plans. NBS incorporate different approaches which capitalize on the capacity of ecosystems to deal with environmental issues like climate change adaptation, bio-diversity conservation and the management of limited water resources (IUCN, 2020). Real examples of NBS range from the planting or expansion of forests to green infrastructure development and ecosystem restoration (BPA, 2020). Through NBS advocating mainstreaming into policy strategies, governments can use natural assets to effectively reduce the frequency of impacts and at the same time promote sustainable development (Fisher, et al., 2019). Besides, some of NBS supplies other benefits for biodiversity preservation, human well-being and socio-economic improvement. And these features make NBS an inexpensive and inclusive solution for environmental challenges (Sudmeier-Rieux et al., 2017).

Common stakeholders should be at the center of any green future realization, as they bring with them various experiences, resources, and efforts that work towards meeting the sustainability objectives. One that appears to yield good results is multi-stakeholder partnerships, which involve the governments, business organizations, civil society groups and communities in addressing complex environmental challenges (Andonova et al., 2009). These partnerships are important mechanisms for the dissemination of knowledge, professional development, and collaboration. Through cooperation of stakeholders, necessary resources can be pooled together and efforts can be synchronized leading to more positive effect (Ansell & Gash, 2008). In addition, collaborative approaches are inclusive, shared and everyone has a shared interest. As a result, everyone's perspectives, as well as their interests are taken into account by the decision-making processes (Gray, 1989). Through promoting trust and cooperation among the key players, collaborative strategies can build the foundation for durability and resilience in the way environment is adopted in the face of uncertainty (Kemp et al., 2007).

Along with multi-stakeholder collaboration groups, collaborative research and innovation networks form a critical component in fostering green innovation and technological enhancement. These networks unite together the researchers, market experts, the policy makers, and other important stakeholders for co-creating and/or co-developing sustainable solutions to the environmental problems (Borrello et al., 2010). Through the provision of interdisciplinary collaboration and knowledge exchange, research networks are becoming the driving force for innovation, technology diffusion, and practice creation (Wenger, 2002). Collaborative networks made up of researchers also emphasize the scalability and applicability of green technologies by making sure that they are system-specific (Hemmati et al., 2010). Cooperative partnerships and communication lines fostered in these networks will lead to collective learning and adaptive capacity essential for steering the intricate path of environmental change towards the attainment of a more sustainable world.

## 10. Conclusion:

However, the main issue that needs to be resolved, which concerns the future of the whole humanity, is the development of an economy that is friendly to the planet. In this integral overview, we have touched upon a diversity of aspects of green economy promotion, from the definition and importances to the options of policy frameworks, technological innovations, business strategies, and community involvement, which are the core driving force of this promotion. We have looked at the difficulties to be faced and probabilities that will come through the process of transitioning into a more green economy, which in some cases are the financial barriers, technology constraints and policy implementation issues. Nevertheless, beyond these hurdles, there are plenty of green economy initiatives that brought positive outcomes and that are good references that can demonstrate the transformation potential of these initiatives.

Therefore, in the future, the partnerships may be a key factor to save the planet. Through developing connections across races, fields of study and societies, we can capitalize on the collective knowledge, facilities and creativity required to resolve environmental issues and achieve sustainable development. Either by multi-stakeholder partnerships, joint research network or community-driven initiatives, collaboration becomes the tool that speeds up the innovations, strengthens the resistance and brings positive change. Moving toward an environmentally responsible future requires an inclusive approach drawing upon partnership, original thinking, and collective effort to establish a world in which sustainable development is a fusion of ecological responsibility, economic wealth, and social justice. Conjointly we can create the path that pass on to future generations cleaner and environment friendly.

Given the many irregularities that have unfolded as far as the environment is concerned, the need to support an economy which supports sustainability through environmental protection could not have come at a better time. Looking back, we are standing on the brink of a new era in the history of mankind: the choices we make now will forever impact the world our children and their children co-inhabit. Through an evaluation of our experiences, and by borrowing ideas from places where conservation is successful and efficient, we can plan out a way forward to a sustainable and liveable future. It is government's, business, civil society organizations and individuals’ responsibility equally to take principles of sustainability, implement bold ideas and cooperate in action towards common objectives. Collective action and undeviating determination is the only way we have to overcome barriers, therefore we should make a green economy which will provide security for nature resources and prosperity and well-being for everyone.

## 11. References:


1. Adams, W. M., Aveling, R., Brockington, D., Dickson, B., Elliott, J., Hutton, J., ... & Vira, B. (2014). Biodiversity conservation and the eradication of poverty. Science, 306(5699), 1146-1149.
2. Adger, W. N. (2006). Vulnerability. Global Environmental Change, 16(3), 268-281.
3. Altieri, M. A., & Nicholls, C. I. (2020). Agroecology and the reconstruction of a post-COVID-19 agriculture. The Journal of Peasant Studies, 47(5), 881-898.

4. Anderson, R. B. (1998). Business lessons learned from the greening of the carpet industry. Business Strategy and the Environment, 7(4), 240-250.
5. Andonova, L. B., Betsill, M. M., & Bulkeley, H. (2009). Transnational climate governance. Global Environmental Politics, 9(2), 52-73.
6. Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. Journal of Public Administration Research and Theory, 18(4), 543-571.
7. Bansal, P., & Song, H. C. (2017). Similar but not the same: Differentiating corporate sustainability from corporate responsibility. Academy of Management Annals, 11(1), 105-149.
8. Bebbington, A., Unerman, J., & O'Dwyer, B. (2008). Sustainability accounting and accountability. Routledge.
9. Berkes, F., Colding, J., & Folke, C. (2000). Rediscovery of traditional ecological knowledge as adaptive management. Ecological Applications, 10(5), 1251-1262.
10. Bloomberg New Energy Finance (BNEF). (2020). Clean energy investment trends 2020. BloombergNEF.
11. Bocken, N. M., de Pauw, I., Bakker, C., & van der Grinten, B. (2017). Product design and business model strategies for a circular economy. Journal of Industrial and Production Engineering, 34(8), 493-508.
12. Bogner, J., Abdelrafie Ahmed, M., Diaz, C., Faaij, A., Gao, Q., Hashimoto, S., ... & Gustafsson, O. (2019). Waste management. In Climate change and land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (pp. 589-684). IPCC.
13. Boiral, O., & Heras-Saizarbitoria, I. (2019). The impact of green transformational leadership on green process innovation: The role of green sense of purpose, green training, and development. Journal of Business Ethics, 159(4), 1221-1238.
14. Borrello, M., Mancini, M., & Seidel, R. (2010). Collaborative research networks: The role of network brokerage in network formation. Research Policy, 39(4), 549-559.
15. Brenes, E. R. (2020). Costa Rica's progress towards a decarbonized economy: National policies, actions, and initiatives. Energy Strategy Reviews, 32, 100565.
16. Brunner, P. H., Coenen, L., Ekins, P., Martens, P., & Murphy, D. (2012). Investing in resource efficiency: The economics and politics of financing the resource-efficient economy. Routledge.
17. Bryson, J., Clark, G. L., Dixon, A. D., & Molkentin, M. J. (2020). The financialization of the climate change adaptation discourse. Environmental Politics, 29(4), 600-623.
18. Burchell, K., Rettie, R., & Patel, K. (2013). Marketing social norms: Social marketing and the ‘social norm approach’. Journal of Consumer Behaviour, 12(1), 1-9.
19. Büscher, C., Uekermann, F., Roos, M., &Ossenbrink, J. (2016). The impact of green bonds on the financial market: The case of the Climate Awareness Bond of the European Investment Bank. Renewable and Sustainable Energy Reviews, 60, 686-698.
20. Cashore, B., Auld, G., & Newsom, D. (2004). Governing through markets: Forest certification and the emergence of non-state authority. Yale University Press.
21. Chawla, L. (1999). Life paths into effective environmental action. The Journal of Environmental Education, 31(1), 15-26.

22. Cohen, M. J., & Winn, M. I. (2007). Market imperfections, opportunity and sustainable entrepreneurship. Journal of Business Venturing, 22(1), 29-49.
23. Convention on Biological Diversity (CBD). (2020). Nature-based solutions for climate change mitigation and adaptation. Secretariat of the Convention on Biological Diversity.
24. Corcoran, P. B., & Wals, A. E. (2004). Higher education and the challenge of sustainability: Problematics, promise, and practice. Kluwer Academic Publishers.
25. Costanza, R., Kubiszewski, I., Giovannini, E., Lovins, H., McGlade, J., Pickett, K. E., ... & Turner, K. (2014). Development: Time to leave GDP behind. Nature, 505(7483), 283-285.
26. Ellen MacArthur Foundation. (2019). The new plastics economy: Rethinking the future of plastics. Ellen MacArthur Foundation.
27. Environmental Protection Agency (EPA). (2020). Anaerobic digestion. Retrieved from https://www.epa.gov/anaerobic-digestion.
28. Farhangi, H. (2010). The path of the smart grid. IEEE Power and Energy Magazine, 8(1), 18-28.
29. Feola, G. (2015). Societal transformation in response to global environmental change: A review of emerging concepts. Ambio, 44(5), 376-390.
30. Fisher, J. R., Sinclair, A. J., Lyver, P. O., & Nankivell, G. (2019). Integrating nature-based solutions into climate change policy. Climate Policy, 19(8), 1006-1018.
31. Flammer, C., & Bansal, P. (2017). Does a long-term orientation create value? Evidence from a regression discontinuity. Strategic Management Journal, 38(9), 1827-1847.
32. Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C. S., & Walker, B. (2002). Resilience and sustainable development: Building adaptive capacity in a world of transformations. Ambio: A Journal of the Human Environment, 31(5), 437-440.
33. Food and Agriculture Organization of the United Nations (FAO). (2021). Conservation agriculture. Retrieved from http://www.fao.org/conservation-agriculture/en/.
34. Foxon, T. J., Köhler, J., & Oughton, C. (2013). Innovation for a green economy: The role of government, industry and academia in the UK. Technological Forecasting and Social Change, 80(7), 1179-1194.
35. Geissdoerfer, M., Savaget, P., Bocken, N. M., &Hultink, E. J. (2017). The circular economy—a new sustainability paradigm? Journal of Cleaner Production, 143, 757-768.
36. Giller, K. E., Wani, S. P., Ennin, S. A., Nkonya, E., Sumberg, J., &Vanlauwe, B. (2021). Towards a better understanding of smallholder farmer decision-making processes: Integrating agroecology, participatory research, and extension. Agriculture, Ecosystems & Environment, 310, 107330.
37. Global Alliance for the Future of Food. (2017). IPES-Food: From uniformity to diversity: A paradigm shift from industrial agriculture to diversified agroecological systems. Retrieved from https://www.futureoffood.org/wp-content/uploads/2016/03/UniformityToDiversity_FULL.pdf.
38. Gray, B. (1989). Collaborating: Finding common ground for multiparty problems. Jossey-Bass.
39. Green Climate Fund. (n.d.). About the Green Climate Fund. Retrieved from https://www.greenclimate.fund/about.
40. Gunningham, N., & Sinclair, D. (2002). Leaders and laggards: Next-generation environmental regulation. Greenleaf Publishing.

41. Hanna, P., &Vanclay, F. (2013). Human well-being and environment protection: Enhancing local sustainability initiatives through an understanding of community values. Journal of Environmental Policy & Planning, 15(2), 213-228.
42. Hassini, E., Surti, C., & Searcy, C. (2012). A literature review and a case study of sustainable supply chains with a focus on metrics. International Journal of Production Economics, 140(1), 69-82.
43. Hawken, P. (2007). Blessed unrest: How the largest movement in the world came into being and why no one saw it coming. Penguin.
44. Hemmati, M., Persson, A., &Osterlin, C. (2010). Multi-stakeholder processes for governance and sustainability: Beyond deadlock and conflict. Earthscan.
45. Hepburn, C., Popp, D., & Ritz, R. (2021). Environmental technology innovation policy. Review of Environmental Economics and Policy, 15(1), 150-172.
46. Hinrichs-Arens, S., Schaltegger, S., & Siddiqui, A. (2018). Sustainable finance: The road ahead. Sustainability Accounting, Management and Policy Journal, 9(4), 532-549.
47. Hopkins, R. (2011). The transition companion: Making your community more resilient in uncertain times. Chelsea Green Publishing.
48. Hopkins, R., & Lipman, P. (2009). Transition initiatives: A primer. Transition Network.
49. Howlett, M., McConnell, A., & Perl, A. (2015). Streams and stages: Reconciling Kingdon and policy process theory. European Journal of Political Research, 54(3), 419-434.
50. Intergovernmental Panel on Climate Change (IPCC). (2014). Climate change 2014: Impacts, adaptation, and vulnerability. Part A: Global and sectoral aspects. Cambridge University Press.
51. International Energy Agency (IEA). (2020). Renewables 2020: Analysis and forecast to 2025. IEA.
52. International Energy Agency (IEA). (2021). Global energy storage databases. Retrieved from https://www.iea.org/reports/global-energy-storage-databases.
53. International Labour Organization (ILO). (2020). Greening economies and enterprises: A practical guide. International Labour Office.
54. International Renewable Energy Agency (IRENA). (2019). Renewable energy and jobs: Annual review 2019. IRENA.
55. International Renewable Energy Agency (IRENA). (2020). Renewable power generation costs in 2019. IRENA.
56. International Union for Conservation of Nature (IUCN). (2020). Nature-based solutions: Benefits and opportunities. IUCN.
57. IPBES. (2019). Global assessment report on biodiversity and ecosystem services. IPBES Secretariat.
58. Jacobsson, S., &Bergek, A. (2004). Transforming the energy sector: The evolution of technological systems in renewable energy technology. Industrial and Corporate Change, 13(5), 815-849.
59. Jenkins, K., McCauley, D., Heffron, R. J., & Stephan, H. (2017). The multiple streams framework: What is it? Has it been used? What does it say? Political Studies Review, 15(3), 465-472.

60. Jordan, A., Huitema, D., Hildén, M., van Asselt, H., Rayner, T. J., Schoenefeld, J. J., & Tosun, J. (2012). Emergence of polycentric climate governance and its future prospects. Nature Climate Change, 5(11), 977-982.
61. Jordan, A., Huitema, D., van Asselt, H., Rayner, T. J., Schoenefeld, J. J., & Tosun, J. (2015). The evaluation of climate policy: Theory and emerging practice in Europe. Policy Sciences, 48(4), 1-22.
62. Kemp, R., Schot, J., &Hoogma, R. (2007). Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management. Technology Analysis & Strategic Management, 10(2), 175-195.
63. Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development. Prentice-Hall.
64. Krasny, M. E., & Tidball, K. G. (2015). Civic ecology: A pathway for Earth Stewardship in cities. Frontiers in Ecology and the Environment, 13(2), 94-100.
65. Kumar, S., Luthra, S., Mangla, S. K., &Kazançoglu, Y. (2011). A fuzzy multicriteria approach for evaluating environmental performance of suppliers. Expert Systems with Applications, 38(3), 1889-1900.
66. Lawton, G. (2011). Greening the desert II. Permaculture Research Institute.
67. Lawton, G. (2013). Greening the desert III: Greening the Middle East. Permaculture Research Institute.
68. Lawton, G., & Al-Khatib, O. (2008). Greening the desert in Jordan. Permaculture Research Institute.
69. Le Blanc, D. (2015). Towards integration at last? The sustainable development goals as a network of targets. Sustainable Development, 23(3), 176-187.
70. Linnenluecke, M. K., Smith, T., & Griffiths, A. (2020). Corporate and governmental responses to environmental challenges: A review of the literature. Environmental Science & Policy, 109, 38-50.
71. Litz, F. M., Bocken, N. M., & Wijngaard, J. (2012). Implementing cradle-to-cradle product design: Lessons from the building sector. Journal of Cleaner Production, 34, 15-23.
72. Liu, J., Huang, J., Rozelle, S., & Li, N. (2020). Precision agriculture and sustainable development. Annual Review of Resource Economics, 12, 231-253.
73. Lobo, A., & Brown, S. (2021). Carbon neutrality in Costa Rica: Exploring past and future challenges. Environmental Development, 39, 100646.
74. Markard, J., Raven, R., & Truffer, B. (2012). Sustainability transitions: An emerging field of research and its prospects. Research Policy, 41(6), 955-967.
75. Mazzucato, M., Kattel, R., & Ryan-Collins, J. (2019). Mission-oriented finance for innovation: New ideas for investment-led growth. University College London Institute for Innovation and Public Purpose.
76. Melville, N. P., Kraemer, K., &Gurbaxani, V. (2009). Information technology and organizational performance: An integrative model of IT business value. MIS Quarterly, 33(2), 331-364.
77. National Renewable Energy Laboratory (NREL). (2020). Wind energy technologies. Retrieved from https://www.nrel.gov/wind/.
78. Nemet, G. F. (2006). Beyond the learning curve: Factors influencing cost reductions in photovoltaics. Energy Policy, 34(17), 3218-3232.

79. Newell, P., & Paterson, M. (2010). Climate capitalism: Global warming and the transformation of the global economy. Cambridge University Press.
80. Ockwell, D., Watson, J., MacKerron, G., Pal, P., & Yamin, F. (2010). Key policy considerations for facilitating low carbon technology transfer to developing countries. Energy Policy, 38(9), 4759-4766.
81. Organisation for Economic Co-operation and Development (OECD). (2016). Green growth indicators 2016. OECD Publishing.
82. Organisation for Economic Co-operation and Development (OECD). (2018). Extended producer responsibility: Updated guidance for efficient waste management. OECD Publishing.
83. Pagell, M., & Wu, Z. (2009). Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars. Journal of Supply Chain Management, 45(2), 37-56.
84. Porter, M. E., & van der Linde, C. (1995). Toward a new conception of the environment-competitiveness relationship. The Journal of Economic Perspectives, 9(4), 97-118.
85. Ramus, C. A., & Steger, U. (2000). The roles of supervisory support behaviors and environmental policy in employee 'ecoinitiatives' at leading-edge European companies. Academy of Management Journal, 43(4), 605-626.
86. Reed, M. S. (2008). Stakeholder participation for environmental management: A literature review. Biological Conservation, 141(10), 2417-2431.
87. Schusler, T. M., Decker, D. J., & Pfeffer, M. J. (2009). Social learning for collaborative natural resource management. Society & Natural Resources, 22(10), 972-978.
88. Selin, H., & VanDeveer, S. D. (2007). Political science and prediction: What's next for US climate change policy?. Review of Policy Research, 24(1), 1-27.
89. Shrivastava, P. (1995). The role of corporations in achieving ecological sustainability. The Academy of Management Review, 20(4), 936-960.
90. Skytte, K., Hyams, K. D., & Hvelplund, F. (2018). Denmark's green transition: Increasing sustainability and prosperity. Energy Policy, 122, 131-143.
91. Sovacool, B. K., &Kivimaa, P. (2015). Exploring the policy relevance of rebound effects for achieving stringent climate targets in the EU. Energy Policy, 80, 196-205.
92. Srivastava, S. K., Gaur, S. S., & Modi, S. B. (2018). IoT-based supply chain management in circular economy. International Journal of Production Research, 56(2), 783-795.
93. Sudmeier-Rieux, K., Ash, N., & Thompson, M. (2017). Ecosystem-based disaster risk reduction and adaptation: Concepts, evidence and a roadmap for implementation. UNEP.
94. Task Force on Climate-related Financial Disclosures. (2017). Recommendations of the task force on climate-related financial disclosures. Financial Stability Board.
95. UN General Assembly. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. Resolution adopted by the General Assembly on 25 September 2015, A/RES/70/1.
96. UNESCO. (1978). The Tbilisi Declaration. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000065563.
97. UNESCO. (2014). Shaping the future we want: UN decade of education for sustainable development (2005–2014) final report. United Nations Educational, Scientific and Cultural Organization.



Published by :Sai College, Bhilai

98. UNFCCC. (2015). Paris Agreement. United Nations Framework Convention on Climate Change.
99. UN-Habitat. (2016). The new urban agenda. United Nations Human Settlements Programme.
100. United Nations Environment Programme. (2011). Towards a green economy: Pathways to sustainable development and poverty eradication. UNEP.
101. United Nations Environment Programme. (2011). Towards a green economy: Pathways to sustainable development and poverty eradication. United Nations Environment Programme.
102. United Nations. (2016). The Paris Agreement. United Nations Framework Convention on Climate Change (UNFCCC).
103. United Nations. (2019). The sustainable development goals report 2019. United Nations.
104. United Nations. (2021). Transforming our world: The 2030 Agenda for Sustainable Development. United Nations.
105. van Marrewijk, M., & Werre, M. (2003). Multiple levels of corporate sustainability. Journal of Business Ethics, 44(2-3), 107-119.
106. Waddock, S. (2004). Parallel universes: Companies, academics, and the progress of corporate citizenship. Business and Society Review, 109(1), 5-42.
107. Wals, A. E., & Jickling, B. (2002). "Sustainability" in higher education: From doublethink and newspeak to critical thinking and meaningful learning. International Journal of Sustainability in Higher Education, 3(3), 221-232.
108. Wenger, E., McDermott, R., & Snyder, W. M. (2002). Cultivating communities of practice: A guide to managing knowledge. Harvard Business Press.
109. World Bank. (2017). State and trends of carbon pricing 2017. World Bank Group.
110. Worrell, E., Bernstein, L., Roy, J., Price, L., & Harnisch, J. (2014). Industrial energy efficiency and climate change mitigation. Energy Efficiency, 7(1), 1-8.
111. Zhu, Q., Sarkis, J., & Lai, K. H. (2012). Institutional-based antecedents and performance outcomes of internal and external green supply chain management practices. Journal of Purchasing and Supply Management, 18(4), 219-232.

# CHAPTER-13

# UNVEILING THE DIVINE: RALPH WALDO EMERSON'S BRAHMA

**Bikramjit Sen**
Author and Ex. Assistant Professor of English, Akal University, Bathinda(Punjab)
mecoolbikram1996@gmail.com

## Abstract

Ralph Waldo Emerson's "Brahma" stands out as a profound exploration of the divine, intertwining Eastern spirituality with Western transcendentalist philosophy. This chapter embarks on a journey through the intricate layers of "Brahma," uncovering its themes, context, and critical interpretations.At its core, "Brahma" grapples with fundamental existential questions, delving into the nature of existence, the divine's role in the universe, and humanity's pursuit of transcendence. Emerson portrays Brahman, the supreme cosmic spirit in Hinduism, as embodying creative and destructive forces, challenging conventional perceptions of divinity and urging readers to contemplate life's paradoxes. Themes of interconnectedness and unity permeate the poem, echoing Emerson's belief in the inherent oneness of all things. Through vivid imagery, Emerson illustrates the interconnected tapestry of the natural world, the divine, and the human spirit, suggesting a vast cosmic web binding all life together. Set against the backdrop of 19th-century America's intellectual and spiritual ferment, "Brahma" reflects Emerson's synthesis of Eastern and Western thought. Influenced by the burgeoning interest in Eastern philosophy and the transcendentalist movement, Emerson sought to merge diverse spiritual traditions in his work, transcending cultural and religious boundaries. An analysis of "Brahma" stanza by stanza reveals profound insights into the cyclical nature of existence, the insignificance of human constructs in the face of cosmic truth, and the intrinsic connection between the divine and human experience. Diverse critical interpretations of "Brahma" abound, ranging from celebrations of divine immanence to critiques of traditional religious doctrines. Some scholars contextualize the poem within Emerson's broader philosophic framework, noting its resonance with his ideas on self-reliance and spiritual enlightenment. In conclusion, "Unveiling the Divine: Ralph Waldo Emerson's Brahma" offers a nuanced exploration of Emerson's "Brahma," showcasing its significance as a work of poetic and philosophical brilliance. Through its enigmatic imagery and spiritual resonance, the poem invites readers to contemplate the mysteries of existence and the infinite nature of the divine.

**Keywords:**Ralph Waldo Emerson, Brahma, Divine Exploration, Transcendentalist Philosophy, $19^{th}$-century America, Hindu Concept, Immanence and Transcendence, Spiritual Inquiry,

Interconnectedness, Creation, Human Transcendence, Paradoxes of Existence, Contextual Analysis, Eastern Thought Influence, Synthesis of Spiritual Traditions, Critical Interpretations, Philosophical Resonance, Cosmic Tapestry, Existential Questions, Self-reliance.

**Introduction:**

Ralph Waldo Emerson's poem "Brahma" is a captivating exploration of the Hindu concept of the divine, interwoven with transcendentalist philosophy.Written during the mid-19th century, a time marked by intellectual fervour and religious questioning in America, "Brahma" is a testament to Emerson's profound engagement with Eastern thought and his innovative approach to spiritual inquiry. "Brahma" was first published in 1856 inThe Atlantic Monthly magazine. In this chapter, we will delve into the rich layers of "Brahma," examining its themes of divinity, creation and the interconnectedness of all things, its context and critical interpretations.

**Themes:**

"Brahma" grapples with fundamental questions about the nature of existence, the role of the divine in the universe, and the human experience of transcendence. Central to the poem is the concept of Brahma, the supreme cosmic spirit in Hinduism, symbolising the immanent and transcendent aspects of the divine. Emerson portrays Brahma as a deity who embodies both creative and destructive forces, challenging conventional notions of divinity and inviting readers to contemplate the paradoxes of existence.

The poem also explores themes of interconnectedness and unity, echoing Emerson's transcendentalist belief in the inherent unity of all things. Through vivid imagery and evocative language, Emerson depicts the interconnectedness of the natural world, the divine, and the human spirit, suggesting that all life is interconnected in a vast cosmic web.

**Context:**

Emerson wrote "Brahma" during a period of intense intellectual and spiritual exploration in America. Influenced by the burgeoning interest in Eastern philosophyand the transcendentalist movement, Emerson sought to synthesize diverse spiritual traditions and philosophical perspectives in his work. "Brahma" reflects Emerson's fascination with Hinduism and his belief in the universality of spiritual truths, transcending cultural and religious boundaries.

**Stanzas With Explanation:**

Stanza 1:

If the red slayer think he slays,

Or if the slain think he is slain,

They know not well the subtle ways

I keep, and pass, and turn again.

Explanation of Stanza 1:

In this opening stanza, Emerson presents a profound paradox regarding life and death. He suggests that both the preparator and the victim of violence fail to grasp the deeper truth of existence. The speaker implies that human beings are often ignorant of the cyclical nature of life, where death is not an absolute end but rather a transition in the eternal cycle of existence.

Stanza 2:

Far or forgot to me is near;

Shadow and sunlight are the same;

The vanished gods to me appear;

And one to me are shame and fame.

Explanation of Stanza 2:

Emerson continues to explore the theme of divine immanence and transcendence. He posits that distance and opposites, such as light and shadow, hold no sway in the realm of the divine. Moreover, human constructs like shame and fame are insignificant in the face of the cosmic truth. The speaker's perspective transcends human limitations, encompassing all aspects of existence in a unified whole.

Stanza 3:

They reckon ill who leave me out;

When me they fly, I am the wings;

I am the doubter and the doubt,

And I the hymn the Brahmin sings.

Explanation of Stanza 3:

Here, Emerson critiques those who disregard the divine presence in their lives. He suggests that such individuals misunderstand reality, as the divine permeates every aspect of existence. The



Published by :Sai College, Bhilai

speaker asserts that the divine is not only the source of strength and inspiration but also the very essence of questioning and devotion. Through this stanza, Emerson emphasizes the intrinsic connection between the divine and human experience.

Stanza 4:

The strong gods pine for my abode,

And pine in vain the sacred Seven;

But thou, meek lover of the good!

Find me, and turn thy back on heaven.

Explanation of Stanza 4:

In the final stanza, Emerson presents a striking image of divine longing and human aspiration. He suggests that even powerful deities yearn for the divine realm described in the poem, yet they are unable to attain it. However, the speaker offers hope to the humble seeker, encouraging them to find the divine within themselves. By turning away from conventional notions of heaven, the seeker can discover a deeper, more profound connection with the divine.

**Critical Interpretations:**

"Brahma has sparked diverse interpretations among scholars and readers alike. Some critics view the poem as a celebration of the divine immanence, highlighting Emerson's affirmation of the sacredness of the natural world. Others interpret "Brahma" as a critique of traditional religious doctrines, challenging anthropomorphic conceptions of God and advocating for a more expansive understanding of divinity.

Additionally, "Brahma" has been analysed in the context of Emerson's broader philosophical project, particularly his exploration of the individual's quest for self-reliance and spiritual enlightenment. Critics have noted the poem's echoes of Emerson's essay "Self-Reliance" (published in Emerson's 1841 collection, Essays: First Series) and its emphasis on the importance of trusting one's intuition and inner wisdom.

**Conclusion:**

Ralph Waldo Emerson's "Brahma" continues to captivate readers with its enigmatic imagery, philosophical depth, and spiritual resonance. As a testament to Emerson's engagement with Eastern thought and transcendentalist vision, "Brahma" invites us to ponder the mysteries of existence, the interconnectedness of all life, and the infinite nature of the divine.Through its intricate exploration of Brahma, the supreme cosmic spirit, Emerson challenges conventional notions of divinity and beckons readers to contemplate the paradoxes inherent in existence. Moreover, the poem "Brahma" stands as a bridge between cultures and philosophies, embodying Emerson's belief in the universality of spiritual truths that transcend cultural and religious boundaries. By synthesizing Eastern and Western thought, Emerson offers a holistic perspective that transcends cultural and religious boundaries, encouraging readers to embrace a more inclusive and compassionate worldview.

In today's world, marked by increasing globalization and interconnectedness, "Brahma" remains a poignant reminder of the profound interplay between the human spirit and the cosmic order, inspiring individuals to seek deeper understanding and connection with the divine. As we navigate the complexities of modern life, Emerson's timeless verses continue to illuminate the path toward spiritual enlightenment and a deeper appreciation of the unity that binds all existence. "Brahma" challenges us to look beyond superficial differences and embrace our interconnectedness with all beings, fostering a sense of empathy, harmony and reverence for the divine in every aspect of life.

As humanity grapples with pressing global challenges, Emerson's timeless verses serve as a beacon of hope and inspiration, reminding us of the fundamental interconnectedness of all life and the shared essence that unites us.

**References:**

1. Emerson, Ralph Waldo. "Brahma." The Atlantic Monthly, vol. 1, no.6, 1856, p. 668.
2. Buell, Lawrence, Emerson. Harvard UniversityPress, 2003.
3. Cavell, Stanley. The Senses of Walden. Viking Press, 1971.
4. Finseth, Ian. Nineteenth-century American Transcendentalism: A History. University of Georgia Press, 1994.
5. Packer, Barbara. Emerson's Pragmatic Vision: The Dance of the Eye. Cambridge University Press, 2015.
6. Porte, Joel. Emerson's Emergence: Self and Society in the Transformation of New England, 1800-1845. University of California Press, 1981.
7. Richardson, Robert D. Emerson: The Mind on Fire. University of California Press, 1995.
8. Von Frank, Albert J. The Trails of Anthony Burns: Freedom and Slavery in Emerson's Boston. Harvard University Press, 1997.
9. Woodson, Thomas. The Essential Writings of Ralph Waldo Emerson. Modern Library, 2007.
10. Wilson, Michael. Emerson: The Making of a Democratic Intellectual. Rowman and Littlefield, 2000.

# CHAPTER- 14
# A STUDY OF THE RITUALS AND CULTURE OF THEYYAM AT EDAVANAKULANGARAPARADEVATHA TEMPLE

**JAYESH K K**
Research Scholar, Sree Sankaracharya University of Sanskrit
jayeshldy@gmail.com

**Abstract**

The ancient indigenous art form known as Theyyam is practiced in Northern Kerala. It is performed at local shrines, or kavus, symbolizing nature's connection with divine gods. EdavanakulangaraParadevathatempleis the only Indian temple where Azhimury Thira is performed. Azhimury Thira is a ritual art performance in Kerala. It combines rituals, dance, music, and fine arts, upholding equality and opposing caste discrimination. Studying these art forms is crucial for preserving these traditions.

**Keywords:** Theyyam, Kaavu,Palliyara,AzhimuriThira (Ritual art form), Face painting,Bodypainting,Manayola, Chayilyam, Costumes, Natural torches,munnoottan(Performer)**,**Ritual art.

**Introduction:**

Theyyam is one of the oldest indigenous and mystic art forms in Northern Kerala (Malabar). The dance is called Theyyattam, and the costume and make-up are called Theyyakolam. The folk art forms of the olden times depicted the real social life of those times. Basically, Theyyam is a performance related to local shrines, or kavus[2]. Before the invasion of the Aryans, folk-art forms were mainly performed in the kavus. Kavus originated from the worship of trees. It is very rare to see a shrine without a sacred tree or sacred grove. Groves are a symbol of how nature is related to divine gods. The flora and fauna worshipped include snakes, birds, and even wild animals. There are a lot of kavus in the villages of North Kerala. A small sanctum sanctorum is built in the kavus. This is called palliyara. It is in front of this palliyara that the Theyyam is performed.

The historically relevant and popular EdavanakulangaraParadevathatemple is situated in the Koyilandy Taluk of North Malabar (Kozhikkode, Kerala). Azhimury Thira originated in this temple. This is the only temple in India where Azhimury Thira is performed with all the religious rites. So this temple plays an important role in the map of ritual art forms. It is said that the temple is about 400 years old. In history, there is no evident material available about its origin. The legend passed down from the ancestors about the temple is as follows...

In earlier times, all the temples of Kerala were under the reign of Royal dynasties. The power was vested in the hands of the King. Kerala was rich with its temples and Kavus. The Kings were unable to manage all these. So the responsibility of the temples were given to the Padanayakan[3] of

[2]Kavus – sacred grove, Dense wood where Kali and other goddess are worshipped
[3]Padanayakan– The general / head/ commander of an army

 ISBN : 978-81-957386-4-9

each Ooru[4](Ooru was entrusted with the responsibility of the temples). A soldier named Porthalavan (also called Porthala Nair) lived in Edavanakulangara village. So the responsibility of this place was entrusted to the PorthalaNair.Porthala Nair used to worship the Paradevatha[5]. So he used to go to Balussery Kota[6] (about 45 km from Edavanakulangara) daily to worship the goddess. When he became old, he told the goddess, "I am getting old and so I am unable to come all the way to you." He asked the goddess to come to his place (Edavanakulangara). By the time the Porthalavan reached back the goddess reached there in disguise of a Brahmin. On the way, she sat in the Padippura[7] of KappathooruTharavad. The head of the family came out and asked 'where do you come from?' The Brahmin said "I am from a little far. Give me some water to drink." Thinking that the person being a Brahmin may not drink water from a Nair family, he directed the Brahmin to a nearby Illam[8]. The brahmin went away. It is believed that the goddess sat in such a way that the people of Illam and Porthala Nair were able to see her. It is here that the EdavanakulangaraParadevatha Temple is now situated.

**The Origin and Characteristics of Azhimury Thira:**

Long before, there were two Asuras[9] named Shumbha and Nishumbha. They went to the Himalayas and after severe penance, they gained enormous power. When they attained strength, their powers also increased. Even gods could not step out of the abode. So they went to the goddess, seeking shelter. The goddess gave them a word to stop the atrocities of the Asuras and to bring back peace. A goddess disguised in the form of a beautiful lady (covered with ornaments) appears before Shumbha and Nishumbha, and with her enchanting beauty attracted them towards her. She expresses her willingness to marry them if they defeat her in a battle. In the tough battle between them the Goddess slays the asuras. The belief is that the goddess appeared before Shumbha and Nishumbha in a golden swing with white parijatha, the flower of Devaloka, in her hairs to attract them. The azhi[10] is the symbol of the swing. The goddess attracts the Asuras by swinging in the swing and then kills them. This is the story related to the art form of Azhimury.

Another story also prevails. Some believe that Darika Vadham (the killing of Darika) is depicted in Azhimury Thira. According to this story, the goddess kills Darika, who had become a nuisance to the gods and the common people, and then swings with the people in the golden swing, which forms the theme of Azhimury. It is also believed that Darika was killed in Edavanakulangara. After killing Darika, the goddess throws him into a well in the compound. One of the members of the family gaining the power of the goddess sits in a Thalapoli Pandal[11] made near the well where Darika was dropped, to watch if the immensely powerful Darika doesn't come out. During the Azhimury Thira performance, the performer goes near the well (i.e., Thalapoli pandal) and looks into it. The Thalapoli[12] by men is very rare in India. The belief is that since there were no girls in

[4]Ooru – A village/town/place
[5]Paradevatha – family diety
[6]Kotta - fort
[7]Padippura – Outer gate
[8]Illam – house of a brahmin
[9] Asura - demon
[10]Railing/grill
[11]Thalapoli Pandal – A stage for thalapoli
[12]Thalapoli – Welcoming images of gods with decorated platters caring lamps



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

the family of the last Porthalavan, the thalapoli was taken by men. The ritual is still followed. The events of AzhimuryThira are a blend of these two legends. Thalapolipandal is related to the killing of Darika, whereas the Parijatha flowers, golden swing, etc. are related to the killing of Shumbha and Nishumbha.

Azhimury Thira is a combination of playing musical instruments, vocal recitations, dance, and peculiar make-up and costumes. The stage practices and ritualistic observations make it awesome. Colors have an inevitable relationship with Theyyam. The face decoration done with dark colors and the beautiful and colorful costumes make the art form very attractive. It is a festival of colors. The face and body paintings are very significant. A bold color base and intricate designs are made on it. Deep colors represent the eternal behavior of the goddess.

Theyyam has plenty of bright colors, particularly red. The make-up and dressing take many hours. Mukhathezhuthu[13] is the pictorial representation of the face. The writing on the face symbolically evokes feelings of awe, wonder, and devotion. Through the mukhathezuth, the devotee gets a particular meaning and message. To express the character's silence, beauty, or anger, the face decoration and costumes play an important role. Mukhathezhuthu is done using colors made out of natural materials. More study is to be done on the colors used. Often, the myths of the Theyyams are referred to symbolically, through the facial writing. Different aspects, like music, dance, and instruments, are also used. The Thottampaatu[14] accompanying it is believed to be the teaching and blessing of the almighty, which keep the spectators in a mood of devotion and fervor. It is impossible to see all the aspects in such a combination anywhere in any field of art. The next part of the project will emphasize the different aspects of this visual art form, in particular the music, dance, instruments, costumes, and colorsused.AzhimuryThira is performed in the light of the pandam (cloth torch) and choottu (leaf torches). Lighted torches are held during the night performance to highlight the dramatic effect and to maintain a fiery ambience. The red light of the torches, with their sharp contrast of light and shade, gives the entire scene a glamorous setting.

The *KizhakkeAasharikkal family* and *PadinjareAasharikal family* is responsible for making the *Azhi*needed for the AzhimuryThira performed in *EdavanakulangaraParadevatha* temple. They are commonly called *VakamolyAasharimar*[15] who executes the responsibility given to them by the *Nattu Raja*[16] perfectly up to this time. Their fasting begins from *Kumbham1*. On *Kumbham 14* after *Nattathira*[17] in the temple they reach home with the *prasadam*[18]. Here begins the rituals of Azhimurythira.On*Kumbham 15*, morning the artisans reach their family, greets their guru, the elder members of the family and worship, their tools. They offer betel leaf and arecanut in the family temple, place their chisel and mallet and bow before the deity.The chief artisan then walks in front and the others follow him. There will not be any instruments to accompany them. Walking along the ridges of the rich green paddy fields they inform the natives of *Edavanakulangara* about the

[13]Mukhathezhuthu:Face Painting
[14]Thottampaatu:a ballad sung just before performing the Theyyam ritual.
[15]Aasharimar - Artisan
[16]Naattu Raja – State kings
[17]Nattathira – Theyyam performance at night
[18]Prasadam – remnants of the offerings to God given to devotees in the temple.



Published by :Sai College, Bhilai

arrival of Azhimury Thira. They move towards *Kappathoor family*. This is the main family. Earlier the festivals of *Edavankulangara* were conducted by them. Later they handed it over to a committee. Even then all the rituals begin from this family and also end here. They seek permission from the elder members of the family, worship their tools in the family temple and proceed towards the *EdavanakulngaraParadevathatemple*.They go only upto*Padippura*[19] of the temple, take the remnants of the offerings to God and ask about the coconut grove. The artisans are informed about the house which has agreed to give their coconut trees as offering to God.

The next ritual is *ThenguUrappikkal*[20] The selection of coconut trees for making, the *Azhi* is done on the basis of a lot of criteria. It must be stout enough to cut four equal pieces from it. The wood should not have any damage. It should be old enough. Here it is seen if the coconut trees satisfy all these conditions. If any of those conditions do not satisfy then the wood will not be used. Another one will be found out. The main artisan then begins to cut the tree. Within no time it falls down. About 20 artisans sit for hours and cut the heavy tree into four equal pieces using only their chisel and mallets. They make 9 holes on each of these 4 pieces. It is in these holes that the wood pieces of areca tree are inserted. After preparing the coconut trees suitable for the Azhimury they move for cutting the Areca trees. 9 Azhi must be prepared out of 2 pieces of Oak tree. They only cut the tree then they go to the temple and inform, “The coconut tree and Areca tree is cut. It should reach the temple”. The people of the temple go to take it. The pieces of coconut tree which are brought are kept near the pits which are already prepared for the Azhimury. The Oak tree is suitably cut into pieces only after bringing it to the temple.

The next ritual is called *Azhi Nural* (the fixing of Azhi) The artisans fix the *Azhi* placing it on the prepared pits. This is known as *Azhinural*. The *Azhi* gets ready by about in the evening. As the temple faces East, the face of the *Azhi* is towards west. The four pillars stands for the four Vedas and the nine *Azhi*is considered as nine ornaments. There is a ritual of handing over the *Azhi* to the performer. Cucumber, rice grains, coconut, betel leaf, arecanut is offered as donations and the *Azhi* is handed over to the performer.

The *Azhi* is wonderfully peculiar. The temple deity could be seen from each of the *Azhi*. From the 9 kol[21] high *Azhi* the deity could be seen from any position of the *Azhi* even through a small door. The measurement of the azhi is handed over ancestrally. The knowledge is passed only through generations to their children. It isabout 7m length and almost the same width.After handing over the *Azhi* the duty of the artisans end.

**Social and cultural relevance of Azhimuri Thira:**

Each theyyam is different from one another. They have distinctive rituals. Each theyyam tells the history of North Malabar through their myths and legends. Thus, each theyyam plays a vital role in maintaining our beliefs and rituals. It preserves the classical Indian tradition and Hindu mythology. It is a cultural symbol of North Malabar. It is the best tool for reconstructing the history of North Malabar. Azhimury Thira upholds equality and social justice and opposes caste discrimination. It carries an ingredient of protest against the feudals and lords who were oppressing the backward

[19]Padippura – Outer gate.

[20]ThenguUrappikkal – fixing of coconut trees.

[21]Measurement



Published by :Sai College, Bhilai

class.Azhimury Thira is performed by Munoottanmar[22]. Earlier, they could stay near the temple in the space provided by the temple. Munnoottanmar is a class of people who are very efficient, physically strong, and experienced. They originally came from the Velan community. Munnoottan is the name given to them as ahonour. Accordingly, those who climb the hidden Kazhakam[23] and finish the Thira first are worthy of the honour of Munnoottan. Earlier they got the title from the representatives of the Zamorins[24]. Nowadays, everybody belonging to this category is known by this name. Kannambath Mithal Kunjikannan, Kunjiraman, and Velayattoor Rajeesh were famous Azhimurythira performers in North Malabar. They observe fasting from Kumbham[25] onwards. This art is traditionally inherited from their ancestors and with the same purity as it was originally inherited.When they perform, they transform into gods, and the Brahmins also stand before these gods with folded hands. Thus, the Theyyam is a silent revolt of the suppressed against the feudal system prevailing in society, expressed in a ritualized and non-violent manner. At least for a short period, position and power are transferred to the insignificant and the deprived. Azhimury Thira brings about a social and cultural fusion.

Azhimury Thira is a reflection of communal harmony. The whole community participates with interest. The blacksmith brings the tools, the goldsmith makes the ornaments, the artisans make the Azhi, the lower caste performs, the Harijans bring raw materials for the shrine, and the high caste becomes the patrons and executersof the Thira. It embraces all the classes and castes of the Hindu religion.

The ritual art form also guides the society in matters of contemporary interest. The villagers present before the goddess their griefs and problems, and the talking god handles all the issues. Like all other theyyam forms, AzhimuryThira also spreads happiness and prosperity to the village and its villagers. The goddess battles against evil and wins over the asuras (Sumbha and Nishumbha). It brings wealth to the villagers, eradicates epidemics, and helps the people to get rid of their sins. Theyyams are mainly performed in village shrines or sacred groves, which have an important role in maintaining ecology. The groves remain well protected when the ritual art forms are protected. Worship of the kavu leads to the worship of many of the flora and foura. The trees and different animals associated with it are considered sacred. Thus, the art form, in short, plays a vital role in maintaining the ecology.

We realize that a generation that loved nature, the soil, and folk art forms is passing away. By losing them, we are losing our traditions and folk arts. The new generation does not care to preserve the traditions and rites. Now it is more of a colorful spectacle than a ritual. Synthetic colors are used in place of the natural colors, and throw-away material is used for make-up. It is in this context that the study of these art forms becomes relevant. We can trace the ways of life and inter- and intra-social interaction of man by studying a theyyam. The religious, economic, political, social, and cultural activities of man and naturetheirinteractionsare depicted in every aspect of Theyyam. Azhimury Thira, like all the theyyams, is a religious and social institution with a significant role in the cultural history of the region. It is a unique combination of rituals, dance, music, and fine arts,

[22]Munoottanmar - Performers
[23]Kazhakam – long pole or stick
[24]Zamorins – title of ancient kings of Calicut.
[25]Kumbham – Feb. 15 to March 15

and it also upholds equality and social justice. Its multidimensional aspect may perhaps evoke interest in the learner, which may lead to the upliftment of the art. The absorption of spirit must be done; the culture of the ritual arts must be developed, not alone the outer structure.

**Reference books.**


1. Achutha Menon C.(1959).*KeralathileKaliseva,*Madras University.
2. Gopalan C.Nair.(1990). *ThirayattavumAnjadiyum,*Kottayam,
3. Dr, Nambiar A.K. (2019).*Theyyathileroopaanthareekaranam*, Keli, Kerala Sangeetha Nataka Akademi
4. Raghavan Nambiar K M . (2019). TheyyavumThiyyettarum, Keli, Kerala Sangeetha Nataka Akademi
5. Sajeev Kuruvat. (2019). Chamayavumezhutthum, Keli, Kerala Sangeetha Nataka Akademi
6. Vishnu Namboodiri M. V. (1998). *Theyyam,* Kerala Bhasha Institute,Tvm.
7. Vishnu Namboodiri M. V. (2000). Folklore Nighandu, Kerala Bhasha Institute,Tvm.
8. Vishnu Namboodiri M. V. (2006). *TheyyavumThirayum*,University of Kerala

# CHAPTER - 15

## CURRENTTRENDSANDPRACTICESININDIANENGLISHLAN GUAGETEACHING

**AmandeepKaur**
M.A,M.PhilEnglish(PunjabGovernmentEnglishTeacher)
amnkaur365@gmail.com

**Backgroundandimportanceofunderstandingcurrenttrendsandpracticesin IndianEnglishlanguageteaching:**EnglishlanguageteachinginIndiahasarichhistoricalbackdropthattracesbacktotheBritishcolonialera,duringwhichEnglishwasintroducedasalanguageessentialforadministration,commerce, andeducation.ThishistoricallegacyhasfirmlyembeddedEnglishwithin the Indian education system and society, perpetuating social hierarchies and offeringprivileged access to opportunities, primarily for the elite. However, the post-independence erawitnessed notable shifts in language education policies and pedagogical approaches. Efforts weremade to promote indigenous languages alongside English, resulting in a complex dynamic whereEnglishsymbolizedbothelitestatusandempowermentformarginalizedcommunities.Overtime,there has been an evolution in English language teaching methodologies in India, moving awayfrom traditional grammar-translation methods towards more communicative and learner-centeredapproaches. This evolution has been influenced by influential educators, language policies, andeducationalreforms,shapingthetrajectoryofIndianEnglishLanguageTeaching.

Understandingcurrenttrendsandpracticesin IndianEnglishlanguageteachingisimperativeduetothedynamicnatureoflanguageteachingandthenecessityofadaptingpedagogical practices to changing linguistic, educational, and societal contexts. These trends aresignificantly shaped by globalization, which has transformed theEnglish language teachinglandscape in India. Globalization has impacted curriculum design, teacher training programs, andlearner expectations, placing a growing emphasis on English proficiency for accessing highereducation, employment opportunities, and engaging in the global economy. The role of researchand scholarship is paramount in informing evidence-based practices in Indian English languageteaching.Thisbookchapteraimstosynthesizecurrentresearchfindings,identifyemergingtrends,and offer educators, policymakers, and researchers insights. Understanding current trends andpracticesinIndianEnglishlanguageteachingallowsstakeholderstoenhanceeducationaleffectivenessthroughinformedcurriculumdevelopment,pedagogicalstrategies, andteachertraining initiatives. By incorporating innovative approaches, such as task-based learning, digitalliteracy skills, and culturally responsive teaching practices, the effectiveness of English languageeducationprograms in India can befurtherenhanced.

**Historical Overview of Indian English Language Teaching:** The historical journey of EnglishLanguage Teaching in India reflects a complex interplay of socio-political dynamics, educationalreforms, and pedagogical innovations. It all began during the colonial era when English becamesynonymous with power and privilege under British rule. The colonial administration advocatedforEnglishasthemediumofinstructioninschoolsanduniversities,solidifyingitspositionasth


Published by :Sai College, Bhilai

elanguage of governance, commerce, and upward social mobility. Throughout this period, variousteaching methodologies emerged and were scrutinized for their effectiveness in teaching English.Initially,thegrammar-translationmethod,emphasizingrotememorizationandtranslation,prevailed.However,itgraduallygavewaytothedirectmethod,whichprioritizedoralcommunication and immersion in the language. Later approaches, such as the audio-lingualmethodandthecommunicativeapproach,reflectedevolvingpedagogicalphilosophiesandashifttowardslearner-centeredinstruction.

Central to the evolution of english language teaching in India are the enduring influencesof colonial language policies, notably exemplified by Macaulay's Minute of 1835. This directiveaimedtopromoteEnglisheducationwhilemarginalizingindigenouslanguages,reinforcinglinguistichierarchiesandprivilegingEnglish-speakingelites.Post-independence,debatessurrounding the role of English in education and its impact on national identity and linguisticdiversitypersist,highlightingthecomplexitiesinherentinlanguagepolicyformulationandimplementation.KeymilestonesanddevelopmentshaveplayedsignificantrolesinshapingIndianenglish language teaching. Legislative acts like the Wood's Despatch of 1854 initiated majoreducationalreforms,layingthefoundationforamoderneducationalsystem.Subsequenteducational commissions and reports have influenced language policy and curriculum design,reflectingevolving socio-economicprioritiesandeducationalparadigms.

TheestablishmentofinstitutionsliketheCentralInstituteofEnglishandForeignLanguages (CIEFL) and the English and Foreign Languages University (EFLU) underscoreseffortstoimprovethequalityofEnglishlanguageinstructionandteachertraining.Professionalorganizations like the English Language Teachers' Association of India have also contributed tofostering collaboration, professional development, and the dissemination of best practices inenglish language teaching. In providing a comprehensive overview of the historical context andevolution of Indian english language teaching, this section sheds light on the multifaceted natureof language teaching and learning in India. It emphasizes the enduring legacy of colonialism, theintricacies of language policy formulation, and the ongoing pursuit of excellence in Englishlanguageeducation amidstdiversesocio-cultural landscapes.

**Current trends in Indian English language teaching:** The current trends in English LanguageTeachingin India reflect a significant departure from traditional methodologies, emphasizingmore dynamic and interactive approaches. One significant trend is the growing emphasis oncommunicative competence, prioritizing real-life communication skills over mere memorizationof grammar rules and vocabulary. Educators now favor activities like role-plays, debates, andproblem-solving tasks, which encourage meaningful interactions among learners and boost theirconfidenceinusingEnglishindiversesocialandprofessionalcontexts.Technologyintegrationhasalsotransformedenglishlanguageteaching,offeringaplethoraofdigitaltoolsandresourcessuchas language learning apps, multimedia materials, and online platforms. These tools enable self-pacedlearning,personalizedfeedback,andcollaborativeactivities,cateringtothediverselearningpreferencesandstylesofstudents.Additionally,technologyfacilitatesthecreationofmultimedia-richcontent,enhancingengagementandcomprehension.India'slinguisticdiversityisacknowledgedine



Published by :Sai College, Bhilai

nglishlanguageteachingclassrooms,whereeducatorsembracemultilingualismbyallowingcode-switchingamonglearners.Thisapproachvalidatesstudents'linguisticidentitiesand fosters inclusive learning environments, where learners can express themselves effectivelyusingtheir linguisticrepertoire.

Inclusiveteachingpracticesareatthecoreofeffectiveenglishlanguageteaching,ensuringequitable opportunities for all learners regardless of their proficiency level, learning style, orculturalbackground.Teachersemploydifferentiatedinstructionstrategiestotailorlearningexperiencestoindividualneeds,promotingequity,accessibility,andempowermentintheclassroom. Lastly, globalization has influenced english language teaching by emphasizing theimportanceofpreparinglearnersforglobalcitizenship.English,asthegloballinguafranca,necessitatesthedevelopmentoflearners'interculturalcompetenceandglobalawareness.Educators focus on equipping students with the skills to navigate diverse cultural contexts andengageincross-culturalcommunicationeffectively.Insummary,thesetrendssignifytheevolvinglandscape of english language teaching in India, marked by innovation, inclusivity, and globalrelevance. By embracing these trends, educators can better prepare learners for success in aninterconnectedanddiverseworld,equippedwiththenecessarylinguistic,cultural,andcommunicativecompetencies.

**PracticesandMethodsinIndianEnglishLanguageTeaching:**PracticesandmethodsinIndianEnglish Language Teaching encompass a dynamic interplay between traditional approaches andmodernmethodologies.Traditionally,EnglishlanguageeducationinIndiaoftenfollowedconventionalmethodslikerotelearning,wherestudentsmemorizevocabularyandgrammarruleswithoutnecessarilyunderstandingtheirpracticalapplication. Additionally,theemphasisongrammar translation meant that language learning primarily occurred through translating textsfromEnglishtothenativelanguageandviceversa.Thesemethodstendedtoprioritizecorrectnessin language usage over the development of communicative competence and fluency. However,contemporary English Language Teaching in India increasingly embraces modern methodologiesthat prioritize meaningful communication and authentic language use. Communicative languageteaching(CLT),forinstance,focusesondevelopinglearnersabilitytocommunicateeffectively inreal-life situations. This approach encourages interaction among learners and with authenticlanguagematerials, fostering fluency andconfidencein languageuse.

Task-based learning (TBL) and project-based learning (PBL) represent two prominentexamples of student-centered approaches in English Language Teaching. TBL involves learnerscompleting tasks that mirror real-world communication scenarios, such as making a restaurantreservation or participating in a group discussion. These tasks require learners to use English inpracticalsituations,promotinglanguageacquisitionthroughcontext-richexperiences.PBL,ontheotherhand,engageslearnersincollaborativeprojectsorinquiriesthatallowthemtoexploretopicsof interest while applying language skills in authentic contexts. Both TBL and PBL not onlyenhancelanguageproficiencybutalsofostercriticalthinking,problem-solving,andcollaborationskills.



Published by :Sai College, Bhilai

The evolution from teacher-centered to student-centered approaches reflects a broaderpedagogical shift towards learner empowerment and autonomy. In traditional teacher-centeredclassrooms, the teacher typically assumes the role of the primary authority, directing instructionand content delivery. However, student-centered approaches empower learners to take an activeroleintheirownlearningprocess.Teachersinstudent-centeredclassroomsserveasfacilitatorsorguides, creating opportunities for interactive tasks, peer collaboration, and independent inquiry.Thisshiftpromotesdeeperengagement,criticalthinking,andmeaningfullearningexperiencesforlearners.IntegrationofauthenticmaterialsfurtherenrichestheEnglishlanguagelearningexperiencebyexposinglearnerstogenuinelanguageuseandculturalcontexts. Authenticmaterials, such as newspapers, films, podcasts, and social media content, provide learners withopportunities to engage with language in its natural context, thereby enhancing their languageproficiencyand culturalawareness.

AssessmentpracticesinIndianEnglishLanguageTeachingencompassarangeofformative and summative measures designed to evaluate learners' language proficiency, progress,and achievement. While traditional assessment methods like tests and exams provide valuableinsights into learners' language skills and knowledge, alternative approaches such as portfolios,projects, presentations, and performance-based assessments offer more authentic ways to assesslanguageuseincontext. Additionally,ongoingassessmentpractices,self-assessment,peerassessment, and assessment for learning play significant roles in promoting learner engagement,motivation, and reflection on their language learning journey. Overall, the dynamic interplaybetween traditional approaches and modern methodologies in Indian English Language Teachingreflects a broader commitment to fostering linguistic proficiency, cultural awareness, and criticalthinkingskillsamonglearners,therebypreparingthemforsuccessinanincreasinglyinterconnectedand diverseworld.

**Challenges and Opportunities in Indian English language teaching:** In the realm of IndianEnglish Language Teaching, a multitude of challenges and opportunities emerge, reflecting theintricatelandscapeshapedbylinguisticdiversity,socioeconomicdisparities,professionaldevelopment needs, policy implications, and avenues for innovation and collaboration. India'slinguisticmosaicpresentsanuancedchallengeforEnglishlanguageeducators.Withaplethoraoflanguages spoken nationwide, learners possess diverse linguistic backgrounds characterized byunique structures and cultural nuances. This linguistic diversity extends to variations in Englishproficiency,influencedbyhistorical,cultural,andsocioeconomicfactors.Navigatingthisdiversityrequireseducatorstoacknowledgeandintegratelearners'firstlanguagesintoinstruction,fosteringan inclusive environment that celebrates linguistic plurality. Furthermore, educators can leverageregionalvariationsinEnglishusageasopportunitiestopromotelanguageawarenessandappreciationamong learners.

Socioeconomic factors exert influence on access to quality English education. Learners fromeconomically disadvantaged backgrounds oftenencounter barriers suchas limited access



Published by :Sai College, Bhilai

toqualified teachers, educational materials, and technology infrastructure essential for effectivelanguage learning. Additionally, learners from marginalized communities face additional hurdles,includinglimitedaccesstoformaleducation,linguisticbarriers,andsocialstigmaassociatedwithEnglishproficiency.Addressingthesedisparitiesnecessitatescomprehensivestrategiesencompassingcommunityengagement,infrastructuredevelopment,andpolicyinterventionsaimedat promotingequitableaccesstoquality Englisheducationfor alllearners.

Professional development emerges as a critical component in enhancing the effectivenessofEnglishlanguageteachers.Continuouslearningandskilldevelopmentareessentialforeducators to stay abreast of current pedagogical trends, research findings, and technologicaladvancements in Indian English Language Teaching. However, access to quality professionaldevelopment opportunities may be limited, particularly for teachers in remote areas or those inunder-resourcedschools.Tobridgethisgap,comprehensiveandaccessibleprofessionaldevelopment programs covering a wide range of topics are needed to empower teachers and meetthediverseneeds of learnerseffectively.

GovernmentpoliciesandinitiativesplayapivotalroleinshapingthelandscapeofEnglishlanguage teaching in India. Decisions regarding language education, curriculum development,teachertraining,andresourceallocationprofoundlyimpactthequalityandaccessibilityof Englisheducation.However,policyformulationandimplementationencounterchallengessuchascompeting linguistic ideologies, resource constraints, and varying educational priorities acrossdifferent regions. Stakeholder engagement is essential to address these challenges, involvingpolicymakers,educators,researchers,andcommunitymembersinthepolicymakingprocess.

Governmentinitiativesshouldprioritizeinvestmentsinteachertraining,infrastructuredevelopment, and curriculum reform to enhance the quality and equity of English educationnationwide.

Despitethechallenges,numerousopportunitiesforinnovationandcollaborationaboundinIndianEnglishLanguageTeaching.Technologicaladvancementsoffernewavenuesfordeliveringinstruction,engaginglearners,andaccessingeducationalresources.Collaborativeinitiativesbetween educational institutions, government agencies, non-profit organizations, and industrypartnerscanfacilitateknowledgesharing,resourcemobilization,andcapacitybuildinginEnglishlanguage education. Furthermore, research and innovation in teaching methodologies, curriculumdesign, and assessment practices can lead to the development of more effective and inclusiveapproaches to English language teaching. Embracing these opportunities for innovation andcollaboration holds the potential to address challenges and improve the quality and accessibilityofEnglisheducation inIndia, empoweringlearnersto thriveina globalized world.

**Best Practices and Effective Strategies:** Innovative teaching strategies employed by educatorsinspire fresh approaches to English language learning. Digital storytelling emerges as a tool toengagelearnerscreatively,whileinnovativeassessmentpracticeslikepeerassessmentorportfolio-based evaluation offer alternative methods for gauging language proficiency. Effective use ofresources and materials is paramount in creating engaging english language teaching classrooms.Case studies demonstrate educators leveraging diverse resources such as newspapers,



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

podcasts,and technology tools to support language acquisition and cultural understanding. By integratingauthentic materials into lessons, educators expose learners to real-world language use and enrichtheirunderstandingofculturalcontexts.Thesepracticalexamplesprovideinsightsintomaximizingresource effectivenesstoenhancethe languagelearning experience.

Communityengagementandextracurricularactivitiesplayapivotalroleincomplementingformal English language instruction. Case studies showcase initiatives collaborating with localcommunitiesorbusinessestoprovidelearnerswithreal-worldlanguageuseopportunities.Programs such as language exchange initiatives or community service projects immerse learnersin authentic language contexts, while extracurricular activities like drama or debate clubs buildconfidenceandcommunicationskills.Theseexampleshighlightthevalueofholisticapproachesto Englishlanguageeducation,emphasizingtheimportanceoflearningbeyondtheconfinesoftheclassroom.

**Future Directions:** In conclusion, the future directions and recommendations for Indian Englishlanguage teaching encompass a multifaceted approach aimed at addressing emerging trends,enhancing teacher training programs, shaping policy decisions, and identifying areas for furtherresearch. Anticipating potential shifts in teaching practices, educators are urged to stay abreast ofemergingtrendsinfluencedbytechnologicaladvancements,learnerneeds,andeducationalcontexts. This includes exploring changes in methodologies, approaches, and technologies tobetter prepare for future challenges and opportunities in English language education. Enhancingteacher training programs is paramount for equipping educators with the necessary skills andresources.Recommendationsincludeincorporatingpracticalexperiences,providingongoingprofessional development opportunities, and fostering collaboration among educators to improveeffectivenessand positively impactstudent learning outcomes.

Policyrecommendationsemphasizetheimportanceofinvestingininfrastructure,promoting bilingual education models, and supporting initiatives to enhance teacher training andprofessionaldevelopment.Collaborativeeffortsbetweengovernmentagencies,educationalinstitutions, and community stakeholders are essential to improve English language educationoutcomes and promote linguistic diversity and inclusivity in India. Furthermore, areas for furtherresearch are identified to deepen our understanding of effective teaching methodologies, theimpact of technology integration on learning outcomes, the role of cultural competence, and therelationshipbetweenlanguagepolicyandattitudes.Conductingresearchintheseareaswillprovidevaluableinsightsandcontributetoongoingimprovementsin Englishlanguageeducationpracticesin India and beyond. Overall, these recommendations aim to drive positive change and ensure thecontinuedadvancement of Englishlanguageteaching in India.

**Conclusion:** Dynamic nature of language teaching requires educators to continuously assess andadjusttheir approachesto remain effective in addressing the diverse needs of learners andeducationalcontexts.Additionally,collaborationandcollectiveresponsibilityamongstakeholdersin English language education are highlighted as crucial for driving positive change.



**Published by :Sai College, Bhilai**

Advocatingforsupportivepolicies, investingin professional development,fosteringcommunity engagement,andembracinginnovativeteachingmethodologiesareidentifiedasessentialstepstowards achieving excellence in English language education in India. Through such concerted efforts,tangible actions can be taken to benefit learners across diverse contexts, ensuring their success intheevolving landscapeof englishlanguageteaching.

**References:**


- George,A.(2016).EnglishLanguageTeachinginIndia:AnOverview.*The Creative Launcher*,*1*(1),142-148.
- Hasnain, S., & Halder, S. (2021). Trend Analysis of Task-Based Language Teaching Approach on SecondLanguage Learners for Improving English Language Proficiency: A Review. *International Journal ofEducationand ManagementStudies*,*11*(3),158-175.
- Hornberger,N.,&Vaish,V.(2009).Multilinguallanguagepolicyandschoollinguisticpractice:globalization and English-language teaching in India, Singapore and South Africa. *Compare*, *39*(3), 305-320.
- Meganathan,R.(2019).ResearchinEnglishlanguageeducationinIndia. *IndianEducationalReview*,*57*(2), 7-72.
- Pradhan,A.K.(2013).Englishfor Specific Purposes--Research Trends, Issues andControversies. *LanguageinIndia*, *13*(9).
- Rao,C.V.(2019).Globalization:EmergingTrendsinEnglishLanguageandLiterature.*TheIndianJournalof English Studies*, 1.
- Sinha, K. K. (2022). Role of modern technology in teaching and learning the English language in Indianeducationalinstitutions.*IndonesianJournal ofEnglishLanguageStudies (IJELS)*,*8*(2),71-82.
- Yadav, M. S., & Yadav, M. K. (2023). Implicit Impact of English Language Pedagogical EnhancementPoliciesinHigherEducationUndertheIndianNEP2020:Challenges,Curriculum,Approaches,Opportunities,andImplementations.*AmericanJournalof EducationandTechnology*,*1*(4),1-12.

# CHAPTER- 16

# Negative impact of distance education of professional course Library and Information Science

**Dr. Tanuj Kumar Jain**
Librarian, FOSTIIMA BUSINESS SCHOOL,Plot HAF-1 Dwarka Sector-9,New Delhi -110077
tanuj.jain@fostiima.org,tanujjain1978@gmail.com

## Abstract

In this paper, an attempt is made to know how much impact distance education has had on the course of Library Science. Many problems arising from it have been written through a critical study. Through this paper, some mind or mentality has also been shown. However, I have highlighted the situations prevailing today and presented a critical study of how distance education is being made a business today.

**Keywords**:-Distance education, library science, and professional

**Introduction:**

Distance education: Even though people consider it good that many people who are deprived of education then pursue their studies through distance education method, but it is also having adverse effects on the people and unemployment is increasing among the people. Distance education As much as it is good, there are many bad ones too. In today's time, where there is a positive attitude towards education, its continuation is bad. Children are deprived of education, no matter what the reason may be, the condition of the house is bad or there is some disease. It may have been due to death or any other reason and the studies have remained incomplete and the person is not going to college to further his education.Although distance education cannot be considered a good source because in this the student does not have to go to any school, college or university, he can comfortably continue his studies at home, but this method is not meaningful to get the degree comfortably. Cannot be considered meaningful.Due to distance education, many students have to face physical and mental problems, they also have to lose the experience of being with classmates, they have to study only from books and give papers due to which they have to face many problems in future.Whenever any art or study is learned, it is always affected by many factors, but if anything is affected the most, it is the teacher and the students. If we talk about old times, then when Mahabharata took place, Pandavas and Kauravas also used to go to Gurukul to get their education, where they were taught the scriptures and weapons to maintain good conduct, then the thing to think about is that Why was this system not implemented at that time that why did the student have to go to the teacher? No matter what happens, the student had to stay there and complete his education.Although Eklavya was an example who had shown his ability by taking education even without a Guru, he too could not become a complete archer like Arjun, maybe it was because he had cut his thumb but physical disability is not a reason for this.

 ISBN : 978-81-957386-4-9


**Review of Literature:**

In this literature review, the research study has been done on the negative impact of distance education which is a special field Library and Information Science. Specifically, universities that offer such courses through distance and correspondence have been selected. Search for relevant research studies is mainly done with the help of websites and some selected documents like journals written in In addition, the following online magazines and organizational Websites reviewed for online research articles: including some news blogs.

The author has reviewed research that was not currently available for more than 2 or 3 years. The keywords used to search these databases and websites were: faculty, distance education, distance education, library science. Apart from this, information about universities which offer library science courses through distance and correspondence was also obtained from some websites.

**Meaning of Distance Education:**

Distance learning courses are simply a means by which they are delivered remotely, meaning students complete some or all of their coursework without physically attending a classroom. Distance education courses are completed in many ways, which are discussed below.

Online courses are offered alongside traditional courses at colleges and universities, allowing students to complete coursework entirely from home. To complete these courses, you will need a computer and an Internet connection (at minimum).

Hybrid courses are a means by which distance education is delivered alongside traditional classroom-based delivery methods. Although one does not always need to attend these courses, students are required to attend certain classes.

Live conferencing is an important source of distance learning in which students participate in their classes via an audio or video classroom setting via a telephone, a learning management system, or a group chat program (such as Skype).

In correspondence course, students receive their educational materials through post or mail and any assignments are allowed to be submitted by mail.

These distance learning options are a necessity in those situations and they are a useful alternative to traditional courses for students with disabilities.

**Library Science:**

Information is an important source for individuals, organizations and society in their daily work. The world has become such a form where information technology and information explosion have become our necessity.Therefore, there is a need for information professionals to acquire skills for libraries and other information centers.Keeping this need in view, the course of Bachelor of Library and Information Science (BLIS) has been started in our country. In recent times there have been considerable advances in the techniques of library services, which have made libraries better planned, organized, equipped and administered, book-stocks more effective and better organized in the society and in providing the readers with their needs. Are contributing better in getting it done. Library is a very important need of modern education and research. The situation has become such that society is unable to survive without a library. For all this, there is a need for a detailed plan as well as a better training in each area and also in librarianship. To meet all these demands, there is a need for systematic training for the personnel in modern libraries. Various types of courses are available in colleges and universities.

1. To provide training to students in the philosophy, basic principles, fundamental laws, professional ethics of librarianship.

2. To train students to understand and perform the management of libraries and information centers.

3. To adapt students to the functions and purposes of libraries and information centers in the changing social, cultural, technological and economic environment.

4. To provide training in computer and its applications in library and information activities.

5. To make students understand the need of informatics

6. To enable students to acquire skills of information, knowledge processing, organization and retrieval.

7. Students are prepared in such a way that they can succeed in self-employment in the information sector.

8. Students can be successful in facing the information challenges of the coming years.

**Distance education role of UGC:**

Distance Education Bureau (DEB) started in India in 2012 as Distance Education Council (DEC). Distance Education Council (DEC) was established in 1985 as a responsible department which is the main source of distance education and open education. Distance Education Bureau (DEB) in India is a department responsible for regulating distance education in our country. The main concentration of the office is located in Delhi.

Work of Distance education Bureau

1. An option for education that will be beneficial for students

2. Providing affordable and practical education to students

3. To provide educational environment to all interested students

4. To transmit educational activities to those who are willing to upgrade their knowledge

5. Educating those who want to give learning a lifetime of promise

Distance Education Bureau (DEB) Instructions

Maintain awareness that each university does not violate rules and standards

Maintaining the foundation of education in these programs

To expand the impact of distance education in our country

**Some University provide distance education Library Science courses:**

Some major universities offer B.LibIsc degree M LibIsc at distance level.Which cannot be considered right because in this way the value of a professional degree is falling day by day.

1. IGNOU (Indira Gandhi national open university),Delhi:-This course here is of 1 year duration. This is an international university where many students are enrolled and the fees are also very low. This university is also famous for conducting distance courses and plays a major role in the open universities of India.

2. Vardhman Mahavir Open University, Kota:The maximum limit to complete the course is 24 months. VMOU also offers BLIS and MLIS degree through its 8 study centers located in Ajmer, Bikaner, Jaipur, Jodhpur, Kota, Udaipur and Bharatpur. The total annual fee of VMOU BLIS is Rs 9000.

3. JiwajiUniversity,Gwalior:-BLibIsc and MLibIsc courses are also run through distance education of Jiwaji University, Gwalior. Many students take degree in Library Science from here because to avoid doing regular course, they take degree through distance education. The fees here are almost the same. It is Rs 10000 which is not much for a professional course.

4. Dr.Harisingh Gaur University,Sagar (M.P.);-This course is also run by the Distance Education Department of Sagar University, Dr.Harisingh Gaur University. Many professionals are prepared by this department in which many students take admission and the fees are also not much.

5. AnnamalaiUniversity,Annamalinagar:-The name of Annamalai University also comes mainly in providing distance education of the country. This university is in Tamil Nadu. Due to the name of this university, it was also named Annamalainagar. Its study centers are also built at various places which help in giving admission. Play a major role.

6. Alagappa University:-Alagappa University is also established in Tamil Nadu. It also provides degree in distance education. It also provides degree in Library Science. Its fees also do not cost anything. It also has study centers present in every state which helps in getting admission. Although it is known as a good university.

7. MPBhoj Open University,Bhopal:-MP Bhoj open university Bhopal also provides courses in library science in distance. Its fee is also around Rs. 9000. Admission is easily available in this also. This university is also mainly known for distance education.

8. Punjab University, Patiala: -Punjab University is in Patiala, it also has a department of distance education which conducts courses in Library Science. Apart from Punjab, admission is also taken in this university.

9. Kurukshetra University:Kurukshetra University is also in Haryana which runs Library Science course through its Distance Education Department. There are a large number of people taking admission in it. The fees of this university are also not very high; hence many people from outside states come here to do this course Students also meet.



Published by :Sai College, Bhilai

10. MaharishiDayanand University (Rohtak):-MDU University is also located in Rohtak,This university also offers courses at nominal fees. Haryana which offers Library Science course through its Distance Education Department.

11. University Of Kerala:-They also have a department of distance education which runs courses in library science.This university is in Thiruvathururam, the capital of Kerala. This university has received a lot of praise for attracting students from the South.

In this way, there are many other universities which conduct Library Science professional courses, among them there are many private universities also.

**Negative Effect of Library Science Students in Distance Education:-**

**1. Lack of time**

The biggest thing is that by doing correspondence course, one does not get time to understand it like in a traditional class. Students are not able to understand any chapter completely due to which the knowledge of that subject remains incomplete, hence they are able to get as much as they could from traditional classes. Correspondence is not available through the course because the time required to complete the course is not available.

**2. Lack of communication**

When you take traditional classes, you are asked a lot by the teacher and you also ask many questions to the teacher in the classes. In this way, communication is maintained from both the sides. In this way, you or the teacher does not have to worry about any chapter or lesson. There is no need to face any trouble in taking classes. Communication is possible only in traditional classes. It is not possible to teach in this way in correspondence courses.

**3. Feedback**

Feedback plays an effective role in any study. Due to continuous feedback, there is pressure on the teacher to fulfill his responsibility 100%. Feedback is taken continuously by the senior officer, but if there is course correspondence in regular course, then this kind of No process is followed, all focus is on doing regular course only, correspondence is done in a way, and exam is given in a private manner on which no feedback is applicable.

**4. Not meeting expectations**

Clear expectations for students are an important approach. Otherwise, they can only guess whether they are doing tasks and projects correctly. While it is very important for any class to know that the students are doing their assignments and projects correctly, in correspondence or distance courses this facility is at absolutely zero level.

**5. Technical Problem**

Technical issues create many problems in this because these problems always arise in correspondence or distance courses because in regular courses, care is taken to ensure that students are not facing any problem related to internet or computer. It is resolved but this cannot be done at all in correspondence course. If we talk about Library and Information Science, then this is also a technical course in which more than half of the courses are based on information technology. In this, practical training is very important but correspondence this has nothing to do with the course.

**6. Lack of social interaction**

When all the students are together when they go to a regular class, the process of connecting with each other continues continuously, but this is not possible in correspondence and distance courses, that are why when students study from distance, they are not able to connect with each other intellectually. He is not able to connect and becomes a victim of isolation. He does not have the habit of staying connected with each other and many times he has the illusion of feeling that whatever he is doing is doing everything right because there is someone to guide him.

**7. New learning styles**

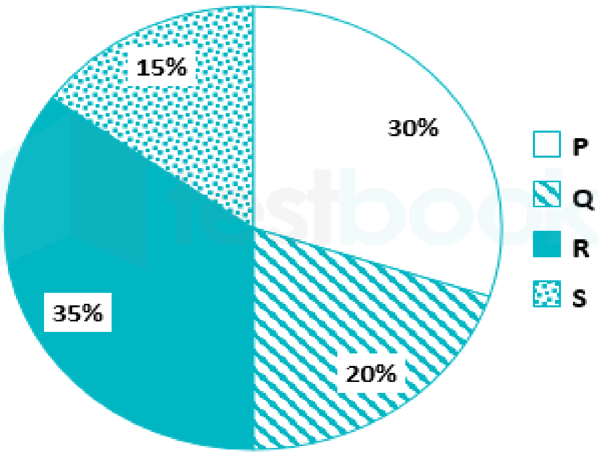
Distance education does not play any important role in studying in new ways. Now it is very important to know the course of Library and Information Science in which digital concepts are considered important in today's world, hence when going to regular classes, they study there through digital methods. Teaching is done and new styles are adopted, but the students studying through correspondence remain ignorant of these new styles. They have the habit of studying in their old way whereas today the times have changed a lot.

**8.Home environment**

In correspondence course, the student is studying at home, whereas in regular class, it is completely different from this. There is no home environment nor is it comfortable. The student also learns to struggle with studies, while studying comfortably at home is good. Keep studying while watching television and eating food which is very comfortable whereas a regular student has to face many problems and becomes strong whereas it is not possible for a distance education student to have this quality.

**Problem of employment on regular course through distance education:**

If we talk about this problem, then it is a very big problem because the students studying through this type of education have greatly affected those doing regular courses. Professional courses like Library and Information Science are also being affected a lot by this because so many Universities are giving degrees on this subject, which students can easily do from distance and also get employment in the market, due to which the people doing regular courses are being adversely affected.






Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

This Chart is mentioned students distance education related.

P: - Means poor students admitted in distance education library science course.

Q- Mean's students admitted in Library science distance education time consuming problem

R-Means admitted students who are working professionals.

S- Means admitted Students no above any criteria

Now it is visible in this chart that distance learners have captured the market because the biggest reason for this is that these people work even at low salaries, which completely impacts the market. Now even a professional course like Library Science has not remained untouched by this and many trained people are also sitting at home or looking for a good job or have started exploring their career in some other field.

**Suggestion:**

If we talk about suggestions, then distance education should be done only for those students who are suffering from some kind of disease or their circumstances are going through financial crisis, otherwise this course Library and Information Science should be banned because it is a professional. There are some things in which it is very important to have practical training. Only earning money is not good from the point of view of education and today even private universities are running distance courses on a very large level, which is affecting the course of Library and Information Science completely. It would be appropriate to do a regular course from this, if we want to give importance to employment in this field then only this is possible.

**Conclusion:**

In this paper, an attempt has been made to know that the people studying through distance education have badly affected the field of Library and Information Science. When the university will fill the admission in this way, then it will definitely affect the market. The entire burden will fall on those who go only regularly and get the degree, hence from what angle should this course be called a professional course, if it is a professional course then UGC should curb it.As a result of the research conducted, it was found that distance education has many disadvantages. If we look at it, the disadvantages of distance education are that it is not possible for the participants in the educational process to meet each other socially.

**Bibliography:**

1. Somani, Gaurav(2021), Distance Education Bureau: A complete Guide
2. National University,Challenges of Distance Learning for Students,2021,Blog
3. V. Abdrakhmanova, V.A.(2019),Balueva, I.V. Lushchik, Physical education and sports training, 4(30), 119-125



**Published by :Sai College, Bhilai**

# CHAPTER- 17

# MUSIC IN VEDIC PERIOD WITH SPECIAL REFERENCE TO SAMA VEDA

**Dr. DevRaj Sharma**
Associate Professor, Govt. College Sangrah. H.P.
devrajnahan@gmail.com

## Abstract

The Vedic age is considered between 1500-600 BC. The Vedic Age of ancient India is said to be the golden age of Indian Civilization. The Vedic age started with the arrival of the Aryans in India. There were four Vedas: Rig Veda, Atharva Veda , Sama Veda and Yajur Veda . All Hindu rituals and sanskars were performed according to these Vedas. Among these four Vedas Saam Veda was considered as the origin of Indian Music. The development of music notes originated in the Vedic period . Initially there were three Vedic notes used in Vedic music – Udatta, Anudatta and Swarit and later they developed into seven Vedic notes which finally gave way to laukik or Gandharva Notes. The scientific analysis of the early music came to existence with the origin of Rig Veda. The rise and fall of notes were known as Udatta , Anudatta , whereas Swarit was known as middle notes. In Sama Veda ,the order of notes is descending , Madhayam, Gandhar , Rishabh and Shadaj used in today's Bageshri Raga are Udatta, Anudatta and Swarit respectively. Their Sama Veda related names are Prathama, dvitiya, Tritiya and Chaturtha. Music Instruments were also used during prayers and Richa Gaan. Some of musical instruments were named as Dundubhi, Veen , Venu ,Karkari ,Aaghat etc. Roots of current Hindustani music are found in Vedas. Rig Veda is the collection of Richas, the knowledge of singing these Richas is found in Saam Veda. Richas sung for the Yagyas were written in Yajur Veda. Atharva Veda was mostly about community living. The music used for Vedic was bound by strict rules whereas Laulik music was used according to the interest of the people . Sama means music which developed as a separate Veda in Sama Veda. The knowledge of singing in Rig Veda became the root of Hindustani Sangeet. Sama means singing swara. Sama is sung on the basis of Richas, when the Rig Vedic mantras are sung melodiously ,they are called Sama. Singing of Richa along with Alap is Sama. Thus singing of Vedic Mantras with melody and rhythm is called Sama Gana. Sama Gana was based on three Richas (Mantras) . They used either 5, 6 or 7 notes , some musicians believed that this is the origin of Odhav , Shadav and Sampurna . Initially there were three swaras used in Sama Gana- Udatta ,Anudatta and Swarit. The use of these three swaras gave a way to three fold structure of Sama Gana - Archik Gana, Gathik Gana and Samik Gana. One note was used in Archik , two notes in Gathik and three notes were used in constituted Samik. According to Nardiya Shiksha the swara in Sama Veda was in descending order (Arohi). The first note was called Krishta, it was Madhyam note based. Ma, Ga, Re , Sa, Dha , Ni ,Pa. Re and Dha in Nardiya Shiksha are sudh notes whereas Ga and Ni are flat notes. Saam was divided into five units: Prastav, Udgeeth, Pratihaar, Updrav and Nidhan.

**Keywords**: Veda, Saam, Richa ,Udatta,Anudatta, swarit.

**Introduction**:

The Vedic era is considered to have begun with the arrival of the Aryans in India. Vedic period is the most ancient period of the history of Indian culture that provides information about the structure of ancient culture of India. According to historians Vedic period is considered around

1500-600 BC. There were four Vedas: Rig Veda, Atharva Veda, Saam Veda and Yajur Veda .All Hindu rituals and sanskarswere performed according to these Vedas. The origin of the text is Rigveda , the origin of song is Sama Veda ,the origin of acting is Yajur Veda, and the origin of rasas is Atharva Veda. Among these four Vedas Sama Veda was considered as the origin of Indian Music. During Vedic period music was the medium of prayer in religious ceremonies as well as the source of social entertainment. "The Hindus on the other hand,used smaller scale parts than ours, having third and quarter tones. The legends tell us that when the God Krishna came to earth he was met by no less than sixteen thousand nymphs, each of whom sang to him in a mode different from that of the other. It they all sang at once ,the hearer would certainly have need more than human patience ,but the account does not deal with numerous modes or Raagnis ,that were found in the native Indian music.''[1]

The development of music notes originated in the Vedic period. Initially there were three Vedic notes used in Vedic music – Udatta, Anudatta and Swarit and later the developed into seven Vedic notes which finally gave way to laukik or Gandharva Notes. According to Acharya Abhinav,due to highness ,Chaushrutiswara is uddata, due to lowness ,dvishruti is Anudatta and due to middle, trishrutiswara is Swarit. The scientific analysis of the early music came to existence with the origin of Rig Veda. The Vedic scholars mesmerized in reciting the spiritual hymns of the Veda in the form of rise and fall of the tonality in a systematic and disciplined way. The rise and fall of notes were known as Udatta , Anudatta , whereas Swarit was known as middle notes . In Sama Veda,the order of notes is descending ,Madhayam, Gandhar , Rishabh and Shadaj used in today's Bageshri Raga are Udatta, Anudatta and Swarit respectively. Their Samveda related names are Prathama, dvitiya, Tritiya and Chaturtha. The Vedic music was quite well developed and it is the earliest example of the relationship between music and religion in India, The Vedic were musically recited according to certain fixed notes and set rules. Music was mainly for two purposes:- to propitiate deities and to accompany sacrificial offerings.The chanting Nada "Om" was considered as the basic note of the music . Musicians were given due regard and respect in the society. "Four types of instruments have been mentioned during Vedic period-(1) stringed instruments (2) wind Instruments (3) leather Instruments (4) metallic instruments. These four types of instruments were later called Tata, Sushir, avanadya and Ghana instruments."[2]

Music Instruments were also used during prayers and Richa Gaan. Some of musical instruments were named as Dundubhi, Veen , Venu ,Karkari ,Aaghat etc. Roots of current Hindustani music are found in Vedas. Rig Veda is the collection of Richas, the knowledge of singing these Richas is found in Saam Veda. Richas sung for the Yagyas were written in Yajurveda. AtharvaVeda was mostly about community living. The music used for Vedic was bound by strict rules whereas Laulik music was used according to the interest of the people . For Yajnas (Vedic) and religious ceremonies, Brahmins were given specific training in music. In this period dance was performed in an open area before a gathering in which both men and women participated.

**Music in Sama Veda:-**

Sama means music which developed as a separate Veda in Sama Veda. The knowledge of singing in Rig Veda became the root of Hindustani Sangeet. Sama is the essence of Vedas . Sama means singing swara. It always began with "OM" making the swara the music a way of playing to God. As Lord Krishna has said in the Geeta- Vedanam s Samavedo'smi. Means Sama Veda is supreme among all Vedas. Sama is sung on the basis of Richas, when the Rig Vedic mantras are sung melodiously,they are called Sama. According to ChandodyaUpnishad- Sama has been derived from "Sa+ amah" "Sa" denotes Richa and 'Amah' denotes Alap. Singing of Richa along with Alap is Sama. Thus singing of Vedic Mantras with melody and rhythm is called Sama Gana. Sama Gana was based on three Richas (Mantras) . They used either 5, 6 or 7 notes , some musicians believed that this is the origin of Odhav , Shadav and Sampurna . The four parts of Geet/ Gana have been described: Swara, Pada, Taal and Maarg. In each Ygya there were main singer (Purohit), and supporting singers (Upgaan Purohit) . The main Purohit and supporters were called Prastota, Pratihara and Subramanyam . These supporters were guided by Gaatra Veena symbles. Gaatra Veena is symbolic representation on a palm of right hand. The thumb is used to point and indicate a note to be sung at Saam Gaan. Saam Veda has two parts –Archik Sanhita and Gana Sanhita . Archik Sanhita again has two parts - Purvarchik and Uttrarchik . In Purvarchik Sama Gana is done solo using single Richa , whereas Uttrarchik ,it is done using groups of Richas or Mantras which was prominent in Purvarchik and Uttrarchik. With the passage of time an increase in religious rituals saw a simultaneous rise in prominence of melody and the second part of Sama Veda , Gana Sanhita came into existence . The Archik consisted of the literary aspect of saam. "Three four ,Five ,Six or seven notes are used in Sama singing. There is no Sama Gana with less than three notes. Most of the Sama Ganas involve the use of five or six notes. According to some people two sama under Kothum branch has seven notes. [3]

**Swara and structure of Sama Gana**: As we have already mentioned that initially there were three swaras used in Saam Gaan- Udatta ,Anudatta and Swarit. The use of these three swaras gave a way to three fold structure of Saam Gaan- Archik Gaan, Gathik Gaan and Samik Gaan. One note was used in Archik , two notes in Gathik and three notes were used in constituted Samik. According to Nardiya Shiksha the swara in Sama Veda was in descending order (Arohi). The first note was called Krishta, it was Madhyam note based. Ma, Ga, Re , Sa, Dha , Ni ,Pa. Re and Dha in Nardiya Shiksha are sudh notes whereas Ga and Ni are flat notes. Relation between Vedic Swaras and Laukik Swaras can be understood from the table mentioned below:-

| Sr. No. | Saam Swara | Laukik Swara |
|---|---|---|
| 1 | Krushta | Ma |
| 2 | Prathma | Ga |
| 3 | Dvitiya | Re |
| 4 | Tritiya | Sa |
| 5 | ChatushthaDha | |
| 6 | Mandra | Ni |
| 7 | Atiswara | Pa |

Sama was divided into five units:-



Published by :Sai College, Bhilai

1. Prastav:- This was the beginning part of Saam. It was sung by Prastota. It was a type of Hinkar.
2. Udgeeth:- It was the main part of the Saam and it was always been with Om. The main part of the Saam was sung by the main singer.
3. Pratihaar:- It was the connecting part which was sung by pratihaar.
4. Updrav:- This was the part of Pratihaar which was again sung by main singer.
5. Nidhan :- This part connected a Sama to the next one through an Om sound.

**Conclusion:-** Vedic period was the most important period as far as development of music is concerned. Both classical and Laulik music were popularized during this period. Musicians were given due honor and respect. Sama Veda was the only Veda of music. When the Mantras of Rig Veda were sung melodiously they were called Sama. Two parts of Sama were called Archik Sanhita and Gaan Sanhita. Three notes were used in the beginning- Udatta , Anudatta and Swarit . Later on these three swaras developed into Seven Vedic Swaras and after these seven Swaras gave a way to Gangharva and LaulikSwaras. Some music instruments had also been used during this period- Dundubhi, Veena, Venu ,Karkari ,Aaghat etc. Thus the Vedic period was a very prosperous and sophisticated that later enrich the both classical and folk music of Indian culture.

**References:**

1. Elson Arthur. The, The Book of Musical knowledge,15
2. The National Institute of Open School, Hindustani Music,42
3. Vasant, Sangeet Visharad ,249

 ISBN : 978-81-957386-4-9

# CHAPTER- 18

# WASTEGENERATIONANDDISPOSAL

**HarrySood**

BAhonsPhilosophy, DepartmentofPhilosophy, Hindu College, University of Delhi

harrysood981@gmail.com

## Introduction:

HelloReaders!Thischapterbringsyouclosetoapprehendthepropermeaningof WasteGeneratio nAndDisposal!

Thedictionarymeaningofwasteisclothwhichhasbeenusedandisnolongerdesiredorwecansayth atbecausethepriceorusefulsectionofthatobjectisfinishedortakenout.Centralairpollutioncontro lboardinIndiadefinedstablewasteassemisolidhomewastesanitarywastecommercialwaistinstit utionalwastecateringandmarketandhomewaste,nolongersolelythisavenuesweepingsiltremov edoraccruedfromthesurfaceeducatehorticulturewasteagricultureanddairywastefarmingwaste scientificwastewiththeexceptionofindustrialwastebiomedicalWasteande-wastebatterywasteradioactivewastegeneratedinthearea.almostthewholelotwedoleavesbehind somevarietyofwastethefabricmayadditionallybediscardedbywayofbeingabandoned.strongw astemanagementisavitalissueinourstunningcountrywhichisaggravatedbyincreaseinpopulatio nandunscientificadministrationofwastepracticesandmind-setofexistinggenerationfortheutilizationofwaste.

## Biodegradableandnonbiodegradablewastes:

### UnderstandingthesetwobasicConcepts

Solidwasteincludeseachbiodegradableandnonbiodegradablefractiontheplacedecompositioninfo rmersuchashumansgreensfruitandsoforthisfacilitatedbywayofoxygenmoisturewaterwhichbreak sthecomplexcompoundsintolessdifficultunitsbiodegradablewayadditionallycanharmthesurroun dingsby helpingbacterialincreaseincreasingoxygendemandreleasingquiteanumbergaseswhicharenotexc ellentforsurroundingsorfacilitatingvectorsofsicknessthatnolongeronlyharmaplanthowevera dditionallysoilstrongwasteusuallyhaveahighproportionofabiodegradablecontentandaerobicdig estionhasbeenusedtoconvertthisbiodegradablewasteintousefulproductusingmultipletechniquew iththehelpof microbialsuchasbioelectrogenesis.

Non biodegradablewaste suchasplastic metalsglass arenotbroken easilyby naturalprocessbut someofthemcanberecycledorreusednumberofresearchandpracticaldemonstrationsisgoingonaac rosstheglobetoutilizenonbiodegradablewasteforsomemeaningfulpurpose.orwecansaythatreusin gofwasteinsuchamannerthatitcanbeusedagainratherthanthrowingit.forexampleaplasticwate



**Published by :Sai College, Bhilai**

 ISBN : 978-81-957386-4-9

rbottleintoday'sgenerationweallbyacommonplasticwaterbottleforaredailyuseafterthewaterisfinishedwegenerallythrowthatwaterbottleintheopensourceofland,beforethrowingthatwaterbottleweneverthinkthathowmuchwoulditharmareourenvironment,ratherthanthrowingthatwater bottlewecanreuseitmanywayslikeplantationofatreeoraplantetc.

Propertiesofwaste:chemicalandphysicaltraits

Torecognizewasteindesirablemanneritisnecessarytobeawareofaboutthebodilyandchemicalpropertiesofwaste,densityisaphysicaltraitofawastewhichreliesupononitsvolume,compositionandpriceofcompaction.moisturecontentofthewastemayadditionallyrangeuptoaround39%dependingupon seasonsbasically monsoonandit isannecessary factoratsome pointofincineration andcomposting.moisturecontentalsohaveaneffectontheproximateanalysisitisobservedthatoneA percentenlargeinmoisturecanalsolimittheelectricalelectricityratingwiththeaidofround10%inawastetopowerplantandonepercentenlargeinfixedcarbonincreasesthesameorroundwiththeaidof7to 8%sizeofwasteparticleanddisciplineabilityisessentialastheformerisrequiredinthecourseofmechanicalseparationandthelatterisrequiredtounderstandtheleachingrate.toapprehendwasteandtosignifyitpercentageofhydrogensulphuroxygennitrogenandcarbondioxideisrequiredwhichisalsoregardedasultimateanalysis.whileconvertingwasteintomanureitisimportantfindoutaboutimperative mineralssuchasnitrogenPhosphorusandpotassiumwecanalsosaythattypicalcompositionofwaste verywithseasonplacelandfinancialsituationthepopulacethelanduseviatheresidentsthechemicalandbodilyhomesofwasteisdeterminedviawhatisthereinthewastesuchasfoodfruitsvegetableclothespaperrubberleather-basedplasticetc.

Waste**Industrialwaste:**

Administrationisseemedafterusuallybymeansofmunicipalitiesinvolvingstrategiessuchascollection storage segregation transportation treatment disposal etc. series perhaps at door step or via somecommonpointthe usageof amassingtrucks orcartsposition ofWaste Binand shadecoding isessentialinsegregationofwastesafetransportationtobothstorageorlandfillisimportant.inmanygrowinginternationallocationssanitarylandfillwebsitesaresurelydumpwebsitestheplacethewastearedumpedexceptsegregationorsorting.unfavourablehaveanimpactontotheenvironment.



Published by :Sai College, Bhilai

IndustrialwasteGeneration

## ClassificationoftheWasteDisposal:

1) **Explosive:**anexplosivesubstanceorwasteisastableliquidsubstanceorwastewhichisinitself capablebychemicalresponseofproducingfuelatsuchatemperatureandpressureandatsuchapacetha tpurposeinjurytotheenvironmentandthesurrounding.

2) **Flammableliquids:**
**Fl**ammabledrinksareliquidsormixturesofbeveragesorbeveragescontainingstableinansweror suspensionforinstanceforpaintswhichprovideofaflam+

3) mablevapourreleaseataexcessivetemperatureandeffecttheenvironmentandthesurrounding .

4) **Oxidizing**: components are waste which whilst and themselves not importantly combustile
mayadditionallyusuallybymeansofyieldingoxygencauseormakecontributionsthecombustionor othersubstancesandimpactthesurroundingofresidingenvironment.

5) **OrganicPeroxides**:organiccomponentsorwastewhichincorporatesthebivalento-ostructurearethermallyunstableelementswhichmayalsobeneathgoexothermicselfacceleratingd ecomposition.

6) **InfectiousSubstance**:suppliesarewastecontainingmicroorganismsortheirtoxinswhichar eacknowledgedorsuspectedtomotiveadisorderinanimalsorhumansandaffectingtheenvironment

7) Acute:componentsonwasteliableeithertomotivedeathorseriousharmortoharmhumanheal thifswallowedorinhaled,oraffectporesandskinwhenincontactacommonexamplecanbetakeno fchemicalwaterclosetoindustriesusedbyusingtheslumpeopleresidingtheirfor theirbasic needs.



Published by :Sai College, Bhilai

Harmfulchemicalsreleasedintheopensourceofwater

WASTEMANAGMENTOFTHEINDUSTRIALWASTE:QUICKTIPS

Theindustrywhichisgeneratingthewasteandtheadministrationmakecertainthefollowingstepsfors urroundingsfriendlywalkingofenterpriseanddisposalofwastesothattheydonotdamagethecurrent naturalresourcesandusetheminsuchamannerthatitnotsolelymeetsthedemandoftheexistingtechno logyhoweveralsomeettheneedsofthefuturegenerationconsequentlymakingitallcollectivelyasust ainablemethodformanagementofindustrialwasteanddifferentwastetowhenwearetalkingaboutthe managementofindustrialwasteitisnotonlytomanagetheindustrialwasteinsustainablemannerbutal sothedifferentwastematerialsneedtobeusedinsustainablemannersothatthepresentandthefuturete chnologycanusetheherbalsourcesfortheirsurvivalrighttherearefewrapidhintsfor management of industrial waste.

***1)*** Reuse:thefabricateachandeveryfeasiblestepoftheprocesstolimittheconsumption.

***2)*** Minimization:Minimizationandsustainableuseofrawmaterialandalsoadoptionoft echnologicalknow-howtominimizethequantityofwasteGeneration.

***3)*** prevention: prevention of the use of material who has the harmful impact on the environment when usedas raw cloth in product shape or at the time of disposal , in addition to develop the alternate currenttechnologytominimizethewastegeneration.

***4)*** Recycling:oneofthemostvitalstepinanyenterprisetherecyclingofthemanufacturinghaveto be motivatedsothattheeraofawasteproducedaslessinthequantityandifbeingreducedandrecycledagai nfortheuse.

byfollowingofthesefewfactorsabovewecanassisttoreducetheindustrialwasteandthiswillassistu salltomaintainatleastacleanandgreenenvironmentfornotonlyhumansurvivalbutadditionall yforthe survivalofanimalslivingneartheindustriesspeciallytheaquaticorganisms.

 ISBN : 978-81-957386-4-9


TREATMENTANDDISPOSALMETHODSOFBIOMEDICALWASTE:

frequentbiomedicalWasteremedyfacilityisafacilitytoprovideenvironmentlyandsociallysafetreatmentanddisposalofabiomedicalwastegeneratedfromanumberofhealthcaredevicestoreduceornullifyit'saspecteffect's.Thedealtwithwastemaysubsequentlybesentfordisposalinalandfillorforrecyclingpurposes.toputuptheeconomicallyviabilityofinstallationofmanorwomantreatmentamenitiesbysmallhealthcaredevicesrequirecomparativelyhighcapitalfundingthereforeinaccordancetothesuggestionsofCBWTFaresetupatquintessentialareasforthedisposalofbiomedicalWasteinsurroundingsfriendly
mannerthiswillhelptokeepenvironmentlittlegreenandclean.

<u>1)</u> *Deep Burail*: it is a manner in which a bit or trench is digged about 2 m Deep stuffed with waste and thenincluded with lime inside 50 cm of the floor earlier than filling the rest of the pit with the soil. there arepoints to be taken care wild deep burial of biomedical Waste take area it should be in ensured that animaldetermineisnownotthereatburialsitealayerof10cmsoilshallbedeliveredtocoverthewasteeveryandeach time there ought to be a supervision near the burial aspect the location of the web page will beapprovedbymeansoftheauthoritydesirabledocumentsshallbemaintainedbytheinstitutionssot



Published by :Sai College, Bhilai

hatthereisnoharmtotheanimalsandthepeopledwellingthere.


**2)** Microwaving:thisscienceisapplicabletocompletelyandpersistentlykillmicroorganisman ddifferentpathogenspresentitisnolongerbeusedforcytotoxichashazardousandradioactivewas tecontaminatedanimalcarcassesbody componentsandgiant metallicitems.

**3)** *Autoclaving*:fordisinfectingandtreatingbiomedicalWasteautoclavingisadoptedinaccor dancetotherequirementsandkindofwastegravityvacuumautoclavescanbeutiliseditisessentiala ndscientificwasteneedtobeexcellenttreatedwiththeparametersexceptthetimetemperaturea ndpressureindicate stipulatedrestrictifforanypurposethesewerenownotreachedthewholeloadofmedicalwastemustbe autoclavedagainuntiltheacceptabletemperaturestressanddwellingtimewereachieved.

**4)** *Incineration*:thetechniqueofdryoxidationwithexpandedtemperatureleadingtoreducti onintheextentofaweightoforganiccombustilewastetoinorganicshapethatcan'tbereusedordis posedinouterlandfieldsTheessentialgainofthistechniqueisthatnoprecureisrequired.

Byfallingthesefewtechniquesweallcansaveourbiomedicalwastegenerationfromsmallhealth careunitsto bigHealth careunits.

## SOLIDWASTEMANAGEMENT:sanimportantconcept.

**Solid**wasteadministrationisseemedafterusuallybymeansofmunicipalitiesinvolvingstrategies suchascollection storage segregation transportation treatment disposal etc. series perhaps at door step or via somecommonpointthe usageof amassingtrucks orcartsposition ofWaste Binand shadecoding isessentialinsegregationofwastesafetransportationtobothstorageorlandfillisimportant.inmanygrowinginternationallocationssanitarylandfillwebsitesaresurelydumpwebsitestheplacethewasteearedumpedexceptsegregationorsorting.

locationoflandfillanditsbodilyandenvironmentalconditionisverynecessarywhich needs to be kept in mind whilst designing alongside with the lifespan of landfel sides. at the storage orswitch station. waste can be managed exact by using enough public focus superb series and recycling systemfollowingrulesandregulationfixingresponsibilitiesamplelookupandgeneratingstatistics.strongwastemanagementrules2016inIndialaysspecifiedpoliciesinrulesinIndiaregardingwastemanagementfromcollectiontodisposal.someofthefrequenttechniquesadoptedinIndiaforwastemanagementarelandfilling recycling of organic wastevermicomposting strength flowers etc.

**Management**ofplasticthreatwillrequiremulti-prongedstepsuchasaenoughmodificationsininsurancepoliciesregulatingsingleuseplasticpenaltiessthrentginhcollectionandrecyclingmachineofawasteproduced.anycountrywidestagepolicyofgovernmentinitiativemustalsobeassessedearlierthanimplementationastheyMaylowerbackfireonceinawhilewithseriousconsequences.stepslikereuserecycle decreasecanbeencouragedextrasothatwastedisposalisaccomplishedinaexactmanner.

# CHAPTER- 19

# Unveiling the Power of Artificial Intelligence Section: Future AI Innovations

**Shishir Shrivastava and Dr. Mamta Singh**

Sai College, Sector-6,Bhilai

**Abstract:** Artificial Intelligence (AI) has emerged as a transformative force reshaping industries and societies worldwide. This paper provides an overview of AI, delving into its foundational principles, algorithms, and techniques. It explores the diverse applications of AI across various industries, showcasing its profound impact on healthcare, finance, education, transportation, and robotics. In healthcare, AI is revolutionizing diagnosis and treatment through advanced data analytics and predictive modeling. In finance, AI-powered systems are revolutionizing decision-making processes, optimizing investments, and managing risks more effectively. In education, AI enables personalized learning experiences tailored to individual student needs, fostering greater engagement and academic success. The transportation sector is witnessing a shift towards autonomous vehicles, driven by AI technologies that enhance safety and efficiency on the roads. Meanwhile, advancements in robotics fueled by AI are opening new frontiers in automation and human-robot collaboration, though ethical considerations remain paramount. This paper also discusses the ethical implications of AI development and deployment, addressing concerns surrounding privacy, bias, and accountability. Lastly, it outlines future directions and emerging trends in AI, highlighting opportunities for innovation and growth in this dynamic field.

**Keywords:** Artificial Intelligence (AI), Ethics, Applications, Healthcare, Finance, Education, Robotics. I.

**INTRODUCTION TO ARTIFICIAL INTELLIGENCE** Artificial Intelligence (AI) stands at the forefront of technological innovation, redefining the possibilities of what machines can accomplish. This section provides an overview of AI, exploring its fundamental concepts, objectives, and applications. AI seeks to imbue computers and systems with the capability to emulate human intelligence, enabling them to perceive, reason, learn, and solve complex problems autonomously. From self-driving cars navigating bustling streets to virtual assistants anticipating our needs, AI permeates various facets of our daily lives, revolutionizing industries and reshaping the future of work and society. Through advanced algorithms, machine learning, and neural networks, AI not only enhances efficiency and productivity but also opens doors to unprecedented insights and discoveries. As the delve deeper into the realm of AI, its potential to tackle global challenges and unlock new frontiers continues to inspire and captivate minds worldwide. Join on embark on a journey into the boundless realm of Artificial Intelligence, where innovation knows no bounds and the quest for intelligence knows no limits.

 ISBN : 978-81-957386-4-9

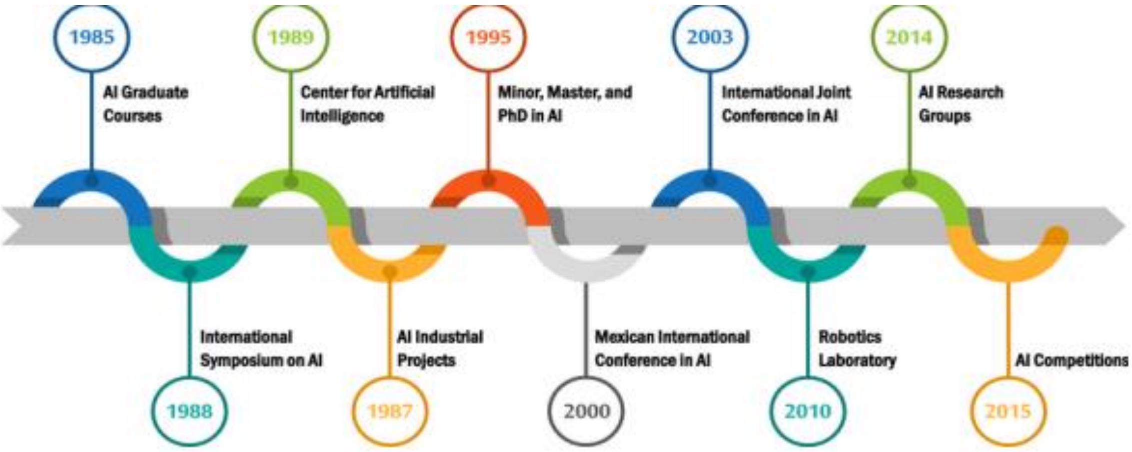



Fig 1: Timeline of AI Milestones

**II. FOUNDATIONS OF AI: ALGORITHMS AND TECHNIQUES** The essential building blocks of Artificial Intelligence (AI), namely the algorithms and techniques that underpin its functionality. AI algorithms serve as the backbone of intelligent systems, enabling machines to process data, learn patterns, and make informed decisions. Various approaches, such as machine learning, deep learning, and symbolic reasoning, form the bedrock of AI development. Machine learning algorithms, including supervised learning, unsupervised learning, and reinforcement learning, enable machines to learn from data and improve their performance over time. Deep learning algorithms, inspired by the structure and function of the human brain, excel at processing vast amounts of data and extracting intricate patterns. Symbolic reasoning techniques, on the other hand, leverage logical rules and representations to perform tasks requiring reasoning and inference. This section provides an overview of these foundational AI techniques, exploring their principles, applications, and limitations. Understanding the core algorithms and techniques of AI is essential for developing intelligent systems that can perceive, interpret, and act in complex environments. By unraveling the foundations of AI, gain insights into its capabilities and potential for driving innovation across various domains.

**III. APPLICATIONS OF AI IN VARIOUS INDUSTRIES** The wide-ranging applications of Artificial Intelligence (AI) across diverse industries, revolutionizing processes and driving innovation. AI is transforming healthcare by enhancing diagnosis and treatment through advanced data analytics, predictive modeling, and personalized medicine. In finance, AI-powered systems are revolutionizing decision-making processes, optimizing investments, detecting fraud, and managing risks more effectively. The education sector benefits from AI through personalized learning experiences tailored to individual student needs, adaptive assessment systems, and virtual teaching assistants. AI is also reshaping transportation with the development of autonomous vehicles, optimizing routes, improving safety, and reducing traffic congestion. Furthermore, in manufacturing and logistics, AI-driven automation and predictive maintenance enhance efficiency and streamline operations. Media and entertainment industries leverage AI for content recommendation, personalized advertising, and content creation. Moreover, AI plays a crucial role in agriculture, aiding in crop monitoring, yield prediction, and precision farming techniques. By showcasing the diverse applications of AI across industries, this section highlights the transformative impact of AI on modern society, paving the way for enhanced efficiency, productivity, and innovation.

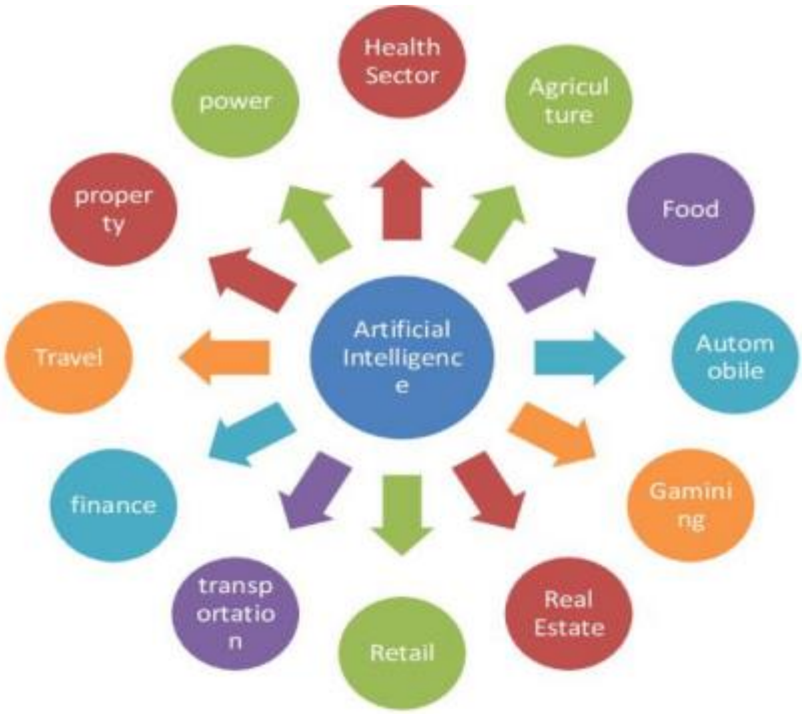



Fig 2: AI Applications Across Industries

**IV. AI IN HEALTHCARE: ENHANCING DIAGNOSIS AND TREATMENT** The significant role of Artificial Intelligence (AI) in revolutionizing healthcare by enhancing diagnosis and treatment processes. AI algorithms analyze vast amounts of medical data, including patient records, imaging scans, and genetic information, to identify patterns and predict disease outcomes with unprecedented accuracy. Machine learning techniques enable AI systems to learn from data and provide insights that aid clinicians in making informed decisions. AI-powered diagnostic tools assist in the early detection of diseases, improving patient outcomes and survival rates. Additionally, AI-driven treatment planning and personalized medicine approaches tailor interventions to individual patient characteristics, optimizing efficacy and minimizing adverse effects. Despite the immense potential of AI in healthcare, challenges such as data privacy, regulatory compliance, and ethical considerations must be addressed to ensure the safe and responsible integration of AI technologies into clinical practice. By harnessing the power of AI, healthcare providers can unlock new possibilities for precision medicine, disease prevention, and patient-centered care, ultimately transforming the landscape of healthcare delivery.

**V. AI IN FINANCE: REVOLUTIONIZING DECISION MAKING** The transformative impact of Artificial Intelligence (AI) on the finance industry, particularly in revolutionizing decisionmaking processes. AI-powered algorithms and techniques analyze vast amounts of financial data, including market trends, customer behavior, and risk factors, to inform investment strategies and optimize decision-making. Machine learning models enable financial institutions to develop predictive models for asset pricing, portfolio management, and risk assessment with greater accuracy and efficiency. Moreover, AI-driven trading algorithms execute transactions at lightning speed, leveraging real-time data and market insights to capitalize on emerging opportunities. In addition to trading, AI plays a crucial role in fraud detection and prevention, leveraging advanced analytics and anomaly detection techniques to identify suspicious transactions and mitigate financial risks. By harnessing the power of AI, financial institutions can gain a competitive edge, enhance operational efficiency, and deliver superior value to customers. However, ethical considerations such as algorithmic bias, data privacy, and regulatory compliance must be carefully navigated to ensure the responsible and ethical deployment of AI technologies in finance. Ultimately, AI is reshaping the finance industry by enabling data-driven decision-making, improving risk management, and unlocking new avenues for innovation and growth.

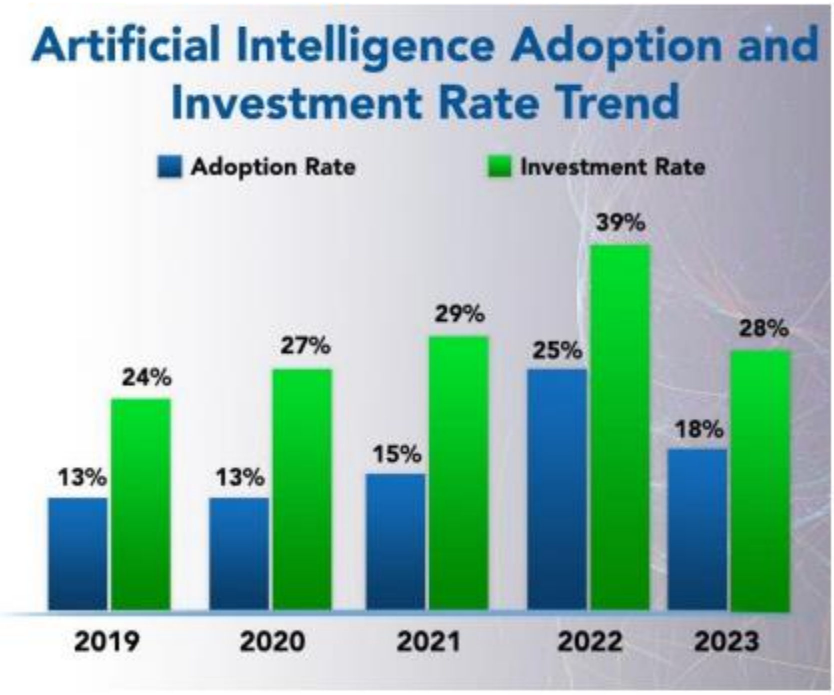



Fig 3: Growth of AI Investment and Adoption

**VI. AI IN EDUCATION: PERSONALIZED LEARNING AND ADAPTIVE SYSTEMS**
Artificial Intelligence (AI) is revolutionizing education through personalized learning and adaptive systems. AI-powered tools and technologies analyze student data, learning preferences, and performance metrics to tailor educational experiences to individual needs and abilities. Personalized learning platforms leverage machine learning algorithms to adapt learning content, pace, and assessments in real-time, ensuring that each student receives targeted support and challenges. Additionally, AI-driven tutoring systems provide students with personalized feedback and guidance, fostering deeper understanding and mastery of subject matter. Adaptive learning systems adapt to students' progress and learning styles, dynamically adjusting the difficulty level and content delivery to optimize learning outcomes. By harnessing the power of AI, educators can create more engaging and effective learning experiences, catering to diverse learning styles and abilities. However, ethical considerations such as data privacy, algorithmic bias, and equity must be addressed to ensure that AI-driven educational technologies promote inclusivity and support all students' learning needs.

Overall, AI in education holds the potential to transform traditional teaching paradigms, empower learners, and unlock new opportunities for personalized and lifelong learning.

**VIII.AI IN TRANSPORTATION: TOWARDS AUTONOMOUS VEHICLES** The advancements and implications of Artificial Intelligence (AI) in the realm of transportation, particularly the development of autonomous vehicles. AI technologies, including machine learning and computer vision, enable vehicles to perceive their surroundings, interpret traffic patterns, and make real-time decisions without human intervention. Autonomous vehicles promise to revolutionize the way the travel, offering increased safety, efficiency, and accessibility. From self-driving cars to autonomous drones and delivery robots, AI-powered transportation systems have the potential to reduce accidents, alleviate traffic congestion, and enhance mobility for people with disabilities or limited access to transportation. However, challenges such as regulatory hurdles, safety concerns, and ethical considerations must be addressed to ensure the responsible deployment and adoption of autonomous vehicles. By harnessing the power of AI, the transportation industry can usher in a new era of sustainable and connected mobility, transforming urban landscapes and redefining the future of transportation.

**IX. AI IN ROBOTICS: ADVANCEMENTS AND CHALLENGES** The remarkable advancements and ongoing challenges in the field of robotics powered by Artificial Intelligence (AI). AI-enabled robots are revolutionizing industries, from manufacturing and logistics to healthcare and space exploration. These robots possess the ability to perceive and interact with their environment, learn from experience, and adapt to changing circumstances autonomously. Advanced machine learning algorithms enable robots to perform complex tasks with precision and efficiency, enhancing productivity and safety in various domains. However, the integration of AI into robotics presents several challenges, including ensuring reliability, robustness, and safety in real-world environments. Ethical considerations surrounding the use of autonomous robots, such as accountability and potential job displacement, also require careful deliberation. Despite these challenges, the potential benefits of AI-driven robotics are immense, ranging from increased automation and efficiency to new opportunities for human-robot collaboration. By addressing these challenges and harnessing the power of AI can unlock the full potential of robotics to transform industries and improve quality of life.

**X.** XI. CONCLUSION The exploration of Artificial Intelligence (AI) has revealed a landscape rich with innovation, potential, and ethical considerations. From its foundational principles to its applications across various industries, AI has demonstrated its transformative power to enhance decision-making, improve efficiency, and drive progress. However, as AI technologies continue to advance, it is imperative to address ethical considerations such as transparency, fairness, and privacy to ensure that AI systems are developed and deployed responsibly. Looking ahead, future directions and emerging trends in AI, including explainable AI, natural language processing, interdisciplinary research, and democratization, offer exciting opportunities for further innovation and disruption. By embracing these trends and fostering collaboration across disciplines can harness the full potential of AI to address societal challenges, drive economic growth, and improve quality of life for people around the world. Ultimately the navigate the complex landscape of AI, it is essential to prioritize ethical principles and human values to ensure that AI serves as a force for good in shaping the future of humanity.

**REFERENCES**

[1]. Russell, S. J., & Norvig, P. (2016). Artificial Intelligence: A Modern Approach (3rd ed.). Pearson.

[2]. Goodfellow, I., Bengio, Y., & Courville, A. (2016). Deep Learning. MIT Press.

[3]. Healthcare AI Market Size, Share & Trends Analysis Report by Application (Medical Imaging, Diagnosis, Drug Discovery, Therapy Planning), By Region, And Segment Forecasts, 2020 - 2027. (2020). Grand View Research.

[4]. Hagendorff, T. (2020). The Ethics of AI Ethics: An Evaluation of Guidelines. Minds and Machines, 30(1), 99–120.

[5]. Finance AI Market Size, Share & Trends Analysis Report by Application (Algorithmic Trading, Credit Scoring, Risk Management, Fraud Detection), By Region, And Segment Forecasts, 2020 - 2027. (2020). Grand View Research.

[6]. UNESCO. (2020). Artificial Intelligence in Education: Challenges and Opportunities for Sustainable Development.

[7]. Reardon, S. (2016). AI: The New R&D. Nature, 533(7601), S14–S15.

[8]. Kuo, C. C. J., & Liu, D. R. (2020). AI (Artificial Intelligence) and IoT (Internet of Things) Smart Applications in Smart Cities. Energies, 13(5), 1160.

[9]. Amodei, D., Olah, C., Steinhardt, J., Christiano, P., Schulman, J., &Mané, D. (2016). Concrete Problems in AI Safety. arXiv:1606.06565.

[10]. Shanahan, M. (2015). The Technological Singularity. MIT Press.

[11]. Etzioni, O., & Etzioni, O. (2019). Should We Fear AI? Ethics and Policy for Artificial Intelligence. Basic Books.

[12]. Tegmark, M. (2017). Life 3.0: Being Human in the Age of Artificial Intelligence. Penguin.

[13]. AI in Transportation Market Size, Share & Trends Analysis Report by Component (Hardware, Software), By Application (Autonomous Trucks, Autonomous Cars), By Region, And Segment Forecasts, 2020 - 2027. (2020). Grand View Research.

 ISBN : 978-81-957386-4-9

# CHAPTER- 20
# LIMIT THEORY

**Dr. Sushil Kumar Jamariar, Dr.Dharmendrakumarsingh**
**Dr.C.V.RAMAN UNIVERSITY, Vaishali Bihar**
skjscience123@gmail.com

## INTRODUCTION

The theory of limits is a fundamental concept in calculus and mathematical analysis concerning the behavior of functions as inputs approach a particular value. Limits are essential for defining derivatives, integrals, and continuity, making them foundational to both pure and applied mathematics.

A **limit** captures the idea of approaching a particular value. Formally, the limit of a function $(x)$ as $x$ approaches a value $a$ is denoted as $x \to a f(x)$ and is defined as the value that $f(x)$ gets closer to as $x$ approaches $a$.

## How Limits are Determined

To say that the limit of $f(x)$as $x$ approaches $a$ equals $L$ (written as $\lim_{x \to a} f(x) = L$), means that $f(x)$ can get arbitrarily close to $L$ as $x$ gets arbitrarily close to $a$, but $x$ does not need to equal $a$, and $f(x)$ does not need to equal $L$ at $a$. This definition is formalized through the concept of "epsilon" ($\epsilon$) and "delta" ($\delta$) in the $\epsilon - \delta$ definition of a limit:

- **$\epsilon - \delta$ Definition**: For every $\epsilon > 0$ (no matter how small), there exists a $\delta > 0$ such that if $0 < |x - a| < \delta$, then $|(x) - L| < \epsilon|$. This states that for $x$ within a distance $\delta$ from $a$, excluding $a$ itself, all corresponding $(x)$ values are within a distance $\epsilon$ from $L$.

## Types of Limits

- **One-sided Limits**: These consider the behavior of $f(x)$ as $x$ approaches $a$ either from the left ($x$ approaches $a$ from values smaller than $a$, denoted $\lim_{x \to a-} f(x)$ or from the right ($x$ approaches $a$ from values larger than $a$, denoted $\lim_{x \to a+} f(x)$.
- **Infinite Limits and Limits at Infinity**: Sometimes, $(x)$ may approach infinity as $x$ approaches a finite value $a$, or $f(x)$ approaches a finite value as $x$ approaches infinity. These are special cases of limits.

## Why Limits are Important


Published by :Sai College, Bhilai

- **Derivatives**: The derivative of a function at a point involves the limit of the function's rate of change at that point. It is the fundamental concept on which differential calculus is built.
- **Integrals**: In integral calculus, limits are used to define definite integrals as the limit of Riemann sums.
- **Continuity**: A function is continuous at a point if the limit of the function as it approaches the point equals the function's value at that point.

**Practical Applications**

The application of limits extends beyond pure mathematics to physics, engineering, economics, statistics, and other fields where dynamic changes and rates are essential for modeling real-world phenomena. For example, calculating speeds, growth rates, and other rates of change all fundamentally rely on the concept of limits.

This introduction to limit theory highlights its importance not only as a mathematical tool but as a concept that underpins much of the scientific and engineering work that drives our understanding of natural and economic systems.

**Definition**:

1. **Limits** :- The real number l is called the limit of a function f(x) as "x" tends to "a" if for any $\in > 0$ and however small there exist areal number $\delta$ such that

$$0<|x-a|<\delta \Rightarrow |f(x)-f(a)|<\in$$

Where we take $l = f(a)$

And then we write $\lim_{x\to a} f(x) = l$

2. **Indeterminate form** :- The concept of limit was involved to deal with Indeterminate form of some functions at some specific parts

When we solve

$$\lim_{x\to 3} \frac{x^2-9}{x-3} = \frac{3^2-9}{3-3} = \frac{0}{0}$$



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

Which is know as an indeterminate form in this case we find the limit as

$$\lim_{x\to 2}\frac{x^2-4}{x-2} = \lim_{x\to 2}\frac{(x+2)(x-2)}{(x-2)}$$

$$= \lim_{x\to 2} x+2 \quad = 2+2 \quad = 4$$

Following indeterminate form are in our course namely

I. $\frac{0}{0}$     V. $\infty^0$
II. $\frac{\infty}{\infty}$     VI. $0^0$
III. $\infty - \infty$     VII. $0\times\infty$
IV. $0\times\infty$

3. **Evaluation of left hand limit (L.H.L) and Right hand limit (R.H.L)**
**Now we are going to familiar with left hand limit (L.H.L) and Right hand limit (R.H.L)**

Left hand side     Right hand side

$$-\infty \quad \overset{X \;\rightarrow \qquad\qquad \leftarrow\; X}{\longleftarrow\!\!\!\longrightarrow} \quad +\infty$$

LHL a denoted by $\lim_{x\to a-h} f(x)$and similarly RHL by

$$\lim_{x\to a+h} f(x)$$
$$where\ h > o$$

4. **Existence of limit**

### Existence of Limits at a Point

For a limit of a function $f(x)$ at a point $x=a$ to exist, the function must approach the same value from both the left side (as $x$ approaches $a$ from values less than $a$) and the right side (as $x$approaches $a$ from values greater than $a$). This is crucial for establishing the limit's existence. The formal conditions are:

1. **Left-Hand Limit**: The limit of $(x)$ as $x$ approaches $a$ from the left, denoted as $\lim_{x\to a^-} f(x)$, must exist.
2. **Right-Hand Limit**: The limit of $(x)$ as $x$ approaches $a$ from the right, denoted as $\lim_{x\to a^+} f(x)$, must exist.
3. **Equality of Left-Hand and Right-Hand Limits**: These two limits must be equal, i.e., $\lim_{x\to a^-}(x)=\lim_{x\to a^+} f(x)$.



Published by :Sai College, Bhilai

If all these conditions are met, then the limit of $(x)$ as $x$ approaches $a$ exists and is equal to this common value. This can be expressed as: $\lim x \to a(x) = L$ where $LL$ is the value that both the left-hand and right-hand limits approach.

**Why This Condition is Important**

- **Continuity**: For a function to be continuous at a point $a$, not only must the limit exist as $xx$ approaches $a$, but this limit must also equal the function's value at $aa$ (i.e., $f(a)=L$. The existence of a limit is a prerequisite for continuity.
- **Graphical Interpretation**: Graphically, if a function approaches the same value from both directions at a point, the graph will not have a break or jump at that point. The function's graph near $a$ will look connected without any abrupt changes in direction or gaps.
- **Analytical Calculations**: In calculus, particularly when dealing with derivatives and integrals, the existence of limits ensures that operations like differentiation and integration can be performed smoothly across the domain of a function. Discontinuities often lead to complications in these operations.

**Examples**

1. **Function with an Existing Limit at a Point**:
   - Consider $(x)=x2$. As $x$ approaches 2 from both sides, both left-hand and right-hand limits converge to 4. Thus, $\lim x \to 2x2 = 4$.
2. **Function Without an Existing Limit at a Point**:
   - Consider $(x)=\mathrm{sgn}(x)$ (the sign function). As $x$ approaches 0 from the left, $(x)$ approaches -1, and from the right, it approaches 1. Since these are not equal, $\lim x \to 0 \mathrm{sgn}(x)$ does not exist.

**Remember**

**i.** Limit of a function **at a** point is unique

**ii.** If at some point of a continuous function its value and limit both exist , then they are necessarily equal

**5. Properties of limit**

Following are some result concerning the limit of these

Let $\lim_{x\to a} f(x) = land \lim_{x\to a} f(x) = m$

It l and m exist

i. **Sum of difference rule** $\lim_{x\to a}(f \pm g)(x)$

$= \lim_{x\to a} f(x) \pm \lim_{x\to a} g(x) = l \pm m$



Published by :Sai College, Bhilai

ii. **Product rule** $\lim_{x \to a}(fg)(x)$

$= \lim_{x \to a} f(x).\lim_{x \to a} g(x)$= lm

iii. **Quotient rule** $\lim_{x \to a}(\frac{f}{g})(x) = \frac{\lim_{x \to a} f(x)}{\lim_{x \to a} g(x)} = \frac{l}{m}$

where m≠ 0

iv. **Constant multiple rule** $\lim_{x \to a} kf(x)$= k$\lim_{x \to a} f(x)$

where k is constant

v. Modular rule $\lim_{x \to a}|f(x)| = \left|\lim_{x \to a} f(x)\right| = |l|$

vi. Power rule $\lim_{x \to a}\{f(x)\}g(x) = \lim_{x \to a} f(x) \lim_{x \to a} g(x)$

vii. Composite function rule $\lim_{x \to a} f(g(x)) = f\left(\lim_{x \to a} g(x)\right)$

$= f(x)$ in particular

a) $\lim_{x \to a} \log$ f($x$) =log$\left\{\lim_{x \to a} f(x)\right\}$= log $l$

b) $\lim_{x \to a} e^{f(x)} = e^{\lim_{x \to a} f(x)} = e^{l}$

c) $\lim_{x \to a} f(x)$=+∞$q - \infty$ then $\lim_{x \to a} \frac{1}{f(x)}$ =0

**Some standard limit**

a) $\lim_{x \to 0} \frac{\sin x}{x}$=1

b) $\lim_{x \to 0} \cos x$=1

c) $\lim_{x \to 0} \frac{\tan x}{x}$=1

d) $\lim_{x \to 0} \frac{e^x - 1}{x}$=1

e) $\lim_{x \to 0} \frac{a^x - 1}{x}$=$\log a \ (a > 0)$

f) $\lim_{x \to 0} \frac{\log(1+x)}{x}$=1

g) $\lim_{x \to 0}(1 + x)^{4x}$=e

h) $\lim_{x \to a}(1 + \frac{1}{x})^x$=e

i) $\lim_{x \to a} \frac{x^m - a^m}{(x-a)}$=$ma^{m-1}$

j) $\lim_{x \to a} \frac{x^m - a^m}{x^n - a^n}$=$\frac{m}{n}\,a^{m-n}$

**Method of evaluation of limit**

**I.** Substitution method



**Published by :Sai College, Bhilai**

- **II.** Factorization method
- **III.** Rationalization method
- **IV.** Expansion method
- **V.** When $x \to \infty$
- **VI.** Simplification
- **VII.** L' Hospital rule
- **VIII.** Sandwich theorem
- **IX.** Evaluation of the limit of form $0 \times \infty, \infty - \infty, 0^{\circ}, \infty^{\circ}$
- **X.** Evaluation of the limit of form ,∞

**I . Substitution method**

**Ex. 1)** $\lim_{x\to 2} x^2 + 5x + 6$

= $2^2 + 5.2 + 6$ = **4+10+6 = 20**

**2)** $\lim_{x\to 1} \frac{x^3+4x-3}{x+5} = \frac{1^3+4.1-3}{1+5} = \frac{1+4-3}{6} = \frac{2}{6} = \frac{1}{3}$

II. **Factorization method**

3. $\lim_{x\to 2} \frac{x^2-4}{x-2} = \lim_{x\to 2} \frac{(x+2).(x-2)}{(x-2)}$ = (x+2) = (2+2)=4

III. **Rationalization method**

4. $\lim_{x\to 4} \frac{3-\sqrt{6+X}}{2-\sqrt{6-X}} = \lim_{x\to 4} \frac{3-\sqrt{6+x} \times 3+\sqrt{6+x}}{3+\sqrt{6+x}} / \frac{2-\sqrt{6-x} \times 2+\sqrt{6-x}}{2+\sqrt{6-x}}$

$=\lim_{x\to 4} \frac{9-(6+x)}{3+\sqrt{6+x}} \times \frac{2+\sqrt{6-x}}{4-(6-x)}$

$=\lim_{x\to 4} \frac{3-x}{3+\sqrt{6+x}} \times \frac{2+\sqrt{6-x}}{-2+x} = \frac{3-4}{3+\sqrt{6+4}} \times \frac{2+\sqrt{6-4}}{-2+4}$

$=-\frac{1}{2}\left(\frac{2+\sqrt{2}}{3+\sqrt{10}}\right)$

IV **Expansion method**

if x→ 0and there is at least one for in the given expression which can be explan then we expression numerator and denominator the axpower of x and remove the commonbefore there .

For this remember

i. $e^x$=1+x $+\frac{x^2}{\lfloor 2}+\frac{x^3}{\lfloor 3}+$...............

ii. $e^{-x}$ =1-x$+\frac{x^2}{\lfloor 2}+\frac{x^3}{\lfloor 3}+$...............

iii. $a^2=1+(x \log a)+\frac{(x\log a)^2}{\lfloor 2}+\frac{(x\log a)^3}{\lfloor 3}+$............

iv. $\log(1+x)=x-\frac{x^2}{2}+\frac{x^3}{3}$..................



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

v. $\log(1-x) = -x - \frac{x^2}{2} + \frac{x^3}{3}$ ....................

vi. $\sin x = x + \frac{x^3}{\lfloor 3} + \frac{x^5}{\lfloor 5}$ ................

vii. $\cos x = 1 - \frac{x^2}{\lfloor 2} + \frac{x^4}{\lfloor 4} - \frac{x^6}{\lfloor 6} +$ ..........

viii. $(1+x)^n = 1 + xn + \frac{n(n-1)}{\lfloor 2} x^2 +$ .............

5. $\lim_{x\to 0} \frac{1-\sin x}{\sin x} = \lim_{x\to 0} \frac{1-[1-\frac{x^2}{\lfloor 2}+\frac{x^4}{\lfloor 4}-\frac{x^6}{\lfloor 6}+\ldots\ldots]}{x-\frac{x^3}{\lfloor 3}+\frac{x^5}{\lfloor 5}}$

$$= \lim_{x\to 0} \frac{1-1+\frac{x^2}{\lfloor 2}-\frac{x^4}{4}+\frac{x^6}{\lfloor 6}+\cdots}{x\left[1-\frac{x^2}{\lfloor 2}+\frac{x^4}{\lfloor 4}\ldots\ldots\right]}$$

$$\lim_{x\to 0} \frac{x^2\left[\frac{1}{\lfloor 2} - \frac{x^2}{\lfloor 4} + \frac{x^4}{\lfloor 6}\ldots.\right]}{x\left[1 - \frac{x^2}{\lfloor 2} + \frac{x^4}{\lfloor 4}\right]} = 0$$

$$\lim_{x\to a} \frac{a^x-1}{x} = \log_{x\to 0} \frac{(x\log a)+\frac{(x\log a)^2}{\lfloor 2}+\frac{(x\log a^3}{\lfloor 3}+\cdots\ldots.)}{x}$$

$$\log_{x\to a} \frac{\mathrm{x}\log a\left[1+\frac{xloga}{\lfloor 2}+\frac{(xloga)^2}{\lfloor 3}+\cdots\right.}{x}$$

$= \log\,[1+0+0] = \log \mathrm{a}$

v. **When x→ ∞**

this type of problem are solved by taking height power of the temp to and up to infinity as conman in numeration & denomination then take the limits of the function.

$$= \frac{a+0+0}{d+0+0} = \frac{a}{d}$$

8. $\lim_{x\to\infty} \frac{1^2+2^2+3^2+\cdots\cdots+x^2}{x^3}$

$= \lim_{x\to\infty} \frac{x(x+1)(2x+1)}{6x^3} = \lim_{x\to\infty} \frac{\left(1+\frac{1}{n}\right)\left(2+\frac{1}{n}\right)}{6} = \frac{(1+0)(2+0)}{6} = \frac{2}{6} = \frac{1}{3}$

vi. **Simplification**

In this method the indetermination form is removed by Simplifying the expression .

9. $\lim_{x\to 0} \frac{1-\cos x}{\sin x} = \lim_{x\to 0} \frac{2sin^2\frac{x}{2}}{2\tan\frac{x}{2}\cos\frac{x}{2}}$



Published by :Sai College, Bhilai

$$=\lim_{x\to0}\frac{\sin\frac{x}{2}}{\cos\frac{x}{2}} \quad =\lim_{x\to0}\tan\frac{x}{2}=0$$

**QUESTION**

**Function Analysis and Limits**

Consider the function defined by $(x)=x2-1x-1f(x)=x-1x2-1$.

1. **Determine lim$x\to1(x)\lim x\to1f(x)$.**
2. **Is the function $ff$ continuous at $x=1x=1$? Explain why or why not.**
3. **Can $(x)f(x)$ be simplified for values of $x\neq1x$□$=1$? If yes, what is the simplified form?**
4. **Using the simplified form, evaluate $(1)f(1)$ if possible.**
5. **Based on your findings in questions 3 and 4, discuss the implications for the continuity of $ff$ at $x=1x=1$ after simplification.**

**Answer Outline**

1. **Limit Calculation:** The function $f(x)=x2-1x-1f(x)=x-1x2-1$ can be simplified (for $x\neq1x$□$=1$) by factoring the numerator:
   $(x)=(x-1)(x+1)x-1.f(x)=x-1(x-1)(x+1)$.
   For $x\neq1x$□$=1$, this simplifies to $(x)=x+1f(x)=x+1$. Thus, approaching $x=1x=1$,
   lim$x\to1(x)=1+1=2.x\to1\lim f(x)=1+1=2$.
2. **Continuity at $x=1x=1$:** The original function $(x)f(x)$ is not defined at $x=1x=1$ because it causes a division by zero. Despite the limit existing at $x=1x=1$, $(1)f(1)$ is undefined in the original form of the function, indicating a discontinuity at this point.
3. **Simplification for $x\neq1x$□$=1$:** As shown earlier, $(x)f(x)$ simplifies to $x+1x+1$ for all $x\neq1x$□$=1$. This is a linear function, which is continuous everywhere on its domain.
4. **Evaluation at $x=1x=1$ using the simplified form:** Using the simplified form $f(x)=x+1f(x)=x+1$,
   $(1)=1+1=2.f(1)=1+1=2$.
   This matches the limit calculated in question 1.
5. **Continuity Discussion:** In the simplified form $(x)=x+1f(x)=x+1$, the function is continuous at $x=1x=1$ and matches the limit. This implies that by defining $(1)=2f(1)=2$, the simplified function becomes continuous at $x=1x=1$. This highlights a common technique in calculus



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

where functions are redefined at points of discontinuity to make them continuous by aligning the function's value at that point with the limit.

These responses illustrate the use of limit concepts to analyze and address discontinuities and understand function behavior near critical points. This question provides a practical example of how the theory of limits underpins significant aspects of calculus, especially in dealing with function behavior and continuity.



**Published by :Sai College, Bhilai**

# CHAPTER- 21

# Hard c-Means Clustering

Pratik Singh Thakur *[1] and Rohit Kumar Verma[2]

[1] Department of Mathematics, Govt. V.Y.T. PG. Autonomous College, Durg (C.G.) India 491001
[2] Department of Mathematics, Govt. Chandulal Chandrakar Arts and Science College, Patan, Dist.- Durg (C.G.) India 491111

**Abstract**

This chapter deals with the partition analysis of a dataset. The Hard c-Means clustering algorithm is employed in this chapter to create a partition of the dataset. To assess the quality of the partition, quality measurement parameters such as partition coefficient, partition entropy, and error estimation are introduced. An example is presented to facilitate a better understanding of the proposed mathematical expressions.

**MSC** : 62H30; 90C70; 68W40; 91C20.
**Keywords** : Unsupervised Machine Learning; Hard Clustering; Clustering Algorithm; K-Means.

## 1 Introduction

Partitioning plays a significant role in set theory, with group theory serving as a tool for this purpose. The partition problem holds its own significance across various branches of study today, empowering science, engineering, and humanities alike. Over time, numerous partitioning procedures have been discovered, including equivalence relations, quotient spaces, clustering, and more. Clustering finds wide adoption in engineering, statistics, and medicine. In discussions regarding clustering analysis [4], it is often considered somewhat easier than other existing partitioning methods due to its connection to linear algebra. Bezdek [1, 2] utilized matrix representation of partition in his research and proposed various new techniques for partitioning sets into clusters. The term "cluster" represents a partitioned set. Additionally, following Zadeh's fuzzy set theory [6], fuzzy partitioning became a central research topic among scholars. Many well-established clustering problems have been generalized using fuzzy set theory. The widely known partitioning technique introduced as hard C-means clusters is known today as k-means clustering. This chapter elucidates this widely used algorithm from its core. After clustering, ensuring the validity of the clusters is essential, thus the validity index [5] is employed for validation.

Section 2 addresses fundamental notations and their meanings used in this chapter. Section 3 provides a detailed explanation of the hard C-means algorithm along with some validity indices. Section 4 discusses an example related to this algorithm, and Section 5 concludes this chapter.

## 2 Background

Let $X = \{x_1, x_2, \ldots, x_n\}$ is any finite set; $V_{cn}$ is the set of real $c \times n$ matrices; $c$ is an integer, $2 \le c < n$. Hard c-partition space for X is the set

$$M_c = \left\{ U \in V_{cn} : \chi_{ik} \in \{0,1\} \forall i, k; \sum_{i=1}^{c} \chi_{ik} = 1 \forall k; 0 < \sum_{k=1}^{n} \chi_{ik} < n \forall i \right\} \tag{1}$$

Here $U = [\chi_{ik}]_{c \times n}$ and $chi_{ik}$ represents the value count function of $i^{th}$ partitioning subset $P_i$ of $X$ at $k^{th}$ point of data set, i.e. $chi_{ij} = count_{P_i}(x_k)$; $\sum_i \chi_{ik} = 1 \forall k$ means each $x_k$ is in exactly one of the $c$ partitioning subsets of $X$; and $0 < \sum_{k=1}^{n} \chi_{ik} < n \ \forall i \implies P_i \ne \emptyset, P_i \ne X \ \forall i$



Published by :Sai College, Bhilai

**Note.** *To find more details about the count function used in* $count_{P_i}(x_k)$, *see [3]*

The partitioning set $P = \{P_i : i \in \Lambda\}$ of $X$ is collection of subsets of $X$ such that:

- $P_i \neq \emptyset \; \forall \; i \in \Lambda$
- $P_i \cap P_j = \emptyset \; \forall \; i \neq j; i, j \in \Lambda$
- $X = \bigcup\limits_{i \in \Lambda} P_i$

## 3 Hard Clustering

$$J(U, v) = \sum_{k=1}^{n} \sum_{i=1}^{c} \chi_{ik} (d_{ik})^2 \tag{2}$$

where $d_{ik}$ is an Euclidean distance measures between the $k^{th}$ daat sample $x_k$ and $i^{th}$ cluster centre $v_i$, given by

$$d_{ik} = ||x_k - v_i|| = \left( \sum_{j=1}^{m} (x_{kj} - v_{ij})^2 \right)^{\frac{1}{2}} \tag{3}$$

Since each data sample requires $m$ co-ordinate to describe its location in $\mathbb{R}^m - space$, each cluster centre also requires m co-ordinates to describe its location in this same space.

Thus the $i^{th}$ cluster is a vector length of $m$,

$$v_i = \{v_{i1}, v_{i2}, \ldots, v_{im}\}$$

and $j^{th}$ co-ordinate of this tuple can be calculated by using the formula;

$$v_{ij} = \frac{\sum\limits_{k=1}^{n} \chi_{ik} x_{kj}}{\sum\limits_{k=1}^{n} \chi_{ik}} \tag{4}$$

we seek the optimum partition, $U^*$ to be the partition that produces the minimum value for the function, $J$. That is,

$$J(U^*, v^*) = \min_{U \in M_c} J(U, v) \tag{5}$$

we use iterative optimization to calculate $U^*$. To update the membership function (for all $i, k$);

$$\chi_{ik}^{(l+1)} = \begin{cases} 1, & \text{if } d_{ik}^{(r)} = \min\limits_{1 \leq j \leq c} \{d_{ij}^{(l)}\} \\ 0, & \text{otherwise} \end{cases} \tag{6}$$

**Algorithm 1** Hard C-means Algorithm

**Input:** Data $X$, number of clusters $c$, convergence threshold $\epsilon$
**Output:** Membership matrix $U$
Initialize $U^{(0)}$ randomly in $M_c$ ▷ Initial membership matrix
$l \leftarrow 0$
**repeat**
  Calculate cluster centers $v_i^{(l)}$ using Eq. (4)
  Update membership matrix $U^{(l)}$ using Eq. (6)
  $l \leftarrow l + 1$
**until** $\|U^{(l)} - U^{(l-1)}\| < \epsilon$
**return** $U^{(l)}$



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

### 3.1 Partition Coefficient

Let $U \in M_c$ be a hard c- partition of n data points. The partition co-efficient of $U$ is the scalar

$$F(U;c) = \frac{Tr(UU^T)}{n} \tag{7}$$

It is noted that whenever partition coefficient is 1 then the corresponding partition matrix represents Hard Partition.

### 3.2 Partition Entropy

The partition entropy of any partition $U \in M_c$ of X, where $|X| = n$ is, for $1 \le c \le n$,

$$H(U;c) = -\frac{\sum_{k=1}^{n}\sum_{i=1}^{c} \chi_{ik}\log_a(\chi_{ik})}{n} \tag{8}$$

here $a \in [1,\infty)$ and $\chi_{ik}\log_a(\chi_{ik})n = 0$ whenever $\chi_{ik} = 0$. Also it is noted that $H(U;c) = 0$ iff $U$ represents a hard partition

### 3.3 Error Estimation

Let $U^* \in M_c$ optimal partition of the data set $X$. The cluster error associated with any $U \in M_c$ is the number of vectors in $X$ which are in different partition set by $U$.

$$E(U) = \frac{1}{n}\sum_{k=1}^{n}\sum_{i=1}^{c}(\chi^*_{ik} - \chi_{ik})^2 \tag{9}$$

## 4 Discussion

**Example.** *Consider* $X = \{x_1, x_2, x_3, x_4\}$, *where* $x_1 = (1,3)$, $x_2 = (1.5, 3.2)$, $x_3 = (1.3, 2.8)$, *and* $x_4 = (3,1)$. *Partition the data set* $X$ *into 2-clusters.*

**Solution:** In the given data set $X$, $n = 4$ and we have to partiton this data set into 2- clusters ($c = 2$). Select a random $U^{(0)} \in M_c$,

$$U^{(0)} = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 1 & 1 \end{bmatrix}$$

Here $\chi_{11} = 1$, $\chi_{12} = 0$, $\chi_{13} = 0$, $\chi_{14} = 0$, $\chi_{21} = 0$, $\chi_{22} = 1$, and $\chi_{24} = 1$
To Find cluster centres $v_1$ and $v_2$, use equation (4).

$$v_{11} = \frac{\chi_{11}x_{11} + \chi_{12}x_{21} + \chi_{13}x_{31} + \chi_{14}x_{41}}{\chi_{11} + \chi_{12} + \chi_{13} + \chi_{14}} = 1,$$
$$v_{12} = \frac{\chi_{11}x_{12} + \chi_{12}x_{22} + \chi_{13}x_{32} + \chi_{14}x_{42}}{\chi_{11} + \chi_{12} + \chi_{13} + \chi_{14}} = 3,$$
$$v_{21} = \frac{\chi_{21}x_{11} + \chi_{22}x_{21} + \chi_{23}x_{31} + \chi_{24}x_{41}}{\chi_{21} + \chi_{22} + \chi_{23} + \chi_{24}} = 1.93,$$
$$v_{22} = \frac{\chi_{21}x_{12} + \chi_{22}x_{22} + \chi_{23}x_{32} + \chi_{24}x_{42}}{\chi_{21} + \chi_{22} + \chi_{23} + \chi_{24}} = 2.33.$$

so the cluster centres are $v_1 = (1,3)$ and $v_2 = (1.93, 2.3)$. In order to find $U^{(1)}$, we get from equation (3):

$$d_{11} = \sqrt{(x_{11} - v_{11})^2 + (x_{12} - v_{12})^2} = 0 \qquad d_{12} = \sqrt{(x_{21} - v_{11})^2 + (x_{22} - v_{12})^2} = 0.54$$
$$d_{13} = \sqrt{(x_{31} - v_{11})^2 + (x_{32} - v_{12})^2} = 0.36 \qquad d_{14} = \sqrt{(x_{41} - v_{11})^2 + (x_{42} - v_{12})^2} = 2.83$$
$$d_{21} = \sqrt{(x_{11} - v_{21})^2 + (x_{12} - v_{22})^2} = 1.16 \qquad d_{22} = \sqrt{(x_{21} - v_{21})^2 + (x_{22} - v_{22})^2} = 0.97$$
$$d_{23} = \sqrt{(x_{31} - v_{21})^2 + (x_{32} - v_{22})^2} = 0.78 \qquad d_{24} = \sqrt{(x_{41} - v_{21})^2 + (x_{42} - v_{22})^2} = 1.70$$



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

Now to get $U^{(1)}$ we need to update $\chi_{ij}$ by using equation (6).

$$\begin{aligned}
\min\{d_{11}, d_{21}\} = d_{11} \neq d_{21} &\implies \chi_{11}^{(1)} = 1 \; and \; \chi_{21}^{(1)} = 0 \\
\min\{d_{12}, d_{22}\} = d_{12} \neq d_{22} &\implies \chi_{12}^{(1)} = 1 \; and \; \chi_{22}^{(1)} = 0 \\
\min\{d_{13}, d_{23}\} = d_{13} \neq d_{23} &\implies \chi_{13}^{(1)} = 1 \; and \; \chi_{23}^{(1)} = 0 \\
\min\{d_{14}, d_{24}\} = d_{24} \neq d_{14} &\implies \chi_{14}^{(1)} = 0 \; and \; \chi_{24}^{(1)} = 1
\end{aligned}$$

Thus

$$U^{(1)} = \begin{bmatrix} \chi_{11}^{(1)} & \chi_{12}^{(1)} & \chi_{13}^{(1)} & \chi_{14}^{(1)} \\ \chi_{21}^{(1)} & \chi_{22}^{(1)} & \chi_{23}^{(1)} & \chi_{24}^{(1)} \end{bmatrix} = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Now repeat the process

$$\begin{aligned}
v_{11} &= \frac{\chi_{11}x_{11} + \chi_{12}x_{21} + \chi_{13}x_{31} + \chi_{14}x_{41}}{\chi_{11} + \chi_{12} + \chi_{13} + \chi_{14}} = 1.26, \\
v_{12} &= \frac{\chi_{11}x_{12} + \chi_{12}x_{22} + \chi_{13}x_{32} + \chi_{14}x_{42}}{\chi_{11} + \chi_{12} + \chi_{13} + \chi_{14}} = 3, \\
v_{21} &= \frac{\chi_{21}x_{11} + \chi_{22}x_{21} + \chi_{23}x_{31} + \chi_{24}x_{41}}{\chi_{21} + \chi_{22} + \chi_{23} + \chi_{24}} = 3, \\
v_{22} &= \frac{\chi_{21}x_{12} + \chi_{22}x_{22} + \chi_{23}x_{32} + \chi_{24}x_{42}}{\chi_{21} + \chi_{22} + \chi_{23} + \chi_{24}} = 1.
\end{aligned}$$

so the new cluster centres are $v_1 = (1.26, 3)$ and $v_2 = (3, 1)$. Again to find $U^{(2)}$, we get from equation (3):

$$\begin{aligned}
d_{11} &= \sqrt{(x_{11} - v_{11})^2 + (x_{12} - v_{12})^2} = 0.26 & d_{12} &= \sqrt{(x_{21} - v_{11})^2 + (x_{22} - v_{12})^2} = 0.31 \\
d_{13} &= \sqrt{(x_{31} - v_{11})^2 + (x_{32} - v_{12})^2} = 0.20 & d_{14} &= \sqrt{(x_{41} - v_{11})^2 + (x_{42} - v_{12})^2} = 2.26 \\
d_{21} &= \sqrt{(x_{11} - v_{21})^2 + (x_{12} - v_{22})^2} = 2.83 & d_{22} &= \sqrt{(x_{21} - v_{21})^2 + (x_{22} - v_{22})^2} = 2.66 \\
d_{23} &= \sqrt{(x_{31} - v_{21})^2 + (x_{32} - v_{22})^2} = 2.47 & d_{24} &= \sqrt{(x_{41} - v_{21})^2 + (x_{42} - v_{22})^2} = 0
\end{aligned}$$

To get $U^{(2)}$ we need to update $\chi_{ij}$ by using equation (6).

$$\begin{aligned}
\min\{d_{11}, d_{21}\} = d_{11} \neq d_{21} &\implies \chi_{11}^{(2)} = 1 \; and \; \chi_{21}^{(2)} = 0 \\
\min\{d_{12}, d_{22}\} = d_{12} \neq d_{22} &\implies \chi_{12}^{(2)} = 1 \; and \; \chi_{22}^{(2)} = 0 \\
\min\{d_{13}, d_{23}\} = d_{13} \neq d_{23} &\implies \chi_{13}^{(2)} = 1 \; and \; \chi_{23}^{(2)} = 0 \\
\min\{d_{14}, d_{24}\} = d_{24} \neq d_{14} &\implies \chi_{14}^{(2)} = 0 \; and \; \chi_{24}^{(2)} = 1
\end{aligned}$$

Thus

$$U^{(2)} = \begin{bmatrix} \chi_{11}^{(2)} & \chi_{12}^{(2)} & \chi_{13}^{(2)} & \chi_{14}^{(2)} \\ \chi_{21}^{(2)} & \chi_{22}^{(2)} & \chi_{23}^{(2)} & \chi_{24}^{(2)} \end{bmatrix} = \begin{bmatrix} 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{bmatrix}$$

Here we get $U^{(1)} = U^{(2)}$ (converged). Thus first cluster is $\{x_1, x_2, x_3\}$ and second cluster $\{x_4\}$ which is obtained corresponding to optimal partition $U^* = U^{(1)}$ and cluster centres $v* = (v_1, v_2)$, $v_1 = (1.26, 3)$ and $v_2 = (3, 1)$. So

$$J(U^*, v*) = \sum_{k=1}^{4} \sum_{i=1}^{2} \chi_{ik}(d_{ik})^2 = 0.2037$$

Now by using equation (7), the partition coefficient of the optimal matrix $U^*$ is:

$$F(U^*; 2) = \frac{Tr(U^* U^{*T})}{4} = \frac{1}{4} \, Tr\left(\begin{bmatrix} 3 & 0 \\ 0 & 1 \end{bmatrix}\right) = 1$$

Similarly by using equatio (8), the partition entropy of the optimal matrix is:

$$H(U^*; 2) = 0$$



Published by :Sai College, Bhilai

By using equation (9), error of initial partition matrix $U^{(0)}$ is:

$$E(U^{(0)}) = \frac{1}{4}[0+1+1+0+0+1+1+0] = 1$$

which shows one element is in wrong partitioning set, by interchanging one element we can get the optimal partition matrix. □

## 5 Conclusion

This chapter has thoroughly explored partition analysis using the hard c-Means clustering algorithm. It started by discussing the importance of partitioning in various fields, especially in clustering analysis. The chapter then explained essential notations and concepts needed to understand the methodology. By examining the hard c-Means algorithm and its validity indices, readers learned how partitions are created within datasets.

Additionally, an example was provided to help understand the mathematical expressions introduced earlier. This example demonstrated how the expressions are applied in practice. By using quality measurement parameters like partition coefficient, partition entropy, and error estimation, the effectiveness of the partitioning process was assessed. This highlighted the importance of ensuring the validity of clusters produced by the algorithm.

## References

[1] Bezdek, J. C. (1981). *Pattern Recognition with Fuzzy Objective Function Algorithms*. Springer US. https://doi.org/10.1007/978-1-4757-0450-1

[2] Bezdek, J. C. (2022). *Elementary Cluster Analysis: Four Basic Methods that (Usually) Work (1st ed.)*. River Publishers. https://doi.org/10.1201/9781003338086

[3] Thakur, P. S., Verma, R. K., & Tiwari, R. (2023). Operations on Multisets and Fuzzy Multisets. *Int. J. Math. And Appl*, 11(3), 45-58.

[4] Ruspini, E. H. (1970). Numerical methods for fuzzy clustering. *Information Sciences*, 2(3), 319–350. https://doi.org/10.1016/S0020-0255(70)80056-1

[5] Verma, R. K., Tiwari, R., & Thakur, P. S. (2023). Partition Coefficient and Partition Entropy in Fuzzy C Means Clustering. *Journal of Scientific Research and Reports*, 29(12), 1–6. https://doi.org/10.9734/jsrr/2023/v29i121812

[6] Zadeh, L. A. (1965). Fuzzy sets. *Information and Control*, 8(3), 338–353. https://doi.org/10.1016/S0019-9958(65)90241-X

# CHAPTER- 22

# COMMON FIXED POINTS ON MULTIPLICATIVE B-METRIC SPACES FOR COMPATIBLE TYPE MAPPINGS

**Rohit Kumar Verma[1] , Prachi Singh[2] and Kuleshwari[3]**

ABSTRACT. In this paper, we prove some common fixed point theorems for generalized contractive mappings satisfying some conditions, that is, compatible-type mappings in multiplicative b-metric spaces. Our result improve and generalize the results of Afrah A.N.Abdou[1]

## 1. INTRODUCTION

More generalized commuting mappings, known as compatible mappings in metric spaces, were developed by Jungck [5] in 1986. These mappings are more general than weakly commuting mappings. In 1986 Sessa introduced on a weak commutativity condition in fixed point. The opposite may not always be true, but generally speaking, weakly commuting mappings are compatible with commuting mappings and vice versa.

Furthermore, Jungck et al.[6] established a common fixed point theorem for compatible mappings of type (A) in a metric space in 1993. This concept is analogous to the idea of compatible mappings under specific circumstances. Pathak and Khan [9] presented compatible mappings of type (B), which is another versions like compatible mappings. They contrasted these mappings with compatible mappings and compatible mappings of type (A). They also established a common fixed point theorem for compatible mappings of type (B) in metric spaces and deduced certain relationships between these mappings.

However, Bashirov et al.[2] (2008) proposed the idea of multiplicative metric spaces, examined the idea of multiplicative calculus, and provided several intriguing applications to highlight the value of multiplicative calculus. Bashirov et al.[3] took use of multiplicative calculus's effectiveness over Newtonian calculus in 2011. They proved that when examining certain issues in a variety of domains, multiplicative differential equations are more appropriate than ordinary differential equations.

The notion of multiplicative contractive mappings in multiplicative metric spaces was first presented and certain fixed point theorems for these mappings were established by Ozavsar and Cevikel [8] in 2012. Common fixed point theorems for four self-mappings in multiplicative metric spaces were recently established by He et al.[4] The ideas of compatible mappings and compatible mappings

*Date*: ...

[3] Corresponding author.

2010 *Mathematics Subject Classification.* 47H09, 46B20, 47H10, 47E10.

*Key words and phrases.* Weak commutative mappings; multiplicative metric space; common fixed points.

of types (A) and (B) in multiplicative metric spaces were first presented by Kang et al.[7] in 2015. They also proved some common fixed point theorems for these mappings.

In this paper, we prove some common fixed point theorems for generalized contractive mappings satisfying the compatible mappings in multiplicative b-metric spaces. Our results improve and generalize many other results in the literature.

## 2. Preliminaries

**Definition 2.1.** [4] Let $X$ be a nonempty set. A multiplicative metric is a mapping $d : X \times X \to R^+$ satisfying the following conditions:
(i) $d(x, y) \geq 1$ for all $x, y \in X$ and $d(x, y) = 1$ if and only if $x = y$;
(ii) $d(x, y) = d(y, x)$ for all $x, y \in X$;
(iii) $d(x, y) \leq d(x, z).d(z, y)$ for all $x, y \in X$.
(multiplicative triangle inequality).

We use the following definition for our main result:

**Definition 2.2.** Let $X$ be a nonempty set. A multiplicative b-metric is a mapping $d : X \times X \to R^+$ satisfying the following conditions:
(i) $d(x, y) \geq 1$ for all $x, y \in X$ and $d(x, y) = 1$ if and only if $x = y$;
(ii) $d(x, y) = (y, x)$ for all $x, y \in X$;
(iii) $d(x, y) \leq b.d(x, z).d(z, y)$ for all $x, y, z \in X$ (multiplicative triangle inequality). where $b \geq 1$

**Definition 2.3.** [4] Let $(X, d)$ be a multiplicative metric space, $\{x_n\}$ be a sequence in X and $x \in X$. If for every multiplicative open ball $B_\epsilon(x) = \{y \mid d(x, y) < \epsilon\}$, $\epsilon > 1$, there exists a natural number N such that $n \geq N$ , then $x_n \in B(x)$. The sequence $\{x_n\}$is said to be multiplicative converging to $x$, denoted by $x_n \to x$ $(n \to \infty)$.

**Definition 2.4.** [4] Let $(X, d)$ be a multiplicative metric space and $\{x_n\}$ be a sequence in $X$. The sequence is called a multiplicative Cauchy sequence if it holds that for all $\epsilon > 1$ , there exists $N \in \mathbf{N}$ such that $d(x_n, x_m) < \epsilon$ for all $m, n > N$.

**Definition 2.5.** [4] We call a multiplicative metric space complete if every multiplicative Cauchy sequence in it is multiplicative convergence to $x \in X$.

**Definition 2.6.** [4] Suppose that $S, T$ are two self-mappings of a multiplicative metric space $(X, d)$; $S, T$ are called commutative mappings if it holds that for all $x \in X$, $STx = TSx$.

**Definition 2.7.** [4] Suppose that $S, T$ are two self-mappings of a multiplicative metric space $(X, d)$; $S, T$ are called weak commutative mappings if it holds that for all $x \in X$, $d(STx, TSx) \leq d(Sx, Tx)$.

**Definition 2.8.** [4] Let $(X, d)$ be a multiplicative metric space. A mapping $f : X \to X$ is called a multiplicative contraction if there exists a real constant $\lambda \in [0, 1)$ such that $d(f(x_1), f(x_2)) \leq d(x_1, x_2)^\lambda$ for all $x, y \in X$.

 ISBN : 978-81-957386-4-9

**Proposition 2.9.** [7] Let $S$ and $A$ be compatible mappings of a multiplicative metric space $(X, d)$ into itself. If for some $t \in X$, then $SAt = SSt = AAT = ASt$.

**Proposition 2.10.** [7] Let $S$ and $A$ be compatible mappings of a muitiplicative metric space $(X, d)$ into itself. Suppose that $\{x_n\}$ is a sequence in $X$ such that $\lim_{n\to\infty} Sx_n = \lim_{n\to\infty} Ax_n = t$ for some $t \in X$.
Then we have
1. $\lim_{n\to\infty} ASx_n = St$ if S is continous at t;
2. $\lim_{n\to\infty} SAx_n = At$ if A is continous at t;
3. $SAt = ASt$ and $St = At$ if $S$ and $A$ is continous at t.

In this section, we will present fixed point theorem for contraction mapping in the setting of multiplicative b-metric spaces:

**Theorem 2.11.** *Let $S, T, A$ and $B$ be self-mappings of a complete multiplicative b-metric space $X$; which satisfying the following conditions:*
*(i) $SX \subset BX, TX \subset AX$;*
*(ii) the pair $(A, S)$ and $(B, T)$ are compatible;*
*(iii) One of $S$, $T$ , $A$ and $B$ is continuous;*
*(iv) for all $x, y \in X$,*
$d(Sx, Ty) \leq \left[k\left(max\left\{d(Ax, By)\frac{|d(Ax,Sx)d(By,Ty)|}{|1-d(Ax,By)|}, \frac{|d(Ax,Ty)d(By,Ax)|}{|1-d(Ax,By)|}\right\}\right)\right]^{\lambda}$

*$b > 1$ such thatsuch that $\lim_{m,n\to\infty}(kb)^{\frac{h}{1-h}^{(m-n)}} = 1$.*
*Where $0 \leq \lambda \leq \frac{1}{2}$*
*Then $S, T, A$ and $B$ have a unique common fixed point in $X$.*

*Proof.* Since $SX \subset BX,\ and\ T(X) \subset AX$, for an arbitary chosen point $x_0$ in X we obtain $x_1$ in X. For this $x_1 \in X$, we may obtain $x_2 \in X$; etc. Continuing in this way we obtain a sequence $\{y_n\} \in X$,
$\exists x_2 \in X$ such that $Tx_1 = Ax_2 = y_1, \ldots$ ;
$\exists x_{2n+1} \in X$ such that $Bx_{2n+1} = y_{2n}$,
$\exists x_{2n+2} \in X$ such that $Tx_{2n+1} = Ax_{2n+2} = y_{2n+1}, \ldots$ ; $\forall n = 0, 1, 2....\infty$.
define a sequence $\{y_n\} \in X$. Now
putting $x = x_{2n},\ y = x_{2n+1}$ in condition (iv) we obtain
In order to show $\{y_n\}$ a cauchy sequece, let us put $x_{2n}$ for x, and $x_{2n+1}$ for y in condiion (iv), and using (1) we have;


Published by :Sai College, Bhilai

$$
\begin{aligned}
d(y_{2n}, y_{2n+1}) &= d(Sx_{2n}, Tx_{2n+1}) \\
&\leq \Bigg[k\Bigg(max\Bigg\{d(Ax_{2n}, Bx_{2n+1}), \frac{|d(Ax_{2n}, Sx_{2n})d(Bx_{2n+1}, Tx_{2n+1})|}{|1-d(Ax_{2n}, Bx_{2n+1})|}, \\
&\quad \frac{|d(Ax_{2n}, Tx_{2n+1})d(Bx_{2n+1}, Ax_{2n})|}{|1-d(Ax_{2n}, Bx_{2n+1})|}\Bigg\}\Bigg)\Bigg]^{\lambda} \\
&\leq [k\,(max\,\{d(y_{2n-1}, y_{2n}), d(y_{2n-1}, y_{2n})\,.\,d(y_{2n}, y_{2n+1}), (y_{2n}, y_{2n-1})\,.\,d(y_{2n-1}, y_{2n+1})\})]^{\lambda} \\
&\leq [k\,(max\,\{d(y_{2n-1}, y_{2n}), d(y_{2n-1}, y_{2n})\,.\,d(y_{2n}, y_{2n+1}), d(y_{2n-1}, y_{2n})\,.\,d(y_{2n}, y_{2n+1})\})]^{\lambda} \\
&\leq [k\,(max\,\{d(y_{2n-1}, y_{2n}), d(y_{2n}, y_{2n+1})\,.\,d(y_{2n-1}, y_{2n}) \\
&\quad , d(y_{2n-1}, y_{2n})\,.\,d(y_{2n}, y_{2n+1})\})]^{\lambda} \\
&\leq [k\,(max\,\{d(y_{2n-1}, y_{2n})\ ,\ d(y_{2n}, y_{2n+1}), d(y_{2n-1}, y_{2n+1})\})]^{\lambda} \\
&\leq [k\,(max\,\{bd(y_{2n-1}, y_{2n})\,.\,d(y_{2n}, y_{2n+1})\})]^{\lambda} \\
&\leq\ k^{\lambda}b^{\lambda}[d(y_{2n-1}, y_{2n})]^{\lambda}.[d(y_{2n}, y_{2n+1})]^{\lambda}
\end{aligned}
$$

$\implies\ d^{1-\lambda}(y_{2n}, y_{2n+1}) \leq\ k^{\lambda}b^{\lambda}\ .\ d^{\lambda}(y_{2n-1}, y_{2n})$
$\implies\ d(y_{2n}, y_{2n+1}) \leq\ (kb)^{\frac{\lambda}{1-\lambda}} d^{\frac{\lambda}{1-\lambda}}(y_{2n-1}, y_{2n})$.
Let $\frac{\lambda}{1-\lambda} = h,\ where\ \lambda \in (0, \frac{1}{2})\ then$
$d(y_{2n}, y_{2n+1}) \leq (kb)^h d^h(y_{2n-1}, y_{2n})$.
Similarly, by putting $x = x_{2n+2},\ \ y = x_{2n+1}$ on (iv), we may obtain

$$
\begin{aligned}
d(y_{2n+1}, y_{2n+2}) &= d(Sx_{2n+2}, Tx_{2n+1}) \\
&\leq \Bigg[k\Bigg(max\Bigg\{d(Ax_{2n+2}, Bx_{2n+1}), \frac{|d(Ax_{2n+2}, Sx_{2n+2}), d(Bx_{2n+1}, Tx_{2n+1})|}{|1-d(Ax_{2n+2}, Bx_{2n+1})|}, \\
&\quad \frac{|d(Ax_{2n+2}, Tx_{2n+1}), d(Bx_{2n+1}, Ax_{2n+2})|}{|1-d(Ax_{2n+2}, Bx_{2n+1})|}\Bigg\}\Bigg)\Bigg]^{\lambda} \\
&\leq [k\,(max\,\{d(y_{2n+1}, y_{2n}), d(y_{2n+1}, y_{2n+2})\,.\,d(y_{2n}, y_{2n+1}), d(y_{2n+2}, y_{2n}).d(y_{2n+1}, y_{2n+1})\})]^{\lambda} \\
&\leq [k\,(max\,\{d(y_{2n}, y_{2n+1}), d(y_{2n+1}, y_{2n+2}), d(y_{2n}, y_{2n+1})\})]^{\lambda} \\
&\leq [k\,(max\,\{bd(y_{2n}, y_{2n+1})\,.\,d(y_{2n+1}, y_{2n+2})\})]^{\lambda} \\
&\leq\ k^{\lambda}b^{\lambda}[d(y_{2n}, y_{2n+1})]^{\lambda}\ .\ [d(y_{2n+1}, y_{2n+2})]^{\lambda},
\end{aligned}
$$

This implies that $d^{1-\lambda}(y_{2n+1}, y_{2n+2}) \leq\ k^{\lambda}b^{\lambda}\ .\ d^{\lambda}(y_{2n+1}, y_{2n})$
$d(y_{2n+1}, y_{2n+2}) \leq\ (kb)^{\frac{\lambda}{1-\lambda}} d^{\frac{\lambda}{1-\lambda}}(y_{2n+1}, y_{2n})$.
Let $\frac{\lambda}{1-\lambda} = h,\ where\ \lambda \in (0, \frac{1}{2})$ then

$$d(y_{2n}, y_{2n+1}) \leq (kb)^h.d^h(y_{2n-1}, y_{2n}), \tag{2.1}$$

$$d(y_{2n+1}, y_{2n+2}) \leq ((kb)^h.d^h(y_{2n}, y_{2n+1}). \tag{2.2}$$

From (2.1) and (2.2), we obtain $d(y_n, y_{n+1}) \leq (kb)^h d^h(y_{n-1}, y_n),\ n = 1, 2, 3, ...$ which inductively implies that

 ISBN : 978-81-957386-4-9

$$\begin{aligned}
d(y_n, y_{n+1}) &\leq (kb)^h[(kb)^h d^h(y_{n-2}, y_{n-1})]^h \\
&= (kb)^{h+h^2}[d^{h^2}(y_{n-2}, y_{n-1})] \\
&\leq (kb)^{h+h^2}[(kb)^h d^h(y_{n-3}, y_{n-2})]^{h^2} \\
&= (kb)^{h+h^2+h^3}[d^{h^3}(y_{n-3}, y_{n-2})] \\
&\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \\
&\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \\
&\leq (kb)^{h+h^2+h^3+\ldots+h^n}[d^{h^n}(y_0, y_1)] \\
&\leq (kb)^{\frac{h}{1-h}}[d^{h^n}(y_0, y_1)],\ h + h^2 + h^3 + \ldots + h^n \leq \frac{h}{1-h}.
\end{aligned}$$

Let $m, n \in \mathbb{N}$ such that $m \geq n$, then for Cauchy sequence, we have

$$\begin{aligned}
d(y_m, y_n) &\leq d(y_m, y_{m-1}).d(y_{m-1}, y_{m-2})\ldots d(y_{n+1}, y_n) \\
&\leq (kb)^{\frac{h}{1-h}} d^{h^{m-1}}(y_0, y_1).(kb)^{\frac{h}{1-h}} d^{h^{m-2}}(y_0, y_1)\ldots(kb)^{\frac{h}{1-h}} d^{h^n}(y_0, y_1)] \\
&\leq \{(kb)^{\frac{h}{1-h}}\}^{(m-n)}\{d^{h^{[(m-1)+(m-2)+\ldots+n]}}(y_0, y_1)\} \\
&= \{(kb)^{\frac{h}{1-h}}\}^{(m-n)}\{d^{h^{(m-n)[(m-1)-\frac{1}{2}(m-n-1)]}}(y_0, y_1)\} \\
&\leq \{(kb)^{\frac{h}{1-h}}\}^{(m-n)} d^{h^{m(m-n)}}(y_0, y_1),\ since\ (m-1) + (m-2) + \ldots + n \leq m(m-n)
\end{aligned}$$

$where\ m > n,$

$$= \mathcal{B} d^{h^{m(m-n)}}(y_0, y_1),\ where\ \mathcal{B} = \{(kb)^{\frac{h}{1-h}}\}^{(m-n)} \to 1\ as\ n \to \infty.$$

This implies that $d(y_m, y_n) \to 1$ $as$ $m, n \to \infty$. Hence $\{y_n\}$ is a multiplicative Cauchy sequence in $X$.
By the completeness of X, there exists $z \in X$.
Now, suppose that A is continous. Then $\{AAx_{2n}\}$ and $\{ASx_{2n}\}$ converges to $Az$ as $n \to \infty$. Since the mappings $A$ and $S$ are compatible on $X$, it follows from proposition (2.10) that $SAx_{2n}$ converges to Az as $n \to \infty$.

Moreover, since

$$\{Sx_{2n}\} = \{Bx_{2n+1}\} = \{y_{2n}\}\ and\ \{Tx_{2n+1}\} = \{Ax_{2n+2}\} = \{y_{2n+1}\},$$

are subsequence of $\{y_n\}$, so we obtain

$$\lim_{n\to\infty} Sx_{2n} = \lim_{n\to\infty} Bx_{2n+1} = \lim_{n\to\infty} Tx_{2n+1} = \lim_{n\to\infty} Ax_{2n+2} = z.$$

Taking condition (ii) and (iii) we obtain following cases;
**Case 1:**Now, we claim that $z = Az$. Suppose that $A$ is continuous then

$$\lim_{n\to\infty} ASx_{2n} = \lim_{n\to\infty} A^2x_{2n} = Az.$$



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

Consider,

$$d(SAx_{2n}, Tx_{2n+1}) \leq \left[k\left(max\left\{d(A^2x_{2n}, Bx_{2n+1}), \frac{|d(A^2x_{2n}, SAx_{2n})d(Bx_{2n+1}, Tx_{2n+1})|}{|1-d(A^2x_{2n}, Bx_{2n+1})|},\right.\right.\right.$$
$$\left.\left.\left.\frac{|d(Ax^2x_{2n}, Tx_{2n+1})d(Bx_{2n+1}, A^2x_{2n})|}{|1-d(A^2x_{2n}, Bx_{2n+1})|}\right\}\right)\right]^{\lambda}$$

Since $A$ and $S$ are compatible , then

$$d(ASx_{2n}, SAx_{2n}) = d(SAx_{2n}, Az) = 1.$$

$\lim_{n\to\infty} SAx_{2n} = Az$. By using (3.1) and (3.2) we have
Taking $n \to \infty$, we can obtain

$$\begin{aligned}
d(Az, z) &\leq \left[k\left\{max\left\{d(Az, z), \frac{|d(Az, Az), d(z, z)|}{|1-d(Az, z)|}, \frac{|d(Az, z), d(z, Az)|}{|1-d(Az, z)|}\right\}\right\}\right]^{\lambda}\\
&= \left[k\left\{max\left\{d(Az, z), \frac{1}{d(Az, z)}, d(Az, z)\right\}\right\}\right]^{\lambda}\\
&= [k(d(Az, z))]^{\lambda}\\
&\leq k^{\lambda}[d(Az, z)]^{\lambda}.
\end{aligned}$$

Thus $d(Az, z) = 1$ and so $Az = z$. Again,from (d), we obtain

$$d(Sz, Tx_{2n+1}) \leq \left[k\left(max\left\{d(Az, Bx_{2n+1}), \frac{|d(Az, Sz)d(Bx_{2n+1}, Tx_{2n+1})|}{|1-d(Az, Bx_{2n+1})|},\right.\right.\right.$$
$$\left.\left.\left.\frac{|d(Az, Tx_{2n+1})d(Bx_{2n+1}, Az)|}{|1-d(Az, Bx_{2n+1})|}\right\}\right)\right]^{\lambda}$$

Let $n \to \infty$ on both sides of the above inequality, we can obtain

$$\begin{aligned}
d(Sz, z) &\leq \left[k\left\{max\left\{d(Az, z), \frac{|d(z, Sz), d(z, z)|}{|1-d(Az, z)|}, \frac{|d(Az, z), d(z, Az)|}{|1-d(Az, z)|}\right\}\right\}\right]^{\lambda}\\
&= \left[k\left\{max\left\{d(Sz, z), \frac{1}{d(Sz, z)}, d(Sz, z)\right\}\right\}\right]^{\lambda}\\
&= [k(d(Sz, z))]^{\lambda}\\
&\leq k^{\lambda}[d(Sz, z)]^{\lambda}.
\end{aligned}$$

which implies $d(Sz, z) = 1$ i.e., Thus, since $S(X) \subset BX$, there exists $u \in X$ such that $z = Sz = Bu$.
By using (d) and $z = Sz = Az = Bu$, we can obtain



Published by :Sai College, Bhilai

 ISBN : 978-81-957386-4-9

Since $B$ and $T$ are mappings then

$$\begin{aligned}
d(z,Tu) &= d(Sz,Tu)\\
&\le \left[k\left\{max\left\{d(Az,Bu), \frac{|d(Az,Sz),d(Bu,Tu)|}{|1-d(Az,Bu)|}, \frac{|d(Az,Tu),d(Bu,Az)|}{|1-d(Az,Bu)|}\right\}\right\}\right]^{\lambda}\\
&= \left[k\left\{max\left\{d(z,Tu), \frac{1}{d(z,Tu)}, d(z,Tu)\right\}\right\}\right]^{\lambda}\\
&= [k(d(z,Tu))]^{\lambda}\\
&= k^{\lambda}[d(z,Tu)]^{\lambda}.
\end{aligned}$$

This implies that $z = Tu$. Since $B$ and $T$ are compatible on $X$ and $Tu = z = Bu$, we have $BTu = TBu$ , by proposition (2.9) we have $BTu = TBu$ And hence Bz=BTu=TBu=Tz. We have

$$\begin{aligned}
d(z,Bz) &= d(z,Tz)\\
&\le \left[k\left\{max\left\{d(Az,Bz), \frac{|d(Az,Sz),d(Bz,Tz)|}{|1-d(Az,Bz)|}, \frac{|d(Az,Tz),d(Bz,Az)|}{|1-d(Az,Bz)|}\right\}\right\}\right]^{\lambda}\\
&= \left[k\left\{max\left\{d(z,Bz), \frac{1}{d(z,Bz)}, d(z,Bz)\right\}\right\}\right]^{\lambda}\\
&= [k(d(z,Bz))]^{\lambda}\\
&= k^{\lambda}[d(z,Bz)]^{\lambda}.
\end{aligned}$$

This implies that $d(z,Bz) = 1$ and so z=Bz. Therefore, we obtain $z = Sz = Az = Tz = Bz$ and so z is a common fixed point of $S, T, and\ B$. Similarly, we can also complete the proof when B is continous.

Next, suppose that $S$ is continous. Then $\{SSx_{2n}\}$ and $\{SAx_{2n}\}$ converges to Az as $n \to \infty$. Since $A$ and $S$ are compatible on $X$, it follows from proposition (2.9) that $\{ASx_{2n}\}$ converges to Az as $n \to \infty$. Now,
we can consider

$$\begin{aligned}
d(S^2x_{2n}, Tx_{2n+1}) \le \Bigg[k\Bigg(max\Bigg\{&d(ASx_{2n}, Bx_{2n+1}), \frac{|d(ASx_{2n}, S^2x_{2n})d(Bx_{2n+1}, Tx_{2n+1})|}{|1-d(ASx_{2n}, Bx_{2n+1})|},\\
&\frac{|d(ASx_{2n}, Tx_{2n+1})d(Bx_{2n+1}, ASx_{2n})|}{|1-d(ASx_{2n}, Bx_{2n+1})|}\Bigg\}\Bigg)\Bigg]^{\lambda}
\end{aligned}$$

Taking $n \to \infty$ on both sides of the above inequality, we can obtain

$$\begin{aligned}
d(Sz,z) &=\le \left[k\left\{max\left\{d(Sz,z), \frac{|d(Sz,Sz),d(z,z)|}{|1-d(Sz,z)|}, \frac{|d(Sz,z),d(z,Sz)|}{|1-d(Sz,z)|}\right\}\right\}\right]^{\lambda}\\
&= \left[k\left\{max\left\{d(Sz,z), \frac{1}{d(Sz,z)}, d(Sz,z)\right\}\right\}\right]^{\lambda}\\
&= [k(d(Sz,z))]^{\lambda}\\
&\le k^{\lambda}[d(Sz,z)]^{\lambda}.
\end{aligned}$$



Published by :Sai College, Bhilai

which implies that $Sz = z$. Since $S(X) \subset B(X)$, there exists a point $v \in X$ such that $z = Sz = Bw$. Also, we have

$$d(S^2x_{2n}, Tv) \leq \left[k\left(max\left\{d(ASx_{2n}, Bv), \frac{|d(ASx_{2n}, S^2x_{2n})d(Bv, Tv)|}{|1 - d(ASx_{2n}, Bv)|}, \frac{|d(ASx_{2n}, Tv)d(Bv, ASx)|}{|1 - d(ASx_{2n}, Bv)|}\right\}\right)\right]^\lambda$$

Letting $n \to \infty$ on both sides of the above inequality, we can obtain

$$\begin{aligned} d(z, Tv) &\leq \left[k\left\{max\left\{d(Sz, z), \frac{|d(Sz, Sz), d(z, Tv)|}{|1 - d(Sz, z)|}, \frac{|d(Sz, Tv), d(z, Sz)|}{|1 - d(Sz, z)|}\right\}\right\}\right]^\lambda \\ &= [k.d(z, Tv)]^\lambda \\ &\leq k^\lambda d^\lambda(z, Tv), \end{aligned}$$

which implies that $z = Tv$. Since $B$ and $T$ are compatible on $X$ and $Bv = Tv = z$, by Proposition(2.9), we have $BTv = TBv$ and hence $Bz = BTv = TBv = Tz$. Now, we have

$$d(Sx_{2n}, Tz) \leq \left[k\left(max\left\{d(Ax_{2n}, Bz), \frac{|d(Ax_{2n}, Sx_{2n})d(Bz, Tz)|}{|1 - d(Ax_{2n}, Bz)|}, \frac{|d(Ax_{2n}, Tz)d(Bz, Ax_{2n})|}{|1 - d(Ax_{2n}, Bz)|}\right\}\right)\right]^\lambda$$

Taking $n \to \infty$ on the both sides of the above inequality and using $Bz = Tz$ , we can obtain

$$\begin{aligned} d(z, Tz) &=\leq \left[k\left\{max\left\{d(z, Tz), \frac{|d(z, z), d(Tz, Tz)|}{|1 - d(z, Tz)|}, \frac{|d(z, Tz), d(Tz, z)|}{|1 - d(z, Tz)|}\right\}\right\}\right]^\lambda \\ &= \left[k\left\{max\left\{d(z, Tz), \frac{1}{d(z, Tz)}, d(Tz, z)\right\}\right\}\right]^\lambda \\ &= [k(d(z, Tz))]^\lambda \\ &\leq k^\lambda[d(z, Tz)]^\lambda. \end{aligned}$$

Which implies that $Tz = z$. Since $TX \subset AX$, there exists a point $w \in X$ such that $z = Tz = Aw$.Then we have

$$\begin{aligned} d(Sw,z) &= d(Sw,Tz) \\ &\le \left[k\left\{max\left\{d(Aw,Bz), \frac{|d(Aw,Sw),d(Bz,Tz)|}{|1-d(Aw,Bz)|}, \frac{|d(Aw,Tz),d(Bu,Az)|}{|1-d(Aw,Bz)|}\right\}\right\}\right]^{\lambda} \\ &= \left[k\left\{max\left\{d(Sw,z), \frac{1}{d(Sw,z)}, d(z,Sw)\right\}\right\}\right]^{\lambda} \\ &= [k(d(Sw,z))]^{\lambda}. \\ &\le k^{\lambda}[d(Sw,z)]^{\lambda}, \end{aligned}$$

which implies that $Sw = z$. Since $S$ and $A$ are compatible on X and $Sw = Aw = z$, by Proposition(2.9), we have $ASw = SAw$ and hence $Az = ASw = Sz$. That is, $z = Az = Bz = Tz$. Therefore, z is common fixed point of $S, T, Aand\ B$. Similarly, we can complete the proof when T is continuous.

Finally, for the proof of uniqueness of the common fixed point z, suppose that z and w are two common fixed points of $S, T, A,$ *and* $B$. Then, by using the condition (d), we have

$$\begin{aligned} d(z,w) &= d(Sz,Tw) \\ &\le \left[k\left\{max\left\{d(Az,Bw), \frac{|d(Az,Sz),d(Bw,Tw)|}{|1-d(Az,Bw)|}, \frac{|d(Az,Tw),d(Bz,Az)|}{|1-d(Az,Bw)|}\right\}\right\}\right]^{\lambda} \\ &= [k\{d(z,w)\}]^{\lambda} \\ &\le k^{\lambda}[d(z,w)]^{\lambda}. \end{aligned}$$

This implies that $z = w$. Therefore, z is a unique common fixed point of $S, T, A,$ *and* $B$. This complete the proof. □

**Corollary 2.12.** Let T be a mappings of a complete multiplicative b-metric space$X, d)$ into itself satisfying the following condition:

$$d(Tx,Ty) \le [d(x,y)]^{\lambda}$$

for all $x, y \in X$, where $\lambda \in (0, \frac{1}{2})$.

**Corollary 2.13.** Let $S, T, A$ and $B$ be self-mappings of a complete multiplicative b-metric space $X$; satisfying the following conditions:
(i) $SX \subset BX, TX \subset AX$;
(ii) the pair $(A, S)$ and $(B, T)$ are compatible;
(iii) One of $S$, $T$ , $A$ and $B$ is continuous;
(iv) for all $x, y \in X$,
$d(Sx,Ty) \le \left[k\left(max\left\{d(Ax,By)\frac{d(Ax,Sx)d(By,Ty)}{1-d(Ax,By)}, \frac{d(Ax,Ty)d(By,Ax)}{1-d(Ax,By)}\right\}\right)\right]^{\lambda}$
Then $S, T, A$ *and* $B$ have a unique common fixed point in X.

## References


1. Afrah A.N.Abdou, common fixed point results for compatible-type mappings in multiplicative metric spaces,*J. Nonlinear Sci. Appl.,* **9**(2016), 2244-2257.
2. A. E. Bashirov, E. M. Kurplnara, A. Ozyaplcl, Multiplicative calculus and its applications, *J. Math. Anal. Appl.,* **337**(2008), 36–48.

3. A. E. Bashirov, E. Misirli, Y. Tandogdu, A. Ozyapici, On modeling with multiplicative differential equations, *Appl. Math. J. Chinese Univ. Ser. B,* **26**(2011), 425–438
4. X. He, M. Song, D. Chen, Common fixed points for weak commutative mappings on a multiplicative metric space, *Fixed Point Theory Appl.,* **2014**(2014), 9.
5. G. Jungck, Compatible and common fixed points, *Internat. J. Math. Math. Sci.,* **9**(1986), 771–779.
6. G. Jungck, P. P. Murthy, Y. J. Cho, Compatible mappings of type (A) and common fixed points, *Math. Japon.,* **38**(1993), 381–390.
7. S. M. Kang, P. Kumar, S. Kumar, P. Nagpal, S. K. Garg, Common fixed points for compatible mappings and its variants in multiplicative metric spaces, *Int. J. Pure Appl. Math.,* **102**(2015), 383–406
8. M. Ozav¸sar, A. C. C¸ evikel, ¨ Fixed points of multiplicative contraction mappings on multiplicative metric spaces, *arXiv preprint,* (2012).
9. H. K. Pathak, M. S. Khan, Compatible mappings of type (B) and common fixed point theorems of Gregu's type, *Czech. Math. J.,* **45**(1995), 685–698.
10. Sessa S., On a weak commutativity condition in fixed point considerations,*Publ.Inst. Math.,* **32**(1986), 149-153.

[1] Department of Mathematics, Govt.Chandulal Chandrakar Arts and Science College Patan, Durg (C.G.) India. 491111
*Email address*: rohitverma1967@rediffmail.com

[2,3] Department of Mathematics, Govt. V.Y.T. PG Autonomous College, Durg (C.G.) India 491001
*Email address*: kuleshwarikamlesh@gmail.com



Published by :Sai College, Bhilai

## About this Book :

This book is the compilation of esteemed chapter of acknowledged experts in the fields of Multidisciplinary Research. This book is published in the hopes of sharing the excitement found in the study of Multidisciplinary Research. We developed this digital book with the goal of helping people achieve that feeling of accomplishment.

Rs. 600

Published and Printed by : (First Edition : May 2024)

**Sai Mahavidyalaya (Sai College)**

Street-69, Sector-6, Bhilai, Dist. Durg (Chhattisgarh)

Email : director@saicollege.org

Website : www.saicollege.org

ISBN : 978-81-957386-4-9