RECENT TRENDS
IN MULTIDISCIPLINARY
RESEARCH

DR. RENUKA EKANATH WALUNJ

Recent Trends in Multidisciplinary Research

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Recent Trends in Multidisciplinary Research

By:

Dr. Renuka Ekanath Walunj

Assistant Professor

STES, Sinhgad College of Science, Ambegaon (BK), Pune

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PREFACE

There is no end to innovations and research work. So long as the humanity lasts, the research lasts! The forgoing multidisciplinary compilation gives range of research insights on topics of contemporary relevance. For e.g. A research paper included in these compilations highlights the basic tenets of Ukraine- Russia conflict which is now broken out as a regular war. Selections of Research Papers is done to make the entire compilation interesting as if it is a novel comprising short stories!!!

The readers of each faculty ranging from arts, science, commerce, technology, education, tourism, international relations, industry 4.0 etc. will find the read productive while browsing through this book. The variety of research papers is so wide ranging that the book sets a new trend in the way multidisciplinary research papers are compiled and edited.

I wish the readers will accept this innovation in compilation of Multidisciplinary Research Papers for the publishers to sustain such initiatives in future.

ACKNOWLEDGEMENT

I Feel honoured to bring out this compilation of edited volume, "Recent Trends in Multidisciplinary Research"

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Without the active involvement and support of all those mentioned above, this volume would not have been possible. Thanks to one and all.

Dr. Renuka Ekanath Walunj

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RECENT TRENDS IN AGRICULTURE SECTOR

Dr. Sangeeta Shashikant Shinde

Associate Professor, Department of Economics, Sarhad college of Art's, Commerce and Science

ABSTRACT

Indian agriculture has shown extraordinary endurance during the COVID-19 period. This article examines the sector's key successes before the eruption of COVID-19 and concludes that new developing issues necessitate a second green revolution as well as next-generation reforms. Despite the country's production achievements, Inflation and unpredictability in the food supply continue to be a problem, necessitating supply-side reforms such as increased public investment, storage infrastructure, as well as the advancement of food processing, according to the empirical findings of this article.

Keywords: Agriculture, investment, production

INTRODUCTION

India has undergone a quiet revolution, transitioning from a food-insecure and import-dependent nation in the early 1960s to a worldwide agricultural powerhouse today. India is the world's leading producer of milk, pulses, jute, and spices, as well as having the world's largest cattle herd (buffaloes). Rice, wheat, cotton, sugarcane, tea, peanuts, fruits, vegetables, and goat meat are among the country's top exports. Despite the fact that agriculture's share of India's overall gross value added (GVA) is declining, it continues to grow in absolute terms, employing about half of the country's total households (PLFS, 2020). Even though the entire economy (real GVA) declined by 6.2 percent in 2020-21, the agriculture sector was able to weather the COVID-19 shock and posted above-average real growth of 3.6 percent. In response to concerns about successive waves of COVID-19, many countries have begun stockpiling food grains purchased at higher prices, whereas India is comfortable with public cereal stocks at 2.8 times buffer norms (Chandrashekhar and Ghosh, 2021), a record increase in agricultural export of 17.1 percent in 2020-21, and a large increase in procurement of marketed surplus in 2020-21 and 2021-22 (Chandrashekhar and Ghosh, 2021). (Chandrashekhar and Ghosh, 2021).

Despite these achievements, climate change disruptions, fragmented landholdings, low farm productivity, and significant food price volatility plague Indian agriculture, necessitating next-generation reforms such as the adoption of environmentally sustainable and climate-resistant new farm technology, the development of land consolidation markets, and improvements in post-harvest practises. In light of this, the following is how this chapter is structured: The chapter's second section discusses the agricultural sector's important accomplishments in recent years. The primary enablers of agricultural expansion are discussed some of the current limits and emerging challenges. It also covered an empirical assessment of the impact of supply-side constraints on retail food inflation and volatility.

Major achievments of Agriculture Sector in recent years.

1. Increased agriculture finance, public and private investment, enhanced use of high-quality seeds and fertilisers, irrigated land expansion, and increased cropping intensity have all contributed to record food grain production.

2. Diversification towards Horticulture Crops: Since 2012-13, horticulture production has overtaken food grains production, In the agriculture industry, they contribute for around 35% of total crop yield.

3. The Importance of Allied Activities is Growing: As the number of operational land holdings shrinks, livestock is becoming a more important source of consistent income for small and marginal farmers as well as landless labourers.

4. Food grain production is at an all-time high. Following the green revolution in the 1960s, which was fuelled by intense use of inputs and technological improvement, Indian agriculture saw a significant increase in output growth, which was sustained throughout the 1970s and 1980s. Despite a brief pause in the early 2000s, average food grain production has increased significantly in the last decade, thanks to increased agriculture credit, public and private investment, increased use of high-quality seeds and fertilisers, increased irrigation acreage, and increased cropping intensity (Chand & Parappurathu, 2012). Aside from expanded access to critical farm inputs, the government's price support policy (led by the minimum support price) has also had a crucial influence in increasing cereal production.

Enablers of Growth in Agriculture Sector:

1. INCREASED PRODUCTIVITY:

In India, food grain productivity has increased at a rapid rate, owing primarily to rice and wheat. Several studies have demonstrated that the introduction of high-yielding varieties, investment in public research, and fertiliser usage have increased productivity in Indian agriculture (Rosegrant and Evenson, 1992; Dholakia and Dholakia, 1993; Evenson et al., 1999, Fan et al., 1999, Chand et al., 2012). When compared to cereals, productivity development in pulses, oilseeds, nutri-cereals, and horticulture crops has been slow. However, as compared to many other emerging market economies (EMEs), India's agriculture productivity is significantly lower. Crop yields in India have been barely 30-60% of those achieved in other countries.

2. AGRICULTURAL MECHANIZATION:

Farm mechanisation has the potential to boost agricultural productivity by 30% while lowering input costs by 20%. (NABARD, 2018). Mechanized farming also cuts down on the time it takes to perform farm tasks and alleviates the drudgery that comes with agriculture work. Farm mechanisation in India has increased throughout time, and according to various estimates, the present degree of farm mechanisation in India is between 40 and 45 percent (FICCI and PwC, 2019; Tiwari et al.., 2019). On the other hand, while the density of tractors has expanded significantly over time, the market for other farm equipment such as power tillers, renovators, and trans planters remains small and unorganised (15 per cent of the farm equipment market) In comparison to other advanced economies and BRIC countries, India's level of farm mechanisation is far lower. Small and dispersed land holdings limit scale advantages, posing a significant barrier to further farm mechanisation in India.

3. EXPANDING COVERAGE OF IRRIGATION

Irrigation coverage in India has continuously increased over time, benefiting Indian agriculture by increasing output and reducing vulnerability to extreme weather events such as drought. According to the most recent data, a total irrigation potential of 126.7 million hectares has been developed across the country, edging closer to the final estimated irrigation potential of 140 million hectares (CWC, 2019). Minor irrigation has become more important over time, showing that small landowners are becoming more involved. The usage of micro irrigation (sprinkler and drip irrigation) has expanded dramatically since the launch of the Pradhan Mantri Krishi Sinchai Yojana (PMKSY) in 2015-16, ensuring water use efficiency at the farm level. Despite this consistent development, India's totally irrigated territory remains at 34.4 percent, which is less than the wholly unirrigated area of 38.6 percent.

FUTURE CHALLENGES:

While Indian agriculture has done relatively well over the last two decades in terms of record production, diversification into high-value horticulture, livestock, and marine products, and doubling its share in global agricultural trade, the sector is currently beset by issues, particularly related to sustainability, nutrition, adoption of new agricultural technologies, and, perhaps most importantly, the income levels of the population dependent on far-flung sources of income.

Some Significant Issues That the Agricultural Sector Faces

1. GLOBAL WARMING

Climate change is continuing to have a substantial impact on India's agricultural productivity. Climate change has become a big danger to Indian agriculture and production loss due to rising temperatures and increased incidences of harsh weather conditions (RBI, 2020). The rabi season (October to February) has seen the greatest variations in rainfall and temperature, according to a season-by-season research. Changes in different climatic factors have varied implications for rabi and kharif crops, according to long-term co-movements. While maximum temperature anomalies in both seasons show a substantial negative link with yields, minimum temperature anomalies show a negative but statistically significant relationship with yields only in the rabi season. Overall, preliminary findings show that maximum temperature anomalies have a greater impact on kharif crop yields, whereas minimum temperature anomalies have a greater impact on rabi crop yields.

Climate change causes crop damage by increasing insect and disease attacks, in addition to impeding plant biological growth. Extreme weather events such as floods and droughts, as well as unseasonal precipitation, have become more common, posing a major threat to standing crops. Small and marginal farmers have been found to be more vulnerable to these effects (Praveen & Sharma, 2020). Climate risk mitigation strategies can play an essential role in preserving farm income in such a scenario.

MEASURES TAKEN BY GOVERNMENT

A. The Pradhan Mantri Fasal Bima Yojana (PMFBY) – the world's largest crop insurance scheme — was launched in 2015-16 and covers agricultural damage. Crop damage caused by a wide range of climate-related risks is covered under the world's largest crop insurance plan. Furthermore, there is a requirement. need a comprehensive and long-term climate policy must strike a balance between Indian growth and long-term viability agriculture. The goal of such a policy should be to raise awareness and capacity building at the local level, particularly in Gramophone Panchayats are helping to speed up climate-proofing initiatives.

B. Mahatma Gandhi's National Rural Employment Program MGNREGS (Municipal Government Guarantee Scheme)

C. Extensive research in the creation of cultivators that can withstand stress lowering agricultural greenhouse gas emissions output; and encouraging the diversification of the economy Changing one's spending habits to be more climate resilient is a good idea. coarse grains and pulses

2. WASTE MANAGEMENT IN AGRICULTURE

Crop residue burnings in the northern states cause air pollution, generate health risks, and contribute to global warming, so agricultural waste management is a big concern.

Crop residue burning reached 48.6 million tonnes in India in 2018, with paddy accounting for half of that. The short time between kharif harvest and rabi sowing in the northern states, combined with the difficulties farmers face in residue management – both physical (lack of labour) and economic (high cost of removal) – leads small and marginal farmers to resort to in

situ residue burning, which pollutes the air. Experts have recommended a number of alternatives, including improved and more effective mechanisation for in-situ residue management, such as briquetting and waste conversion to fuel forms, diverse industrial applications, and the recent introduction of microbial breakdown solutions, among others.

Sustainable solutions, on the other hand, should include cost effectiveness, stakeholder engagement, and suitability from a socioeconomic and environmental perspective.

3. LANDHOLDINGS IN PIECES

The number of farm holdings in India has grown over time, but the amount of land under cultivation has decreased. As a result, the average holding size has shrunk dramatically. The average landholding size in the country has decreased from 2.28 hectares in 1970-71 to 1.08 hectares in 2015-16. In India, marginal and tiny ownership account for 86 percent of overall holdings. Farmers can't afford to invest in tube wells, drip irrigation, storage, or bulk inputs because of the fragmented land ownership structure. As a result, land consolidation is critical for increased efficiency. Unfortunately, India's land market is constrained by a number of factors, including low land record quality, complicated administrative procedures, and transferability limitations. Consolidation of landholdings is required to boost agriculture productivity in the country through land market changes

4. DISGUISED UNEMPLOYMENT

According to Census data, India's rural population is 833 million, accounting for over 68 percent of the total population. While the agriculture sector employs 49% of the country's entire workforce, it only accounts for 17% of total GVA, indicating that India's labour force is overly reliant on agriculture, resulting in large hidden or disguised unemployment and consequently poorer labour productivity (FAO, 2020; Joshi 2005). Many farmers [approximately 40% of those polled by the National Sample Survey Organisation (NSSO)] have shown a readiness to leave farming if adequate alternatives can be found (Chand, 2017; Himanshu et al., 2016; Chand and Srivastava, 2014). With surplus labour migrating out of agriculture, land holding size per capita will increase, resulting in increased economies of scale. However, due to a variety of socioeconomic restrictions such as low skill and education levels, rural inhabitants' geographic disadvantage, and non-farm industries' limited labour absorption capacity, the move has been slow (Chand and Srivastava, 2014)

5 Food Price Volatility and Inflation

Because agricultural output in India is still heavily dependant on rainfall and its spatial distribution, extreme climatic events such as draughts, floods, and unseasonal rains tend to disrupt both aggregate supply and supply networks, resulting in extremely volatile food inflation. Inefficiencies in the food supply chain, such as high and fluctuating retail markups on wholesale/farm gate pricing and a lack of growth in the food processing industry, influence food inflation in India (Bhoi et al., 2019; Dhanya et al., 2020).

While overall food inflation has reduced since 2014-15, owing to record output of foodgrains and horticulture crops as well as lower global food prices, food inflation volatility has remained high. The impact of food, particularly vegetables, on the environment.The volatility of headline inflation is much larger. Food goods are more perishable than non-food items, reflecting the perishable nature of food. agricultural yields, short crop rotations, and insufficient storage as well as ineffective pre- and post-harvest procedures (RBI, 2020).

Even non-perishables like beans and cereals are affected, have shown a high level of volatility. In general, agricultural commodity prices in India have increased. alternating years, displaying a cobweb phenomenon based on supply reaction to high and low pricing sentiments on price.

The importance of supply chain management Scaling is important for reducing post-harvest losses. constructing storage infrastructure, and food development.

In this context, the processing sector and improving food safety regulations are critical. Public and private sector investment can make a significant difference to strengthen the agricultural infrastructure required for efficient post-harvest practices

Minimizing Post-Harvest Losses

One of the major issues is food waste as a result of inadequate postharvest processes underlying India's excessive food inflation Wastages consume a lot of time occur at all levels of the food value chain - from the farmer to the consumer from the farmers' level to the transporters' level, Wholesalers and retailers are two types of businesses. As a result, there are wastes. from a variety of reasons, such as agricultural damage, incorrect irrigation, and so on harvesting methods, inadequate packaging, and a lack of storage and processing facilities, among other things The losses that occur after the harvest are known as post-harvest losses. Perishables such as fruits and vegetables have a much higher price tag. Compared to non-perishable foods, veggies have a longer shelf life. Post-harvest wastages in non-perishable crops such as cereals, pulses, and oilseeds, for example, are estimated to be in the range of 4.6-9.9%; perishables such as fruits and vegetables, in the range of 4.6-15.9%; meat, in the range of 2.7-6.7 percent; and fish, in the range of 5.2-10.5 percent by the ICAR-Central Institute of Post-Harvest Engineering and Technology. 2015, ICAR-CIPHET. Agricultural economists have recognised that reducing loss in cold storage, warehousing, packing, and cold transport chain infrastructure has the potential to significantly increase the availability of agricultural produce, particularly horticulture commodities like fruits and vegetables. Furthermore, better post-harvest processing can reduce post-harvest losses and lengthen perishables' shelf life. Reducing post-harvest losses in this way will increase food availability and minimise food price volatility, which will benefit both consumers and farmers

CONCLUSION

India's agriculture has reached unprecedented heights, setting new records, Commercial and industrial production of a variety of food grains horticulture crops, demonstrating adaptability and ensuring. During the COVID period, food security was a concern. The industry, However, this sector met with a number of difficulties, which it need to overcome. This necessitates a comprehensive policy strategy. As an example, India's agriculture productivity is significantly lower than that of other countries. related to advanced and emerging market economies a number of issues, including fragmented landholdings, lower Agricultural mechanisation and reduced public and private spending Agriculture is being invested in.

Second, there is currently an overabundance of crops such as rice, wheat, and sugarcane, has resulted in rapid groundwater depletion. Degradation of the soil and huge air pollution are on the rise. concerns about the environment's sustainability current agricultural practices in India.

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THE INFLUENCE OF 11P'S ELEMENTS ON CUSTOMER SATISFACTION TOWARDS SOLAR HOME PRODUCTS IN PUNE CITY

Mr. Rahul Diliprao Tamhane
Assistant Professor, Sinhgad College of Science, Pune- 41

ABSTRACT

With Globalization and industrialization, increase the competition. Marketing mix is playing an important role towards manufacturers and distributors. To sustain the market effective utilization of marketing mix is urge of successful solar home product business model. Manufacturers, Distributors and retailers have to compete with local market as well as large foreign players. The paper discusses the 11P's elements of marketing mix and its impact on customer satisfaction. Now a day's customers are choosy while selecting the goods and services. Organizations need to understand the need of the society and fulfil with effective and efficient way, so that customer can rely on the product in any situation which will become helpful for the businesses to earn more profits and increase market share. Large scale or Small-Scale organizations should keep win-win position while serving the goods to society. This study discussed the impact or influence of 11 elements of Marketing mix on customer satisfaction.

Keywords: Globalization, Marketing Mix, Customer Satisfaction

1.1 INTRODUCTION

Customer satisfaction is one of the marketing strategic tool which can be worked and implement with the elements of marketing mix. The organization and consumer primary and secondary objectives can be fulfilled with usage of these elements. To achieve organization needs, first to understand the needs, wants and desires of the target market customer. The constructive Marketing mix strategy will help to satisfy desire of consumer satisfaction. The goal of marketing mix is to make decisions for target market to create a positive impact.

To develop an effective and efficient marketing program for an organization, we have to build a successful elements of marketing mix. These mixes can be used as per the requirement of niche market specific. Every organization business product domain would be a different than other industrial categories. The elements can be used with the global changing scenarios with reference to a target market. The Marketing mix is a set of elements / Strategies / Actions build to its products and services for targeted audience. It always helps to deliver the right product or services at right time and right place to the targeted consumer. The traditional marketing P's starts with 4P's and their after it developed with the different tools of 7P's but today's global marketing challenges has developed to 11P's of marketing mix.

1.2 THE ADVANTAGE OF THE 11P'S IN MARKETING MIX AS FOLLOWS:

* Helps to deliver appropriate product / services to target consumers.

* Helps in making successful product featuring with Unique selling prepositions.

* Helps in different stages of the effective and effietient marketing strategic program.

* Helps to increase the brand value.

* Helps to discover the facts about product problems.

* Helps to define the timeline and market segmentation.

* Helps to restructure or develop new product line.

* Helps to avoid unwanted expenditure on marketing practices.

- Helps to discover Strengths, weakness, Opportunity and Threat towards product and services.

1.3 CUSTOMER SATISFACTION

Customer satisfaction depends on company's product value and services. It means that how's company image to provide quality products and services to satisfy customers desire. Company needs to fulfill the customer expectation through product value. For satisfying wants, needs of the customer's organization should understand the customer through effective communication to target market and make ease for the customer to purchase the goods.

1.4 OBJECTIVES

1. To comprehend the concept of Marketing Mix.

2. To study the 11P's Elements of Marketing Mix.

3. To examine the influence of marketing mix on customer satisfaction.

1.5   ELEMENTS OF MARKETING MIX

1. **Product**: Product is the most important element of marketing mix. The first impression of product or service consumer see in the market. Here, company's brand image towards product play an important role. A quality product or service increase market share with the word of mouth. Ensuring the best quality standards of the product as per need, demand and want plays important role in marketing.

2. **Pricing**: Price is vital aspect of the fundamental Ps under marketing mix. Price makes the difference in product value; this refers to know how much consumers can afford to spend for the product or services. Competitor's product pricing or same business product pricing plays very important role in deciding the price towards product or service.

3. **Promotions:** Promotion adds multiple ways to reach the targeted audience. This includes the advertising, promotional deals, sales promotions, personal selling, etc. which attracts the targeted audience towards business. These practices not only help to create an awareness about product but also makes brand image in the market.

4. **Placement:** Placement is important to create an impact on targeted audience with reference to their needs and demand. The marketing message must be visible in such a way at right place and right time, so it makes the positive impact on the consumer to buy the product or services provided by the organization.

5. **People:** People practice refers to how marketing strategy should be target to the specific niche or specific segments of the people. A group of people can be large or small groups which can be segmented according to the purchased patterns or purchase behavior of the consumers. Once the segments are created consumer expectations can be understood with their patterns of buying.

6. **Process:** The process makes an impact on the buying pattern which is created and distributed by an organization. This practice helps to meet the consumer expectations and satisfaction toward product process.

7. **Physical Evidence:** Physical evidences make the difference for tangible and intangible products. In services, they are intangible and can't be get experience until it is delivered to the consumer. So, before delivering the services to the consumer needs to provide with a physical evidence like broachers, pamphlet or case study etc.

8. **Personalization:** The targeted audience in today's internet era, organizations used the different tools like data to deliver the product or service message. The understanding of the

insights on consumer target audience we can make their preference to personalize the product or services. To make more understanding at personalization the data collected using different surveys, different studies will make marketing more effective.

9. **Participation:** The consumer participation with company's product or service plays vital role to understand their reactions about the advertisement and product specification. Targeted consumers can share their feedback or comments through different social media platforms or discussion forums or meetings etc. The participation in event organized by the organization, which will help to make direct communication to understand the consumer satisfaction.

10. **Peer to Peer**: This practice helps to gain the confidence and trust toward targeted audience. A peer may be he or she will associate with product or service, which advise about the product and their standard procedure as a proof to targeted consumers. This helps to make audience to believe at standards of the products.

11. **Predicative Marketing Modelling**: This is a new practice which includes the algorithms which helped the company to forecast and solve the marketing problems. This modelling will help to decide which products and services to grow. This practice helps organization to make seamless marketing segmentation practice.

1.6 IMPACT OF MARKETING MIX ON CUSTOMER SATISFACTION.

The traditional elements like product, price, place and promotions are used by the manufacturers and distributors to create a product value but to create a sound customer retention organizations are using marketing activities like customer engagement programs i.e. participative activities, the peer to peer discussion helps to increase the understanding between sellers and buyers. The marketing predictive analytical modelling is used by large scale organization to deliver the customer satisfaction through customer relationship marketing model.

1.7 CONCLUSION

The influence of 11 P's playing a very important and vital role in solar home product business in pune. The manufacturers and distributors are using these elements to increase the market share. 11 P's are important to deliver the customer satisfaction by using specific P's like participation, CRM, Etc. Every organization must use all elements to deliver the best customer retention and satisfaction towards solar home products.

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BLOCKCHAIN: THE RECENT TREND IN INFORMATION TECHNOLOGY

Ms. Pritibala S. Ingle

ABSTRACT

Blockchain is a system for recording information which can be difficult and impossible to change. It is the Distributed Ledger Technology (DLT). There are four types of blockchains namely public, private, consortium and hybrid. Blockchain provides features like high security, decentralized storage, quick transaction and low cost because of which it is becoming popular day by day in the sectors where sensitive data is used. This study clears the basic concept behind blockchain with its types and applications.

Keywords: Distributed Ledger Technology, Blockchain, decentralized

1.1 INTRODUCTION

Blockchain is a system for recording information in a way that makes it difficult or impossible to change, hack, or cheat the system.

Blockchain is a dynamic digital transaction log and scattered throughout the computer programs network on the blockchain. Every block of the series contains a number of activities, and each and every time a new activity occurs in a blockchain, a record of that purchase is added to each participant's book. The site that is shared by many participants is called as Distributed Ledger Technology (DLT).

Blockchain is a type of DLT in which transactions are transcribed with the use of cryptographic signature which is called as hash.

It means when one block from one chain is replaced, it will immediately identify that it has been stolen. If criminals want to damage the system of blockchain, they to change all the blocks of all the distributed versions of the chain.

1.2 TYPES OF BLOCKCHAIN

i. **Public blockchains**: The nature of these blockchains is permission less. It allows anyone to join. They are completely decentralized. These blockchains gives equal right to all nodes to access the blockchain, it creates new blocks of data and also validate blocks of data. These blockchains are generally used for the mining and exchanging cryptocurrency. Some of the popular public blockchains are Bitcoin, Ethereum and Litecoin. The nodes of public blockchains "mine "for cryptocurrency by creating blocks for the requested transactions on the network using solved cryptographic equations. In the return the miner nodes get a small amount of cryptocurrency. The miners mainly act as new rea bank tellers who formulates the transaction and get a compensation for the same.

ii. **Private or Managed Blockchains**: These blockchains are also called as managed blockchains. These blockchains are controlled by a single organization. These are permissioned blockchains. In this type of blockchain the central authority decides who can be the node. The central authority never gives equal rights to every node to perform functions. These blockchains are partially decentralized as public access is restricted to these blockchains. Business -to -business virtual currency exchange network Ripple and Hyperledger, an umbrella project of open-source blockchain applications are some of the examples of private blockchains.

iii. **Consortium Blockchains:** Consortium blockchains are governed by group of organizations instead of one entity like private blockchain and these are permissioned blockchains. Consortium blockchains consist of more decentralization than private blockchains due to

this higher security is provided. The process of setting up consortiums can be tedious as it needs cooperation between the number of organizations which consists logistical challenges as well as potential antitrust risk.

iv. **Hybrid blockchains:** These blockchains are controlled by a single organization by noticing the level of failure performed by the public blockchain, which is needed to perform certain transaction validations. IBM Food Trust is one of the examples of hybrid blockchains, which was developed for efficiency improvement throughout the whole food supply chain.

1.3 APPLICATIONS OF BLOCKCHAINS TECHNOLOGY

i. **Blockchain in Supply Chain Management**: As blockchain technology can be used for secure transactions. It can be used in supply chain management it provides traceability throughout the supply chain.

Let's see the example of supply chain management:

Throughout the process of supply chain management, permanent record -keeping des permanent record-keeping, transparency and validation of transactions is provided by blockchain which could be shared by multiple supply chain partners. With the help of this anyone can verify the authenticity or status of the product which is being delivered.

The real-life example of this blockchain application is Walmart, which is building a blockchain distributed record in order to connect with and track pork suppliers, shippers, purchasers and others who are involved in delivering the food product around China. Due to the blockchain the risk of data tampering and inaccuracy are get reduced.

ii. **Blockchain in Cyber Security**: Blockchain technology can play important role in cyber security. As the features of blockchains are high security, decentralized storage, quick transaction and low cost which are helpful for the secured transactions. For example, if a person is doing some transaction that transaction is recorded into a blockchain. Each node consists a copy of that data and cryptography protects the transactions against making the changes if any. If hacker tries to hack the blockchain he fails due to the peer-to-peer connections, as it is not possible to alter or tamper the data. The real-life example of this application is Mastercard, It uses blockchain for sending and receiving money. It also allows to exchange the currency without the central authority requirement.

iii. **Blockchain in voting:** The blockchain technology can be used in voting system as it is a decentralized process which is used to avoid the manipulations of vote counts in Electronic Voting Machine. Blockchain is having potential to give complete transparency in the voting process. If we use blockchain for voting process then the voter has to download the voting application, for ex. MiVote, Then the user can submit their voter ID for registration of election. The verification and authorization of the voter is done for casting the vote, the identity of the person is kept private. Each ID can cast just one vote. When the vote is added to blockchain the information cannot be erased. The officials can count votes with accuracy using blockchain, Voters are also able to track their votes. In Australia MiVote uses this blockchain Technology for unbiased voting process.

iv. **Blockchain in Insurance**: Insurance companies can use blockchain technology to eliminate fakes and to avoid false claims.

v.   **Blockchain in Real estate**: In real estate blockchain technology can be deployed to increase the speed of the conveyance process and to eliminate the necessity for money exchanges.

vi. **Blockchain in Healthcare**: In healthcare blockchain can play important role to keep important patient data and safe and secure because of the features like incorruptibility, decentralized nature, and transparency.

1.4 CONCLUSION

Blockchain helps for verification and traceability for multistep transactions. Blockchain plays important role for reducing compliance cost, securing transaction and speedy data transfer processing. It is an immutable digital ledger where transactions are done instantly and transparently. It is decentralized system which update automatically. Walmart, Visa, Unilever etc. are using blockchain technology and benefited with traceability, security and transparency. Thus technology is going to boom in the various fields like business, finance, law medicines and real estate.

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THE STUDY OF WOMEN CHARACTERS FROM KAVITA KANE'S SELECTED NOVELS

Mr. Hiraman Pandurang Kamble
Assistant Professor, Sinhgad College of Science, Ambegaon (BK), Pune

ABSTRACT
Women are always marginalized, exploited and oppressed in patriarchal framework of society. They are also misrepresented or misjudged in literary works specially written by male writers. For example, William Shakespeare, in his play Hamlet (Act I, Scene II), uses the phrase, 'Frailty, thy name is woman'. There are so many examples can be given from various literary works having misrepresentation of women. Simone de Beauvoir says in her book The Second Sex, "One is not born, but rather becomes, a woman." It is mockingly said by people that behind every war woman is responsible. In this chapter, the researcher will discuss how Kavita Kane has portrayed the women characters from Indian epics like Mahabharat and Ramayana. The epics are told from women character's point of view. In her novels one can see the retelling of mythology from the perspective of neglected women characters from Indian mythology. Her novels are women-centric and focus on lesser-known women in mythology like Urmila, Uruvi, Meneka, Satyavati, Surpanakha.

Keywords: Myth, feminism, patriarchy, matriarchy, empowerment

There is no wonder or very acceptable in patriarchal nations, prominently, in mythical writing by male writers, women are either completely resisted or primarily considered as conveyances of men's worth. In the myths, women are mostly represented as subordinate to man or the culprit in fall of man. Writers like Kavita Kane are trying to bring forth the lesser-known woman characters from the Indian myths. The novels written by her narrates women characters who are not having any importance in the myths but here dominates the story of the novel as protagonist. She is trying to empower women characters through her writing.

Retelling of my Mahabharata can be seen in the novel *Karna's Wife: The Outcast's Queen.* Here the story is told from the eyes of a lesser-known character Uruvi. She was the second wife of Karna. The novel explores the multiple facets of Karna, the one who was the best example of loyalty, morality. Karna made all the wrong decisions in life by supporting Duryodhana. Uruvi couldn't forgive Karna for his transgression after the game of dice in ordering the disrobing of Draupadi. She was a very confident women who was ready to fight for her desires and also tried to show the right path to her husband. She was having qualities to fight for her own right and also to make others believe what is right. She was a headstrong woman as a wife. She tried to convince and take away her husband from the evil Duryodhan and Shakuni. She brought up her child single-handedly and renounced the throne of Hastinapur.

The character Urmila is portrayed in the novel *Sita's Sister.* It is the story of Ramayan from the perspective of Urmila. She is Sita's younger sister and the wife of Lakshman. Urmila in this novel comes out as the most influential and important character, who is very strong by nature yet calm in the face of adversity. She is having broader perspective of everything. When Laxman decides to accompany his brother for a very long period of time, she comes across as an individual who accepted her situations gracefully. Whether it is of being treated as less important than her adopted elder sister Sita or submitting to the fact that her husband would remain committed to his brotherly duties over and above her. She never laments it and reciprocates by being a source of strength for her loved ones. She is one of the strongest characters in Valmiki's Ramayana. Kavita Kane has described the character of Urmila as she is the source of power for her loved ones.

In the novel *Menaka's choice* writer Kavita Kane portryaes the life Menaka who was the very beautiful apsara in heaven. This book explores the journey of mythical character Menaka by re-telling of Menaka's trials and tribulations in her voice. She was constantly demeaned and merely reduced to a role of seductress. But she refuses to remain calm and finally fights for her rights and honour. People keep women for granted and in this patriarchal set of society she is made to believe that her role is only secondary or she is seen in relation with man only where man is centre and women is supportive. In this novel Menaka demands to be seen as a woman and not be seen as mere entertainers in Indra's court. At the end, Menaka reasserts her right to choose and this is the statement of empowerment. Women characters of Kavita Kane raises their voices for equality, right to choose and many more which are the traits of feminism.

The novel *Lanka's Princess*, is a story of Surpanakha. She was a sister of Ravana and infamous in myths as evil character. She is one of the most hated characters in Ramayana. Even today people give her example as the most ugly and untamed women. Her nose was cut off by Lakshman and because of this incident war happens. This novel tries to raise the question whether this character was a perpetrator or a mere victim. In the novel the story of Meenakshi (Surpanakha) is portrayed as growing up like a neglected child and overshadowed by her brothers. She faces rejection in all her life.

There is another story of women from Mahabharata in the novel *'The Fisher Queen's Dynasty*. The story is told from the point of view of 'Satyavati. Sshe was the wife of King Shantanu and the step-mother of Bhishma Pitamah. In the novel human contradictions are explored. This contradiction can be described as sticking to morals and rising in the social ladder through deceit. The character of Satyavati who was a fisher-girl became a queen. She was abandoned as a baby and rose in the station to become a queen and the grand matriarch of the Kuru dynasty. This novel is a good example of how one's decisions and actions can bring consequences in somebody's life, who is entirely disconnected from their life.

The characters discussed here are from Kavita Kane's novels *Sita's Sister, Karna's Wife: The Outcast's Queen, Menaka's choice, 'The Fisher Queen's Dynasty,* and *Lanka's Princess.* Each novel focus on the life of neglected women characters from Indian myths. Myths of all the cultures are primarily written or told by men by keeping man at its centre. So, women characters are overshadowed or not given much more importance. But her novels unfold mythical stories from women's perspective. Her novels can be studied as an example of feminist writing and empowerment of women characters. These women characters can be studied to understand the dilemmas encountered by them in the era represented in the novel and their struggle for the rights. With this one can conclude that women's oppression is caused by the social norms and the circumstances in which women had to face identity crisis.

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TO STUDY THE DIGITAL MARKETING STRATEGIES FOR STARTUPS

Mrs. Reshma Ganesh Navale and Ms. Supriya Siddheshwar Sagar
Assistant Professor, Sinhgad College of Science, Ambegaon (BK), Pune

ABSTRACT

The internet has become a main source of information for a global audience looking for a range of information before purchasing a product or service online or in a local store. This study is part of a larger investigation of the use of digital marketing by startups and small enterprises in India, as well as customer purchasing behaviour shifts from big brands to new initiatives based on online evaluations and reputation. The goal of this research was to study ' digital marketing strategies and see how they are competing in the worldwide market. It will also address how digital marketing is important for startups and its impact on consumers behaviour.

Keywords: Digital marketing, Consumer purchase behavior, startups, strategies

1.1 INTRODUCTION

In India, marketing has developed at a tremendous speed. Some believe that marketing has evolved faster in the last two years than it has in the previous 50 years. This shift is referred to as digital marketing. The majority of Indian startups have adopted digital marketing with less capital investment, increasing the economy's growth. India's entrepreneurs are cool, with new and original ideas and a passion for executing digital marketing methods. This report takes you on a step-by-step tour of how startups plan digital marketing strategies for businesses and what are the importance of marketing for startups.

The primary goal of this paper is to determine the use digital marketing for the startups. The following are the supporting objectives:

1.2 OBJECTIVES

1 To study digital marketing strategies for businesses.

2 To study importance of digital marketing for startups.

3 To study the impact of digital marketing on consumers behaviour.

1.3 DIGITAL MARKETING STRATEGIES FOR STARTUPS

1. **Email Marketing:** Despite forecasts of its death in the marketing world, emails are still alive and well, providing advertisers with a healthy return on investment (ROI). According to a recent survey, email marketing has a 122 percent return on investment.

This was four times as much as the other marketing channels evaluated. Paid advertising, direct mail, and social networks were among the channels used.

2. **Marketing on social media:** These days, social media has evolved into a strong marketing tool. According to research by Social Media Examiner, 90% of marketers believe social media is vital to their organizations. Moreover, 89 percent of marketers stated that their social media initiatives have improved their company's exposure.

The following are some of the advantages of social media marketing:

It improves traffic and publicity.

Customers become loyal as a result of social media marketing.

It raises search engine ranking and creates leads.

It establishes a position of thinking leadership.

Sales have increased.

3. **Pay-Per-Click (PPC) Advertising (Google AdWords):** Pay-per-click (PPC) marketing is a strategy of attracting people to your website by employing search engine advertising. PPC is a highly effective marketing strategy for generating revenue. Pay-per-click marketing is something that no company should ignore. Pay-per-click advertising has a number of advantages, including: Startups can reach their customers at the right time with the correct ad and get a high return on investment because startups only pay when someone is interested in their ad.Startups has complete control over how much they wish to spend. There will be no need to wait for outcomes. Data and insights can help with other marketing tactics.

4. **Search Engine Optimization (SEO):** SEO not only improves traffic to startups website, but it also establishes credibility. When potential clients search for keywords relating to startups products or services, their website scores high in search results, giving the impression that they are a trustworthy business. Every startup must focus on search engine optimization. Simply ensure that their website adheres to the greatest SEO techniques.

5. **Content Marketing:** Whether startups are in the B2B or B2C space, content marketing has become a must-have for organizations these days. When startups structure their content marketing strategy around the stages of their customer lifecycle, they will be able to develop valuable content that their target audience will enjoy reading since it solves their problems. As a result of the enhanced trust, conversion rates will eventually climb. Startups can: Increase their brand's visibility by implementing content marketing methods for startup. Make longer relationships with clients. Increase brand awareness and recognition. Increase credibility and reputation. Become a thought leader.

6. **Retargeting Ads:** Retargeting is a type of marketing in which you display relevant advertisements to those who have previously visited startups website. A pixel (a non-obtrusive piece of JavaScript) is placed on the web browser of a potential buyer who visits their website. To put it another way, cookies are stored in the browser of startups potential customer. When this consumer visits other websites, the pixel alerts the retargeting platform, and the customer is offered relevant advertising based on the pages he or she visited on site. startups may enhance their conversion rate by converting visitors who have previously demonstrated interest in products or services using efficient retargeting ads.

1.4 IMPORTANCE OF DIGITAL MARKETING FOR THE START-UPS

In many cases, digital marketing is less expensive than traditional marketing. While a basic website was sufficient a decade ago, today's users While print and television ads might cost thousands of dollars, an online campaign may just cost a few hundred dollars. A website can also reach thousands of people for the expense of writing content and publishing. Startups may use digital marketing to reach out to new customers and build relationships for a fraction of the expense of traditional marketing.

1. **Low-cost customer research:** While Dove has years of user research to back each product, startups are too fresh to know what their customers desire. Buying activity can be tracked, monitored, and interpreted using technology. Companies can use technology to determine which items and demographics are most beneficial to their operations. Rather than wasting millions of dollars on an unproductive television commercial, the startup may target the consumer who is most likely to be interested in the product.

2. **Get Customers Involved:** Social media posts, and webinars are all ways to directly engage with clients. Customers perceive a private , one-on-one interaction with the brand as a results of digital marketing. Once this relationship has been established, the startup just needs to put up less effort to keep their customers. Social media marketing help to increase visitors to the company's website and sell new offers, in addition to engaging clients.

3. **Use Statistics to Inform Your Actions:** Metrics for measuring success Consumers are increasingly using smartphones to access the internet and learn about businesses. Online marketing is one of the best strategies of marketing to consumers because of widespread access to traditional smartphones and tablets. It also provides real-time metrics for the startup to assess the campaign's success. Instead of guessing the number of people who looked at a print ad in the newspaper, the startup knows exactly how many people are reading and interacting with its ads. Startups can now customize their marketing strategies to specific geographic areas and demographics. These advanced tools enable digital marketers to learn about their customers' purchasing habits and spot fresh chances.

4. **Mobile Optimization Strategy:** Online consumers and search engine technology are always changing. While a basic website was sufficient a decade ago, today's users interact with businesses through their mobile devices. As a result, smart businesses must develop a mobile optimization plan. Their website must, at the absolute least, be built to be easy to read and navigate on a mobile device. Mobile searches now account for quite half all searches. As a result, Google altered its ranking algorithms to ensure that webpages are optimised for mobile devices. Search engines will not rank websites that are not mobile friendly as highly as those that are.

5. **SEO Is Crucial:** While some felt SEO (search engine optimization) was dead a few years ago, it is still quite vital for websites. Although Google's algorithms have been modified, SEO remains the most effective approach for search engines to determine what a site is about and how beneficial it is. Search engines will need a mechanism to spot the subject and usefulness of an internet site as long as there are search engines.

6. **Creating the Best Digital Marketing Strategy:** Take a digital marketing strategy. When creating a digital marketing strategy, businesses must be careful to change their approach. Advertisements, emails, and content can all be blended into one another via digital marketing. To be effective, these strategies must be thought call at advance, from developing an internet site to hosting a webinar.

7. **Digital Marketing vs. Traditional Marketing:** The key advantage of digital marketing is that it's a low-cost method of reaching a bigger number of potential customers.
   These expenses do not include the cost of producing a radio or television commercial. A product can run into the thousands depending on the business and the advertisement. Startups frequently can't afford even one television commercial, and one commercial includes a very limited reach. Digital marketing, on the opposite hand, is way less costly.

1.5 IMPACT OF DIGITAL MARKETING ON CONSUMER BEHAVIOUR

Customers are more demanding of online stores and digital purchases as a result of the impact of digital marketing on consumer behavior. Businesses must have a strong digital commerce presence with smooth and secure methods of payment, quick delivery, and a clear return policy that protects consumers' rights in survival.

1. **Consumers Started Experimenting:** Consumers used to be cautious about testing new products and services. People are now accepting innovative goods / processes as a result of digital marketing and the large knowledge it provides to the public. Many start-ups have benefited from this experimental behaviour, including Uber, Ola, Zomato, OLX, and others.

2. **Consumer Behaviour is Transforming:** Modern consumers anticipate a more consistent and customized experience, which is one of the most significant changes in consumer behaviour brought on by digital marketing. They are no longer faithful customers. Customers now value the post-purchase experiences just as much as the quality of the products. Companies that have been actively and digitally marketing their distinct consumer offers in order to meet modern tastes and acquire a new audience have prompted this shift in behaviour.

3. **Customer Engagement Has Increased:** The importance of digital and social media marketing in consumer behaviour has increased significantly. Customers may now build and destroy brands through social media sites such as Facebook and Instagram.

"Word of Mouth" remains one of the most powerful influences on user behaviour. Likes and comments on social media only serve to amplify this phenomenon.

1.6 CONCLUSION

Every firm, whether it is a startup or a large corporation, should invest in digital marketing. It may assist startups in spreading brand recognition and generating leads, which are two of the most important goals of any new company.

Some of the most popular digital marketing strategies include SEO, content marketing, advertising, email marketing, and social media marketing. Because each has its own set of benefits and drawbacks, the optimum technique for each marketer may differ. Digital marketing has a positive impact on customer purchasing behavior, traditional marketing should be transferred to digital marketing as soon as possible.

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GREEN MARKETING - AN OVERVIEW

Dr. Surekha B. Mujumale
Assistant Professor, Sinhgad College of Science, Ambegaon B.K

ABSTRACT

Today, environmental challenges may be found all around the world. These challenges, such as global warming, garbage disposal, climate change, and pollution, are extremely important and have an impact on our daily lives. Even despite legislative pressure, many corporations are still hesitant to embrace green marketing practices. The main reason for this is that the company still believes that green marketing practices will raise their production costs and reduce profits.

Now companies have begun to adopt green marketing strategies and techniques as green consumerism and corporate environmentalism have grown. Environmentalism is gaining traction in India as well. To combat environmental damage, the government has enacted a variety of environmental legislation. Green campaigns have been launched by both the government and non- government organizations to tackle the ever-increasing problems of pollution and the rapid depletion of natural resources. Green marketing is a concept that has grown in prominence in the modern market. Furthermore, the rise of green marketing has provided corporations with the chance to co-brand their products into various lines; such marketing strategies will be discussed as a direct outcome of consumer market movement.

This article highlights concept of green marketing, green marketing mix, its benefits and also discuss the measures to enhance and develop green marketing strategies.

Keywords: environmental damage, green consumerism, green marketing mix, depletion of natural resources, etc.

1.1 INTRODUCTION

Today, the detrimental effects of human activities on the environment are a source of concern. Governments around the world are working to reduce human effect on the environment. Our society today is more worried about the environment. Understanding society's new worries, businesses have begun to change their behaviour and incorporate environmental concerns into their operations. Green themes have been incorporated into academic disciplines' literature. This is also true in the case of marketing. Green marketing has now become such a source of concern for governments around the world that they have moved to regulate it. Green marketing can be described as the promotion of ecologically friendly products. It is the marketing of items that are assumed to be ecologically safe.

According to the American Marketing Association. Green marketing, also known as Environmental marketing or Sustainable marketing, refers to an organization's efforts to design, promote, price, and distribute environmentally friendly products (Pride and Ferrell, 1993). Today's corporate world faces a major challenge: maintaining ecological equilibrium. The environmental damage has already crossed the line and reached dangerous levels. Natural resources that cannot be replenished are rapidly depleting. The amount of waste produced, including biodegradable contaminants, is skyrocketing. All of these negative developments have compelled humanity to consider environmental conservation more seriously. Green marketing is one such environmentally friendly approach that is gaining traction.

1.2 OBJECTIVES-

1. To understand Green Product and Green Marketing

2. To know the concept of 'Green Marketing Mix'

3. To study measures for implementation of successful green marketing strategy

1.3 What is Green Product?

Green products are those that are made using green technology and do not pose a risk to the environment. Green technologies and green products must be promoted in order to conserve natural resources and achieve long-term growth.

Green products can be defined as:

- Products those are less poisonous
- Products those are more lasting
- Products those are made of secure materials
- Products made of recyclable materials
- Products those are locally grown
- Products those are biodegradable
- Products those contain naturally occurring ingredients
- Products those are not harmful to the environment
- Products those have environmentally friendly packaging, such as reusable, refillable, andrecyclable containers

1.4 Green Marketing

Green marketing is defined in three ways by the American Marketing Association. Green marketing consists of:

Definition of retailing: The sale of things that are assumed to be ecologically friendly. **Definition of social marketing**: The development and marketing of products with the goal ofreducing negative effects on the physical environment or improving its quality.

Environmental Definition: Organizations' attempts to make, promote, package, and reclaimproducts in a way that is environmentally conscious or responsive.

1.5 Benefits of Green Marketing:

- It ensures long-term profitability as well as sustainable growth.
- It saves money in the long run, despite the higher initial cost.
- It assists businesses in marketing their products and services while keeping environmental concerns in mind. It assists in gaining access to new markets and gaining a competitive advantage.
- The majority of employees are proud and obligated to work for an ecologically conscious organisation.
- It encourages social responsibility among businesses.
- Provides available opportunities and a competitive advantage
- Accomplishes companies' corporate social responsibility.
- Provides guidelines to Government

- Facilitates competition with other ethical businesses.

- Enhances the company's goodwill

1.6 GREEN MARKETING MIX

The four Ps of green marketing are the same as in traditional marketing, but the challenge formarketers is to employ the four Ps in new ways.

Product - The ecological objectives in product planning are to reduce resource consumption andpollution while increasing resource conservation.

Price - In the green marketing mix, price is a crucial and important aspect. Most customers will only pay more if they believe the product has more value. This added value could be in the form of better performance, function, design, aesthetic appeal, or taste. All of these factors should beconsidered when charging a premium for green marketing.

Promotion- Green advertising can be divided into three categories:

- ads that address the relationship between a product/service and the biophysical environment;

- ads that promote a green lifestyle by highlighting a product or service; and

- ads that promote a green lifestyle by highlighting a product or service.

- Commercials that project a corporate image of environmental stewardship

Place- The location and timing of a product's availability will have a big impact on customers. Customers are unlikely to go out of their way to purchase green products.

1.7 Measures to Develop Green Marketing Strategies

SWOT Analysis- Marketers should expand their green marketing strategy. How can they find newways to promote their products while still dealing with market competition? The marketing agencyshould also be aware of its strengths and weaknesses. Plan how the company can improve the livesof its customers and how it can set itself apart from competition. Customers should be assured thatthey are safe, and the environment should be considered in all phases of product production and distribution. Also must keep ready plan for the upcoming threats and opportunities.

Reassure customers - Firms should do the right thing and reassure customers that they are doingthe right thing, that they are working hard and caringly to produce high-quality products and services. When making marketing decisions, companies should think about people, profit, and theenvironment. If a company wishes to offer its clients a green product. First and foremost, it must be determined that the consumer is aware of the concerns that the product is attempting to address.There should be some added value to the product. Customers should be delighted when they use the product, and it should be distinct from other similar products available on the market.

Price Policy- If a company charges more than a competition, it should evaluate pricing policies aswell. Then, due to higher-quality ingredients and economies of scale, ensure that the product costs more. Always make attempts to improve existing items and adopt new forms of Eco-products. This means that the producer should not only focus on functional benefits, but also consider whatthey are making. If their products and services are not green, how can they make them green and with whom are they collaborating? To take advantage of the potential presented by green marketing to engage clients on an emotional level.

Green marketing campaign- Green marketing is more than just a catchphrase. It's a marketing strategy that can help you attract more customers and boost your revenues. But only when done properly. To be effective in green marketing, three things must be accomplished. Be honest with your customers, educate them, and invite them to engage.

1) Being genuine means that:

(a) you are doing what you say you are doing in your green marketing effort, and

(b) the rest of your business practices are in line with whatever environmentally friendly activities you are undertaking. Both of these requirements must be accomplished in order for your company to build the kind of environmental credentials necessary for a successful green marketing campaign.

Educating customers- Educating your customers entails not just informing them of what you're doing to safeguard the environment, but also in informing them of why it matters. Otherwise, a large chunk of your target market would think, "So what?" and your green marketing strategy will fail.

Participation of customers- Allowing your clients to engage involves personalising the advantages of your environmentally friendly initiatives, usually by allowing them to join in good environmental action.

Get to know your customer: If you want to market a greener product to consumers, you must first ensure that they are aware of and concerned about the challenges that your product aims to address. (Whirlpool discovered the hard way that consumers would not pay a premium for a CFC-free refrigerator because they had no idea what CFCs were!)

Empower customers: Make sure customers believe they can make a difference, either individually or in combination with other customers. This is known as "empowerment," and it is the primary motivation for customers to purchase greener products.

Be transparent: Customers must trust the integrity of your goods and the claims you're making. **Assure the buyer**: Customers need to believe that your product does what it's meant to accomplish; they won't sacrifice product quality for environmental reasons. (Besides, things that don't work will most certainly end up in the trash, which isn't very environmentally friendly.)

1.8 CONCLUSION

Consumers are becoming increasingly concerned about climate change. Furthermore, they expect their favourite businesses to not only share their concern, but also to take action (or enable their customers to take action) to alleviate it. Industry's previous understanding of green marketing was that the push to make the corporate environment green and to behave in a more responsible manner came mostly from the government and its laws.

Consumer studies show that consumers in most nations are growing more aware of and willing to act on environmental problems. Consumer choices and lifestyles have shifted dramatically. They favour environmentally friendly products and are willing to pay a higher price for them.

Companies are now experiencing numerous new issues as a result of the change from traditional marketing to green marketing. So, since today's successful marketing is about appealing to personal values and providing consumer empowerment, it's clear that now is the moment to incorporate sustainable development into the marketing mix to help address some of the world's most pressing concerns. Green marketing techniques provide excellent results.

In their marketing policies, agencies must implement all of the processes to reduce costs, increase response rates, and increase growth. The economic side of marketing should not be overlooked when it comes to green marketing. Marketers must be aware of the consequences of green marketing. Think again if you think people aren't worried about environmental issues or won't pay a premium for environmentally friendly products. We must find a way to improve the performance of our goods, reinforce your customer's loyalty, and fetch a higher price.

Consumers may perceive the product is of worse quality as a result of its green status, and they may also believe the product is not truly green to begin with. As a result, we must use marketing messages to educate clients, such as "Pesticide-free products are healthier," "Energy efficiency saves money," and "Solar power is handy." Customers must be educated through instructional websites. Organizations, on the other hand, recognise that they cannot survive without incorporating green into their strategy. However, further research on green marketing is needed to fully explore its possibilities.

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SATISFACTION LEVEL OF LIBRARY PROFESSIONALS IN INDIA: A SURVEY

Dr. C. Melvin Jebaraj
Librarian Mohamed Sathak Dasthagir Teacher Training College Ramanathatpuram, Tamilnadu, India

ABSTRACT

This study is to present the satisfaction level of LIS professions in India. This study is mainly based on the primary data from LIS Professions with the help of well structured questionnaire. It indicates majority of employee working in private institutions, majority of respondent's satisfied work place, salary and job satisfaction.

Keywords: Satisfaction Level, Library and Information Science Profession, Designation of LIS Profession

INTRODUCTION

Satisfaction is very important in any activity and job satisfaction is vital. Satisfaction comes when one's needs are fulfilled. Job satisfaction or employee satisfaction is a measure of workers' contentedness with their job, whether they like the job or individual aspects or facets of jobs, such as nature of work or supervision. Job satisfaction can be measured in cognitive (evaluative), affective (or emotional), and behavioral components. Researchers have also noted that job satisfaction measures vary in the extent to which they measure feelings about the job (affective job satisfaction).or cognitions about the job (cognitive job satisfaction).This study is based on satisfaction level of LIS professionals in India.

Need of the study
To identify the satisfaction level of LIS Professionals

Objective of the study
➢ To identify the level of salary satisfaction

➢ To identify the level of Job satisfaction

➢ To identify the level of working place satisfaction

METHODOLOGY
In this research, quantitative analyses of data obtained on organizational support, affective commitment and job satisfaction by using questionnaires is adopted as overall methodology.

Data Analysis

Table: 1 Designation

Designation	No.of.Respondents	Percentage
Librarian	119	58.9
Deputy Librarian	38	18.8
Assistant Librarian	5	2.5
Library Assistant	40	19.8
Total	**202**	**100**

Table .1 Shows that designation wise output totally 202 respondents respond the study Librarian is the highest level of respondents 58.9%,followed by Library assistant 19.8%,Assistant Librarian is the low level of respondents only in 2.5%.

Table: 2 Working Intitution

Working Intitution	No.of.Respondents	Percentage
Private	132	65.4
Government	37	18.3
Government Aided	33	16.3
Total	**202**	**100**

Table.2 shows that working institution wise output majority of respondent working in private institution 65.4% followed by government institution 18.3%,government aided institution is lowest level of respondents 16.3%.

Table.3 Working Place

Working Place	No.of.Respondents	Percentage
Rural	119	58.9
Urban	83	41.1
Total	**202**	**100**

Table.3 Working place wise respondents totally divided in two working places first one rural another one is urban in this study majority of respondents working in rural area 58.9% and minority of respondents working in urban area 41.1%.

Table.4 Zone Wise

Zone Wise	No.of.Respondents	Percentage
South India	138	68.31
North India	64	31.69
Total	**202**	**100**

Table 4 Zone wise output majority of respondents in south India 68.31% and minority of respondents in north India 31.69%.

Table.5 Salary Per month

Salary Per month	No.of.Respondents	Percentage
Below 10,000	**40**	**19.8**
10,000-25000	**82**	**40.6**
26000-50000	**41**	**20.3**
51000-75000	**20**	**9.9**
76000-100000	**11**	**5.4**
More than 100000	**3**	**1.5**
Total	**202**	**100**

Table .5 shows that monthly salary in LIS professionals majority of respondent salary is 10000-25000 is 40.6%,followed by below 10,000 is 19.8% minority of respondents to buy the salary is Rs.1,00,000 is 1.5%.

Table.6 Salary Satisfaction

Salary Satisfaction	No.of.Respondents	Percentage
Highly Satisfied	34	16.8
Satisfied	67	33.2
Average	63	31.2
Not Satisfied	38	18.8
Total	**202**	**100**

Table.7 shows that Salary Satisfaction majority of respondent satisfied the salary 33.2%, followed by 31.2% respondent average level of satisfaction and 18.8% respondents are not satisfied.

Table.8 Job Satisfaction

Job Satisfaction	No.of.Respondents	Percentage
Highly Satisfied	46	22.8
Satisfied	102	50.5
Average	41	20.3
Not Satisfied	13	6.4
Total	**202**	**100**

Table.8 shows that job Satisfaction level majority of respondents responding in satisfied the job 50.5% and minority of respondent 6.4% is not satisfied.

Table .9 Working Place Satisfaction

Job Satisfaction	No.of.Respondents	Percentage
Highly Satisfied	54	26.7
Satisfied	101	50
Average	39	19.3
Not Satisfied	8	4
Total	**202**	**100**

Table .9 shows that Working Place Satisfaction 50% of respondent is satisfied to the working place,followed by 26.7% is highly satisfied and 4% respondents is not satisfied.

CONCLUSION

In this study conclude majority of library professionals satisfied the job, working place and salary level. I suggested to private institutions to fix the salary in minimum level, library assistant is Rs.15,000/ ,Assistant librarian Rs.25000,deputy librarian Rs.35000 and librarian are Rs.50,000 per month that is good level of salary in private institutions and cover LIC policy for private employees in LIS field.

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CONTEXTUALIZING WILLIAM SHAKESPEARE THROUGH MUHAMMAD IQBAL

Muhammad Ismail Wali

"… for in all chaos there is cosmos… in all disorder there is a secret order. (Jung 32)

ABSTRACT

Postmodernist critical studies tend to cause intellectual chaos and spiritual disintegration, destructuring human identities. Rationality demands that we should search for interfaces between cultural and ideological differences for actualizing our potentials for peaceful social development. William Shakespeare and Muhammad Iqbal are polar opposites at many levels of meaning. However, differences in art and thought are part of the human condition. My core objective is to foreground the English bard's profound vision as imaginatively experienced by a Muslim idealist. The way Iqbal pays tributes to Shakespeare is a strong indicator to explore areas of mutual understanding for peaceful coexistence based upon trust, confidence, and respect. This attempt, I hope, will contribute to the constructive dialogue between the West and Islam in such a way as to bridge the gaps for further research leading to reciprocity and inclusivity. No doubt, there have been many productive studies on the philosophical relations of Iqbal to the West, but there is a dearth of literature on relating William Shakespeare to Iqbal's thought and art..

Principal words: ***Shakespeare, Iqbal, Poetry, Conceptual Parallels, Psychological Development*** .

On the surface, the title may seem to be a product of naivety or ignorance, eliciting laughter from the reader. The reason is obvious: besides ideological differences, Shakespeare is a liberal artist, and Iqbal, a moral idealist, and it seems futile to seek for some common ground between the two. However, this occurs at a surface level. At a deeper level, Iqbal is highly impressed by Shakespeare's imaginative energy of what the former calls "rethinking the individual" (*Stray Reflections* 130). Readers of Iqbal know that there are numerous studies of comparative origin on Iqbal and Western theorists such as Hegel, Nietzsche, Bergson, Goethe and a host of others. But there is an acute dearth of resources on Iqbal and Shakespeare, and mine is an attempt (perhaps the first of its kind) to motivate others to make their contributions to fill in this gap. Secondly, Iqbal has gone into background as the wave of war on traditionalist approaches is gaining momentum, and Iqbal is thought to be a Muslim idealist trying to recapture those moments of history which are no more part of what we call our existential reality. Or, there are well-organized attempts to denounce Iqbal's unparalleled contributions to the development modernist Islam in the wake of scientific and technological transformations in Europe and America. Even a superficial reading of Iqbal's poetry and prose explicitly reflects his inclusive approach while searching for metaphors and allusions. His allusions to historical figures, from Buddha through Aristotle to Einstein, always carry an aura of reverence for their accomplishments. No western artist or theorist (excepting Goethe) can be compared to Iqbal's inclusivity based upon due regard and respect for all other cultures. The way Iqbal addresses the western theorists and thinkers reflects his unbiased approach as a Muslim metaphysician. For example, in a diary note, he sees the rational and the intuitive/prophetic in the same light, which tends to hurt the spiritual sensitivity of Muslim religionists. The diary note reads: "In the sphere of human thought Muhammad, Buddha, and Kant were probably the greatest revolutionaries. In the sphere of action Napoleon stands unrivalled (*Stray Reflection*, 43)." The excerpt is a speculative attempt not to exclude the rational as something inferior in quality to the prophetic which is a divinely privileged position. Kant is placed at par with Muhammad and Buddha as "revolutionaries" – perhaps reformers might have a better term because the term "revolutionary" connotes aggression and violence—which gives us a verbal proof to say that Iqbal's inclusive

approach guides us in the right direction in today's intellectual chaos. Another excerpt gives us a list of western and eastern geniuses to single out Wordsworth in such a way as to acknowledge his spiritual debt to a Western pantheist. In another diary note, Iqbal says:

Hegel, Goethe, Ghalib, Bedil and Wordsworth I confess I owe a great deal to Hegel, Goethe, Mirza Ghalib, Mirza Abdul Qadir Bedil and Wordsworth. The first two led me into the "inside" of things; the third and fourth taught me how to remain oriental in spirit and expression after having assimilated foreign ideals of poetry, and the last saved me from atheism in my student days (*SR*, 53).

The above scenario leads us to the core element of this paper, Iqbal's view of Shakespeare. Readers of Shakespeare know that he is an artist to his finger tips, without any ideology to preach but to present life as it is. Conversely, Iqbal has his ideology of the human ego to preach but in terms of the foundational principles of Islam. However, Iqbal's vision is cosmically inclusive, sensitizing his readers to reverence for artists like Shakespeare. A note in his diary provides us a strong foundation to search for the affinity between the two.

Both **Shakespeare and Goethe** rethink the Divine thought of Creation. There is, however, one important difference between them. The realist Englishman Rethinks the individual; the Idealist German, the universal. His Faust is a seeming individual only. In reality, he is humanity individualized. (*SR* 130, emphasis mine)

The first sentence draws our attention to the way Iqbal evaluates Shakespeare and Goethe to epitomize their "mission statements" in terms of mysticism, as suggested by the phrase " Divine thought of Creation." What is remarkable about the comment is that Iqbal's phrase occurs long before Bloom, a literary critic, who coined the phrase "The Invention of the Human" as a title for his groundbreaking book on Shakespeare. Iqbal does not deviate from his chosen path of dynamic mysticism while evaluating Shakespeare's and Goethe's artistic vision. What Iqbal wants to emphasize here is that both Shakespeare and Goethe do not discover but invent what it means to be human. Both, according to Iqbal, revisit the human to come up with a fresh model to present-- Shakespeare's focus is on the particular/individual and that of Goethe's is on the universal/general. In other words, Shakespeare and Goethe are complementary opposites, as the individual/particular entails the universal/general, or vice versa. Iqbal's artistic vision is closer to that of Shakespeare's in the sense that he (Iqbal) also focuses on the individual driven by the energy of self-expression and so vehemently conceptualized in his idea of the self-hood. Iqbal's idea of the self-hood has become a hallmark of his poetic identity (Sharma 114-133). Shakespeare gives us individuals but in two opposite ways: the tragedies dramatize those individuals who takes their individualism to extremism and fall victims to this extremism, however, the way they express their individualism is not without its charismatic aura. They are strong individuals and remain committed to what they envision as right in the face of both physical and psychological hardships and their perseverance becomes a model for us to follow. This failure of extreme individualism is complemented by the victory of the comedic heroes who embrace the collective for generating another set of individuals symbolized by the institution of marriage. Irrespective of how Aristotle and Hegel define and explain tragedy, Shakespeare's tragic vision portrays individuals who make solo flights only to face crash in the end. These individuals are historical figures like Antony and Richard III, traditional ones, like Hamlet, Macbeth and Lear, or pseudo-historical like Othello, or folkloric, like Romeo. They differ in age, profession and culture: Lear is an old king while Romeo is a young aristocrat; Antony and Othello and Macbeths are army men; and Richard III, Hamlet and Lear come from the hereditary stock. In terms of culture, Richard III is English; Antony is Roman; Othello is black; and Macbeth is Danish. Though the dynamics of their stories are different: Richard commits fratricide and infanticide; Macbeth kills his master; Lear acts foolishly by dividing his

kingdom between his daughters in his lifetime; Antony, even being a mature and responsible person, behaves youthfully, like Romeo; and Othello succumbs to jealousy.

The above sketch gives us a glimpse of how Shakespeare's tragic vision captures the power of the individual and its helplessness in the face of a cosmic principle of justice. Ringing with the echoes of fatalism, this cosmic principle is always in the background of bringing a positive and productive change at the end of each tragedy. Perhaps keeping in view the same paradigm, Iqbal uses the phrase "divine creation" rethought by Shakespeare and Goethe. Iqbal shares with Shakespeare a view of the same sort when he says, "Earthquakes produce fresh springs," which suggests that the tragic incidents are not without their comedic potentials. Hamlet's dying statement carries the "prophetic message" of a positive turn in the course of history (with the appearance of Fortinbras on the scene) points to the same direction (*Hamlet*, 408). The strong individuals in the tragedies are balanced by the light but witty clowns like Touchstone, Shallow, Bottom, and Falstaff and a host of others on the one hand, and sharp-witted and pretty heroines on the other. The point here to ponder is that the "clowns" behave more intelligently than the kings regarding some fundamental questions of life. As individuals, the "clowns" are prone to be half-developed, yet they have the potential to sensitize us to such fundamental issues as conflict and crisis management. Psychologically, both the trouble-maker and shooter resides in us as "ego," and both Shakespeare and Iqbal, if placed in a psychological context, deepens our attitude to ego management.

Iqbal has poeticized his imaginative reactions to English poets including Shakespeare, and a short lyric entitled "Shakespeare" brings to limelight the imaginative enthusiasm and intellectual vigour with which Iqbal proceeds to draw a pen-picture of the English bard:

<div align="center">

To the dawn's twilight the river's graceful flow is a mirror

To the evening's song the evening's silence is a mirror

To the spring's beautiful cheek flower petal is a mirror

To the lover of wine the cup's cavity is a mirror

Beauty is God's mirror and heart is Beauty's mirror

To the human heart the beauty of your marks is a mirror

By your heaven-embracing thought is the perfection of existence

Was your bright nature the aim of existence?

When the eye searching for your sight sought you

It saw the sun veiled in the brightness of the sun

Your existence surely remained veiled from the world's eye

And your eye saw the world completely unveiled

Nature has such a strong desire for guarding secrets

That another confidante like you it will never create! (Bang-e-Dara, trans. Shafique, website)

</div>

شیکسپیئر

شفق صبح کو دریا کا خرم آئینہ   نمونہ شام کو خاموشی شام آئینہ

برگِ گُل آئینہ عارض زیبائے بہار   شاہدِ ہے کے لیے حجلۂ جام آئینہ

حُسن آئینہ حق اور دل آئینۂ حسن   دلِ انسان کو ترا حسن کلام آئینہ

ہے تے فکرِ فلک رس سے کمالِ ہستی

کیا تری فطرت روشن تھی مآلِ ہستی

تجھ کو جب دیدۂ دیدار طلب نے ڈھونڈا   تابِ خورشید میں خورشید کو پنہاں دیکھا

چشمِ عالم سے تو ہستی رہی مستور تری   اور عالم کو تری آنکھ نے عریاں دیکھا

حفظِ اسرار کا فطرت کو ہے سودا ایسا

رازداں پھر نہ کرے گا کوئی پیدا ایسا

The core image in the lyric is "mirror"—a central and dynamic symbol in mysticism—which seems to have been derived from Shakespeare's *Hamlet* . Hamlet says:

Be not too tame neither; but let your own discretion be your tutor. Suit the action

to the word, the word to the action; with this special observance, that you o'erstep

not the modesty of nature: for anything so overdone is from the purpose of playing,

whose end, both at the first and now, was and is, to hold, as 'twere, **the mirror up**

to nature; to show Virtue her own feature, scorn her own image, and the very age

and body of the time his form and pressure (Act II. ii. 17-24,emphasis mine).

Mirror has its intrinsic relationship with light. Mirror is the medium through which light flows in and out. Through Hamlet, Shakespeare says that theatre, by extension all art, functions as a mirror to reflect our minds which generate ideas and emotions to mobilize our acts as sentient beings. Iqbal employs the same imagery for evaluating Shakespeare's artistic vision. Light is a universal metaphor for knowledge and wisdom. In the beginning, Iqbal makes an imaginative environment set in a natural setting. The poem proceeds from "mirror," a human-made device for self-reflection, through the "sun," the natural source of light which is creates and sustains the organic life on earth, to the all-pervading vision of Shakespeare with which the speaker (Iqbal) shares. Iqbal knows that the biographical details of Shakespeare are scanty, and he ascribes it to nature and to its hidden ways of working, not to Shakespeare's contemporaries for this gross negligence. The metaphor of mirror conjures up many positive and productive abstractions: objectivity, transparency, and clarity. Through this lyric, Iqbal acknowledges Shakespeare's artistic greatness for objectively picturing life, like a mirror. The poem concludes with the expression of spiritual affinity which the Muslim poet-philosopher feels with Shakespeare.

Shakespeare's thought is called "heaven-embracing," which suggests Iqbal's deep regard for flights of Shakespeare's imagination. Here what prompts us to think is that Iqbal, a Muslim idealist, communicates with Shakespeare, whose racial and cultural background widely differs at many levels of meaning. Unlike Tolstoy, who harshly criticizes Shakespeare on moral grounds, Iqbal is full of praise for him. Iqbal creates an aesthetic environment in terms of oriental/Persian tropes and imagery. Natural imagery-- the picture of dawn reflected by the moving body of water-- points to the interactive processes in nature for generation and regeneration of life. The images of "dawn" and "river" are contrasted with that of "evening"

and "silence" in the next line to strengthen the idea of interaction further. In the next two lines, Spring, the season of rebirth, love and youth is invested with "face"—the organ which is a mirror to our emotions—pleasure, sadness, hatred, shame, and anger—reflected in the petal of a flower. Flowers poeticized for their beauty, delicacy, and transience are traditionally connected with Spring, and its reflexive property is due to water droplets (dew, perhaps lost in the translation), which is a microcosm of its macrocosm, that is river in the first line. From the natural world of spring, river, dawn and evening Iqbal moves to the world of abstractions, God and beauty, which are the central topic of discourse in mysticism. The world of nature, as imaged in the first four lines, belongs to our perceptual experience based upon sense data— dawn, flower, evening (visual), river (audio-visual), and sun (visual)- which combine to make what Kant calls the "phenomenon"—the world that we know, measure and understand . In this end, this phenomenal world is contrasted with the "noumenon" – the world that is beyond human knowledge and understanding, or beyond the way we perceive space and time. The "meta-physical" world is experienced by prophets and mystics which Iqbal has philosophically elaborated in his *Reconstruction* . The ideas discussed and evaluated in *Reconstruction* tend to be a sincere attempt on Iqbal's part to explore some interface between faith and science or intuition and intellect. Through his lyric on Shakespeare, Iqbal constructs a message to acknowledge the artistic vision of a person who is not only away from his core concept of presenting Islam as the panacea for all ills and evils encountered by humans irrespective of gender, age and culture but also from his intellectual background as a philosopher. What Iqbal acknowledges is that Shakespeare's art is the expression of the individual. And here it is would not be inappropriate to bring into light how Shakespeare creates the individual through his art, and how his vision of the individual is akin to that of Iqbal's.

The readers who are familiar with the dramatic art of Shakespeare know that his

dramatis personae are not "robotic" figures who function as puppets in the hands of the puppeteer. Shakespeare's characters are humans in the sense we experience life as individuals. As individuals, every human being is unique and this uniqueness is not only biological (even identical twins are not similar) but also psychological—the deeper we go into the psychic the firmer it becomes that "self-assertion" is the main drive. Shakespeare 's characters represent self-assertive individuals which has its organic relationship with the way Iqbal artistically configures his "philosophy of the ego," and which is why he eulogizes Shakespeare as the "perfection of existence" as if through Shakespeare Nature (whose background processes remain hidden from the physical eye) produced a perfect model to dive into the mysteries of life for articulating them in his art. It is through Shakespeare's characters that we see and experience the teasingly paradoxical aspects of the process called life. Hamlet draws our attention to the assumption just mentioned. He says:

<div align="center">

What (a) piece of work is a man,

How noble in reason, how infinite in faculties,

In form and moving, how express and admirable

In action, how like an angel in apprehension,

How like a god! The beauty of the world; the

Paragon of animals; and yet to me what

Is this quitessence of dust? (II. Ii. 303-338)

</div>

This artistic piece takes us to the existential paradox lying in the heart of life. The piece invokes all available resources—religious/spiritual, philosophical/metaphysical, artistic/aesthetic, emotive/sentimental, and rationalistic/empirical – to end on a deeply existentialistic note.

In a way, Hamlet (an imaginary individual created by Shakespeare), encapsulates all systems – both ancient and modern—conceptualized by real humans—from prophets through mystics, theologians, philosophers, psychologists, to scientists and existentialists—to define and explain the phenomenon of life. Iqbal's metaphor of "mirror" does not seem to be a passing fancy if we evaluate Shakespeare's artistic vision and its profundity in the light of this one passage, not to speak of his all works. Barring the last line in the passage, the remaining portion does have its semantic affinity with the following words of Iqbal:

Love cried "The one with blood red heart is born,

Beauty trembled that one with seeing eye is born.

Nature grew wild that from the dust of passive world

Self-maker, self-breaker, self-seer is born.

The news went from the sky to the place of Creation,

Fear O secluded ones ! the breaker of seclusion is born. (Trans. Farooqi, web)

In the above passage, Iqbal celebrates the birth of human consciousness in cosmic terms, which is the basis of its self-knowledge and soul-making on the one hand, and that of its capability to control its environment on the other. However, this celebrative spirit found r in his poetry is one side of coin. Stripped of the romantic imagery and colour (we may call it his mythical dimension as used in archetypal psychology), what remains is an agonized self engaged in resolving the dilemma of life. His poem, "Khufthagaan-e-Khaak say Isthifsaar/ Questioning the Dead," is bitterly ironic in tone articulated through Socratic questions ringing with agnostic echoes about those beliefs which are legalistically structured in his theological system. This long poem concludes with an exclamatory note on death as in Hamlet's:

Tell me the mystery hidden in this ever-moving globe

The pricking throne of death in the human heart. (*Kulyaath-e-Iqbal*, Urdu, 142)

The picture evoked by the lines is bleak and charged with cosmic pessimism, which has its semantic affinity with Hamlet's bitterly ironic conclusion that the end-purpose of a being whose rational, emotional, spiritual, intellectual, scientific and artistic achievements are so amazing is doomed to turn to a handful of dust in the grave. How to overcome this unavoidable challenge is the problem faced by all humans irrespective of creed, colour and culture? Shakespeare grapples with this perennial issue in his sonnets while addressing time and its reaping energy as "scythe." What tickles my imagination at this juncture is Iqbal's appreciation of the metaphor of "sword" for time by Imaam Shafi (*Reconstruction?*). An analysis of the images of "scythe" and "sword" would be appropriate here. Scythe suggests a rural environment -- a farmer with his tool held in two hands to cut grasses-- while "sword" rings with martial destruction. Both scythe and sword are cutting tools and both lose their capability of cutting without the agent; in Shakespeare's case, a farmer; and in Iqbal's, a soldier. The agent placed in a metaphysical context, is God. The problem is not so easy to conceptualize because

On a level different from Rumi you could find the same perplexing dilemma about Shakespeare, who. according to the tribute paid to him by Iqbal, was a Mirror of Reality in which Truth reflects Beauty and Beauty reflects Truth. No one has ever been successful in finding out the

creed of Shakespeare from his fifty plays in which all types of humanity pass before you in a fascinating and endless procession (Sharif, website).

Shakespeare suggests two solutions to conquer the tyrannies of time as an uncontrollable force against which both nature and man. One solution is bio-sexual union of man and woman to reproduce their copies before the scythe of time reap them away. This picture is found in the following sonnet:

<div align="center">

When I do count the clock that tells the time,

And see the brave day sunk in hideous night,

When I behold the violet past prime,

And sable curls all silvered o'er with white:

When lofty trees I see barren of leaves,

Which erst from heat did canopy the herd

And summer's green all girded up in sheaves

Borne on the bier with white and bristly beard:

Then of thy beauty do I question make

That thou among the wastes of time must go,

Since sweets and beauties do themselves forsake,

And die as fast as they see others grow,

And nothing 'gainst **Time's scythe** can make defence

Save breed to brave him, when he takes thee hence. (emphasis mine, sonnet 12)

</div>

The sonnet begins with the phenomena of day and night followed by botanical decay in the natural world, seasonal change of summer to winter to focus on his love's physical beauty as victim to "time's scythe." Time is imaged in the sonnet as a cosmic force to cause motion and change both in the natural and human world. The last couplet puts up the suggestion to meet the challenge of the irreversible dimension of time. Here Shakespeare prompts his beloved to gather up her courage and be prepared for breeding a new generation of humans. The second solution is the medium of poetry which immortalizes the artistic vision of a human being against the ravaging attack of time. For example, a sonnet reads:

<div align="center">

Not marble, nor the gilded monuments

Of princes shall outlive this powerful rhyme,

But you shall shine more bright in these contents

Than unswept stone, besmeared with sluttish time.

When wasteful war shall statues overturn,

And broils root out the work of masonry,

Nor Mars his sword, nor war's quick fire shall burn:

The living record of your memory.

'   Gainst death, and all-oblivious enmity

Shall you pace forth, your praise shall still find room,

</div>

Even in the eyes of all posterity

That wear this world out to the ending doom.

So till the judgment that your self arise,

You live in this, and dwell in lovers' eyes. (55)

The poem begins with a critique on the archeological "monuments," driven by political power, suggesting force, coercion and compulsion. The above position is contrasted with the verbal monuments/ "powerful rhyme" which have the potential to weather all environmental degradation because they are driven by love experienced through the eyes of a lover, not by power wielded by the hands of a political authority. In other words, love emerges as a hero in this sonnet.   Shakespeare also epitomizes the same thought in a different sonnet, "Yet do thy worst old Time: despite thy wrong/My love shall in my verse ever live young" (sonnet 19, 13-14).

In his *Reconstruction*, Iqbal partly accepts the view that the process of self-multiplication through which humans continue to conquer death, which stems from the same argument employed by Shakespeare for tempting his beloved to enter into a marriage bond. In this regard, Sharif is of the view:

Nature or ruthless logic of evolution, as history of mankind shows and anthropological evidence also fortifying it, hardly cares or favors preservation of ego. Individual's self-multiplication which Iqbal, **like Shakespeare in sonnets**, sees as one way of ego preservation, is denied to many individuals (emphasis mine, website).

What we infer from the above discussion is that the ego functions in history, which is linear and irreversible. Biological death is an irreversible event and individual immortality is a matter of faith. Biology operates in historical time and is subject to its flow as conceived and measured by humans. However, biology is the medium through which human psychology manifests its drives, and psychology has its historical as well as a-historical dimension experienced during dreams, and dream-time is not subject to the historical time, but to the unconscious as postulated in Jungian or Archetypal psychology.

The sad truth is that man's real life consists of a complex of inexorable opposites—day and night, birth and death, happiness and misery, good and evil. We are not even sure that one will prevail against the other, that good will overcome evil, or joy defeat pain. Life is a battleground. It always has been, and always will be; and if it were not so, existence would come to an end (*Man and His Symbol*, 85).

Placed in a Jungian light, both Shakespeare and Iqbal gives us messages to appreciate life as a struggle for the achievement of one's objectives, and the struggle loses its meaning without the concept of opposites experienced by humans during the process of attaining to one's goal, whether material or immaterial. Both Iqbal and Shakespeare sensitize us to life as a problem to be solved by each individual in his or her own way. Both make us understand that what we welcome as a" bed of roses" may prick us as "thorns," or vice versa.   The metaphor of "battleground" used by Jung in the above quote epitomizes for us the problems an individual encounters for winning/losing the battle.

However, the individual has always to lose at the end. Both Shakespeare and Iqbal are cognizant of overcoming the problem of death. The "practical Englishman" (as Iqbal calls him) proposes two empirical solutions to this irreversible process of life. He proposes both marriage and art as the mediums of gaining immortality. The idealist Muslim proposes to stick to the principle of

"selfhood" for attaining immortality even after death, an abstract way of resisting perpetual extinction after physical death.

Shakespeare and Iqbal are poles apart at one level; however, their art and thought converge on many fundamental points. It is the convergence that should be our focal point to explore further the interface between the two. Mine is an attempt to search for semantic affinities between the two for generating a space of convergence, so that the people of Europe and America have an opportunity to come closer together for peaceful co-existence based upon emotional intelligence. The slogan of peaceful co-existence may not be made in a vacuum, but should have a firm ground for motivation and persuasion. The "time is out of joint" (as Shakespeare would say) and to put it in order it is mandatory that curriculum developers should revisit their contents for minimizing the conflict-charged areas to maximize the energy of union, integration and harmony.

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THE FEATURES OF TRADITIONAL EXPRESSIONS ON SOCIAL HARMONY IN MANGGARAI LANGUAGE

Fransiskus Bustan[1], Frans Gana[2], Yohanis S. Sarong[3] and Hendrikus Jehane[4]

[1]Lecturer of Faculty of Training and Educational Sciences, Nusa Cendana University Kupang, Indonesia

[2]Lecturer of Faculty of Social and Political Sciences, Nusa Cendana University Kupang, Indonesia

[3]Lecturer of Faculty of Social and Political Sciences, Nusa Cendana University Kupang, Indonesia

[4]Lecturer of Faculty of Training and Educational Sciences, Nusa Cendana University Kupang, Indonesia

ABSTRACT

This study investigates the features of traditional expressions on social harmony in Manggarai language, as reflected in the forms and meanings of linguistic phenomena that Manggarai society employ in the traditional expressions. The study is viewed from the perspective of cultural linguistics, one of the new theoretical perspectives in cognitive linguistics exploring the relationship of language, culture, and conceptualization. The study is descriptive as it describes the features of traditional expressions on social harmony in Manggarai language. The results of study show that, in terms of the forms and meanings of the linguistic phenomena used, the features of traditional expressions on social harmony in Manggarai language are specific to Manggarai culture designating the conceptualizations of Manggarai society on social harmony. The conceptualizations are reflected in the forms and meanings of linguistic phenomena used in traditional expressions: (1) Muku ca pu'u neka woleng curup 'One clump of bananas don't talk differently, one clump of canes don't walk differently', (2) Neka behas neho kena, neka lur neho watu tukur 'Don't break like a fence, don't break like a pile of stones', (3) Neka oke nggerlaushae wa'u, neka oke nggersales ase-ka'e 'Don't throw to the north fellow clan members, don't throw to the west fellow brothers', (4) Padir wa'i, rentu sa'i, bantang cama, reje leles 'Stick out feet, gather heads, agree together, take together', and (5) Nai ca anggit, tuka ca leleng 'Hearts bound one, stomaches bound one'. The traditional expressions contain the local wisdoms of Manggarai society that function as the control mechanisms of their patterns of behavior to avoid social harmony and, as such, the traditional expressions must be preserved in order to live and develop in the present and future.

Key words: feature, traditional expression, social harmony, Manggarai language

INTRODUCTION

It has been widely acknowledged that different societies speak different languages. The reason is understandable that every language has its own system, as can be seen a set of rules used as guidelines for its speakers when communicating or interacting with one another. The differences between the systems of languages are realised in such formal linguistic levels or strata as phonology, morphology, syntax, and semantics (Hasan, 1989). However, as every language has its own ways in viewing the world, the differences between languages are due to cultural differences. This comes closest to the conception of Humboldt that the diversity of languages is not the diversity of signs and sounds, but the diversity of worldviews (Sapir, 1949; Miller, 1968; Whorf, 2001). The conception supports the insight that both language and culture belonging to a society as members of a social group are closely related and the manifestation of such a relationship is reflected in the features of the linguistic phenomena they employ in cultural domains (Kramsch, 2001). The features of the linguistic phenomena they employ in the cultural

domains are specific to their culture designating conceptualization ascribed and imprinted in their cognitive map in viewing the world. This can be seen in the forms and meanings of the linguistic phenomena they employ in such cutural texts as folksongs, folktales, and traditional expressions inherited from their ancestors.

This study investigates the relationship of Manggarai language, Manggarai culture, and conceptualization of Manggarai society as members of Manggarai ethnic group residing in the region of Manggarai that occupies the western part of the island of Flores in the province of East Nusa Tenggara, Indonesia (Erb, 1999; Bustan, 2005; Bustan, 2006; Bustan, et al., 2017; Bustan and Bire, 2018; Bustan and Liunokas, 201; Bustan and Bire, 2019; Bustan, et al., 2020). However, as the relationship is so complex that the focus of attention is paid to the features of traditional expressions on social harmony in Manggarai language, as reflected in the forms and meanings of linguistic phenomena Manggarai society employ in the traditional expressions in question. We are interested in conducting the study for the reason that the forms and meanings of linguistic phenomena used in the traditional expressions on social harmony in Manggarai language are specific to Manggarai culture. The forms and meanings of linguistic phenomena used designate the conceptualization of Manggarai society as members of Manggarai ethnic group on the significance of maintaining social harmony in their contexts of living together, especially in their contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan (Verheijen, 1991). Another reason is that, in terms of the contents stored, the traditional expressions serve as the local wisdoms of Manggarai society that function as the sources of references to control their patterns of behavior when they interact with one another in order to avoid them from the situation of social disharmony due to social conflicts. The last is that the results of previous studies show that there has no any examining in more depth the features of traditional expressions on social harmony in Manggarai language in view of cultural linguistics as one of the new theoretical perspectives in cognitive linguistics exploring the relationship of language, culture, and conceptualization belonging to a society as members of a social group in viewing the world (Palmer and Sharifian, 2007).

FRAMEWORK

As mentioned earlier, this study is viewed from cultural linguistics, one of the new theoretical perspectives in cognitive linguistics exploring the relationship of language, culture, and conceptualization belonging to a society as members of a social group in viewing the world (Palmer and Sharifian, 2007; Palmer, 1996). As its definition implies, the basic concepts of cultural linguistics are language, culture, and conceptualization. As language can be defined differently, in the perspective of cultural linguistics, language is defined as a cultural activity and, at the same, an instrument to organize cultural activities in other domains. Language in this light serves as the most visible and available expression of culture in which that language is embedded, as Brown (1994) argued that culture is deeply ingrained part of the very fiber of our being, but language as the means for communication among members of a culture is the most visible and available expression of that culture. As different people define culture differently, in the perspective of cultural linguistics, culture is defined as the source of conceptualization embraced by a society as members of a social group on the basis of their experiences in the contexts of living together for years. Along with its function as the source of conceptualization, according to Foley (1997), culture is a cognitive map shared together by a society as members of a social group in viewing the world. Conceptualization refers to fundamental cognitive processes which naturally lead to the development of schemas, categories, metaphors, and scripts (Palmer and Sharifian, 2007).

METHOD

This is a descriptive study as it describes the features, that is pairing of forms and meanings, of traditional expressions on social harmony in Manggarai language. The procedures of research

were field and library research. The field research was aimed collecting the primary data. The location of research was in Manggarai region, especially in Ruteng town as the main location of research. The approach used to achieve the intended aim was ethnographic approach, especially dialogic-ethnographic approach (Spradley, 1997; Geertz, 1973; Duranti, 1997). The methods of data collection were observation and interview, while the techniques of data collections were recording, elicitation, and note-taking. The sources of data were Manggarai society represented by three key informants (Faisal; 1990; Spradley, 1997; Sudikan (2001). The library research was aimed at collecting the secondary data. The method of data collection was documentary study. The documents used as the sources of reference were general documents (books) and special documents (articles, results of research, paper). The data were then analyzed qualitatively by inductive method as the analysis was started from the data to the theory, that is the local-ideographic theory describing the features of traditional expressions on social harmony in Manggarai language.

RESULTS AND DISCUSSION
Results

The results of study show that there is a close relationship between Manggarai language, Manggarai culture, and conceptualization of Manggarai society in viewing the world. The relationship is realised in the features of traditional expressions on social harmony in Manggarai language, as reflected in the forms and meanings of the linguistic phenomena Manggarai society employ in the traditional expressions. The forms and meanings of linguistic phenomena used in the traditional expressions are specific to Manggarai culture designating the conceptualization of Manggarai society on social harmony. The traditional expressions are cultural texts containing the local wisdoms of Manggarai society that function as the guidelines to control their patterns of behavior in order to avoid them from social disharmony in the contexts of living together, especially in the contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan, on the basis of social conventions inherited from their ancestors.

The following are some traditional expressions in Manggarai language as the corpus of data in which the forms and meanings of the linguistic phenomena used designate the conceptualization of Manggarai society on social harmony.

(01) *Muku   ca   pu'u neka woleng   curup,*

banana one clump not   different talk

teu   ca   ambo   neka woleng lako

cane   one clump not   different walk

'One clump of bananas don't talk differently,

one clump of canes don't walk differently'.

(02) *Neka behas neho kena, neka lur   neho watu   tukur*

not   break like fence not   break like stone pile

'Don't break like a fence, don't break like a pile of stones'.

(03) *Neka oke   nggerlau -s   hae   wa'u,*

not   throw north   they fellow clan

neka oke nggersale -s   ase - ka'e

not through west   they   little-big brothers

'Don't throw to the north fellow clan members,

don't throw to the west fellow brothers'.

(04) *Padir   wa'i, rentu sa'i,   bantang cama,   reje leles*

stick out   leg   gather head agree   together take together

'Stick out feet, gather heads, agree together, take together'

(05) *Nai   ca anggit, tuka   ca   leleng*

heart one bind   stomach one bind

'Hearts bound one, stomachs bound one'.

Discussion

As can be seen in the physical forms of the linguistic phenomena used in data (01), *Muku ca pu'u neka woleng curup, teu ca ambo neka woleng lako* 'One clump of bananas don't talk differently, one clump of canes don't walk differently', the traditional expression appears as a compound sentence made up of two independent clauses or complete sentences as its component parts. The two independent clauses as its component parts are (a) *Muku ca pu'u neka woleng curup* 'One clump of bananas don't talk differently' and (b) *Teu ca ambo neka woleng lako* 'One clump of canes don't walk differently'. The combination of the two independent clauses contructs an asyndenton structure as it is not linked by the coordinating conjuction *agu* 'and' or *ko* 'or' as lexical-cohesive device. This is because the contruction is a fixed form for the features of linguistic phenomena used in the traditional expression of Manggarai language designating the conceptualization of Manggarai society on the significance of maintaining social harmony in their context of living together, especially in their context of living together as the members of the *wa'u* as patrilineal-genealogic clan, on the basis of social conventions inherited from their ancestors.

The two independent clauses appear as negative sentences indicated by negative marker *neka* 'not' which is used to show negation. As can be seen in the surface structures of the two independent clauses, the negative marker *neka* distributes preceding the verbal phrase *woleng curup* 'talk differently' in the independent clause (a) and preceding the verbal phrase *woleng lako* 'walk differenty' in the independent clause (b). As conceptualized in the cognitive map of Manggarai society, the traditional expression contains some advices for them so that they must always maintain social harmony in their contexts of living together as members of Manggarai ethnic group, especially in their contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan. The conceptualization is reflected in the nominal phrase *muku ca pu'u* 'one clump of bananas' in the independent clause (a) and in the nominal phrase *teu ca ambo* 'one clump of canes' in the independent clause (b). The use of *neka* 'not' in the traditional expression implies meaning that, as the members of the *wa'u* as a patrilineal-genealogic clan, they are prohibited from being different in words and deeds. In other words, their words and deeds must always be the same and go hand in hand to avoid social conflict that can lead to social disharmony.

Neka behas neho kena, neka lur neho watu tukur

As can be seen in the physical forms of linguistic phenomena used in data (02), *Neka behas neho kena, neka lur neho watu tukur* 'Don't break like a fence, don't break like a pile of stones', the traditional expression is a compound sentence made up of two independent clauses or complete sentences as its component parts. The two independent clauses as its component parts are (a) *Neka behas neho kena* 'Don't break like a fence' and (b) *Neka lur neho watu tukur* 'Don't break like a pile of stones'. The combination of the two independent clauses contructs an asyndenton structure as it is not linked by coordinating conjunction *agu* 'and' or *ko* 'or' as lexical-cohesive device. This is because the contruction is a fixed form for the features of

linguistic phenomena used in the traditional expression of Manggarai language designating the conceptualization of Manggarai society on the significance of maintaining social harmony in their context of living together, especially in their context of living together as the members of the *wa'u* as patrilineal-genealogic clan, on the basis of social conventions inherited from their ancestors.

The two independent clauses are negative sentences indicated by negative marker *neka* 'not' to show negation that distributes preceding the word (verb) *behas* 'break' in the independent clause (a) and the word (verb) *lur* 'break' in the independent clause (b). The use of negative marker *neka* 'not' shows that the forms of the linguistic phenomena used in the traditional expression imply some advices for the members of Manggarai society not to act causing social disharmony in their contexts of living together, especially in their contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan. In accordance with cultural principles passed down from their ancestors, as the members of the *wa'u* as a patrilineal-genealogic clan, they must always endeavor in various ways to prevent the occurence of social conflicts in family realm that can break and damage the harmony of social relations.

Neka oke nggerlaus hae wa'u,neka oke nggersales ase-ka'e

Similar to the data (02), the physical forms of the linguistic phenomena used in data (03), *Neka oke nggerlaus hae wa'u,neka oke nggersales ase-ka'e* 'Don't throw to the north fellow clan members, don't throw to the west fellow brothers', show that the traditional expression appears as a compound sentence made up of two independent clauses or complete sentences as its component parts. The two independent clauses or complete sentences as its component parts are as follows: (a) *Neka oke nggerlaus hae wa'u* 'Don't throw to the north fellow clan members' and (b) *Neka oke nggersales ase-ka'e* 'Don't throw to the west fellow brothers'. As can be seen in the physical forms of the linguistic phenomena used, the two independent clauses or complete sentences appear in negative forms indicated by using negative marker *neka* 'not' to show negation that distributes preceding the word (verb) *oke* 'throw' in clause (a) and (b). The combination of the two independent clauses contructs an asyndenton structure as it is not linked by the coordinating conjunction *agu* 'and' or *ko* 'or'. This is because the contruction is a fixed form for the features of linguistic phenomena used in the traditional expression of Manggarai language designating the conceptualization of Manggarai society on the significance of maintaining social harmony in their context of living together, especially in their context of living together as the members of the *wa'u* as patrilineal-genealogic clan on the basis of social conventions inherited from their ancestors.

In terms of its meanings, the traditional expression implies some advices for Manggarai society not to act that causes social disharmony in their contexts of living together as members of a social group, especially in their contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan'. It is conceptualized in the cognitive map of Manggarai society that, as the members of the *wa'u* as a patrilineal-genealogic clan, they must behave in such a way towards the others that they maintain social harmony. In other words, as the members of the *wa'u* as a patrilineal-genealogic clan, they must always live in unity with their fellow clan members and fellow brothers.

Padir wa'i, rentu sa'i, bantang cama, reje leles

As can be seen in the physical forms of the linguistic phenomena used in data (04), *Padir wa'i, rentu sa'i, bantang cama, reje leles* 'Stick out feet, gather heads, agree together, take together', the traditional expression appears as a compound sentence made up of two compound sentences as its component parts. The two compound sentences as its component parts are as follows: (a) *Padir wa'i, rentu sa'i* 'Stick out feet, gather heads' and (b) *Bantang cama, reje leles* 'Agree together, take together'. The combination of the two compound sentences contructs an

asyndenton structure as it is not linked by the coordinating conjunction *agu* 'and' or *ko* 'or'. This is because the contruction is a fixed form for the features of linguistic phenomena used in the traditional expression of Manggarai language designating the conceptualization of Manggarai society on the significance of maintaining social harmony in their context of living together, especially in their context of living together as the members of the *wa'u* as patrilineal-genealogic clan on the basis of social conventions inherited from their ancestors.

.The compound sentence (a), *Padir wa'i, rentu sa'i* 'Stick out feet, gather heads', is made up of two independent clauses or complete sentences as its component parts involving *Padir wa'i* 'Stick out feet' and *Rentu sa'i* 'Gather heads'. The combination of the two independent clauses or complete sentences contructs an asyndenton structure as it is not linked by the coordinating conjunction *agu* 'and' or *ko* 'or' as lexical-cohesive lexical. This is because the contruction is a fixed form for the features of linguistic phenomena used in the traditional expression of Manggarai language designating the conceptualization of Manggarai society on the significance of maintaining social harmony in their context of living together, especially in their context of living together as the members of the *wa'u* as patrilineal-genealogic clan on the basis of social conventions inherited from their ancestors.

.The compound sentence (b), *Bantang cama, reje leles* 'Agree together, take together', is made up of two independent clauses or complete sentences as its component parts. The two independent clauses as its component parts are *Bantang cama* 'Agree together' and *Reje leles* 'Take together'. The combination of the two independent clauses or complete sentences contructs an asyndenton structure as it is not linked by the coodinating conjunction *agu* 'and' or *ko* 'or'. The coordinating conjunction is omitted because the contruction is a fixed form for the features of linguistic phenomena used in the traditional expression of Manggarai language designating the conceptualization of Manggarai society on the significance of maintaining social harmony in their context of living together, especially in their context of living together as the members of the *wa'u* as patrilineal-genealogic clan on the basis of social conventions inherited from their ancestors.

.Along with the contents stored in the forms of the linguistic phenomena used, the traditional expression implies some advices for Manggarai society not to act that causes social disharmony, especially in the contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan. If they are involved in a social conflict, it is required for them to sit together in a circular formation known as *lonto leok* 'circular seated formation' in Manggarai language to resolve the social conflict. As conceptualized in the cognitive map of the Manggarai society, the circular seated formation implies the meaning of their togetherness as brothers who come from the same descents, the same blood line, and the same origin stucture. According to the habits that apply traditionally since their ancestors, the solution mechanism of the social conflict must use win-win approach in the sense that neither party is declared wrong or, in other words, all parties are declared right. The wrong party is the parents as they are negligent in doing precauitions so that the social conflict does not occur. Therefore, in order to maintain a sense of unity in the contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan, they must always be faithful in words and deeds.

Nai ca anggit, tuka ca leleng
As can be seen in the physical forms of linguistic phenomena used in data (05), *Nai ca anggit, tuka ca leleng* 'Hearts bound one, stomaches bound one', the traditional expression appears as a compound sentence made up of two independent clauses or complete sentences as its component parts. The two independent clauses as its component parts are (a) *Nai ca anggit* 'Hearts bound one' and (b) *Tuka ca leleng* 'Stomaches bound one'. The combination of the two independent clauses contructs an asyndenton structure as it is not linked by the coodinating

conjunction *agu* 'and' or *ko* 'or'. This is because the contruction is a fixed form for the features of linguistic phenomena used in the traditional expression of Manggarai language designating the conceptualization of Manggarai society on the significance of maintaining social harmony in their context of living together, especially in their context of living together as the members of the *wa'u* as patrilineal-genealogic clan on the basis of social conventions inherited from their ancestors.

This is because the contruction is a fixed form for the linguistic phenomena used in cultural domains accepted as a part of the social convention inherited from their ancestors.

As conceptualized in the cognitive map of Manggarai society, the traditional expression implies some advices for them that, in their contexts of living together as the members of a social group, especially in their contexts of living together as the members of the *wa'u* as a patrilineal-genealogic clan, they must always maintain a sense of unity. As has been previously stated, if they are involved in a social conflict, they must sit together in a circular seated formation to solve the social conflict. The circular seated formation implies the meaning of their togetherness as brothers who come from the same descents, the same blood line, and the same origin stucture.

CONCLUSION

There is a close relationship between Manggarai language, Manggarai culture, and conceptualization of Manggarai society as members of Manggarai ethnic group. The relationship can be seen in the features of traditional expressions on social harmony in Manggarai language, as reflected in the forms and meanings of the linguistic phenomena used in those verbal expressions. In terms of the forms and meanings of the linguistic phenomena used, the features of traditional expressions on social harmony in Manggarai language are (1) *Muku ca pu'u neka woleng curup* 'One clump of bananas don't talk differently, one clump of canes don't walk differently', (2) *Neka behas neho kena, neka lur neho watu tukur* 'Don't break like a fence, don't break like a pile of stones', (3) *Neka oke nggerlaushae wa'u, neka oke nggersales ase-ka'e* 'Don't throw to the north fellow clan members, don't throw to the west fellow brothers', (4) *Padir wa'i, rentu sa'i, bantang cama, reje leles* 'Stick out feet, gather heads, agree together, take together', and (5) *Nai ca anggit, tuka ca leleng* 'Hearts bound one, stomaches bound one'. The traditional expressions are local wisdoms belonging to Manggarai society that must be preserved in order to live and develop in the present and future.

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CULT OF SAINTS IN INDIA: WITH SPECIAL REFERENCE TO GURMEET RAM RAHIM

Ms. Rashika Shukla
Research Scholar Amity University, Lucknow

Dr. Amit Kumar Sinha
Associate Professor Amity University, Lucknow

ABSTRACT
Scholars and clinicians who have studied former cult members and cult members have gained a new perspective on the psychology of the cult experience. While the researchers admit that not all cults are psychologically detrimental to its members, their findings shed light on how to manage those who have been affected, as well as cult techniques for retaining former members' loyalty and attracting new ones. This research aims to learn more about the origins of the Saint Gurmeet Ram Rahim Singh Cult.

The author attempts to investigate how the cult experience has important ramifications for assumptions about how the human brain functions in this research.

The goal of this study is to discover more about the events that led to the rise of the Indian saint RamRahim.

Keywords : Cult, psychological,detrimental,loyalty

1. INTRODUCTION:

R. Stark and W. S. Bainbridge defined a sociological concept "cult" as a typeof new religious movements of the second half of the 20th century (Grusman, 2007)(1).

In India, pilgrimages have the potential to be utilised for public relations. Large masses of people gather to worship, which is known as public worship. Both preaching and erecting churches to temples propagate the gospel are public actions.

Songs and sermons are used to convey faith.India is one of the world's most populous To interactwith and keep audiences, as well as to foster loyalty, religious activity relies on word-of-mouth messaging, group activities, publications, and personal contact. It uses mystery, fame (the allure of saints), and tradition, as well as working with authority, to win support.

In mediaeval times, however, it was not seen as a purposefully organised activity, and religious communication and activities, of course, did not use the framing of language and accumulated best practise that are used now.

Long-term involvement with a psycho-cult results in depressed critical consciousness, the development of anxio-depressive states, and, in severe cases, psychotic schizophrenia-like diseases.(Korolenko, Dmitrieva, 1999; Lutoshliva et al., 2019)(2).

Personality cults are made up of a collection of ideas, values, myths, symbols, and rituals aimed at gaining the leader's adoration. While the importance of specific forms of devotion varies depending on the personality cult, leader worship is often observable in a variety of sectors such as mass spectacles and rituals, showy architecture, cult imagery in the visual and performing arts, cult goods, and cult language.The author starts with a proven truth. The well-known separation between psychology and sociology, as well as more than a century of specialised research, have led to the realisation that psychical and social systems cannot be linked any longer. In neither of these disciplines, no researcher can survey the complete corpus of knowledge.(Luhmann, N.

1992)(3)

However, one thing is clear: in both circumstances, we're working with systems with extremely complex structures and dynamics that are opaque and uncontrollable to every observer. Still, there are conceptions and theories that ignore this or attempt to screen it out in a methodical manner. Much of the agenda for understanding communication is set by ancient works of Greek philosophy.(Peters,1999)(4).

(Merriam-Webster,1994)(5) a cult is a strong attachment towards a person, an idea, an object, a movement, or a piece of work.

Gurmeet Ram Rahim Singh is also cited as someone who is articulate, eloquent, fluent, and has asilver speech in communicating through networks by enticing people to visit satsang (Haryana, India)

Researcher (Jacob Copeman,2017)(6) says Ram Rahim did not become a guru by accident.The author of this paper will attempt to demonstrate how Saint Rahim built a strong cult.

2. METHODOLOGY :
In this article, the beginnings of Gurmeet Ram Rahim Singh's cult in India are told in a chronological historical narrative.The researcher has attempted to capture information through case studies, newspaper articles, and substantial use of phenomenology.

3. Cult of Saint Gurmeet Ram rahim singh :
Time has obscured the beginnings of the world's largest religions, while cult creation can still be a stressful task. The mysterious and exotic world of cultswarrants our attention if we are able to understand how cults arise.

The cult of Ram Rahim began when Shah Satnam Singh, the founder of Dera Sacha Sauda, announced his retirement on September 23, 1990, and designated Huzoor Maharaj Gurmeet Ram Rahim, the Dera's head, at the age of 23.

The process of cult formation and promotion began's once the sainthood is verified and the bones are transferred to their current place by the Old Minster. The cult's strategic creation of Ram Rahim began with this phase, which was the first and most crucial.The spiritual guru Gurmeet used Gurumantra/Method of Meditation to free over 70 million people on the road of God-Realization. He alsomotivated others to give up undesirable habits and undertake altruistic acts of humanity service.

Saint Dr. Gurmeet Ram Rahim Singh Ji Insan 'MUKHI' of the Dera Sacha Sauda Trust, is involved in 134 social welfare activities for the benefit of nature and humanity. In India, he was considered as a real saint. He has a number of Guinness World Records and Limca World Records under his belt.According to a web article of F4Fact Saint Gurmeet has played Youth Icons vital role in inspiring the young generation and motivating them.(F4 Facts,2019)(12)

Later in 2015,The filmic avatar of Gurmeet Ram Rahim portrayed to his followers as a leader, dressed in silken robes and floral headbands, started soaring like superman and destroying phantom enemies.(NiloferKaul,2017)(8) It's critical to consider groups as a refuge for a mass of people who are unknowingly looking for someone to protect them from the disaster of disenfranchisement.

Slowly gradually Ram Rahim was been started known as a political clout, as his Dera has a sizable Dalit following, estimated to be over 70%.As per (Bali Bahadur, 2018)(7) Dalits in the Malwa region startled the political establishment in 2007 when the Dera Sacha Sauda, led by Gurmeet Ram Rahim Singh, backed Congress in the assembly elections.In the third edition of the powerful franchise MSG, Saint Gurmeet Ram Rahim Singh, emerged as India's and possibly

the world's only true Superman in 2016, Messenger of God("India Today web desk",2016)(9).According to (Bainbridge, W. S., & Stark, R.,1979)(10) Cult formation is a two-step creativity process. To begin, new religious concepts must be developed. Second, these concepts must obtain societal acceptance, at least to the extent that a small number of people accept them. If he wants to be a prophet," Weber says, a charismatic leader "must work miracles." If a person wishes to become a warlord, he must perform heroic acts. Most importantly, he must demonstrate his divine mission by bringing satisfaction to his loyal followers; if they do not succeed, he is definitely not the god-sent ruler (Epley, J. L.,2015)(11).As part of his holy mission to deliver satisfaction to his dedicated followers, Saint Rahim organises blood pressure, diabetes, and cholesterol screening programmes in order to build a strong cult. He spearheaded a variety of cleanliness initiatives while also expressing his support for India's federal government. In reaction to the Odisha cyclone and Gujarat earthquake, he formed the Shah Satnam Ji Green-S Welfare Force Wing, a specialised disaster relief and welfare organisation. On May 22, 2012, Ram Rahim laid the foundation for the Shah Satnam ji Super Speciality Hospital in Sirsa, and his foundation carried out more than 30 Mega Cleanliness Campaigns across India in 2016.His adherents are so devoted to their guru's purity as a result of his heroic acts and charismatic leadership that they cannot take any criticism. They believe The Godman is always correct, even when Saint Rahim is wrong. After embracing him as their guru, the devotee will blindly follow him. It makes no difference whether their actions have positive or negative consequences for society. The devotee is not insane; he merely places a higher value on the godman than on his social bonds or personal well-being. To put it another way, it's a form of collective brainwashing.

4.   CONCLUSION :

Saint Ram Rahim Singh employed a variety of approaches and tactics in order to create a cult. He had great power as the MUKHI of the Dera Sacha Sauda Trust, and he had the support of a wide spectrum of political groupings. In 2015, he appeared in a filmic avatar as Messenger of God, recognising the need to engage youngsters. He even employed Social Work to promote the shrine in India among monastic orders, publishing books about the saint's miracles and gradually instilling benedictions into the daily language of prayer and social life.

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FOSTERING SOCIAL COMPETENCE AND ACADEMIC ACHIEVEMENT IN INCLUSIVE CLASSROOM SETTINGS BY UTILIZING A COOPERATIVE LEARNING TECHNIQUE AMONG STUDENTS WITH SPECIAL EDUCATIONAL NEEDS

Fr. Baiju Thomas
Research Scholar, Ramakrishna Mission Vivekananda Educational and Research Institute, Faculty of Disability Management and Special Education, Vidyalaya Campus, SRKV Post, Coimbatore – 20

ABSTRACT

The present study discusses fostering social competence and academic achievement in inclusive classroom settings by utilizing the cooperative learning (CL) technique among students with special educational needs (SwSEN). In CL, SwSEN learns together with the support and advice of one another in a small group. When it comes to the current educational system, cooperation is almost totally overlooked. For the most part, human beings are cooperative, rather than competitive. For human life to survive, students must be attached through mutual love and cooperation. This study focuses on the key aspects of CL, including the ideas and terminology. In CL, students work together to foster learning, instead of competing with each other. The effectiveness of using student groups in the classroom is based on this practice. For CL efforts to be more fruitful than individual and collaborative attempts, specific needs must be satisfied. The educational strategy of CL empowers educators to design modified lessons while also still promoting a significant human learning environment for SwSEN in inclusive classroom settings. This study examines advancements in CL investigation and the variables that contribute to its success. Educators were broadly supportive of CL as a method for increasing school effectiveness, but they acknowledged that CL was more effective for some learners than many others. To gain a better understanding of how the educational practice contributes to the program's success, the review explores the important aspects that go into it and how educators play a role in students' emerging thinking and reasoning by incorporating this teaching method in their inclusive classroom settings. The author aimed to incorporate new ideas about social competence and academic achievement by using a CL technique in inclusive classroom settings.

Key Words: Social Competence, Academic Achievement, Inclusive Classroom, Cooperative Learning and SwSEN.

INTRODUCTION

The present study explores the potential of CL, between talented learners and their peers, for the progress of educational involvements (Armstrong-Melser, 1999; Elmore & Zenus, 1992; Ford, 1994; Hooper, 1993; Johnson & Johnson, 2018). Inclusive education is meant to ensure that the child receives the very same potentials as their peers. Every child is offered equal access to both academic and social activities of the classroom (Porter & Richler, 2011). This approach empowers all students to join, learn, and achieve their potential (Muñoz-Martínez and Porter, 2018). CL has been associated with significant increases in achievement levels as well as enhancements in social and affective well-being (Gillies and Ashman, 2003; Slavin, 1980). The large number of educators who advocate CL (Patrick, Bangel, Jeon, and Townsend, 2005) and who cite academics, writers of academic texts, and other consultants highly suggest it as a good way to enhance academic achievement (Johnson & Johnson, 2017). An additional way to incorporate all learners, irrespective of their special needs, is mentioned by Johnson and Johnson (1999). The reviews by these authors state that CL supports students to accept and value each other's differences, as well as improving their interactions in multiple ways. Purposeful change occurs when individuals and learners collaborate to fixate on inclusive values

and combine their efforts to arrive at education systems that steer in that direction (Ainscow, 2011). It is this way of looking at the relationship between inclusive education and CL that clears up the relationship between inclusive values and CL, it allows students to engage in an educational environment based on cooperation, partnership, respect, and a positive attitude toward individual differences. Component involves a strategy to equity academic achievement by helping to educate primary school children with learners who have different in the mainstream classroom instead of creating different places for their study (Mayrowetz and Weinstein, 1999). The most common method to educating SwSEN changes is by developing an individualized educational plan to guide and record their learning. These plans enable educators to design customized instruction for SwSEN in their classrooms (Deng, 2010). Educators develop strategies that reflect a student's sense of grades, based on an evaluation of their abilities. CL provides benefits and distinguishable acquiring knowledge to adjust to both talented and colleagues' features (Torrego, 2011; Torrego et al., 2016). Therefore, we can conclude that CL training with this program inspires a distinct education system and new curriculum diversity. This CL option includes developmental abilities such as thinking skills, but also socio-emotional abilities, which are required for a child's full and effective progress. The CL model that processes and practices, where students and teachers work together to maximize their learning while also facilitating the ability to learn from others. To achieve this, the focus of CL is to create interdependence between SwSEN so that they can learn to take charge of their lives as well as learn to support each other in inclusive classroom settings.

Cooperative learning strategy

Cooperative learning strategy is an alternative education practice for the advancement of rational and emotional competencies. CL is a strategy for organizing educational and social cognition tasks. It is an instructional method that encourages SwSEN to work with small social groups to learn collaboratively. CL is a task for small groups. It is so organized that learning is based on a displaying socially organized between students in groups in which each student takes responsibility for their study and is empowered to enhance other students' learning. CL is not a competitive advantage but a technique of improving academic cooperation. It is a way to use groups of students in the classroom successfully. Supported the belief can only be predicted to become more efficient under most situations than individual and collaborative efforts. These are mutual support on the feeling that personal goals have been achieved on the achievement of representatives of the group, personal responsibility, personal relationships with peers, the use of pro-social skilling, and group discussions of an assigned achievement.CL is a method by which students work in minor groups, under the guidelines of their educator, to complete a purpose. CL strategies offer students the capacity to learn in an atmosphere that is more comparable to what they experience in potential working lives by solving problems. Educators are allowed to work on core skills and the interaction and soft skills of students that are vital for success in life and career and integrate them into education systems. CL strategies are knowledge frameworks and we will learn to use them in inclusive education settings. The CL is the most planned outcome of the CL spectrum. Collective education is characterized by the "teaching methods of small groups, which enables students to work together just to make the most of their learning" (Johnson et al. 1990, Deutsch, 1949; Lewin, 1935). These interpretations and ongoing studies examine the impact of the social interdependence framework on human experiences within a particular circumstance which, in turn, impacts this engagement (Johnson and Johnson, 1989). CL Method encourages better student attitudes towards learning and continues to develop self-appreciation, coherence, and skillsets for learning (Sahin, 2010). CL techniques can improve the students' academic performance through educational settings (Song. Yin, & Wang, 2012).In a CL classroom atmosphere, children engage in groups to accomplish the common purpose while continuing to work together and on classroom activities. Through all these interpersonal relations, students learn how to deal with, endure, handle and communicate

their feelings. This active learning, therefore, enables you to advance your everyday life in inclusive social settings.

Social Competence

Social competence is essential in all places where people encounter, communicate, and work cooperatively. Consequently, there is a requirement to develop social skills. It is also characterized as the capacity of an individual to handle their behavior in the current social group to maintain their social goals (Waters & Sroufe, 1983). The required level of social competence is not supplied by great change. Social competency is the ability of an individual to begin and preserve beneficial interpersonal interaction with another person (Katz et al, 1995; Rydell, Hagekull, & Bohlin, 1997). In initial childhood, an individual with interpersonal skill, beneficial relationships with his family members and his peers, personality in playing-groups, cooperation and cooperation between peers (Gresham & Reschly 1987, Hartup 1996; Slaski & Cartwright, 2002; Thompson 2007), are predicted to be established in a socially skillful child's early childhood. It also is described as a "functionality to handle his behaviors and interactions in the established social setting to attain his social competence (Waters & Sroufe, 1983). Social competence also involves the knowledge of the responsibilities and emotions of the others, the articulation of one's concepts and requires, the resolution and collaboration of troubles, emotional expression, precise "reading," a proper behavior to satisfy the requirements of social settings and activating and preserving positive relationships (Kostelnik et al., 2002; Odom et al., 2002). In the initial childhood years, a socially competent child is designed to build emotional level close relationships with his family members, possess good relationships with grown-ups and his peer group, be included with the playgroups by his peers, have personality, be able to share, and work cooperatively and work collaboratively with others (Gresham & Reschly, 1987; Hartup, 1996; Slaski & Cartwright, 2002; Thompson, 2006). It moreover reflects a potential to learn from prior encounters and to hold a different approach of a condition and pertain it to changing social relationships (Denzil, 2007). It emphasizes the significance of having to learn social competence or teaching process, which are crucial not only for academic achievement but also for a child's social well-being at inclusive classroom settings.

Positive Peer Support in Cooperative Learning

As the diversity of learners in classrooms grows, educators in both general and special education classrooms are constantly challenged with educational obstacles. Researchers and professionals are willing to put best performs into practice that will improve academic presentation for all students. Implementing positive peer support teaching and intervention is one way to overcome these obstacles. In both general and special education settings, positive peer support is a commonly used and studied instructional technique. Positive peer support settings are adaptable and can take on a variety of forms. Three different features, which include sociability, aggressive behavior, and retirement, play a significant role in peer relations (Howe, 2010; Newcomb, Bukowski, & Pattee, 1993; Parker & Asher, 1987). The work on CL, which evaluates peer relationships as essential to the learning process, sketching on the classic work of Piaget and Vygotsky, gives a different perspective. Informal interactions with their peers are developed by children in schools. These features are necessary for the individual, emotional and social stages of design to the education of adolescents (Newcomb & Bagwell, 1996; Wentzel, 2009). It is also evident that indirect peer-to-partner communication and the common human environmental conditions in education influence student success from both student motivation and faculty (Kindermann, 2007; Skinner & Bemont, 1993). As mentioned above, social relationships impact the formation and efficiency of students in particular. As far as educators are concerned, their effect on performance and commitment is recognized also (Skinner & Bemont, 1993). If educators are supportive and encouraging about children, they could indeed encourage positive behavioral conduct (Luckner & Pianta, 2011). This study provides a positive

and investigates the framework, different features, positive outcomes, and advantages of positive peer-support involved comprehensively. Implications of positive peer support instructions in inclusive settings.

Educators' Role in Integrated Cooperative Learning

The role of the educator in the CL strategy is key, but complex. CL instruction keeps changing the role of the educator from modeling and guided practice in one of the surveillance and tailing group discussions (Blatchford et al., 2006; Gillies, 2016). It is generally recognized that less educator participation in group work is linked to greater independence (Lin et al., 2015). The educator nevertheless plays a major role in shaping the requirements of conventional rules and standards in team schoolwork (Baker et al., 2017). Today, many educators attempt to reach their differentiated classroom requirements. Educators often have Mentoring programs, but there is very little help for educators just after the preliminary induction program. In history, educators have been assessed by their supervisors when they are diagnosed as having difficulty in inclusive classroom settings. Challenges in educator integration of CL have been stated in previous studies. A few other investigators have proposed that to improve academic coordination, educators have to collaborate with their coworkers, consequently trying to argue for the whole methods in the integrating of CL (Sharan, 2010; Jolliffe, 2015). These preconceptions can be tried to communicate through answers to questions or clarifications (Webb et al., 2006). In addition, teacher guidance can include encouraging, modeling, and commendation of effective group processes (Lin et al., 2015). Therefore, the role of educator designed for high the collaboration teamwork a fortiori; monitoring the social norms of engagement and getting involved when group problems arise. Concerning the problems identified for incorporating the CL strategy, the role of educators in enacting the CL merits close attention in identifying the impacts on the people inclusion of SwSEN from this strategy.

Benefits of Cooperative Learning among SwSEN

The CL approach has been widely explored and promoted, the groups and pairing of students to achieve a learning goal. The term CL refers to perceptions associated in which students working together at different learning outcomes in larger clusters for a shared goal. The students are accountable for each other and their learning. The achievement of one student, therefore, tends to help others to succeed (Gokhale, A.A., 1995). There are also several advantages to the notion of CL. We can use this style of learning to our advantage by comprehending its advantages. It is important to understand what CL is until you can judge the pros and cons of CL (Annett, N., 1997). CL has numerous benefits, generally leading to higher accomplishment and improved performance, extra compassion, respectful and engaging interactions, and increased mental wellbeing, social competence, and self-worth in comparison with competitive and individualistic endeavors. We disclose educators' perspectives of the benefits of cooperative learning for SwSEN and compensatory learners, the proportion of those students that take part continuously in CL, its effectiveness for those learners, and the type of changes that teachers make to students with special needs. In general, educators have been positive about the effectiveness of cooperation for SwSEN while recognizing that some students performed higher work than others. Self-esteem, secure trying to learn and better results rate increases in the classroom and products were significant benefits. For specific and reconstructive education students, the main modification was the choice of appropriate partners.

Inclusion through Cooperative Learning Strategy

Advancing the idea of CL besides more made ready for children who interpret at various levels or have different math skill levels to thinking about and planning for students with more comprehensive handicaps involves combining the precepts of CL with the fundamentals of inclusion (Sapon-Shevin, 1990, 1991). In inclusive classrooms, CL opportunities can be beneficial because they motivate students to collaborate in a supportive setting where all

individuals are taught equally. CL may enable students to collaborate in a secure setting and for peers to assist each other in succeeding (Cross and Walker-Knight, 1997). CL can help build a strong foundation in which kids can overcome some of their learning problems and be recognized for their achievements in an inclusive classroom (Hamill & Clark, 2005). In inclusive classrooms, CL can encourage students to build on their ideas through groups or fellow workers. An educator must consider a variety of abilities, responsibilities, and criteria when completing the stage formative assessment. This list of requirements also shows that integrating CL in inclusive classrooms can quickly overwhelm the instructor. Besides the advantages of CL that have already been mentioned and are supported by concepts and practice, another significant advantage is the minimal resources available needed for proper CL execution. Except for room for group work, most CL methods require very little additional money and other resources. CL inclusion at all levels, from primary to institute of higher education, can aid in the development of desired skills and attitudes amongst students. In inclusive classrooms, CL makes sense since it capitalizes on diversity while also formalizing and encouraging support groups and engagement. CL, on the other hand, is not just beneficial for SwSEN in inclusive classroom settings.

CONCLUSION

In conclusion, this study has reinforced the significance of putting students on the right track The CL strategy had a minor but considerable effect on children's social acceptability, but not on their partnerships or opinions of classroom connections, according to the outcomes. The goal of CL is to foster the teamwork that is required for children to acquire personal accountability, such that they do not just learn to do something collectively, but also learn to do something for themselves. For students, incorporating CL practices into the classroom allows each student to participate and learn alongside their classmates. Educators must be dedicated to designing and managing these methods in the classrooms to enable this way of education. In light of the described challenges in applying the CL method, the role of educators in embracing the CL merits special consideration when determining the impact of this strategy on the social inclusion of SwSEN.

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UKRAINIAN ETHOS OF LIBERAL DEMOCRACY: A THREAT TO RUSSIAN GEOPOLITICS

Lopamudra Ghosh
Distinguished Indian Delegate representing INDIA in the World Youth Parliament for Water (WYPW); Student (Third Year / Fifth Semester) BA History (Honours); Founder and President of the World Forum for Welfare Geopolitics (WFWG); HundrED Youth Ambassador representing India at HundrED, Helsinki, Finland; and Sponsorship Coordinator of Step Up Group
Institutional Affiliations: World Youth Parliament for Water (WYPW); HundrED, Helsinki, Finland; Step Up Group; Kabi Joydeb Mahavidyalaya affiliated to the University of Burdwan; and the World Forum for Welfare Geopolitics (WFWG)
ZIP code: 731214

ABSTRACT

This research analyses Russia's geopolitical position and argues that Ukraine's endorsement of the principles of liberal democracy might turn out to be a geostrategic threat to Russia. It gives a small hint of approximation process of Ukraine within EU and NATO, and argues how this approximation process is opposed by Russia, who wants Ukraine back to its influence. Occupation of Crimea by Russia violated international order, opening way to unstructured international ties with traditional UN bodies. Russian leaders and western analysts have advanced a number of arguments justifying or explaining Russia's 2014 invasions of Ukraine. Understanding the motivation for Russia's actions is important in the short term because efforts to anticipate the course of the conflict depend on understanding Russia's goals. In the long term, however, finding a durable settlement will depend on understanding what Russia hopes to gain. Moreover, strategy for many states in the region, for the US, and for NATO depends on understanding the scope of Russian ambitions. Much of the discussion in the west has centred on the question of whether Russia's actions should be thought of as aggressive or defensive. Both of these views see the motivation as primarily geopolitical. For post-revolution Ukraine to succeed as a stable, prosperous, liberal democracy tied closely to Europe would fundamentally undermine the claim that Russia cannot succeed as a liberal democracy. Putin's legitimacy rests largely on that claim. If Ukraine could succeed as a democracy, Russians might logically ask themselves why Russia could not do the same. Moreover, the success of the 'revolution of dignity' would demonstrate a method for bringing such change to Russia. This explanation does not directly contradict geopolitical perspectives. It highlights the underlying geopolitical motive that determines Ukraine's effect on Russian domestic politics. The research has discovered that the implications for future Russian behaviour are different. Either geopolitical explanation would lead us to expect that Russia will seek to stabilise some revised status quo. The domestic explanation is that Russia will seek to prevent any level of stability that enables a territorially truncated Ukraine to proceed with domestic reform and closer ties with Europe.

Keywords: Geopolitics, Liberal Democracy, NATO, Russia, Ukraine.

INTRODUCTION

Examining the current geopolitical positioning of Ukraine, we see that the country is divided between two centrifugal forces; at one side, we have Russia representing the East, at the other side, we have the European Union (EU) and the North Atlantic Treaty Organization (NATO) representing the West. Ukraine's political destiny will depend on cleavages of the opposing centrifugal pull-out between East and West. Russia is trying to suppress Ukraine's approximation to Western institutions and to rebalance in favour of Russia's geopolitical

influence. This is impossible to happen since Ukraine accepted to be part of Euro-Atlantic institutions.

This paper unveils documents and agreements that Ukraine signed as a partner of the EU and NATO. The question of Ukraine's geopolitical position is important for the academic world, for the fact that this research question is relatively new; and the ongoing conflict is volatile. The problem of Ukraine's geopolitical position is evolving in an unknown direction; no one can predict what kind of future is engraved and what could happen. Russian annexation of Crimea and its intervention in Ukraine have relativized legal norms protected by the United Nations. Even though theoretically the UN has influence on state relations at the international level, it still lacks the ability to solve political and security problems of the 21st century. It is obvious that the Ukrainian conflict will remain the biggest geopolitical challenge of the 21st century in Europe. My hypothesis argues that Ukraine will aspire (with the possibility of a future membership) towards the EU and NATO, as its primary strategy to become a Euro-Atlantic country, and simultaneously repel Russian dominance over the country. This will be hard to achieve considering the current conflicts and separatism movements that can easily destruct the government's political orientation.

Nevertheless, there is no turning back at this point. Ukraine will not be under Russian political control anymore; the Russian goal of changing the status of the Crimean citizens will not be recognized by the international community either, and Ukraine's efforts to fight Russian separatists' groups will gain increasing Euro-Atlantic support. By researching this conflict, we as political scientists are entering the 'new era of international relations', which are left to evolve independently (and lacking structure) without the legitimacy of the United Nations to prevent conflicts or build peace. The UN will need substantial reforms to meet the 21st century's geopolitical challenges, while member states have to cede additional sovereignty when it comes to preventing wars. Until this reform happens, superpowers will pursue their geopolitical projects, and conflicts will occur when these projects clash each other.

UKRAINIAN LIBERAL DEMOCRACY AND RUSSIAN GEOPOLITICS: AT CROSSROADS

The aggressive or opportunistic view sees Russia as having seized upon instability in Ukraine to seize territory that it has long coveted. Since he took over the presidency, the ultimate goal which has motivated and guided Vladimir Putin is the ambition to recover most of the key assets – political, economic and geostrategic advantages that were lost due to the collapse of the Soviet Union.

The defensive view sees Russia, alarmed by the eastward expansion of the European Union and NATO, as reacting to the threat that Ukraine's revolution would lead to the expansion of hostile European powers into territory that had traditionally belonged to Russia, and through which Russia has repeatedly been invaded: "The United States and its European allies share most of the responsibility for the crisis. The taproot of the trouble is NATO enlargement, the central element of a larger strategy to move Ukraine out of Russia's orbit and integrate it into the West" (Mearsheimer, 2014). "Twenty years of NATO's eastward expansion has caused Russia to feel cornered . . . the Ukraine crisis was instigated by the West's attempt, last November, to smuggle the former Soviet republic into NATO' (Van den Heuvel and Cohen, 2014).

This debate between offensive and defensive, which echoes the debate between 'traditional' and 'revisionist' explanations of the Cold War, is based on an underlying agreement that the conflict is essentially about geopolitics – about whether Ukraine will be part of the East or West, about whether Russia will accept or reject the borders it was left with after the dissolution of the Soviet Union, and about whether we are entering a new cold war. In contrast, much of the western literature in recent years has viewed the spread of democracy via popular revolutions

without much reference to geopolitics – democratisation simply represented the spread of a universally recognised value called 'democracy'.

The 'third wave of democratisation' has spawned a large literature on the transnational diffusion of democracy. Much of this literature focused on the role of the EU in promoting democracy in post-communist Eastern Europe. Following the 'coloured revolutions' in Serbia, Georgia, Ukraine, and Kyrgyzstan, many analysed the diffusion of revolutionary tactics. In its most simplistic form, it seemed that there was a recipe for overthrowing the corrupt hybrid regimes of the region.

At least since the 2004 Orange Revolution, we have seen a concerted response by Russia and other autocratic regimes. Domestically, autocratic governments, not only in Russia but in Central Asia and Latin America as well, put pressure on NGOs and opposition politicians and created pro-government groups, such as Russia's Nashi, that could be called upon to counter protestors in the street. Moreover, these governments have collaborated to combat the transnational spread of democracy. Autocracy as well as democracy can diffuse, and Russia among others has increasingly sought to promote it. By watching each other's examples, they copy successful domestic tactics. By invoking the rhetoric of pluralism, they have sought to counter the notion that one social system is the best. By creating their own monitoring groups, they have provided international legitimacy to elections that other groups would not approve.

From this perspective, the geopolitical lines between domestic and international politics seem to diverge. Because changes in regime type can have enormous geopolitical impacts, the spread of particular regime types, or the resistance to them, becomes a geopolitical tactic. If the West, in viewing democracy as a universal value, underestimates this, Russia clearly does not. Putin sees the spread of promotion of democracy as aimed against Russia's interests. Thus, Putin has pointed to what he sees as the hypocrisy of the US position on Crimea. In the case of Kosovo, Putin argues, the US stated that the secession of a territory could be legal even against the opposition of the state from which it was seceding (Putin, 2014). By alleging a double standard, Putin hopes to demonstrate that US talk of international law and democracy is a geopolitical weapon, not an actual principle.

UKRAINE-RUSSIA RELATIONS AFTER RUSSIAN ANNEXATION OF CRIMEA

The relations between the two countries have never been worse, officially or unofficially these two countries are in war - it depends on how we see it. Moscow sees Ukrainian approximation to the EU and NATO as a geopolitical threat to its national and international interests, especially after it lost Yanukovych. According to Russian diplomats, NATO is crossing its mandate in the Ukrainian case. They are of the opinion that NATO military displacement near Russian borders is bringing instability. Now we clearly know that Putin is materializing Moscow's plan of expanding Russian influence outside the borders, which will be partly jeopardized if Ukraine is able to avoid Moscow's territorial influence. The general assumptions are that Putin will initiate conflict in other regions as well; the rising socio-economic stress with dwindling oil prices may push Putin to seek foreign distractions (Newton, 2015, pp. 7-9). The most vulnerable are the Baltic States (Evans-Pritchard, 2015).

Russia with the Eurasian Economic Union (EEU) in mind will urge economic expansion; even though in some circumstances it has to adjust energy policy to the new realities in order to gain western revenue, the EEU provides Putin additional profits and confidence to pursue nationalistic interests. The US, NATO and the EU expect that Putin will act as a 'partner' when it comes to international relations, they praised him many times, and now they are confused on how to treat him. The West is struggling to understand Putin's manoeuvres (Roxburgh, 2013, pp. 253-272), they refer him as a partner, and as biggest threat at same time; some even argue that West has lost Putin's partnership (Neil Buckley, 2015). The most pressing question is: did

they ever have one? Putin was always ready to suppress neighbouring countries on behalf of Russia's interest; he promised that he will restore Russia as a key player in the international political scene. Putin is pulling additional threads in Ukraine; recently Moscow (quoting Aleksander Mazu) announced that it has suspended its participation in the Joint Consultative Group on the Treaty on the Convention of the Armed Forces in Europe on 11th March 2014 - using NATO expansion as a justification for this.

Ukrainians recently reported a build-up of Russia's military forces in Ukraine; armoury (T-64 and T-72 tanks and armoured vehicles), artillery, Multiple Launch Rocket Systems (MLRS) as Grad, and sophisticated air defence systems were spotted. Ukrainian reports estimate more than 250 tanks, 800 armoured personnel carriers, while some Unmanned Aerial Vehicles (UAVs) for surveillance and targeting purposes were reported as well. The situation is not improving; reports show that Russian troops are continuously increasing in size, meaning that Putin is not backing down.

Putin provides material to researchers (especially those examining political science), which scientifically is 'appreciated', but at the same time questions any hypothesis and results one may have; in Ukraine's case we will wait and see what future brings to us. Apparently, we cannot predict Putin's moves as his strategic plans will not match with the strategic plans that the West has for Ukraine. Currently Putin is building a 19 km long bridge to connect Crimea to Russia, as part of his masterplan of returning as a big player in the international level.

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Ukraine threatens Putin's claim that the western style of democracy is inappropriate for Russia. In this respect, the widespread Russian view that Ukraine is 'really' part of Russia is particularly dangerous. If Ukraine is indistinguishable from Russia, and Ukraine can establish a European style of liberal democracy – and even aspire, however unrealistically, to EU membership – why could not Russia? When a pro-western and anti-Russian Viktor Yushchenko looked likely to win the 2004 Ukrainian presidential election, Russia threw considerable weight behind the campaign of Viktor Yanukovych. The subsequent Orange Revolution demonstrated Russia's fears: in Ukraine, a pro-reform and anti-Russian government came to power in place of a pro-Russian one. In Russia, people angered over cuts in social benefits and their protests took to streets. While Putin's government was able to resist these protests, they led to several new steps, including the formation of the new Nashi Pro-Government Youth Organisation and the propagation of the doctrine of 'communism'.

However, when Putin oversaw the falsification of the 2011 parliamentary election, protests re-emerged on a much larger scale. In having Dmitry Medvedev step aside in 2012, so that Putin could resume the presidency, Putin left no doubt as to who was in charge, regardless of who held which office. The point was not just about the sovereignty of the state, but about Putin's leading role in it. In both instances, it appeared as though Putin understood that unless his dominance was widely understood, there was a danger that some elites might challenge his role.

However, falsifying the 2011 elections brought its own problems, namely protests in the streets that resembled the protests that had set off the Orange Revolution in Ukraine and the Rose Revolution in Georgia. These protests, welcomed and encouraged by the United States, represented a genuine challenge to Putin's power, and while he was able to beat them back, it appears that he continues to perceive such a threat to communist Russia. The events in Ukraine in 2013-2014 reinforced that threat. It is unclear whether Putin really believes what he says about the role of the EU and the US in fomenting the overthrow of Viktor Yanukovych (2014b) – though the presence of Senator John McCain and the then Assistant Secretary of State Victoria Nuland on the Maidan made the accusation more plausible. The prospect was that

Ukraine would, with the aid of the EU, begin turning itself around. If so, Ukraine would likely become an attractive model for Russians, and a very different model than the one Putin has been insisting. According to the Russian separatist groups, in the modern world extremism is being used as a geopolitical instrument and for remaking spheres of influence. Russia will see what tragic consequences the wave of so-called colour revolutions will lead to. For communist Russia this is a lesson and a warning. Russia should do everything necessary so that nothing similar to liberal democracy ever happens in Russia (quoted in Korsunskaya, 2014).

GLOBAL CONSEQUENCES OF THE BATTLE FOR UKRAINE

To the extent that Russia's invasion of Ukraine was driven by the fear of 'contagion' of popular revolution, what impact does it have on the future of the conflict? In contrast to a solely geopolitical understanding of the conflict, this view would lead us to focus less on either the territorial questions or on the relationship with Europe and the US, and more on the situation within Ukraine.

If we focus primarily on territory, whether we see Russia's motivations as aggressive or defensive, then the logical goal is the establishment of some new territorial status quo in Europe. Whether that means consolidating the gains of 2014, or expanding further, the goal would be to obtain eventual acceptance of the new boundaries. With Crimea, that already may have been achieved. Even a defensive interpretation might expect Russia to seize a land corridor linking Crimea to Russia, or even to go all the way to Transnistria, seizing Odessa along the way, and cutting off Ukraine from the Black Sea. Any territorial expansion beyond the immediate neighbourhood of the September 2014 ceasefire line would be to further challenge Europe, and possibly to demonstrate how little it could do to prevent Russia from pursuing its objectives.

Mearsheimer (2014) advocates some form of neutralisation of Ukraine – citing the model of Austria in the Cold War. If the conflict is entirely geopolitical, that might work. But if it is also about Ukraine's domestic politics and their implications for Russia, such a result would likely be unacceptable to Russia. A deeper problem with neutrality is that it is much harder to do in the post-Cold War world than in the Cold War world. Building a functioning liberal democracy in Ukraine almost certainly depends on close ties with the European Union – both for support of reform, and for strictly economic reasons as well.

Competing in Europe on uneven terms with members of the EU, Ukraine's economy would almost certainly stagnate – forcing it to cut a deal with Russia. The overlap of domestic, transnational, and geopolitical factors will make the conflict extremely difficult to resolve. For Russia to feel secure with regard to Ukraine, Ukraine needs not only to be territorially truncated or geopolitically neutralised; it needs either to be controlled by Russia – and autocratic – or to be dysfunctional. If neutralisation is not a viable strategy, then renewed stability would depend either on the West acquiescing in renewed Russian control of Ukraine, or on Russia accepting the loss of Ukraine (minus Crimea and the Donbas). It is more likely that a non-cooperative result will emerge, in which Russia may limit its military activity, but will continue to ensure that Ukraine cannot do what is needed to protect the interests of Europe, the US and the West.

CONCLUSION

By annexing Crimea, Moscow has violated international law and Ukraine's sovereignty. Even though actors involved in the Ukrainian conflict are UN members and have accepted the UN Charter explicitly protecting the sovereignty of member states; there is no UN body that can act as an arbitrator to solve the conflict or to prevent it. There are only UN bodies to facilitate post-conflict recovery. Analysing the Ukrainian conflict so far, we notice that the Ukrainian Army lacks time and expertise to upgrade its military capacity, and repeal separatist attacks. Currently the US has an advantage in the geopolitical battle between East and West, simply for the fact

that geographically it is far from Ukraine (making the US less vulnerable in case of conflict expansion) and has resources to help Ukraine to counterbalance Russia. The US interest is to have Ukraine as a stable European country out of Russian geopolitical influence. However, that is easier to say than to achieve. Delaying Ukraine's membership in the EU is resulting in an escalated risk of losing this opportunity for ever; and to make this even harder, Putin is planning totally the opposite, and his plans are running smoothly. Putin is always one step ahead since he bypasses bureaucracy of international community and international law; he only cares of Russia's interest, and that is what EU should do as well in Ukraine's case, it should act pragmatically, leaving aside its bureaucracies. The EU must strengthen sanctions towards Russia and increase financial help to Ukraine. Member states need closer cooperation. Europe will have to be more proactive and expand its scope of pressure (on economic and diplomatic sanctions), and they need to stand firmly by the U.S. and its policies to 'act rationally'. EU countries must send additional troops to join US military in Ukraine's neighbouring countries. The United States and NATO must engage proactively in the process and provide specific recommendations to the Ukrainian Army to strengthen the border protection of Ukraine. The Western commitment towards Ukraine will raise red flags in Moscow; Moscow must feel the pressure of western Europe's involvement in Ukraine's protection.

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INVESTIGATION ON BOULDERS AND SAND AS A LOW IMPACT DEVELOPMENT (LID) TECHNIQUES TO INCREASE INFILTRATION RATE OF THE SOIL

Venkata Kamal Lal Meenuga
Assistant Professor, Department of Civil Engineering, Anurag University

ABSTRACT

With the increase in urbanization, the infiltration rate has been decreased. So there is a need of simulation of studies for understanding the complexities related to urban flood management. So if we can increase the rate of infiltration gradually there will be reduction in the drainage problems and increase in the ground water table recharge. In the present study experiments have been conducted to investigate infiltration capacity on current existing soil in an urban area. LID techniques have been adopted which helps in reducing adverse hydrological effects to increase rate of infiltration and eventually for ground water recharge. In the present study experimental models has been created and performed experiments on the existing soil and also applied LID techniques. Mitigating the impact of adverse effects of urbanization has been done by implementing various techniques and comparison of these techniques has been studied for further investigation.

KEYWORDS: Low Impact Development, Infiltration, Runoff, Boulders

1.   INTRODUCTION

In the present global atmosphere, all countries experience the challenges of the environment, social transportation, the economy in their particular cities. These issues are commonly confronted by the individuals living within the advanced nations due to the difference in the advancement of cities and towns. Most of the nation's focus on the development of cities rather than rural areas. Thus the urban regions are equipped with the infrastructure eventually these exercises come about within the urbanization issues. The basic character is that urbanization implies non-agricultural exercises. When precipitation occurs, the runoff streams in urban regions encounter numerous changes to their common stream design which incorporates the major increment of volume, size, and length of storm water flows.

Since almost 1990, some conventions have been taking after to control the floods in urban ranges called Best Management Practices (BMPs). At present, it could be a bit troublesome to practice this tradition since it requires a huge sum of space. As part of this Low impact development (Lid) could be land planning and storm water management that controls the runoff stream. Typically done by utilizing low-impact development strategies. These Lid strategies include the common processes to reduce the rate and volume of the runoff.

1.1 Infiltration

Soil infiltration is the capacity of soil to permit water to move into the soil profile. In case the infiltration rate is in minutes it speaks to that soil absorption capacity is more than the precipitation. In the event that the rate is too slope, it comes about in surface runoff, flooding, and erosion in sloping zones. If adequate water is being infiltrated within the soil, then the crop production will be increased and the groundwater table will be recharged. In case infiltration rate is exceptionally high it can lead to filtering of nitrogen. Soil surface, rate of sand, silt and clay in a soil are the major components which influences the infiltration rate. Water moves more rapidly through the huge pores in sandy soil and moves gradually in little pores in clayey soil. Clayey soils have high infiltration rate during dry stage and moderate rate in the saturated stage. Precipitation, base stream, soil characteristics, soil immersion, land cover, slope of the land, evapotranspiration are the components which effect the rate of infiltration.

1.2 Low impact development

Groundwater can be normally recharged through the infiltration of precipitation water into the soil, where the abundance of gravitational water can eventually stream vertically downward. The capacity of soil to encourage water infiltration is based fundamentally upon physical and chemical properties related to the soil surface, which are strongly impacted by land use management practices. After reaching the soil surface, precipitation water can either flow over the surface as runoff or can infiltrate into the soil.

Surface water infiltration can be measured in numerous ways, counting cumulative infiltration and infiltration rate. Cumulative infiltration is the whole sum of water that infiltrates over some period of time. Infiltration rate is the speed at which the water enters the soil. The method of infiltration can be partitioned into initial and steady-state infiltration stages. Initial infiltration happens during a period of quick infiltration as water starts to enter an unsaturated soil, while steady-state infiltration happens as the soil approaches saturation and infiltration comes to a moderately steady rate.

Around the world, there is a well-documented decay in living space and water quality of urban streams. Urbanization is regularly going with by increments in impenetrable surfaces such as rooftops and streets, development of powerfully productive seepage frameworks, compaction of soils, and adjustments to vegetation. This comes about in expanded surge streams and stream disintegration, and the potential for diminished base stream. Urbanization too leads to water defilement from suspended dregs, overwhelming metals, hydrocarbons, nutrients, and pathogens. Within the final two decades, unused urban water administration approaches have been created to convey improved natural, financial, social, and social results. We term such an approach Lid (low impact development). In this review, we focus on the storm water perspectives of Lid, with constrained consideration to broader issues of integrated urban water cycle administration. The scope is additionally constrained to the impacts of storm water on water quality.

Mitigating the effect of expanding impervious surfaces on storm water runoff by low impact development (Lid) is right now being broadly advanced at site and local scales. In turn, the arrangement of disseminated Lid executions may create total impacts and benefit storm water management at bigger, regional scales. However, the potential of different Lid executions to mitigate the broad-scale impacts of urban storm water isn't yet completely understood, especially among diverse design strategies to decrease directly connected impervious areas (DCIA). In this study, the hydrological reactions of storm water runoff characteristics to four diverse land utilize transformation scenarios at the city scale were investigated using GIS-based Storm Water Management Model (SWMM). Model simulation comes about confirmed the effectiveness of Lid controls; however, they too indicated that even with the most useful scenarios hydrological performance of developed areas was still not yet up to the pre-development level, especially where there were pronounced changes from pervious to impervious land Fanhua Kong et al. (2017).

Low-impact development urban storm water drainage frameworks (Lid) are a progressively well- known strategy to diminish the adverse hydrologic and water quality impacts of urbanization. S.A. Trowsdale et al. (2007) investigated experimentally by creating a few models. Models are all based on conventional strategies for runoff era and routing, but half of the models include a groundwater/base flow component, and a few incorporate infiltrations from Lid devices. The models moreover utilize conventional strategies for contaminant generation and treatment such as build-up-wash off conceptual models and to begin with arrange decay forms, in spite of the fact that a few models include treatment mechanisms particular to specific sorts of Lid device.

A few models are able to modelling distributed on-site gadgets with a fine worldly determination and ceaseless recreation, however, the requirement for such temporal and spatial detail must be established. There is a drift towards consolidation of more sorts of Lid into storm water models, and a few later models join a wide run of Lid devices or measures. In spite of this progress, there are numerous areas for further model development, numerous of which relate to storm water models in common, counting: broadening the extend of contaminants; progressing the representation of contaminant transport in streams and inside treatment devices; treating base stream components and runoff from pervious surfaces more thoroughly; linkage to the environment and toxicity models; linkage to automated calibration and prediction uncertainty models; investigating up-scaling for representation of on-site devices at a catchment level; and catchment scale testing of shows predictions.

Climate change, urbanization, and environmental concerns are all driving the need for unused storm water management procedures. The impacts of urbanization are overstated by climate change and in this way the advancements of inventive storm water management methods are vital to mitigate these impacts. One developing storm water management reasoning is low impact development (Lid). Lid utilizes dispersed storm water controls (regularly green foundation), as well as green spaces and normal hydrologic highlights in, arrange to bring the hydrology of urban catchments closer to pre-development conditions. The survey gives a summary of the information of Lid as a storm water management procedure and climate change relief measure as well as the current. State of research and execution of this theme. In order to supply a distant better understanding of the broad scope that ought to be considered for the design of low-impact development methods of optimization, displaying, checking and the execution of Lid options is secured. Lid has been broadly received and demonstrated effectiveness in numerous cases; in any case, there remains uncertainty of its benefits. This review brings together knowledge from numerous sources in arrange to supply an outline of Lid and look at its execution and implementation.

Table 3.1: Common LID BMPs

Bio retention/ Rain Gardens
Disconnection of Impervious Areas
Dry Wells
Filter Strips
Grassed Swales/ Bio retention Swales
Infiltration Trenches
Permeable Pavement
Reducing Impervious Areas
Soil Amendments
Tree Box Filters
Vegetated Buffers
Vegetated Roofs

2. STUDY AREA

In order to evaluate the sum of Lid essential to meet storm water necessities and to re-establish predevelopment site hydrology, EPA SWMM was utilized to construct and analyse a Lid model based upon a proposed development in Chennai (T. Nagar). The proposed location was designed with a few Lid and this model built on what was done so that the storm water necessities were met with Lid alone.

The latitude of Chennai is 13^0 N and its longitude is 80^0 W. Regularly related with the ruddy soils of the tropics are exceptionally dim coloured soils regularly called dark cotton soil. The dim colour of these soils is due to the nearness of iron, manganese and titanium within the diminished state. These soils are shaped under conditions of destitute waste from essential rocks, or in some cases limestone under substitute damp and drying conditions.

Fig 2.1: Study area (T Nagar)

Chennai is a harbor city in Cove of Bengal and two minor rivers stream through the city. Expansive soils, alluvial and marine in the beginning form the major soil store of the city. Within the environment of Chennai city, broad shale and clay stone too happen broadly. Floods immerse the city and the surrounding zones every four or five years and the final flood in 2005 paralyzed the life within the city for about fifteen days. Tsunami crushed Chennai and its environment in 2004, the ocean encroaching into land for about a kilometer.

The soil profile in southern parts of the city for the most part comprises a top layer of parched solid clay underlain by either exceptionally delicate clay or free sand of exceptionally low quality. In western portions the thickness of the solid sweeping clay is huge and the clay layer amplifies distance underneath the dynamic zone. In a few zones of the city, such as Thiruvanmiyur, pervious layers lie over the clay layer. Southwest of Chennai city has exceptionally thick stores of residual sweeping clay generally determined from total weathering of shale and mudstone. A few regions are secured with a rock layer of thickness shifting between 0.50 m and 5.00 m. The clay is reported to have fluid restrain within the extend of 60% to 120% and the versatility list 40% to 80%. The differential free swell record is 50% to 140%. The soil is exceptionally compact with N values 40 to more than 100 right shape shallow profundities.

3.   MODEL DEVELOPMENT

The fundamental rule of LID to utilize nature a demonstrate and manage precipitation at the source is accomplished through sequenced execution of runoff avoidance procedures, runoff mitigation procedures, and at long last, treatment controls to remove pollutants. In spite of the fact that Integrated Management Practices (IMPs) — decentralized, micro scale controls that penetrate, store, evaporate, and keep runoff near to the source — get most of the attention by engineers, it is significant to get it that LID is more than fair executing a modern list of practices and products.

Based on the advantages and disadvantages of LID to increase the infiltration capacity of the soil in the study we have considered the three economic methods of LID and selected a site for

experimental studies. To conduct the experiment on the soil sample pits of dimension 0.5m*0.5m*0.3m* are dug and soil samples are placed in the pits. After placing the soil in the pit the initial infiltration capacity is calculated by using single ring infiltrometer.

Single-ring Infiltrometer test was conducted utilizing 5cm and 15 rings. The ring is driven into the soil roughly 12-14 inches into the soil. At that point water is poured into the ring that over the soil surface. In a few cases the over surface of the ring is secured to maintain a strategic distance from evaporation. For measuring the profundity of water in ring we require hook gage, steel tape or scale. We ought to look out of a ring whereas it is driving into the ground there may be chance of having ill-fated associations between the thin wall of a ring and soil. That unfortunate connection may cause spill of water which leads to over estimation of an Infiltration rate.

Fig.3.1: Single ring Infiltrometer

The major input for this model is rainfall from the past 6 years heavy rain fall is recorded as 250mm/hr (60 liters approximately) in 2019 in Chennai. Then deducting the evaporation loses we have considered it as 45 liters. In the first method to increase the infiltration rate we have considered vegetation method, i.e., grass has been grown for 20 days on the soil sample. The second method is to mix the boulders to the soil sample. The boulders which we have considered are 60% from the boulders which retains on 25 mm sieve and passes through 40mm sieve and remaining 40% from the boulders which retains on 20mm Sieve and passes through 25 mmsieve. These boulders are mixed with the soil sample in the pit uniformly.

Fig.3.2: clayey soil mixed with boulders

Third method is replacing a layer of soil with the sand. The sand which passes through 4.75mm sieve is considered. The pit is 0.3m depth, by dividing the pit into three equal parts i.e., 0.1m each.

The first layer (bottom layer) is filled with the soil sample, second layer (middle layer) is filled with the sand and the third layer (top layer) is filled with the soil.

Fig. 3.3: clayey soil replaced with sand layer

To compare the infiltration rate we have considered another soil sample which is heavily compacted due to traffic. The three low impact development methods are practiced by second soil sample also.

Fig. 3.4: Compacted soil mixed with boulders

Fig.3.5: compacted soil replaced with sand layer

The pits are left for two days for the settlement of particles and from the next day single ring infiltrometer is used to find out the infiltration capacity. Initially the infiltrometer is placed in the middle of the pit and 45 liters of water is then poured uniformly in to the second pit of first soil sample, i.e., the soil mixed with boulders.45 liters of water is divided into the equal parts i.e., 15 liters at time and 15 minutes time interval is maintained for every 15 liters of water to be poured. The readings are taken for every minute .then the soil is left for evaporation for a day .The next day the 45 liters of water is divided into 4 parts i.e., three 10 liters and one 15 liters the water is poured uniformly on the soil sample for every 15 minutes interval .The infiltration capacity is calculated by using single ring infiltrometer .The readings are taken for every one minute then the pit is left for evaporation a day .The next day 45 liters of water is poured uniformly at a time on to the soil sample and the infiltration capacity is measured. The graph between infiltration capacity and time is plotted for every reading and the infiltration capacity is compared with the second soil sample infiltration values.

4.   EXPERIMENTAL RESULTS AND DISCUSSIONS

Infiltration (as used in hydrology and soil science) is water moving through a surface, i.e., soil or porous pavement. As others have answered, the infiltration rate is that rate at which infiltration happens, measured in mm/hr or a comparative unit. Infiltration capacity is the most extreme rate at which infiltration will happen — i.e. when the infiltration rate isn't limited by the supply of water (precipitation or water system). In case the precipitation rate is less than infiltration capacity, at that point, the infiltration rate will be rise to the precipitation rate. In the event that the precipitation rate is more noteworthy than infiltration capacity, at that point the infiltration rate will be rise to the infiltration capacity. The "excess rainfall" (precipitation rate - infiltration rate) will be changed over to runoff. Infiltration capacity is the most extreme rate at which the soil can assimilate water. Infiltration rate can be either supply or soil controlled. Infiltration capacity is measured by the uniformity between the supply rate and soil.

The measured infiltration rate of clayey soil and compacted soil are shown below and also we converted the volume of water used during the experiment for both the soil samples and from the results it was also found that the parameters of models vary.

Fig 4.1: Initial infiltration capacity of clayey soil

Fig 4.2: Infiltration capacity of clayey soil replaced with sand layer

Fig 4.3: Infiltration capacity of clayey soil replaced with sand layer
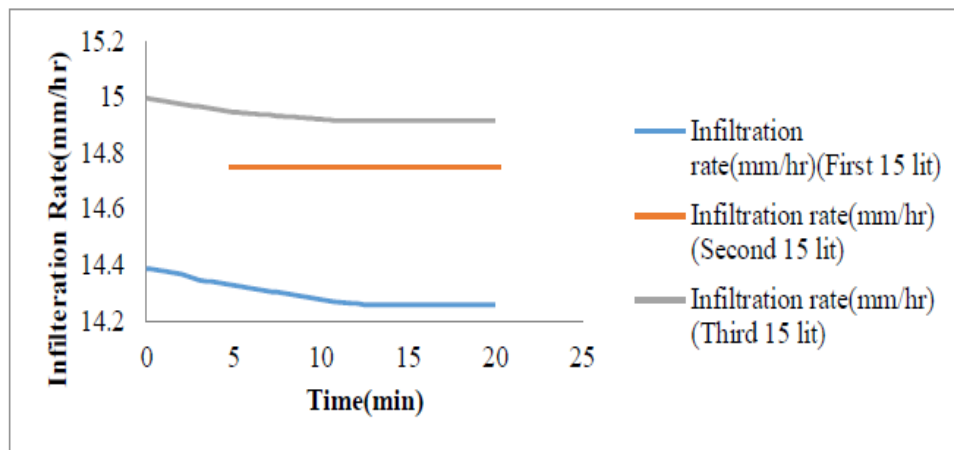
Fig 4.4: Infiltration capacity of clayey soil mixed with boulders

Fig 4.5: Infiltration capacity of clayey soil mixed with boulders
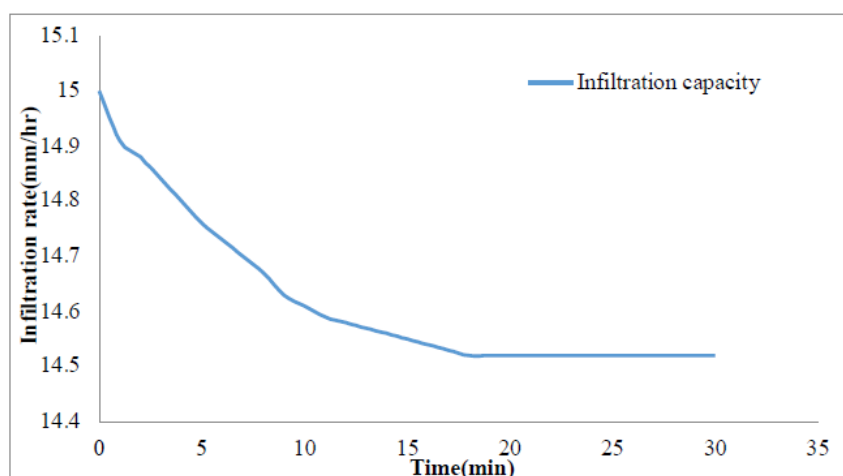
Fig 4.6: Infiltration capacity of clayey soil replaced with sand layer

In the process of increasing the infiltration rate we have adopted the low impact development methods. In the above results of infiltration capacity, it was found that soil replaced with the sand layer method gives the higher infiltration rate and it is the one of the economic way to increase the infiltration rate.
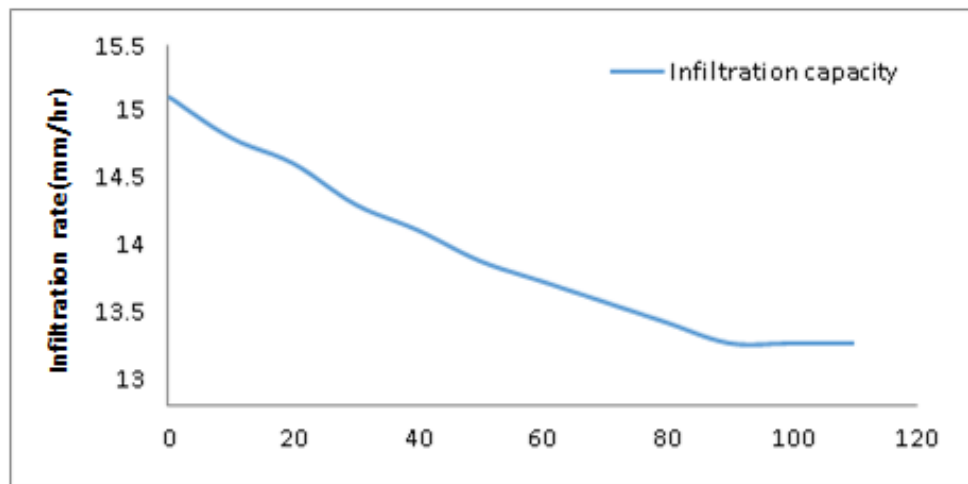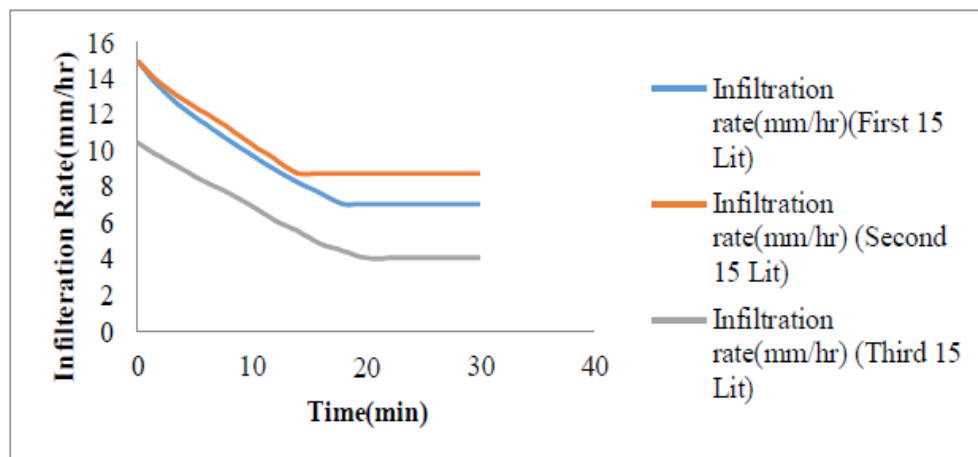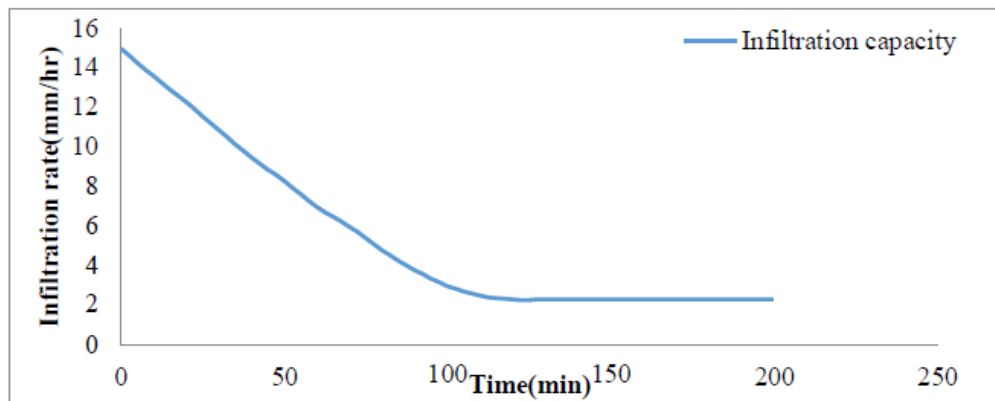

Fig 4.7: Initial Infiltration capacity of compacted soil

Fig 4.8: Infiltration capacity of compacted soil replaced with sand layer

Fig 4.9: Infiltration capacity of compacted soil mixed with boulders

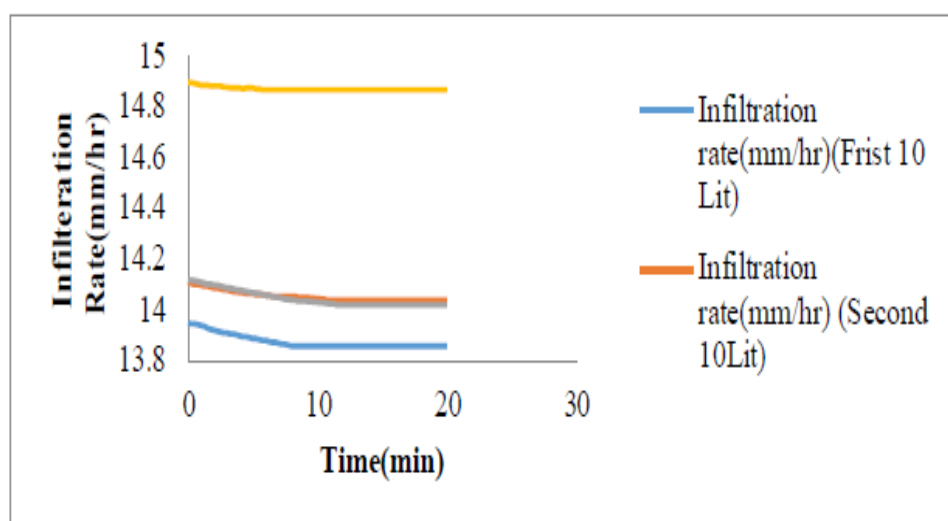**Fig 4.10:** Infiltration capacity of compacted soil replaced with sand layer
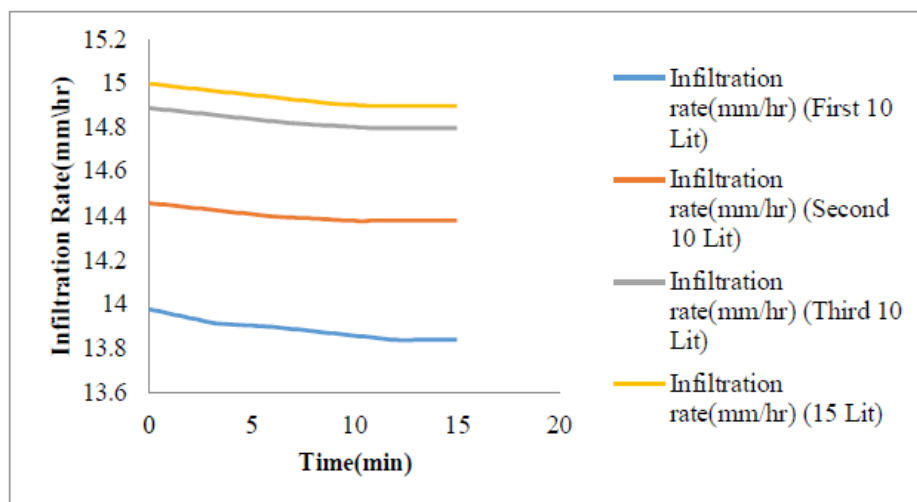

Fig 4.11: Infiltration capacity of compacted soil mixed with boulders

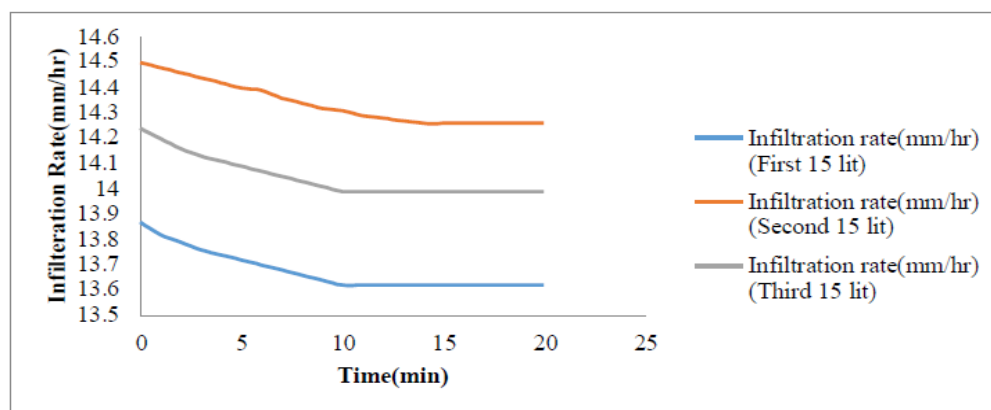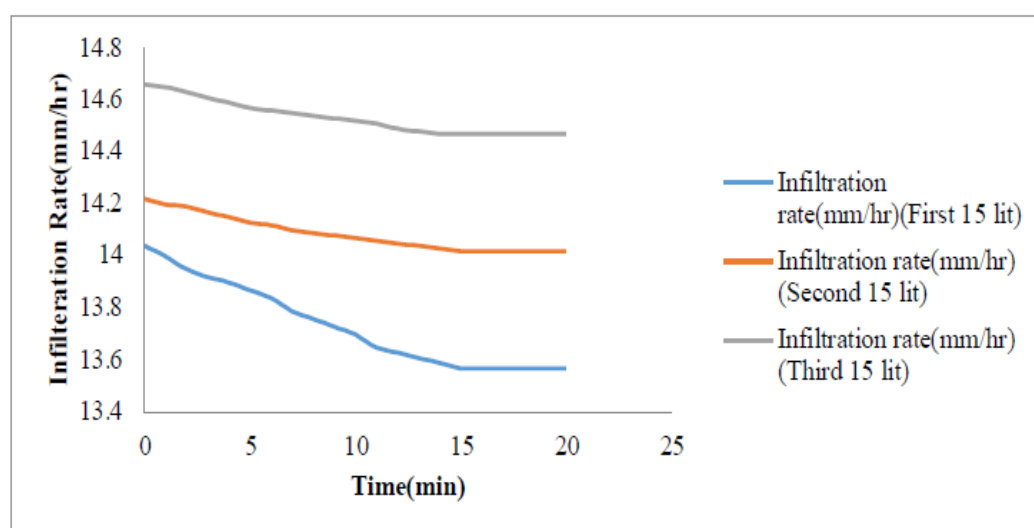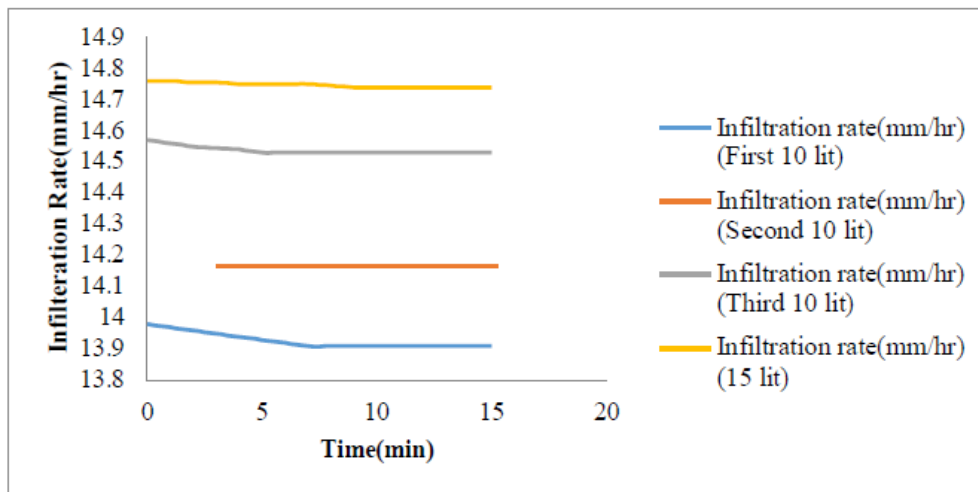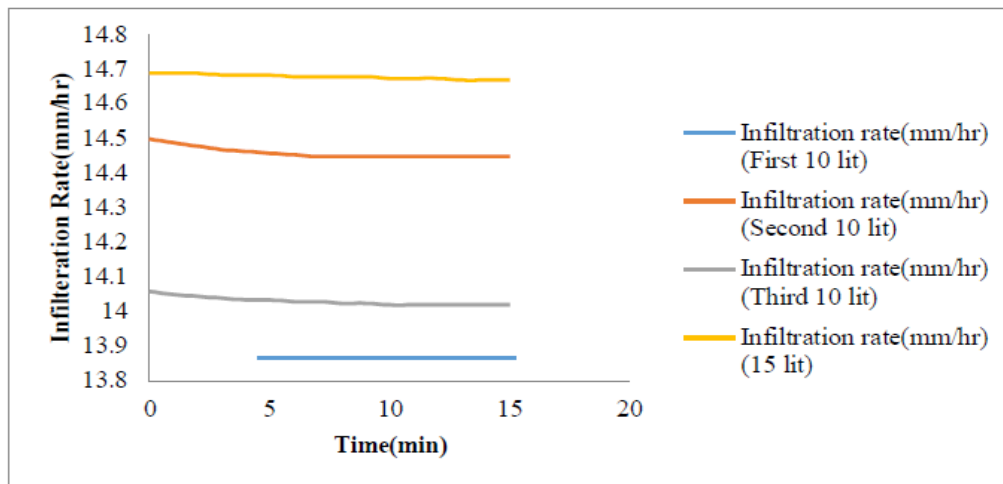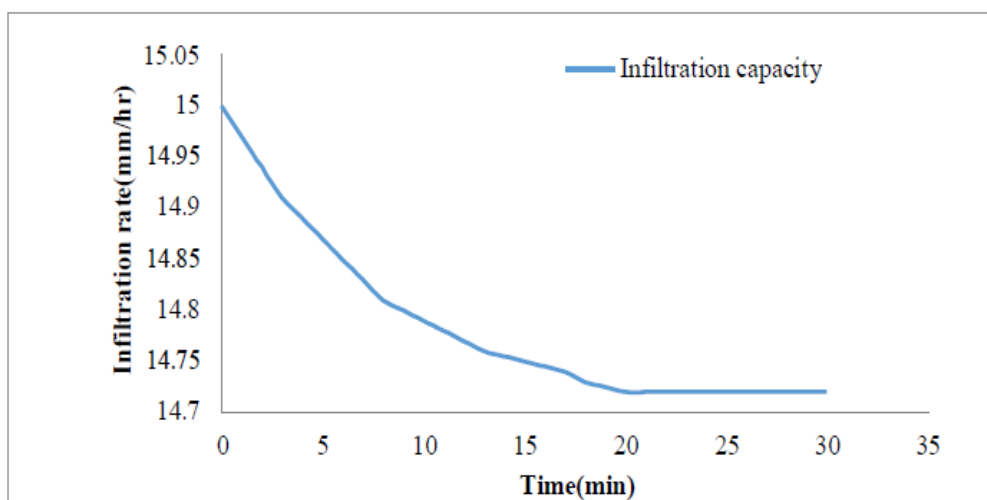**Fig 4.12:** Infiltration capacity of compacted soil mixed with boulders

In the compacted soil the infiltration capacity was high in the case of soil replaced with the sand layer, so in both the soil samples sand replacement method is the effective method for increasing soil infiltration rate.

CONCLUSIONS

- The main objective of the project is to increase the ground water recharge rate by allowing maximum infiltration and store the excess runoff water.

- Based on the simulation carried out in Storm water management model the infiltration loss has been increased surface runoff loss is less than the infiltration loss and the surface runoff water is stored in overhead tank.

- To increase the infiltration rate low impact development methods (LID) are used i.e., soil mixed with boulder and the soil layer replaced with sand layer.

- When we compared both methods the soil replaced with sand method shows higher infiltration rate with respect to the soil mixed with boulders.

- So the soil replaced with soil is the best method to practice to increase infiltration rate of runoff water with higher rate.

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ENHANCING COMMUNICATION SKILLS OF THE LEARNERS IN THE ESL CLASSROOM

R. Catherine Shaniga

Research Scholar, English, Noorul Islam Centre for Higher Education, Kumaracoil, Thuckalay, Tamil Nadu, India

Dr. M. Ilankumaran

Principal, Geetha Jeevan Arts and Science College, Thoothukudi, Tamil Nadu, India

ABSTRACT

The motivations behind this paper are to learn about speaking aptitudes of the learners utilizing the drills, to consider their disposition towards encouraging English speaking abilities utilizing the informative activities. Speaking is one of the abilities that must be aced by pupils in learning English language. It is a basic instrument for imparting. In the study hall, improving the speaking capacities of learners have consistently been a worry. In the 21st century, different inventive advances are being acquainted with teaching speaking expertise in the study halls. Innovation is the vehicle to get access with this modernized world. More than the communication process, today innovation is broadly utilized in educational areas. In spite of its significance, training speaking has been underestimated and English language instructors have kept on teaching speaking as a reiteration of drills or remembering of dialogues. Though, the present world necessitates that the objective of encouraging speaking has to improve pupils' informative abilities, in light of the fact that, pupils can figure out how to properly adhere to the social guidelines in each situation. The categorization of the different level of students that is the slow, medium and fast learners and implementing the tasks for such learners in the classroom of mixed ability students have been scrutinized. The different learner personalities, styles and strategies in teaching the language to the mixed ability of students in the language classroom are stated. Suggestions to overcome language learning difficulties at Higher Secondary Level are mentioned in the paper.

Keywords: Speaking Aptitude, Second Language, Innovation, Modernized World, Communication Process.

INTRODUCTION

Of each of the four key language abilities, speaking is considered to be the most significant in learning a second or unknown dialect. It incorporated every aptitude of comprehending that language. It is the way towards structure and sharing significance using verbal and non-verbal images, in an assortment of settings. Speaking is a share of second language learning and educating, it is a speciality of interchanges and one of the four beneficial abilities, that has to be aced in learning unknown dialect. Great speaking abilities are the demonstration of producing words that can be comprehended by the people. It is the ability that the learners will be made a decision upon most, all things considered, circumstances. It is a significant introduction of an individual depends on an individual's capacity to talk easily and extensively.

The educators have an obligation to set up the students, however, much as could be expected to have the option to talk in English in reality outside the study hall. In the primary stage, instructors utilized recording devices as an innovative gadget to educate the learners, which later advanced as communication lab facility. The coordination of innovation into language instruction, which was begun in the mid-1960s and 1970s, helped educators to impart second language students how to talk in the most ideal manner conceivably. Consistently, educators are gaining admittance to some new innovations, which get hand together with English instructing. As the traditional teaching technique, for example, the chalk and talk strategy is by all accounts

obsolete, the advanced innovations can be utilized as an enhancement to the classroom instructing technique to have an exuberant atmosphere in the study hall. It is the need of great importance to incorporate present day advancements to update the degree of English instruction. The advances loosen up the brain of the pupils to get into the subject with full association than a hard activity to do. New advances in language learning by numerous insight and blended capacities supplant with old strategies for educating.

Teaching and learning the English language have the objective of motivating the learners with the goal that they have to utilize English for communication and as an apparatus for facilitating their studies. During the time spent instructing and learning, the four language abilities are achieved at the same time. Ordinarily, students in the EFL setting do not utilize the language in valid circumstances. They have weakness in conveying aptly and effectively. This prompts students' absence of self-assurance and evasion when speaking with local English speakers.

In L2 educating and learning, capacity to talk is the most fundamental aptitude since it is essential for communication and it is the most troublesome expertise. Communicating in English is the hardest one for students. Specifically, the ESL students frequently stammer when communicating in English. This outcomes from students' absence of introduction to true English language conditions that enable them to utilize English for communication and articulation. Moreover, students are not presented to the way of life of the local English speakers. Speaking is the most significant and fundamental expertise. The dominance of this expertise shows that the speaker has exact learning of language. As per many teaching theorists, speaking is the aptitude that can be created through open exercises which incorporate information gap, a jigsaw puzzle, games, critical thinking and Role-playing. It is indeed that the activities can help better speaking aptitudes. The language activities are significant factors in teaching language for communication.

Activities help to make group effort and interaction among the students. Informative activities can inspire the students and set up great connections between the educator and the leaners empowering a strong situation for language learning. The state of language learning and instructing were inadmissible in India. Creating speaking skill utilizing open exercises and communicative tasks, role playing, critical thinking and discussion, may help to solve the issue. Based on this writing, as the scientist would contemplate the effects of these open activities, discussion, role-playing and critical thinking and advancement of speaking abilities and learners' frame of mind towards speaking English and utilizing the activities.

The educator instigated language activities, for example, requesting directions, requesting nourishment and drinks, chatting on the phone, and making a meeting with consultants. These kinds of exercises can manage the cost of learners, experience utilizing the language for real communication. This thought was steady with where they recommended that the student should know the motivation behind speaking what to talk, with whom, and where to talk, and how to utilize the target language. The function of the language through the activities were painstakingly chosen to suit the schedule, the students' age and language level, and to make difficulties for the students to pick up understanding. Instructing English speaking aptitudes using the informative tasks is a learning strategy concentrating on the student centeredness. Learners work in little gatherings isolated by their language capability, i.e., high, medium, and low levels. Utilizing this strategy, learners can have a chance to cooperate by giving assistance to other people while playing out the action. The environment in working as a group can decrease their dread in committing errors when communicating in English. Students can support others in the group requiring help. They can convey what needs be effectively while working in groups. This can prompt self-checking, more confidence in speaking, and urge them to partake more in learning. Hence, they could effectively create themselves utilizing these activities.

To have an effective communication, the setting has to be centred on meaning and not the form. While the students are engaged with an action, there ought to be no instructor mediation. Learners can work on utilizing the language in group among the individuals. Groups of four are the most effective. Communicating in English when utilizing these communicative activities. The way towards educating and learning aided making happiness in communicating in English in small groups. The feelings of accomplishment in figuring out how to communicate in English through the exercises build up their inspiration to become familiar with the language.

Complications in Teaching and Learning English Language

In the multilingual nations like India where numerous individuals commit themselves in learning English to connect with the people. While many achieve familiarity in written and spoken literacy in a short period throughout which the pupils experience issues and difficulties in obtaining the eloquence. Some of the issues can be related to learning English specifically, because of the diverse roots of language, regional changes and countless irregular verbs. A few basic issues in learning are expressed as follows.

Grammar, Vocabulary and Pronunciation

In general, it can be sorted that pupils encounter three kinds of issues learning English language, they are Grammar, Vocabulary and Pronunciation.

Grammar: structure of the sentence is crucial for the meaningful and understandable communication, using incorrect grammar incorporates difficulties with situational syntax, for example, formal and informal English.

Vocabulary: many people have problems in learning vocabulary as most of the English vocabulary differ in places according to the type of sentence, in this case, one can add English vocabulary in sentence with study and practice.

Pronunciation: challenges with articulation as certain individuals are always unable to ace particular sounds.

Allowing to Commit Errors

Committing errors in English is common among the learners while the process of language learning. It may be any kind of errors like pronunciation, syntax or even misconception about meaning of the word. There is a proverb called "Failure is the stepping stone of success" which ideally means anything can be learned from the mistakes, among which comprises the language learning. So the learner could possibly try to learn and practise the language without any hesitation of committing errors. It helps the pupils to gain from their mistakes. Humiliating the students of making errors affect their emotional channel and can hinder their capacity to retain the knowledge of language and attain the familiarity in English.

Early Hardships

The learners of English-language may go into the class or a engaging circumstance in a condition of shock. The teachers, like learners, may feel astounded that many appear to be unfit to accomplish more than repeat the most fundamental expressions. This is the underlying period of language learning which is called the silent period. In this course of period, the situation lasts only a few days or up to half a month, the pupils acquire and adapt language and yet some are regularly incapable to speak or write it.

Picking Applicable Techniques

English Learning involves various techniques for different kinds of students. A few individuals need more opportunity to think about ideas before jumping into presentations and introductions. For certain individuals, kinaesthetic exercises, for example, clapping, physical developments

and dance can move data from short-term memory to long-term memory. Poems music, chants, games and rhymes give extra support.

Absence of Model for Speaking
One of the main difficulties for somebody learning English is the absence of an authentic model for speaking. At whatever possible point, the learners have to listen to the native speakers of English participating in discussion or teaching ideas. This training hones pupils' ears to extraordinary rhythms and way to express English and can give knowledge into progressively theoretical and progressive English language.

Issues in Teaching English Language
The following are the three most basic issues of English language teaching and learning in the classroom.

Absence of Learner Motivation
Learners might not have motivated and intrigued towards the learning of English language. Some pupils develop fear in them of classroom cooperation, interaction and failure in examinations and thus cannot get included effectively in classroom communication and get familiar with the language easily. They require enough inspiration and motivation from the teachers and scope for learning English in classroom communication.

Lacking of Time, Materials and Resources
As a foreign language, English cannot be learnt and taught as effectively as first language or native language. When it is taught or learned as second language, it requires long time and at the same time suitable materials and resources are necessary to make English classroom atmosphere with the encouraging factors of teaching-learning process.

Large Classes
The large number of students in a classroom are pushed into a language inclining circumstance. The stuffed classes create number of issues like; inconvenience in the class, individual concern, assessment, management of the classroom, keeping up learning adequacy and so on. Likewise there are number of different issues in English Language Teaching like social issues, mental issues, scholarly issues, authoritative issues, etc.

Fear of Committing Error
Many corrections work has constantly exasperates the language teachers due to the mistakes made by the students. It is hard for the teachers to adapt to this difficulty. Above all, one needs an adjustment in the frame of mind towards mistakes. Blunders are inescapable piece of learning a language or some other ability. For instance, if a person wants to learn how to ride a cycle, it includes various stages, where the student falls multiple times till they figure out and ride it perfectly. This follows a strategy for experimentation. The same is valid for learning a language. While gaining the first language, a student commits numerous errors and the learner will in general disregard them. It makes them build up the language skills. As a teacher, one might be intolerant and impatient to the errors of the second language students. To change the nature towards mistakes and to manage this issue effectively, one needs to learn the kinds of mistakes, error analysis and the sources of blunders. The reaction or response to errors makes one improve the language.

Remedial Teaching
The most troublesome part is to unlearn a wrong adapted thing. In this case, the remedial teaching is needed. It is helpful and vital when there is a mismatch between the student's learning of the language and the interest of the circumstance. It helps those students who have not supported by normal teaching. Practicing helps in understanding the arrangement of the language and subsequently helps in expelling errors. Remedial teaching helps the students who

are exceedingly encouraged and are extroverted individual essentially by nature. It comforts in creating fearlessness of the student and intends at advancing the student with different learners who are skilful in the language.

The role of the teachers is crucial. The learners must be exceptionally patient and thoughtful about the mistakes of L2 students. Errors cannot be amended independently in the classroom; however, they can be ordered and the teachers have to take up one part at a time. A lot of blunders particularly with red ink abominates the students mentally. The instructor ought to understand the significance of uplifting feedback by commending their endeavours and empowering them. They should go for the unmistakable and free interaction in students. It is hard to plan the course material or prospectus following a preferred grouping of things. It is dependent upon an instructor to choose which things ought to be introduced as per the requirements of the students. Along these, one sees that mistake does both the practical and theoretical capacities. Hypothetically, it comprehends the procedure of the acquisition of second language learning and essentially it plans and structure a remedial activity to serve the students. Learning of the procedure of error analysis will assist the educator to deal with the issue of mistakes.

CONCLUSION

Language is established and it has a great association with the society. The best way to educate these skills is to interact in realistic contexts. Through interaction, learners will be able to understand certain advancements and further development of the language. Social interaction is considered to be more and more significant in second language learning. The learner obtains idea from the response and that specific information becomes intake when the learner makes use of that information internally. This process continues as discussion or communication and therefore, it enhances second language learning and speaking skills of a student. Interaction inspires learners to practice the language in a more practical way.

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SHAPE RECOGNITION USING MULTI-SCALE MORPHOLOGICAL IMAGE PROCESSING

R. Shijitha[1], P. Karthigaikumar[2] and A. Stanly Paul[3]

[1]Assistant Professor, Department of Biomedical Instrumentation Engineering, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore-641108

[2]Professor and Head, Department of Electronics and Communication Engineering

[3]Associate Professor, Department of Electrical and Electronics Engineering, Karpagam College of Engineering, Coimbatore-641032

ABSTRACT

Shape is the fundamental concept in computer vision. Shape analysis through morphological image processing plays a vital role in applications like medical and computational analysis. Image segmentation is a prime concept in shape related aspects. Through image segmentation we can decomposed the image into number of its sub divisions for further analysis. Also, to obtain different levels of details multi scale approach has been used. In this paper the segmentation approaches, morphological reconstruction criteria have been utilized. While comparing the results with traditional approaches our results assured anti-noise and the accuracy has been improved.

Key words: Image Segmentation, Mathematical morphology, Reconstruction, image analysis.

1. INTRODUCTION

SHAPE analysis is one of the most stimulating research field related to human vision and machine vision. Some applications of shape analysis are medical imaging reconstruction, industrial inspection and many other visual tasks can be achieved by shape recognition. Shapes come in variety of flavors such as 2D images and 3D volumes. The problem of shape representation and shape size description is very important in image processing [1]. Multiscale Morphological Image processing refers to a wide class of operations performed on such shapes at different levels-of-detail. Efficient shape representation provides the foundation for shape analysis applications such as shape matching, object recognition, image coding etc.[2]. In the recent years a number of shape analysis algorithms have been proposed. Image Restoration using morphological operations which is a popular method for shape representation, but if the objects near with the distance, then stuck together. Morphological shape decomposition [5] which was a most common for shape representation, but this shape representation has lack of robustness and while reconstruct the original image they generate impulsive noise.

Shape decomposition and representation scheme using morphological operations [6] is another one approach in that given shape is decomposed into a union of certain disks contained in the shape by using this method the overlapping between the representative disks is completely eliminated but this method is only suitable for serial implementations. Morphological shape decomposition algorithm [7]which uses overlapping disk components, that decomposes a two-dimensional (2-D) binary shape into a collection of convex polygon components. A single convex polygon approximation for a given image is first identified. This first component was determined incrementally by selecting a sequence of basic shape primitives. These shape primitives were chosen based on shape information extracted from the given shape at different scale levels. Shape representation based on sweep mathematical morphology [8], which allow one to select varying shapes of structuring elements. However, the sweep erosion and dilation do not satisfy the basic properties of mathematical morphology. Another one shape representation algorithm based on overlapping octagonal disk components called representative disks[9]. These representative disks are sensitive to small boundary changes   as   skeleton

based representations. Skeletonization of 2D images[9] based on primitive concepts of morphology. This approach also sensitive to boundary noise. Recursive order –static soft morphological filters [10][11] provide excellent performance in noise reduction.Multi scale Morphological filter [12] is simple and efficient and which is used in smoothening of images,edge enhancement, analysis of radar imgery, remote sensing, medical image processing etc.

2. MULTI-SCALE MORPHOLOGICAL IMAGE PROCESSING(MMIP)

In this paper we introduce a new algorithm namely MMIP for efficient shape representation. MMIP refers to a wide class of operations performed on 2D images, 3D surfaces and data attributes at different levels of detail. MMIP operations relate several topics like feature-preserving smoothing, shape classification, shape segmentation, shape matching, shape simplification etc. Where feature-preserving smoothing eliminates the small-scale details of a shape while keeping its important features. Shape classification partitioning a shape into regions having different properties. Shape segmentation decomposing a shape into regions perceived as its different parts. Shape matching used to find similar components for the given two or more shapes. Shape simplification produce a simpler shape which looks similar for the given shape. A good shape representation scheme provides a good foundation for shape analysis. Skeletonization is the first step to represent any shape. By using this the skeleton of a given shape will be found. Then using these skeleton points shape reconstruction will be done. In the reconstruction some noise will exist. To get the noise free output image we introduce Multiscale morphological filters (MMF) for filtering process. While applying the MMF in the reconstructed shape image we will get the highly efficient shape representation. In our new algorithm we developed efficient shape representation by using the following three steps.

1. Multiscale Skeletonization

2. Shape Reconstruction

3. Multi-Scale Morphological Filtering

2.1 MULTISCALE SKELETONIZATION

Multiscale skeletonization refers to the process of computing skeletons from shape images. Skeletons are one-dimensional pixel-thin curve structures that are locally centered with respect to the shape. This skeletonization process is used to remove selected foreground pixels from shape images. Shape analysis can be done easily by this multiscale skeletonization process. To reduce the amount of data and time to be processed this skeletonization is needed. In our algorithm we define eight two-point structuring elements to derive the skeleton points which is shown in the fig.1. The eight structuring elements will be applied in cyclic sequence.

```
 - - -    - - -    - + -    - - -    - - -    - - +    - - -    + - -
 - * +    - * -    - * -    - * -    + * -    - * -    - * -    - * -
 - - -    + - -    - - -    - - +    - - -    - - -    - + -    - - -

  B0       B1       B2       B3       B4       B5       B6       B7
```

Fig.1 Eight two-point structuring elements

By repeatedly applying multiscale erosion operation using the above mentioned eight two-point structuring elements we get the skeleton output which is shown in the fig.2

Fig.2 Multiscale Skeletonization

2.2 SHAPE RECONSTRUCTION

Reconstructing a shape into meaningful representation plays a strong role in shape related applications. After skeletonization by using the skeleton points, reconstruction will be done. In our paper a new algorithm called MMIP was developed which is shown in below.

Algorithm :

1. Select and read an Image AA

2. Define structuring elements se1,se2….,se8

3. Read number of received skeleton points in N and initialize I=1 and initialize an array,'IM' with zeros

4. Convert the selected image into binary image A

5. Erode the binary image A with se1 and store in EB

6. If EB is empty then go to step 8

7. Find the isolated points and store into the stack

8. Find the difference between A and EB

9. Read the first skeletal point coordinate and the corresponding structuring element

10. Place 1 at the coordinate position and dilate with the corresponding structuring element.

11. If I<=N read the next skeletal coordinate and the corresponding structuring element.

12. Initialize array (X) with zeros and place 1 at the coordinate position and dilate with the corresponding structuring element.

13. Then add (X) to (IM) and I=I+1, then go to step 11.

14. If the condition I<=N is false, print (IM) and get the reconstructed shape image.

The reconstructed shape image output is shown in fig.3

Fig.3 Reconstructed Shape Image

2.3 MULTISCALE MORPHOLOGICAL FILTERING(MMF)

In the process of understanding the objective world, the appearance of an object does not depent only on the object itself,but also on the scale that the observer used.It seems that appearance under a specific scale does not give sufficient information about the essence of the percept,we want to understand.In order to effectively eliminate the noise at various scales a new Multiscale scale Morphological filtering method is proposed. Themultiscale morphological filters were first presented by Maragos[2].He explained about changes of shapes,as the scale is changed.He explained the concepts to gray scale also[1].Ming-Hua Chen explained erosion,dilation open, close in multiscale environment[13].Ying Zhang explained the MSMM in noise environ ment also it provides good result[14]. The MMF filters requires less computational time than other traditionl morphological filters.In this method first the average of the closing and opening operator is used to construct the morphological filter, then the structuring elements of multiscale morphological filter is optimized iteratively. The noise in the original image is filtered by multiscale morphological filter.

Let,an image f(x,y) and structuring element s(x,y)The multiscale erosion and dilation of a image f by a structuring elements can be defined as

$(f \otimes g)_{\lambda=}[(f/\lambda) \otimes g]= f \otimes \lambda_g$ →(erosion)

$(f \oplus g)_{\lambda=}[(f/\lambda) \oplus g]= f \oplus \lambda_g$ →(dilation)

Where λ is a scaling parameter, In the formula $\otimes,\oplus$ symbols corresponds to erosion operation and dilation operation. Where $\lambda_g =g \oplus g \oplus g \oplus$---g($\lambda$-1)The multiscale morphological filtering method have two main advantages 1.noise suppression at various scales 2. Feature detection at large scales followed by refinement of their location or value at smaller scales

In our algorithm in the reconstructed shape image to eliminate the noise at the same time the image content may not be changed soft morphological filters are used.In image processing every pixel in the image is very important.There is much more filters are there but during filtering process they affect the image content also.The below output fig.4 shows the soft morphological filtered image.
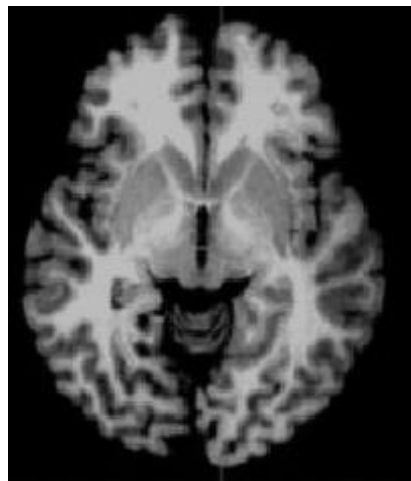
Fig.4Multiscale Morphological(MSM)Filtered Image

3. EXPERIMENTS

Our MMIP shape representation algorithm was tested on ten shape images shown in Fig.5 shows the reconstructed shapes. To compare our algorithm with the existing algorithms, we calculated the number of error functions as stated in the below equations is applied on all

reconstruction images. Let:f(x,y) is the input shape image g(x,y) is the reconstructed image R and S are the sizes of input and reconstructed image,

Error functions:

1. AEPP: Average error per pixel

$$AEPP = \frac{1}{R \times S} \sum_{i=0}^{R-1} \sum_{j=0}^{S-1} |f(x,y) - g(x,y)|$$

2. MSE: Mean square error

$$MSE = \frac{1}{R \times S} \sum_{i=0}^{R-1} \sum_{j=0}^{S-1} (f(x,y) - g(x,y))^2$$

3. RMSE: Root mean square errorRMSE $= \sqrt{\frac{1}{R \times S} \sum_{i=0}^{R-1} \sum_{j=0}^{S-1} (f(x,y) - g(x,y))^2}$

4. SNR (ms) : Signal to noise ratio (mean square)

$$SNR(ms) = \frac{\sum_{i=0}^{R-1} \sum_{j=0}^{S-1} g(x,y)^2}{\sum_{i=0}^{R-1} \sum_{j=0}^{S-1} (g(x,y) - f(x,y))^2}$$

5. SNR (rms): Signal to noise ratio (root mean square)

$$SNR(rms) = \sqrt{\frac{\sum_{i=0}^{R-1} \sum_{j=0}^{S-1} g(x,y)^2}{\sum_{i=0}^{R-1} \sum_{j=0}^{S-1} (g(x,y) - f(x,y))^2}}$$

6. PSNR: Peak signal to noise ratio

$$PSNR = 10 * \log_{10}\left(\frac{255^2}{MSE}\right)$$

7. Error-Rate: Error-rate per pixel

$$Error\_Rate = \frac{\sum_{i=0}^{R-1} \sum_{j=0}^{S-1} |f(x,y) - g(x,y)|}{\sum_{j=0}^{R-1} \sum_{j=0}^{S-1} f(x,y)}$$

The error calculations are shown in Table.1

IMAGES	AEPP	MSE	RMSE	SNR(ms)	SNR(rms)	PSNR	Error Rate
	177	221	14.8	22.09	4.7	64.58	1.07
	190	214	14.6	29.16	5.4	64.21	1.12
	191	218	14.7	17.6	4.4	64.73	1.16
	168	197	14	18.49	4.3	65.96	1.03
	179	192	13.8	26.01	5.1	65.28	1.96

PR	187	211	14.5	31.36	5.6	64.58	1.83
☎	178	195	13.9	28.09	5.3	65.22	1.94
Average	182	206	14.3	24.01	4.9	64.96	1.47

Table.1 Error calculations

Algorithms	AEPP	MSE	RMSE	SNR (ms)	SNR (rms)	PSNR	Error Rate
GST	1466	1466	37.12	3.38	2.4	57.02	9.9
OGD	448	448	20.83	7.6	3.7	61.88	6.9
EFD	234	234	15.01	9.3	4.8	64.75	3.6
MMIP	182	206	14.3	1.008	1.004	24.96	1.47

Table.2 Error Calculations Comparision

GST-Generalized Skeleton Transform

OGD-Octagon Generating Decomposition

EFD-Error Free Decomposition

MMIP-Multiscale Morphological Image Processing

The key difference between our algorithm and the existing decomposition algorithms are we use MMF filter for the removal of noise for the reconstruction of images.This addition of MMF provided much power. And the power is obtained with very low cost. In our shape representation algorithm, first the skeleton points were generated. Then noise was removed by applying multiscale morphological filter.from this point of view,the computation procedure of our algorithm is no significantly more complex than that of the existing algorithms.In our experiment ten shape images are tested.Input shape images are shown in Fig.5.The reconstructed shape images shown in Fig 6.Multiscale morphological filtered shape images shown in Fig.7.The existing algoritns used to comparision are GST-Generalized Skeleton Transform,OGD-Octagon Generating Decomposition and EFD-Error Free Decomposition algorithms.
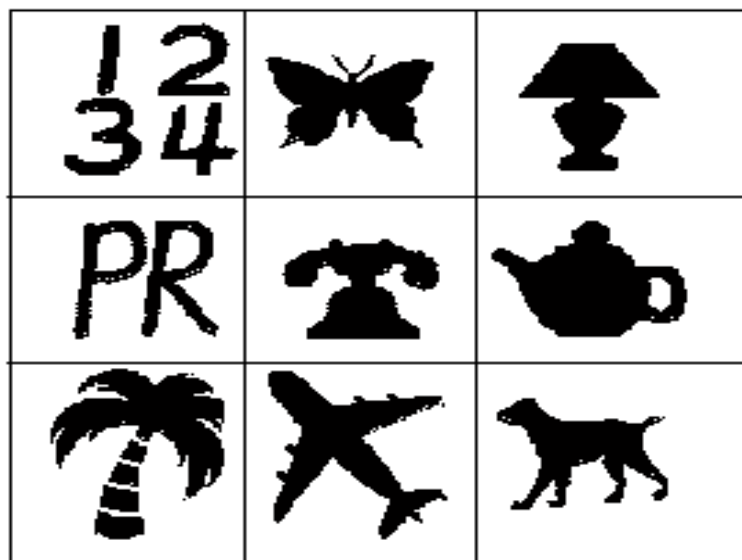
Fig.5 Input Shapes
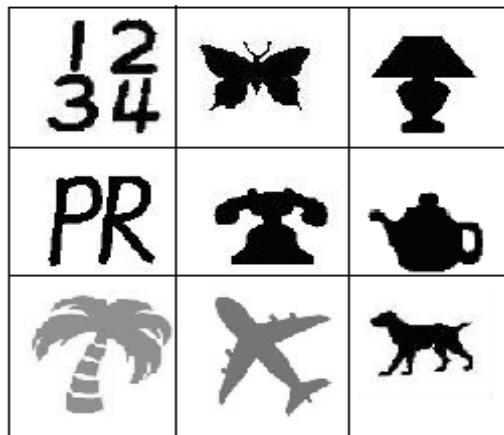
Fig.6 Reconstructed Shapes
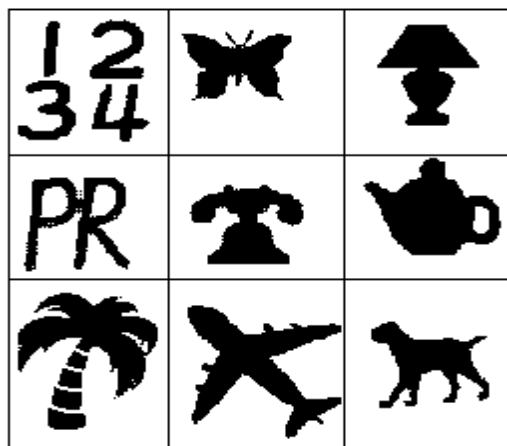
Fig.7 MSM filtered Image

4. DISCUSSION

All the error functions are calculated for better reconstruction of images. Table.1 shows the error rates of reconstructed images with original images using MMIP algorithm for various shape images.Table.1 shows the error calculations of reconstructed images with original images using MMIP algorithm for various shape images.Table.2 shows the error calculations comparison with existing algorithms. It is note that the error rate of the present method is reduced when compared with other two algorithms also from the table the PSNR is high it indicates that it has high signal to noise ratio. so the reconstructed image has good clarity based shape recognition than other three algorithms.

5. CONCLUSION

In this paper, we have developed a new morphological shape representation algorithm using MMIP algorithm and Multiscale Morphological filters. By this noise rate is reduced. The proposed algorithm is more efficient than existing shape representation algorithms The Multi scale morphological filtering produces good solution to the noise reduction. The algorithm is very simple and easy to implement. The more efficient or more Precise representations generated by the new algorithm can often be considered more natural as well. The results show that the proposed method has good performance to suppress complex background noise. Also it has the advantage of low complixity.It could be used for shape analysis and image processing applications.

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WORK FORCE DIVERSITY & ITS IMPACT ON ORGANIZATIONAL PERFORMANCE

Sagar Khairnar

1. INTRODUCTION

One of the greatest critical interesting issues of this era, in the study of organizational behaviour is the impact of employee diversity on organizational performance. Workplace diversity increases employee satisfaction and fosters positive attitudes and behaviours and creates superior decision making through joining diverse groups of thinkers. These organizational phases that diversity bolsters eventually make up the foundation for organizations that perform better economically. Workforce diversity mentions the employee's specific similarities and differences. It views for individualism that comprises age, working environment, gender, perceptions, ethnicity, marital status, region, work experience, sexual alignment, income, nationality with each other, which support organizational essential values (Kitololo, 2005). Though it is generally known that here is partial research work on exactly how workforce diversity influences organizational performance mostly in automobile sector, but there is solid evidence that workforce diversity has sensitive impact on the working of organizations in terms of performance, negatively or positively (Chuang et al, 2004).

1.1 Problem Statement:

Numerous researches have been conducted on workforce diversity. This research is motivated by the gap left unaddressed through a wide number of study works that has been headed on workforce diversity and its implication on organisation performance based on the culture background, gender base, age base, educational base and finally geographical base.

1.2 Significance of Study:

Workforce diversity is very much interconnected with HR Management in any sector to captivate and recruit the best people from a group of diverse workforce. The main significance of this study is that we will know how the diverse workforce helps the performance of organization in automobile sector of Chakan MIDC Pune.

1.4 Objective of Study:

The main objective of this study was to define the impact of different factors of workforce diversity on an organizational performance. And, this paper has done to find either the sub variables include culture, gender, working environment, language, education and experience effect the organizational performance or not.

METHODOLOGY:

There are no abundant researches on the influence of work force diversity on organizational performance in automotive sector in Pune. Because of this reason, the principal objective of this research is to study the effect of work force diversity on organizational performance in the automotive region.

HYPOTHESIS:

Hypothesis (HO): There is no relationship between workforce diversity and organizational performance.

Hypothesis (HA): There is a relationship between workforce diversity and organizational performance.

Hypothesis (HO): There is no relationship between culture of employees and experience.

Hypothesis (HA): There is a relationship between culture of employees and experience.

Hypothesis (HO): There is no relationship between gender of employees and experience.

Hypothesis (HA): There is a relationship between gender of employees and experience.

Hypothesis (HO): There is no relationship between qualification of employees and experience.
Hypothesis (HA): There is a relationship between qualification of employees and experience.
Hypothesis (HO): There is no relationship between culture of employees and efficiency and effectiveness.

Hypothesis (HA): There is a relationship between culture of employees and efficiency and effectiveness.

Hypothesis (HO): There is no relationship between gender of employees and efficiency and effectiveness.

Hypothesis (HA): There is a relationship between gender of employees and efficiency and effectiveness.

Hypothesis (HO): There is no relationship between qualification of employees and efficiency and effectiveness.

Hypothesis (HA): There is a relationship between qualification of employees and efficiency and effectiveness.

Research Approach
Qualitative and quantitative both methods have been used to study the effect of different staff and management on the computable based which are directed in various countries in various areas. Therefore, the quantitative method is used to measure the effect of workforce diversity on organizational performance.

Theoretical Frame Work:

CONCLUSION:
The conclusion of the study is there a positive relationship between culture diversity and employee experience in the automotive sector in Chakan MIDC Pune. The study initiate that the minority group members can face problems with identity, lack of commitment, less job satisfaction, supposed perception amongst others. The research also found that languages and tribe, cultures and values impact on performance of the organization. On the other hand, the relationship between automotive diversity and experience of employees is negative but automotive diversity has positive relation with efficiency and effectiveness.

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ROLE OF LIBRARIANS AND LIBRARIES IN THE REALIZATION OF THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS: AN EMPIRICAL STUDY

Onwubiko, Emmanuel Chidiadi
Alex Ekwueme Federal University, Ndufu-Alike, Ikwo, Nigeria

ABSTRACT

This is an empirical study that investigated the role of librarians and libraries in the realization of the United Nations' Sustainable Development Goals (SDG). The study was guided by four research objectives that spurred the formulation of four research questions. To realize the objectives of the study, descriptive survey research design was applied with a sampled population of 28 derived from 28 registered libraries and obtained through total enumerative sampling technique. The major instrument used in collecting data is an open-ended structured questionnaire while data collected were analyzed using thematic analysis based on grounded theory. The outcome of the study reveals that the level of awareness or familiarity of SDG among librarians and libraries was low. It was discovered that selective dissemination of information (SDI) and proper information provision will contribute immensely in the realization of SDGs whereas, modern library roles like advocacy programs, community outreach and engagements will aid librarians and libraries to contribute meaningfully towards the realization of these goals. Among the challenges identified militating against librarians and libraries contributing fully to this agenda include: poor funding and inadequacy of library facilities and lackadaisical attitude of some librarians and libraries as well as ignorance of the agenda by some librarians. It was based on the above mentioned identified challenges and more that recommendations were made.

Keywords: Libraries, Librarians, Sustainable development goals, United Nations

1.0. INTRODUCTION

The General Assembly of the United Nations in response to global challenge and to foster the course of humanity came together as a body on September 25, 2015 and adopted a developmental framework know as 'Sustainable Development Goals (SDGs) or 2030 agenda. The agenda is made up of 17 goals and 169 targets. This indeed is a transition from the Millennium Development Goals (MDGs) with a view to stimulating growth and development among member nations within a 15 year period.

AS revealed by Osborn, Cutter and Ullah (2015), the Sustainable Development Goals is a global vision of progress towards ensuring a safe, just and sustainable space for all human beings to thrive on the planet. The view is that, SDGs is a unanimously accepted set of universal goals by every member of the UN on the ground that they will bring about global progress and development within the given time. As asserted by the United Nation (2016), all stakeholders including governments, agencies, institutions, civil societies and private sectors have pivotal roles to play for the realization of these goals. It is against this backdrop that librarians and libraries as information managers and institutions are so desired to working in support of the realization of this agenda with a view to transforming our world. As posited by International Federation of Library Associations (2017a), libraries are key institutions for achieving the SDGs that is why they were actively involved with the creation of the UN 2030 agenda, advocating for the inclusion of access to information, safeguarding of cultural heritage, universal literacy and access to information and communication technologies (ICTs) in the framework. This no doubt places librarians and libraries in strategic position in the realization of this agenda.

It is a known fact, that information is power therefore a very important ingredient for the implementation and realization of any developmental programme. So noted IFLA (2017b),

libraries and librarians support in the sustainable development agenda is expected to be in area of providing the people with relevant and up-to-date information they require to be aware of and have access to economic opportunities, gender equality, quality education, improve their health or develop their communities. As posited by Igbinovia (2016), libraries and information services that enhance the implementation of SDGs should be consolidated and new roles adopted to ensure high level contribution to the agenda. It is pertinent to state that there is dearth of literature to specific roles of librarians and libraries towards the realization of the SDGs therefore the need for this research as a way of filling the gap.

1.1. Statement of Problem

If one has to go by the fact, that librarians and libraries were actively involved in the creation of the UN 2030 development agenda, the conclusion will be that librarians and libraries definitely know their roles towards the realization of the SDGs. This assertion is far from the truth. A preliminary investigation carried out in Nigeria, shows that there are many rivers to cross as it was noticed that many librarians and libraries are ignorant of the agenda and those who claimed the known, have done little or nothing towards contributing to the realization of these goals despite the fact that the whole idea behind the creation of the agenda is to make the world a better place on or before 2030. This situation no doubt will have a ripple-effect on how well Nigeria will realize the agenda come 2030. The truth must be told, the impact that librarians and libraries will have in the realization of this agenda depends largely on library-heads familiarities with the agenda and their knowledge of the required services to be provided by librarians and libraries. There is in fact no literature in Nigeria as far as the researcher knows that shows that they know. It is in view of this, that this study has become necessary.

1.2. Objectives of the study

This study is aimed at achieving the following objective:

1. To establish whether head of libraries are familiar with the SDGs

2. To ascertain if there are set out information services geared towards the realization of the SDGs by libraries

3. To determined the expected roles by librarians and libraries in the realization of the SDGs

4. To establish challenges that may militate against librarians and libraries in performing their roles towards the realization of the SDGs.

1.3. Research Questions

In line with the research objectives, four research questions were formulated which guided the study.

1. Are head of libraries familiar with the SDGs?

2. What are the set out information services for the realization of the SDGs?

3. What roles are librarians and libraries expected to play in the realization of the SDGs?

4. Are there challenges likely to militate against librarians and libraries performing their roles towards the realization of the SDGs?

2.0. LITERATURE REVIEW

2.1. An overview of the SDGs

On January 1, 2016, the 17 Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development adopted by world leaders in September 2015 at an historic UN Summit officially came into force. Over the next fifteen years, with these new Goals that

universally apply to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind.

The SDGs, also known as Global Goals, build on the success of the Millennium Development Goals (MDGs) and aim to go further to end all forms of poverty. The new Goals are unique in that they call for action by all countries, poor, rich and middle-income to promote prosperity while protecting the planet. They recognize that ending poverty must go hand-in-hand with strategies that build economic growth and addresses a range of social needs including education, health, social protection, and job opportunities, while tackling climate change and environmental protection. While the SDGs are not legally binding, governments are expected to take ownership and establish national frameworks for the achievement of the 17 Goals. Countries have the primary responsibility for follow-up and review of the progress made in implementing the Goals, which will require quality, accessible and timely data collection. Regional follow-up and review will be based on national-level analyses and contribute to follow-up and review at the global level (UN. 2016)

As expressed by United Nations Development Program (UNDP) (2018), the SDGs also known as global goals is a call for action to end poverty, protect the planet and ensure that people of the world enjoy peace and prosperity. It revealed that the SDGs incorporated new ideas which include: climate change, economic inequality, innovation, sustainable consumption, peace and justice among others with inter-connectedness of the goals. Inasmuch as these goals are stipulated to be actualized within a time frame Igbinova (2017), is of the view that the sustainable development goals should strive towards maintaining development agenda to ensure its actualization with less emphasis on time limit so as to make impact that transcends 2030 into making a lasting impact on the next generation.

The development goals explains Islamic Development Bank (2015) continues the efforts towards meeting developmental needs of the people across the globe base on the successes of the Millennium Development Goals thus a United Nations initiative that covers a wide spectrum of development challenges such as poverty, inequality, climate change, sustaining ecosystem and cities, health, education, shelter among others. In other words, the Sustainable Development Goals could be said to be an aspiration of humans towards the sustainable development of the global space for peaceful co-existence of all humans regardless of colour and race.

2.2. Role of Librarians and libraries in the realization of the SDGS

Librarians as information managers, custodian of knowledge and information disseminators with libraries as information warehouse and home of knowledge are strategically important in the realization of any developmental agenda in any part of the world. This is well pronounced by the involvement of the International Federation of Library Associations (IFLA) in the creation of the UN 2030 agenda popularly known as the Sustainable Development Goals (SDGs). In the course, the inclusion of access to information, safeguarding cultural heritage, universal literacy and access to information and communication technologies were advocated (IFLA, 2015)

In the new dispensation, librarians and libraries have turned gateway and guide to knowledge.

To this Akintunde (2004) explains that librarians and libraries from the foregoing have imbibed a new paradigm of service. There has been shift from being documentalist and archivist, to being a gateway to knowledge. The librarian has also shifted from being the all knowing 'custodian' of knowledge to a 'guide' by the side. He explains that the librarian guides clients on how to navigate effectively through the wide world web (www), creates portals for his clients because of the mesh of data now readily available. The actualization of the SDGs states

Onah, Urom and Amanze-Unagha (2015) can only be possible if all the essential infrastructure and institutions libraries inclusive are given the desired attention to contribute their quota to the agenda

On having access to information and communication technologies as advocated by IFLA, the role of librarians and libraries assisting the people realize this is not in doubt. As averred by

Anyakoha (2005), since information available online are enormous and good number of library users are not conversant with the use of the internet, librarians who are computer literate and know the application of ICT are still needed to tutor and direct such users as many users are still not able to use the web efficiently. In this particular situation therefore, librarians are still recognized as search experts and information specialist thus are expected to help users to locate and access information. According to Dike (2007), information communication technology (ICT) or no ICT, it is the responsibility of librarians to help users formulate their enquiries and develop a search. This is because they have knowledge of the vast array of information sources, how they can be located and accessed, the strong and weak point of each, and the method for evaluating them. A case in point is that of librarians trained by Biblionet who assisted 100,000 farmers in Romania to obtain US $187 million in subsidies through new internet and computer services. The over one thousand librarians that participated in the training brought the services to their libraries in conjunction with the local mayors who felt that the services are in the farmers' best interest. The programme helped the farmers master how to use the technology in the libraries to access financial form and submit same to the government thereby saving them time and money (International Research Exchange Board (IREX) (2013). By this singular act of strategic initiative which empowers rural farmers, librarians contribute in the eradication of hunger and poverty in Romania.

Feather (2006), Mathur and Ambani (2005) and Godlee et al. (2004) opine that libraries are critically important in driving access to knowledge. Librarians and libraries make every effort to dismantle all barriers that exist between users and the information and knowledge contained in their collections (in the broadest sense possible). The crucial role that libraries play in the empowerment of their users is that they (librarians) are the facilitating agencies to access the information they need. One of the ways in which librarians and libraries empower their users is that they, the users, are assured that they are accessing information with the knowledge that the information they receive is authentic and trustworthy. Ubale and Yahaya (2015) corroborate the above assertion as they declare that access to information is cross-cutting issue that supports all of the SDGs therefore, librarians are expected to be in the fore-front of contributing to the realization of the United Nations Sustainable Development Goals by the target date of 2030. A major role librarians and libraries can play in the actualization of the SDGs state Igbinova (2016) and Ubale and Yahaya 2016) is to create awareness to the public on the goals and targets of the agenda. The above statement is in line with that of Lozano (2002) who posits that the general role of libraries is to provide information about its community and acquire knowledge which will help dispel ignorance.

As posited by IFLA (2013), libraries contribute to the delivery of sustainable development by providing opportunity for all and sundry, empower people, offer access to the world's knowledge, provide expert guidance and serve as stakeholders in the development policy framework. Libraries provide users with a considerable level of comfort, placing themselves in a strong position as a social service of the highest order (Gothenburg 2010). Igwe (2010) concluded that libraries provide access to an endless variety of information resources and opportunities for interactive communication. Though the fundamental mission has remained, to facilitate and give access to information and knowledge, the processes, tools and techniques have undergone remarkable changes. To Fagbola, Uzoigwe and Ajegbomogun (2011), access to

knowledge is critical for the development and growth of the society and for participation in democratic processes. The library is an integral part of the society that surrounds it. It is shaped and changed by many of the same forces that shape other types of institution. While Igbinova (2016) asserts that one of the roles libraries can play in achieving SDGs is information literacy services, as information accessibility and utilization are essential in the development agenda.

According to Tise (2011), the exponential growth of information fuelled by the exploitation of media such as the web and social networking, demands that there be a mediator with the skills and capacity to extract trusted and authentic information. Such an intermediary also has to be able to deliver reliable and authoritative information to the information-seeking community as well as the new knowledge and information that has been created in recent times. It is this new knowledge and information that help to stimulate the growth and development of societies and the world. Libraries as primary gateways to information are therefore important vehicles for the acquisition of knowledge. As knowledge institutions, libraries provide spaces for information-sharing and learning for all ages, genders, ethnicities and socio-economic groups regardless of their information/knowledge needs. The above assertion was corroborated by White (2012) as he opines that as the gateways to knowledge and culture, libraries play a fundamental role in the society. The resources and services they offer create opportunities for learning, support literacy and education, and help shape the new ideas and perspectives that are central to a creative and innovative society. They also help ensure an authentic record of knowledge created and accumulated by past generations. In a world without libraries, it would be difficult to advance research and human knowledge or preserve the world's cumulative knowledge and heritage for future generations. Further, libraries facilitate access to information thereby providing the means through which new knowledge is developed and made available to all. Knowledge is foundational to all spheres of life. An interrogation of this concept reveals that knowledge is critical for the growth of society and that knowledge is produced when information is absorbed, processed and internalized by individuals (McCallum, 2013). Libraries, as critical providers of information have an important role to play in the creation of new knowledge. They are vital institutions for the creation, development and sustainability of knowledge societies. Information is a key input into the creation and maturation of knowledge, therefore, a significant criterion for a growing and healthy society is access to information. The library, as a major source for/conduit to information, serves a wide spectrum of information-seekers. Libraries are not only vital but also central to the facilitation of knowledge generation. The above declaration is affirmed by Ubale (2018) as he posits that libraries provide an essential means of reaching the next billion by supporting digital inclusion through access to ICT and dedicated staff to help people develop new digital skills. In the words of Ukoha (2013), Libraries remain portals of knowledge for everyone and they guarantee that whoever you are you can open the door to information, knowledge, learning and help.

To Vrane and markovic (2015), libraries have always been educational, cultural and spiritual centres, places where people had access to relevant knowledge and information. These institutions invest greatly into the intellectual development of their users and contribute to the development of overall democracy of knowledge. They maintain that Librarians are intermediaries between library users and the knowledge whether in printed or digital form.

According to witek (2014), librarians are not only knowledge creators but knowledge providers. He explains that historically, libraries and librarians are perceived as primary conduits for accessing knowledge as librarians provide knowledge to those who seek it through classification schema, bibliographic instruction, and purchase or license of scholarly materials. However, librarians frequently are also engage in traditional subject based research, innovative technological projects and development of new processes or services at their libraries that would be great contributions, in written or other forms, to the broader knowledge base. Academic

librarians typically, produce scholarly content out of obligation; they work at an academic institutions that grant them tenure or promotion on the basis of their publication activities. (American Theological Library Association (ATLA), 2019)

As unhindered access to knowledge is essential in any developmental process for individuals and nations, the International Federation of Library Associations (IFLA), in the context of the United Nations (UN) 2030 Agenda, believes that increasing access to information and knowledge across society supports sustainable development and improves people's lives. (IFLA, 2017). The above assertion supports Obasi (2015) declaration that access to knowledge continue to be an issue in the library and information discipline, as it is the basic and fundamental tenet upon which all libraries' policies, activities, operations and resources are built upon.

In the opinion of Solanke and Osuchukwu (2018), Libraries irrespective of type should enhance its information management system to create, organize and share usable information with the people. They further state that the notion of ascribing particular type of information to a particular library should be discouraged explaining that a librarian is for all first before belonging to a particular library as believing in this assertion will make librarians work effectively and successfully as driver of access to knowledge.

While Nwajiuba (2019), in the context of the African Union (AU) Agenda 2063 and the Charter for African Cultural Renaissance at the 3rd Ministerial Roundtable on Information Access declared, I believe the success of every educational institution depends on its library as the availability of the right information at the right time and form is of utmost importance to users and an improvement of our library systems and access to information/knowledge will bring about social and human capital development. IFLA (2019) in her description of 3rd Roundtable of Ministers Responsible for Public Libraries in Africa held in Accra, Ghana from 28 – 30 October, aimed at improving information access and library systems corroborated the above assertion as it posits that Africa is faced with some of the world's most acute development challenges and needs to draw on all of its innovative potential. Information and equitable access to it IFLA declared will play a key role in achieving this, and libraries across the continent are working hard to deliver on this mandate. Just as noted by Ubale (2018), information is a vital tool for any nation to have and provide relevant, updated and adequate information on food security, democracy, health education, gender equality etc. He is of the view that libraries and librarians can provide such access to information which would enable people lead gainful lives as they are skilled at acquiring, organizing, offering for use and publicly preserving information irrespective of the form in which it is packaged in such a way that when it is needed it can be found and put to use.

According to Onwubiko (2020), librarians and libraries of any sort are indispensable drivers of access to knowledge which leads to individual growth and development as the library continues to be the power house, an indispensable asset to knowledge and above all, a driving access to knowledge of all time. On a general note, librarians and libraries serve a growing number of digital natives who know that information is knowledge and knowledge is power. So to speak, access to information and knowledge are keys to lifelong learning and successful livelihood, as well as national, economical, political, social and human capital development.

3.0. METHODOLOGY
3.1. Research design
The study applied descriptive survey research design which according to Nworgu (2015) is a type of study which aims at collecting data on and describing in a systematic manner the characteristic features and facts of a given population. This type of study is only interested in describing certain variables like dependent and independent variables in relation to the

population**.** So this design was applied for this study as a research procedure that asks questions from respondents in order to describe the current state of the population under study with respect to the phenomenon under investigation**.**

3.2. Area of study

The area of study in the real context is Nigeria but since it is not possible to access the entire target population, Enugu state was chosen as a microcosm of the macrocosm called Nigeria. Enugu State is located in the South Eastern region of Nigeria with a population of over four million people. The state houses over 15 tertiary institutions and all branches of federal government institutions and agencies. It has 17 Local Government Areas with Enugu city as the capital.

3.3. Population of study

The population of this study includes all Head of libraries in all the tertiary institutions in Enugu State as well as all head of libraries in all federal and state owned institutions and agencies. They are: University of Nigeria library, Nsukka; University of Nigeria Enugu campus library; University of Nigeria Teaching Hospital library, Ozalla; Nigeria Law School library, Agbani; Renaissance University library, Ugbawka; Enugu State University of Science technology Library, Agbani; Enugu State University Teaching Hospital Library, Enugu; Veritas University Library, Amorji; Godfrey Okoye University library, Enugu; Institute of Ecumenical Education library, Thinkers Corner; African Thinkers University library, Enugu; Institute of Management and Technology library, Enugu; Enugu State College of Education (Technical) library, Enugu; Mater Dei Polytechnic library, Orji River; Federal College of Cooperative Studies library, Orji River; Federal Road Safety College library, Udi; Federal Polytechnic library, Udi; Coal City University library, Emene; College of Social Works library, Emene; Nigerian Television Authority library, Enugu; Radio Nigeria library, Enugu; Federal Court of Appeal library, Enugu;

Federal High Court library, Enugu; Enugu State High Court library, Enugu; Central Bank of Nigeria library, Enugu; Federal Science Equipment Institute library, Akwuke, Project Development Institute library, Enugu and Enugu State Broadcasting Service library, Enugu. From the number of establishment and institutions, the population of this study stands at 28

3.4. Sampled Population

The sampled population for the study stood at 28 obtained through total enumeration sampling technique due to the manageable population which makes the study's size 28 head of libraries in Enugu State, Nigeria.

3.5. Instrument for data collection

The primary instrument used in this study for data collection is the questionnaire. To obtain the desired data from the respondents in line with the objectives of this study, open-ended questionnaire was used which according to Reja, Manfreda, Hlebec and Vehovar (2003) allows respondents to express their views without bias that could result from suggesting responses to respondents as in the case of close-ended questions. The questionnaires which were emailed to the respondents were returned 100%

3.6. Method for data analysis

Data collected through the administered questionnaires were analyzed using thematic analysis technique in which case, all responses in each section of the questionnaire were perused at least two times before generating themes that emerged from the data. Codes were developed for different themes which were conceptualized and categorized based on grounded theory, to develop theories for which the SDGs will be measured. The necessity of this approach is to fill the dearth of empirical research that uses standard terms to measure the roles of librarians and

libraries in the realization of the SDGs. Responses to the items (categories) are structured in a Likert-scale format of 4-1, an adaptation of Vagias (2006).

4.0. DATA PRESENTATION AND ANALYSIS

Table 1: Ages of respondents

Age	N	Percentage
45 - 54	21	75%
55 and above	7	25

N=28

The data collected as stated in Table 1, show that 21 of the 28 respondents representing 75% are between 45 to 54 years and the remaining 7 which is 25% are 55 years and above.

Table 2: Working Experience

Years of experience	No of respondents	Percentage
11 - 15	5	17.9
16 - 20	7	25
21 years and above	16	57.1

N=28

The table above shows 5 respondents representing 27.5% working experience is between 11 - 15 years while 25% or 7 respondents have been on the job between 16 to 20 years. 56% that is 16 respondents have worked for 21 years and above.

Table 3: Gender

Gender	No	Percentage
male	21	75
Female	7	25
Total	28	100

Table 3 shows that 25% or 7 respondents are female while the remaining 21 persons representing 75% of the sampled population are male. Table 4 below reveals that 67.9% or 19 respondents are from academic library whereas special libraries covered the 32.1% of the respondents which is 9 respondents.

Table 4: Respondents by types of library

Type	No of respondents	percentage
Academic library	19	67.9
Special library	9	32.1

Table 5: Educational qualifications

Qualifications	No	Percentage
BLIS/BLS/BSc/BA	8	28.6
MLIS/MLS	8	28.6
PHD	12	42.8

The educational qualification shows that PhD has the highest respondents with 42.8% which is 12 respondents followed by BLIS/BLS/BSc/BA and MLIS/MLS that has 8 respondents each representing 28.6% each. On the part of marital status, all the 28 respondents are married.

The demographic data therefore show a well classification of respondents with credible background and in good position to attest to the queries of the questionnaires

Research Question 1: Are head of libraries familiar with the SDGs?

Table 6: Extent of familiarity by library heads

S/No	Extent of familiarity	Frequency	%
i	Highly familiar	5	17.9
ii	Moderately familiar	3	10.7
iii	Slightly familiar	10	35.7
iv	Not familiar	10	35.7
	Total	28	100

The data in table 6 above showed that 10 out of the 28 respondents or 35.7% are not familiar with the SDGs, while another 35.7% or 10 respondents, are slightly familiar with the SDGs. It is only 5 respondents representing 17.9% claim having full knowledge of what SDGs are all about whereas, the remaining 3 or 10.7% are moderately familiar with the development goals.

Research Question 2: What information services could foster the realization of the SDGs?

Table 7: Information services that could foster the realization of the SDGs

S/No	Services	Frequency	Rank
i	Information literacy programmes	6	4th
ii	Computer digital literacy programmes	3	7th
iii	Provision of information resources	6	4th
iv	Awareness campaign	6	4th
v	Selective dissemination of information (SDI)	13	1st
vi	Reference services	5	5th
vii	Information provision	12	2nd
vii	Open access publishing and repository	0	9th
ix	Provision of technological infrastructure	2	8th
x	Current awareness services	10	3rd
xi	Capacity building	4	6th

On the anticipated services that could foster the realization of the SDGs, table 7 revealed by their rankings that selective dissemination of information (SDI) is first on the list of services that could foster the realization of the SDGs followed by information provision then current awareness services (CAS). Others are: Information literacy programmes, Provision of information resources, Awareness campaign and Reference services. Least on the list are Capacity building, Computer digital literacy programmes, and Provision of technological infrastructure.

Research Question 3: What roles are librarians and libraries expected to play in the realization of the SDGs?

Table 8: Expected roles from librarians and libraries towards the realization of the SDGs

S/No	Expected roles	Frequency	Rank
i	Training of library users	5	3rd
ii	Provision of digital information services	5	3rd
iii	Information repackaging	6	2nd
iv	Engagement in development programmes	5	3rd
v	Developing reading culture	5	3rd

vi	Information dissemination on job opportunities	0	6th
vii	Organizing talk shows on SDGs	3	5th
viii	Promoting health culture in libraries	0	6th
ix	Advocacy programmes for SDGS	8	1st
x	Community engagement	8	1st
xi	Involvement in research	3	5th
xii	Safeguarding cultural heritage and indigenous knowledge	4	4th

From the data collected as displayed in table 8 above, the most important roles to be played for the realization of the SDGs are Advocacy programmes for SDGS, Community engagement and Information repackaging. The 3rd and 4th by the order of ranking are Engagement in development programmes, Developing reading culture and Safeguarding cultural heritage and indigenous knowledge. Of all the services, the respondents do not see any need for Information dissemination on job opportunities and Promoting health culture in libraries.

Research Question 4: Are there challenges likely to militate against librarians and libraries performing their roles towards the realization of the SDGs?

Table 9: Factors that can militate against librarians and libraries performing their roles towards the realization of the SDGs?

S/No	Challenges	Frequency	Rank
i	Poor funding	20	1st
ii	Inadequate trained library personnel	15	2nd
iii	Lack of training on SDGs	1	6th
iv	Insufficient SDGs related materials	6	5th
v	Epileptic power supply	10	4th
vi	Lackadaisical attitude of government and Non-governmental organizations	20	1st
vii	Inadequate library facilities	16	3rd
viii	Lack of access to best practices on SDGs	0	7th

The table 9 above presents a catalogue of challenges militating against librarians and libraries performing their roles towards the realization of the SDGs. These include by ranking: poor funding, lackadaisical attitude of government and Non-governmental organizations, inadequate trained library personnel, inadequate library facilities, epileptic power supply, insufficient SDGs related materials and lack of training on SDGs.

5.0. DISCUSSION OF FINDINGS

A holistic analysis of the data collected as shown in table 6, in respect to research question 1 and first objective of this study indicates that majority of the librarians are not familiar with the SDGs thus cannot give what they do not have. From the result, only an insignificant number, 5 respondents representing 17.9% are highly familiar with the development goals. This proves the fact as stated in the bible that my people perish for lack of knowledge and against the assumption of Lozano (2002) who posits that the general role of libraries is to provide information about its community and acquire knowledge which will help dispel ignorance. So the bottom line is that head of libraries in Nigeria are not all that familiar with the SDGs.

On the 2nd research question: What information services could foster the realization of the SDGs? Available data show that selective dissemination of information (SDI) is first on the list of services that could foster the realization of the SDGs followed by information provision then current awareness services (CAS). Others are: Information literacy programmes, Provision of information resources, Awareness campaign and Reference services. The above suggestions

conform with that of IFLA (2013),which posits that libraries contribute to the delivery of sustainable development by providing opportunity for all and sundry, empower people, offer access to the world's knowledge, provide expert guidance and serve as stakeholders in the development policy framework. As unhindered access to knowledge is essential in any developmental process for individuals and nations, the International Federation of Library Associations (IFLA), in the context of the United Nations (UN) 2030 Agenda, believes that increasing access to information and knowledge across society supports sustainable development and improves people's lives. (IFLA, 2017). The above assertion supports Obasi (2015) declaration that access to knowledge continue to be an issue in the library and information discipline, as it is the basic and fundamental tenet upon which all libraries' policies, activities, operations and resources are built upon. As well as that of Igwe (2010) who concludes that libraries provide access to an endless variety of information resources and opportunities for interactive communication. Fagbola, Uzoigwe and Ajegbomogun (2011) also corroborated their stand as they opine that access to knowledge is critical for the development and growth of the society and for participation in democratic processes. The library is an integral part of the society that surrounds it. It is shaped and changed by many of the same forces that shape other types of institution.

On the role that librarians and libraries should play for the realization of the SDGs, analyzed data indicate that the most important roles to be played for the realization of the SDGs are Advocacy programmes for SDGS, Community engagement and Information repackaging. The 3rd and 4th by the order of ranking are Engagement in development programmes, Developing reading culture and Safeguarding cultural heritage and indigenous knowledge. The above roles are in conformity with those propounded by IFLA (2017) which states that libraries and librarians support in the sustainable development agenda is expected to be in area of providing the people with relevant and up-to-date information they require to be aware of and have access to economic opportunities, gender equality, quality education, improve their health or develop their communities. This also supports Igbinova (2016) assertion that one of the roles libraries can play in achieving SDGs is information literacy services, as information accessibility and utilization are essential in the development agenda. Onwubiko (2020) also affirms to the stated roles as he averred that librarians and libraries of any sort are indispensable drivers of access to knowledge which leads to individual growth and development as the library continues to be the power house, an indispensable asset to knowledge and above all, a driving access to knowledge of all time. On a general note, librarians and libraries serve a growing number of digital natives who know that information is knowledge and knowledge is power. The above fact therefore answers research question 3.

On research question 4, the outcome of this study also exposed myriad of challenges that militate against librarians and libraries performing their roles for the realization of the SDGs. They include: poor funding from the part management and government, lackadaisical attitude of government and Non-governmental organizations, inadequate trained library personnel, inadequate library facilities, epileptic power supply, insufficient SDGs related materials and lack of training on SDGs.

5.1. Conclusion and Recommendations

The truth is that librarians and libraries are indispensable tools to the realization of the SDGs just as declared by IFLA that unhindered access to knowledge is essential in any developmental process for individuals and nations, the International Federation of Library Associations (IFLA), in the context of the United Nations (UN) 2030 Agenda, believes that increasing access to information and knowledge across society supports sustainable development and improves people's lives. (IFLA, 2017). This no doubt is the librarians' area of expertise and the sole responsibility of library of any sort. In other words, librarians and libraries are in strategic

position in the realization of this agenda. It is against this backdrop that the researcher believes that for librarians and libraries to perform optimally as information hub for the realization of the SDGs, the following measures ought to be taken:

➢ It is a globally established fact that no project or institution succeeds in isolation of adequate funding and libraries are not exception. The call is that if the government and organizations want libraries to function optimally, there is the need, for the government to adequately fund libraries regardless of type to enable them provide the required services. Government should collaborate with non-governmental organizations (NGOs), private sectors and rich individuals to raise fund for libraries through which, necessary operational tools, equipment, desired information materials and related information and communication technologies tools will be acquired. A situation where government sees library project as political project is laughable and should be frowned at. Rather, let it be known, that every library project is a step towards elevating the life of the people because a nation that not well informed is bound to remain poor.

➢ In line with the above, library management should start thinking outside the box. The era of waiting for the government to provide everything is gone. Libraries today have become profit oriented venture therefore library management should be innovative and creative as to developing means through which funds could be raise for proper running of the libraries. Librarians should deviate from the assumption of 'as it was in the beginning' and start doing things differently in an era where information has become power and money yielding.

➢ Management of libraries should not see the libraries as avenue of enriching themselves as there have been situations where fund released by government has been misappropriated and embezzled at the detriment of effective service provision. There should be in a existence a body with integrity whose responsibility should be to monitor and audit every library project and anyone found culpable punished accordingly.

➢ It has become a re-occurring decimal that anytime one talks of challenges facing any library, the first thing you hear apart from inadequate funding is lack of trained personnel. Library management should understand that the hood does not make the monk. So, in the case of the library, it is not just the collections and buildings that make the library but rather, the caliber and crop of personnel in these libraries. It behooves therefore the library management to ensure that only the best hands are employed thus should avoid sentiment while hiring personnel.

➢ Capacity building involves training and re-training in line with the changes in our environment. The argument is that library management should develop annual schedule for training and re-training of librarians so as to meet up with the dynamic society. These trainings may be in the form of attending workshops, seminars and conferences. It may even be by granting scholarship to some personnel to obtain higher qualifications in their areas of specialty. The success story in Romania came as a result of the training obtained by over 1000 librarians under the auspice of biblionet. We can replicate this in our country.

➢ In line with the SDGs, librarians and libraries should enhance community engagements through providing specialized information services (considering the information needs of the concerned community), capacity building through the organization of workshops and do-it-yourself training programmes and encouraging the people to cultivate a reading culture.

➤ Furthermore, librarians and libraries should get involve in advocacy programmes such as road-walk, distribution of informative flyers, radio jingles and social media campaign with a view to intimating the public on the SDGs.

➤ As a way of being innovation and creative as earlier mentioned, librarians should think of re-packaging information of all sorts more so, in areas of health, heritage and culture, agriculture, education and economic information. This re-packaging should come in different formats and where possible, in local languages.

➤ The strength of any army depends on her weaponry and strategies. This is to say, for libraries to fully contribute their full quota to the realization of the SDGs; they must be well equipped with the required SDGs information and materials for the public in a suitable and easy-to-access format like audio-visual for those rural dwellers with little or no formal education. The crown-glory is that the librarians should be well tutored on these goal as not to be found wanting.

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THE ROAD TO BUSINESS RECOVERY: LESSONS FROM THE COVID-19 PANDEMIC

Bharti Harnal

ABSTRACT

This paper provides an analysis of the impact of COVID-19 on MSMEs and entrepreneurs by studying the MSMEs and entrepreneurship policy measures that were implemented during the COVID-19 crisis. In doing so, this paper aims to identify lessons learned from the experiences of the past year. These lessons can be used to assist the government in aiding and supporting the recovery of entrepreneurs and MSMEs post-COVID-19. This paper also highlights the crucial aspect of the pandemic and containment measures impacting various sectors in different ways. It especially highlights the adverse impact of the pandemic situation on micro, small and medium-sized enterprises (MSMEs), especially those led by migrants, all of whom suffered the most. Additionally, this paper also builds policy responses aimed at supporting small businesses by the government and RBI.

This paper is divided into three parts. It begins by underlying the impact of COVID-19 on MSMEs and Entrepreneurship, followed by highlighting the various policy instruments put in place since the outbreak of the COVID-19. Further, it draws attention to lessons learned during this challenging year for MSMEs and identifies the challenges and opportunities for effective, efficient and coherent MSMEs in post COVID-19 entrepreneurship.

Keywords: MSMEs; COVID-19; Economy; Entrepreneurship; Policy

INTRODUCTION

MSME stands for Micro, Small, and Medium Enterprises. Under the Micro, Small, and Medium Enterprises Development (MSMED) Act 2006, the enterprises can be classified into manufacturing and service enterprises.

The World Trade Organization estimates that nearly 95% of the total businesses existing across the globe are micro, small & medium enterprises or MSMEs. Collectively, they contribute a whopping 60% to global employment. In India, the 63-Million-enterprises strong MSME sector employs over 111 million Indians (which in terms of volume stands next only to the agricultural sector) and contributes nearly 45% to India's total GDP. Apart from this, it comprises almost half of the country's exports. It means that essentially these relatively small businesses are the backbone of our global economy.

IMPACT ON MSMEs & ENTREPRENEURSHIP

COVID-19 caused a global economic contraction of 3.5% last year (1). This inflicted damage particularly on emerging economies, pushing approximately 120 million individuals back into extreme poverty. Small businesses have suffered greatly because of both supply and demand issues. The pandemic-induced disruption in demand, credit availability and labour supply has been a pincer movement that has devastated the financial health of many MSMEs.

COVID 19 and the resulting nationwide lockdown were particularly hard on the MSMEs. MSMEs employ a fifth of the country's total workforce, but only 5 million (less than 10%) were able to operate during the extended lockdown. According to estimates by the Confederation of All India Traders (CAIT), the COVID-19 pandemic caused 20% of SMEs to shut shop, which had a domino effect on another 10% of small businesses dependent on them for business. The MSMEs have been constrained in their economic activities because of lockdowns, mobility restrictions and the decrease in demand for their products and services, especially those working in urban areas or trade and services.

PROBLEMS FACED BY MSMEs DURING PANDEMIC

The COVID 19 pandemic has changed the way people operate, with more and more people restricting their demands to necessary goods only. The business impact of this has been largely negative for businesses. It has only been positive for certain specific products such as masks, sanitizers and gloves.

As businesses resume slowly after the lockdown, MSMEs face a fight for their basic survival. An average MSME at present is busy absorbing shocks in demand, liquidity and labour while adapting to new norms of safety and health protection. Along with formally recognised and banked MSMEs, there are many that are unbanked and outside the realm of the formal economy. Presently, 96% of the total MSMEs are unregistered, and approximately 84% of them are proprietorships. This lack of formal recognition makes the distribution of government aid and other benefits a challenge.

As compared to large firms, MSMEs have suffered more due to the COVID 19 crisis. This is because smaller firms are typically more financially fragile and have smaller cash buffers at their disposal. Despite revenue streams drying up during the pandemic, MSMEs had to incur fixed costs such as salary payments and rent. Along with these factors, MSMEs were also not able to secure short term credit due to their inability to fulfill the collateral, assets and paperwork obligations required to secure credit. Smaller firms mainly rely on retained earnings and traditional bank debts. In the United States, half of the MSMEs operate with less than 27 days of cash reserves (J P Morgan and Chase Co., 2020) (2). In addition, small firms find it harder to tap into different sources of finance, including from the market.

The pandemic induced sudden and significant loss in demand (and revenue as a consequence) for MSMEs has crippled their ability to remain viable and going. Because of reverse migration at large scale, lockdown and mobility restrictions, people cut down their demands.

MSMEs experienced reduced labour supply due to lockdowns and restricted movements. Many workers moved back to their hometowns due to the fear of lack of food, money and piling on bills coupled with the uncertainty about the pandemic situation getting normal. Physical distancing and quarantining are necessary measures required to curb the spread of the COVID-19 virus, yet the impact of the severe drop in labour availability and capacity utilization on MSMEs induced by these measures cannot be left unseen. Apart from the above-mentioned issues, a disrupted supply chain also resulted in a shortage of components and intermediary goods in many MSMEs clusters. In certain cases, trucks, carrying goods and other products, stopped on the way as they could not get their punctured tyres repaired because labor was not available on the way.

Along with these, they also lack the strong bargaining power needed for better payment terms. These vulnerabilities of MSMEs cumulatively become the reason for a sharp decline in revenues from the very beginning of a crisis.

The reason why MSMEs in India have underperformed relative to their potential is mainly because of the slow pace of digital adoption. According to a study conducted by KPMG and Google, digitally-enabled MSMEs have the potential to generate profits up to two times as compared to their offline counterparts (3). Digitally empowered MSMEs can also employ more people, grow their customer base, and expand into international markets with more ease. This is because digitally empowered MSMEs will be able to continue to service their customers, ensure supply chain integrity and even expand their area of service despite crises.

WHAT TO DO?

In 2021, the second year of the COVID-19 pandemic, we see the lasting impact the pandemic has left on our trade and commerce. The shrunk performances of economic indicators like GDP,

private consumption, new investments also reflect the ramifications of the pandemic situation in the world.

At present, looking beyond these damages and getting beyond the pandemic may seem like a daunting task. It calls for a strategic reset that can bring the economy back on track. Careful planning can ensure that unprecedented situations like COVID 19 pandemic do not necessarily have to be economic shocks for the country. In the past, India has endured two big economic shocks; the Great Depression in the 1930s and the Global Crisis of 2008. Both times, India has come out unscathed in terms of its spirit and recovered quickly.

For a short term plan, this can mean lending MSMEs support for reopening and restarting their businesses. It can also include strategies to promote online trade, introduction of new safety and health protection norms and helping them in getting credit to meet their working capital requirements.

Refinancing debt with today's lower interest rates may allow the user to adjust their debt and equity mix to build more business value over the coming years can also work to some extent.

Many industries have reemerged during the pandemic. For instance, the textile industry which was forced to shut down initially took this as an opportunity. Rather than shutting down the factories completely, they started making personal protective equipment or the PPE Kits. A private company started this venture, gradually multiple enterprises followed the suit. At present, India makes around 4, 50,000 PPE Kits per day (4). Starting from practically nothing one year ago, today India has become the world's largest supplier of PPE Kits (8). These are products like gloves, coveralls and gowns, head and shoe cover. This new industry's global market worth is expected to be over $ 92.5 billion by 2025. (4). It is hard to believe that all of this has happened over 60 days.

Second example was created by tribal women living in Chhattisgarh. Mahua flower is grown in Chhattisgarh which is generally used to prepare local liquor for people staying in that area. The Tribal women made hand sanitizers from that Mahua. When India was scrambling to get enough supply of hand sanitizer, these women did not give up. Instead assuming that they cannot do anything, they started thinking creatively. They understood the real meaning of vocal. A solution by tribal woman saved the life of several people living in that area. It sounds impossible but it is a real fact. Although India does not possess enough of infrastructure, electricity and even skilled labor, but it is also a fact that India has a lot of untapped potential.

Another way is through reducing the company's costs. A company can achieve this in two ways; one, by sharing the financial burden incurred by the company and cutting a minuscule share from salaries, maintenance and other benefits of its employees. The other option is to reduce the headcount by laying people off. By choosing this option, the company is essentially treating the pandemic as an economic shock. This will result in making it difficult for the company post-recovery when the demand finally rises and the manufacturer requires people to meet the requirements of people.

The Pandemic period is good enough to reflect make use of in many ways such as to explore efficient ways of running business and also work on its deficiencies to reduce its cost of production without impacting its current level of production.

Cashless transactions became immensely popular during the pandemic due to their easy accessibility. The easy and safe transfer of money via digital mediums has already forced multiple companies to adopt digital payments as a viable option. The pandemic also witnessed a rise in customers embracing shopping in online mode for all types of products which calls for better delivery mechanisms on the product/service provider's part.

Although even here, the digital divide between rural and urban India was visible. The restricted and limited access to electricity and internet access in rural spaces remains a major obstruction in making rural MSMEs crisis-proof. As per data from the Ministry of Micro, Small and Medium Enterprises, almost 51% of Indian MSMEs are rural-based. Hence a completely digitalized registration process will have to be backed by proper training, master classes and workshops that will ensure proper communication

The government and industry must lend their support to MSMEs by providing them continued access to credit and by helping they build their digital infrastructure. Technology provides skills and tools to access funding, customers and markets. Together these steps will help MSMEs rebuild and enhance their businesses.

If businesses start adopting digital mediums to manage their finances, they could secure microloans simply through the insights into their credit history derived from their digital behavior or 'footprint'. This will help the loan provider to analyse day to day sales of a business to determine a business owner's credit score in seconds, using big data analytics, artificial intelligence (AI) and machine learning (ML) algorithms.

Last year the RBI also, recommended that the Indian government should develop digital infrastructure to improve the access and quality of credit for MSMEs (5). Digital tools will not only help MSMEs realise their potential, but they will also allow Government to reach every nook and cranny of the country and train entrepreneurs in rural as well as urban spaces via digital mode.

At the same time, it is also important that the government closely monitors the quality of this training, constantly testing and refining it to ensure that it delivers the correct information in the exact format, tailored to the entrepreneurs' degree of digital engagement.

The need of the hour is that government should encourage MSMEs to go for more manufacturing sector. High contact service jobs like airlines, hotels, malls and multiplexes were the first to collapse amid extended lockdowns aimed at containing the virus.

Lending emotional support to business owners is also required in such difficult times. Regular checking in on Business owners and reassuring them is significant in building their confidence to bounce back from the pandemic situation. Making announcements encouraging MSMEs would be a great help.

Today, the world is in a different yet similar situation, with the pandemic denting economic health globally. One way to reclaim growth is to fuel consumption, and one way of fueling consumption is by boosting retail lending.

With private consumption in India falling dramatically by a third to INR 21.7 Lakh crore in the first quarter of 2020-2021 from its pre-COVID-19 level of 32.5 lakh crore in the third quarter of 2019-20, the demand for retail loans has been tepid despite the Reserve Bank of India (RBI) slashing interest rates. There is an urgent need to increase the size of retail lending in the economy.

Private equity has recovered and continues to put capital to work in companies that fit its model. If that's a fit for your plans and your company has passed the "stress test" of the pandemic, now could be the time to engage with private equity firms.

Also, the aim should be to ensure that in future, local financial systems should work much more effectively and equitably to promote the real economic and social interests of the small businesses. The government must focus on radically restructuring the rural financial sector. This would quickly provide these struggling rural MSMEs with a source of low-cost, long-term

funding suitable to restart agricultural operations. An example is New Deal, launched in the U.S. in the early 1930s by President Franklin Roosevelt, which transformed the country's rural financial system in just a few years, reshaping it into a largely cooperatively owned and managed financial structure serving rural communities across the U.S. This crucial step played a key role in securing recovery and the poverty crisis precipitated by the Great Depression was soon resolved. Taking inspiration from the US, India can also think about converting community-owned and controlled financial institutions. It will help enmesh democracy and participation deeper into the fabric of the local community, through democratic ownership and the member participation in major decisions this entails (6).

The government has come out with 'Udyam' registration on a portal developed by this Ministry. Despite the announcement, most entrepreneurs could not gain clarity on the registration process. The government needs to create awareness programs highlighting the importance of Udyam registrations and the dissemination of information about schemes for MSMEs through the portal. For awareness programs, the government should also focus on making procedural information about the Udyam portal along with underlining the benefits of policies updated on Udyam for MSMEs in India. They can organize sector-specific webinars, workshops and master classes for entrepreneurs based on their geography, to entrepreneurs understand the benefits associated with the Udyam registration process.

The government should take the initiative to educate the entrepreneurs about their entitlements. The entrepreneurs need to know that under their registration as an MSME/SSI (Small Scale Industries) under the MSMED Act, they are entitled to certain benefits like exemption of interest rates on overdrafts, eligibility for industrial promotion subsidy etc.

STEPS TAKEN BY THE INDIAN GOVERNMENT

This section focuses on the relief measures introduced by the Indian government to aid businesses and resurrect the overall economy, to overcome the slowdown caused by the pandemic control strategies.

The government announced measures to share the immediate burdens faced by MSMEs by absorbing their credit risk, deferring their interest payments, and promoting local procurement

Emphasizing the importance of MSMEs, the government has recently taken a big step by easing out the registration of business processes, also known as 'Udyam Registration'. 'Udyam Registration' has replaced the former process of filing for the 'Udyog Aadhaar Memorandum'.

The initial five years of every entrepreneur are extremely crucial. Thus, easing out the registration process by the government is a welcome step as it has taken some load off the shoulders of young entrepreneurs. So that these entrepreneurs now can solely focus on business resilience and sustainability.

In terms of market size, India has approximately 6.3 crore MSMEs. As per the MSME Ministry data on May 16, 2021, the Udhyam Registration portal registered a total of 30, 00,822 MSMEs out of which registered micro-enterprises were 28 lakh (93%), followed by small enterprises at 1.78 lakh (6%) and midsized enterprises at 24,657 (1%) (7).

. The government has also recognised that post the pandemic there has been a shift towards a digital economy. At present MSMEs do not just need revival but also restructuring for resilience. To achieve this, the government has taken steps to empower MSMEs to raise funds publicly and expand into international markets in the medium to long term.

To address the effects of Covid-19 on MSMEs, the government announced a series of stimulus measures that included the Rs 6.28 lakh crore packages, an equity infusion of Rs 88,000 crore into the ECGC (Export Credit Guarantee Corporation of India) and loan guarantees of Rs 1.1

lakh crore. It also passed the Factoring Regulation Bill last year along with an emergency credit line guarantee scheme (ECLGS) of Rs 1.5 lakh crore in June 2020 to enhance credit to MSMEs. Credit to MSMEs has increased to 7.9% in July 2021 as compared to contraction of 1.8% which took place one year ago.

It will help NBFCs to do so at low cost and high speed. Otherwise, the 84% of MSMEs debt amounting to Rs 58.4 lakh crore, sourced from informal sources, will continue to remain informal. With digitalization, MSMEs not only needed to be revived, but these should be restructured for resilience.

The BSE SME (small and medium enterprises) platform is expected to witness >60 SMEs entering the market in one year (2021-22) to raise equity funds for meeting their business requirements. The initial public offering (IPO) route witnessed 16 SMEs enter the market; they raised Rs. 100 crore (US$ 13.74 million) in 2020. In June 2021, the Bombay Stock Exchange (BSE) announced that it has collaborated with Electronics and Computer Software Export Promotion Council (ESC) to build awareness among small businesses and start-ups about the advantages of listing.

MSMEs are being encouraged to market their products on the e-commerce site, especially through Government e-Marketplace (GeM), owned and run by the government, wherefrom Ministries and PSUs (public sector undertakings) source their procurement. As of July 20, 2021, the Government e-Marketplace (GeM) portal served 7 million orders worth Rs.122, 405 crore (US$ 16.39 billion) from 2.2 million registered sellers and service providers for 53,193 government buyers. During 2020-21 so far, Central Public Sector Undertaking (CPSUs) have procured goods and services worth Rs 18,963 crore from 89911 MSMEs that worth out to be 33.26% of total procurement.

MSMED Act, 2006 deals with the issues relating to the delayed payments to Micro and Small Enterprises (MSEs) by the buyers to the MSE supplier. In the case of delay in payment beyond 45days, MSMEs suppliers may approach the Micro and Small Enterprises Facilitation Council (MSEFC) constituted under the Act in all states/UTs. Under Section 16 of the MSMED Act, delayed payment to supplier units, attracts compound interest with monthly interests at three times the bank rate notified by the Reserve Bank. TReDS platforms have been created where MSMEs can get their Bills Receivable discounted from the banks. On TReDS platforms 'BLOCKCHAIN' system is used so that everything is fairly done.

Government has, from time to time, extended dates for filing returns both for Income-Tax returns (ITR) and GST returns (GSTR). The Indian Government had also prescribed f concession in rate of interest for late tax payments. (From normal rate of 18%). The government has also issued instructions to issue refund orders immediately for pending income-tax refunds to non-corporate businesses and professions including proprietorship, partnerships and LLPs, charitable trusts and cooperative.

Along with Government, many NGOs also provided support to MSMEs at different levels through different techniques besides financial help.

WAY FORWARD (Conclusion)
While the Indian economy has started coming back on track, the challenges the economy faces at present have not completely disappeared. The development community must provide effective support that caters to the need of MSME entrepreneurs and help them persevere and recover amid a pandemic situation in the country.

The Government of India has aimed to double the Indian economy to US$ 5 trillion in the upcoming five years. To achieve this goal, career opportunities for the young population must

be generated keeping in mind the potential of MSMEs as a key employment generator. Thus, the government has to take up the task of promoting MSMEs to create new jobs in the sector. Further, the government aims to enhance MSME's share in exports and its contribution to GDP.

RURAL BUYING BEHAVIOR AND FACTORS INFLUENCING RURAL PURCHASE TOWARDS SELECT FAST MOVING CONSUMER GOODS

Savanam Chandra Sekhar[1][*] and M. Kishore Babu[2]

[1]Associate Professor, KL Business School, Koneru Lakshmaiah Education Foundation, Vaddeswaram-522502, Guntur District, Andhra Pradesh, India

[2]Professor, KL Business School, Koneru Lakshmaiah Education Foundation, Vaddeswaram-522502, Guntur District, Andhra Pradesh, India

ABSTRACT

Fast moving consumer goods sector is the fourth-largest sector of the Indian economy. There are abundant growth prospects in this sector and marketers need to identify true demand for expansion. Changes in consumer needs, weak consumer sentiment, and inflation blow the sector's chances of attracting and retaining customers. Consider all these potential headwinds in mind, it is important for brands and retailers to listen to what rural buyers say about their needs, aspirations, preferences, and attitudes. Because India is a country of villages. About 68% of the population live in rural hinterlands. Village shop is most preferred venue for more than half of the rural consumers for FMCG purchase. One in every two buyers visits regular shop to make FMCG purchase in villages. People who are living proximate to towns and those who carry agriculture produce to towns are shopping in retail shops and wholesale shops in towns and enjoying high consumer surplus. Similarly, high income group in villages prefer to buy FMCG products from shops in towns and cities. Women buyers are found to be more loyal to the shop. Wife plays major role in purchase decision in rural families. However, children play significant role in purchase decision in rural areas. Recommendation for regular shop is found to be higher amongst older shoppers. Promotional schemes are far away to consumers in many villages. However, men found to be more likely to be swayed by promotions. Rural people buy smaller quantities from their regular village shop when the need recognized. People who have regular income source buy products once in a month based on their size of consumption and budget. The changing lifestyle in rural areas improved consumption bracket of branded products. So, organizations must consolidate this fact and reengineer business strategies towards meeting the changing needs and wants of rural consumers in the era of technology. At this juncture, a modest attempt is made in this paper to comprehend rural buying behavior and factors influencing rural purchase towards select FMCGs.

Keywords: price conscious, regular interval, rural consumer, village shop, word-of-mouth

1.   INTRODUCTION

Since the introduction of economic reforms in India in 1991, three new opportunities dominated Indian business prospects. The first confirmed the great Indian middle class, the strong core of the consuming Indian populace whose change in attitude, growing income and unfettered desire to own brands would drive unprecedented economic growth in an economy that was opening. The second proclaimed the demographic dividend, the percentage of population below the age of 25 which continues to drive the business case for creating and delivering goods and services and the rural opportunity has retained its allure given the catalytic effect of road and telecom connectivity. And the third heralded the rise of the rural consumer, the vast populace in the rural hinterland that promised to be bedrock of growing consumption and business opportunity.

Environmentally, a vast majority today have basic infrastructure and better electrification with 70% of villages linked by motorable roads. Rural India has never looked more inviting. Focused development has resulted in improved infrastructure, increased employment, better information, and access to funding in rural India. With rising commodity prices having driven a

corresponding 50% increase in rural per capita income over the last decade, marketers have never been more focused and committed in their efforts to reach out to rural consumers with smarter market prioritization strategies for distribution and cleverer communication strategies using technology. The result is a consumer product market that is growing in double digits compared to urban markets with a higher disposable income that have decelerated. India's rural fast moving consumer goods (FMCG) market is slated to touch the $100 billion mark within the next decade. The growth in value is being aided by a sure shift from mass brands towards popular and premium brands by rural consumer. But this drive towards consumption is not uniformly spread but in specific pockets. For instance, 72% of rural FMCG consumption happens in just 10 states and 66% of soft drink sales in rural occur in just 19,000 villages.

2. REVIEW OF LITERATURE

Rural buyers are relatively simpler, more forthright, with low to medium aspiration levels. They are influenced by social pressure, rituals, and norms and have moderate to high risk-taking ability but are gullible to dream merchants (Jha, 2003). They take a long time to make-up their minds to decide but once they decide, they do not change their decision in a hurry (Upadhyaya *et al.,* 2000). Rural consumer has certain setbacks about FMCG non-durables. High price is a big problem followed by transportation problem, expected quantity, poor packaging, lesser quality, non-availability, irregular supply, and color (Selvaraj, 2007). The purchase behavior, product preference, and consumption pattern of rural consumer is influenced by several factors to cope up with changing environment. Although income is one of the major influencing factors, but caste, religion, education, occupation, and gender also influence the buyer behavior in rural areas. Illiteracy is a major hindrance and thus audio-visual aids enable the marketers to take their message effectively in rural areas. Brand does not matter to the rural consumers, but they just want to fulfill their needs. Some consumers are brand loyal and do not make brand shift (Lokhande, 2004). As initiators, husbands, and kids are more prominent in rural areas while wife is more prominent in the urban areas in making purchase decision for non-durable FMCGs (Upadhyay, 1999). If the products are out of stock at rural retailers, rural consumers must wait for some days. So, it compelled them to travel outside their villages to meet their demands. The reasons to buy outside the village are the variety, the high-quality goods of their choice which they do not find in their villages, and reasonable prices. When customers are not happy with product quality, they used to return the goods and take money back from the rural retailers. Rural consumers differentiate the original and duplicate brands. So, they switch over to other brands if duplicate ones are found. Hence, proper marketing strategies are needed to prevent product imitation (Jain and Rathod, 2005).

The effectiveness of FMCG distribution channels in rural markets depend upon the satisfaction of rural customers (Phani Bhaskar *et al.,* 2018). The entire distribution channel is ineffective if the rural customers do not get the products of good quality, acceptable size, affordable price, good packaging, availability of products, range of products, regularity of product supply, and proximity of the shops (Pravin Kumar and Asha, 2012). Rural consumers prefer products like shampoo, spices, fairness cream and mosquito repellants which they prefer to buy in sachets on weekly basis. Sachet is a bold move by FMCG conglomerates to motivate rural consumers to try new products. But other products like talcum powder, toilet soaps, biscuits, shaving creams are expected in medium container and sachets in these categories provide only an opportunity of trial. Sachets need to be used as a promotion tool rather than a packaging strategy. Thus, packaging strategy needs to be changed according to the rural consumption pattern (Mishra and Sakthivel, 2005). Rural consumers do experience tension due to dissonance and exhibit defensive behavior as well as use attribution in support of their behavior. They are worse hit by non-availability of quality alternatives. The quality of goods stocked by the rural retailer is reported to be average. This forces them to accept low quality products. They do have lack of

trust in the matter of advertisement with significant variations. Humorous ads cause a deep impact and attract the audience (Rakshita Puranik, 2011). As advertisements are not reaching the rural sector effectively, there is need to strengthen the hands of information agents to remove the ill effect of post purchase dissonance (Sharma and Kasturi, 2004).

3. OBJECTIVES OF THE STUDY

- To understand the buying behavior of rural consumer towards select FMCGs; and

- To study the factors influencing FMCG purchase.

4. RESEARCH METHODOLOGY

4.1. Sampling Design

The study was conducted in rural areas of Prakasam district of Andhra Pradesh, India. Multistage random sampling method was used for the study. A total of 120 villages from 1093 were selected randomly. In the first stage, 40 mandals out of 56 were selected randomly. Three villages from each mandal having more than 1000 population were selected randomly in the second stage. Fifteen respondents from each village were selected randomly in the third stage. Thus, a sample size of 1875 is selected randomly for the study.

4.2. Questionnaire Design

A structured questionnaire was administered among 1875 respondents through personal interview method. The questionnaire contains 20 questions/statements representing the rural consumer insights towards five select FMCG products viz., toothpaste, shampoo, toilet soap, detergent cake, and detergent powder. These products are representing oral care, hair care, body care, and fabric care categories. Questionnaire includes both open-ended and closed-end questions. Besides a completely unstructured open-ended question, several closed-end questions such as dichotomous, multiple choice, Likert scale, rating scale, and ranking scale were used in the questionnaire. The Likert five-point scale was used for the statements. Initially, a pilot study was conducted with a sample size of 75 respondents and the questions were improved accordingly. The first section of the questionnaire represents demographic profile of the respondent that includes gender, age, education, family size, and annual household income. The second section includes questions regarding buyer behavior, awareness, positioning, recall, usage, and preference of brands as well as product attributes such as quality, price, availability, advertisement, and package size. The Third section contains questions over satisfaction of retail shop and opinion on statements.

4.3. Data Analysis

The collected data were analyzed keeping in view the various objectives of the research study. For analyzing the data collected, firstly master tables were prepared to note down the responses in a tabulated form. Then the information collected was converted into small frequencies and mean score tables. The reliability of the scale was tested by using Cronbach's Alpha method. The Alpha was found at 0.8496 for the 20 statements which ensures good reliability of data for further analysis. Later, the primary data were tabulated and interpreted by using statistical techniques such as percentage, mean, variance, standard deviation, skewness coefficient, Garrett ranking and Chi-square test. Garrett ranking technique was used to analyze the factors and arrived at the final ranks on the given factors. The percentage positions of primary data were calculated and compared with their corresponding Garrett ranking conversion table values. The association, significance, and relationship between the variables were analyzed by using Chi-square two-way test and then hypotheses were tested statistically.

5. RESULTS AND DISCUSSION

5.1 Buying Behavior of the Rural Consumer

The purchase behavior of the rural consumer is being studied with six variables such as shop preference, frequency of purchase, mode of purchase, role player in purchase decision, factors influencing FMCG purchase, and sources of information."

5.1.1. Shop Preference

H1: There is no significant relationship between shop preference and income level of the rural consumer.

Rural consumers purchase FMCG products from several sources such as village shop, retail shop in town, wholesale shop in town, and other outlets like military canteen, super bazaar, supermarket, departmental store, super store etc. (Sailaja, 2019). The shop preference for FMCG purchase by the rural consumer is depicted in Table 1.

Table 1: Shop preference

S. No.	Shop preference	Frequency	Percentage
1	Village shop	1060	56.53
2	Retail shop in town	468	24.96
3	Wholesale shop in town	312	16.64
4	Others	35	1.87
	Total	1875	100

[Source: Primary data]

Village shop is most preferred shop for FMCG purchase for 56.53% of the respondents. People living proximate to towns are purchasing from retailers and wholesalers in town. They enjoy consumer surplus in town shopping (Patnaik *et al.,* 2019). Most villagers who carry their agriculture produce to towns have the habit of buying products in town shops (Sekhar and Padmaja, 2015). They get more brand choice and discounts and offers in town shops. Therefore, about 25% of the respondents are buying these products from retail shop in town. Majority of rural consumers are price conscious and seek value for their money. About 16.64% of the respondents are buying products from wholesale shop in town where they can get promotional benefits like discounts and offers and are enjoying high consumer surplus. Improved road connectivity means that the city is never far away. Nor is the ambition to lead a life that comes as close to city living (Srinivas, 2018). Television also plays a vital role in promoting awareness of city lifestyles. People who have access to other sources like military canteen, super bazaar, supermarket, departmental store, super store, and modern retail malls like Best Price, Reliance Fresh, Metro, Big Bazaar etc. in the cities are buying bulk from these sources (Sundari, 2017) (Sundari, 2018). About 1.87% of the respondents are buying from these sources.

There is an untested supposition that high income group in rural areas prefer to buy products from shops in towns and cities as against their own village shop (Raja Babu, 2017). Therefore, it is vital to understand the relationship between income level of the respondent and shop preference. To test statistically the relationship between these two variables, the following hypotheses have been developed:

H_0: There is no significant relationship between shop preference and income level of the rural consumer.

H_1: There is significant relationship between shop preference and income level of the rural consumer.

The primary data is put to hypothesis testing by applying chi-square (χ^2) test. Since the calculated value of chi-square (35.8201) is greater than the tabulated chi-square value (21.026), the null hypothesis H_0 is rejected and the alternative hypothesis H_1 is accepted. Thus, it can be

statistically concluded that there is significant relationship between the shop preference and income level of the rural consumer. High income group in villages prefer to buy FMCG products from shops in towns and cities. Village shop is least preferred outlet for high income group. Further, it is found that one in every two buyers across age groups visit their regular shops to make FMCG purchases. Women buyers, regardless of age, are found to be more loyal to the shop they usually visit. Recommendation for regular shop is found to be higher amongst older shoppers.

5.1.2. Frequency of Purchase

H2: There is no association between frequency of purchase and income level of the rural consumer.

FMCG products are being purchased in regular intervals. When respondents are asked about how frequently they buy FMCG products, the responses are varying on the variables. The purchase frequency of the rural consumer is presented in Table 2.

Table 2: Frequency of purchase

S. No.	Frequency	Frequency	Percentage
1	Once a month	719	38.35
2	Twice a month	213	11.36
3	Once a week	154	8.21
4	Twice a week	53	2.83
5	When the need recognized	736	39.25
	Total	1875	100

[Source: Primary data]

Most of the rural consumers buy FMCG products from their village shop when the need recognized. This is due mainly to the low-and irregular-income sources. About 39.25% of the respondents say that they are purchasing FMCG goods when the need recognized. People who have regular income source and/or living adjacent to towns buy these products once in a month based on their consumption size and budget. About 38.35% of the respondents say that they are buying once in a month followed by 11.36% people buying twice a month, 8.21% people buy once in a week and 2.83% of the respondents purchase twice a week.

The income pattern of the family is an important determinant of purchase frequency. Regular income group is used to purchase FMCG products on scheduled intervals while irregular income group buy when the need recognized. Therefore, it is very important to know the association between income level of the respondent and frequency of purchase. To test statistically the association between these two variables, the following hypotheses have been developed:

H_0: There is no association between frequency of purchase and income level of the rural consumer.

H_1: There is association between frequency of purchase and income level of the rural consumer.

The primary data is put to hypothesis testing by applying chi-square (χ^2) test. Since the calculated value of chi-square (133.5701) is greater than the tabulated chi-square value (26.296), the null hypothesis H_0 is rejected and the alternative hypothesis H_1 is accepted. Thus, it can be statistically concluded that there is association between the frequency of purchase and income level of the rural consumer. Rural consumers buy FMCG products on regular intervals based on their income level.

5.1.3. Mode of Purchase

H3: There is no significance between mode of purchase and income level of the rural consumer.

The purchase pattern of FMCG products depends on the availability of cash in rural areas. The responses on mode of purchase are collected on three variables The mode of purchase is portrayed in Table 3.

Table 3: Mode of purchase

S. No.	Purchase mode	Frequency	Percentage
1	Cash	1347	71.84
2	Credit	204	10.88
3	Some cash & some credit	324	17.28
	Total	1875	100

[Source: Primary data]

Cash is most used mode of purchase for FMCG products in rural areas. About 72% of the respondents are buying products on cash followed by 17.28% of the respondents buying on partly cash and partly credit, and 10.88% of the respondents buying on credit. It is usual practice in villages that payment will be made after a course of time usually after harvesting. Consumers those who have irregular income source seek credit facility from the village shop. It is found that most of the village shops offer credit facility to their customers. The customers who are availing credit from the village shop are not in the position to demand discounts and offers from the retailer. It is observed that in many villages promotional schemes are far away to consumers.

There is an untested supposition that the people who have regular income source purchase products on cash and those who have irregular income purchase on credit in rural areas. Since income is major determinant for mode of purchase, it is quite appropriate to measure the significance between the variable's income level and mode of purchase. To test statistically, the following hypotheses have been developed:

H_0: There is no significance between mode of purchase and income level of the rural consumer.

H_1: There is significance between mode of purchase and income level of the rural consumer.

The primary data is put to hypothesis testing by applying chi-square (χ^2) test. Since the calculated value of chi-square (29.4964) is greater than the tabulated chi-square value (15.507), the null hypothesis H_0 is rejected and the alternative hypothesis H_1 is accepted. Thus, it can be statistically concluded that there is significance between the mode of purchase and income level of the rural consumer. Rural consumers choose to purchase products on cash irrespective of their income level. They prefer to buy products on cash.

5.1.4. Role Player in Purchase Decision

H4: There is no significance of children role in purchase decision and family size of the rural consumer.

Purchase decision of FMCG brands is a matter of discussion among the family members. Every member in the family plays a crucial role in selection of brands. For instance, the brand choice of detergent cake and detergent powder is exclusively made by female members in the family. Factors such as education, lifestyle, communication, awareness, attitudinal shift etc. influence the purchase decision of rural consumers. Husband and wife are prime decision makers of FMCG purchases in rural areas. Educated children also participate in brand selection. Sometimes brand selection is collective decision of the entire family. When respondents are asked about who plays major role in purchase decision of FMCG brands in the family, the responses are vary. The responses are shown in Table 4.

Table 4: Role-player in purchase decision

S. No.	Role-player	Frequency	Percentage
1	Husband	402	21.44
2	Wife	756	40.32
3	Both husband & wife	282	15.04
4	Children	90	4.80
5	All together	345	18.40
	Total	1875	100

[Source: Primary data]

Wife plays major role in purchase decision of FMCG brands in over 40% of the respondents' families. Husband is decision maker in 21.44% of the respondents' families. Both husband and wife together take decision in 15.04% of the respondents' families. Children play significant role in brand selection among 4.80% of the respondents' families. Purchase of a brand is collective decision of the entire family members in 18.40% of the respondents' families. Family size is an important factor of FMCG brand purchase decision. In a two-member family, both husband and wife together participate in purchase decision. While in a big family child also take part in purchase decision since today's children mostly educated and have good brand awareness. Therefore, it is important to understand how far children participate in purchase decision of FMCG brands. To test statistically, the significance between family size and purchase decision, the following hypotheses have been developed:

H_0: There is no significance of children role in purchase decision and family size of the rural consumer.

H_1: There is significance of children role in purchase decision and family size of the rural consumer.

The primary data is put to hypothesis testing by applying chi-square (χ^2) test. Since the calculated value of chi-square (70.0878) is greater than the tabulated chi-square value (26.296), the null hypothesis H_0 is rejected and the alternative hypothesis H_1 is accepted. Thus, it can be statistically concluded that there is significance of the children role in purchase decision of FMCG brands irrespective of family size in the rural areas.

5.2. Factors Influencing FMCG Purchase

The major factors influence the rural FMCG purchase are studied with five variables. Various ranks given by the respondents on five factors are given in Table 5.

Table 5: Factors influencing FMCG purchase

Factor	Rank					Total
	1	2	3	4	5	
Price	513	723	381	174	84	1875
Discounts & offers	225	243	486	678	243	1875
Availability	243	423	552	534	123	1875
Brand image	771	336	291	285	192	1875
Credit facility	123	150	165	204	1233	1875

[Source: Primary data]

Garrett ranking

Garrett ranking technique is used to arrive at final ranks. Under this technique, the percentage position is calculated by using the following formula:

$$\text{Percentage position} = \frac{100 \, (R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given for i^{th} variable by the jth respondent

N_j = Number of variables ranked by the respondent

The calculated percentage positions for the ranks 1, 2, 3, 4 and 5 and their corresponding Garrett table values are given in Table 6.

Table 6: Percentage positions and their corresponding Garrett table values

Rank	Percentage position	Garrett table value
1	100 (1-0.5)/5= 10.00	75
2	100 (2-0.5)/5= 30.00	60
3	100 (3-0.5)/5= 50.00	50
4	100 (4-0.5)/5= 70.00	40
5	100 (5-0.5)/5= 90.00	25

For rank 1, the calculated percentage position is 10.00 and its corresponding table value is 75. This value is given in the Garrett ranking conversion table for the percentage 10.06 which is very near to 10.00. Similarly, the table values are referred from Garrett's ranking conversion table for all the calculated percentage positions.

Table 7: Factors influencing FMCG purchase – Garrett score

S. No.	Factor	Rank					Garrett score	Mean score	Final rank
		1	2	3	4	5			
1	Price	38475	43380	19050	6960	2100	*109965*	58.65	I
2	Discounts & offers	16875	14580	24300	27120	6075	*88950*	47.44	IV
3	Availability	18225	25380	27600	21360	3075	*95640*	51.01	III
4	Brand image	57825	20160	14550	11400	4800	*108735*	57.99	II
5	Credit facility	9225	9000	8250	8160	30825	*65460*	34.91	V

It can be inferred from the Table 7 that price (rank-I) is most influencing factor of FMCG purchase with a mean score of 58.69 followed by brand image (rank-II: 57.99), availability (rank-III: 51.01), discounts and offers (rank-IV: 47.44), and credit facility (rank-V: 34.91). Therefore, it can be statistically concluded that price is most influencing factor of FMCG purchase in rural areas. It says that rural people are price conscious. Brand image is also an important influencing factor because of increased levels of rural education, income, lifestyle, communication, and awareness. Availability of products at convenient village shop is another influencing factor since buying small units in towns or cities is cost and time effective. Discounts and offers at village shop act like prominent promotional tool that influences the rural purchase. Credit facility shows little influence due to increased levels of rural income and lesser amounts enough for purchase of small quantities.

Electronic media including television, Internet, and social media like Facebook, twitter, and mobile etc. are major sources of information about FMCG products to the today's rural consumer (Parida and Prasanna, 2018). Retailer's information is considered another key source of information as it is used by four out of every five villagers. Word-of-mouth drives a significant percentage of the respondents. Friends, relatives, and neighbors are also important sources of information about FMCG products. Approximately three in five respondents say that they become aware about products through information spread by word-of mouth. Print media

including newspaper, magazine, hoardings/banners are least source of information. However, a significant number of villagers follow advertisements on walls, posters, and banners for information. According to Nielsen Primary Survey 2014, neighbors, fellow farmers, dealers, shopkeepers, and distributors are key information sources for 80% of villagers before making purchase decisions.

Rural consumers buy FMCG products on regular intervals based on their income level. Cash is most preferred mode of purchase in rural areas irrespective of their income level. The customers who are availing credit facilities are not in the position to demand discounts and offers from the village shop. Price is the most influencing factor of FMCG purchase in rural areas followed by brand image, availability of product, discounts and offers, and credit facility. Hence, rural people are price conscious, and they seek value for money. Electronic media especially television is most important source of information about FMCG products for rural consumers followed by retailer's information and print media.

Since promotional schemes are far away to rural consumers business firms must take necessary steps to reach all schemes to the end consumers in villages via village shop. Rural specific budgets are supposed to be created by the corporations to encourage new shops and expand existing shops in villages. Companies must maintain proper SKUs in the village shop to meet the undefined needs of the rural consumers. Marketers need to develop a mechanism to provide maximum discounts and offers for their regular rural customers since most of the rural purchase done in cash. Similarly, marketers need to focus on women specific promotional schemes and make them available in the village shop because women are shop loyal. Organizations must stabilize or minimize the prices and keep them affordable to rural consumer as if price is most influencing factor in FMCG purchase. Rural specific television advertisements better serve the purpose since television is prominent source of information to the rural consumer.

6.   CONCLUSION

Rural marketing is not about reaching markets but reaching consumers. Comprehending rural consumer behavior is inevitable for growth and development of any progressive marketer since urban markets almost saturated. The attitudinal shift of the rural buyer from village shop to city malls reflects the imitating city like lifestyle in villages. Increased levels in education, income, communication, lifestyles change the rural consumer into a rural super consumer in the era of technology. However, rural consumer accustomed to buy FMCG products in smaller quantities on cash basis from his regular village shop when the need recognized. Rural people are price conscious. They seek value for money. Therefore, rural specific budgets need to be created by corporations to encourage new shops and expand existing shops in villages. Rural specific advertisements better serve the purpose since television is prominent source of information about FMCG products to the rural consumer. Effectively implementing these programs would go a long way in helping brands differentiate in the crowded rural FMCG market.

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KINETIC AND THERMODYNAMIC STUDIES OF THE CONTROLLED OXIDATION OF CINNAMYL ALCOHOL BY POTASSIUM PERSULPHATE IN ACIDIC MEDIUM

Himanshu Gupta[1], Freddy Havaldar[1] and D.V. Prabhu[2]
[1]Deaprtment of Chemistry, St.Xavier's College, Mumbai 400001, India
[2]Department of Chemistry, Wilson College, Mumbai 400007, India

ABSTRACT

The quantitative conversion of alcohols to aldehydes/ketones has been extensively studied using a variety of oxidants. But there are few reports on the use of inorganic oxidants for oxidation of alcohols.Further,the kinetic and thermodynamic aspects of the oxidation of alcohols have been scarcely reported.

This paper reports the kinetics of the controlled oxidation of the primary unsaturated alcohol, Cinnamyl alcohol suing Potassium persulphate ($K_2S_2O_8$) in acidic medium.Cinnamyl alcohol is used in the preparation of perfumes.The oxidation was studied under first order kinetic conditions with respect to the inorganic oxidant and the oxidation rate was monitored by iodometric estimation of the unreacted oxidant at regular time intervals during the course of the reaction.The oxidation rate increased with [alc.] but decreased with [$K_2S_2O_8$].The oxidation rate was found to be independent of ionic strength in dilute solution.A suitable reaction mechanism has been given for the oxidation process.

From the variation of oxidation rate with temperature (308-318K), the thermodynamic activation parameters were evaluated and interpreted in terms of the reaction mechanism suggested.

Keywords: Ciinnamyl alcohol, $K_2S_2O_8$, oxidation,kinetics,ionic strength, entropy of activation, reaction mechanism

INTRODUCTION

The quantitative aspects of the oxidation of alcohols to the corresponding carbonyl compounds have been reported in literature[1-4].But there are few reports of the kinetic studies of the oxidation of alcohols. We have earlier reported the kinetics of the oxidation of a variety of industrially important alcohols using organic and inorganic oxidants[5-8].This study deals with the first order kinetics of the oxidation of Cinnamyl alcohol to Cinnamaldehyde using $K_2S_2O_8$ in acidic medium.The effects of alcohol and oxidant concentrations,ionic strength and temperature on the oxidation rate have been investigated in detail.From the effect of temperature on oxidation rate,the thermodynamic activation parameters have been determined.Based on the experimental data obtained ,a suitable reaction mechanism has been suggested for the oxidation process.

MATERIALS AND METHODS

Cinnamyl alcohol was procured from E.Merck,Suhuchalt,Germany and used as received.All other chemicals used in the study were of A R Analar Grade.The oxidation of alcohol was studied under first order kinetic conditions,[oxidant]<<[alc.].The solutions of alcohol and oxidant were allowed to equilibrate in a previously adjusted thermostat(accuracy +/- 0.1^0C).After the temperature equilibrium was attained,the solutions were quickly mixed to start the reaction.Aliquots of the reaction mixture were withdrawn at regular time intervals,the reaction was quenched using ice and the unreacted oxidant was estimated iodometrically.

The first order rate constants (k) were determined from the linear plots of log(unreacted oxidant) versus time(s).From the Arrhenius plots of log k versus T^1,the energy of activation (E) and

other thermodynamic activation parameters were determined. Analar Grade K_2SO_4 was used in the range μ= 5.00-20.00 x 10^{-2} mol dm^{-3} to determine the effect of ionic strength on the oxidation rate of alcohol.

RESULTS AND DISCUSSION

Cinnamyl alcohol was oxidized to Cinnamaldehyde by $K_2S_2O_8$ in acidic medium. The oxidation rate increased with alcohol concentration but decreased with oxidant concentration. (Table1)

Table-1: Rate constant data for oxidation of Cinnamyl alcohol by $K_2S_2O_8$ in acidic medium

$[H_2SO_4]$ = I mol dm^{-3} Temperature =308K

[alc.] x 10^1 mol dm^{-3}	$[K_2S_2O_8]$ x 10^3 mol dm^{-3}	k x 10^3 mol dm^{-3}
0.25	5.00	5.00
0.50	5.00	5.60
0.63	5.00	6.00
0.75	5.00	6.50
0.88	5.00	7.00
1.00	5.00	8.30
1.00	2.50	7.80
1.00	5.00	7.90
1.00	10.00	7.00
1.00	15.00	6.30
1.00	20.00	5.90
1.00	25.00	5.50

Reaction Mechanism of Oxidation of Cinnamyl alcohol

In acidic medium, $K_2S_2O_8$ forms the strong acid and strong oxidant ,$H_2S_2O_8$[9,10].

RCH_2OH + $H_2S_2O_8$ --------> $RCHO$ + $2 H_2SO_4$
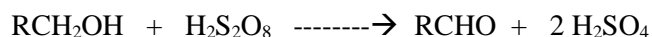
1^0 alcohol   aldehyde

The oxidation product, Cinnamaldehyde was identified by 2,4 –dinitrophenyl hydrozone test and confirmed by TLC.

Effect of Ionic strength on oxidation rate of Cinnamyl alcohol

K_2SO_4 was used to study the effect of ionic strength(μ) on oxidation rate of Cinnamyl alcohol in the range μ = 5.00 to 20.00 x 10^{-2} mol dm^{-3} in accordance with the Bronsted-Bjerrum equation, log k = logk_0 + 1.02 $Z_A Z_B \mu^{1/2}$. (Table 2)

The graphs of logk versus $\mu^{1/2}$ were found to be straight lines parallel to the $\mu^{1/2}$ axis indicating that the oxidation rate is independent of ionic strength due to the involvement of a non- ionic species in the oxidation reaction. This observation is supported by the reaction mechanism suggested for the alcohol reaction.

Table- 2: Effect of Ionic strength on oxidation rate of Cinnamyl alcohol

Temperature=308K

μ =10^2 mol dm^{-3}	k x 10^3 s^{-1}
0.00	11.30
5.00	9.20
10.00	11.40
15.00	14.10

20.00	11.90

Effect of Temperature on oxidation rate of Cinnamyl alcohol

The oxidation was studied in the temperature range 308-318K and the thermodynamic activation parameters are listed in Table 3.

Table -3 : Thermodynamic activation parameters of oxidation of Cinnamyl alcohol by $K_2S_2O_8$ in acidic medium

$[H_2SO_4] = 1$ mol dm^{-3}

Temp.(K)	k x 10^3 s^{-1}	E kJ mol^{-1}	K* x 10^{16}	$\triangle$ G* kJ mol^{-1}	$\triangle$ H* kJ mol^{-1}	$\triangle$ S* kJ K^{-1} mol^{-1}
308	2.00	122.10	3.12	91.45	62.87	-0.0928
311	4.90	122.10	7.64	89.15	58.45	-0.0987
313	5.40	122.10	8.28	90.39	61.28	-0.0930
318	11.50	122.10	17.40	89.87	60.30	-0.0930

Inferences from the Thermodynamic study

1) Rate constant of oxidation(k) increases with temperature.

2) K*,the equilibrium constant for the formation of the transient activated complex from the reactant molecules increases with temperature.

3) The negative values of the entropy of activation , S* indicate the formation of a rigid activated complex followed by the reorientation of solvent molecules around the complex[11,12]. This greatly curtails the rotational and vibrational modes of the reacting molecules leading to decrease in entropy.

4) The constant values of S* at all temperatures indicate that the site of oxidation ie –OH remains same at all temperatures.

CONCLUSION

The inorganic oxidant $K_2S_2O_8$ was used in acidic medium to study the rate of oxidation of the perfumery alcohol,Cinnamyl alcohol. Ionic strength had no effect on the rate of oxidation .The oxidation was accompanied by decrease in entropy of activation

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AMAZON- FAKE REVIEWS ON THE ONLINE PLATFORM-

Dr. K. Jawahar Rani
Professor, Department of MBA, St. Joseph's College of Engineering, Chennai.
Jerryton Surya, II MBA
St. Joseph's College of Engineering, Chennai

During the old times, the only option available to the consumers was the conventional buying medium and there hardly was a role of middlemen involved in trading processes that could impact the consumers. A dramatic modification is seen during the current day scenario. Along with the colossal progress of technology, in the era of Industrial Revolution 4.0, end user buying decisions and behavioral patterns are effectively influenced by various other means. For example, prior to purchasing these days, buyers would look into the product websites, analyze the products, join chat media to have a sample analysis of product specifications, have maven opinions on the same while some might even attend related symposiums. Specifically, for retailers, the modern situation has become much more tricky with the cumulative research done in advance by purchasers, hence initiating the fact that only with the human intelligence and the sales assistant involved, retailers would not be able to get their deals closed and succeed in the exceedingly aggressive environs. Customer satisfaction is one of the supports of strength for any successful retailer, hence the penetration of Artificial Intelligence it becomes easier in understanding and predicting consumer behavior patterns and trends in E-commerce.

In the last two decades, the internet has pioneered the marketing communication revolution; offering the possibility of bigger interaction between consumers and the brand. Due to the advancements of the Internet, the majority of people will prefer to buy and sell commodities through e-commerce websites. In general, people mostly trust reviews before making judgements. Bogus reviewers use this as a chance to compose fake reviews to deceive both the end users and producers. It is a necessity and also an embryonic issue to identify fake reviews before making them open for decision making.

The booming market for fake online reviews
The wild spread of digital misreport i.e. fake reviews, present problems to brand managers, whose brands are co-created online, sometimes to the damage of the brand. There is a need to recognize the information sources that are likely to be reliable and to encourage constructive consumer attitudes toward brands. Fake reviews, is defined as positive, neutral or negative review, which is not a genuine buyer's honest and unbiased point of view or that does not reflect a buyer's actual experience of a product, service, or business, and has a detrimental influence i.e. negatively affecting the brand image. They do not contain real estimations of products or services; and so, fake reviews are false, counterfeit, and deceptive. These reviews would have been written by diverse people which includes buyers, sellers, and review platforms.

Amazon- Fake review Issue
Sellers under the Amazon e-commerce website are taking advantage of the outline shopping frenzy behavior i.e, using old and new methods to boost the rating on products, Amazon is also a part of this.

The fake review scam on Amazon was discovered in 2021. It affects 200000 users. These fake reviews make people buy some products initially and give five-star reviews to Amazon.

Unfortunately, more than 10million fake review records were available to the public through the elastic search server. The case was filed against Amazon by its customers from various countries.

The case against Amazon- Cure Encapsulations-fake review-
The US federal trade commission filed a case against Amazon for its fake reviews. The company named 'Cure Encapsulations' remunerated a third-party website to write five-star reviews on Amazon for weight loss tablets 'Garcinia Cambogia. This supplement is mischaracterized as a weight loss tablet but it caused liver failure for most of the users. Cure Encapsulations paid the website 'Amazon verified reviews.com' to keep their products rated above 4.5 stars on Amazon. They add hundreds of fake reviews for the tablets resulting in a large number of consumers starting to buy. But this kind of fake review couldn't be controlled by Amazon. This strategy was followed by many E-commerce companies.

Cure Encapsulations informed Amazon that it paid for reviews, they violated Amazon's rules for promoting their product, and they notified all end users who bought the weight-loss supplement. To keep the company in track, the Federal trade commission decided to give them a $12.8 million fine for Cure Encapsulation.

Amazon supports Fake reviewers:
Amazon also encourages fake reviewers ie. third-party employees to give high ratings to promote low turnover products and companies which give high amounts of commission to Amazon. The purpose is to increase the sale of deceptive goods / less quality / not have much demand in the market. To increase gain/ commission, Amazon asks the fake reviewers to return the products after giving the fake review. In some cases, the product will be given as a gift to the fake reviewers as a commission for their rating. If any goods are returned by fake reviewers, Amazon refunds their money through Paypal and not directly through Amazon pay. The reason for this was if they pay through Paypal, no one can trace the source through Paypal, Amazon can easily send money to people who are working as fake reviewers in other countries without any restrictions.

It is illegal to bribe people or a community into giving fake reviews, as it spoils the rights of the buyers. If a company purchased fake reviews in the United States, it would face legal action from the Federal Trade Commission (FTC). If a US seller is found to be using deceptive marketing tactics, it can land them with a huge penalty of more than $10 million.

Online 'fake reviews' mislead customers and force the buyers to make purchase decisions and they also break the law as a violation of consumer protection under the Consumer Protection Act.

Amazon is failing to handle these issues and failing to safeguard the customers and also bring down the driving economy of deception.

ANALYSIS BASED ON RESEARCH OUTCOMES
Bright Local research:
Amazon take over the e-commerce trading , accounting for 54% of online trades and 5% of all US retail trades. It also leverages 54% of product hunts – making it even more potent than Google for merchants. This propagation of fake reviews causes more panic, especially for sellers. According to Bright Local research,18-34-year-olds end users have read a fake online review in the last year than end users of any other demographic. While 89% of the youth group said that they have read a fake review in the last 12 months, only 74% of 35-54-year-olds have understood a fake review in the last year. This number drops to just 59% for end users over the age of 54 years.

It's clear that 18-34-year-olds find fake reviews much cooler than other age groups to spot online. This could be because they have matured online as digital natives and also they are digital street smarts. This age group is more doubtful or untrusting of user-generated content such as online reviews, this leads panic to the marketers of e-commerce.

This caution must be a wake up call for business owners. If the target demographic drops within the 18-34 age group, Traders must be paid for their faith.   It is entirely assumed that reviews are critical to the end users purchase process, hence the traders should take steps to control when reviews are judged to be fake so commonly.

A different problem is that this data advocates posterity is already being encoded to be wary of online reviews. If that's the case, the firm needs to catch latest means of instituting trust with prospect end users.

In order to challenge fake reviews and instil buoyancy in those aged 18-34, traders should be proactive to handle such matters. Responding to reviews is a local Search Engine Optimization(SEO) ranking factor but replying can also aid to boost trust because it shows that Amazon make out and valuable responses.

The Washington Post
Research done by The Washington Post revealed that 61% of reviews for electronic items on Amazon are fake. The fake reviews shook the orders similar to wireless Bluetooth headphones and Bluetooth speakers, though other orders similar as testosterone capsules and diet capsules were also intended to be squeezed on the 18-34 age group who are the end users of these items.

Analysis showed that 50.7 % of appraisals for the top 10 Bluetooth headphones were fake along with 55.6% of reviews for the top 10 weight loss tablets, 58.2% of Bluetooth speaker appraisals, and 67 % for the leading testosterone products.

As per the Washington Post study, the cornucopia of fake reviews automatically giving minor visibility to certain specifics without merit makes it veritably delicate to reach shoppers on Amazon without also engaging in fake reviews. One business proprietor told The Washington Post fake reviews have a " ruinous" effect because they " make it insolvable to trade anything on Amazon if you play by the rules."

Though Amazon is superficially a B2C, this stresses precisely what the business impact of fake reviews can be. It is essential to Amazon rankings, having a process in place to get true reviews and making a frank review of the profile is necessary to aid further drop in visibility.

Massachusetts Institute of Technology- MIT
According to research shown by MIT, misleading reviews (those submitted by end users who truly have n't made a purchase from the trade being appraised) have an affinity to use repeated exclamation points similar to'!!'and'!!!'in the textbook of the review. The use of exclamation opinions may not feel like a giant problem on the face but scan a little deeper and it's the implication that becomes disquieting. Multiple exclamation marks point out a heightened emotion similar to excitement or frustration. The use of multiple exclamation marks imitates slang syntax and alphabet on social media and messaging apps. Accumulation of this is the definite acute feeling and the hope of end users accepting the fake review as it is written in such a way that the anthologies themselves also employ day-to- day.

Small business owners may not feel the impact of these misleading reviews, but the brand image of a commercial company like Amazon is veritably affected by these fake reviews.

Bazaarvoice
In a study conducted by Bazaarvoice it was brought to light that over 54% of end users would not buy a product if they didn't believe the reviews were true. It was obvious that fake reviews are not only a problem, but they could also negatively impact the business. This leads the customers not to go for repurchase and not get involved in review schemes. If the customers suspect the reviews, the marketers lose 50% of buyers. This shows that getting valuable and true reviews should be a priority for any business in e-commerce.

Amazon must ensure to their searchers that all the reviews are authentic, and reflect the experience the customers have had with the business on e-commerce.

The reason why fake online reviews are resilient?

One of the major and significant reasons is that the ROI made by fake reviews makes them highly profitable. An additional star on a business yelp rating can boost the revenue from 5% to 9%. The FTC has revealed that the expenditure on false reviews can deliver a payoff time twenty. A single automated operation can give rise to limitless fake reviews in the e-commerce landscape without even needing any programming skills.

There are numerous ways to measure which reviews are genuine and which are not.

1. If a product has a lot of good feedback that uses few emotional language or includes unconnected details.

2. If a product has five-star or exceptional reviews that have been posted before the product was released, or over a brief duration, they could be fake.

3. Various five-star reviews may have the same meaning, or the reviews could generally warrant friction—not revealing anything about each individual's specific experience.

4. Counterfeit reviews might contain lots of general keywords, too, or reference the brand's name multiple times.

5. Fake reviewers use a lot of repeated injection points similar to '!!' and '!!!'.

Big brands, five star ratings, best quality, and competitive benefits might also upload false and counterfeit reviews under aggressive competition. Eventually, individual buyers may post fake reviews to seek compensation. Amazon analyzes 10 million reviews a month, employing humans and machine-learning tools to put an end to the abuse and make sure to their buyers that every review on Amazon is genuine and fitting.

Question

Why are fake online reviews so resilient?

How can Amazon sort out the suspected fake reviews?

What strategy will Amazon adopt to overcome this issue?

Suggest a way to protect the Amazon customer from fake reviews?

TECHNICAL AND ECONOMIC STUDY FOR PV PROJECT ON SOCOTRA ISLAND, YEMEN.

Saif Serag and Adil Echchelh

Laboratory of Energetic Engineering and Materials, Ibn Tofail University, Kenitra, Morocco

ABSTRACT

Electric power is lack in Yemen and the fact that it does not cover all areas in Yemen, especially the remote islands such as Socotra, is one of the biggest problems that Yemen has faced for a long time, especially with high price of fossil fuels such as diesel, gasoline, and gas. The use of renewable sources of energy, like solar energy, is one of the best ways to cover the region's needs. principally since Yemen enjoys a high level of solar energy reception for long periods of up to 12 hours a day. In this research, we will give a technical and economic study of PV use to electricity production on Socotra and a study of the operating efficiency of each part of the plant, standard cost of electricity according to solar radiation efficiency in the region, and equipment efficiency for the project we will find that the project operating with high efficiency and at a lower cost compared to the high fuel prices, especially in the recent period.

Keywords – Solar Energy, LCOE, Renewable energy, Socotra.

I.　INTRODUCTION

The pollution resulting from power generation using fossil fuels has led to ozone hole expansion, global warming, and serious environmental problems that affect Earth's future, in addition to rising prices and threatening the depletion of fossil resources prompted many scientists and researchers to focus on studyingand developing renewable energy sources, most of which are photovoltaic projects due to their availabilityin all regions of the world[1][2].

In Yemen, recent conditions have led to a complete blackout of electricity and for many years, Yemenis have used photovoltaic sources to meet their individual needs, which were able to cover some of their simple needs for lighting, charging their phone batteries, and some small household appliances[1].However, these individual projects remain simple and do not have the ability to fully cover the needs of entire homes for electricity.

Yemen, like other developing countries, lacks complete information about the costs of major renewable resource projects, how to invest them, and their technical performance, due to the lack of a reliable scientificdatabase in order to initiate the establishment of these projects and the fear of not being able to invest these projects and compensate for their costs or failure. In this research, we will give a technical and economic study for the establishment of a photovoltaic power project so that this study will be applied on Socotra Island, one of the largest Yemeni islands located between latitudes (12.18 - 12.24) North of the equator and longitudes (53.19-54.33) East of Greenwich, which has an area of 3650 km2 Its population is approximately80,000 people so that we give a database that can be used to establish photovoltaic projects on the island orsimilar regions, villages and others[3][4], and encourage the use of these sources, especially with the availability of a large amount of solar radiation in region, which will be presented in detail during this research..

II.　MATERIALS AND METHOD

A.　*Solar Energy in Socotra*

Socotra Island has an annual direct normal irradiation equal 1852 kWh/m², and Diffuse horizontal irradiation equal to 877 kWh/m², while Global horizontal irradiation reaches 2226 kWh/m², and these values are sufficient to produce electrical energy with a power of 1.8

GWh/year when using solar panels with Power of 1000 kW. Figure 4 shows the hourly values of Direct normal irradiation for every month in2019[1][5].

Figure 5 gives details of Direct Normal irradiation for every month, while Figures 6 and 7 show the percentage of DNI and GHI, respectively, for every place of island in the map.

TABLE (1) SOLAR PARAMETERS IN SOCOTRA

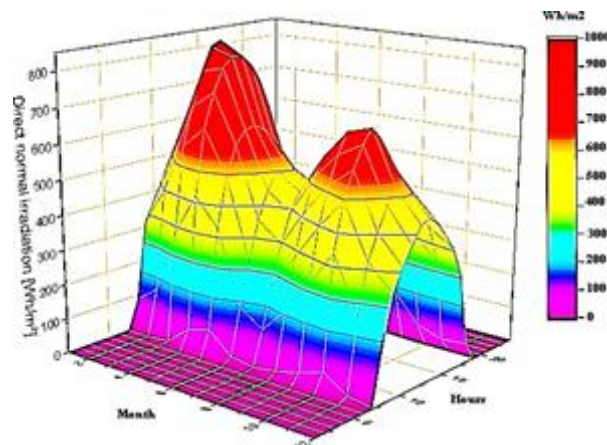| Descriptions	Amount	Unit
Direct normal irradiation	1852	kWh/m²
Global horizontal irradiation	2226	kWh/m²
Diffuse horizontal irradiation	877	kWh/m²
Global tilted irradiation at optimum angle	2220	kWh/m²
Air temperature	24.4	°C

Fig. 4 Hourly values of Direct normal irradiation for every month in 2019.
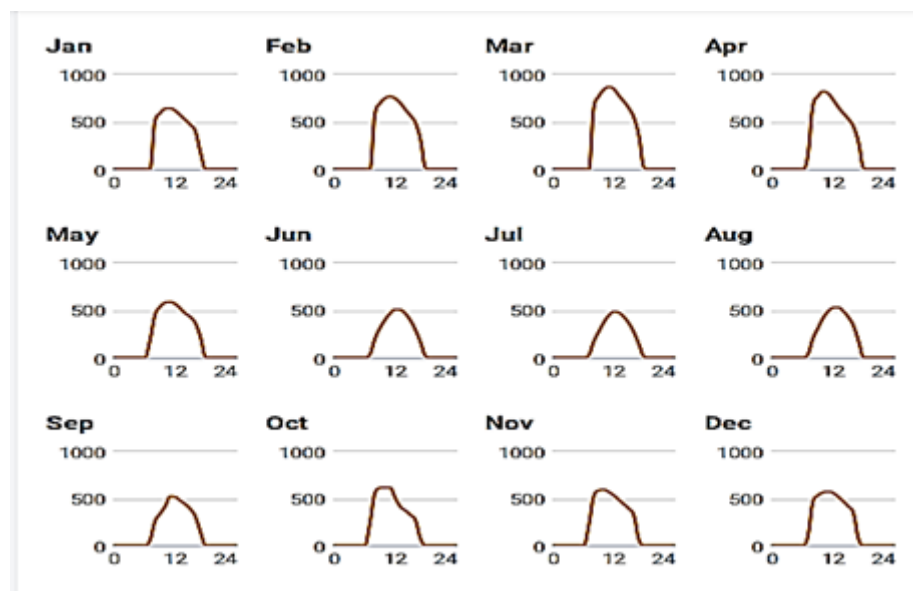

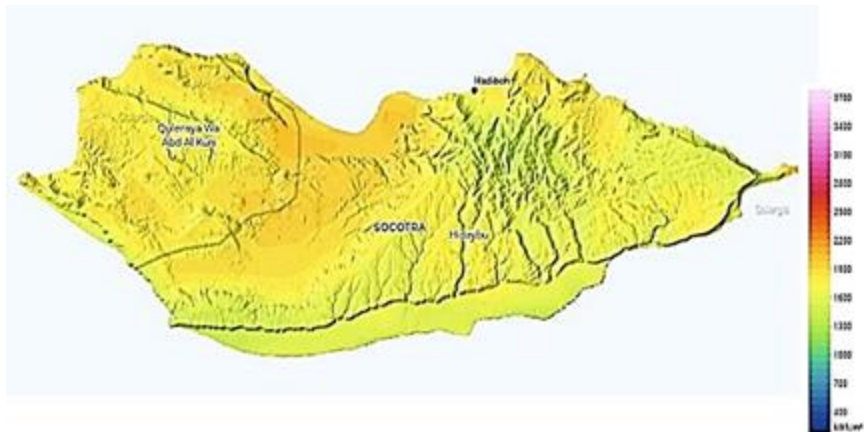**Fig. 5 Direct Normal irradiation for every Month**

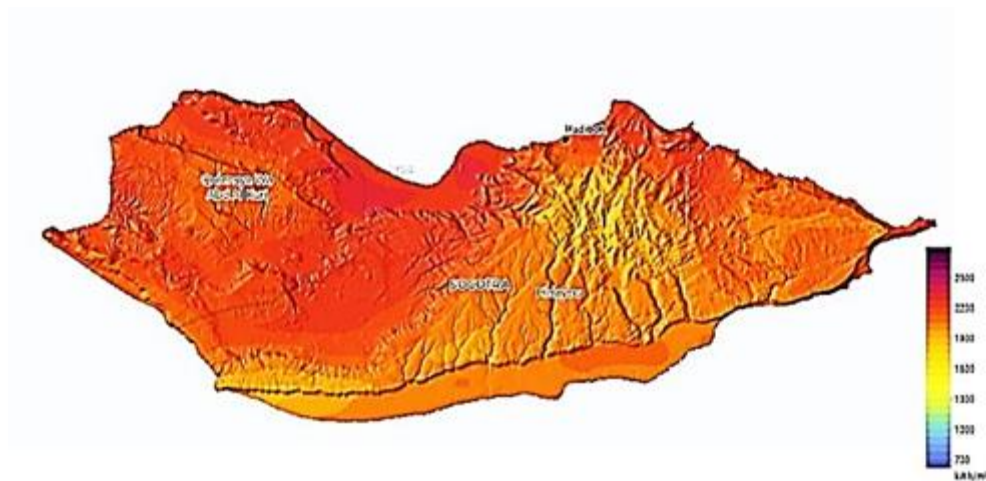**Fig. 6 DNI in Socotra map.**

III.

Fig. 7 GHI in Socotra map.

In order to know radiation solar effect method on the island, it is necessary to study area terrain horizon, azimuth angles, heights that have the greatest effect, and solstice months, which can be seen in Figure (8)
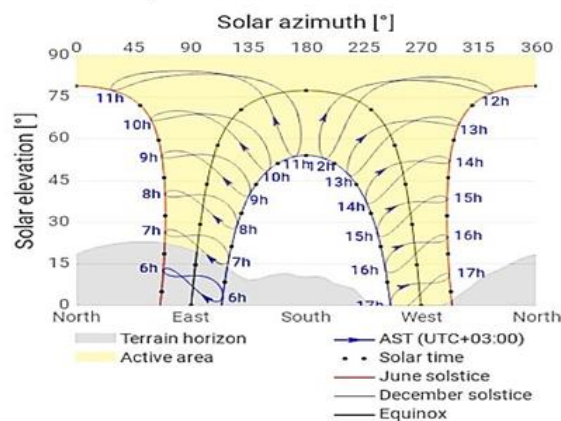

Fig. 8 Solar azimuth.

B. Levelized cost of electricity

It can to calculate of (levelized cost of energy) by Equation (4)[6].

$$LCOE = \frac{TOTAL\ COST\ AT\ LIFETIME}{TOTAL\ ENERGY\ PRODUCTION\ AT\ LIFETIME} \quad (4)$$

Equation (5) can also be used to calculate LCOE for every Renewable energy sources[7].

$$LCOE = \frac{\sum_{t=1}^{n}\frac{I_t + M_t + F_t}{(1+r)^t}}{\sum_{t=1}^{n}\frac{E_t}{(1+r)^t}}$$

(5)

Where It = investment expenditures, Mt operations and maintenance, Ft = fuel expenditures, Et electricitygeneration, r = discount rate, and n = system economic life.

IV. RESULTS AND DISCUSSION.

It is necessary to study the cost of solar energy to give a simplified view of the economics of this systemand to encourage the use of these sources to generate energy on Island, as the price of installing a kilowattof solar panels reached 2100 $/kW for a 10 kW system, the average price per watt for solar Panels ranges from 2.40 $/W to 3.22 $/W (2021), as it decreased by 20% over the past years, Table (2) [8].

Table (2) Cost of PV system at 2021

Description	Cost	Unite
Capital Cost	2100	$/kW
Operation and Maintenance	10	$/Year
Life Time	25	Years
Converter	300	$/kW
Battery	300	$/kW

All data relating to the photovoltaic system will be extracted using Homer simulation, in which all the economic technical data of the project will be shown

As default model for application, we will use generic (Flat plate PV solar panels), Storage system, andConverter as shown in the Table (6)

Table (6) PV system information

PV	Generic flat plate PV	91	kW
Storage	Generic 1kWh Li-Ion	193	strings
Converter	System Converter	35	kW

All costs calculated in system are according to accurate application in simulation program in Homer Pro. It is noticed that the project requires a capital cost of 258,812 $ for each of photovoltaic panels, which represented more than 33 % of the capital cost, storage batteries 64%, and the Converter approximately 2.6%, all the details of the costs are as indicated in Table

(7). Figure (13) shows the cost of capital, operating, replacement and salvage costs, and notes that the total cost of the project is 574351 $ and LCOEis 0.22 $/kWh, Table (8).

Table (7) Net Present Costs

Component	Capital	Replacement	O&M	Salvage	Total
Generic flatplate PV	190	0	14	0	190
Generic 1kWh Li-Ion	57,9	7,1	304	-155	369
System Converter	10,5	5,9	0	-1,3	15
System	259	13	304	-1,5	574

Table (8) Summery Cost

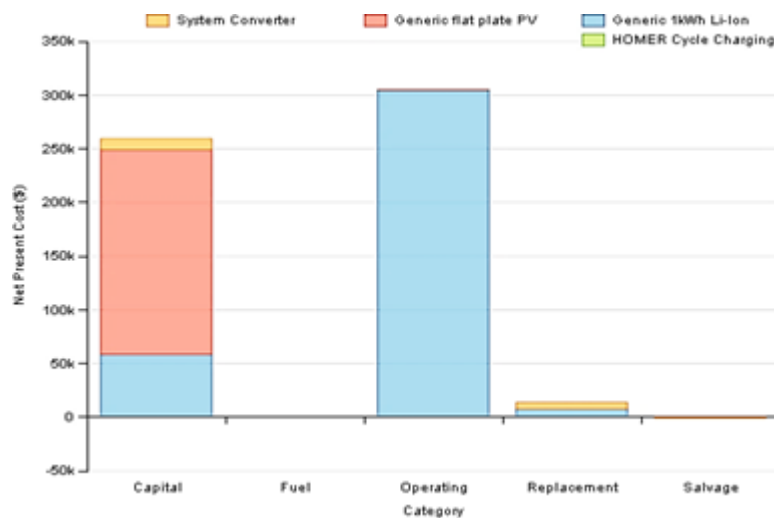| Total net present cost	574351	$
Levelized cost of energy	0.22	$/kWh

Fig. 13 Cost detail for PV system.

Table (9) shows the annual costs of photovoltaic system components, which are general flat panels, operation, maintenance, and storage system, where the total capital costs for one year are shown, which constitute 45% of total costs, replacement costs 22% of total cost, and 50% of the capital cost. Operation and maintenance costs are the largest, especially for storage system, with a rate of 53%, and a small recoverable rate for salvage, it is clear that the total cost is 36,461$. Figure (14) shows the nominal cash flow for 25 years, where the first capital payment is $ 260,000 (33% of total cost), remaining years are (20,000/year) paid in 25 year, replacement cost in the 13th and 15th year of project life, with a value of $ 10,000.

Table (9) costs of photovoltaic system components

Component	Capital	Replacement	O&M	Salvage	Total
Generic flat plate PV	12,088	0	1	0	12
Generic 1kWh Li-Ion	3,676	451	19,30	-10	23,4
System Converter	667	374	0	-85	956
System	16,430	825	19,30	-95	36,4
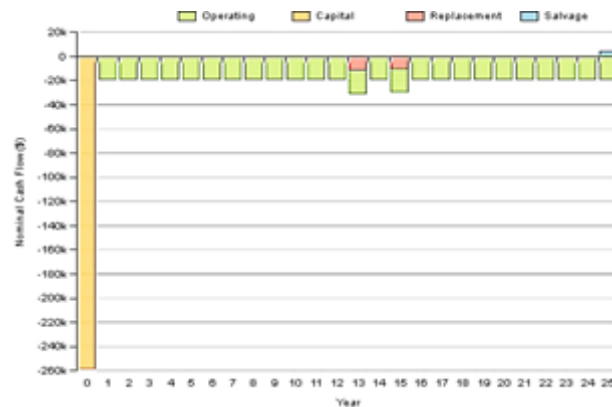
Electrical

Fig. 14 nominal cash flow for 25 years in PV system.

As for electrical production, primary load chosen is alternating current, which reaches an annual quantity of 82,806 kWh/yr, which is amount required to cover the region's need of electricity, Table (10).

Figure (15) shows total power production of PV station for each month, average monthly values range between 17.5 and 22.4 KW, while the observed maximum values for photovoltaic system production are

88.5 KW, which is the largest value that system reaches, minimum values are equal to zero, Figure (15) shows PV output during one year for every month. The number of operation hours for solar system is 4,440 hours per year and with a capacity factor of 21%, direct cost of solar system without storage and maintenance is $ 0.071 / kWh, Table ().

Table (10) AC primary load consumption

Load	Consumption(kWh/yr)
AC primary load	82,806
Total	82,806
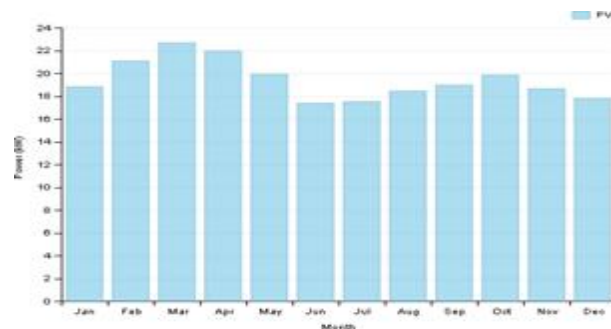
Fig. 15 power production of PV station for each month.

Table (11) Generic flat plate PV

Quantity	Value	Units
Rated capacity	91	kW
Mean output	19	kW
Mean output	465.91	kWh/d
Capacity factor	21.41	%

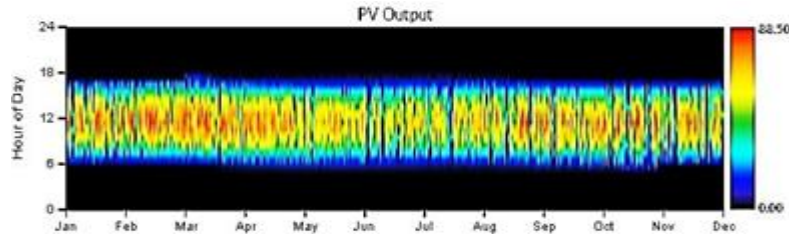| Total production	170057	kWh/yr
Minimum output	0.00	kW
Maximum output	88.50	kW
PV penetration	202.57	%
Hours of operation	4440	hrs/yr
Levelized cost	0.071	$/kWh

**Fig. 16 PV output in by kW.**

Battery Generic 1kWh Li-Ion

All the information about the storage system for 1k and lithium batteries is shown in Table (12) and the most prominent information is the added cost of the price of kWh of electricity, which is equal to 0.021

$/kWh and its average annual production is 45508 kWh / yr with an energy loss of about 4791 kWh./yr. Figure (17) shows the percentage that represents the battery charge, which is 100% between the hours of 10 to 4 days per day.

Table (12) Storage system details.

| Quantity	Value	Units
Nominal capacity	193	kWh
Usable nominal capacity	154	kWh
Autonomy	16	hr
Battery wear cost	0.021	$/kWh
Energy in	47845	kWh/yr
Energy out	43173	kWh/yr
Storage depletion	119	kWh/yr
Losses	4791	kWh/yr
Annual throughput	45508	kWh/yr
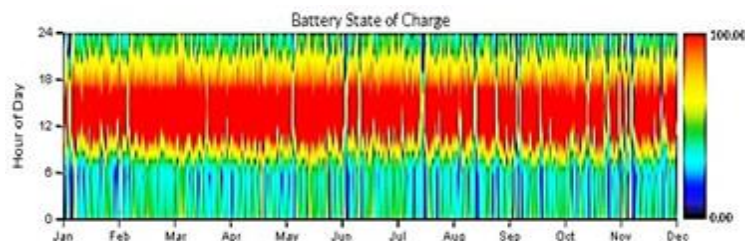
Converter and Rectifier
Fig. 17 Battery Charge state.

When choose Converter and Rectifier with a capacity of 35 KW, then all information details are as in Table (13). Figures (18,19) represent the operating methods of Inverter and Rectifier in hourly statement form for each month of the year.

Table (13) Inverter and Rectifier parameters.

Quantity	Inverter	Rectifier	Units
Capacity	35	35	kW
Mean output	5	5	kW
Minimum output	0	0	kW
Maximum output	28	35	kW
Capacity factor	13	16	%
Hours of operation	4,740	2,214	hrs/yr
Energy in	43,173	50,363	kWh/yr
Energy out	41,014	47,845	kWh/yr
Losses	2,159	2,518	kWh/yr

Figure (18) Inverter output power by kW.
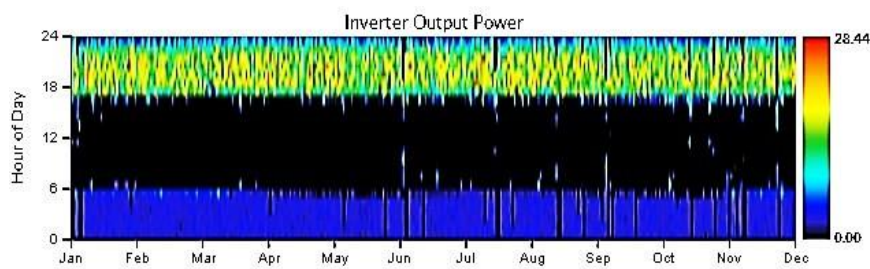
Fig. 18 Inverter output power by kW
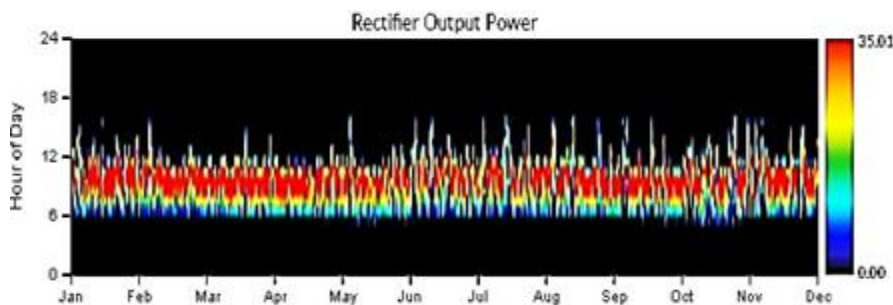
Fig. 19 Rectifier output power by kW.

V. CONCLUSION

Socotra island possesses a quantity of solar radiation up to 1852 kWh/m², which is sufficient to generate electric power to cover the region's need of electricity at a total cost of the project 574,351 dollars and a standard value of electricity 0.22 $/kWh, which is a low value compared to the large cost of generating electricity in the current situation in Yemen. The project to generate electricity using solar panels and storethe lithium battery is successful in the region and we encourage its use on Socotra Island and in all Yemenicities.

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FUNCTIONS AND PRINCIPLES OF THE ORGANIZATION OF AN INTEGRATED ELECTRONIC MEDICAL RECORD

Siddikov Isomiddin
Department of Information Processing Systems and Management Tashkent State Technical University, Tashkent, Uzbekistan, https://orcid.org/0000-0002-6983-6709, 100174

Bekturdiyev Sanjarbek
Department of Information Processing Systems and Management, Tashkent State Technical University, Tashkent, Uzbekistan, https://orcid.org/0000-0002-2916-2869, 100174

Ismoilov Otabek
Department of Information Processing Systems and Management Tashkent State Technical University, Tashkent, Uzbekistan, https://orcid.org/0000-0002-6553-3751, 100174

ANNOTATION

The paper considers the issue of creating a unified integrated information base in the field of healthcare. The main stages of the introduction of IT technology in medicine are proposed.

For this purpose, a variety of medical organizations and doctors to establish a mechanism for the exchange of information for the creation of electronic medical records.

Structuring and formalized medical information for an electronic medical record. Lists of classifiers and identifiers for processing medical information and the exchange of software between doctors and patients have been determined.

Keywords — medical, patient, electronic medical record (EMR), electronic medical history (EMH)

INTRODUCTION

The modern development trend of the oblast is largely determined by the widespread implementation of the achievements of modern information technology in various fields of human activity.

The purpose of using IT in the field of medicine is to automate patient management and service processes.

The relevance of this problem lies in the fact that in the field of belittling IT technologies are quite new, there is no holistic theory or a specific approach to solving the existing problems in this area.

In modern conditions, in the specialization of health care, there has been a significant increase in information resources. The use of IT makes it possible to reduce the cost of medical services, improve their quality and efficiency, which made it possible to create a healthy competitive environment in the medical services market sector.

At present, the development of health care and the improvement of medical care for the population is largely determined by the levels that do not seem possible without the use of information technology (IT).

Modern IT technologies have a sufficient set of modern tools to optimize the monotonous work of doctors of the polyclinic service and other medical institutions, the provision of specialized high-tech care, the provision of medical care, and also made management decisions in the field of health care, designed to develop in these areas of activity. [2]

The need to implement information systems directly into healthcare is due to several objective reasons that directly affect the quality and availability of medical care to the population. One of the most important circumstances of this kind is the progressive dynamics of primary morbidity.

Under the conditions of increasing workload, the efficiency of work of health care workers in general decreases. The increasing intensity of work leads to the emotional elimination of pedants, which negatively affects the quality of medical care and leads to a decrease in the quality of service and the number of positive reviews among patients. These factors lead to low efficiency of services, which will certainly be reduced during their audit (review and accounting), and the reduction in funding again leads to an even greater progression of inefficiency. In this regard, it becomes necessary to unload the doctor, to free him as much as possible from the routine filling of medical documentation during working hours, and to engage directly in the main activity. For this purpose, hardware and software systems are being introduced, with the help of which a medical worker can gain access to a unified information system of medical data, which stores personal data about a specific patient, which reduces the time for filling out documents and eliminates duplication of information in different environments. It should also be noted that IT capabilities make it possible to make medical care more accessible to the population, by simplifying the procedure for a remote appointment with a doctor, and distributing the flow of patients, thereby optimizing and reducing queues. It should be noted that research and design developments in this direction are of priority importance [4].

The purpose of this article is to study the creation of electronic medical records, which are the basis of a single integrated information base of a medical institution.

For this purpose, it is proposed to create electronic medical records that allow - to provide electronic information exchange between various medical organizations by medical workers who carry out diagnostics, treatment and prevention of a particular patient. In this case, not medical, but rather informational tasks are solved.

An integrated electronic medical record is a properly organized electronic archived data of patients, designed for reliable storage and operational regulated information exchange of data, and will also provide the fastest and most convenient delivery of all necessary information about the patient to the attending physician. When designing these integrated information systems, it will be necessary to solve various information problems related to the organization and standardization of information flows and formats of information exchange, differentiation of access rights, creation of a patient identification system, etc. [5]

The information collected in the electronic medical record serves primarily to ensure the continuity, continuity and quality of treatment, as well as for timely prevention and other measures to ensure the health of a particular individual.

The main purposes of an electronic medical record are:

Collection and storage in electronic form of the maximum available amount of information about the health of a particular individual.

Prompt provision of access to this information to authorized medical professionals, the individual himself and his authorized representatives in the most convenient and accessible form for a specific user.

Building based on this information specialized electronic services targeted both at medical personnel and at the individual himself and ensuring an increase in the safety and quality of medical care, as well as an increase in the quality of life and health of the individual.

They will also allow you to solve the following tasks:

- accounting of activities and automated construction of statistical and financial reporting of a medical organization based on primary medical documentation included in electronic medical records;

- management of a medical organization or health care in the region, as well as planning and policy development concerning medical organizations and health care in general;

- quality control and validity of the treatment, legal confirmation of the treatment;

- conducting scientific and clinical research based on the analysis of impersonal data extracted from electronic medical records;

- use of anonymized data of electronic medical records for training medical students, doctors and patients;

One of the key problems in creating an electronic medical record is the problem of structuring and formalizing medical information.

At the same time, in order to solve this problem, it is necessary to focus on the principle of gradualness. In this spray, it becomes necessary to form the list of fields and the corresponding classifiers gradually.

Moreover, for each new medical document, it is necessary:

Develop an XML schema for encoding and exchange of a structured, formalized part of the transferred medical document.

For each coded field in the document, define a classifier or a list of specific values allowed for this field.

Form a list of classifiers used for a medical document.

When filling out a document and using electronic communication and processing channels for its identification, have a list of identifiers.

The main purpose of the EHR is to provide detailed health care records that support current and future care delivered by the same or other physicians. This data will provide information exchange between doctors involved in the patient's treatment. The main subjects of EHR are the patient (consumer) and the doctor (doctors). In this case, any other purpose for which the EHR is used is considered secondary. The main components of the EHR are shown in Fig. 1.

Fig. 1. The main components of HER.

The electronic medical record (EHR) of the patient allows solving the problem of communication between the user and the doctor and has the following advantages:

1. When using EHR, the attending physician of a medical institution quickly finds the necessary information, and also adds new information about all cases of providing medical care to the patient. In this automated mode, the necessary medical certificates and documents for the patient are generated.

2. The introduction of EHR in medical institutions eliminates the problem associated with sending documents from one medical organization to another.

3. The main distinguishing feature of the EHR is the "dynamic" part of the map, i.e. the doctor at any time can view and receive the necessary information about the patient in real-time.

4. The doctor and the patient gain access to the EHR using the user's unique biometric data.

5. Communication with the patient's electronic medical record is carried out using cloud technology.
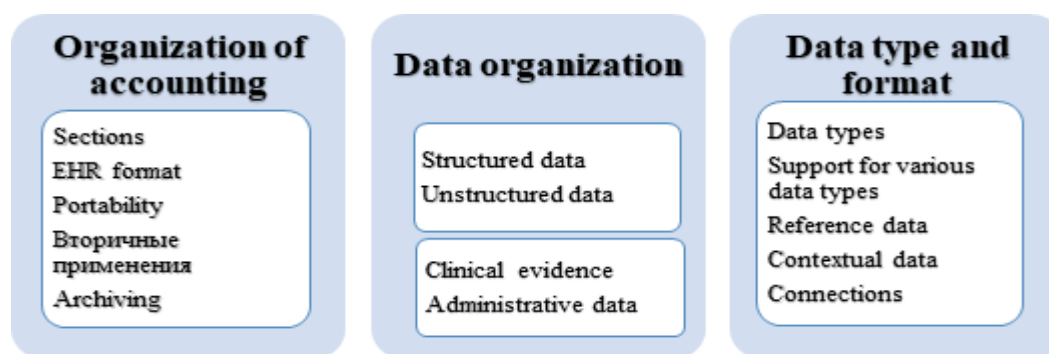
Organization of accounting	**Data organization**	**Data type and format**
Sections EHR format Portability Вторичные применения Archiving	Structured data Unstructured data Clinical evidence Administrative data	Data types Support for various data types Reference data Contextual data Connections

Fig. 2. The structure of the electronic medical history.

EHR contains the following information: personal data of the patient, current condition of the patient, doctor's prescriptions and specialist consultations, functional and laboratory diagnostics, drug treatment, examination plan, observation diary, epicrisis. Each section has its characteristics, for example, the quantitative parameters of the biochemical composition and blood analysis, the norm (depending on many parameters), the results and the time of appointment by the doctor. This section is characterized by a set of indicators: identification code, identification name, date and time of the procedure, result, clinical data, media data. By the purpose of the EHR section, the section parameters are divided into certain types: text, numerical, quantitative, calculated, selected from the dictionary (reference book), images. The architecture of the electronic medical history (EMH) is shown in Fig. 2. The structuring of the information contained in the EHR is designed to provide users with the ability to search for data and view it in accordance with their requests.

Let's consider the main purposes and structures of individual sections. Structured data will provide the ability to store data in the form of lists, tables, hierarchical structures, simple name-value pairs, providing the ability to store multiple values of any parameter.

Unstructured data makes it possible to ensure the inclusion of narrative free text, support search in unstructured data (textual and non-textual) and ensure the inclusion of structured text in such data, include comments in stored data, provide a means for linking selected elements at various levels with comments and other elements.
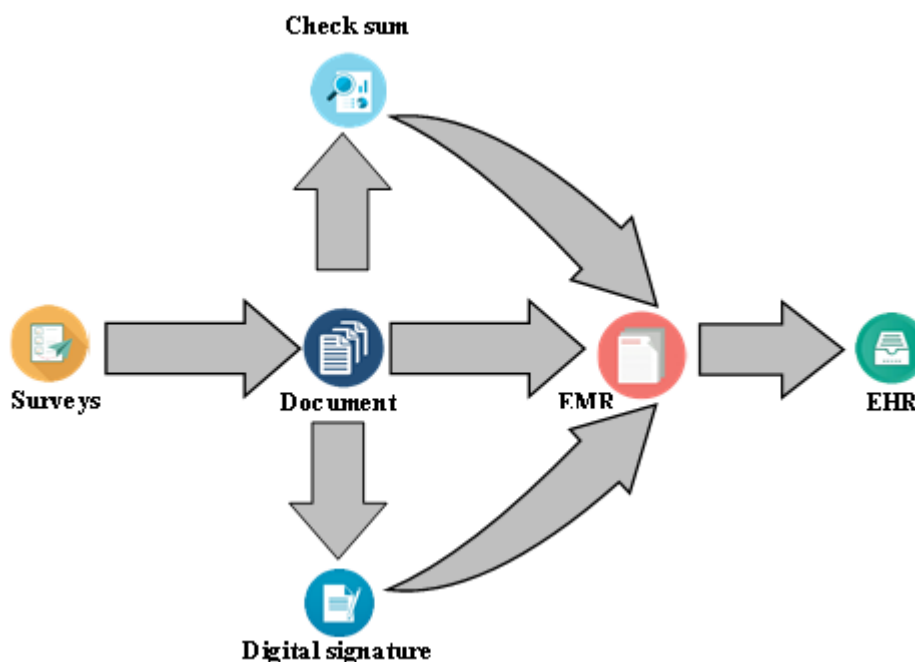
Fig. 3. The mechanism of EHR formation.

Data types: designed to support and define the logical structure of numerical and quantitative information, including the operation of various data. These physical quantities must have a certain measure of accuracy, providing the ability to express in percentage terms in quantitative form, as well as maintain approximate, partial and fuzzy dates and times, record planned events or actions, record time at the moment, time and elapsed time. some event, as well as the registration of the duration in which this registration is made.

Support for various data types: provided by the integration of data types defined in other systems.

Reference Data: remapping to support reference data such as standard ranges or attributes and context-specific to a specific patient or dimension.

Content data: Maintain the registration of a context of independent data associated with the date and/or time when the event occurred; with the date and/or time when the event was registered; with the attending physician responsible for registering the event, with the place where the event was recorded; with the reason for filling in the information related to the event; with the protocol that is associated with the registered information. The structure of the algorithm for creating an electronic card record is given in Fig. 3

The use of such systems means significant savings in administration and management, automation of the clinic's business processes:

– lower costs for IT infrastructure: no need to install expensive software;

– accessibility: from anywhere in the world where there is access to the Internet;

– ensuring the security of information;

– gaining full control over a medical organization: effective management of medical institutions, including those with an extensive branch network.

CONCLUSION

In this work, certain areas of the use of information technologies in the management system of a medical organization were considered. The use of health information resources as the basis for organizing a single information space in the field of health protection will be able to bring the medical services market to a qualitatively new level.

Other hand, a medical record in electronic form is located in the information system and represents a certain proforma, that is, a list with sections and subsections that are filled in by the medical staff, depending on the tasks to be solved. The use of the electronic medical record system by medical institutions requires from workers a minimum basic knowledge in the field of information technology and the availability of computer skills and office equipment. There are two ways to resolve this issue.

First: in secondary specialized and higher educational institutions of a medical profile, include the subject "Information technology" as a state curriculum.

Second: short-term courses in information technology can be organized for medical practitioners with the issuance of an appropriate certificate.

As the head of state noted, the introduction of an electronic medical record will allow doctors to significantly save time in paperwork and thereby expand their ability to work directly with a patient. And the sooner we start using EHR, the more successful the health outcomes will be.

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FACTORS AFFECTING THE DEVELOPMENT OF COMMUNITY-BASED TOURISM IN THE NORTHWEST REGION

Ai Huu Tran
Vhu.edu.vn

Nam Vong Thanh
Hcmute.edu.vn

Tuan Tran Duc
Vhu.edu.vn

ABSTRACT

Tourism is considered one of the world's largest industries, accounting for about 9% of global GDP, contributing to economic growth and creating job opportunities, especially in developing countries. The potentials of cultural tourism such as cultural identities, customs, and unique festivals of about 22 ethnic minorities (Thai, Muong, Mong, Giao, Sinh Mun, Kho Mu...), make a difference especially for tourism products of the Northwest region.

Visitors' perceptions were analyzed through a questionnaire survey conducted in 2021. The sampling method used in the survey was a random selection. We need an industry that provides a way to minimize ecological impacts, benefit local communities and reduce poverty - an industry that is reflected in its organization and performance in the economic sectors of tourism, environment, and culture the role of community tourism with high responsibility. Therefore, especially important education through knowledge sharing and awareness-raising in rural mountainous areas is necessary and has practical significance.

Keywords: community tourism, cultural identity, ecological impact reduction, Northwest region, Vietnam.

JEL classification: M31; F18; O44.

1.   INTRODUCTION

The tourism industry is viewed as an economic sector that is mainly based on businesses that provide goods and services to tourists, most of which are small-scale. Community-Based Tourism (CBT) is a form of tourism that empowers communities manage tourism to achieve outcomes that contribute to community well-being, including economic, social, and environmental sustainability school. Therefore, community-based tourism not only involves a partnership between tourism businesses and the community to benefit both parties but also involves the support of the community and the community for small-scale tourism businesses, from which, businesses commit to supporting projects for community development.

In 2019, Vietnam's tourism industry made a miracle to welcome 18 million international visitors for the first time, an increase of 16.2% compared to 2018. In the period from 2015-2019, the number of international visitors to Vietnam increased by 2,3 times, from 7.9 million to 18 million, the average growth rate is 22.7% per year. Vietnam is constantly in the group of countries with the fastest tourist growth rate in the world. Along with that, the World Travel Awards also honored Vietnam as Asia's Leading Destination for 2 consecutive years 2018-2019, significantly contributing to the country's industrialization and modernization, improving and enhancing the quality of life of the people.

According to Creswell, J.W. (2007), CBT is tourism that is owned, operated, and managed or coordinated at the community level by the community, which contributes to the prosperity of

the community through supporting sustainable livelihoods and preserving traditional socio-cultural values and cultural and natural heritage resources.

Community-Based Tourism (CBT) appeared in Vietnam since the 1980s in some places such as Mai Chau - Hoa Binh, Sa Pa - Lao Cai; Hoi An - Quang Nam and some provinces of the Mekong Delta have brought many economic benefits to the local people. Some typical types of community tourism include visiting ancient craft villages, learning about culture and customs. This model is being applied popularly in the northern mountainous provinces of Vietnam such as Hoa Binh, Lao Cai, Ha Giang and attracts many tourists to visit schedule.

The Northwest region, including the provinces of Hoa Binh, Son La, Dien Bien, and Lai Chau has a lot of potential for the development of community-based tourism due to its rich and diverse natural resources such as hilly topography. Higher mountains have created many beautiful caves (Hoa Tien, Hoa Binh; Bat cave, Moc Chau, Son La; Pa Thom, Dien Bien; Tien Son, Tam Duong, Lai Chau...), suitable for some type of community tourism associated with mountain climbing and caving. The climate is divided into two seasons, according to humidity (rainy season and dry season), four seasons, according to temperature (spring, summer, autumn, winter), the average temperature/year is about 23C, humidity is over 80%, average rainfall flasks from 1,200-1,800 mm; many plateaus with altitudes above 1,000m above sea level (Moc Chau and Son La Plateaus (1,050m); Sin Ho, Lai Chau (1,500m); Sin Chai, Tua Chua, Dien Bien (1,596m)... Suitable for the development of some types of community-based tourism experiences in the fields of agriculture and resort.

2. THEORETICAL BASIS

Local communities play an important role in tourism development, they are the focal point providing infrastructures such as accommodation, food and beverage services, information, transportation, and other services. The term "community" has been mentioned since the 19th century, so far there have been many scholars interested in research, such as Hillery, G, 1955; Kibicho, W. (2008), Ivanovic (2009) … the research usually revolves around the following three issues:

Firstly, many studies suggest that communities are often associated with a specific geographical area, whereby a community can be identified and described on a geographical map, named, bordered, landmarks, and their culture, customs, and habits (Ivanovic, 2009). As Hillery (1955) pointed out, there are at least ninety-four different definitions of community, however, in his view, the community includes people who are socially and culturally involved in an area geographically and have one or more common relationships.

Second, some studies have addressed the view of a community consisting of people who may or may not live-in close proximity to each other (geographically indeterminate) but who share common characteristics or interests (functional community). In this view, the community can be understood as a network of existing or potential relationships of individuals, groups, and organizations who share or are likely to share common goals and interests (Bush, R., Dower, J., & Mutch, A, 2002).

Third, virtual community, appearing with the development of modern media in recent decades, the concept of community has transcended the limits of time, space, and geography. Virtual communities are understood as groups of people with common interests, who interact with each other through a system of websites and social networks using computers and modern digital technology, linked with each other certain geographical boundaries or associations of peoples (Howard Rheingold, 1993).

Research by Milne et al., (2001) has shown that a community is a group of people living in the same locality, may be permanent or non-resident, but have a common interest, sharing,

association, and interaction work together. Telfer and Shrpley (2008) argue that many of the perspectives can be applied to local communities in tourism development, local communities can be considered as the main attraction for skills development and knowledge, while there are those who see the community as simply a place where tourism activities take place.

Table 2.1: Summary of studies on stakeholders in community tourism development found in previous studies

STT	The parties relate	Significance of the study	Research author
1	Citizen	Search to improve call quality live, free from exploitation, injustice in the community	Fusco, và cộng sự, (2009); Murphy (1985); Armstrong, R. (2012); Sheldon và Var (1984);
2	local Tourists	Looking for a quality travel environment, self-accumulate and increase travel experience in a safe and attractive environment.	Swarbrooke (1999); Farrell & Marion (2001); Belisle, F.J. & Hoy, D.R. (1980); Moscardo, G. (2011),
3	Management agencies Power of the State	The objective is to build a system of legal and policy corridors to improve efficiency and productivity, reduce the use of resources, prevent environmental pollution, promote local labor resources, and ensure security, safety, manage the behavior of airlines and handle violations	Gracia (2013), Chen, C. F., & Chen, F. S. (2010), Sofield (2003); Moscardo, G. (2011); Moscardo, G. (2011); Timothy (1998); Clark, T. (1984),
4	Enterprise business in the field of tourism	Seeking long-term survival in business, while caring about a personal image, providing tourists with high-quality products and services, minimizing the impact on the environment.	Nazrin (2012); Brennan, F, & Allen, G. (2001); Eagles và cộng sự (2002);

3. RESEARCH MODEL AND HYPOTHESIS

3.1. Research hypothesis

On the basis of a review of previous studies, especially that of (Veronica Garcia Lucchetti, 2013; Suthamma Nitikasetsoontorn, 2014; Sila Karacaoğlu and Kemal Birdir, 2017), combined with the research context in Vietnam, the author The research hypothesis is proposed as follows:

1) The attraction of the community tourist spot (ACTS)

Attractive tourist destinations are considered to be those that can attract and attract tourists' interest (Pearce, 1989), in the community tourism business, these attractive factors can be natural resources that still retain their wild features, historical monuments, architectural works that still retain their original values, cultural features, lifestyles, and traditional customs of indigenous people… or intangible factors such as the tourist's spiritual experiences at the destination. From there, the author develops the following hypotheses:

H1: *The attractiveness of natural attractions (landscape, weather, climate...) has a positive influence on the development of community tourism;*

2) Accessibility to community attractions (ACA)

In terms of geographical location with special characteristics of the Northwest as described, transportation between localities in the region as well as other regions face many difficulties, which may be certain barriers affecting affect the development of community tourism in the region. Inheriting the research of scholars Christina Geng-Qing Chi et al (2008); Duk-Byeong

Park et al., (2015); Suthathip Suanmali (2014), combined with expert consultation, the author builds the hypothesis:

H2: *Accessibility to CBT has a positive impact on CBT development.*

3) Infrastructure and services of community attractions (ISCA)
In the community tourism business, the infrastructure and services of a community tourist site can be built specifically for tourism activities or as amenities shared with people's daily lives locally (Smith, 1988). This is a factor that affects the psychological and satisfaction of the tourists when approaching the destination. In fact, the infrastructure and services of many community-based tourist attractions in the northwest region are still limited and lack synergies compared to the common ground reception area, public sanitation..., which partly affects the development of community tourism in the region. The author formulated the following research hypothesis:

H3: *The infrastructure and services of the community-based tourist destination has a positive impact on the development of community-based tourism.*

4) Knowledge and skills about tourism of local people (KSTP)
Research by many scholars (Smith, 1992; Moscardo, 2011) has shown that in order to improve community capacity in tourism development, participants must have the knowledge, and skills, thereby helping them to think and act in the most appropriate ways. Skills and knowledge are considered a supporting tool for community development and an important factor for CBT development, it is really necessary for anyone participating in CBT activities, from local government officials or community leaders to local people.

Research by Moscardo (2011) pointed out that in most developing countries, the lack of capacity in the community is recognized as a barrier to promoting CBT development. According to Moscardo (2011), community capacity building plays a central role and plays an important role in the tourism business, in which, lack of tourism knowledge is an important barrier that not only directly restricts participation in tourism participation of local people in tourism development, but also contributes to other obstacles such as dependence on tour arrangements of companies outside the community. Therefore, in order to improve the capacity of local communities in developing CBT, it is necessary to improve knowledge and skills in tourism, the author develops the following hypothesis:

H4: *Local people's tourism knowledge and skills have a positive influence on the development of community tourism.*

5) Cooperation and support from outside the community (CSOC)
Cooperation and support from outside the community are seen as an opportunity for the local community to approach, creating advantages for the successful development of community-based tourism actors outside the community often mentioned in research such as local government; tourism businesses; non-governmental organizations. These are also the organizations that experts believe have much cooperation and support for the local community in the northwest region to develop community-based tourism over the years. In fact, each object is different, has different impacts, cooperation, and support for the development of local community-based tourism, with the specifics of awareness and views of local people in the area. In the northwest region, experts suggest dividing this factor into 3 groups: (1) cooperation and support of local authorities; (2) from the tourism business, and (3) from NGOs. The author formulated the following hypothesis:

H5: *The support and cooperation from outside the community play an important role, having a positive impact on the development of community tourism.*

3.2. Research models

From the results of the research overview and the selection of the theoretical basis for the study, the author synthesizes a number of criteria to evaluate the development of community tourism as well as the factors affecting the development of community tourism such as: after:

- For the criteria for assessing the development of community tourism, including four economic, socio-cultural, and environmental indicators, meeting the needs of tourists;

- For the factors affecting the development of community-based tourism, the initial model proposes 8 factors including (1) attractiveness of the tourist destination; (2) accessibility to tourist attractions; (3) the convenience of the tourist destination; (4) participation of local people; (5) local people's tourism knowledge and skills; (6) community leaders; (8) cooperation and support from outside the community.

Thus, after consulting experts, the results of the theoretical model studying some factors affecting the development of community-based tourism in the Northwest region of Vietnam include 5 groups of factors: (1) Attraction of the community tourist spot (ACTS); (2) Accessibility to community attractions (ACA); (3) Infrastructure and services of community attractions (ISCA); (4) Knowledge and skills about tourism of local people (KSTP); (5) Cooperation and support from outside the community (CSOC).
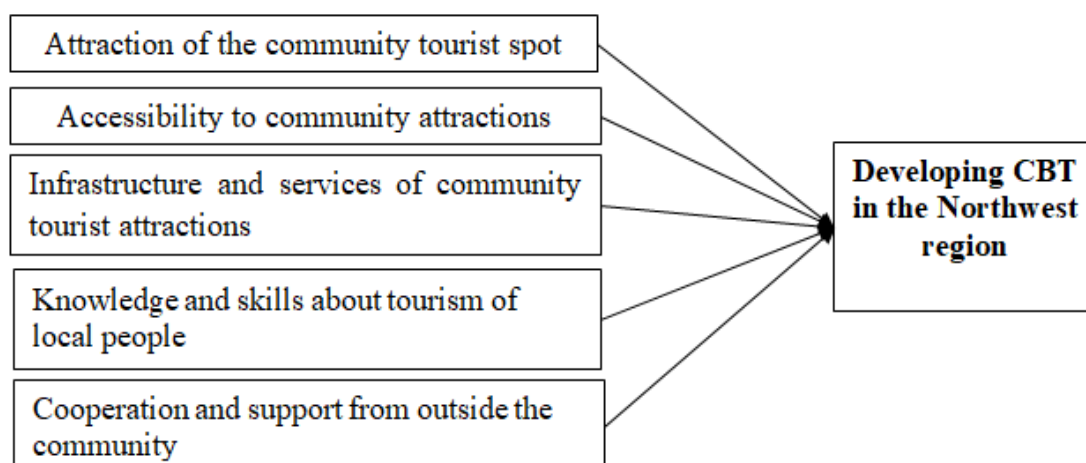

Figure 1: Proposed model to study some factors of community-based tourism development in the Northwest region of Vietnam

3.3 Research Methods

Research is carried out based on a combination of quantitative research and qualitative research. In which theoretical systems are synthesized from research documents and scientific articles. In particular, this study investigated tourists' perceptions of community-based tourism with its responsibility to reduce environmental impacts. The survey was carried out and the collected data were processed through statistical analysis of SPSS software. The study analyzed descriptive statistics and exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and linear structural modeling (SEM) to find out the factors that affect perception cultural identity, and historical preservation. Tourists and local communities are aware of conservation, restoration, and development of traditional industries, cultural values, customs, and habits of local people, and quality of life is maintained, and enhanced (Tuffin, Bill., (2005; Tasci et al, 2013),

The survey results were analyzed through SPSS software, the findings from this quantitative analysis are the basis to confirm the importance and relationship between the factors affecting

the development of community-based tourism. research. Due to the difference in research areas, cultures, customs and practices as well as socio-economic development levels in different regions and countries, it is possible that the scales in step 1 are not really suitable for this study. research area. Therefore, the observed variables of the scales are adjusted and supplemented by qualitative research through expert consultation, focus group discussions, in-depth interviews with local people, community leaders, representatives of local communities. organized in the community, tourists, combined with observation techniques. After adjustment, the scale was tested to be complete and included in the questionnaire for official quantitative research.

The official survey form was distributed to investigate 400 questionnaires to the research subjects in accordance with the control information mentioned above at 11 community tourism sites in 4 provinces of Hoa Binh (2 points), Son La (4 points). points), Dien Bien (3 points), Lai Chau (2 points). The collected data were analyzed and tested using Cronbach's Alpha reliability coefficient, exploratory factor analysis (EFA). According to Nunnally & Burnstein (1994), observed variables with a correlation coefficient between variable and total (item-total correlation) in Cronbach's Alpha test less than 0.4 will be removed and observed variables are weighted (factor loading) less than 0.4 in EFA is also further removed (Gerbing & Anderson, 1988). The remaining observed variables will be included in the multivariate regression analysis model and used to discuss the research results.

3.4. Data analysis

Qualitative data collected from group discussions and in-depth interviews were synthesized and classified according to each research criteria and content. The results obtained from the research subjects were compared and evaluated, in consultation with experts to unify the contents to suit the characteristics of the research area. The qualitative research component is the first stage of the research process, at the end of this phase, the author has enough grounds to revise the hypotheses, factors, variables, scales, and research models, and at the same time adjust and complete the questionnaire for the next phase of quantitative research.

- **Quantitative research**

Data were collected through a distributed questionnaire. All data were collected between 6/2020 - 7/2020. The questionnaire consists of 34 questions, in which 30 questions include observed variables on 5 independent scales and four observed variables for the dependent scale of community tourism development factors in the Northwest.

The survey, conducted during the summer months of 2020 was conducted through paper questionnaires in person or by emailing them to potential respondents. There were 400 face-to-face questionnaires distributed, a total of 358 questionnaires were collected. There were 27 questionnaires that were discarded due to incomplete information in them. So, in the end, 331 questionnaires were used for further analysis.

Table 1 - Summary of scale test results (Source: Authors' own calculations)

Components	Variables	Cronbach's Alpha	% Of variance	Evaluation
Attraction of tourist attractions	7	0,891		
Accessibility to tourist attractions	6	0,897		
Infrastructure and services of community tourist attractions	5	0,855	68,280	Qualified
Tourism knowledge and skills of local people	6	0,809		
Cooperation and support from outside the community	6	0,841		

Developing CBT in the Northwest region	4	0,683	51,600	
Total	**34**			

The preliminary assessment is performed using a scale with Cronbach's alpha reliability coefficient and exploratory factor analysis method, presenting indicators to check the appropriateness of the research model such as F-value, R2, correlation coefficient, variance inflation factor (VIF), and hypothesis testing. Then, we tested the fit of the model, built multiple regression equations, and tested the hypotheses. Finally, we tested the reliability of the scale using Cronbach's Alpha, EFA, CFA, linear regression analysis, and SEM.

• Confirmatory Factor Analysis (CFA)

Regarding the overall relevance, factor analysis confirmed that this model has a chi-squared statistical value of 203.828 with 122 degrees of freedom (p = 0.000). The relative chi-squared for degrees of freedom CMIN/def is 1.671 (<0.2). Other indicators are: GLI = 0.928 (> 0.9), TLI = 0.976(> 0.9), CFI = 0.981 (> 0.9) and RMSEA = 0.049 (< 0.08). Therefore, this model is suitable for market data. This also allows us to say that there is a disorientation of the observed variables. Convergence values, standard weights of all scales are > 0.5 and statistically significant at p < 0.5. Therefore, the scales achieve convergent values.
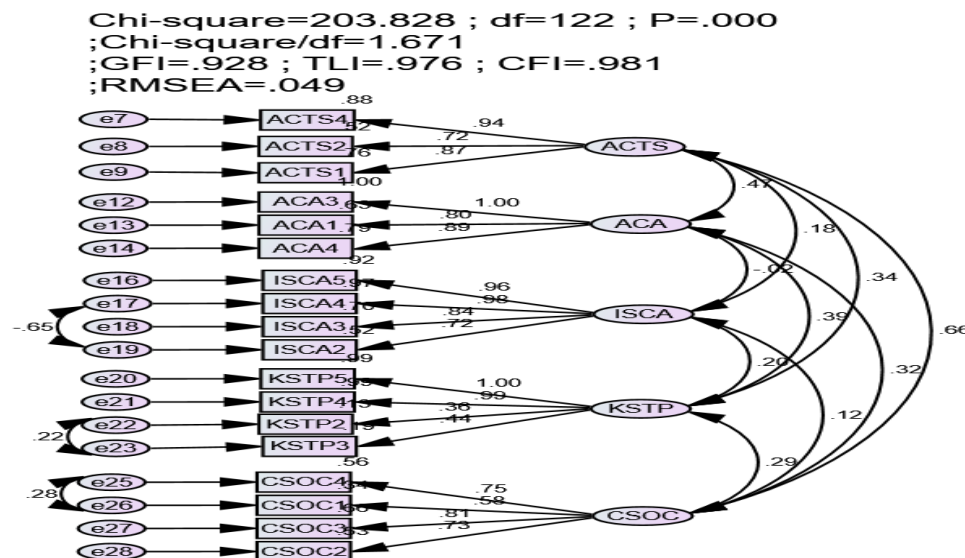

Figure 1 - CFA analysis results

(Source: Authors' own calculations)

Table 2 - Results of estimating the causal relationship between the factors of developing CBT in the Northwest region (Source: authors' own calculations)

Correlations			Estimate	S.E.	C.R.	P
ACTS2	<---	ACTS	0.768	0.052	14.694	***
ACTS1	<---	ACTS	0.935	0.046	20.481	***
ACA1	<---	ACA	0.81	0.041	19.92	***
ISCA4	<---	ISCA	1.03	0.025	41.792	***
ISCA3	<---	ISCA	0.916	0.039	23.274	***

ISCA2	<---	ISCA	0.698	0.044	15.835	***
KSTP4	<---	KSTP	0.983	0.014	69.89	***
KSTP2	<---	KSTP	0.307	0.048	6.354	***
KSTP3	<---	KSTP	0.394	0.049	8.046	***
CSOC1	<---	CSOC	0.816	0.079	10.351	***
CSOC3	<---	CSOC	1.029	0.087	11.85	***
CSOC2	<---	CSOC	0.995	0.09	11.054	***
ACA4	<---	ACA	0.847	0.032	26.819	***

- **Structural Equation Model Results**

The research model includes 8 concepts, after CFA and SEM testing there are 5 satisfactory concepts, including 5 independent concepts: (1) Attraction of the community tourist spot (ACTS); (2) Accessibility to community attractions (ACA); (3) Infrastructure and services of community attractions (ISCA); (4) Knowledge and skills about tourism of local people (KSTP); (5) Cooperation and support from outside the community (CSOC).In contrast, developing CBT in the Northwest region (DCBT) is a dependent concept.

The results show that this model has a chi-squared value of 367.626 with 167 degrees of freedom (p = 0.000). The relative squared value of degrees of freedom CMIN/def is 1.789 (<2). Other indicators include: GTI = 0.921 (> 0.9), TLI = 0.945 (> 0.9), CFI = 0.956 (> 0.9), and

RMSEA = 0.038 (< 0.08). Therefore, this model achieves compatibility with the collected information. Factors include (1) Attraction of the community tourist spot (ACTS), (ES = 0.271, P = 0.000); (2) Infrastructure and services of community attractions (ISCA), (ES = 0.184, P = 0.003); (3) Accessibility to community attractions (ACA), (ES = 0.166, P = 0.000); (4) Cooperation and support from outside the community (CSOC), (ES = 0.150, P = 0.001); (5) Knowledge and skills about tourism of local people (KSTP), (ES = 0.089, P = 0.008).
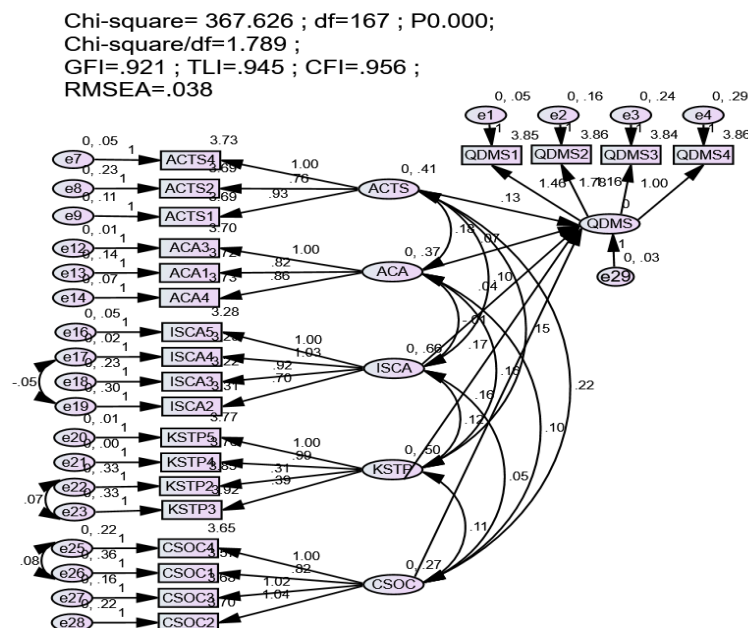

Figure 6 - The model structure after final calibration in SEM

Table 3 - Results of estimating the causal relationship between the factors of developing CBT in the Northwest region (Source: authors' own calculations)

		Relationship	Estimate	S.E.	C.R.	P	Label
DCBT	<---	ACTS	.066	.033	.187	.032	Yes
DCBT	<---	ISCA	.041	.028	.574	.015	Yes
DCBT	<---	ACA	.998	.139	7.162	***	Yes
DCBT	<---	KSTP	.040	.047	1.121	.011	Yes
DCBT	<---	CSOC	.052	.018	2.852	.002	Yes

The bootstrap method is usually used to test the model estimates, with the pattern repeatedly being N =1000. The estimation results for 1000 samples averaged together with the deviations are presented in Tab. 4. CR has a very small absolute value, thus, it can be stated that the deviation is very low, while also being not statistically significant at the 95% confidence level. Thus, we can conclude that the model estimates can be trusted

Table 4 - Results estimated by means of bootstrap, N = 1000

(Source: authors' own calculations)

		Parameter	SE	SE-SE	Mean	Bias	SE-Bias	CR
DCBT	<---	ACST	0.032	0.001	0.084	0.001	0.001	1
DCBT	<---	ISCA	0.041	0.001	0.054	-0.003	0.001	-0.3
DCBT	<---	ACA	0.029	0.001	-0.003	0.001	0.001	1
DCBT	<---	KSTP	0.021	0.001	-0.028	0.002	0.001	0.3
DCBT	<---	CSOC	0.052	0.001	0.084	-0.002	0.002	-1

- **T-test and ANOVA**

According to the results of the T-test and ANOVA analysis, several demographic variables were statistically significant in this study: age group, education level, and income level. This means that there are differences in CBT development factors by age group, education level, and income level (Ai Huu Tran, 2017). The analysis results also show that there is no statistically significant difference in the factors of community tourism development between different gender groups and marital status.

The research results were again analyzed and discussed with experts to compare with the conclusions of previous studies and the actual results of the research area, as a basis for the author to make proposals, recommendations, and conclusions that are scientifically grounded.

8. CONCLUSION

Summary of research contents and results shows that the Northwest region has many potentials and strengths to develop community-based tourism, but those potentials and strengths have not been effectively exploited, contributing to the development of community-based tourism worthy part is a spearhead economic sector, promoting the economic and social development of the region. Stemming from the theory and practice of community-based tourism development in the northwest region, it is carried out with the goal of studying some factors affecting the development of community-based tourism in the northwest region based on the viewpoint of assessing, knowledge of local people.

To achieve that goal, a review of previous studies related to the development of community-based tourism was reviewed, and research gaps were identified; synthesize theoretical issues on the development of community tourism and the factors affecting the development of community tourism; synthesis and selection of theories for the research, in which three theories used by the

author for the research are the theory of sustainable development; stakeholders and expectations theory.

The research results have built a set of scales to evaluate the development of community-based tourism in the Northwest, this set of scales ensures systematic and suitable for the development of community-based tourism in the Northwest region. Pointed out the groups of factors and variables that have an impact on the development of community-based tourism in the northwest region, and at the same time determined the order of influence of these variables and scales on the development of community-based tourism. Thereby helping stakeholders have a clearer view into the process of planning, implementing, implementing as well as checking and evaluating community-based tourism development in the northwest region.

In addition, from the research results, combined with the specifics of the research context, some recommendations with implications for governance with stakeholders in the development of community-based tourism in the northwest region is proposed to provide the basis for appropriate solutions and policies to develop community-based tourism, meet the different needs of tourists, ensure the harmonious development of the local community economy with the conservation and promotion of tourism cultural values, customs, and practices as well as environmental protection issues.

Limitations and directions for further research
Although the research results have solved the research objectives and questions, the study still has some limitations as follows:

Firstly, there are many different schools of research when it comes to community tourism, however, research only focuses on three schools of a theory of sustainable development; stakeholder theory and expectancy theory.

Secondly, the factors included in the study only explain 55.4% of the variation of community tourism development, the rest 44.6% are due to other factors but not mentioned by the author in the research. Therefore, further studies should add more factors to evaluate the development of community-based tourism with higher results.

Third, the new research method, only stops at approaching the local people from the perspective of providing community-based tourism products, not approaching tourists' consumers of community tourism products). At the same time, the study was conducted in the northwest region, an area with specific characteristics in terms of topography, climate, and population, and ethnic characteristics, so it may not be possible to clarify the differences in factors affecting the development of community-based tourism and its content. Therefore, future studies should widen the scope of the study better results.

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ABOUT EDITOR
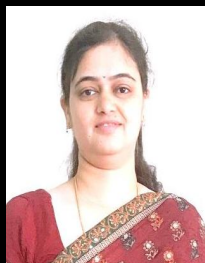
Dr. Renuka Ekanath Walunj has 8 years of Industrial experience and 10 years of teaching experience. She is a well-qualified faculty holding degrees of M. Com, M.Phil., M.B.S., and G.D.&C.A. She is awarded Ph.D in Commerce in the subject of Business Law and also is a SET qualified faculty. Currently she is working as an Assistant Professor at STES's, Sinhgad College of Science, Ambegaon (Bk). She is specialised in Finance, Auditing and Taxation.

She has published several research papers extensively on Investment and Tax Planning in recognised National and International UGC Care listed journals. She has written a chapter in an International edited book. Also, she has presented several research papers in National and International Conferences. She has edited a book titled as, "Changing Scenario in Teaching Pedagogy" with ISBN: 978-81-946375-1-6 and published a reference book titled, "Investment and Tax Planning of the Middle-Income Group Employees" with ISBN: 978-81-952196-5-0. She has also received a Third Rank Award at International Level for SWOC (Strengths, Weaknesses, Opportunities, and Challenges) Analysis Competition on Online Teaching. She got the National Level award 'Shree Saibaba Nari Asmita Sanmman 2021' for her contribution in the Education Sector on the occasion of International Women's Day.
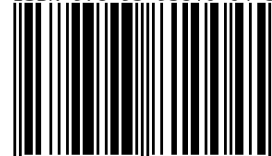
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