

URBANISATION: “MORE” A THREAT WITH SPECIAL REFERENCE TO TRIPUNITHURA

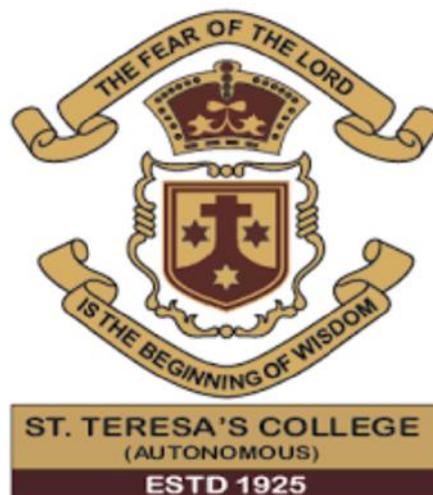
**Dissertation submitted to the
Post-Graduation Department of History, St. Teresa’s College Ernakulam
(Autonomous) in partial fulfillment of the requirements for the degree of
MASTER OF ARTS IN HISTORY**

By

ANITTA JOHNSON

M.A. HISTORY (2020-2022)

REG. NO. SM20HIS002



DEPARTMENT OF HISTORY

ST. TERESA'S COLLEGE

ERNAKULAM

March 2022

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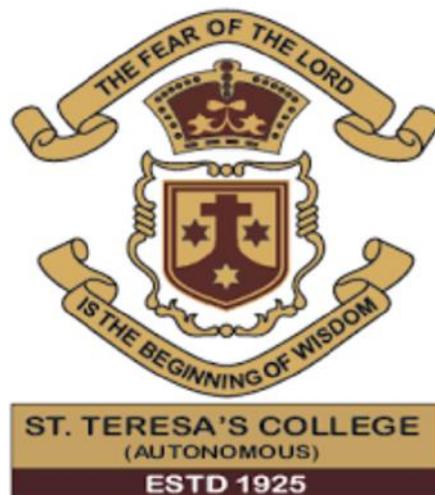
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CERTIFICATE

This is to certify that the dissertation entitled “**Urbanization: “more” a threat with special reference to Tripunithura**” was submitted in the partial fulfillment of the requirements for M A Degree in History, Mahatma Gandhi University, Kottayam is a bonafide work done by **ANITTA JOHNSON** under my supervision and guidance. In addition, it is certified that this project or any part of this has not been previously submitted elsewhere to adjudge any degree, diploma, or other title or acknowledgment.

Head of the Department

Supervising Teacher

Submitted to viva- voice Examination held on At the Department of History, St. Teresa’s College, Ernakulam.

Name and signature of Examiners

- 1.
- 2.

DECLARATION

I hereby declare that this dissertation work entitled “**Urbanization: “more” a threat with special reference to Tripunithura**” is an original work done by me under the supervision and guidance of Mrs. Jacqueline Deepika M.X, Lecturer of Department of History, St. Teresa’s College, Ernakulam and I have not submitted this project to any other universities for the award of any degree or diploma.

Place: Ernakulam

Date:

Anitta Johnson

St. Teresa’s College

Ernakulam

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ANITTA JOHNSON

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INTRODUCTION

Urbanization is more a positive phenomenon or process that has capabilities of bringing up many positive consequences and better outcomes. It is supposed to be a blessing as it yields employment opportunities, Modernization, Accessibility to anything and everything around, etc. In theory, urbanization is a brilliant concept. But while implementing it in the wrong direction would result in perilous consequences. So, as the name of the project signifies-urbanization which is supposed to be a blessing for the people and economy turns out to be a burden and a source of causing environmental hazards too. Rapid urbanization and unplanned urbanization can cause social instability, potential water crises, risks to critical infrastructure, improper waste management, etc. We always think about the positive side of urbanization or the term itself gives us a positive perspective of society, but the *global risk 2015 report* looks at four areas that face challenges in the face of rapid urbanization. These are infrastructure, health, climatic change, and social instability. So, it's very normal to have an encounter with the question- *why Tripunithura?* And it seems to be a potential research question. *Among the suburbs of Kochi, Tripunithura is the most affected place due to urbanization.*

The problem with Tripunithura is that it is now densely a residential area, which has a severe demand for housing, and a huge pressure for development from builders. It is a great place for a quality lifestyle. When you live anywhere in Tripunithura, you are proximate to almost everything a royal lifestyle demands. The place is interconnected to temples, shopping malls, schools like Bhavans, Choice & Chinmaya; and connectivity to mini bypass, the seaport – airport road, and more, making living in the land of temples, dynasty, and rich in history, a truly royal experience. Numerous builders and real estate firms that have pan-India influence have chosen to set up their projects in Tripunithura. This has also opened up great options for people who are looking to buy apartments in Tripunithura. There are many apartments and villas located in Tripunithura with various price ranges, but most of the villas and apartments are budget-friendly. With a diverse range of homes, Tripunithura is considered an ideal location for a real estate investment. Tripunithura is one of the highly populated city suburbs of Kochi. Tripunithura residents always face a shortage of potable water. While Fort Kochi managed to get its heritage conservation act together early, Tripunithura with a massive inventory of royal heritage remains floundering on this front. It was recently in 2014 Krishnan Varma, the first person conducted a heritage mapping of Tripunithura.

People in Tripunithura have a high potential risk of getting waterborne or sanitation-related diseases as per a study conducted by experts. Effective preventive measures are to be taken immediately to save these water resources of Tripunithura as it is an area of faster development and is densely populated. Residents of Tripunithura face problems in proper waste management as this municipality which will soon become a metropolitan city has now become more congested and historical buildings are now waste dumping spots. Thus, waste damaged historicity. Tripunithura is still capable of becoming a tourist spot and has resources to bring up recreational facilities. In Tripunithura, due to urbanization, ecologically sensitive zone like paddy fields cannot be preserved. Slum formation due to metro extension to Tripunithura and also due to road widening techniques to the already narrow one-way routes of Tripunithura has worsened the already dangerous scenario. When metro rail is introduced in a city, there is the initial inconvenience caused such as people being forced to give up their land for road and rail expansion. Even if they are given a compensation amount, order to afford another land and build a house from scratch would be impossible for many. People belonging to low economic groups would be forced to move into slums, thus resulting in an increase in slum areas. Land value will also increase, which may not be affordable to stay in that place.

Initially, among all the Municipalities and panchayaths of Ernakulam district, Tripunithura was a less hazardous zonation area and was less affected by floods but now the scenario changed after being exposed to negative urbanization.

While scrutinizing the urban history, the most substantial phase of the Urbanization construction process which was the first railway transport construction, was so eco-friendly and it was without damaging the heritage and without causing concerns to people. *Words of Parikshit or Captain Thampuran are as follows-*“the feature of tomorrow’s Tripunithura are also acceptable to Captain Thampuran. Thampuran sees the spirit of Kochi growing due to overcrowding. roads and huge flats were filled. Thampuran has an obligation not to damage the environment and the peace of people in the name of urbanization”. The advent of Europeans also contributed to the beginning of urbanization in Tripunithura by constructing various palaces and buildings and introducing foreign architecture in these buildings which in turn made Tripunithura a royal town and created a foundation for the historical heritage. Another phase of Urbanization in Tripunithura began on educational lines with Oriental schools and colleges. The next phase of educational Urbanization began in the field of medicine. It is substantial to note that all this urbanization in Tripunithura in its initial phase

was many beneficiaries for the society and its people. But the sad truth is that the recent urbanization taking place in Tripunithura is definitely a threat that focuses only on Modernization but not on conserving the historicity and heritage of Tripunithura and also the resultant aftermath of Urbanization which causes concerns to people. In the project, 3 recent Historical structures have been taken under study which has been affected by Urbanization, and the Kochi metro extension has also been analyzed in the context of urbanization.

Slum formation in Tripunithura as a perilous urban consequence and the mandatory rejuvenation processes needed are all discussed here. These may also include commercial shops where migrant labor especially Bengalis when Kerala is concerned, works. So, when the shops in which they work are taken up for metro, they are deprived of their livelihood. so, they would continue to stay on roadsides in search of a new job. As a result, a residential area with substandard housing that is poorly serviced and /or overcrowded, and therefore unhealthy, unsafe, and socially undesirable, especially in this present pandemic scenario. Thus, it results in a high standard of living or lifestyle on one side and slum formation on another. Just as it is more than self-evident in Mumbai, Delhi, Bangalore, Goa, etc.

The project throws light on the relevance of heritage and historicity and enhances the capabilities of Tripunithura to rejuvenate again as a palace town just like Madurai, Jaipur, and Rajasthan. Solutions have also been suggested for the preservation of historic sites and also to manage improper waste management, conserving ecologically sensitive zone, etc. which have been damaged by negative urbanization.

OBJECTIVES

- o To focus on the Resurgence of Tripunithura as a ‘Treasure trove of historicity’.
- o To trace and safeguard Tripunithura from the perilous and harmful consequences of rapid and unplanned urbanization.
- o To find measures for reducing the issue of improper waste management and preserving ecologically sensitive zone.
- o To utilize the project as an “eye-opener” to view Tripunithura, which is more vulnerable to becoming partly slum in near future due to the unorganized land acquisition and negative urbanization.
- o To suggest appropriate Environmental Management Plans required for Sustainable development in Tripunithura (Development without Destruction).

METHODOLOGY

The methodology followed in this study is the historical method. The study is largely adapted to the work of reading and interviewing the subject of the research. The study relies much on books, journals, online newspaper reports, and online sources that are related to the study. Primary data was collected on the basis of the questionnaire method by preparing an interview schedule which was designed to collect information required for the study. I have followed the standard method of collecting sources and co-related with other sources. The study has been majorly focused on the recent past (last 5 years).

ORGANISATION OF THE STUDY

The study is proposed to be Organized under five chapters as below.

1. Chapter 1: Introduction
2. Chapter 11: Tripunithura over the centuries: in the context of Urbanization
3. Chapter 111: Recent spatial changes Occurring in Tripunithura
4. Chapter 1V: Slum and Squatter Formation in Tripunithura as a perilous urban consequence and the mandatory rejuvenation processes needed
5. Chapter V: Conclusion

CHAPTER 1

TRIPUNITHURA OVER THE CENTURIES: IN THE CONTEXT OF URBANIZATION

There is an evolving consensus and a general agreement that urbanization is critically substantial to international development, but there exists some considerable confusion over what urbanization actually is; whether it is accelerating or slowing; whether it should be motivated or demotivated; and, more generally, what the responses should be.¹Urbanization is exhibited at both local and global levels, as seen through the ways in which ecological and social landscapes are transformed. Much of the attention on Urbanization has focused on land use patterns within urban areas, and the degree of Urbanization defined according to the extent of agricultural versus non-agricultural land. Part of the challenge in grasping Urbanization is conceptual and theoretical. At the local level, the migration of people from rural areas and agricultural production is a major driving force of contemporary urbanization. Through the expansion of its own immediate territory, urbanization transforms local landscapes –converting agricultural land, floodplains, and waterways into built-up spaces, and locations for housing and industrial production.

Urbanization causes transformations and alterations in the way people live – how they produce and exchange goods and services, how societies are structured, and the values and beliefs that predominate. This shift and renewal are partly through the physical shape of the human-built environment, but also through the social and economic relations in which people move. This is part of the pull of cities – the ability to move in different social arenas, to find employment – and equally of social, cultural, and leisure, and a whole set of consumption patterns and values. Urbanization is governed, controlled, and ruled by a whole complex set of formal and informal rules and institutions, networks, and alliances.²The tale of urbanization of the human population is the story of change and transformation – change not only in the settlement design but a change in the normative as well as institutional spheres of social life. The story behind this transformation presents an epitome of the

¹Gordon McGranahan and David Satterthwaite, “Urbanization Concepts and Trends,” International Institute for Environment and Development, June, 2014, <https://pubs.iied.org/sites/default/files/pdfs/migrate/10709IIED.pdf>.

²Richard Friend et al., “Approaches to Understanding Urbanization and Climate Change,” International Institute for Environment and Development, March, 2016, <http://www.jstor.org/stable/resrep29002.9>.

natural inclination and innate tendency of human beings to progress, modernize, update, technologize and move forward on the path of development.³

DIFFERENT NOTIONS OF CONTEMPORARY URBANIZATION

As attested by the United Nations (2014), the procedure of urbanization describes a transformation in a population from one that is diffused across small rural settlements in which agriculture is the dominant and ruling economic activity to one where the population is concentrated in larger, dense urban settlements characterized by industrial and service activities.⁴Lampard (1966) layout three broad notions of urbanization that have gained attention in the realm of social sciences. They are the behavioral, the structural, and the demographic conceptions.⁵It is in the light of this tradition of demographic approach that Kingsley Davis (1965) has utilized the concept of urbanization in a particular way. In accordance with Davis, it refers to the proportion of the total population concentrated in urban settlements, or else to a rise in this proportion. In his opinion, urbanization is a finite process, a cycle through which nations go in their transition and conversion from agrarian to industrial society.⁶According to Tisdale (1942), urbanization is the practice of population concentration. It works in two ways: the multiplication of the points of concentration and the increase in the size of individual concentration.⁷

Mitchell (1956) regards urbanization as the process of becoming urban, the movement of people or processes to urban areas, increase of urban areas, population or processes. He clearly identifies dual aspects of the definition of urbanization. One is the demographic aspect which implies movement to the urban areas. But there happens to be the second frame of reference too. Urbanization may also have meaning within a sociological frame of reference when it implies a change in behavior as a result of living in a town. The urban way of life is marked by a distinctive way of living.⁸Thompson (1935) has defined

³Dr Manzoor Hussain and Iram Imitiyaz, "Urbanization concepts,dimensions and factors," International journal of Recent Scientific Research 9,no .1(January 2018) : 23516. doi : 10.24327/IJRSR

⁴"2014 Revision of the World Urbanization Prospects," United Nations , July 10, 2014,<https://www.un.org/en/development/desa/publications/2014-revision-world-urbanization-prospects.html>.

⁵Eric E Lampard, "Historical Aspects of Urbanization ," in The Study of Urbanization ,ed.Philip M Houser and Leo Francis Schnore (New York :Wiley, 1965), 536.

⁶Kingsley Davis, "The Origin and Growth of Urbanization in the World," American Journal of Sociology 60, no. 5 (1955): 430.

⁷Hope Tisdale, "The process of Urbanization," Social Forces 20,no.3 (March 1st , 1942):313.

⁸ J. Clyde Mitchell, "Urbanization, detribalization and stabilization in Southern Africa: a problem of definition and measurement," in the Social implications of industrialization an Urbanization in Africa South of the Sahara ,ed . International African Institute(London: United Nations, 1956), 693.

urbanization as characterized by the movement of people from small communities concerned chiefly or solely with agriculture to other communities generally larger, whose activities are primarily centered on government, trade, manufacturing, or allied interest.⁹ Anderson (1960) has defined urbanization as more than the shifting of population from country to city and from land-bound work to the urban type of work. Urbanization involves basic changes in the thinking and behavior of people and changes in their social values.¹⁰ Jacobson and Ved Prakash define urbanization as a phenomenon describing a process of change in the status of populations due to changing conditions in the society at large.¹¹ Breeze (1969) described urbanization as a process of becoming urban, moving to cities, changing from agriculture to other pursuits common to cities, and corresponding changes in behavior patterns.¹² Hauser and Duncan regard urbanization as a change in the pattern of population distribution. It involves an increase in the relative size of the urban population, a growth in the number and size of the urban settlement or places, and an increasing concentration of population in such places.¹³

Unlike the rest of the states in India, Kerala has a minimal rural-urban divide due to an intense rural-urban mix and the coherence of agricultural and non-agricultural activities in conformity to its unique landscape. Kerala urbanization shows a unique pattern with the increase in urban centers mainly as a result of urban sprawl from the main centers. The earliest urban centers were mainly port-based in Kerala. Some of the placed villages began to grow as town centers with the advent of the Portuguese and British. Thus, small towns began to spring up and many linkages to these villages were also made. Consequently, it paved the way for the development of transport and communication system in the area.¹⁴ Ernakulam is the most urbanized district in Kerala in terms of the absolute number of urban population (3,462,920 populations as per the 2021 census). Kochi Corporation acts as a nucleus of urbanization in the district from where the urban character spreads to the nearby areas. Large-scale augments in the implementation of various development projects (construction

⁹W. S. Thompson, International Encyclopedia of social sciences : Urbanization, (New York, Collier Macmillan Publishers, 1935), 189.

¹⁰ Nels Anderson, The Urban Community a World Perspective, (London, Holt, Rinehart and Winston, 1960), 32.

¹¹H.D Kopardekar , Social Aspects of Urban Development : A Case Study of the Pattern of Urban Development in the Developing Countries,(Bombay: Popular Prakashan, 1986), 16 .

¹²Ibid. 16

¹³P.M. Hauser and Otis Dudley Duncan, Duncan, The study of population: An inventory and appraisal,(Chicago: The University of Chicago Press, 1959), 34.

¹⁴Mridul Eapen, "Economic Diversification in Kerala: A Spatial Analysis," ResearchGate , May, 1999, https://www.researchgate.net/publication/5127029_Economic_diversification_in_Kerala_A_spatial_analysis.

works, roads, and railways, establishment of Vallarpadam container shipment, and the growth of information technology) enhanced the urbanization of Cochin City.

Kochi, formerly known as Cochin (Queen of Arabian Sea) is one of the main port cities on the southwest coast of India and is a part of Ernakulam District in Kerala state. Kochi was formerly a princely state known as Cochin State under the rule of Cochin royals known as “Perumpadappu Swaroopam”; who were descendants of Kulashekaras of Mahodayapuram. Their capital was Vanchi and they moved to Cochin in 1405 A.D (A. S. Menon 1975). The Cochin area was divided into "Janapadhas" under the rule of the king and “Nadus” under “Naduvazhis”- the landlords as in the Zamindari system. ¹⁵

URBAN EXPANSION MODE IN KOCHI

Kochi is the economic capital of Kerala and rapidly growing coastal settlements in the western coast. It is also the commercial capital of Kerala as well. Kochi is the most promising growth-oriented progressive region in the state of Kerala. Modernization in the city and the surrounding area have taken a fast stride in the last two decades. The Information Technology Institutions at Kakkanad, International Airport at Nedumbbassery, the new bridge linking Vypin islands to the mainland, and the high impact residential and commercial progression in the city and the surrounding areas have caused direct and indirect development impacts in many sectors. These are exerting tremendous stress on the infrastructure components. The most apparent issues in Kochi City are the increasing traffic congestion and the degradation of the urban environment.

The modernization of Kochi as a prime city of Kerala is closely and intricately linked with the political and administrative history of the Malabar Coast. Kerala was once a pertinent maritime country in the dawn of the Christian era. Its ancient rulers had their capital, which was at Tiruvanchikulam located almost about 18km north of Kochi. The ancient port of Muziris (now called Kodungallur, which is on the southern part of the Thrissur district) provided an internationally wide center of trade and the central emporium of transit of goods between China and Rome. The trade links fascinated settlers to Muziris from many of the maritime commercial nations of the ancient world. The erstwhile crowned heads of Kochi established their headquarters at Tripunithura, the current neighboring town of Kochi, most probably since the present Ernakulam was a waterlogged area then. Cochin Port was

¹⁵Government of Kerala, “Administration Report of Industry and Commerce in Cochin State” (Cochin, Kerala: Cochin government press, 1945).

established in 1341 when the heavy floods of that particular year silted up the mouths of the Muziris harbor and the surging water forced a channel past the present inlet into the sea. The old merchants and traders of Muziris transferred to Kochi as soon as the new outlet became more or less stable. As the harbor acquired prominence, the then ruler of the region transferred his capital also to Kochi, giving impetus and momentum to the growth of the town. The earliest settlement of Kochi was at Mattancherry, facing protected lagoons and shallow bodies of water which is in the east, that provided safe anchorage to country crafts in all seasons. Mattancherry was connected to the entire coastal stretch of Kerala through these inland waters. Thus gradually and moderately it grew and evolved into a busy settlement. Nicolo Conti, the Italian explorer, recorded and concluded that, by 1440, Kochi was a city 5 miles in circumference and within that Chinese and Arabs carried on a brisk trade with the natives of this particular town.¹⁶

The newly proposed metro project, the high-speed rail corridor, the smart city project, and the Vallarpadam container terminal project will enhance the growth of Kochi. It was in 1870, that colonial settlement started in Mattancherry, which is the first form of urban growth. Then, it was in 1920, the formation of Willington island came into being. And next, in 1940, the road connection to the mainland on the west and road-rail connection to the east from the island was completed. At last, the post-independence surge in economic activities and urbanization took place. Urban Growth trends indicate urban expansion towards the north and northeast. The main reason for urban growth in the east (Kalamassery region) is because of its sector and the special economic zone. The progression of satellite towns like Aluva and Ankamaly is the main reason for the urban growth in the north. Urban population to total population is greater in Ernakulam district than that in any other district in Kerala or in any state in India as a whole. Ernakulam district is highly urbanized with Kochi acting as a magnet attracting economic investments in many sectors. In the past few years due to many large-scale urbanization projects, especially in the construction sector and information technology, substantial employment opportunities are generated in Kochi and this is a positive and major factor for migration. Living in cities offers spatial advantages associated with proximity and accessibility. As a result, land values continue to rise as the urbanization process continues, and rising land values drive increases in other costs in cities, including those of housing,

¹⁶Eapen Varghese, "Development Plan for Kochi City Region 2031," vol. 1 (Kochi, Kerala: Government of Kerala, 2010), 69, <https://www.cochinmunicipalcorporation.kerala.gov.in/web/guest/development-plan>.

labor, medical, and education.¹⁷ The Sharp rise in land values and scarcity of developable land prevent lower and middle-income group families from buying land within the city for residential purposes. This has made a good percentage of people choose residences on the outskirts of the city. Though the trend turns down migration, it expands the floating population in the city. The far-reaching scale of investment proposals and infrastructure necessities in and around Kochi city will attract more people to the city in near future. Kochi City has a higher population growth rate when compared to the state average. In the coming two decades it is expected to reach the two million mark. But, apart from all these benefits the slum formation, urban sprawl, improper traffic, waste management, and deteriorating canal transportation systems will attack Kochi in the near future.¹⁸

URBANIZATION DETERIORATING HISTORICITY

Historical sites are the economic, cultural, and social drivers for a dynamic and sustainable environment. They constitute an integral part of nations' history, identity, and regional diversity. Small and medium-sized historical sites with their outstanding built cultural heritage strongly shape the urban landscapes and form the backbone for a balanced and polycentric settlement structure. Historical sites face many challenges, like accelerating globalization, structural, social, and demographic changes as well as environmental problems and urban growth. Urbanization is the physical growth of urban areas because of global change. The importance of heritage has to be observed. It Conveys diverse messages and values that contribute to giving meaning to people's life. It represents the identity of a social group. It represents a vehicle for understanding the diversity of people and developing a policy for peace and mutual comprehension. It is a source of economic development.¹⁹Urban expansion has a large effect on the continuity of the archeological building since such type of development impresses several serious challenges which conservation plans, as well as preservation, policies must deal with. A number of the main challenges are mega-constructions (tunnels, dams, roads, etc.), pollution, socio-cultural impacts, and traffic. In current decades, the archeological sites' destruction has been taken by scales, not at all seen before, during looting destructive cultivation, in addition to urban expansion, among development actions causing the loss of every kind of the archeological site, such as

¹⁷Chaolin Gu, "Urbanization: Positive and Negative Effects," Elsevier 64, no. 5 (2019): 282, DOI: 10.1016/j.scib.2019.01.023

¹⁸Hibi Eaden(Indian politician), interviewed by Anitta Johnson, December 20th,2021.

¹⁹A. El Menchawy, S. S. Aly, and M. A. Hakim, "The Impact of Urban Sprawl on the Heritage Areas through the Urban Fabric of Cities," WIT Transactions on Ecology and the Environment 150 (July 12, 2011): 299 , doi : 10.2495/sdp110261

hunter-gatherer sites in addition to archaic agriculturalists villages to premature urban settlements. Within this context, the normal superposition of areas and ancient sites destined for development has produced a major confrontation for specialists in heritage and archaeology conservation.²⁰Kochi symbolizes the hopes and aspirations of the people of Kerala in the context of development. Cochin city has always been special for its heritage and pluralistic culture throughout its history. Unsympathetic and alien developments are destroying the harmony of historical heritage.²¹Concerns raised by conservationists and heritage experts notwithstanding, Fort Kochi is witnessing widespread destruction of heritage by way of apathetic alteration of natural heritage, environmental damage, arbitrary modification of structures, and maintenance out of sync with the heritage environment. A recent meeting of the local chapter of the Indian National Trust for Art and Cultural Heritage (INTACH) at David Hall across the road from the historical Parade Ground, which has now become a practice ground for the forthcoming FIFA Under-17 World Cup, saw architects, urban designers, eminent residents, and heritage experts flag their anxiety about the heritage value of the zone being tampered with.²²

It is important to note that the most affected place due to urbanization among the suburbs of Kochi is none other than the Tripunithura.²³At risk are not only archaeological sites, but the traditional architecture and other locations of cultural heritage.²⁴ Located about 11 km east of the heart of Kochi is fast developing into a prominent suburban residential area²⁵Despite some efforts from the local government, urban cultural heritage is being neglected and historic buildings keep being replaced by ordinary concrete buildings at a worryingly rapid pace.²⁶

²⁰ Mahmoud Ali Alsubeh, "Impact Of Urban Areas On Historical And Archaeological Buildings," *Journal of Civil Engineering and Architecture* 12, (2018):200, doi: 10.17265/1934-7359/2018.03.002

²¹ "Cochin City Heritage," Centre for Heritage Environment and Development ched, February 17, 2013, <https://www.c-hed.org/?tag=cochin-city-heritage>.

²²H Vibhu, "Conservationists Lament Destruction of Fort Kochi Heritage," *The Hindu*, October 3, 2017, <https://www.thehindu.com/news/cities/Kochi/conservationists-lament-destruction-of-fort-kochi-heritage/article19787533.ece>.

²³Rameshan Thampuran(Descendants of Cochin Royal Family), interviewed by Anitta Johnson, February 22nd,2022.

²⁴ Salah al-Houdalieh and Robert Sauders, "Building Destruction: The Consequences of Rising Urbanization on Cultural Heritage in the Ramallah Province," *International Journal of Cultural Property* 16, no. 1 (February 2009): 2. doi: 10.1017/S0940739109090043

²⁵ Ranjan J, "Tripunithura: Fast Developing Affordable Suburb in Kochi," *Commonfloor*, April 9, 2014, <https://www.commonfloor.com/guide/tripunithura-fast-developing-affordable-suburb-in-kochi-40860>.

²⁶Chika Udejaja et al., "Urban Heritage Conservation and Rapid Urbanization: Insights from Surat, India," *Sustainability* 12, no. 6 (March 2020): 2172, doi : 10.3390/su12062172

AN OVERALL GLIMPSE ON TRIPPUNITHURA

Seat of the former ruling family of Cochin, Tripunithura lies six miles southeast of Ernakulam. It is an important railway station on the Trivandrum-Ernakulam railway line. The 1961 Census recorded a population of 14,444 for this place of whom 7,007 were males and 7,437 were females. A place rich in tradition and history, Tripunithura has often been identified with 'Tropina' of Megasthenes, a flourishing sea-port in the olden days. It might have become an inland town owing to accretions on several occasions. The place has also been identified with the Pounata of Ptolemy. As for the origin of the name of the place, it is suggested that 'Tiru' means 'Sree' on Lakshmi and 'Pun' or Pandavan means husband in Tamil. This would make Tripunithura the abode of Lord Vishnu, which is what it is. The change from Punithura Esan to Poornathrayeesan is easily understandable. Tripunithura as it was the capital of Kochi, was formed on August 15, 1979, as a city council.

Reminiscent of the past royal glory are the many forts and palaces in the town and its suburbs but the most important of them all is the Hill Palace where the Cochin Maharajas lived. It is situated amidst picturesque surroundings about a mile and a half to the east of Tripunithura. But the chief attraction of the place continues to be the Sri Poornathrayeesa temple dedicated to Lord Vishnu, the tutelary deity of the royal family of Cochin. The idol of the Sri Poornathrayeesa temple is said to have been installed by Arjuna to whom it was given by Sri Krishna on their return from Vaikunta with the lost children of the Brahmin devotee immortalized in the well-known puranic story Santhanagopalam. The image is in a sitting posture which is very rare. Devout couples desirous of progeny find worship in the temple here efficacious. There are three festivals every year each lasting for eight days, but the most important is the one which falls in November- December and draws a large number of spectators. During the festival days, the idol is taken out in an impressive procession on a beautifully caparisoned elephant to the accompaniment of harmony of different musical instruments. Elephants, of course, form the core of the procession. The people are also entertained by the display of the various folk arts of Kerala.²⁷ The temple, especially the Sreekovil, is a fine structure. In an unfortunate incident in 1920 the original shrine was destroyed by fire and the present temple is the one built in its place. The Palaces of the members of the Cochin Royal house adjoin the temple. The most important of these is the palace known as Kalikotta, a grand and massive building built by the Dutch after their own

²⁷Meera Menon, "A Land of Stories- Tripunithura," Make Heritage Fun, August 22, 2015, <https://www.makeheritagefun.com/land-stories-tripunithura/>.

style of architecture. A fabulous and colorful ceremony with which Tripunithura is associated is the Athachamayam which is celebrated in August. As the very name indicates, the ceremony falls on the day of Atham asterism, which comes on ten days prior to the asterism Onam or Tiru Onam. It signifies the commencement of Onam, the national festival of Kerala. In the days of royalty, the celebration was usually held in the Tripunithura Palace. In the morning the Maharaja of Cochin went in procession around the place in a palanquin accompanied by his retinue, the members of the royal family, officers, etc. After the procession, he held a durbar at the palace at which officers and chiefs received presents from the Maharaja. According to tradition, the Athachamayam ceremony is indicative of the start usually made by the Cochin Raja in the early days to attend the festival in the temple of Thrikkakara. The traditional festival became defunct with the disappearance of royalty. But it has been revived recently in a new form with the celebration of Onam as a national festival under State auspices. A fair is also held as part of the celebration.

Tripunithura is the seat of a very ancient Syrian Catholic Church dedicated to St. Mary. The second Ayurveda College is a State-run by the Government and is located here. The Sanskrit College, the Radha Lakshmi Vilasam Academy of Music, and the Radha Lakshmi Vilasam School of Fine Arts are also notable institutions of the place. Besides, there are four High Schools hereof which three are Government institutions. The chief medical institutions are the R.V. Palace Dispensary and the M.C.H. Centre. In the not distant future, Tripunithura would get her place of honor on the industrial map of the District with the establishment of the Traco-Cable Co., Ltd. and the Oil Refinery nearby. There are two Police Stations in Tripunithura-the Tripunithura Cusba and the Hill Palace Police Station. A Sub Registry office is functioning here.²⁸Trippunithura in Kanayannur Taluk is one of the few places where menhirs are found. The Santanagopalakrishnaswami or Sree Poornathrayeesa Temple, Trippunithura, is noted for its archaeological importance. The older shrine was destroyed by fire in 1921 A.D, but the western Gopuram which survived the fire is an interesting piece of architecture reminiscent of the Chola style. The sculptural designs engraved on the pillars supporting the ceilings of the Asthanamandapam in the second story of the Gopuram are of particular interest as they give a glimpse of the rich treasures of art still lying hidden in the ancient temples of Kerala. There are also some attractive paintings in oil colors on the ceilings of the Nadappura of the same temple. The Kalikotta palace in Thrippunithura which was built by the Dutch for Saktan Thampuran (1790-1805) in 1794 is an impressive structure

²⁸Government of Kerala, Ernakulam District Directory, (Aluva, Kerala : Parksons Company , 1984) ,739.

and it is still in a good state of preservation. But the sad truth is that apart from its preservation, it had lost its essence of historical heritage .since it has not been preserved with its historicity rather maintained now as a marriage hall. There is also another Dutch palace here which contains some mural paintings. Another palace at Thrippunithura called the Devatha Malika which was also built by the Dutch during the reign of Saktan Thampuarn was unfortunately demolished a few decades ago during the Dewanship of C. G. Herbert, (1930-1935). In view of the special importance of the Mattancherry Dutch Palace, a detailed account of the same is given below.²⁹

ORIGIN OF THE NAME TRIPPUNITHURA

Undoubtedly, the commercial and industrial capital of the state of Kerala, the city of Cochin is where ancient civilization gracefully mingles with modern life. Right from the early years, Cochin had cultural and trade relations with the outside world. It has experienced episodes of European colonial rivalry. This land is rich in its cultural heritage, natural heritage, and high social index. These strengths in vital areas are the engines that propel this city into a real growth center. The vibrant cultural landscape of Cochin, wherein almost sixteen different linguistic and cultural groups coexist even today, is marked by its rich customs, traditions, and art forms. Cochin is indeed a classical example of creating an urban environment in which diversity becomes a source of strength rather than that conflict.³⁰

Cochin was originally known as Perumpadappu Swaroopam. Tripunithura holds unmistakable marks of being the capital of a grandiloquent Cochin royal dynasty. In ancient days, the Royal Family of Cochin set up base here and administered from the city. The exact origin of the name Tripunithura is not certain. Some believe that the region adjoining the banks of river Poorna'. Yet others believe that Tripunithura is a distortion of 'Poorna Veda Puri'. They say it is so-called because the Vedas in their entirety were studied in this town. Folklore and legends have interesting stories to narrate about the town. In the story of Sandhanagopalan. Shri Krishna and Arjuna are said to have been bidden by the Divine will to carry down an idol from heaven, establish it on earth and worship it Arjuna is said to have carried it in his Pooni (quiver). This town is believed to be the sacred land where he decided to install the idol and create a shrine. Hence that place came to be known as Punithara or Tripunithura meaning the presence of -'Poornathreyesa' or Mahavishnu.³¹

²⁹Gazetteer of India,Kerala Vol 1.

³⁰Hibi Eaden(Indian politician), interviewed by Anitta Johnson ,December 20th ,2021.

³¹V V Valath, Keralathinte Sthalanama Charithram, n.d.

URBAN- HISTORICAL EVOLUTION OF TRIPUNITHURA

The place where the idol was installed is where Sree Poornathreyesa temple, is located: temple which is believed to have existed before 3000 years. Its history is closely related to Cochin royal family. When the temple was established in the 12th century AD it became the focal point around which the town developed. The Fort area is the core of historic importance has a powerful source of local identity in terms of architectural features, built forms, streets, and space. In those days the temple is an institution that influenced all aspects of the life of people. It was also a major source of employment for many.³²It played the role of leading consumers with demand for a considerable amount of rice, milk, oil, ghee, and condiments always needed for offering during worship. It assured employment to a large no. of people, priests, teachers, musicians, dancers, etc., and the service population. ³³Careful attention was provided by the Cochin Royal family members to the growth and development of Poornathrayeesa Temple. For residing the Royal family members built a number of Palaces (Kovilakangal). Hence the fort area was demarcated as the residential area of Cochin royal family members.³⁴

To analyze the Tripunithura city evolution, it is really relevant to start from 345 A.D. The ruling dynasties were the Nandan dynasty, Chera dynasty, Venad dynasty, and Ay dynasty. According to Keralolpathi the dividing of Kerala took place in 345ad, after the end of the Chera empire. In 1102 A.D , Last Perumal of second Chera dynasty ,Rama Varma Kulasekhara, ruled Kerala. In the 12th century, the hierarchy of sons become Venad, and the lineage of nephews turned out to be cochin rulers. Thus, the cochin empire (Perumpadappu Swaroopam) came into existence. In 1555, Cochin rulers started residing in Mattancherry palace. In the 16th century, there happens to be a terrific flood in the cochin sea, by which a land (Vypin) was formed in the sea, making Kochi a fine natural harbor, planning to shift headquarters. In the 17th century, the Seat of the Rajas was shifted to Trichur. In 1755, All-Female Thampuras and princes transferred their residence to Tripunithura. From that time Tripunithura obtained the capital status of the Cochin royal family. From the 18th century onwards, Tripunithura started to acquire importance as a headquarters, rajahs ruled the state from Trichur, Kochi, and Tripunithura. It was in the 20th century, that commercial streets and

³²R T Ravi Varma, Rajavamsham Tripunithura Smaranakal: Athachamaya Visheshanghal, 2nd Edition, (Thrissur, Manorama Publication Division, 2010), 108.

³³Rajan Gurukkal, The Kerala Temple And The Early Medieval Agrarian System

³⁴R T Ravi Varma, Rajavamsham Tripunithura Smaranakal: Athachamaya Visheshanghal, 2nd Edition, (Thrissur, Manorama Publication Division, 2010), 108.

markets developed. Apart from that, more people started migrating to the city. It was during this time period, that the urbanization process started to appear in this suburb of Kochi. In the 18th century, the capital of the Kochi kingdom was shifted to Tripunithura, soon in 1800 a school for the princesses of the royal family was established, and then for family ceremonies. The path of modernization was beneficiary for the people during this phase. From 1825, Tripunithura started to gain cultural substantiality as Christianity flourished and many churches were constructed. It was during this period that art and architecture started gaining more importance³⁵In Tripunithura, culture seeps down to every family and you can see women and children performing the arts.³⁶In 1865, the Maharaja of Cochin constructed Hill palace for the residence of the king and his immediate family through other members of the Cochin royal family. Again, in 1926, another phase of educational urbanization began again on an exact path. The king of Kochi, King Kerala Varma, as a learning Centre for the arts started RLV College, which produces many stalwarts in dance, music, and other art.³⁷ In 1941, after the death of Maharaja Elamana Palace, was sold to the Nair Service Society and turned into NSS HSS. In 1970, Tripunithura took a cultural twist that the Maharaja of Kochi started for *Athachamayam Khoshyathra*. At last, in 1980, The palace was handed over to the govt. of Kerala by Cochin Royal Family.³⁸

City planning-The temple forms the focal point of the city. The growth of the city started around the temple. The main spine, the heart of the Fort, passes through the temple in the east-west direction starting from the east arch and ending at the west arch. The main spine runs from the west Irumpanam iron bridge to the east Statue junction through the temple. The east is guarded by the arch. The spine forms the main element of the city. The fort is surrounded by water on 3 sides. The west arch has an iron bridge in front of the river. The east-west axis road is the King's way. The city has come up with such a way that the commercial units are all around the temple.³⁹

³⁵Keralolpathi, (United States, CreateSpaceIndependent Publishing Platform,2018), 145.

³⁶Lakshmi Sharath, "In a Palace Town Called Tripunithura," The Hindu, May 27, 2011, <https://www.thehindu.com/features/metroplus/travel/in-a-palace-town-called-tripunithura/article2054199.ece>.

³⁷Keralolpathi, (United states, CreateSpace Independent Publishing Platform ,2018), 145.

³⁸Ibid.149

³⁹"Cochin City Heritage," Centre for Heritage Environment and Development ched, February 17, 2013,<https://www.c-hed.org/?tag=cochin-city-heritage>.

AN ANALYSIS OF NATURAL ENVIRONMENT OF TRIPUNITURA WHICH IS CLOSELY LINKED WITH URBANIZATION

URBAN ECOLOGY

The traditional research core of urban ecology was extended as a part of the historical development of urban land-use patterns and its changes and various environmental and health consequences. Urban ecology is expected to play an instrumental role in improving existing cities and developing new ones that are more sustainable ecologically, economically, and socially. Urban ecology plays an important role in understanding urban systems. This approach has been called “the line of tradition rooted in natural history”. It has an inter-disciplinary research field that investigates the interrelations between environment compartments and human activities. The land transformation modifies the near-surface energy budgets by reducing evapotranspiration, crowding, solar energy absorption surfaces, and natural vegetation is replaced by impervious surfaces (Asphalt, rooftops, buildings, concrete, and walls) and creating heat-trapping canyon-like urban morphology. Urban morphology is affected and affected by socio-economic processes and ecological processes.⁴⁰

ECOLOGY AND TOPOGRAPHICAL FEATURES OF TRIPUNITHURA

Cochin lies between 9°48' & 10° 50'N latitude and 76°5' & 76°58' E longitude. Tripunithura is a small town lying in the Cochin in the South Indian state of Kerala. It is located 10 kilometers southeast of the big city of Kochi. The town is situated approximately at 76°20' E longitude and 10°30'N latitude. Tripunithura has loam soil with most regions coming under the coastal plain. From the soil test done by the government, it inferred that loam soil texture is present in the region. Coarse, loam, sandy loam, and fine loam types of sands are spread across the regions.⁴¹

PHYSIOGRAPHY AND GEOMORPHOLOGY OF TRIPUNITHURA

Tripunithura portrays a coastal lowland area, where the relief is less than 20 meters above the mean sea level and the relative relief is less than 10 meters. Coastal plain and Mud/Tidal flat can be noticed along this area. The area is gently sloping. (Resource atlas 1991). Tripunithura municipality depicts more or less uniform geomorphology. The coastal landforms are

⁴⁰Franz Rebele, “Urban Ecology and Special Features of Urban Ecosystems, “Global Ecology and Biogeography Letters 4, no. 6(November,1994): 180.

⁴¹Cochin Corporation, “Administration Report of Panchayath Department ”(Cochin, Kerala: Superintendent of Cochin, 1945), 55-65.

conspicuous in the coastal plain region, consisting of mangrove swamps and tidal/mudflats. The coastal wards have a frontage to backwaters. Vytilla block comes under the stable zone in the landslide hazard zone (Resource atlas 1991).⁴²

Temperature and Climate

Ernakulam district has a wet monsoon type of climate. March, April, and May months are the hottest. December to February months is the coldest. The mean monthly maximum temperature ranges from 28.1°C to 31.4°C and the minimum ranges from 23.2°C to 26°C. The maximum temperature occurs during March and April months and the minimum temperature occurs during December and January months. The humidity ranges from 68% to 89% during morning hours and 64% to 87% during evening hours. The maximum humidity is observed from May to October months. (IMD Kochi 2010)

TRANSPORTATION

Tripunithura is well connected to neighboring cities and states via several highways. It has the main bus stand in its main center with buses going from and coming into from different locations and furthermore, it has bus stops in almost every part of the town which makes travel by bus easier. Railway transport is also available. The primary form of public transport within the city is largely dependent on privately owned bus networks. NH 85(Kochi Madurai highway) or Old NH 49 passes via Karingachira. Ernakulam-Ettumanoor State Highway (SH15) also passes via Tripunithura. Tripunithura railway station is a major railway station on Ernakulam to Kottayam route with many passenger trains and express trains having a stop here. The Kochi Metro is a metro rapid transit system serving the city of Kochi, intended to considerably ease traffic congestion in the city and its surrounding metropolitan area. Now metro corridor is still Pettah but there is a proposal for the extension of the metro corridor to the Tripunithura which is under construction. Since Tripunithura is a statutory town and falls under Cochin Corporation mostly the infrastructures are within an accessible distance. Proper road and rail networks are present including National and State Highways. All the nearby towns are marked within the extent and the connectivity. Further analyzing both the transportation and infrastructure within Tripunithura the main connectivity and infrastructure

⁴²B P Radhakrishna, Resource Atlas of Kerala ,(Trivandrum, Kerala : Centre for Earth Science Studies, 1991), 145 .

are concentrated in some wards-Chakkankulagara, Kannankulangara Railway Station, Thoppil, Ambalam, Statue, and Market.⁴³

Initially, among all the municipalities and panchayaths of Ernakulam district, Tripunithura was a less hazardous zonation area and was less affected by flood but now the scenario changed after being exposed to negative urbanization.⁴⁴

ORAL HISTORY ON SETTLEMENT PATTERN OF TRIPPUNITHURA

It was said that people started their settlement on the banks of the Poorna river. Then, they resorted to cultivation on Poorna river banks. Afterward, they started giving importance to cultural dance and arts. At the end of Dvapara Yuga, the period of Lord Krishna, the lord himself presented an idol to Arjuna, one of the Pandavas, and asked him to install it in the proper place. He kept the idol inside a bag, where he used to keep arrows which were called pooneeram in the local language. When he reached the place he shouted: “pooneeram Thura” which means “open the bag” in the local language. Thus, the name poonithura came into being, according to this story. He installed the idol near the land of the Poorna river and thus, lord Arjuna came as the deity of Sree Poornathreyeesa temple. It was around this that temple settlements first started. When the kings of the erstwhile Cochin Dynasty made this place their capital, the area where the palaces and forts were constructed came to be known as Thiru-poonithura as the term “THIRU” shows respect and reverence. *hence, it became Tripunithura.*⁴⁵

FESTIVALS OF TRIPPUNITHURA

A) Athachamayam

Tripunithura Athachamayam is the colorful beginning of the Onam festival of Kerala. It is an occasion to witness almost all the folk art forms of Kerala. Kerala's art forms like Kathakali, Mohiniyattam, Thiruvathirakali, Theyyam, Karakattam Ammankudam, Attakavadi, Pulikali, Mayilattam, and many more are presented as floats in this procession. There will be many caparisoned elephants (elephants decorated with the traditional 'Nettipattam'). The event held in the historical town of Tripunithura is a celebration of a legendary victory of the Raja (King) of Kochi. In the olden days, it was customary for the king to travel with his entire

⁴³Cochin Corporation, “Administration Report of Panchayath Department”(Cochin, Kerala: Superintendent of Cochin, 1945), 55-65.

⁴⁴Rameshan Thampuram(Descendants of Cochin Royal Family), interviewed by Anitta Johnson, February 22nd ,2022.

⁴⁵Ushamma Thampuraty (Oral Legend Expert), interviewed by Anitta Johnson, December 7th , 2021.

entourage to the Tripunithura fort. Tourists, both National and International, flock to Tripunithura to witness this spectacular, customary procession.

B) Vrishchikoltsawam

Poornathrayeesa Temple is famous for its annual festivals. The main 8-day festival is the Vrishchikoltsawam, which takes place in the month of November/December. Apart from the usual procession of decorated elephants taken out on the fourth day, a golden pot is also kept on a raised platform. A number of traditional art forms such as Ottam Thullal, Kathakali Kolukali, and musical concerts are performed during this period. It is organized and conducted by the Sevasangham of the temple which was founded in 1969.⁴⁶

It is important to note that Tripunithura in its initial phases was pertinent for its cultural features. It began with a legend that when the temple was once affected by a fire accident, it was Christians who helped raja to save the temple from burning. From that point onwards, Cochin royal family started to show great love and concern to the Christian community, helping them financially and in all terms to build up a church called Nadamel palli. And it is said that raja began to trade along with Christians and thereafter engaged in deep commerce. And this relationship between Hindus and Christians eventually led to an increase in trade and other activities. Religious beliefs may influence trade in two ways. First, shared religious beliefs may enhance trust and therefore reduce transaction costs between trading partners. It is also said that during Athachamayam, there will be a peculiar mass in Nadamel Palli which is conducted for the success of this particular festival. But now, as time passed tensions between Muslims and Christians aroused which led to trade failure in Tripunithura society which affected badly in the context of urbanization but mass in Nadamel palli can be seen to this date.⁴⁷

PHYSICAL STATE OF THE TOWN

Geography: Tripunithura is a low-lying area (area = 18.69 Sq.km) and flat throughout with the sea nearby and the Kaniyampuzha meandering around the municipality. The mean level is 5 above sea level. The small canal called Andakarathodu connects the east and west banks.

Climate: Tripunithura enjoys a fairly equitable climate with all the greenery around. The heat of the summer is scarcely felt. The mean range of temperature is very low but the relative

⁴⁶Namboothiri. R, "Tripunithurayude Charithram Ezhuthumbol ", Kazhcha, August 2003, 129.

⁴⁷Vishwanadhan Thampuran(Cochin Royal Family Member), interviewed by Anitta Johnson, February 22nd, 2022.

humidity is very high. Except for the month of December and January, the relative humidity is above 70%. The prevalent wind direction is northwest.

Demography: The population according to the 1991 census is 55946. The projected population as of 2001 is 65246.

PLANNING AND DEVELOPMENT OF THE TOWN

The early development of the town was centered on either side of the temple road since this was the most important road in Tripunithura. The segment from statue junction to the temple is within the early fort and the development in this area was limited but the segment from statue junction up to the market road began to develop as a commercial street, true to the pattern of ribbon development seen all over Kerala. This area was a Christian belt and in 1950 the Principal commodities were provisions, clothes, and tobacco. A fish market sprang up but it was later shifted to the market road. The segment inside the Fort was the stronghold of Hundi and money lenders. With the banning of Casteism, the Fort became obsolete and the hundi's also disappeared. Presently within the past ten years, new constructions have started arising in the Fort area after demolishing the old structures. The planning of the town can be better understood from the images of the city. The images are classified into five elements namely paths and nodes, edges, districts, and landmarks.⁴⁸

PATHS-Paths are the circulation routes or lines in which people move. The main paths in Tripunithura are the Ernakulam road in the North-South direction and the temple road in the east-west direction. A major portion of the traffic both vehicular and pedestrian moves along these two roads.

NODES-Nodes are centers of activity into which one can enter. They are junctions or crossings of paths or points of concentration like plazas. The major nodes in the town are the statue junction East Fort junction and the bus stand.

EDGES-Edges are linear boundaries that distinguish one area from the other. An edge may be a river which is a strong feature creating the boundary of a city or it may be an elevated road or a row of buildings outlining the area. Tripunithura town is surrounded by the Kaniampuzha river on three sides and the river perfectly defines the town.

⁴⁸G. Premkumar, A Guide Book on Hill Palace Museum, Tripunithura (Thiruvananthapuram: Government of Kerala, Department of Archaeology, 2015).

DISTRICTS- Districts are medium to large parts of a city that have common distinguishing characteristics. They are identifiable from within and can be also used for reference. Fort area forms the district of Tripunithura where the royal palaces are concentrated.

LANDMARK-A landmark is a physical object. It need not be a building, it can be a tower sign, a mountain, or a monument. The landmark in Tripunithura is the temple, statue of Raja Ravi Varma, the clock tower, etc.⁴⁹

URBAN EVOLUTION OF TRIPUNITHURA

- 1951- Tripunithura was formed in 1951 as per Thirukochi panchayath rules, comprising of 15 wards.
- 1955-The first panchayath elections were held.
- 1958-Tripunithura rose as a major grade panchayath
- 1971-Tripunithura became a special grade panchayath
- 1978-Tripunithura Municipality was formed
- 1990-First residential flat after demolishing historical monuments and palaces started in this year and the density of residential building increased drastically in a span of 20 years
- 2018-Kochi metro extension to Tripunithura- transition happening⁵⁰
- 2022-Tripunithura transformed from merely a municipality to a metropolitan city

Most substantial phase of the Urbanization construction process which was the first railway transport construction, was so eco-friendly and it was without damaging the heritage and without causing concerns to people.

The development and the first phase of urbanization can be traced back to the beginning of the first railway transport construction. When we look at the developmental history of Kochi, the history would not be complete without mentioning Maharaja Rama Varma, also known as Rajarshi, who brought the railways to Kochi. In fact, he needs a mandatory mention in this context. Kochi has been ruled by the rulers of the country since 1860 and there were negotiations regarding initiating railway lines and correspondence with British residents. however, the money required for this was paid by the Cochin rulers themselves to the British. Kochi, which was in a great financial crisis, was not in a position to do so. Rajarshi Rama Varma, who ruled Kochi from 1895 to 1914, took up this challenge, recognizing that the

⁴⁹Sheeja K.P, Conservation and Development of Fort Area, Tripunithura (Chennai: Anna University , 1998).

⁵⁰Adv. Pushpajakshan (Social worker and a journalist), interviewed by Anitta Johnson, January 23rd, 2022.

railways were responsible for the basic development and urbanization of other countries. During this time the British started the train from Coimbatore and reached north of Shornur.

It is believed that development will be possible if the railways are brought to Kochi as a continuation of this line. This belief gave him the energy to introduce a railway by overcoming every obstacle and hindrance coming on his way. For this, he went to Madras and met the duke of wellington, the British governor, and expressed his desire. But here too Rajarshi did not despair, knowing that the British would not invest. Arriving in Delhi, Lord Hedson, Viceroy of India, presented the petition.⁵¹The reply from Lord Hedson was that he had no money. Maharaja Rajarshi Rama Varma returned to Kochi in despair and decided to fulfill his wish by any means. Meanwhile, Work has started on this. The aim was to find out the cost of transporting the railway line to Kochi on its own.⁵²The technical experts were called and a plan was prepared for this. It is pertinent to note that the Maharaja Rajarshi ensured frequently that no one is affected by this urbanization mode in any way. He was really strict on that basis. And used to tell that urbanization should be a blessing and should not be a harm to society. According to preliminary estimates, the mission would cost Rs 70 lakh to build the 62 -mile (100km) railway line from Shornur to Kochi. But it was a sad truth that there was only 40 Lakh in the Kochi treasure house as savings during those days. At last, he came to a decision. The decision was made to sell 14 of the gold caps and gold umbrellas out of 15, which were used for the Sree Poornathreyeesa temple festival. When the royal family was informed about this, some members of the royal family objected and argued by saying that the country or dynasty would be ruined if they use divine items for modernization. But the king argued that he would not be angry if God's property was used to do things that would benefit the country. Eventually, it was decided to sell the 14 golden caps out of 15. He sold those items to a gold trader in madras for Rs. 10 for one pound of gold each. But the money received was not enough to install the rail. The rest of the money was later found by selling the jewels of the royal family. Construction of the railway began in 1899. It was said that the Kochi was in a great financial crisis during the construction phase. Opposition to the king came from many quarters. The then diwan, P Raja Gopala Chari was the only one who stood in support of raja for this mission accomplished.⁵³

⁵¹Minutes of discussions with H.E Sir ARTHUR HANDLOCK in 1895-Shornur Cochin Railways Scheme.No.-97 Agreement dated 1.1.1901-between H.H the Raja of Cochin and the Madras Railway company for the construction working and maintenance of Shornur Cochin State Railway

⁵²Maddy, "The King's Railway," Maddy's Ramblings, November 28, 2009, <https://maddy06.blogspot.com/2009/11/kings-railway.html?m=1>.

⁵³Govt:G.H.S.S School, "Rajakiyam," Shadhabdhi Smaranika 2018, March, 2018, 61-63.

On June 2, 1902, freight trains started plying in Kochi for the beginning of the urbanization Revolution. From July 16, passenger trains challenged the non-cooperation of the British and brought the railway to Kochi by their own efforts, but Maharaja Rajarshi Rama Varma later faced many difficulties. The British began to see him as their enemy. It even went to the extent that they tried to oust and expel Rajarshi from power anyway. Meanwhile, the famous revolutionary Dr. Chembakaraman Pillai reached Kochi on the submarine named Emlan. It was rumored that he had reached Tripunithura and that Rajarshi had conspired against the British. It is said that Rajarshi later vacated the kingdom at the request of the British following the incident. According to Rajarshi's biography, he was leaving the post as he could not pay attention to the administrative purposes due to some serious health issues. He wanted to lead a sage-like life after relinquishing power.

Apart from the Kochi Railway, the tenancy bill and the Panchayat Act were enacted during the Rajarshi period. In addition, libraries and hospitals were established during this period. Again, another phase of urbanization began with this without deteriorating historicity and nature too. Rajarshi Rama Varma is the architect of Tripunithuras urbanization, in fact, Kochis urbanization that too on the right path. One has to wonder whether Kochi still respects and follows his development architect policy of not damaging the historicity, and nature and not causing concerns to the residents of the place where developments happen, as modernization is supposed to be a blessing and not to be a problem for the society. Among the other notable historical figures who used the Old Railway station are Robert Bristow and Lord Irwin. Bristow was instrumental in giving Kochi the present shape of an urbanized city.⁵⁴ Since Rajarshi's inception, the railway line today reaches Tripunithura Rajanagari by Metro train but one has to cross-check whether the new urbanizing policy nowadays follows his principles.⁵⁵

*The feature of tomorrow's Tripunithura is also acceptable to Captain Thampuran. Thampuran sees the spirit of Kochi growing due to overcrowding. roads and huge flats were filled. Thampuran has an obligation not to damage the environment and the peace of people in the name of urbanization*⁵⁶.

⁵⁴Arun Vijay, "Historic Old Railway Station in Kochi Faces Shocking Neglect," On Manorama, May 28, 2019, <https://www.onmanorama.com/travel/travel-news/2019/05/28/historic-old-railway-station-kochi-neglect-abandoned.html>.

⁵⁵Ramabhadran Thampuran (Royal family member and former member of Palace Administration board), interviewed by Anitta Johnson, December 23rd, 2021.

⁵⁶Antony John, "Kochi Valarunnu dweepukalum kadannu Kadalukalkapurathek," Cochin Smaranika, 2000, 193.

CHAPTER-2

RECENT SPATIAL CHANGES OCCURRING IN TRIPUNITHURA

Urbanization and global relationships have had deep historical impacts all along the western coast of the Indian peninsula in general and Kochi in particular. It is both inadequate and inaccurate to invest everything 'urban' with moments of history like encounters with foreign corporate networks (from the Portuguese to the British). Until the time of Portuguese involvement, the urban systems were not dominated by any particular form of governance.⁵⁷ Changes in urbanization during this period are not solely attributable to changes in the maritime equations though this was indeed more significant for the west coast and early forms of urbanization in Kochi. It may be gathered, broadly from the historical overview of urban processes, that urbanization from its early form developed by and large in a decentered manner. A major transformation in urban formation started off with the aggrandizement of states like Travancore or Kochi and the contractual agreements and maritime treaties with the Portuguese.⁵⁸ At a later period Mattancherry, which was also a center of domestic trade, became the center, soon to be followed by Thrissur and finally Tripunithura, more to the south.⁵⁹ Kochi maintained a distinctly cosmopolitan character, as a center of the spice trade and to a lesser extent as a shipbuilding center, until the consolidation of British administration after the replacement of the Dutch by the end of the 18th century. Thus there has been no 'colonial urban development' in the abstract instead, urban formations ensued from specific historical conjunctures. There were transformations in the relative autonomy of different groups over time, especially with the centralization of the state and revenue systems.⁶⁰ In due course of time, there was a rise of a large educated middle class as well as the withdrawal of large populations from an earlier agricultural production system with feudal overtones into salaried jobs. On a relative scale, but unlike other urban spaces in India like Bombay, Ernakulam too became a town for migrant settlers, most of whom, came for work in the different public offices, banks, or trading centers.⁶¹

⁵⁷Benjamin Swain Ward, Peter Eyre Conner, and S. Raimon, *Memoir of the Survey of the Travancore and Cochin States*, (Thiruvananthapuram, Kerala : Kerala Gazetteers Dept., 1994),133.

⁵⁸Nagam V. Aiya, *The Travancore State Manual*, vol. 2, (Thiruvananthapuram, Kerala: Kerala Gazetteers Dept., 1999), 72.

⁵⁹Zayn al-din, *Tuĥfat AlMujahidin: A Historical Epic of the Sixteenth Century*,(Kuala Lumpur, Malaysia: Islamic Book Trust, 2009),102.

⁶⁰Charles Alexander Innes, *Malabar*, 2nd, (Madras: Madras government Press,1951),145.

⁶¹V.N Prasannan, "SahasraNetangalude Athma Samprapthiyode ,"*Cochin Smaranika* ,2000,213.

The advent of Europeans also contributed to the beginning of urbanization in Tripunithura by constructing various palaces and buildings and introducing foreign architecture in these buildings which in turn made Tripunithura a royal town and created a foundation for the historical heritage⁶²-

EUROPEAN CONTRIBUTION TO TRIPUNITHURA AND ITS CITY PLANNING

PORTUGUESE ERA (1498-1663) OF TRIPUNITHURA

Shops, traveler inns, walkways became a common feature during this period in Tripunithura. 14th century AD saw Tripunithura becoming a port town, goods from the east and west of Tripunithura were brought using boats and bullock carts and exchanged at the main trading centers. Slowly Tripunithura developed into a port with a large population. In 1498, the epoch-making event of Vasco da Gama's landing at Kappad in Calicut took place and Cochin rulers extended a whole-hearted welcome to him. They gave the right to build Portuguese factories in Cochin in return they sought his assistance in their fight against Zamorins Rajas of Cochin virtually turned out to be vassals of the Portuguese. Tripunithura became a variant in the vernacular architecture during the Portuguese era. But the character of the palatial buildings gradually changed from the vernacular style to the colonial-style induced by the introduction of several western powers in the region starting off with the Portuguese and finishing with the British. But Portuguese contribution to Tripunithura is considerably less compared to other Europeans. On 7 January 1663, the Dutch captured Cochin Fort making Tripunithura entirely dependent on Dutch. With the end of the rule of Raja Goda Varma (1662-63), the Portuguese era in Tripunithura's history came to an end.

DUTCH ERA (1663-1805) OF TRIPUNITHURA

The Dutch era in the history of Tripunithura began during the reign of Veera Kerala Varma of Mootha Thavazhi (elder generation) (1683-87), During his reign, Dutch became strong in Tripunithura. It was during the reign of another raja of the same name Veera Kerala Varma (1746-49) that the Dutch were defeated in the war against Travancore at Colachel. Dutch renovated the palace at Mattancherry, hence the name Dutch Palace. It was during his reign that the raja and his family members shifted to Tripunithura for residing. During this time several palaces, stables, and military barracks were built in Tripunithura. The Hill Palace

⁶²Adv. Pushpajakshan (Social worker and a journalist), interviewed by Anitta Johnson, January 23rd ,2022.

known as Kunnummel Kottaram (palace on the hill) in the vernacular architectural style, has become the Royal abode of the Cochin dynasty only after the first 19th century. Before it was in the palaces within the fort that the Maharajas resided, many administrative buildings were also located in Ernakulam. The few old structures which existed in Tripunithura were the palaces built by Dutch-Devatha Malika, Bungalow Kovilakam, and Kalikotta palace. With the advent of the Dutch, the general character of the building changed. New elements like glazed sash windows, and steeply sloping roofs, valleys, arched openings etc were added to the building. They followed a general scheme of double storied bungalows which was the most common feature in traditional buildings. The use of courtyards became obsolete, tampering with the climate, lighting, and social relevance of the same.

URBANIZATION IN ARCHITECTURE

Urbanization can also be scrutinized from the architectural styles provided by Europeans. Urbanization is more than the growth and physical expansion of cities. It is a process that transforms territories, changes existing reciprocities and establishes new relationships between different places.

Glazed Sash Window, which are the replicas of the Dutch are more than self-evident from the Kalikotta palace. Most of the buildings constructed in that period have the same detailing but vary in their height and number of panels. Small glass tiles from Belgium were used rather than single panels. They followed the general proportion in the divisions of windows. Two or three panels in a group are separated by elongated bottle-necked wooden pillars. In some buildings, full glazed windows ornate the main facade only while in certain other structures windows are provided around the corridor. They introduced *the glazed sash windows which replaced the traditional 'Charupadis' (inclined wooden railings) of vernacular architecture.*

Arched Openings are the other distinct contribution of the Dutch to Tripunithura. These Openings are generally spanned by semi-circular arches. In most of the buildings, these arches are expressed in their true forms with exposed masonry works or with ornamentations. The main entries to the bungalows are highlighted with 'Poomukhams' which are ornated entries with Chajjas. *Cornices and Bands*: Profusely ornated cornice works are generally seen in royal buildings - the official residences of the ruling rajas. These cornice works and bands were originally for concealing the wooden rafters jutting out of the walls, supporting the deck or upper floors. Cornice works are finished with lime. In some of the palaces, cornice works are given even on the interior walls and colored with vegetable paints. *Gables*: The gables of

Dutch buildings can be inferred as the Dutch versions of traditional gables. But the functionality of these gables is debatable particularly in certain buildings like 'Dwisalas' or for L-shaped plans. These false gables modify the elevation without serving any definite purpose. Mangalyam palace is a good example of this. The use of glass certainly created transparency and lent lightness to the overall structure but the heat buildup increased considerably. The wooden louvers provided at the bottom of the full-height windows let in the air. They failed in providing sufficient eaves and shading for the windows. Gable windows providing indirect lighting considerably reduce the glare. The principles of Vastu were relevant even in the event of colonial construction.⁶³

Nilamittam palace was the first building in the fort area constructed by the Dutch people. Generally known as the 'Dutch Bungalow'. Unlike the other palaces in the fort area, it has a unique character. The palace was built on a raised structure of one storey height and hence it looks like a double storied structure. In the past the palace had a spacious open-air hall erected on a unique raised platform and was meant for enjoying moon nights and hence the name. *Valiya Padinjare Kovilakam*, another contribution of the Dutch is believed to be the Kovilakam (palace) of 'Ammam Thampuran' - the official residence for the mother of the ruling raja. It is the first three-storied building inside the fort area. The three floors have typical planning with a central hall and bedrooms on the eastern and western sides. This waterfront bungalow shows some relation to the traditional planning concepts of a Naalukettu with Madapilly, connecting corridors, and Kulappura (bathing ghat). Theendaripura (kitchen and dining) etc.

Another major building constructed by the Dutch within the fort area is the '*Kalikotta palace*, which is believed to be the durbar of the raja. After the shifting of royalty to the hill palace, Kalikotta developed as a cultural center. Kalikotta was constructed in the latter half of the 1800s. The gigantic doors and windows reflect the beauty of Dutch architecture. The windowpanes of the panels can be adjusted by just pulling them up or down. This large window which is a blind imitation of Dutch-style is not at all climatically responsive. Large pitched roof with intermediate valleys was a new step alien to the area, Maharaja Rama Varma (1790-1805) (Sakthan Thampuran, the Powerful Maharaja) ruled the state from 1769 and reached an understanding with Mr. Pouni about the English supremacy over Cochin state. On January 1791, it was officially accepted. This English era began in the history of

⁶³Namboothiri.R, "Tripunithurayude Charithram Ezhuthumbol", Kazhcha, August 2003, 129.

Tripunithura soon. The Bungalow Palace of Tripunithura, Kalikotta, and Devatha Malika which were demolished a half-century back were built in Dutch architectural style while the clock tower, Hill Palace, and Puthen Bungalow were all constructed in the English Victorian style.⁶⁴

BRITISH ERA (1805-1948) OF TRIPUNITHURA

At the beginning of the 18th century Tripunithura started gaining prominence. Around 1755 Female Thampuran (Kshatriya title) and the other Kochuthampurans (others left Vellarapalli and started to live in Tripunithura. Thus Tripunithura became the capital of the Cochin Royal Family. In June 1812, Col Munro, the British Resident took the administration of Cochin into his own hands in order to restore order in the State. At the end of the 18th century, Tripunithura was transformed into a fort town with gateways in all 4 cardinal directions. Tripunithura fort area (Kotayakam) was very small. The old fort boundaries were delineated with respect to the gateways established on the east (present statue junction) and north (arch, reminiscent of the fort gate, is present now), towards the south It is the old canal which acts as the boundary. The iron bridge and the river "Poorna" set the western boundary. Tripunithura was the capital of the kingdom till the formation of Travancore-Cochin unifying Travancore and Cochin on 1 July 1949. In other terms, we have the last line of historic buildings which could suggest to us the limits of the ancient fort town, the palace high school in the north, and the Mahatma library in the east. There must have been a moat surrounding the fort in the ancient times which is prominent in the south now. It might have got filled up. For residing the Royal family members, a number of Kovilakangal (palaces), military barracks, and stables. Roads were laid outside the fort. Trade centers sprouted up at the advent of the 19th century. Careful attention was provided by the Cochin Royal family members to the growth and development of Poornathreyesa temple. Christians, Jews, and Muslims had a good social network with the Cochin Royal family members. They had given them free plots to build their religious centers. During the reign of Rama Varma (1864-1888) the Puthen Bungalow Palace and the Manimalika (Clock tower) at Tripunithura were built by the British. Another building as old as Valiya Malika is the Puthen Bungalow, built by the British, which was the official residence of the Raja before the royalty shifted to the hill palace in 1888. It had a mini durbar and spacious halls for the get-together of the raja and his ministers. Adjoining this palace is the Puthenmalika Naalukettu, which is the shrine for the

⁶⁴Ramabhadran Thampuran (Royal family member and former member of the Palace Administration board), interviewed by Anitta Johnson, December 23rd, 2021.

family deity, and where the king conducted his poojas. A corridor connects the palace to the Nallukettu. During the reign of Rama Varma (1895-1914) the railway line from Shornur to Ernakulam took place. Rama Varma (1948-1964) was known by the name of Parikshit Thampuran. He was the last official ruler of the Cochin Empire. During the British era buildings like the Palace School, Edoopu palace, Amma Thampuran Kovilakam, Rajbhawan Palace, and Elaya Thampuran Kovilakam were constructed. Buildings built by the British and Dutch are evident in their detailing and use of material but the basic elements used in construction were local and the change, on the whole, was not unappreciated. However climatic response was poor as compared to the traditional structures.⁶⁵

Another phase of Urbanization in Tripunithura began on educational lines with oriental schools and colleges

Sanskrit College, Tripunithura (ORIENTAL COLLEGE)

The Sanskrit College, Tripunithura, is the premier institution in the field of oriental studies. Founded as early as 1914 it owes its origin to the munificence of H.H. Sri Rama Varma, the then Maharaja of Cochin, who was himself a profound Sanskrit scholar. It was started with a view to encouraging the traditional method of teaching Sanskrit, especially the Sastras. Necessary funds for the institution were set apart as endowments. The college was original of the residential type. Boarding, lodging, and tuition were free. Later on, the hostel was abolished and students were given stipends instead.

R.L.V FINE ARTS SCHOOL(SCHOOLS FOR THE CULTIVATION OF FINE ARTS)

This institution started functioning as a Music School under private management in 1936. It was taken over by the Government in 1944. The school provided training for girls in arts and crafts such as music, dancing, drawing, painting, and needlework. The musical section offered training for the Junior and Senior Music Examinations held by the Government of Cochin. In 1956 the music section was upgraded as a Music Academy and separated from the school. In 1958 new courses in Kathakali (orthodox style), Bharatanatyam and Painting were instituted. The R.L.V. School now provides instruction in the following courses:-1. a six-year Diploma course in Kathakali with a further two years of post-Diploma study, 2. a four-year Diploma course in Bharatanatyam with an additional two a two year course years of post-Diploma study, 3. A two-year course for the Certificate Examination in Drawing and

⁶⁵Government of Kerala, "Traffic Operation Planning-Tripunithura Town, Final Report" (Kochi, Kerala: NATPAC, 2002), 32.

Painting with another two years of study for the Diploma examination and an additional one year for post-Diploma. The Kathakali and Bharatanatyam courses are comparable to the corresponding courses in the Kerala Kalamandalam at Cheruthuruthi and the Drawing and Painting course to the parallel course in the Ravi Varma Painting School, Mavelikkara. The school also contains a needlework section where girls are trained for the final industrial examination of the Kerala Government. In 1962-63 there were 54 students and 16 teachers in the school. The R.L.V. School is perhaps the only Government institution in Kerala that gives training in a variety of arts with a professional bias. The music section of the Radha Lakshmi Vilasom Fine Arts School, Tripunithura, was converted into an Academy after the model of Sri Swathi Thirunal Academy of music, Trivandrum, with effect from August 1956. The Academy provides instruction in Vocal music and Veena. The Ganabhooshanam title is given to successful candidates 112 students (18 boys and 94 girls) and 9 teachers at the end of a four-year course. Academy. There are proposals to start the Violin course and the post-Diploma course in Vidwan.

Jaibharat Nrithakalayalam, Tripunithura

This is an important institution established in 1951 with the object of imparting training to young men and women in Kathakali, Bharatanatyam, and other classical dances. It has been coaching 25 students every year. There are two full-time teachers and four part-time teachers working in this institution. The Nrithakalayalam has also been holding dance performances for the benefit of the public. It is getting an annual grant from the Kerala Sangeetha Nataka Akademi, Trichur. ⁶⁶

Next phase of educational urbanization began in the medical field⁶⁷

Government Ayurveda College, Tripunithura

The Ayurveda College, Tripunithura, was started by the Government in September 1959. It is housed in the Guest House of the Kanakakkunnu Palace. It imparts instruction for the D. A. M. course (Diploma Course in Ayurveda) which extends over four years with an internship of 9 months. The students are given practical training in different stages of their studies. While the first and second-year students are given practical training in the identification of medicines, medicinal plants, herbs, and minerals, etc., and preparation of medicines, the third and fourth-year students are given clinical training in the Hospital. Much help is being

⁶⁶Government of Kerala, Ernakulam District Directory, (Aluva, Kerala: Parksons Company, 1984) ,739.

⁶⁷Adv. Pushpajakshan (Social worker and a journalist), interviewed by Anitta Johnson, January 23rd ,2022.

rendered in practical training by the attached Pharmacy and Botanical Garden, which is full of medicinal plants. The students who are given clinical training get thorough knowledge of Ayurvedic treatment because the patients in the in-patient department are placed under the charge of each student for examination, diagnosis, and prescription, though the treatment is given only with the approval of the Physician in charge of the beds concerned. The Collegiate Pharmacy is housed in a building adjoining the present college building. It is mainly intended to provide practical training to the students in the preparation of medicines. It is noteworthy that the Central Government and All India Arya (Hindu) Dharma Seva Sangh, New Delhi, are granting stipends and scholarships to a number of poor and deserving students of this college for the encouragement of the study of this ancient system of treatment. In 1962-63 the college had 124 students on its rolls. There are 249 volumes in the college library. The Government Ayurveda Hospital, Tripunithura, is under the Ayurveda College. ⁶⁸

*It is substantial to note that all this Urbanization in Tripunithura in its initial phase was many beneficiaries for the society and its people. but the sad truth is that the recent urbanization taking place in Tripunithura is definitely a threat that focuses only on modernization but not on conserving the historicity and heritage of Tripunithura and also the resultant aftermath of urbanization which causes concerns to people.*⁶⁹

RECENT SPATIAL TRANSFORMATION AS PART OF URBANIZATION PROCESS

Rapid urban growth often leads to the collapse of historic urban cores, since urbanization generally occurs at a more rapid pace in the city's peripheries than in centers. Revitalizing historic urban centers thus makes sense from numerous perspectives, including economic efficiency, promotion of commerce, trade, and tourism; employment creation; poverty reduction, and the strengthening of civic and national pride. Biley Menon and a Team of Architects took up the task of surveying the heritage of Tripunithura, a prominent heritage zone in Cochin.⁷⁰ Tripunithura was the seat of the Rulers of Cochin and has a rich Kerala and Colonial Heritage owing to large settlements including several massive palaces, temples, and other landscape and ancillary structures. Within the heritage zone, Fort Complex and Hill Palace Complex were treated as special precincts in the heritage surveys and planning. A

⁶⁸Government of Kerala, Ernakulam District Directory, (Aluva, Kerala: Parksons Company, 1984), 784.

⁶⁹Rameshan Thampuram(Descendants of Cochin Royal Family), interviewed by Anitta Johnson, February 22nd, 2022 .

⁷⁰Adv. Pushpajakshan (Social worker and a journalist), interviewed by Anitta Johnson, January 23rd,2022.

comprehensive mapping of heritage precincts, structures, and features was carried out and a detailed analysis was conducted with respect to current issues. They brought to light the fact that most of the palaces and historically relevant structures are now privately owned and most of them have been converted into flats in the last 15 years. This tendency has been observed to be at its peak in the last 5 years.⁷¹ The density of the residential building has drastically increased in a span of 20 years. The area from the statue to Tripunithura has been highly developed. There are close to 41 palaces, most of the old and not renovated, while some have become marriage halls and flats.⁷² Only a few palaces out of 41 exist, since the government has a lack of resources for maintenance, and only a few exist now. At present, the majority of the land is privately owned and has been converted into multi-storied buildings.⁷³ Some of the paddy fields are being converted to infrastructures as part of urbanization. Even though these areas are fertile land and capable of cultivation. Loss of street character is again another issue. The street from the statue junction to the temple is more of a heritage and cultural zone. Apart from the dilapidated old heritage buildings, new high-rise buildings are emerging in between them.⁷⁴ Tripunithura is a densely populated city suburb in Ernakulam district in Kerala, which is reeling under an acute shortage of potable water, especially during the summer season, despite having a number of surface and groundwater resources. The present situation in Tripunithura attracts the attention to the urgency for investigating the causes and suggesting remedies. Tripunithura (OLR) station is set up in Open Lowrise zone at 76:21:28.8 E & 09:55:33.6N. Small 1- 3 storied detached buildings with scattered trees and abundant plant cover are common in this area. This also represents a suburban region in the study area.⁷⁵ The microbiological and physicochemical quality adversely affected the quality of various water sources of Tripunithura. The sources of pollution include agricultural practices, infiltration of irrigation water, infiltration of sewage effluents, construction activities, farm animals, septic tanks, etc. Therefore, people in these areas have a high potential risk of getting waterborne or sanitization-related diseases under situations when they are forced to use these resources. Therefore, it is recommended that water from these sources is to be used for drinking only after pretreatment like boiling, chlorine disinfection,

⁷¹Government of Kerala, "Report on the Administration of the Ernakulam Town Council in the Cochin State"(Kochi, Kerala : Ernakulam town council, 2019), 19 .

⁷²Lakshmi Sharath, "In a Palace Town Called Tripunithura," *The Hindu*, May 27, 2011, <https://www.thehindu.com/features/metroplus/travel/in-a-palace-town-called-tripunithura/article2054199.ece>.

⁷³Adv. Pushpajakshan (Social worker and a journalist), interviewed by Anitta Johnson, January 23rd ,2022.

⁷⁴Poojapura Sugu(Retired RLV college faculty) , interviewed by Anitta Johnson, October 22nd ,2021 .

⁷⁵George Thomas et al., "Analysis of Urban Heat Island in Kochi, India, Using a Modified Local Climate Zone Classification," *Procedia Environmental Sciences* 21, (2014): 6, doi : 10.1016/j.proenv.2014.09.002

filtration, reverse osmosis, electro dialysis, etc. based on the situation demand. In conclusion, effective preventive measures are to be taken immediately to save these water resources of Tripunithura as it is an area of faster development and dense population.⁷⁶This is also another issue faced by the people of Tripunithura due to this negative urbanization. Urbanization is a common and inevitable occurrence everywhere. While growth and expansion are beneficial for many people and businesses, there is a potential for the loss of historical areas that are the heritage value to people. Heritage temple towns are frequent targets for the rapid transition to urbanization that is often accompanied by alteration of historical areas. A recent United Nations report (2017) said that by the year 2050, 69% of the population would be concentrated in urban areas. Development, growth, and urbanization are inevitable to provide jobs for a burgeoning population, but new guidelines for planning, development and implementation need to be created that include factors like cultural and architectural heritage. The recent project on Urban Conservation Planning in Southeast Asia(2017) of the Getty Conservation Institute, is a good example of progressive thinking in urban planning. The report emphasized the difficulties in the conservation of the urban cultural heritage that countries like India, China, and other Southeast Asia region confront under current urbanization models. In Tripunithura, the capital of the erstwhile Cochin State, vestiges of a royal past lay scattered, often ignored. Conservation efforts have not been the most earnest. A number of palaces were pulled down to make way for multi-storied buildings. Of the structures that remain, many are dilapidated, crumbling, almost resigned to the imminent fate that awaits them.⁷⁷There is a sense of old-world charm when someone sees the Vadakkekotta Vaathil, the centuries-old royal arch, at the entrance of the palace town, where the descendants of the Cochin Royal Family still reside. But when moved around, there is a perceptible change in the landscape of contemporary Tripunithura. Palaces, which belonged to the royal family, are being converted into apartments and flats that are available at a premium price.⁷⁸

Inner fort area near the temple, once the stronghold of the royal family, is only half a square Kilometers and within that area, 20-25 flats have come up recently, there were 40 palaces in the inner fort area when Krishna Varma started documentation in 2014. “Within a span of

⁷⁶M. P. Subin et al., “The Study of Water Quality of Tripunithura, a City Suburb of Ernakulam District in Kerala,” *Nature Environment and Pollution Technology* 10, no.4 (December 2011) : 584.

⁷⁷C Sharika, “The Tripunithura Royal Heritage Walk: History and Many Stories,” *The Hindu*, November 2017, <https://www.thehindu.com/life-and-style/travel/the-tripunithura-royal-heritage-walk-history-and-many-stories/article20708383.ece>.

⁷⁸Afrah Ali, “A 'Palace Coup' in Tripunithura,” *The Times of India*, November 2017, <https://timesofindia.indiatimes.com/city/kochi/a-palace-coup-in-tripunithura/articleshow/61716238.cms>.

three years, five of them were demolished to build apartments,⁷⁹” Despite congested roads and traffic jams, people still buy houses because of the town’s strong religious pull and vibrant temple culture”. Most palaces are razed down because owners find maintenance to be a heavy burden. Most palaces have many members from the royal families who are joint owners and they see the properties as a lucrative real estate deal worth crores. “And once ownership is given to private parties, demolitions happen for monetary benefits,⁸⁰” Urbanization has also led to the loss of many other important landmarks in the area, which has weakened the historical richness of the temple town.⁸¹

Excessive population growth, economic development, and lack of institutional or legal frameworks in several cases set the stage for the destruction of the historic urban fabric. Historic heritage is places of significance to people on account of historical, physical (ie, technological, archaeological, architectural), and cultural values. Historic heritage is often referred to as cultural and historic heritage or simply 'historic places'.⁸² The most relevant 3 structures which has been recently either on the verge of their transformation into a residential flat or being neglected or not being renovated were the Puthen bungalow, whose remains have been purposefully exposed to a stage of destruction for the construction of RLV college hostel, Ilayathampuran Kovilakam, which has been converted to Geetanjali flat, Ootupura and the adjoining Pathra Kalavara which has been dilapidated in the rainstorm of June 2020 and not being renovated till now.

STRUCTURE 1 - PUTHEN BUNGALOW PALACE

Rama Varma II who is also called Midhuna Masathil Theepeta Thampuran governed between 1864 and 1888 and built the Puthen bungalow as his own palace with the assistance of the dutch. The main reason to choose this spot was that it was directly opposite the Valiya Padinjare Kovilakam (Palace No. 41) where his mother stayed. And Mithuna Maasathil Theepetta Thampuran dwelled here all throughout his reign. The temple adjacent was linked to the palace and had most deities of nearby temples in it. The temple stands as a memorial to

⁷⁹Krishnan Varma (an architect and member of the royal family who has been documenting the area for the past three years), interviewed by Anitta Johnson , January 24th , 2022.

⁸⁰Anujan S (chemical engineer and a royal descendant who has been living here since 1958) , interviewed by Anitta Johnson, January 23rd , 2022 .

⁸¹Supriya Deepak, “The Bridge of Many Stories,” The Hindu , January 2019, <https://www.thehindu.com/life-and-style/conservation-efforts-for-tripunithuras-iron-bridge/article25958281.ece>.

⁸²K. Kiruthiga and K. Thirumaran, “Effects of Urbanization on Historical Heritage Buildings in Kumbakonam, Tamilnadu, India,” *Frontiers of Architectural Research* 8, no. 1 (September 2018): 95, doi: 10.1016/j.foar.2018.09.002

the Puthen bungalow palace at Tripunithura in Ernakulam and is located near to Sree Poornathrayeesa temple. Its wooden ceilings are carved with various divine figurines and murals were also extensively used. This temple stands as a proud symbol of the erstwhile Cochin State. One of the most relevant deities along with Sree Poornathrayeesa is the Palliyarakaavil Bhagavathy idol akin to the one in the temple in Mattancherry Dutch palace given as a gift by the Dutch colonizers to the Cochin Maharajah. It was added here as the Maharajah found it difficult to go to Mattancherry for praying. The temple also has Kodungaloor Bhagavathy, Thiruvanchikulam Mahadevan. , Ganapathy, Koodalmanickam Bharatan, etc.⁸³The temple is still well preserved and conserved contrasted to the palace because the temple is still under the control of the royal family. Unfortunately, the Puthen bungalow palace was handed over to the Kerala Government in 1982, which paved the way for the loss of priceless heritage. ⁸⁴The palace was built of the finest of materials which were brought from Europe and built with taste and style, the old-timers say it was a glorious and beautiful place, initially the Radha Lakshmi Vilasam college of music in short RLV College of music was housed in it ⁸⁵and it was still a grand old building with a lot of ambiances but as times passed and ignorance it has now crumbled shattered down, with all its costly artifacts swindled, and the whole place full of thick weeds and heavy undergrowth. It's now a place of rust and decay and such heritage sites and temples should not be forcibly taken over from their rightful owners. There were many controversies regarding returning the palace to the owners and with the participation of corporate sponsorship and public assistance to rebuild it by experts for conservation. But it all failed.⁸⁶

*“The person who gets across the bungalow will experience that they entered into a particular fantasy world and that is mainly because of the uncommon flooring, Italian tiles.it is a nearly 200yrs old bungalow.”*⁸⁷It was in 1992 that it was said that this bungalow was in a dilapidated condition and it was asked that the archaeologist must study this site soon and submit the report. As per the report, it was noted that the Puthen bungalow was a beautiful 3 storied building and it started to get into the dilapidated phase RLV College used this as their academic block for many years.⁸⁸ It is very much painful to see the bungalow in such a

⁸³Namboothiri.R, “Rajanagariyude Puravriatham “,Tiranottam 97, April 1997, 9 .

⁸⁴Adv. Pushpajakshan (Social worker and a journalist), interviewed by Anitta Johnson, January 23rd ,2022.

⁸⁵Namboothiri.R, “Rajanagariyude Puravriatham “,Tiranottam 97, April 1997, 9 .

⁸⁶Adv. Pushpajakshan (Social worker and a journalist), interviewed by Anitta Johnson, January 23rd ,2022.

⁸⁷Vishwanadhan Thampuran(Cochin Royal Family Member) , interviewed by Anitta Johnson , February 22nd, 2022.

⁸⁸P.K.Gopi (Archaeologist,the one who examined this bungalow), interviewed by Anitta Johnson , February 24th , 2022.

condition.⁸⁹The durbar hall which was housed inside the Puthen bungalow was capable enough to give an ecstatic feeling encompassed with dutch royal architecture. The durbar hall was used by the college for music and Kathakali performances.⁹⁰It is said that there was a huge bell found in this bungalow and the sound would be heard till the hill palace.⁹¹There would be 3 doors on each doorstep. first, it would be net, second glass, and third wood. As most of the doors were made out of glass, sunlight always enters the temple without any hindrance.⁹²

Puthen bungalow from an architectural point of view - Italian tiles were used in this bungalow imported from England. Built-in the Victorian style it had floors with Italian tiles in floral and geometric designs, stained-glass windows, and lovely chandeliers. From the porch, there were three flights of stairs. The main steps led to a hall that opened out to a few rooms, the living quarters of the maharaja. There were steps from here that led to another small hall above that had a wonderful view of the town. Two other staircases, one on either side of the main steps, led to a terrace. On the western side, there was a long hall, again with decorative tiles, chandeliers, and a veranda that ran right around the hall. This was used by the maharaja as a durbar and later members of the family used it for weddings, birthday functions, etc. On the eastern side, there was a huge Nadapura, or an open hall, which was used for the feasts. This also became a badminton court later. The palace's driveway had a lotus pond with a fountain and a well-maintained garden. And on the left side of the gate stood a guard room.⁹³Maharaja modified the Thattumaalika (the balconies meant for the royalty, the pandal for the elephants, the huge dining hall (inside the Sree Poornathrayeesa Temple), Padinjare Kovilakam, and the famous clock tower, which remains in the town's signpost.⁹⁴

⁸⁹Ramabhadran Thampuran(Royal family member and former member of Palace Administration board), interviewed by Anitta Johnson , December 23rd , 2021.

⁹⁰Niranjana Varma (Artist who rediscovered the heritage of Tripunithura through her Artistic work), interviewed by Anitta Johnson , December 24th , 2021 .

⁹¹Subhadra Thampuran(Descendant of cochin royal family) , interviewed by Anitta Johnson, February 23rd , 2021 .

⁹²Poojapura Sugu(Retired RLV college faculty) , interviewed by Anitta Johnson , October 22nd ,2021 .

⁹³Ramabhadran Thampuran(Royal family member and former member of Palace Administration board), interviewed by Anitta Johnson , December 23rd , 2021.

⁹⁴K.T Rama Varma, Kairali Vidheyam : Rama Varma Appan Thampuran , (Thrissur, Kerala: Kerala Sahithya Academy, 1998), 382.

STRUCTURE 2- ILAYATHAMPURAN KOVILAKAM DEMOLISHED TO BUILD GEETHANJALI RESIDENTIAL FLAT

Kovilakam is defined as the principal manor, estate, or palace of a royal lineage of Kerala. This is the residence, where all who have not succeeded to get Rajaship to remain under the management of the eldest resident male or female member of that particular branch of the family. In the North Malabar region, this is pronounced as Kolom. The Kovilakam-residences are normally huge adorable manors or palaces with extensive woodwork and mural paintings in the royal traditional medieval Kerala architecture style. A Kovilakam was usually endowed with estates and properties (crown lands) adequate to the maintenance of its constituent members. At the very moment when a member ascends to any dignity/position (Stanam), he/she loses his residence in the Kovilakam and is usually brought up and lived apart on the property set apart for his dignity/station (Stanam). However, there are instances when such members on ascending to a station have preferred to stay back in their Kovilakams of birth.⁹⁵Such was the Kovilakam of Ilayathampuran.Kerala Varma Kochunni Thampuran (Theepetta Ilaya Thampuran was born on 1855 and died on 1900.He was the son of Kunhikkavu Thampuran Kizhakke Valiya Kovilakam and the father of swami Siddeswarananda. This Kovilakam has two Nalukettu compositions, one larger than the other. The main residential building and two more old ancient buildings, a water tank (known as Padakulam), the family temple (dedicated to Hindu goddess Talattil Bhagavati), and Sarpakkavu are all within the Kovilakam Complex. This particular Kovilakam was best known as a Gurukulam (center of learning). Scholars from across present-day Kerala used to live in the palaces and study Sanskrit and Vedic science. Eminent scholars from this Kovilakam contributed to Malayalam and Sanskrit literature.

This has been demolished and converted into a residential flat called Geetanjali in 2018.

⁹⁵Rameshan Thampuran(Descendants of Cochin Royal Family),interviewed by Anitta Johnson, February 22nd,2022.

STRUCTURE 3-PATHRAKALVARA ADJOINED WITH OOTUPURA **which is still in a dilapidated condition after the rainstorm of June 2019.⁹⁶(NEGLECTED STRUCTURE)**

Ootupura, literally means, "The place where food is made with the soul." It has a distinct approach daily - to cook a meal that is a tasteful delight for all people to enjoy. The core base of this is "Adithi Devo Bhava." People in India consider themselves as an embodiment of "Deva" - a God to whom they have to dedicate their human nature with all purposefulness and wholeheartedness. Originally the term Ootupura means an opulent and palatial dining room that is normally found in the temples and mansions. The meals served and distributed in those places have always been recognized because of their wholesomeness, epicurean taste, unique smell, colorfulness, and texture. The main idea that stands behind these customs - is "always supremely satisfy our guests⁹⁷." All dishes served by the king in Ootupura are prepared according to the Ayurvedic canons. Based on Ayurvedic wisdom, a balanced diet should consist of six tastes - sweet, sour, salty, spicy, bitter, and astringent. In Kerala, it is customary to serve and set out nourishment on a banana leaf. Coconut oil is an important ingredient in the delicacies of Kerala-oriented Ootupuras and it is commonly used in many dishes. Tamarind is one of the most substantial ingredients for much traditional food preparation in Ootupura. Ootupura is a dining area near the temple where the king serves food to the visitors of the temple as a sacred meal. Healthy snacks and appetizers such as banana chips, pappadam scones, and fried jackfruits, Prasadams are normally served here.

Utensil warehouse which is otherwise known as Pathra Kalavara located in Tripunithura, which existed during the reign of the Cochin royal family collapsed in Heavy rain. This historical building is close to the Ootupura of Sri Poornatheyyesa temple and is also situated in front of Palace High School. It was one of the existing few historical buildings which formed the basis of historical heritage. The center of the building along with its roofs and walls fell onto the floor with a huge noise. The incident took place around 12 noon on Friday in heavy rain in 2020 June. This was made out of costly wood. The ground floor of the large two-storey building was used as a basement for the Ootupura and the upstairs functioned as a

⁹⁶Ashwathy R, "Royal Utensil Warehouse Destroyed in Rainstorm in Tripunithura," Malayala Manorama, June 3, 2020.

⁹⁷Pramod M.V et al., "Personnel and Administrative Reforms Work Study Report" (Ernakulam, Kerala: Bishwanath Sinha IAS, 2017), 45.

special palace office. The varieties of trees surrounding this building would be worth crores. The building now is in a state of disrepair.⁹⁸

OTHER FEW EXAMPLES OF “URBANIZATION DETERIORATING HISTORICITY” ARE -

Kalikottai Palace -Kalikottai Palace has been proposed to convert into a Kalyan mandapam for serving 500 capacity. Here the integrity of the Kalikottai Palace has been maintained by the addition of an auditorium and the palace being converted into a dining hall. The facade of the palace has been left untouched.

The Palace No.6 -The Palace no.6 (the 5th prince's palace) has been converted into a heritage hotel that will have 25 rooms. Guest rooms have been added. The existing mansion is converted into the front office and the existing Nalukettu is used as the kitchen as before. The hotel is a ground plus one storey structure, with its facades remaining untouched.

Palace No.1 (Lekha Nivas) -The mansion of the palace of the 1st prince has been converted into a boutique that has the traditional types of sarees and others. No addition has been made to the mansion.

Palace No.4 -Palace No.4 (the palace of the 2d prince) has been converted into an art gallery.

Nellara - Nellara was used to store grains and has now been demolished to build a tailoring training center.

Kamalalayam palace -This palace has been now converted into an apartment called Lotus apartment.

Mangalyam palace has now been converted into Kochi Kshatriya samajam in Vadakkekotta.⁹⁹

Amba Nivas Palace was destroyed by private developers for their industrial missions. Same experience for **Bhadralayam palace** and **Edoopu palace**.

If it were all maintained then and there, it would be there to enhance the brightness of our heritage.

⁹⁸Ramakumaran Thampuran (Royal family Member, Sanskrit professor), interviewed by Anitta Johnson, January 23rd, 2022.

⁹⁹Sheeja K.P, Conservation and Development of Fort Area, Tripunithura (Chennai: Anna University , 1998).

KOCHI METRO EXTENSION TO TRIPUNITHURA

Kochi is the most densely populated city in the state as part of an extended metropolitan region, which is the largest urban agglomeration in Kerala. Rapid urbanization and intense commercial developments in the recent past have resulted in a steep rise in travel demand putting Kochi's transport infrastructure to stress. The increase in capacity of the transport system has not been compatible with transport demand. With the ever-increasing demand for road space-both for vehicular movement and parking, it is difficult to depend only on road-based transport solutions. Kochi Metro phase I estimated cost of Rs. 5146 crore.

The overall length of Kochi Metro phase I is 25.16 Km from Aluva to Petta. In continuation to phase I Government approval has been received for a 2km stretch from Petta -SN junction. The registered vehicles in Ernakulam have increased significantly over the years. The number has climbed from 8.9 to 17.6 Lakh in six years (2009-10 to 2016-17). The share of two-wheelers is highest (about 62%). The sharp increase in two-wheelers and cars could be attributed to the improved economic status of people and deficient public transport supply. RITES(*Rail India technological and economic services*) have already carried out a detailed study on different options available for extending the Metro to Tripunithura and found that the most viable option is to connect the Metro alignment to Tripunithura Railway Station which is about 1.2 Kms from S.N Junction Metro Station. The location has its own inherent advantage, as it caters to the traffic from both the Eastern & Southern sides of Ernakulam. It is also pertinent to mention here that, Tripunithura Municipality is planning to build a Bus Depot near the Railway Station which will act as a catalyst to develop the area as a multimodal transport hub for Railway, Metro & Bus Transport, eventually will become the entry point to the city thereby increasing the Peak Hour peak Direction Trips (PHPDT) of the entire Metro Corridor. Tripunithura Municipality is soon to become Tripunithura metropolitan city.

LOCATION OF KOCHI METRO EXTENSION IN TRIPUNITHURA

It is proposed to acquire approximately 2.64 hectares of land in Nadama village, Kanayannor taluk, in Ernakulam district for the construction of the viaduct and Metro Station of the Metro rail project. "S.N Junction metro station" in the Phase IA alignment is located on the Kochi-Dhanushkodi National Highway 85 which is about a Km away from the heart of Tripunithura Town. Nadama is a small village located in Tripunithura Municipality. Approximately 2.64 hectares of land from S.N junction to Tripunithura in Survey Nos. 8Pt, 9 Pt, 10, 11, 12, 31,

32, 33, 34, 58 Pt, 59Pt, 60Pt, 61 Pt,62 Pt, 63Pt, 65Pt, 66 Pt, 67Pt, 87Pt, 93 Pt, 2Pt, 3Pt, 5Pt, 21Pt, 22Pt,4Pt, 3Pt, 38Pt, 48Pt,49Pt, 50Pt,13,28,35,64Pt are proposed to acquire for the project. The project area belongs to Tripunithura Corporation.

Size and attributes of land acquisition in Tripunithura for metro extension

The project are mapped to acquire 2.64 hectares of land in Nadama village, Kanayannor taluk, in Ernakulam district and most plots are being used as residential land. And also some shops are located in the area. The identified land comprises both private as well as public land and includes Dryland, fields, Well, PWD(*public work department*) roads, and other open land owned by the government. As per the Revenue records the said land belongs to both Dryland and wetland category.¹⁰⁰

Due to the progressive increase in vehicles and vehicular movement, the roads of Kochi city are not able to bear a load of traffic smoothly, especially on main roads. It leads to many adverse impacts in different parameters in terms of time, maintenance of roads, pollution, etc. The DPR(*detailed project report*) is approved by the Government of Kerala after an elaborate and extensive feasibility study. The examination of the alternative route is redundant at this stage.¹⁰¹As Kochi transforms into a concrete jungle with increasing urbanization, it also has its own ‘urban heat island’, a term used to denote the unusual heating up of urban areas owing to excessive built-up area and infrastructure.¹⁰²

SOCIAL IMPACTS-As per Kerala Gazette (Extraordinary) No. 3103 dated 28/12/2020, 64 land plots comprising public and private land are reported to be acquired in Nadama Village in order to construct the Viaduct and Metro Station of Kochi Metro Rail Project Limited.¹⁰³

As per the present alignment for the acquisition of land for the construction of viaduct and metro station in SN junction to Tripunithura the properties of 46 will be affected. During the SIA study, the study team could understand that the project caused the displacement of families, loss of land, adverse effects on the structures, loss of livelihood, etc. 22 houses in the project area will be affected due to the project. The shops that existed in the project area

¹⁰⁰Govt of India and Govt of Kerala, “Social Consequences Assessment Study Report ,” 2017.

¹⁰¹Eapen Varghese , “Development Plan for Kochi City Region 2031,” vol. 1 (Kochi, Kerala : Government of Kerala, 2010), 69 , <https://www.cochinmunicipalcorporation.kerala.gov.in/web/guest/development-plan>.

¹⁰²Aathira Perinchery, “Rapid Urbanization Giving Rise to Heat Islands in Kochi,” The Hindu, December 23, 2018, <https://www.thehindu.com/news/cities/Kochi/rapid-urbanization-giving-rise-to-heat-islands-in-kochi/article25809737.ece>.

¹⁰³“Kerala Gazette,” 9 Kerala Gazette § (2020). Kerala gazette, extraordinary, published by authority, Government of Kerala, 28th December 2020-VOL 9

were also included in the acquisition. Hence it is understood that the livelihood of the shop owners and the employees working in that shops will also be adversely affected due to the project. None of the families belonging to Scheduled Tribe is included in the acquisition, 3 families belonging to Scheduled caste are included in the acquisition and the area is not belonging to forest land. However, with the existing alignment plan, Twenty-two (22) residential buildings are understood to be affected and a total of Forty Six (46) families are to be directly impacted. Further, the tenants and employees working in the owned and rented organization/ commercial units are known to be indirectly affected by the project. The project activities lead to traffic congestion at times but not a long-duration blockade.¹⁰⁴Impacts data has been shown in table 1.

Besides the above-said impacts of land acquisition, the dust pollution, the possibility of obstructing the access to the nearby houses/shops, and the hindering of the mobility of the people and vehicles during the construction period were also a problem. Scientific and timely disposal of waste was another important issue. Dust pollution is in its peak in Tripunithura in the last 3 years and Asthma patients are increasing day by day in the areas near metro construction.¹⁰⁵

Applicable legislation and policies

The applicable laws on land acquisition, rehabilitation, and resettlement for the proposed land acquisition for constructing the Viaduct and Metro station of the Kochi Metro Rail Project in Nadama village in Kanayannor Taluk in Tripunithura Ernakulam District are

☞ The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.

☞ Kerala The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules 2015

☞ Government of Kerala – Revenue (B) Department -State Policy for Compensation and Transparency in Land Acquisition vide G.O (Ms) NO.485/2015/RD dated 23/09/2015.

☞ Government of Kerala – Revenue (B) Department -State Policy for Rehabilitation and Resettlement Package for Land Acquisition in the state in lieu of RFCTLAR&R Act 2013 vide GO(MS)No.448/2017/RD dated 29/12/2017.

¹⁰⁴Govt of India and Govt of Kerala, “Social Consequences Assessment Study Report,” 2017.

¹⁰⁵A.s Ambily, “ The Kochi Metro opportunities, challenges and impact on the public: A study at Ernakulam District,” Journal of Advanced Research in Dynamical and Control Systems 9, no. 5 (October 31st, 2018):72.

☞ Right to Information Act, 2005¹⁰⁶

*It ensures safer and faster transportation and better access to other regions in the district for rich people, but for low-income groups, all these urbanization processes resulted in much property loss. The compensation which they got from govt. would be enough only either to buy land or to build a house. So, the rich people can easily retain their lost land but poor people are in a desperate state unable to overcome this financial obstacle. When metro rail is introduced in a city, there is the initial inconvenience caused such as people being forced to give up their land for road and rail expansion. Even if they are given a compensation amount in order to afford another land and build a house from scratch would be impossible for many. After the Urbanization process, the Land value will also increase, which may not be affordable to stay in that place. So, it's extremely difficult for the low-income group.*¹⁰⁷

As per Form 5 of Rule 14 (1) of the Kerala Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2015, the SIA Unit conducted a Public Hearing at 11.00 am on February 05, 2021, at Seema Auditorium, S.N junction, Tripunithura. The discussions between the participants of the hearing were transcribed in the local language. Notification for the public hearing was given through notices to all affected families a month prior to the hearing and published in two Malayalam newspapers 2 weeks prior to the hearing.¹⁰⁸

ROAD WIDENING FOR METRO EXTENSION IN TRIPUNITHURA

Road widening is planned at the location where sufficient RoW is not available for accommodating the traffic as well as construction activities for the metro. In some areas from ROB(Road over bridges) to Tripunithura station, Municipality already has a plan to develop & expand the road so that section of land will be acquired by the municipality, and a metro can be constructed in that section after the acquisition of land. In Tripunithura, it is more than self-evident that all the commercial shops along either side of the roads have their family residential houses of shop-owners attached at the back of their shops. As a result due to this road -widening, all their shops have to be cleared which results in the loss of their basic means of livelihood and it is exposed more to accidents as these houses are so close to the roads. Water-logging is also a problem with road-widening in Tripunithura as it is for

¹⁰⁶Govt of India and Govt of Kerala, “Social Consequences Assessment Study Report ,” 2017.

¹⁰⁷C.T.Velayudhan,Near Railway station Thripunithura,Ernakulam(the one who had to suffer from land acquisition for metro) , interviewed by Anitta Johnson , January 23rd , 2022.

¹⁰⁸“Kochi Metro:Public Hearing,” Veekshanum, February 7, 2021,11.

road-widening in Tripunithura, all the canals are covered for more road space which results directly to flood. As part of the extension project, road widening would also be undertaken, a lot of the topsoil was used for the construction of the road. Removal of vegetation during the site clearance can result in erosion as bare soil is exposed to the effects of rain.¹⁰⁹Road-widening program improves channel capacity by adding more area to the circulation channels, but its impact was huge in Tripunithura.¹¹⁰The town's footpaths are narrow, crowded, encroached upon, and, along most stretches, a no-go place for pedestrians. Another serious issue for pedestrians in the town is the low-hanging advertisement boards that obstruct visibility and pose a threat of physical injury. The advertisement boards, mostly flex, are hung or placed about the height of five to six feet. Most pedestrians prefer to step down from the footpath to avoid a collision with these advertisement boards.¹¹¹

Solid and perilous Waste in Construction Phase can still be seen in Tripunithura

Waste generated during the construction phase includes the left-over concrete, timber, broken bricks, tiles, glass, metal rods, and bars, used cement bags, rags, redundant machinery & tools, storage containers, plastic bags and containers, metal containers, Polymer Mud, etc. During the construction phase, hazardous waste such as used oil from diesel generator (DG) sets, oil-soaked cotton, oil-lined containers, paints drums, etc. will be generated at the site. During the construction works, there was a contaminated runoff from the site as accidental spillage of hazardous materials, improper disposal of solid, liquid, and hazardous wastes, and contaminated surface runoffs from the Site which lasted for 3 days in Tripunithura. Such spillage of chemicals or disposal of waste in or near-surface streams can cause water pollution issues in nearby areas.¹¹²

¹⁰⁹“Detailed Project Report-Kochi Metro Project (Aluva -Petta Corridor)” (Delhi Metro Rail Corporation LTD, 2011), 17, https://kochimetro.org/kmrl_content/uploads/for.pdf.

¹¹⁰NATPAC, “Traffic and Transportation Study Report for Kochi” (Ernakulam, Kerala, 2006), 23, <https://kochimetro.org/wp-content/uploads/2014/11/Traffic-Transportation-study-report-for-kochi.pdf>.

¹¹¹“Narrow, Constricted Footpaths in Kochi Force Walkers onto Roads,” The Hindu, May 28, 2016, <https://www.thehindu.com/news/cities/Kochi/narrow-constricted-footpaths-in-kochi-force-walkers-onto-roads/article5262051.ece>.

¹¹²“Executive Summary of Environmental Impact Assessment Study and Environment Monitoring Plan for Kochi Metro Rail Project” (Ernakulam, Kerala: Senes Consultants India Pvt Ltd, 2015), 5, <https://www.kochimetro.org/wp-content/uploads/2015/03/ExecutiveSummaryDPCorrected.pdf.pdf>.

Paddy Lands and Wetlands of Nadama Village, Trippunithura

The Project Site overlaps with a few minor legally protected areas, in the form of Paddy Lands and Wetlands, which are locally designated as per the provisions of the Kerala Conservation of Paddy land and Wetland Act 2008. The concerned lands are situated in Nadama Village, Kanayannur Taluk, and Ernakulam district, and are identified as Survey. No. 480, 481 of Block No. 181/3 and Survey. Nos. 488,489, 490, 491, 492, 493, 495, 495, 497, 498, 499, 500, 501, 502, 504, 505 of Block No. 182/1 of Nadama Village. The Project requires the use of 0.54 ha of the said lands for the construction of a viaduct(a long bridge-like structure) as part of the Project.

OCCUPATION AND LIVELIHOOD-The project area has a number of restaurants/eateries, a common source of livelihood in the area. Consultations with the project affected persons and people contacted in and around the project location indicated that the majority of people are involved in government and private services. A significant percentage of the population runs businesses, small, and medium-big from fruit sellers to general store owners to showroom owners. Consultations revealed that women are more into services, maybe in the government sector or private sector. Men are more involved in business and privately-owned consultancies and other professions like doctors, advocates, school tuitions, etc. Migrants lost their jobs, as most of the shops under which their work are cleared out for road expansion. It was brought to notice by some participants that workers employed at the commercial establishments were impacted by the project. The inconvenience created due to the construction has resulted in the fall of businesses, especially in small establishments. This has resulted in a decrease in employment.¹¹³

KOCHI METRO IMPACT ON RELIGIOUS SITES

The project stretch has many religious structures – temples, mosques, and Churches. There were three temples, two churches, and one mosque. Construction work impact on the Shree Poornathrayeesa Temple, during festival time in November particularly, is managed by the local administration. Shiva temple in Tripunithura area where a portion of temple boundary was affected, Mosque at Poonithura area lost parking and the boundary due to road widening

¹¹³Ashika Raof and Ar.Fathim Rashna Kallingal, “Report on the Environmental Impacts of Kochi Metro” (Calicut, Kerala: Academia.edu, 2016), p. 5,https://www.academia.edu/27058109/REPORT_ON_THE_ENVIRONMENTAL_IMPACTS_OF_KOCHI_METRO.

work. St George Church at Tripunithura lost land and also lost their land. The church on its front side had Saint's statue that needed to be shifted, the shifting was done by the project.

Impacts on Loss of Livelihood As a result of the Vadakekotta station construction in Tripunithura

The project's land acquisition has resulted in the loss of livelihood for business owners and their workers. The impacted business owners account for 71 families and 28 families due to land acquisition for road widening and Vadakkekotta station respectively. These businesses include ready-made apparel sellers, hotels, electronic device repair Centers, etc. The number of workers engaged at these commercial structures was not initially considered as project affected. However, during a public hearing, it was suggested by the project affected families to include the workers who lost their livelihood due to impacts on commercial establishments. Consultations with some business owners near Vadakkekotta station reported that workers with documentary proof of having worked at the commercial establishment for at least 3 years are considered as project affected.

Only in the case of SN junction station, full lad plots were acquired and only one resident owner was displaced from home. The rest of the area was land with minor structures such as walls, gates, etc. Vadakekotta, land acquisition effect 25 landowners closing entire and partial loss of plots for 4 landowners 2 displaced from home. Tenant traders and displaced employees are at an increased risk of being worse off as a result of project impacts, particularly income generation and livelihood of poor people.

Out of 29 privately owned structures in which 24 are commercial structures(ready-made clothes sellers, electronics device repairs centers) 4 are residential structures for 1 residential cum commercial structure. ¹¹⁴

It is very substantial to receive and track grievances, especially from the people who belong to the low-income groups who are adverse and get affected by all these urbanization processes whose grievances are mostly neglected and unheard. It is important to place a grievance redressal mechanism in place to record, resolve and communicate back grievances raised by the community. The grievance that can be immediately resolved – should be resolved within 2 days of receiving the grievance. Summary of all grievances received, registered, documented, and tracked should be reported in the quarterly reports submitted to

¹¹⁴Govt of India and Govt of Kerala, "Social Consequences Assessment Study Report ," 2017.

higher management. This helps to keep track of overall trends and patterns of concerns allowing emerging issues to be flagged and understood at an early stage. The statistics on grievance handling and redress are to be included in action plans and annual reporting. The person responsible for handling grievances shall arrange to validate the legitimacy of the complaint and ascertain that the complaint is related to the project or project activities.¹¹⁵

Vulnerability status – The vulnerability status of the households was assessed based on the BPL status, SC/ST household, households with differently-abled persons, elderly persons with no immediate members to support, widow member in the household, a women-headed household with dependent members and households with no legal title of the land. The groups indicated in below table 2 have been drawn from the 43 households surveyed. It was found that certain households face more than one type of vulnerability.¹¹⁶

Thus, it can be concluded from this chapter that, Urbanization deteriorated the historicity of the royal town and history resting in Tripunithura now. If Tripunithura, as a royal town was preserved and conserved, it would still exist as a great example of a historic town.. just as Mysore, Jaipur, and Rajasthan. Tripunithura had the capability of becoming a tourist spot if it was rejuvenated properly then and there. As a result of urbanization, Tripunithura had become more congested and crowded, as most of the roads in Tripunithura are narrow roads that suit the horse rides of kings during the ruling times. as a result of this, Tripunithura had now become a more accident -zonation area, and also improper waste management is also a problem. due to this people throw waste on dilapidated historical buildings. canals have already become a dumpsite of urban waste as well as drainage with untreated sewage.

Urbanization destroyed ecologically sensitive zone like paddy and Pokkali fields. thus leading to environmental degradation. People in Tripunithura have a high potential risk of getting waterborne or sanitation-related diseases according to a water quality study due to the heavy construction works and accidental spillage in metro work. “A city without old buildings is like a man without a memory”. Their preservation demonstrates recognition of the necessity of the past and of the things that tell its story. Highways and the streets lack proper pedestrian pathways. due to the construction of the metro, the situation become worse. The urban town came into being from palace town, the metropolitan city from a municipality. Waterlogging and floods became a normal phenomenon in the past 4 years in Tripunithura,

¹¹⁵Venugopal, Kochery (H), Bhanu Nivas, Eroor West. P.O(The one who lost their land through acquisition) , interviewed by Anitta Johnson, January 21st,2022.

¹¹⁶Govt of India and Govt of Kerala, “Social Consequences Assessment Study Report,” 2017.

which is unknown to the previous generation. basically due to this covering of canals and other urbanization works. Krishna Varma is the first person to conduct a heritage mapping of Tripunithura in 2014 and brought out the fact that while Fort Kochi managed to get its heritage conservation act together early, Tripunithura with a massive inventory of royal heritage remains floundering on this front. Dust pollution has drastically increased due to metro construction as it is near the residential area. asthma patients are on their hike in Tripunithura.

As urbanization increased, the population increased, electricity and water consumption increased, and noise pollution was at its peak. The land use of the Kochi metro is a mix of residential and commercial use. Temporary economic displacement was caused by land acquisition. Rich people will somehow recover their lost land and not the same for poor people. The problem is studied from the perspective of the general public. Water resource loss was also a problem. like handpumps, water tanks, access to rivers, etc.¹¹⁷Development and urbanization should benefit all classes in a society, and the environment should also be equally considered. Kochi metro extension to Tripunithura had resulted in slum and squatter formation in its initial phase, which will be dealt with in the next chapter.

¹¹⁷Rameshan Thampuran(Descendants of Cochin Royal Family), interviewed by Anitta Johnson, February 22nd ,2022.

CHAPTER-3

SLUM AND SQUATTER FORMATION IN TRIPUNITHURA AS PERILOUS URBAN CONSEQUENCE AND THE MANDATORY REJUVENATION PROCESSES NEEDED

A slum is often described in urban studies as a settlement of low-income groups characterized by overcrowding, substandard and informal housing and the prevalence of unhygienic conditions.¹¹⁸The concentration of economic development in a few cities and particularly the largest implies a population boom in very short periods of time that in turn severely tests the coping capacity of city governments. One of the most visible outcomes of rapid urbanization has thus been the persistence and formation of slums. The formation of slums need not be inevitable with rapid urbanization. Such an argument appears to be contradicted by evidence of large slum populations in a large number of developing countries and particularly in rapidly urbanizing regions like Asia. City authorities faced with rapid urban development lack the capacity to cope with the diverse demands for infrastructural provision to meet economic and social needs. Not only are strategic planning and intervention major issues on the agenda to manage rapid urbanization, but city governments are not effectively linking the economic development trajectory to implications for urban growth and, hence, housing needs. That urban slums and squatter settlements are not inevitable and are evident in cities like Bangalore, Delhi, etc. Squatter and slum settlements have formed mainly because of the inability of city governments to plan and provide affordable housing for the low-income segments of the urban population. Hence, squatter and slum housing is the housing solution for this low-income urban population. In the mega urban regions or metropolitan areas, part of the problem would lie in the coordination among different authorities that are in charge of economic development, urban planning, and land allocation. Such coordination issues also exist between the city and national governments.¹¹⁹problems. Urban density generates both positive and negative spillovers, such as congestion, contagious disease, and crime. These problems cannot always be managed by rich cities, so it is unsurprising that poor and poorly

¹¹⁸ Divya Priyadarshini, "Resettling Slums and Slum-Dwellers in Delhi: The view from Savda Ghevra," *Indian Anthropologist* 47, no. 1 (January – June 2017): 69.

¹¹⁹ Giok Ling Ooi and Kai Hong Phua, "Urbanization and Slum Formation," *Journal of Urban Health* 84, no. 1 (2007): 27, doi : 10.1007/s11524-007-9167-5

governed mega-cities suffer particularly from the negative externalities associated with density.¹²⁰

In Tripunithura, the causes of the slum formation are rapid rural-to-urban migration, economic stagnation, high unemployment, poverty, informal economy, forced or manipulated ghettoization, poor planning, politics, and social conflicts. When metro rail is introduced in a city, there is the initial inconvenience caused such as people being forced to give up their land for road and rail expansion. Even if they are given a compensation amount, order to afford another land and build a house from scratch would be impossible for many. These may also include commercial shops where migrant labor especially Bengalis when Kerala is concerned, works. So, when the shops in which they work are taken up for metro, they are deprived of their livelihood. so, they would continue to stay on roadsides in search of a new job. As a result, a residential area with substandard housing that is poorly serviced and /or overcrowded, and therefore unhealthy, unsafe, and socially undesirable, especially in this present pandemic scenario.¹²¹ Thus, it results in a high standard of living or lifestyle on one side and slum formation on another. The urban areas are increasing at a very fast rate in Tripunithura. These urban centers attract a large chunk of the poor population from the countryside. The majority of these people do not have adequate resources to take care of their housing needs. Thus the majority of this type of population gives rise to slums and squatter or unauthorized settlements at the periphery of towns and cities. In all such localities, health risks are at their peak. Also, the rental costs effectively prevented the poor from taking advantage of the new housing, which meant their only option was to move to other slum areas. In the case of Kochi, it has a high literacy rate, with an effective literacy rate of 97 percent for men and 94 percent for women. The city authorities identified 231 slums in the city in 1996.¹²²

The urban restructuring in *Mumbai* has imposed varied, strange, and misappropriate forms of urban development and land uses in the peri-urban areas. It is in the early stages of inclusion in the global economy. In the coming years, these changes will gain unprecedented momentum with totally unpredictable and arbitrary consequences. While the focus of national

¹²⁰Edward Glaeser, "A World of Cities: The Causes and Consequences of Urbanization in Poorer Countries," *Journal of European Economic Association* 12, no. 5 (September 22, 2014): 1154, doi: 10.3386/w19745

¹²¹Ramya Krishna (local resident of Tripunithura), interviewed by Anitta Johnson, January 12th, 2022 .

¹²²B.A Prakash, "Urban Unemployment in Kerala: The Case of Kochi City," *Economic and Political Weekly* 37, no. 39 (September 2002): 4075. doi : 10.2307/4412670

governments and urban local bodies will undoubtedly be on so-called success stories, the real face of such urban transformations needs to be analyzed.¹²³

The process of urbanization in *Delhi* changed after independence in 1947. This has been largely due to the migration of people from rural to urban areas, primarily in the search for better employment. Rural to urban migration contributed about 30% to urban growth between 1981 and 1991 in India. However, this figure was more than 50% for the four Indian megacities. It is estimated that on average 1,000 people migrated to Delhi every day between 1981 and 1991. As a result of this, the squatter population increased from 493,545 in 1981 to 1,296,720 in 1991, almost 263% growth in a decade. As most migrants did not have jobs they were forced to squat on any vacant land. This process having been repeated year after year has given rise to numerous squatter settlements and slums in the city.¹²⁴ If future studies of urbanization and underdevelopment are going to be useful, then they must transcend current theoretical and ideological particularism.¹²⁵

METHODS TO REJUVENATE TRIPUNITHURA

CONSERVATION AND DEVELOPMENT OF TRIPUNITHURA

It has been already discussed in the previous chapter that the core center of Tripunithura is the place where the palaces of the Cochin Maharajas (Elaya Thazhvazhy) are concentrated.¹²⁶ The palaces and other historic buildings in the area are becoming extinct because of the new constructions and expansions to suit the new standards. An increase in housing stock leads to congestion and alien high-rise apartments coming up spoiling the skyline and character of the place. This unplanned growth has resulted in overloaded service infrastructure. Unorganized overhead electrical lines etc. The existing roads are not adequate to take up the increase in heavy vehicular traffic and local traffic in the area which results in inadequate parking space for two-wheelers and four-wheelers. The old traditional temple street is left uncared without any profitable business as the existing business does not satisfy the present need and standard of living. The historic waterfront which is great potential for the area is being neglected because it is left as the backyard to the existing houses. In

¹²³Aparna Phadke, "Mumbai Metropolitan Region: Impact of Recent Urban Change on the Peri-Urban Areas of Mumbai," *Urban Studies* 51, no. 11 (June 2012): 2466, doi: 10.1177/0042098013493483

¹²⁴Saurabh Bagley, "Delhi-- One City Multiple Destinies: Impact of the Metro Rail on Urban Form," MIT Libraries, Massachusetts Institute of Technology, January 1, 2003, <http://hdl.handle.net/1721.1/64562>.

¹²⁵York W. Bradshaw, "Urbanization and Underdevelopment: A Global Study of Modernization, Urban Bias, and Economic Dependency," *American Sociological Review* 52, no. 2 (April 1987): 237, doi : 10.2307/2095451

¹²⁶P. Narayanan, *Tripunithura Grandhavari: A Study*, (Indian Institute of Advanced Study, 2019).

adequate open space for recreation in the area. Inadequate tourist facilities. Even though the town is famous for Kathakali laureates, there are no performance centers available in the town, and so on.

Having a rich heritage is of course a matter of pride. Be it the art, literature, culture, monuments, music, and built heritage, India has an enviable position in the heritage status. No doubt, our State too has its share of contribute¹²⁷. 'Conservation' has in the course of the last decade become a powerful force in environmental planning that the term 'conservation planning' has been coined. The idea of conservation ethics is not new to India. Visible proof of the concern for the conservation of natural heritage, particularly wild life can be seen in the Ashokan edicts of the third century B.C. In the conservation of the cultural heritage (built environment) however, our record is not good. It is through a historical perspective that we learn how, in Europe, the protection of the built environment was linked with the transformation that followed the industrial revolution which resulted not only in the destruction of the modern landscape and historical monuments but in the discovery of steel framework, also changed the whole concept of design and material. The post-world war development focusing on economic standards added a new dimension to this concept. The increasing scale of destruction of monuments formerly regarded as being solely a European problem has now become one of international concern. Conservation of cultural heritage is now being considered a shared responsibility nationally as well as internationally. The aim of conservation is not to reproduce what has been defaced or destroyed but to save what is left, from further injury or decay and to preserve it as a national heirloom. Many cityscapes and environs of monuments are becoming vulnerable to misuse, damage, and even extinction, leading to irrevocable cultural, social, and even economic loss. So conservation is seen as a useful tool for development. There prevails heterogeneity in ownership pattern-properties within the fort area are owned by VTK (Vallya Thampuram Kovilakam Trust), members of the Cochin Royal family, municipality, government, and Cochin Devasom. In order to implement a revitalization strategy requires the coordination of all the above-mentioned groups. There are lots of owners for a particular palace, hence due to the difficulty in property division the palace is demolished and flats are constructed so that each of its members will own an apartment. There has been a high migration component changing the cityscape by making the construction of apartments economical and changing the social composition. The

¹²⁷P. Venugopal IAS and P.R Roy, eds. (Thiruvananthapuram , Kerala : Heritage of Kerala , 2008), 5-6, <http://townplanning.kerala.gov.in/wp-content/uploads/2019/10/Heritage-series-Thiruvananthapuram-website.pdf>

new segment of the population has neither cultural linkage nor attachment which is a threat to this historic area. The new inhabitants mostly youngsters from the IT sector may contribute to the further deterioration of housing stock.

NEED FOR CONSERVATION

Tripunithura' has great potential which could be preserved and used. The environment is serene with the old Kovilakam (Palaces) in large garden plots around the famous 'Poornatheeyesa temple and the Poorna river flowing through the side, the traditional street and others, together giving the place a character and a picturesque landmark. Such effects could not be wholly recreated by new development. The old palaces also give feedback to history which imparts a feeling of historical continuity which is becoming more and more valuable in an age when the environment is heterogeneous. and incompatible.

HOW IT CAN BE PRESERVED?

A city without old buildings is like a man without a memory. Their preservation demonstrates recognition of the necessity of the past and of the things that tell its story. Periodic cleaning, mending, strengthening, maintenance works, and renewal are substantial. Job creation through heritage conservation or tourism. Awareness campaigns must be held to educate the community. Strict govt. Action and plan to save monuments, setting up of Archaeological departments. Collecting, generation of funds and donation for their renovation. *“preserving our past. forging our future”*. Chemical treatments of monuments and restoration. In heritage club establishments, Volunteering is the main element as far as conservation is concerned. Valuable old paintings, books, textiles, and other antiques in several palaces, especially, ones in bungalow palace face attacks by insects and micro-organisms and hence forms a threat to artistic heritage and it also needs attention. The younger generation is determined to protect and preserve these heritage structures with the aid of the Indian Association of Architects (IAA) heritage cell and the Indian National Trust for Art and Cultural Heritage. “A fresh approach is needed for the preservation of heritage and laws and regulations are needed for this purpose. IAA’s heritage cell is an attempt toward the same.¹²⁸ Training staff in managing museums and sites is also a vital part of cultural protection, as is developing their

¹²⁸Afrah Ali, “A 'Palace Coup' in Tripunithura,” The Times of India, <https://timesofindia.indiatimes.com/city/kochi/a-palace-coup-in-tripunithura/articleshow/61716238.cms>.

skills and preservation techniques, and constructing sophisticated systems in response to threat.¹²⁹

HERITAGE-There is a moral duty to preserve and conserve our historic heritage, to remember and pass on the accomplishments of our ancestors is a common argument. The main reason underlying this moral duty appears to be pedagogic. The physical artifacts of history teach observers about landscapes, people events, and values of the past, giving substance to the cultural memory. According to Faulkner, historical heritage can be divided into the heritage of objects and ideas, with the implication that one may be conserved without the other. Heritage in history is processed through mythology ideology, nationalism, local pride, romantic ideas, or just plain marketing into a commodity. It is a form of commodification.¹³⁰

CONSERVATION AND TRIPUNITHURA'S ABILITY TO BECOME A TOURIST SPOT

A historic town, almost by definition, be a tourist attraction. Tourism is likely to play an important role in the financing of conservation policies. The tourism industry has undergone rapid growth for the past twenty years in our country. With the present interest in history and archaeology and the overseas tourist appeal, the creation of conservation areas and the preservation of historic buildings results in the growth of tourist attractions. Much of the investment in preservation can be returned through tourist spending- but there must be a corresponding investment in tourist facilities if the potential economic value of tourism to the local economy is to be fully realized. The development of a tourist attraction must imply a considerable increase in the number of visitors. These can affect the atmosphere of towns for short periods of the year. The economic advantages, however generally outweigh the social disadvantages, the resident population enjoying a far higher standard of facilities and amenities. Almost everyone in this town called Tripunithura has a royal connection. And every house is a small palace.¹³¹

¹²⁹Stephen Stenning, "Destroying Cultural Heritage: More than Just Material Damage," British Council, August 21, 2015, <https://www.britishcouncil.org/voices-magazine/destroying-cultural-heritage-more-just-material-damage>.

¹³⁰DR.M.G.S. Narayanan and Dr.N.M. Nampoothiri, eds., "Pareekshith Thampuram Puraskaram," accessed February 23, 2022, https://docshare.tips/heritage_5877a2e3b6d87fbfa28b49d8.html.

¹³¹Lakshmi Sharath, "Tripunithura: Steeped in History, Lost to Time," India.com | Top Latest News from India, USA and Top national Breaking News stories, December 15, 2014, <https://www.india.com/travel/articles/tripunithura-steeped-in-history-lost-to-time-3241148/>.

Historic cities, in particular, have turned to tourism and had the capabilities to transform into a tourist spot, with the allure of heritage travel fueling this growth.¹³²Towns, blessed with heritage as a selling point have advantages to develop their tourism as a product to keep the town walkable with attractions and amenities easily accessible.¹³³The town should amalgamate housing, work, shopping, entertainment, government, and tourist attractions. Such a mix would seem the ideal foundation for what see as key to the town's sustainability. Such sustainability, though, is highly contingent upon a town's forward vision. Tripunithura, being a historic town was capable enough to be a tourist spot if it were all well-preserved . *'better late than never.*

METHODS TO IMPROVE IMPROPER WASTE MANAGEMENT-Placement of waste bins with an interval of 600m and near the bus stop. Proposal of public restrooms in the new parking provision space. Most of the houses in Tripunithura construct their own septic tanks. A municipal dump yard has been maintained to collect the waste from the region. No sort of treatment or reuse or recycling is done here. Improvement in cleanliness and the hospitality sector demands more attention as far as Tripunithura is concerned. Tripunithura municipality has constituted a night squad to take action against people dumping waste on pavements and walkways, especially during nighttime, according to municipal chairperson Rema Santhosh. Residents say waste is thrown out from vehicles during the night on fronts of various residential localities and footpaths. The walkway at Thamamkulangara temple road, for instance, is now blocked with huge plastic bags containing stinking waste. Pedestrian facilitation council president R Ajith Kumar Varma said that they have been flushing out the drainage using high power motors and also disinfecting them with the support of the municipality officials.¹³⁴

PRESERVING ECOLOGICALLY SENSITIVE ZONE-Conserving the existing agricultural and paddy field. Enhancement of tourism and recreational space. Providing open public space for the community along the edge of the waterbody. The ecologically sensitive zone may open up more areas in the vicinity for mining and commercial development around the rapidly urbanizing city, so it must be preserved. Commercial mining or industries causing

¹³²Christina Aas, Adele Ladkin, and John Fletcher, "Stakeholder Collaboration and Heritage Management," *Annals of Tourism Research* 32, no. 1 (January 2005): 28, doi : 10.1016/j.annals.2004.04.005

¹³³ Deepak Chhabra, "Back to the Past: A Sub-Segment of Generation Y's Perceptions of Authenticity," *Journal of Sustainable Tourism* 18, no. 6 (June 2010): 793, doi : 10.1080/09669582.2010.483280

¹³⁴"Ernakulam: Night Squad to Tackle Dumping of Waste in Tripunithura: Kochi News - Times of India," *The Times of India*, <https://timesofindia.indiatimes.com/city/kochi/night-squad-to-tackle-dumping-of-waste/articleshow/84185735.cms?from=mdr>.

pollution must be categorized by the authorities as prohibited activities. Ongoing agricultural or horticultural practices, rainwater harvesting, Organic farming, use of renewable energy sources, and green technology must be enhanced. Tripunithura has got fertile agricultural land on the fringes which form the border of Tripunithura. It had around 40% agricultural land. But now these agricultural lands are getting reduced, and are getting converted into residential areas. The main farming is paddy, fish, and coconut. Aquaculture and fisheries have to be promoted. The cutting of trees by private citizens or the Government or public or private land should be forbidden. New tree planting proposals must ensure that only those species which are traditionally found in the Heritage zone are planted. The existing open spaces like the graveyard, Layam ground, and school playground should be conserved and should not be altered either by new development or by the application of standard town planning criteria. Layam ground could be used as a ground for public fares and for the Attagosham fare. The changing character in different areas of this area is largely dependent on the unequal distribution of the open spaces. There is an emerging trend that bus stands are constructed in the place of large open spaces, public parks, and community spaces. Public spaces should be enhanced natural resources should be sustainably protected. Public spaces are the experienced space, a landmark for the inhabitants, a place to meet, and where the town builds its identity. The end of Puthen bungalow road is marked by a water body, which is a part of the temple, and an environmental amenity that can be exploited by the use of promenades with views towards ponds and temple and activity spaces along, over, and on the water. It is named Arjunatheertham water body. The initiatives that can be brought about are to clean and purify the waterbody. Introduce a system of water recycling, Ornamental fishes along with lotus can be used to enhance it. Open it to the public by creating voids in the compound wall. Enhance the quality of space by providing it with furniture, signposts, cast-iron lamps, etc. Vacant plots within the Tripunithura town being covered with commercial establishments like the open parking space near the municipality office are facing threats. Weathering of streets due to monsoon and other reasons. The leftover open spaces or plots can be converted into the green zone or green parks with an open-air theatre. It will also help to preserve the local heritage and can build awareness among community people. During the festive season lack of facilities such as parking, street lights, security, and wider street widths. proper walkways, comfort stations, rest houses, public toilets & drinking fountains are addressed as major issues of concern as all the spot which was supposed to build this has been occupied to build the metro. Thus, being resistant to conducting festivals which would end up in cultural damage to Tripunithura. Green infrastructure should be

provided as a catalyst to make urban areas more sustainable, energy-efficient, and pollution-free. For example, in restoring the urban continuity of the various parts of the Tripunithura area, one needs to reconsider the requisite densities for the supply of municipal services, in particular the issue of wastewater. Environmental protection and the recycling of water, installing rainwater harvesting tanks, etc will strengthen the protection of the old town, restoring the integration of the inland water lakes, existing water bodies, and ponds within the urban fabric.

IMPORTANCE OF HERITAGE-Heritage has the capability of conveying distinct messages and values that contribute to yielding meaning and shape to people's life. It is capable of representing the identity of a social group. Nevertheless, it represents a vehicle for understanding the diversity of people and developing a policy for peace and mutual comprehension. It is a source of economic progression too¹³⁵Traditional Owners are the custodians of their heritage, the land, the waterways, and the People.¹³⁶

ADAPTIVE REUSES OF HISTORIC STRUCTURES (Giving new meaning to old)

The adaptive reuse of historic buildings is a phenomenon that has great significance not only because a symbiotic functional usage in historic buildings steps up the maintenance of the structure and thus delays decay, but also because the resultant monitoring prevents cases of vandalism and scavenging of building material as is seen in buildings that are deserted and disused. Adaptation requires the up-gradation of an old building to meet new demands and standards. Two parallel aspects to be considered when analyzing a building for reuse. 1) Economic feasibility (2) Maintaining the integrity of the building. Moreover taking pure economic considerations into account, it is cheaper to adapt a historic building to serve a complementary function than to build a new structure.¹³⁷

Reuse of a building must have the capacity to sustain its dignity and role in regional history. Reuse must primarily seek to restore the heritage of an area in a contemporary context, respecting cultural and historic connections, thus reinforcing the pride of the user and the community. Some of the examples of the case study have been described below. *hotel Shalini palace – Kolhapur*-It is a conversion project from a palace to a luxury hotel and thereby

¹³⁵ A. El Menchawy, S. S. Aly, and M. A. Hakim, "The Impact of Urban Sprawl on the Heritage Areas through the Urban Fabric of Cities," WIT Transactions on Ecology and the Environment 150 (July 12, 2011): 299, doi: 10.2495/sdp110261

¹³⁶"Taking Care of Culture Discussion Paper," Victorian Aboriginal Heritage Council, January, 2021, <https://www.aboriginalheritagecouncil.vic.gov.au/taking-care-culture-discussion-paper>.

¹³⁷Alan Dobby, Conservation and Planning, (London :Hutchinson Radius, 1978).

exploiting the traditional external ambiance. But, it's much more useful than being neglected without any use. *Malabar House Residency – LUXURY heritage hotel, Fort Cochin*- Over three centuries, the Malabar House Residency has served as a residence for wealthy traders and influential bankers in Fort Cochin. Fort Cochin was on the center stage of world history as a focal point in the trade between East and West. With all its magnificent colonial buildings, Fort Cochin has finally a hotel that reflects our rich past as a melting pot of cultures.

The revival of the feeling of belonging to a history, a culture, a region, or a district is symptomatic of the human need to know oneself and for others to recognize one's identity. While cities have become places where cultural expressions are varied and seek to be fully expressed, the role of urban heritage is fundamental. The town's ancient features ought to be maintained but functionally it has been retouched to meet contemporary standards of living. But, this process of urbanization should not damage the historicity and should not cause any concerns to the people as well. The exceptional value of historic centers as witnesses of the past and laboratories of the present and the future requires approaches and specific regulations often different from the rest of the city. No doubt this is a very demanding procedure and a long-term process.

EXISTING LAWS

Regulations/Legislations preserve thousands of sites. A building is listed as a heritage building does not mean that (a) it can't be used (b) that it can't be altered (c) that its ownership changes. There is a district-level heritage conservation committee, as a lower body and a state-level heritage commission as an apex (Report from GCDA).

No development or redevelopment or engineering operations of the listed buildings shall be allowed except with prior written permission of the Municipality. Municipality before granting permission shall consult the Heritage Conservation Commission appointed by the Government. When a building or group of buildings is listed it would automatically mean that the entire property including its compound, subsidiary structures, ponds, etc. form part of the list. Listing of buildings does not prevent a change of ownership or usage. However, such usage should be in harmony with the said listed precinct or building. The Transferable Development Rights (TDR) from heritage buildings/listed natural features may be consumed in another plot or on the same plot in which it originates subject to prior approval by the Heritage Conservation Commission. Development control regulation allows the owner to

convert a part of the building to put adaptive reuse provided heritage value is preserved. Before finalizing the special separate regulations for precincts, the draft of the same shall be published in the official gazette and leading newspapers for the purpose of inviting suggestions and objections from the public. If there is any road widening proposed, Municipality shall consider the heritage provisions and environmental aspects before executing. With a view to giving monetary help for repairs of Heritage buildings, a separate fund may be created at the disposal of the Municipality.¹³⁸

There are three distinct types of poor urban dwellers; the homeless, those living in slums, and squatters occupying illegal shantytowns. The basic services such as water supply and sanitation remain inaccessible to the urban poor. The lack of these services along with malnourishment and diseases like diarrhea and tuberculosis etc. keep them in ill health. Cities like Tripunithura often have become dump yards of garbage and industrial waste. This has given rise to environmental problems like air and water pollution with fatal consequences sometimes. Today, there are serious social, economic, and environmental problems within cities, especially when Tripunithura is concerned. Thus, Urbanization which is a positive term or is supposed to be a blessing to its people is causing threats to the people and to the environment as well. The urbanization process should be encouraged only if it has the motive of bringing peace and a high standard of living to every section of society and not only to rich people. From tourism and transportation to transformation as a satellite hub of Kochi, Tripunithura is hoping for a comprehensive change.¹³⁹ But, one should cross-check the nature of the impact which it exhibits.

Even the heritage buildings which seem to be preserved from the outside face problems

CASE STUDY-HILL PALACE MUSEUM, TRIPUNITHURA

The Hill Palace, which was the royal seat of erstwhile Cochin Kings, was acquired by the Department of Archaeology in 1981 and converted into a museum in 1987. It is Kerala's first heritage museum noted for royal collections of erstwhile Maharaja of Kochi and is today the largest archaeological museum in Kerala. Built in the year 1865, the Hill Palace Complex

¹³⁸“Greater Cochin Development Administrative Report”(Kochi, Kerala: Gcda, 2012).

¹³⁹Kiran Narayanan, “Tripunithura Seeks a Royal Facelift Reflecting Its Heritage Value Post LS Polls,” The New Indian Express, <https://www.newindianexpress.com/cities/kochi/2019/mar/28/tripunithura-seeks-a-royal-facelift-reflecting-its-heritage-value-1956838.html>.

consists of 49 buildings in the traditional architectural style of Kerala spread over 51.75 acres of land. One can see oil paintings, murals, sculptures, manuscripts, and belongings of the Kochi royal family.¹⁴⁰ The museum complex has a Deer Park, a Heritage Museum, a Pre-historic Park, a Children's Park, and a beautiful garden. In the museum, the exhibits are displayed in 18 galleries. Antiques of the Cochin Royal Family such as furniture, metal wares, paintings, chariots, ivory, and wooden objects, a royal throne made of silver, a number of royal insignias, and gold & silver jewelry used by the royal family, and porcelain wares are exhibited in the galleries. Heritage museum exhibits household utensils, weapons, tools, and artifacts. Sculptures, coins, and inscriptions. The highlight of the museum is the gold crown of the Cochin Maharaja, studded with precious stones like Emerald, Ruby, and Diamond. It was gifted to the Cochin Maharaja by the Portuguese Viceroy, Francisco De Almeida.¹⁴¹

A security audit was conducted in the Museum on 13.07.2016 by the Home Department, Kerala, and it was recommended to increase the number of security personnel, including Women Police Personnel. It is seen that the staff now available in the Hill Palace Museum find it extremely difficult to manage the heavy workload. Moreover, there is no clerical staff in the museum, which affects the smooth functioning of the office. It has come to notice that an autonomous institution, under the Culture Department namely 'The Centre for Heritage Studies (CHS)' is functioning on the premises of Hill Palace Museum. As per (Ms) No. 15/98/CAD dated 19.03.98, a building in the palace complex has been given to the CHS under certain conditions, and the income received from the visitors has been shared with the CHS. In addition to this, the CHS has engaged separate entry tickets to the Hill Palace Garden. It is also seen that the CHS is conducting actions/courses different from what is disclosed in the Memorandum of Association of the said society. The Accountant General has strongly criticized the action of the society in expending money for actions other than those disclosed in the Memorandum of Association. It is also seen that 70% of the total income received in the Hill Palace goes to the account of CHS and they are remitting the amount in Bank Accounts other than in the Treasury. The CHS is doing all these financial transactions without any Government Order/direction. The Accountant General, during their audit in the Hill Palace, has strongly criticized this action as follows: (No S & GS-11 (HQ) 111/11/8-3251/407 dated 04.02.2014). It is also found that the maintenance of Deer Park inside the protected Hill Palace complex is against the provisions of the Kerala Ancient

¹⁴⁰Dr. K.C Krishnakumar, *Keralam Jillakalilude*: Ernakulam, (Thrissur, Kerala: Mathrubhumi Books, 2017), 105.

¹⁴¹Frederi P. Miller et al. , *Hill Palace, Tripunithura* , (Kochi, Kerala: Alphascript Publishing, 2010) .

Monuments and Archaeological Sites and Remains Act, 1968. The charging officer of Hill Palace Museum (the Documentation Officer) is also functioning as the Registrar of the CHS, and he will be answerable for any unlawful activities done by the CHS staff.¹⁴²

Recommendations:

- The CHS may be evicted from the Hill Palace Campus urgently, taking into account the security aspect of the Museum also.
- The administration and maintenance of Hill Palace Museum and garden shall exclusively be vested with the Archaeology Department.
- The collection of fees should be fully undertaken by the Archaeology Department and the CHS shall not be permitted in any way to interfere in the day-to-day affairs of the Museum.
- Necessary steps shall be taken to rehabilitate the deer in the Deer Park, as maintenance of Deer Park inside the Protected Hill Palace complex is against the relevant Act and also in view of the objection of the Central Zoo Authority.

POSITIVE WAY TO URBANIZE TRIPUNITHURA WHICH DO NOT HAVE PERILOUS CONSEQUENCES INSTEAD FUNCTION AS A BLESSING FOR THE RESIDENTS NEARBY

The long-pending dream of residents in Tripunithura — a walkway — is finally turning into a reality as an internationally-designed walkway ‘Raja Veedhi’ would be launched by the Pedestrian Facilitation Council (TPFC) on August 17. The project will begin from North Fort Gate near the proposed mega terminal of Kochi Metro’s Tripunithura extension. The walkway will have a solar lighting system with steel railing and will extend up to the statue junction via the Sree Poornathrayeesha temple. “Many senior citizens reside here and the walkway will be a boon for them. The motto of TPFC is to provide adequate facilities to pedestrians for leading a healthy life. After forming a council for the well-being of pedestrians, they sort out a master plan to disinfect drainages.¹⁴³ All the situations we face globally in terms of the urban and spatial extent of the phenomenon of urbanization need an urgent adoption of measures and methods to minimize the adverse effects and to strengthen their benefits, one of the solutions is the orientation to green cities, subject to the principles of

¹⁴²Pramod M.V et al., “Personnel and Administrative Reforms Work Study Report ”(Ernakulam, Kerala: Bishwanath Sinha IAS, 2017), 42.

¹⁴³“Kochi: A 'Raja Veedhi' to Adorn Tripunithura Soon: Kochi News - Times of India,” The Times of India, <https://timesofindia.indiatimes.com/city/kochi/a-raja-veedhi-to-adorn-tripunithura-soon/articleshow/77579061.cms?from=mdr>.

sustainable development and the establishment of urban spaces adapted to the environmental principles.¹⁴⁴Now, let's analyze the strength and weaknesses of Tripunithura with respect to the natural environment and built environment in table 3.

¹⁴⁴Madalina Dociu and Anca Dunarintu, "The Socio-Economic Impact of Urbanization," *International Journal of Academic Research in Accounting, Finance and Management Sciences* 2, no. 1 (2012): 5.

CONCLUSION

Throughout history, cities have been the main centers of learning, culture, and innovation. It is not surprising that the world's most urban countries tend to be the richest and have the highest human development. Ongoing rapid urbanization has the potential to improve the well-being of societies. Yet urbanization also presents many human development challenges. It is estimated that nearly 40 percent of the world's urban expansion may be in slums, exacerbating economic disparities and unsanitary conditions. Rapid urbanization is also linked to environmental concerns and many cities located in coastal areas or on river banks may also be vulnerable to natural disasters such as storms, cyclones, and floods. Urbanization, if not in a positive direction can turn out to be a problem. In the case of Tripunithura, the palace town has been now transformed into an urban town by rusting the historicity also Kochi metro extension to Tripunithura has caused concerns, especially to the poor people. Due to urbanization, there is environmental degradation especially in the quality of water, air, and noise. With the influx of more people in cities, there is a great demand for facilities such as housing. Some unlawful factories and even houses have poor infrastructure, the waste from buildings is directly channeled to the nearest river or water resources which directly pollute the water. The domestic waste, industrial effluents, and other wastes that were dumped directly into the river degrade the water quality. Other after-effects of rapid urbanization are the air pollution which has also increased due to emanation from motor vehicles, industrial development, and the use of non-environmental friendly fuel sources. The noise pollution is produced by the various human actions which also degrade the environment and ultimately affect human health. The growth of the population has generated a very high quantity of solid waste and there is pressure to provide a waste disposal place in the urban areas. The Kochi metro extension has increased the number of asthma patients in Tripunithura as the construction process was conducted by a land acquisition that too in residential land. Due to the movement of people into metropolitan cities, the number of vehicles on the road is increasing every year. Thus, resulting in congestion in Tripunithura. As the metropolis becomes a developed city, the land value will also increase. The housing provision will focus more to fulfil the needs of the high-income group. As such, there will be a problem in the provision of housing, especially for middle and low-class people. The supply of housing for the urban poor is still inadequate as the cost of these houses is very high which low and middle-income groups cannot afford. The lack of housing provisions for the low-income group has led to the continuation of unlawful resident settlements in the city.

These unlawful tenant settlements will certainly lack proper infrastructure, as we can see in Tripunithura.

To summarize, Urbanization is the substantial expansion of urban areas due to rural migration and it is strongly related to modernization, industrialization, and the sociological process of rationalization. It illustrates that speedy urbanization has many unconstructive implications, especially towards social and environmental aspects. The government should not be keen to develop a city without considering the impacts on the social and environmental aspects. To prevent a shortage of residential housing, the government should make life better for the rural dwellers; an effective way to do this is to make the economy of the village and small-scale industries fully viable. This will keep the rural dwellers from migrating to the city that is already crowded, and then attract people leaving the city to move to rural areas for simplicity and comfort. Governments should develop some strict laws guiding refuse dumping in an open environment in order to prevent water pollution, air pollution, and land pollution. These will help control contamination and prevent the spread of communicable diseases in urban areas. Social mechanisms should be developed in cities and towns to reduce inequality and make sure the basic amenities and infrastructures like health, new roads, clean water, sanitation, and education reach those who have been underprivileged the same opportunity.

Urbanization will only turn out to be a blessing for a society only if it benefits all classes of society and not alone for rich people. not all urbanization will bring a positive outcome, progression should be achieved without damaging the environment as ancient rulers always struggled. the historicity of a town like Tripunithura had to be conserved .it should not rust due to urbanization.

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ANNEXURE-1

INTERVIEW QUESTIONS SURVEY FORMAT

Interviewer's Name, Survey Date, Name & Address of the Owner, Contact No:

Identification of Affected Land

Place/Location

Division/Ward No.

Name of Municipality/Panchayat

Q.1. Name of title holder/s of the property

Q.2. Date of acquiring of the property (approx.)

Q.3. Acquisition by: a) Hereditary b) Purchase c) Any other (specify)

Q.4. (A) Total Extent of the land B) Area of acquisition

Q.5. The extent of Acquisition: a) Fully b) Partially

Q.6. Type of property a) Dryland b) Wetland c) Nilam Nikathu Purayidam

Q.7. Type of use = a) Agriculture b) Commercial c) Residential d) Unused e) Others: Specify

Q.8.. Whether Agriculture will be affected: a) Yes b) No

Q.9.. If yes, mention loss

a. Affected Crop/Trees b. Number of trees/crops affected c. Agriculture area affected

Q.10. Monthly income from the affected land /property

Q.11. Details of Employees-

Name of employee, Gender, Age, Monthly Salary, No. of Dependants

Q.12 whether any structure will be affected: a) Yes b) no

Q.13. Whether house affected: a) Yes b) no

Q.14 a) If yes, Extent of acquisition: a) Fully b) Partially

Q.15. Is the remaining land sufficient for reconstructing the affected structure:

(a) Yes b)No

Q.16. Whether you will be displaced from the area: a) Yes b) No

Q.17. Details of the affected water bodies: a) well b) bore well c) others (specify) d) Not applicable

Q.18. Whether livelihood of the family will be affected: a) Yes b) No

Q. 19 Infrastructure facilities affected: a) Electric post b) Compound Wall c) others (specify) d) Not applicable

Q.20. Social Group: a) General b) OBC c) OEC d) SC e) ST

Q.21. Monthly Income of the Family

Q.22. Monthly Expenditure of the Family

Q.23. Colour of the Ration Card: a) White b) Blue c) Pink d) Yellow

Q.24. Type of Family: a) Nuclear B) Joint C) Individual

Q.25. Opinion about the Project:

26. FAMILY MEMBERS – DETAILS

Name, relationship with the head of the family, Age, Sex, Marital Status, Education(completed, continuing), Job, Monthly Income, Major Diseases.

ANNEXURE-2

TABLES

TABLE-1-Social impact data

SL.NO	IMPACTS	DESCRIPTION
1	Loss of land	Land owned by 46 owners
2	Displacement of Families	22 families
3	Impact on basic facilities	Well(21) Borewell (1)
4	Loss of Livelihood	Owners and staff of 3 fully affected shops
5	Loss of structures	Compound Wall (15), Electric post (11), Shed (1) Toilet (2)
6	Loss of Trees	Approximately 641 trees

TABLE -2- Data arranged in tables from 43 households(Vulnerability status)

<u>Vulnerability Status</u>	<u>Number of households</u>
SC households	0
BPL households	3
Women headed households	10
Households with widow member	5
Households with differently-abled member	3
Households with elderly (60 years or more) member with no immediate family members to support	10
Households not owning land	18

TABLE-3-Analysing and scrutinizing strength and weakness of Tripunithura

STRENGTH	WEAKNESSES
Encompass a climate attractive for tourism(tropical hot humid climate)	Absence of well-preserved trees in trees and public spaces.
Aqua Transport can be encouraged promoting backwater tourism	Lack of maintenance of palatial gardens
Presence of ponds and bathing ghats within the palace compounds	Deficient in good public spaces for informal gatherings
Satellite town of Cochin as a result easy accessibility to livelihoods.	Space around the statue junction is uncared for and underused
Tremendous allure in terms of historical and cultural variety	Decay of Natural Streetscape
It was the Royal abode of Cochin Kings, adds value to the place	Globalization causing deforestation

Existence of defined open spaces that have potential to be improved	Insufficient infrastructure both inefficiency and capacity especially due to metro construction
Showcase of various architecture elements and styles	Traffic congestion along major travel roads of the town
Predominant monumental scale pattern	Use of agricultural land for construction
Absence of a political or Communal violence	Ineffective waste disposal due to negative urbanization
Presence of lot of financial institutions and agricultural bank NABARD	Fewer choices for tourist accommodation
Demand for building types related to cultural activities like theatres, town halls/art galleries	Trend of pulling down of ancient structures
	Inadequate parking facilities
	High energy consumption and pollution levels due to urbanization
	More deterioration in the traditional pattern
	Uncontrolled Development of the town
	Cute drinking water shortage especially in recent times

ANNEXURE- 3

PHOTOS

രാജഭരണകാലത്തെ പാത്രക്കലവറ കെട്ടിടം ഇടിഞ്ഞുവീണു

ഇപ്പൂണിത്തറ: കൊച്ചി രാജഭരണകാലത്തുള്ള ഇപ്പൂണിത്തറയിലെ പാത്രക്കലവറ കെട്ടിടം കനത്ത മഴയിൽ ഇടിഞ്ഞുവീണു. പൂർണ്ണനശിപ്പെട്ടു. ഈ കെട്ടിടം മേൽ നൂറ്റാണ്ടുകളിൽ ഗവ. പാലസ് പൊതുവുമാണ് മേൽനോട്ടം. ഇതിൽ കെട്ടിടമാണ് ഇടിഞ്ഞുവീണത്. രാജഭരണകാലത്തെ ശോഭിപ്പിച്ചിരുന്നതാണ്. കെട്ടിടത്തിന്റെ മധ്യഭാഗം മേൽക്കൂരയും മിതമായി കെട്ടിടം നിലം പൊതുവായി വന്നു. കനത്ത മഴയിൽ വെള്ളിയാഴ്ച പകൽ 12 മണിയോടെയാണ് ഇടിഞ്ഞുവീണത്. സമീപത്തായിട്ടുള്ള കെട്ടിടം മറ്റു കെട്ടിടങ്ങളെ അപേക്ഷിച്ച് നല്ല രീതിയിൽ പണിയിട്ടുണ്ട്. ഇതിൽ പണിയിട്ടുള്ള കെട്ടിടം നല്ല രീതിയിൽ പണിയിട്ടുണ്ട്. രാജഭരണകാലത്തെ ഇതിന്റെ താഴത്തെ നിലയിൽ ഈ കെട്ടിടം നിലനിൽക്കുന്നു. പാത്രക്കലവറയായിരുന്നു. മുകളിൽ നിലയിൽ സെഷൻ പാലസ് കൊല്ലിട്ടു.



ഇപ്പൂണിത്തറ പൂർണ്ണനശിപ്പെട്ട പാത്രക്കലവറ കെട്ടിടം ഇടിഞ്ഞുവീണു

പ്രവർത്തിച്ചിരുന്നുവെന്ന് പഴമക്കാർ പറഞ്ഞു. 53 ഏക്കർ വരുന്ന ഈ കെട്ടിടം മേൽനോട്ടം നൽകിയിരുന്നു. ഇതിൽ പണിയിട്ടുള്ള കെട്ടിടം നല്ല രീതിയിൽ പണിയിട്ടുണ്ട്. രാജഭരണകാലത്തെ ഇതിന്റെ താഴത്തെ നിലയിൽ ഈ കെട്ടിടം നിലനിൽക്കുന്നു. പാത്രക്കലവറയായിരുന്നു. മുകളിൽ നിലയിൽ സെഷൻ പാലസ് കൊല്ലിട്ടു.

FIGURE 1 -NEWSPAPER CUTTING OF RAINSTORM WHICH DEMOLISHED OOTUPURA



FIGURE 2 – PUTHEN BUNGALOW WITH ITS ANCIENT GLORY



FIGURE 3 – NEWSPAPER CUTTING OF THE PUBLIC HEARING REGARDING METRO EXTENSION



FIGURE 4 – LAND ACQUISITION AND THE EFFECTED COMMERCIAL SHOPS

**A STUDY ON INVESTORS AWARENESS TOWARDS
COMMODITIES MARKET WITH REFERENCE TO
ERNAKULAM DISTRICT**

Dissertation

Submitted by

GREESHMA JERALD: (SM20COM011)

Under the guidance of

SMT. OTTINA TREASA MENDEZ

In partial fulfillment of the requirement for the Degree of

MASTER'S IN COMMERCE



ST. TERESA'S COLLEGE ESTD 1925

ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM

COLLEGE WITH POTENTIAL FOR EXCELLENCE

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March-2022

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CERTIFICATE

This is to certify that the project titled "A study on investors awareness towards commodities market (with reference to Ernakulam district)" submitted to Mahatma Gandhi University in partial fulfilment of the requirement for the award of Degree of Master's in Commerce is a record of the original work done by Ms Greeshma Jerald, under my supervision and guidance during the academic year 2021-22.

Ottina Treasa Mendez
Project Guide

Smt. Ottina Treasa Mendez

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24/05/2022

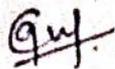
Viva Voce Examination held on....

External Examiner(s)

DECLARATION

I, Greeshma Jerald, final year M.Com student, Department of Commerce (SF), St. Teresa's College (Autonomous) do hereby declare that the project report entitled A STUDY ON INVESTORS AWARENESS TOWARDS COMMODITIES MARKET WITH REFERENCE TO ERNAKULAM DISTRICT submitted to Mahatma Gandhi University is a bonafide record of the work done under the supervision and guidance of Smt. Ottina Mendez, Assistant Professor of Department of Commerce (SF), St. Teresa's College (Autonomous) and this work has not previously formed the basis for the award of any academic qualification, fellowship, or other similar title of any other university or board.

PLACE: ERNAKULAM
DATE: 24 - 05 - 2022


GREESHMA JERALD

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Greeshma Jerald

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CHAPTER – 1

INTRODUCTION

1.1 INTRODUCTION

The Indian commodity market requires huge investments and better trading activity both in the national as well as the regional commodity markets. The commodity markets play's a vital role in India's major growth sector of the future are commodities and commodity market. India, being one of the top producers of a large number of commodities , and also having a long history a long history of trading in commodities and related derivatives, the knowledge about commodity markets among our Indian citizens is very important and essential. The participation of non professional people trading commodity markets makes the market a risky venture. There is a terrible need for professional experts who are able to provide advice on commodity trading and build commodity inclusive portfolios. Such professional awareness ,expertise , and guidance in commodity trading can come from professional commodity traders called commodity trading advisors. Today , commodity exchanges are purely speculative in nature when compared to the Earlier period when the prices of any commodity were not fixed in an organised way. But, at present, before investing in commodity markets, the buyers can reach to the Producers, end-users, and even retail investors at a grass root level, thus having price Transparency and risk management in the vital market.

The study has been undertaken entitles , ' A study on investors awareness towards Commodities market'. It also finds out the preference and opinion of the investors Regarding different commodities traded in the market. In India there are mainly two stock exchanges they are Bombay and National Stock Exchanges. NSE has more reputation and pride in the market.

- **COMMODITY**

It refers to the products which are traded in the approved commodity exchange market. But the products should be movable from one place to another and that must be able to trade ie; buying and selling. It is broadly divided into 2 main categories that is hard (non-agriculture) and soft (agriculture) commodities herehard commodities are typically Non agricultural(gold ,silver ,natural gas) or soft commodities are the agricultural Commodities(coffee, corn , wheat , sugar).

- **COMMODITY MARKET**

Commodity market is a physical or critical market place especially for purchasing, Selling and trading raw or primary products. Presently there is more than 50 commodity market assisting more than 100 commodity products all over the world. Here the traders use contract system for purchase or selling the products. Presently this sector is booming very rapidly with high yielding rate of returns.

- **INDIAN COMMODITY MARKET**

From 19th century market exist in India. In 1875 cotton was traded in commodity Market the later it was extended to oilseed , raw jute, jute production etc. before Independence there was no stress on the commodity market but after independence .In 1952 the parliament passed the forward Contracts Regulation Act ,which was sanctioned and allowed commodities to trade all over the world . in this act government has abolished the non-registered companies and ordered to trade only in registered commodity market and direct cash settlements were also prohibited by central government .

1.2 SIGNIFICANCE OF THE STUDY

In Modern days Investors are looking for multiple Investment alternatives to make their portfolio effective and also to reduce the risk and maximize returns. The prime objective of investors is to maximize the wealth and minimize the risk on investment made by them. While constructing Portfolio, investors are searching for new Investment alternatives such as Commodity Trading. Commodity trading is having more potential to earn greater returns in comparing to stock market and easy to understand. But most of the Investors are assuming commodity trading is risk and complex. Against this backdrop, the Current study is aimed at to know the behaviour of investors towards the commodity market and to identify various factors influencing commodity trading and to understand the most preferred commodities by the investors in commodity trading.

1.3 STATEMENT OF THE PROBLEM

Investment in commodities is highly affected by tracking error of fund house and the Commodity price may be highly affected by a general price decline in the market price. The value of the portfolio may be subject to considerable fluctuations. Lack of knowledge and analytical skills highly affect the investment decision and therefore, growth of Commodities market is very slow when compared to other emerging investment avenues.

1.4 SCOPE OF STUDY

1. The study is basically conducted to know investor's awareness towards commodity market.
2. The study assesses the preference of choosing the market by the respondents
3. This study is limited to only Ernakulam District
4. This study will also help to know about trading mechanism of commodity market and the future trading level.

1.5 OBJECTIVES OF THE STUDY

1. To study the level of awareness of investor in commodity
2. To find the preference of investment in commodity
3. To find the factors influencing the investment in commodity
4. To find the awareness level of commodity market in Ernakulam
5. To know the perception of investors towards commodity market
6. To understand the commodity market and its working mechanism

HYPOTHESIS

1. There is no significant relationship between age and awareness of investors towards commodities market.
2. There is a significant relationship between gender wise classification and years of participating in the commodity market.

1.6 RESEARCH METHEDODOLOGY

This study is descriptive in nature. It is based on both primary and secondary data. The primary data collected through surveys and questionnaires and evaluating the feedback among 100 investors within Ernakulam city. The secondary data needed for the study were collected through used articles internet blogs and past studies. This study is intend to analyse the investors awareness towards commodity market

1.7 LIMITATION

Since the study is based on only Ernakulam city the whole idea about investors awareness cannot be understood. This result can vary because investors behaviour is not static. This survey may not be accurate because this study is made within a limited time.

1.8 CHAPTERISATION

CHAPTER 1 – Introduction

CHAPTER 2 – Literature Review

CHAPTER 3 – Theoretical Framework

CHAPTER 4 – Data Analysis

CHAPTER 5 – Findings , Suggestion and Conclusions

CHAPTER – 2

LITERATURE REVIEW

2.1 LITERATURE REVIEW

Prasad, Naidu, and Sri (2019)¹, conducted a study to find out what are the motivating factors that encourage investors to invest in the stock market. They found that the two most motivating factors were motivation investors who will invest in the stock market have a high return rate and wealth growth. The study also found that low risk, unequal information about the asset market among investors, high return expectations, targeted information are factors that influence investment in the commodity market.

Chandrakumar (2018)² conducted research to gain an investor perspective and level of investor awareness about the commodity market. In his research he found that farmers were unaware of the commodity market. Research has suggested that more awareness should be created through advertising in the local channel, in newspapers, etc. because farmers are the producers of Agri-commodities, so if farmers are aware of the commodity market they will be able to take advantage of the equity.

Venkateswari . R & Karthikeyan (2017)³ conducted a study to determine the motive for investors to invest in the stock market since his research found that most investors have a goal of diversifying investments, followed by an increase in investor wealth. So as the author's advice for higher returns and better investment investors should develop their new knowledge about the stock market and re-apply scientific analysis, such as technical analysis to better understand the stock market.

Melba & Bhavan in (2017)⁴ Research has found that precious metals such as Gold, Silver are the most traded items in the commodity market. Because investors think they can earn a higher income from those assets. Research has found that precious metals like gold, Silver is the best-selling commodity in the commodity market. Because investors think they can earn a higher income from those assets.

Han, L., et al. (2017)⁵ found that investors should improve their attention and analyze market data to reduce the risk of confusion. Therefore, investors were very concerned about the impact of market efficiency on promoting stock savings.

Dhinakar & Jeevanandham (2016)⁶ found that investor investments and monthly income earned by investors are the same. As most investors without taking proper knowledge of the commodity market invest in assets and as they do not have the right information, they are not able to earn much return on those assets. The study therefore found that there was no difference between investor investment and investor monthly income.

Periyasamy (2016)⁷ pointed out that the investor awareness program has had a significant impact on investment decisions among potential investors in India.

Jena, et al. (2016)⁸ identified that commodity prices were linked to commodity prices. However, commodity prices were negatively associated with bond prices.

Monga et al (2016) and Vasan (2018)⁹ have noted that investors prefer to invest in jewelry rather than other investment methods such as gold earrings and coins, gold ETFs, etc. Thus, investors were putting security ahead of gaining high profits.

Chen and Chang (2015)¹⁰ identified producers' role, hedge funds, and business entities were determined the price of commodity futures.

Drs. S. Rajamohan, G. Hudson Arul Vethamanikam and C. Vijay kumar (2014)¹¹ in his research entitled "Commodity Futures Market in India" examined that the commodity trade has a long history and has been relatively recent in the market. Commodity trading is an important part of the economy depending on international trade. It creates awareness and additional opportunity for investors and the public. They found market volatility based on the performance of these assets. However the commodity market has provided significant support to the Indian economy.

Rohit Bansl, Varsha Dadhich and Naveed Ahmad (2014)¹² ' The study discusses the emergence and performance of the market, its current status and future prospects. They found a variety of items (agriculture, iron ore, bullion, energy, etc.) showing good practice in terms of volume and value for trade.

Kapil, etc. al (2010)¹³ focuses on major operational and policy issues on the growth of the commodity market in India. Therefore, they have seen that the Indian commodity market is not well organized.

Kumar Ranjit (2000)¹⁴ analysed the relationship between prices of rice in domestic market (New Delhi) with major rice markets of the world viz., Bangalore and Houston (USA) by using the co integration approach. The results clearly revealed that all the price series were not stationary and were not integrated in the long run.

Ramandev (1998)¹⁵ observed the management of the Cashew processing industry in the Uttara Kannada region of Karnataka. He found the organizational structure in the cashew processing industry, which is a simple and clear cut and authority with a quick and easy response from employees. Discipline among staff is easily and effectively maintained. Similarly, as unit size increases their wage costs also increase.

William G.Tomek (1997)¹⁶ in his research paper "Futures Trading and Market Information Some New Evidence" stressed that if the futures market is efficient, then it should be able to forecast an econometric model.

Samuelson (1965)¹⁷ in his research paper "Evidence of Prosecuted Values of Randomized Values" analyzed the role of future prices as a prediction of future price values in a given contract and found that it followed the martingale; in other words, today's futures prices are the best and most accurate predictions of future futures prices

CHAPTER – 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION

A commodity market is a market that trades in the primary economic sectors rather than manufactured products, such as cocoa, fruit and sugar. Hard commodities are mined, such as gold and oil. Farmers have used a simple form of derivatives trading in the commodity market for centuries for price risk management. Players of commodity market have been classified into three broad categories. They are hedgers, speculators, and arbitrageurs. Hedgers: hedging is an investment strategy used for minimising a risk and hedgers are the practitioners of this strategy. Early civilisations variously used pigs, rare seashells, or other items as commodity money. Since that time traders have sought ways to simplify and standardise trade contracts. Gold and Silver markets evolved in classical civilisations. At first, the precious metals were valued for their beauty and intrinsic worth and were associated with royalty. In time, they were used for trading and were exchanged for other goods and commodities, or for payment of labour. Gold, measured out, then became Money. Gold's scarcity, its unique density and the way it could be easily melted, shaped, and measured made it a natural trading asset. In the United States, wheat, corn, cattle, and pigs, were widely traded using standard instruments on the Chicago Board of Trade (CBOT), the world's oldest futures and options exchange.

Other food commodities were added to the commodity exchange act and traded through CBOT expanding the list from grains to include rice, mill feeds, butter, eggs, Irish, potatoes and complex global markets trading gold or silver for spices, cloth, wood and weapons, most of which had standards of quality and timelines. Through the 19th century, "the exchange became effective spokesmen for, and innovators of, improvements in transportation, warehousing, and financing, which paved the way to expanded interstate and international trade. Reputation and clearing became central concerns, and states that could handle them most effectively developed powerful financial centres.

CASH COMMODITY

Cash commodity or actuals refer to the physical goods . example wheat , corn, soybeans, crude oil, gold, silver, that someone is buying / selling/ trading as distinguish from derivatives.

ELECTRONIC COMMODITIES TRADING

In traditional stock market exchanges such as the New York stock exchange (NYSE), most trading activity took place in the trading pits in face-to-face interactions between brokers and dealers in open outcry trading. In 1992 the financial information exchange (FIX) protocol was introduced , allowing international real-time exchange of information regarding market transaction. The US Securities and Exchange Commission ordered US stock markets to convert from the fractional systems to a decimal system by April 2001.

FIX compliant interfaces were adopted globally by commodity exchanges using the FIX protocol. In 2001 the Chicago board of trade and the Chicago mercantile exchange (later merged into the CME group ,the world's largest futures exchange company) launched their FIX-compliant interface.

By 2011, the alternative trading system (ATS) of electronic trading featured computers buying and selling without human dealer intermediation.High frequency out" dinosaur floor-traders".

COMMODITY MARKETS OPEN 24 HOURS

Commodity market hours are virtually 24 hours a day, five days a week , depending on which market you choose- most close from Friday evening to Sunday. Unlike Forex market hours, there are no global sessions to watch out for.

MULTI COMMODITY EXCHANGE(MCX)- Revision in Trading Hours

Particulars	Trade start time	Trade end time
Internationally referenceable Non-Agri commodities	9:00AM	11:55PM
Internationally referenceable Agri commodities(cotton, CPO & Kapas)	9:00AM	9:00PM
All other commodities	9:00AM	5:00PM

All MCX intraday positions will be squared off 25minutes before market close. MCX will revise its trading hours from Monday, on account of the change in US daylight saving timings.

Investing in commodity market requires time, knowledge and constant monitoring of the market. For those who need and expert to help to manage their investment, portfolio management services comes as an answer.

In current standing no individual is interested in investing in only one avenue they are interested in investing in other avenues like gold and silver which is move trending from past few years.

The business in commodity market has never been an easy one. During with limited choices in hand with the twin requirement of adequate safety and max returns is a task fraught with complexities .

PURPOSE

To make the right decision about investing it is always better to make simultaneous usage of both Fundamental and Technical analysis.

Fundamental analysis is basically getting an understanding of a company the health of its business and its future prospectus, whereas, technical analysis is a security analysis methodology for forecasting the direction of prices through the study of past market data, primarily price and volume.

COMMODITIES ARE CLASSIFIED INTO 4 TYPES

1. Metals – Gold, silver, platinum and copper.
2. Energy - Crude oil, natural gas and heating oil.
3. Agriculture – corn, beans, rice, wheat etc.
4. Livestock and meat – eggs, pork, cattle etc.

In Indian market some of the top traded commodities are;

1. Gold: It is traded both as a commodity and as bonds in the equity market. It is the oldest precious metal known to man and for thousands of years it

has been valued as a global currency, an investment and simply an object of beauty.

Indian scenario

- India, world's largest market for gold jewellery and a key driver of the global gold demand
- The domestic drivers of gold demand are largely independent of outside forces. Indian households hold the largest stock of world in India.
- India imported around 1100 metric tonne(MT) of gold in 2013.

2. Silver: It is a brilliant grey-white metal that is soft and malleable Silver's unique properties include its strength, malleability, ductility, Electrical and thermal conductivity and reactivity. The main source of silver is lead ore, although it can also be found associated with copper, zinc, and gold produce as a by-product of base metal mining activities. Secondary silver sources include coin melt, scrap recovery, and dis-hoarding from countries where export is restricted.

Indian Scenario

- The average annual demand for silver in India is about 2500metric tonne(MT) per year.
- Nearly 60% of India's silver demand comes from framers and rural India, who store their savings in the form of silver bangles and coins.

3. Crude oil: crude oil is a complex mixture of various hydrocarbons found in the upper layers of the earth crust.

Crude oil is often attributed as the "Mother of all commodities" because of its importance in the manufacturing of a wide variety of materials.

Crude oil accounts for 35% of the world's primary energy consumption.

It is used to produce fuel for cars, trucks, airplanes, boats and train.

Price moving factors:

- OPEC output, supply and spare capacities.
- Increased demand from emerging and developing countries, geopolitics.
- US crude and products inventories data
- Currency fluctuations
- Weather conditions
- Speculative buying and selling

These commodities can be Invest in:

1. Multi Commodity Exchange (MCX)
2. National Commodity & Derivatives Exchange (NMCE)
3. Indian Commodity Exchange (ICEX)
4. National Multi Commodity Exchange (NMCE)
5. Ace Derivatives Exchange (ACE)
6. The Universal Commodity Exchange (UCX)

Traders have a few different methods to choose from when it comes to commodity trading?

1. Commodity futures
2. Physical trading
3. Commodity stocks
4. Mutual funds, commodity ETFs and ETNS
5. Managed futures, commodity pools.

Commodity trading is considered less risky than trading in stocks. it is in fact, 14% risky than equities. During inflation, prices of commodities such as agricultural goods, energy, metals all tend to rise as the related goods and services see a price increase. It's better to invest in variety of commodities rather than rely on single asset, as it gives you a better chance of benefiting from inflationary period.

Inflation can be broken down as decrease in purchasing power as a result of a rise in the average price of a particular good or set of goods

Three main Types:

1. Cost-push inflation

Production or input costs are carried over to finished consumer goods cost.

2. Demand-pull inflation

The demand for goods & services is greater than the supply of those goods & services.

3. Built-in-inflation

Wages are increased due to an increase in the cost of living

However, monetary inflation that is longer term, can lead to long lasting crushing effects on the economy.

Benefits to Exchange Member

Access to commodities market is much easier than the securities and cash Market. Member can enjoy scalable, state of the art technology facilities in trading. Member can trade in multiple commodities from a single point on real time basis. No price rigging and scams, commodity trading offers nil insiders trading and no company specific risk. Compared to equities it is much cheaper in terms of commodities trading as margin requirement are low. No need to worry for Fundamental analysis and Technical analysis as here price is completely dependent on the demand and supply concept. Compared to equities they are proved to be less volatile too.

Factors Responsible for poor awareness of the market in India

1. Poor Supervision and Lack of Coordination Among Various Commodity Exchanges: The Forward markets Commission (FMC), which operates under the ministry of consumer affairs is the regulator, but not able to monitor the online screen based trading and also failed to detect market manipulation that happened in recent past passed negative signals to investors, as a regulatory body it should

be able to create trustworthiness among the investors and should guide the exchange in the proper direction.

2. Dominance of few Players: Few players dominating in this trading is not a good sign for the overall development, hence exchanges have to motivate exiting equity investors, institutional investors and also farmers to investment commodity trading.

3. Poor Awareness Among Retail Investors: Most of the investors know about the capital markets but they are not aware of the commodity investment they still feel it is new concept in India, majority of the educated investors including the employees are not aware of new online Screen based trading facilities available in this segment.

4. Technology: Basically investment is meant for all, but unfortunately those who are not techno savvy

they are afraid of using online trading and usage of demat account online, dependency brokers for buy and sell transactions is also a big problem for non-technical people

5. Farmers' Literacy Level: Commodity market should be the biggest in the world considering the 65% of the population from agriculture, but unfortunately most of our farmers are illiterates and they are not aware of the benefits of commodity trading.

6. Poor Media Coverage: News available on commodity index and prices in print and web media is very less, mostly traders look for daily trading status report which is not easily available in mass media.

Procedures to invest in a commodity market

1. An investors can transact a business with the approved clearing member of commodity exchanges. The investor can ask for the details from the commodity exchange about the list of approved members.
2. When investor approaches clearing member, the member will ask for identity proof. For which Xerox copy of any one of the following can be given

- PAN card number
 - Driving license
 - Vote ID
 - Passport
3. The front page of Bank Pass Book and a cancelled cheque of a concerned bank. Otherwise the Bank Statement details can be given.
 4. In order to ascertain the address of investors, the clearing member will insist on xerox copy of Ration Card or the Pass Book / Bank Statement the address of investor is given.
 5. The clearing member will ask the client to sign
 - Know your client form
 - Risk Discloser Document

Tracking the performance of commodity markets

There are a number of frequently used benchmark indices, all of which track the general performance of the commodity markets. The benchmark for commodity investments for ABN AMRO Research & Strategy is the Thomson Reuters/Jefferies CRB index (the CRB). Launched in 1957, this is probably the oldest of all commodity indices.

The CRB index has a stated objective of providing timely and accurate representation of a long-only, broadly diversified investment in commodities through a transparent methodology. It aims to be a liquid and economically relevant benchmark. The CRB consist of a portfolio of 19 different commodities future contracts that are replaced or 'rolled' according to a standard monthly scheduled.

The performance of the CRB index is shown on the right. Though the considerable price appreciation from 1 February 1999 to 31 October 2011 has reached 12.3% per year, it is worth noting volatility in month-on-month returns is also significant:

18.1%.

The growth of commodity market is remarkable during last decade. Prices of all commodities are heading northwards due to rapid increase in demand fo:

commodities. Developing countries like China are voraciously consuming the commodities. That's why globally commodity market is bigger than the stock market. It is the market where a wide range of products, ie; precious metals, base metals, crude oil, energy and soft commodities like palm oil, coffee etc. are being traded. It is important to develop a vibrant , active and liquid commodity market.

GENDER

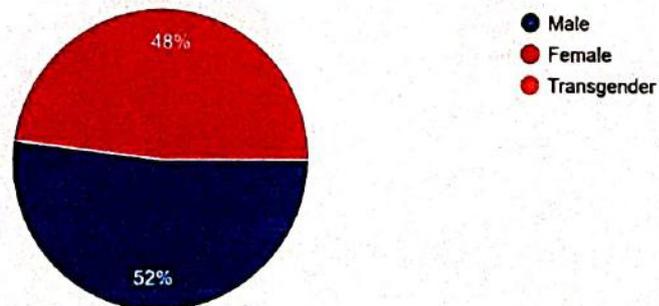
Table no: 4.1

Gender	No. of respondents	Percentage of respondents
Male	52	52
Female	48	48
Transgender	0	0
Total	100	100

Source: Primary data

Figure no:4.1

Gender
100 responses



Interpretation: Out of 100 respondents , 52%of the customers were Male and are seen to be investing in commodity market the most . Female respondents were 48% of the total.

AGE

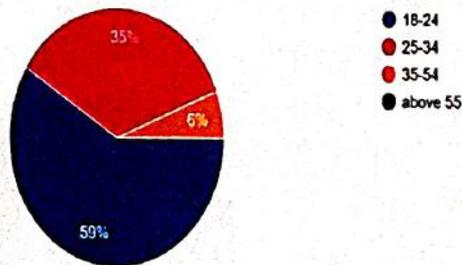
Table no:4.2

Age	No: of respondents	Percentage of respondents
18-24	59	59
25-34	35	35
35-54	6	6
Above 55	0	0
Total	100	100

Source: Primary data

Figure no: 4.2

AGE
100 responses



Interpretation: From the above table, 59% of the customers were under the age group of 18-24 years are seen to be investing in commodity market the most. Customers in the age group 25-34 account to 35% of the total. Followed by less significant contributions from the age group of 35-54 and above 55. Thus we can say age group of 18-24 years are investing the most in commodity market.

OCCUPATION

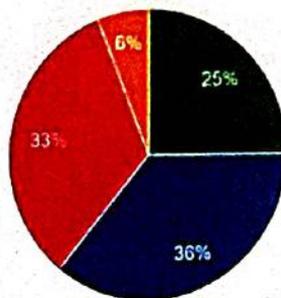
Table no: 4.3

Occupation	No: of respondents	Percentage of respondents
Student	36	36
Business person	33	33
Government employee	6	6
Private employee	25	25
Total	100	100

Source: Primary data

Figure no: 4.3

Occupation
100 responses



- Student
- Business person
- Government employee
- Private employee

Interpretation : Out of 100 respondents 36% were students and 33% were business person and 25% were private employee. Followed by less significant contributions from government employee. From the data collected , we can interpret that investors who invest in commodity market are mostly the students.

ANNUAL INCOME

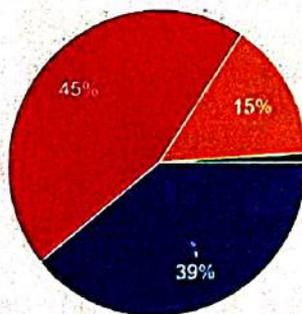
Table no: 4.4

Income	No: of respondents	Percentage of respondents
Below 50000	39	39
50000-100000	45	45
100000-300000	15	15
Above 300000	1	1
Total	100	100

Source: Primary data

Figure no:4.4

Annual Income
100 responses



- Below 50000
- 50000 - 100000
- 100000 - 300000
- Above 300000

Interpretation: From the above table , 50000-100000 income group are investing in the commodity market the most. Then the next category is below 50000. Least investing categories are 100000-300000 and above 300000.

AWARENESS LEVEL OF COMMODITY MARKET

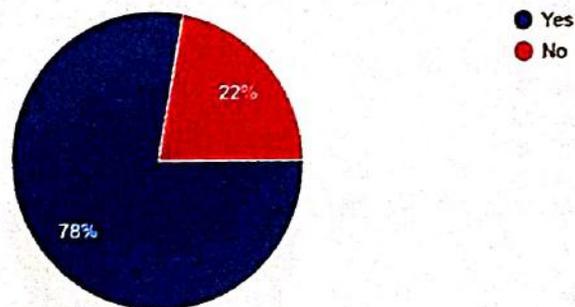
Table no : 4.5

Response	No: of respondents	Percentage of respondents
Yes	78	78
No	22	22
Total	100	100

Source : Primary data

Figure no: 4.5

Are you aware of commodity market
100 responses



Interpretation: From the survey it was evident 78% are aware about the commodity market and 22% are not aware about the commodity market. Thus we can interpret that most of the people are aware about the commodity market.

USAGE OF COMMODITY MARKET

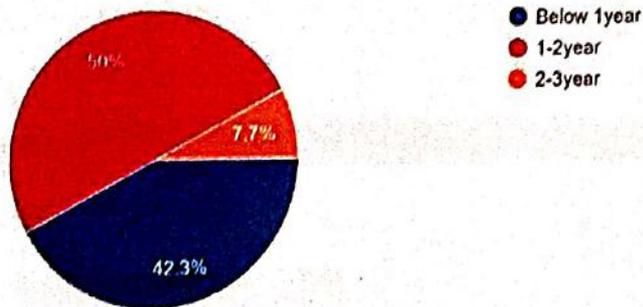
Table no: 4.6

Response	No: of respondents	Percentage of respondents
Below 1yr	33	42.3
1-2 years	39	50
2-3 years	6	7.7
Total	78	100

Source : Primary data

Figure no: 4.6

If Yes, how long you are trading in?
78 responses



Interpretation: From the above table, 39 no: of respondents have invested in the commodity market in a period of 1-2 years as per the research conducted which owes to 50% of the respondents. 33% invested in the period below 1 year and least in the period 2-3 years. Thus we could say that most of the investors in the commodity market invest in a time period between 1-2 years.

REASONS FOR LACK OF AWARENESS

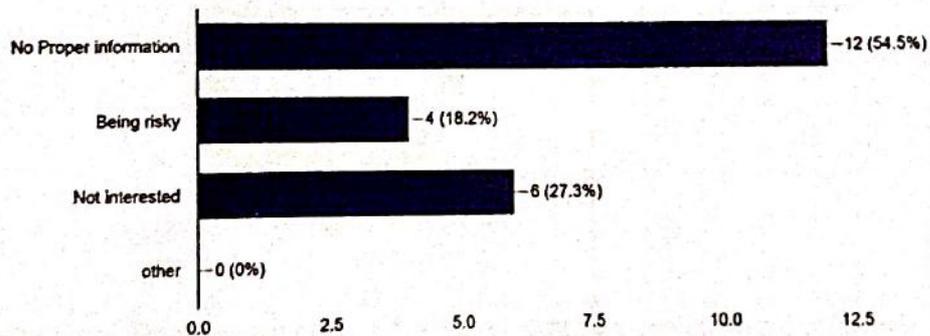
Table No : 4.7

Response	No : of respondents	Percentage of respondents
No proper information	12	54.5
Being risky	4	18.2
Not interested	6	27.3
Others	0	0
Total	22	100

Source : Primary data

Figure No: 4.7

If No , reason
22 responses



Interpretation: From the figure , 54.5% respondents have no proper information and also people are not interested in investing in commodity market and 18.2% respondents are saying its being risky. So we conclude that these are the reasons for lack of awareness.

INVESTORS OPINION ABOUT COMMODITY MARKET

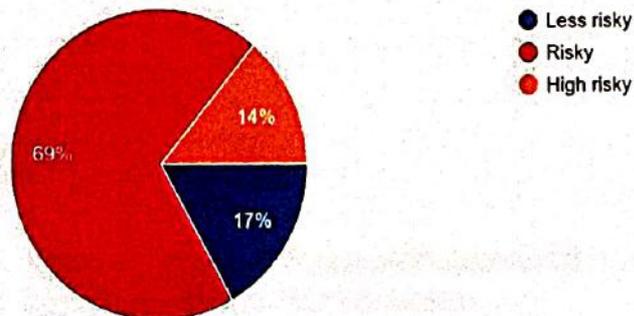
Table No:4.8

Response	No :of respondents	Percentage of respondents
Less risky	17	17
Risky	69	69
High Risky	14	14
Total	100	100

Source : Primary data

Figure no: 4.8

Your opinion about commodity market
100 responses



Interpretation: From the pie chart, 17% respondents are saying commodity market is less risky. A majority of 69% respondents saying its risky and 14% respondents saying is high risky. Thus we conclude most of them believe that commodity market is risky.

DEGREE OF INFLUENCE ON COMMODITY MARKET

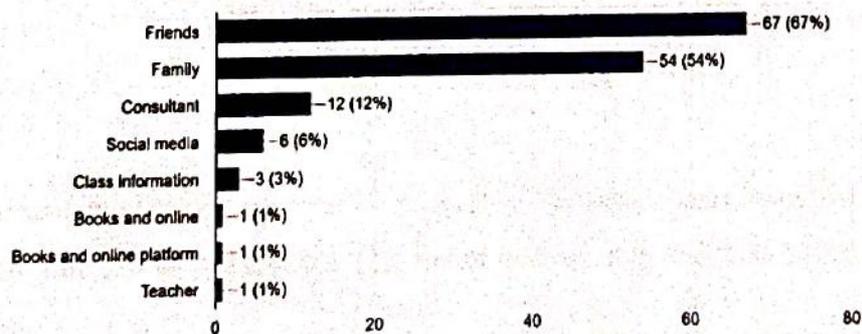
Table No:4.9

Response	No : of respondents	Percentage of respondents
Friends	67	46
Family	54	37
Consultant	12	9
Social media	6	4
Class information	4	3
Books and online platform	2	1
Total	145	100

Source : Primary data

Figure no:4.9

From where did you get information about investment
100 responses



Interpretation: This data clearly shows that people are getting information from friends (46%) & family(37%).

MODE OF INVESTMENT

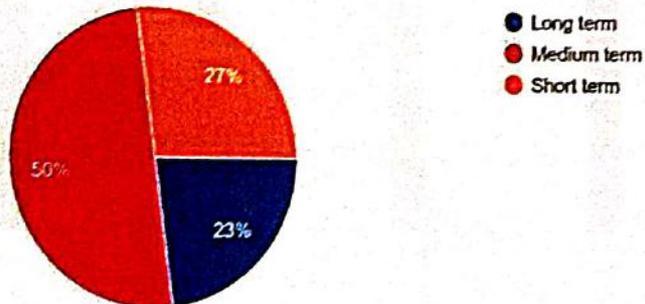
Table No: 4.10

Response	No : of respondents	Percentage of respondents
Long term	23	23
Medium term	50	50
Short term	27	27
Total	100	100

Source : Primary data

Figure no: 4.10

Type of investment you prefer?
100 responses



Interpretation: It was observed that, most of the respondents invest in medium term. Out of 100 respondents 23% invest in long term and 27% invest in short term.

COMMODITY WHICH HAS MORE VALUE/POWER

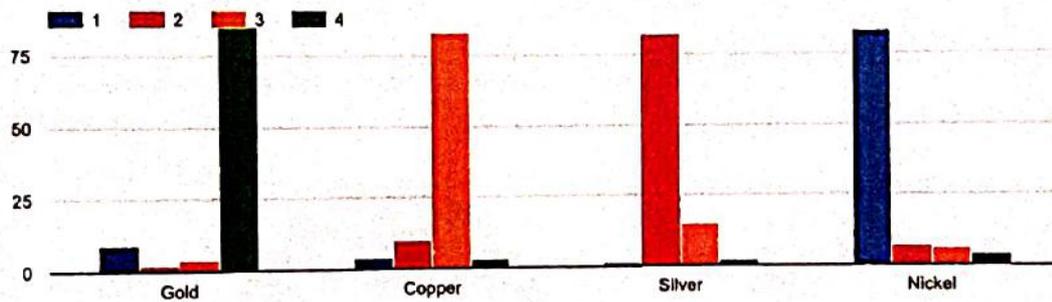
Table No:4.11

Rank	Gold	Copper	Silver	Nickel
4	85	3	2	4
3	4	83	15	6
2	2	10	82	7
1	9	4	1	83

Source: primary data

Figure no :4.11

Which commodity has more value/power? Rank on the scale 1 to 4, with one being the least preferred and 4 being most preferred



Interpretation: When we rank on the scale 1 to 4 Nickel is the least preferred commodity with 83% and most preferred is gold with 85%.

MOST PREFERRED COMMODITY IS GOLD

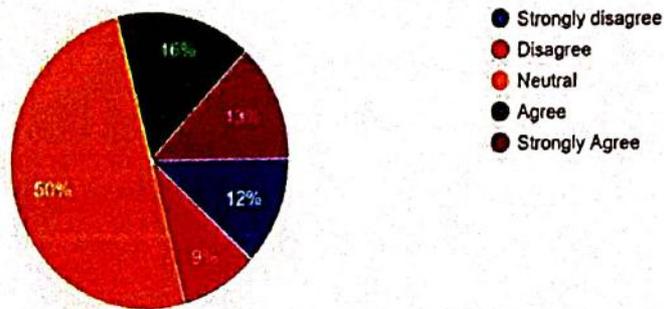
Table no:4.12

Response	No: of respondents	Percentage of respondents
Strongly disagree	12	12
Disagree	9	9
Neutral	50	50
Agree	16	16
Strongly agree	13	13
Total	100	100

Source : primary data

Figure no:4.12

In whole commodities you prefer gold to trade more
100 responses



Interpretation: From the data collected we can understand that 50% of respondents are neutral that preferred gold commodity. However 16% respondents agree towards gold commodity and 13% strongly agree. Whereas 12% strongly disagree and 9% disagree towards gold commodity.

COMMODITY PRICES ARE FLUCTUATING

Table No: 4.13

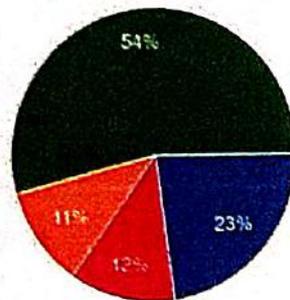
Response	No: of respondents	Percentage of respondents
Government condition	23	23
Supply of commodity	12	12
Demand of product	11	11
All of the above	54	54
Total	100	100

Source: primary data

FigureNo:4.13

Why commodity prices are fluctuating, reason?

100 responses



- Government condition
- Supply of commodity
- Demand of product
- All of the above

Interpretation: From the data collected we can understand 54% of respondents choose all of the above, whereas 23% respondents saying commodity price fluctuate due to government condition and 12% says due to supply of commodity and 11% says due to demand of product.

ONE COMMODITY VARIANCE INFLUENCES OTHER ONE

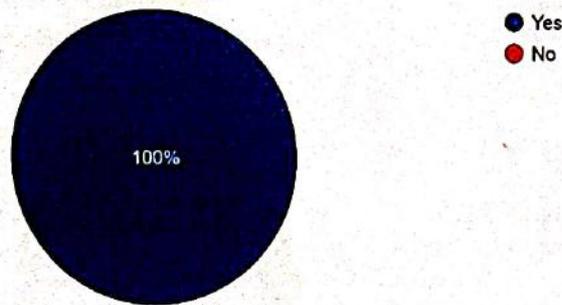
Table No: 4.14

Response	No :of respondents	Percentage of respondents
Yes	100	100
No	0	0
Total	100	100

Source : primary data

Figure No:4.14

Is one commodity fluctuation affects other one?
100 responses



Interpretation: From the survey it was evident that all the respondents were saying one commodity fluctuation affects other one(100%).

PROFIT/LOSSES GAIN

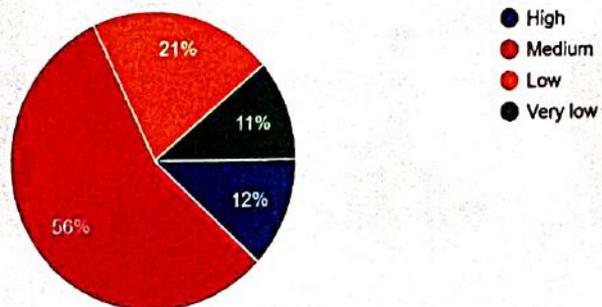
Table No:4.15

Response	No: of respondents	Percentage of respondents
High	12	12
Medium	56	56
Low	21	21
Very low	11	11
Total	100	100

Source: Primary data

Figure No: 4.15

Up to now how much profit/losses you gain
100 responses



Interpretation: A majority of 56% of people were found to be gain medium profit/losses. 21% of respondents were found to be gain low profit/losses. 12% of respondents were found to be gain high profit/losses. 11% of respondents were found to be gain very low profit/losses.

FACTORS INFLUENCING GOLD PRICES

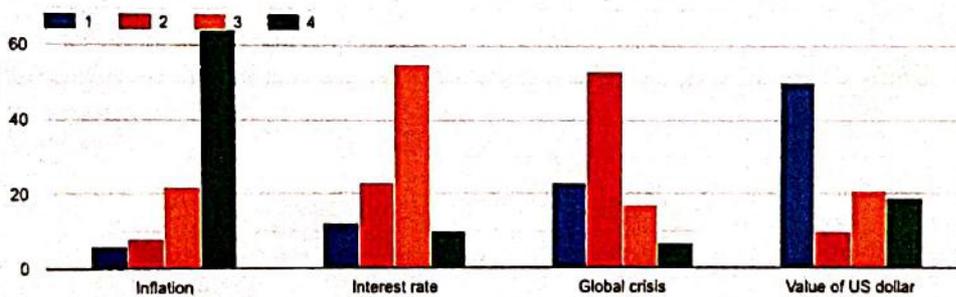
Table No:4.16

Rank	Inflation	Interest rate	Global crisis	Value of US dollar
4	64	10	7	19
3	22	55	17	21
2	8	23	53	10
1	6	12	23	50

Source: primary data

Figure no:4.16

Rank the factors which influences gold prices on the scale of 1 to 4, with one being the least influenced factor and 4 being most influenced factor



Interpretation: From the study , Inflation is the most influenced factor with 64% and the least influenced factor is value of US dollar(50%).

GENERATE REGULAR INCOME AND LESS CONCERNED ABOUT VALUE OF INVESTMENT

Table no:4.17

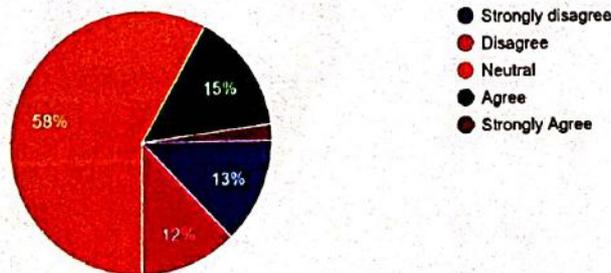
Response	No : of respondents	Percentage of respondents
Strongly disagree	13	13
Disagree	12	12
Neutral	58	58
Agree	15	15
Strongly agree	2	2
Total	100	100

Source : Primary data

Figure No: 4.17

Generate regular income from your investment and less concerned about growing the value of your investment

100 responses



Interpretation: From the figure 58% of respondents are fall in the category neutral which generate regular income and less concerned about the value of investment and 15% of respondents fall in the category agree which generate regular income and less concerned. 13% of respondents strongly disagree and 12% of respondents disagree and 2% strongly agree.

INVESTORS PREFER GOLD

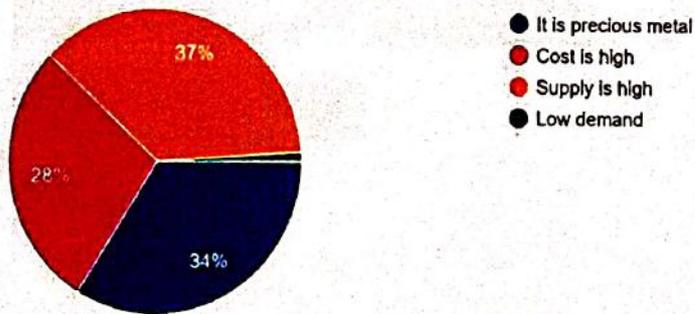
Table No:4.18

Response	No :of respondents	Percentage of respondents
It is precious metal	34	34
Cost is high	28	28
Supply is high	37	37
Low demand	1	1
Total	100	100

Source: Primary data

Figure no: 4.18

Why investors prefer gold
100 responses



Interpretation: From the survey investor's prefer gold because supply is high with 37% and 34% of respondents says it is precious metal , 28% says cost is high and 1% of respondents says its because of low demand.

FACTORS THAT MADE TO TRADE IN COMMODITY MARKET

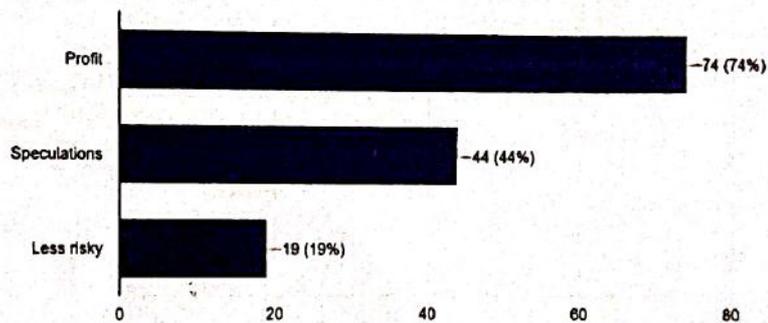
Table No:4.19

Response	No :of respondents	Percentage of respondents
Profit	74	54
speculations	44	32
Less risky	19	14
Total	137	100

Source: Primary data

Figure No:4.19

What made you to trade in commodity market
100 responses



Interpretation: From the data collected we can understand profit made the investors to trade in commodity market. And also in this graph, we got more than one responses for each commodity.

AWARENESS LEVEL OF DIFFERENT INVESTING OPTIONS

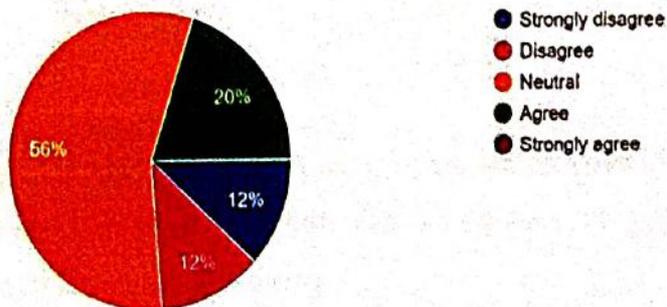
Table No: 4.20

Response	No: of respondents	Percentage of respondents
Strongly disagree	12	12
Disagree	12	12
neutral	56	56
agree	20	20
Strongly agree	0	0
Total	100	100

Source: Primary data

Figure No:4.20

You are aware of different investing options?
100 responses



Interpretation: From the data collected we can understand 56% respondents awareness level of different investing option is neutral. 12% respondents fall under both the category strongly disagree and disagree. 20% of respondents agree that they are aware of different investing options.

SATISFIED WITH INVESTMENT OPTION

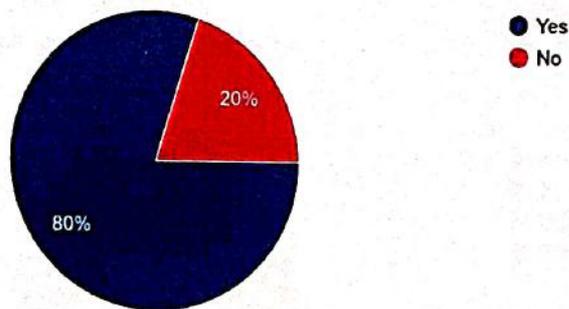
Table No: 4.21

Response	No : of respondents	Percentage of respondents
Yes	80	80
No	20	20
Total	100	100

Source: primary data

Figure No: 4.21

Are you satisfied with your investment option?
100 responses



Interpretation: From the above table 80% of investors are satisfied with their investment options and 20% are not satisfied. Thus we can conclude majority of them are satisfied with the commodity market.

INVESTING IN OTHER INSTRUMENTS

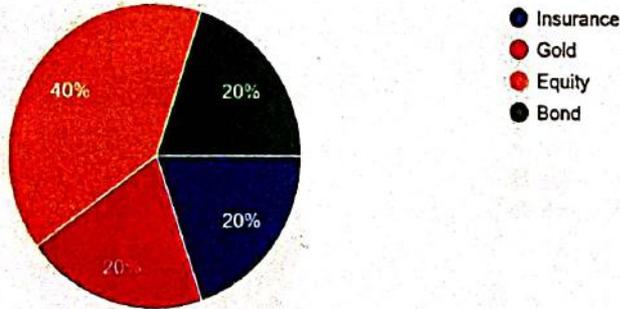
Table No:4.22

Response	No: of respondents	Percentage of respondents
Insurance	20	20
Gold	20	20
Equity	40	40
Bond	20	20
Total	100	100

Source : Primary data

Figure No:4.22

If No, then in which instrument is you invest
30 responses



Interpretation: From the table its evident that 40% of respondents are investing more in equity than other instruments.

EXPECTING HIGH RETURNS FROM INVESTEMENT

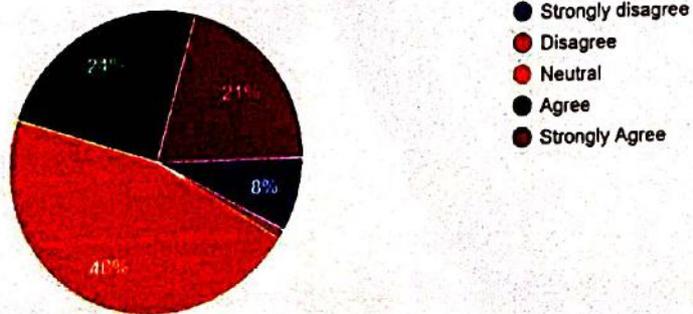
Table No: 4.23

Response	No : of respondents	Percentage of respondents
Strongly disagree	8	8
Disagree	1	1
Neutral	46	46
Agree	24	24
Strongly agree	21	21
Total	100	100

Source : Primary data

Figure No: 4.23

You expect high returns while investing?
100 responses



Interpretation: 46% of respondents fall under the category neutral .24% of respondents agree that they expect high returns from investment and 21% of respondents strongly agree to it . Whereas 8% and 1% respondents strongly disagree and disagree that they expect high return.

DIFFERENT SECTORS FOR INVESTMENT

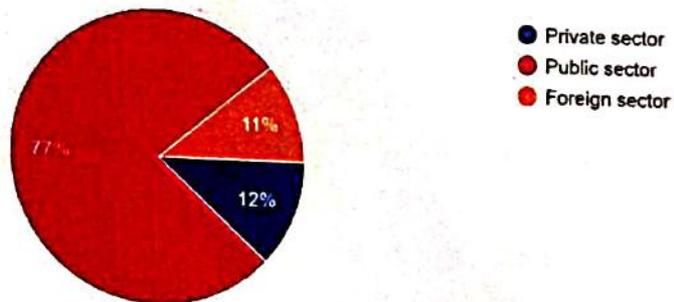
Table No:4.24

Response	No :of respondents	Percentage of respondents
Private sector	12	12
Public sector	77	77
Foreign sector	11	11
Total	100	100

Source: primary data

Figure No:4.24

In which sector do you prefer to invest your money
100 responses



Interpretation: 77% of respondents invest in public sector the most . 12% invest in private sector and 11% invest in foreign sector.

INVESTORS INTERESTED IN MUTUAL FUND INVESTMENT

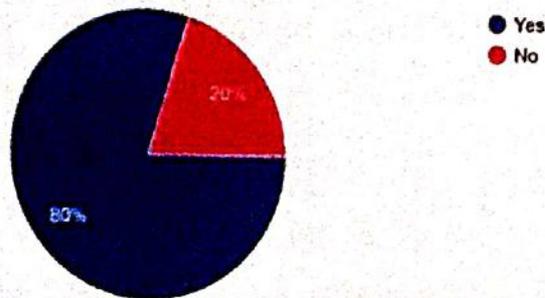
Table No:4.25

Response	No : of respondents	Percentage of respondents
Yes	80	80
No	20	20
Total	100	100

Source: primary data

Figure No: 4.25

Are you interested in mutual fund investment
100 responses



Interpretation: 80% of respondents are interested in mutual fund investment and 20% are not interested. Thus we can interpret that investors are ready to invest in mutual funds.

TESTING OF HYPOTHESIS

1. To study the relationship between age and awareness of investors towards commodities market.

H₀: There is no significant relationship between age and awareness of investors towards commodities market.

H₁: There is significant relationship between age and awareness of investors towards commodities market

CONTINGENCY TABLES

AGE	ARE YOU AWARE OF COMMODITY MARKET		TOTAL
	1 YES	2 NO	
1(18-24)	45	15	60
2(25-34)	28	6	34
3(35-54)	5	1	6
TOTAL	78	22	100

XTEST

	VALUE	df	Asymptotic significance(2 sided)	Level of significance
X ²	0.790	2	0.674	0.05
N	100			

since the calculated value of chi-square(0.790) is greater than the asymptotic significance(2-sided)(0.674) at 0.05 of level of significance 2 degree of freedom. The null hypothesis is rejected. So, there is no significant relationship between age and awareness of investors towards commodity market.

2. To study the relationship between gender wise classification and years of participating in the commodity market.

H0: There is a significant relationship between gender wise classification and years of participating in the commodity market.

H1: There is no significant relationship between gender wise classification and years of participating in the commodity market.

CONTINGENCY TABLES

HOW LONG YOU ARE TRADING (YRS)	GENDER		TOTAL
	1 MALE	2 FEMALE	
1(below 1year)	18	15	33
2(1-2 years)	14	25	39
3(2-3 years)	2	4	6
TOTAL	34	44	78

X² TEST

	VALUE	df	Asymptotic significance(2-sided)	Level of significance
X ²	2.81	2	0.246	0.05
N	78			

Since the calculated value of chi-square (2.81) is greater than the asymptotic significance(2-sided)(0.246) at 0.05 level of significance with 2 degree of freedom. The null hypothesis is rejected. So, there is significant relationship between gender wise classification and years of participating in the commodity market.

CHAPTER – 5

FINDINGS, SUGGESTIONS, CONCLUSIONS

FINDINGS

- 52% of respondents were male and 48% were female.
- The largest respondents is among 18-24 years old ie;59%
- The majority of respondents are students 36%
- Most respondents had monthly income between Rs50000 and Rs100000.
- Most of the respondents have been participating in commodities market one to two years.
- Out of 100 respondents, 22 respondents are not aware about the commodities market.
- Majority of the respondents have got medium profits in their commodity trading.
- Factor that influences gold price is inflation (64%) and least influenced factor is value of US dollar.
- Largest number of the respondents are neither agree or disagree to generate regular income and less concerned about the value of investment.
- Majority of respondents prefer gold as it is a precious metal.
- Most of the respondents are motivated to participate in commodities market for making profits.
- It found one commodity influences the other commodity.
- Investors prefer gold when supply is high.
- From the survey we could infer that majority of investor invest in public sector and least used sectors are private (12%) and foreign (11%).
- Out of 100 respondents, 80% of respondents are interested in mutual funds.

SUGGESTIONS

- As most respondents were men(52%), effective measures were needed to encourage women and transgender people to invest in the commodity market.
- There is a need to create awareness about commodity market, so it can be done through by giving advertisements in local channels, newspapers
- More agents and marketing executives should be appointed to educate the customers.
- Special campaigns/ investors meets should be conducted in simple and understandable ways for the benefit of public.
- Since largest number of respondents were in between age group 18 years to 24 years, effective measures can be taken to attract old and middle aged people to invest in commodity market.
- Most of the investors in Ernakulam district have invested in gold commodities trading. Necessary steps have to be taken to create an interest to the investors to invest in diversified commodities to get increased benefits and reduced risk.
- Each company should mention their latest winning shots in their website, so that investors will able to understand the position.
- General thought among the investors that only very wealthy people can take part in commodities market has to be changed and investors from every walk of the society have to be encouraged to participate.

CONCLUSION

The commodity market has shown great progress over the past decade and has a long history in our country. Market seen up and downs. If the policy maker reviews the policy from time to time, it will help protect the interests of investors. Majority of the investor's awareness is to some extent. Investors are made to trade in commodity market because of profit. We found in this survey that people are getting education from class rooms and also majority of investors are not ready to take risk, they act as a risk averse. The factors influencing the investment in commodity are family, friends, class teachers etc.

Investors can succeed in their investment only when they are able to select the right commodity at right time. The investors should closely watch the situation like market price, economy, returns and risk associated with the commodity before taking the decision in invest.

I would like to conclude that in the commodity there is high possibility of getting good returns.

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ANNEXURE

QUESTIONNAIRE

1. Name

2. Gender

- Male
- Female
- Transgender

3. Age

- 18-24
- 25-34
- 35-54
- Above 55

4. Occupation

- Student
- Business person
- Government employee

Private employee

5. Annual Income

- Below 50000
- 50000-100000
- 100000-300000
- Above 300000

6. Are you aware of Commodity Market

- Yes
- No

7. If Yes, how long you are trading in?

- Below 1year
- 1-2year
- 2-3year

8. If No, reason

- No proper information
- Being risky
- Not interested
- Any other

9. Your opinion about commodity market

- Risky
- Less risky
- High risky

10. From where did you get information about investment

- Friends
- Family
- Consultant
- Others

11. Type of investment you prefer?

- Long term
- Medium term
- Short term

12. Which commodity has more value/power?

- Gold
- Copper
- Silver
- Nickel

13. In whole commodities you prefer gold to trade more

- Strongly disagree
- disagree
- neutral
- agree
- strongly agree

14. why commodity prices are fluctuating, reason?

- Government condition
- Supply of commodity
- Demand of product
- All of the above

15. Is one commodity fluctuation affects other one?

- Yes
- No

16. Up to now how much profit/losses you gain

- High
- Medium
- Low
- Very low

17. Main factors which influences gold prices

- Inflation
- Interest rate
- Global crisis
- Value of US dollar

18. Generate regular income from your investment and less concerned about growing the value of your investments.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

19. Why investors prefer gold

- It is precious metal
- Cost is high
- Supply is high
- Low demand

20. What made you to trade in commodity market

- Profit Speculations
- Less risky
- Any other

21. Aware of different investing options?

- Strongly disagree
- disagree
- neutral
- agree
- strongly agree

22. Are you satisfied with your investment option?

- Yes
- No

23. If no, then in which instrument is you invest?

- Insurance
- Gold
- Equity
- Bond

24. You are expecting high returns while investing?

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

25. Are you interested in mutual fund investment?

- Yes
- No

26. In which sector do you prefer to invest your money?

- Private sector
- Public sector
- Foreign sector

Project Report

On

**EFFECT OF COVID-19 MASKS ON
ECOSYSTEM**

Submitted

in partial fulfilment of the requirements for the degree of

BACHELOR OF SCIENCE

in

MATHEMATICS

by

ANN WILSON

(AB19AMAT010)

Under the Supervision of

DONNA PINHERIO

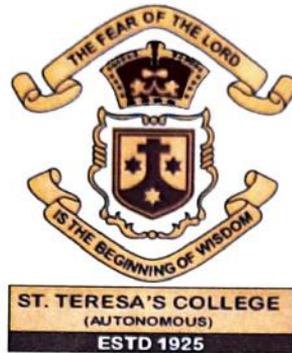


**DEPARTMENT OF MATHEMATICS
ST. TERESA'S COLLEGE (AUTONOMOUS)**

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APRIL 2022

ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM



CERTIFICATE

This is to certify that the dissertation entitled, **EFFECT OF COVID-19 MASK ON ECOSYSTEM** is a bonafide record of the work done by Ms. **ANN WILSON** under my guidance as partial fulfillment of the award of the degree of **Bachelor of Science in Mathematics** at St. Teresa's College (Autonomous), Ernakulam affiliated to Mahatma Gandhi University, Kottayam. No part of this work has been submitted for any other degree elsewhere.

Date: 6/5/2022

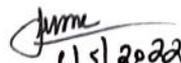
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DECLARATION

I hereby declare that the work presented in this project is based on the original work done by me under the guidance of Donna Pinherio, Assistant Professor, Department of Mathematics, St. Teresa's College(Autonomous), Ernakulam and has not been included in any other project submitted previously for the award of any degree.

Ernakulam.

Date: 6/5/2022



ANN WILSON

AB19AMAT010

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Ernakulam.

Date: 6/5/2022

ANN WILSON

AB19AMAT010

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Chapter 1

INTRODUCTION

The COVID-19 pandemic is having a massive impact on societies all over the world. It has caused millions of death worldwide. It has also affected the wealth and economy of countries and the everyday routines of human life. Since the pandemic began, face masks are used as primary personal protective equipment to control the spread of the virus, thus the production and usage of face mask has been significantly increased. There are wide varieties of masks available in the market, of which disposable mask is in high demand. Most of these disposable masks are made from fiber-based plastic polypropylene, which can persist in the environment for decades.

This pandemic is estimated to generate millions of tons of medical waste, in which disposable masks hold a large share. Disposable masks can cause numerous negative impacts on our ecosystem if not disposed of properly. The problem is that the public is using disposable masks on a large scale and not disposing them properly. This extensive use of mask generate millions of plastic waste in a short period. Due to improper disposal methods, issues like air pollution, water pollution, global warming, bioaccumulation of microplastics in food chains, death of living organisms, etc., arise in our surroundings.

Our aim is not to change disposable mask usage as it is an important safety measure to control the spread of the virus, but to raise awarness

about the proper disposal of masks after they being used. This project aims to examine the impact of covid- 19 masks on the ecosystem, as well as the relationship between various factors and disposal methods, and to suggest sustainable solutions to limit the future consequences to our ecosystem.

1.1 BACKGROUND & CONTEXT OF THE STUDY

The novel corona virus (COVID-19) is a highly infectious disease caused by the SARS-CoV-2 virus. COVID-19 was identified in Wuhan city, China in December 2019 as a pneumonia of unknown origin. Later, the international committee on taxonomy of viruses (ICTV) identified the causative agent as a novel coronavirus. COVID-19 outbreak spreads rapidly across the world, therefore, the World Health Organization (WHO) has announced it as a pandemic on March 12, 2020.

Government took several measures to counteract the spreading of disease like travel restrictions, mandatory quarantines, social distancing, bans on public gatherings, self-isolation, curfews, lockdown etc. Also a number of hygiene measures have been initiated; the most visually noticeable is perhaps the wearing of face masks. It helps to slow down or stop the spread of COVID-19 by acting as a barrier over the nose and mouth thus the number of respiratory droplets that may be expelled from an infected person drops dramatically. Furthermore, wearing a mask can help protect a healthy person from inadvertently inhaling droplets from an infected person.

Since wearing masks in public areas is mandatory there has been a visible rise in the usage of masks. There are various types of masks such as surgical, N95 and commercial fabric/cloth masks. But once used, these masks are landing up everywhere from the roadside to the sea shores thus giving rise to a new environmental issues of ‘mask pol-

lution'. Most of these face mask wastes contains either polypropylene and/or polyethylene, polyurethane, polystyrene, polycarbonate, polyacrylonitrile, which add plastic or microplastic pollution to the environment. The concern of proper mask disposal is becoming bigger by the day. Around the world, scientists and researchers have been working towards finding innovative and sustainable solutions for proper disposal of masks.

1.2 NEED AND SIGNIFICANCE OF THE STUDY

The ongoing COVID-19 pandemic has caused an environment of considerable uncertainty for people, businesses, education, jobs, and economies in every country. Globally, it is estimated that 129 billion disposable masks are used each month as this pandemic has made wearing masks mandatory in every human's life. Despite the fact that millions of people have been told to wear face masks, there has been no instruction or proper guidelines given on how to appropriately dispose them of.

Disposable masks, on the other hand, aren't really disposable. The majority of masks are made of long-lasting plastics that are difficult to biodegradable, but can fragment into tiny plastic particles, specially microplastics and nanoplastics. If not disposed properly, they can remain for decades to hundreds of years in the environment. As a result, they may have a wide variety of adverse effects on the ecosystem and humans.

Like other plastic wastes, masks can end up in the streets, landfills, freshwater systems, and oceans if not disposed of properly. The plastic in the discarded face masks might end up as floating marine trash, wreaking havoc on the marine ecosystem. These plastic products are frequently mistaken for food by wildlife and marine which causes choking, malnourishment and ultimately leading to death. Also mask littered in the soil can also impact the fauna, elastic straps of masks are

also a problem for smaller animals like birds and sea creatures as it may become entangled around their necks. Furthermore, plastic particles generated during the decomposition of those face masks would linger in the waters and accumulate in the food chain for years to come, eventually posing a threat to human health and animal health.

Disposable masks often made of polypropylene releases harmful chemicals when burned. The amount of polypropylene in surgical mask and N95 mask are 4.5 g and 9 g, respectively (Akber et al. 2020). According to the Journal of the American College of Toxicology, published in 1988, burning polypropylene produces a variety of compounds, some of which are exceedingly poisonous. Many of these components can irritate the eyes, create respiratory difficulties, and even cause cancer. Therefore burning of disposable face masks can cause many adverse impacts to both human health and the environment.

Production of the face masks also contributes the emission of CO₂, which contributes to global warming (Liebsch, 2020). The N95 mask production release 50 g CO₂-eq per single mask, excluding the transportation process (Klemeš et al., 2020a). A surgical mask is embodied with 59 g CO₂-eq per single and the highest share is from the transportation process (Klemeš et al., 2020a).

Mask trash is on the rise all over the world as people fail to follow proper disposal techniques, resulting in a massive volume of plastic and plastic particle waste in the environment. It can cause a variety of consequences, both short term and long term on our ecosystem. Therefore, finding sustainable methods to lessen environmental consequences while satisfying mask demand is necessary.

1.3 LITERATURE REVIEW

1. Environmental challenges induced by extensive use of face masks during covid- 19 conducted by Kajanam Selvaranjan, Satherkumar Navaratnam, Pathmantham Rajeev and Nishabtha Ravintherakumaran aims to look into the environmental impact of face mask waste and find a long-term way to reduce it. An online survey of 1033 participants was conducted to determine the types of face masks and the quantity of masks used per week by each individual. This study quantifies the amount of plastic waste generated by face masks based on the results of this survey. Types of masks, amount of mask usage per week, method of mask disposal were the parameters used in this survey. The survey reveals that more than 25% of people generate 5 mask waste per week. This survey, however, was limited in terms of age, country, and duration. As a result, the prediction of plastic waste generation only provides basic information concerning mask wastes. The findings revealed that a large amount of plastic trash in the form of mask waste has stayed in the land and marine environment, contributing to micro-plastic contamination. As a result, this article emphasises a more sustainable approach to mask production by using natural plant fibre into woven face mask technology to reduce the amount of plastic waste generated by masks. Upcycling mask wastes and manufacturing construction materials were also discussed.

2. COVID pollution: impact of COVID-19 pandemic on global plastic waste footprint conducted by Nsikak U. Benson, David E. Bassey and Thavamani Palanisami aims to evaluate the environmental footprints of the global plastic wastes generated during COVID-19, as well as the potential consequences of plastic contamination. Globally, they predict that 3.4 billion single-use facemasks are disposed of every day as a result of the COVID-19 outbreak. Due to the COVID-19 epidemic, an estimated 1.6 million tonnes of single-use facemasks are manufac-

tured daily, meaning that roughly 3.4 billion single-use facemasks or face shields are wasted everyday. According to regional predictions, Asia will generate the most quantity of discarded facemasks per day (1.8 billion), followed by Europe, Africa, Latin America and the Caribbean, North America, and Oceania, with 445, 411, 380, 244, and 22 million facemasks per day, respectively. Given these figures, there is an increasing risk of single-use plastic and personal protective equipment (PPE) being linked directly to the COVID-19 epidemic. COVID-19, according to their extensive statistical analysis, will reverse the momentum of the years-long global campaign to minimise plastic waste pollution. Their expert opinion aims to increase awareness for the use of dynamic waste management solutions aimed at reducing environmental contamination caused by the pandemic's plastic trash.

3. Plastic pollution during COVID-19: Plastic waste directives and its long-term impact on the environment conducted by Mehnaz Shams, Iftaykhairul Alam, Md Shahriar Mahbub have clarified how worldwide plastic production increased during COVID-19 and how this contributed to short and long-term environmental repercussions in this review. Plastic pollution will increase GHS emissions in incineration facilities during the pandemic. Plastics disposed of improperly in the oceans and on land would jeopardise marine creatures and, as a result, human lives. They've also calculated how growing plastic pollution will exacerbate the micro- and nanoscale plastic problem, which has recently emerged as a major issue. This review is useful in understanding the use of plastic and its environmental repercussions in a pandemic like COVID-19.

4. Increased plastic pollution due to COVID-19 pandemic: Challenges and recommendations is a journal presented by Ana L Patrício Silva, Joana C Prata, Tony R Walker, Armando C Duarte, Wei Ouyang,

Damià Barcelò, Teresa Rocha-Santos which aims to gives an overview on covid- 19 macroplastic pollution and it's effect on environment and human health in short term and long term scenarios. They addresses the main challenges and discussed various method to overcome this issue.They alarmed that the use of single time use plastics are increased, therefore it is the time to shift into sustainable alternatives such as bio based plastics.

Chapter 2

OBJECTIVES & METHODOLOGY

2.1 OBJECTIVES

1. To study the impact of disposable mask on environment:

Personal protective equipment (PPE) like face masks has been an important factor of measures to decrease the transmission of SARS-CoV-2 and prevent the spread of COVID-19 among health practitioners and the general public. The increasing usage of face masks during the COVID-19 pandemic has resulted in an increase of mask litter. Overall, our studies show that the usage of single use disposable face masks can have an impact on the environment, infrastructure, and individuals, especially when people do not properly dispose of used masks.

2. To find the relationship between various factors and disposal methods:

We analysed the relationship among several categorical variables using the Chi-square test for Independence. The categories are:

- a) Educational level of people and disposal methods.
- b) Age group of people and disposal methods.
- c) Job profile of people and disposal methods.

- d) Gender and disposal methods.
- e) Area of residence of people and disposal methods.

3. To suggest sustainable solutions to reduce environmental impacts:

Our intention is not to alter the disposable mask space since it is an important element of medical safety standards, but to offer some options to lessen environmental consequences. If everyone follows appropriate mask disposal management and the guidelines, we can drastically alleviate this major problem.

2.2 METHODOLOGY

Samples were collected from different age groups. Due to present circumstances, the use of online medium for conducting the survey was found to be more appropriate.

Technique used: Online survey method.

Tool used: Questionnaire based on mask usage.

Statistical Technique: Percentage Analysis, chi-square test for independence, pie chart and bar graph.

Percentage Analysis: Percentage analysis is a basic statistical tool which is widely used in analysis and interpretation of primary data. Percentages are used in making comparison between two or more series of data.

Chi-square test for Independence: Chi-square test for Independence evaluates relationship between categorical variables. Like any other statistical hypothesis test, the Chi square test has both null hypothesis

and alternative hypothesis.

Null hypothesis: There is no relationships between the categorical variables.

Alternative hypothesis: There is a relationship between the categorical variables.

Then we create the table of observed frequency and expected frequency.

Expected Frequency= (Row total \times Column total) \div Grand total

$$EF=RT*CT/GT$$

Our critical value is 0.05.

The next step is to calculate p value.

In our statistical results, if p value is less than 0.05, we can reject the null hypothesis and conclude there is relationship between the categorical variables. If p value is greater than 0.05 we can accept the null hypothesis and conclude there is no relationship between the categorical variables.

Pie Chart: It is a type of statistical graph in which a circle is divided into sectors that each represent a proportion of the whole.

Bar Graph: A bar graph is a graph that shows complete data with rectangular bars.It usually compares different categories. The most usual type of bar graph is vertical. In a bar graph , the horizontal axis represents categories whereas, the vertical axis represents a value of the categories.

Data Collection procedure: A Questionnaire based on usage of mask was prepared using google forms and shared with respondents to iden-

tify the types of mask used and disposal method being employed currently (from 22 November 2021- 29 December 2021) and 735 responses were received.

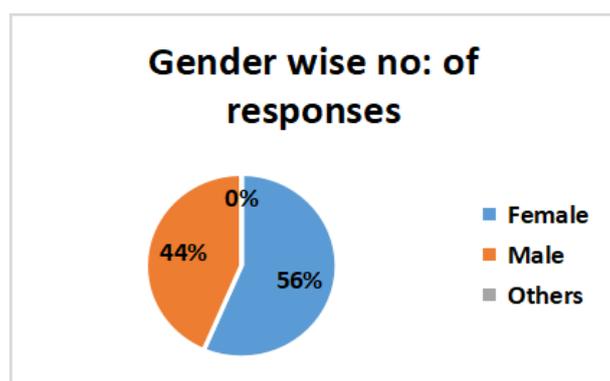
2.3 SURVEY ANALYSIS

The data is collected confidentially by conducting an online survey. A total of 735 samples were received and analysed.

1) GENDER

The obtained data was analysed gender wise, about 56% responses were received from female category, 44% responses were received from male category and 0% from others category.

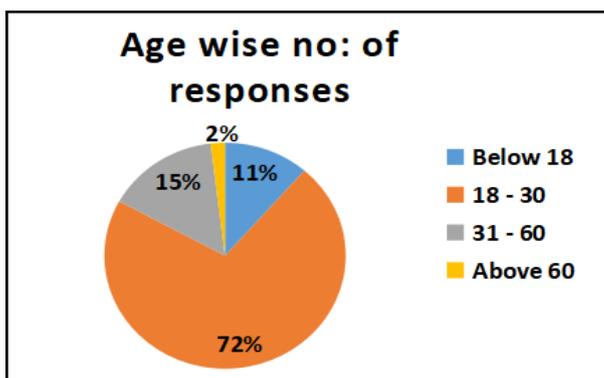
Gender	No: of responses
Male	415
Female	320
Others	0



2) AGE CATEGORY

Data analysed age wise revealed that people within the age group of 18-30 showed more interest to participate.

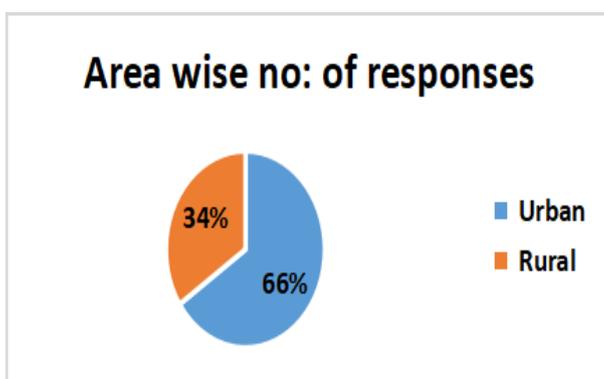
Age Group	No: of responses
Below 18	84
18-30	526
31-60	111
Above 60	14



3) AREA OF RESIDENCE

About 66% responses were received from urban area while 34% responses were from rural area.

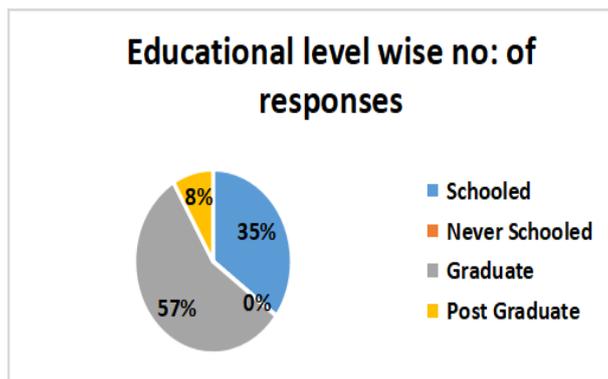
Area	No: of responses
Urban	482
Rural	253



4) EDUCATIONAL LEVEL

Responses received were majority from graduate level. 0% responses were received from never schooled category.

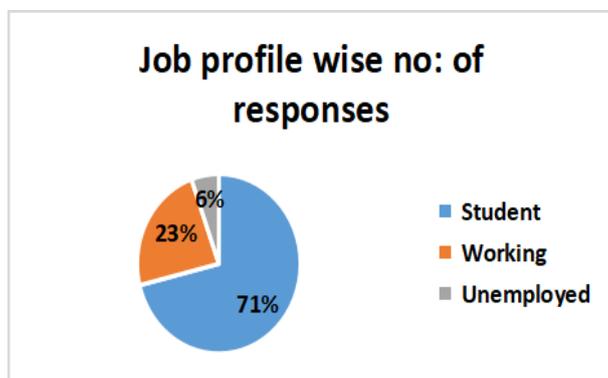
Education Level	No: of responses
Schooled	258
Never Schooled	0
Graduate	415
Post Graduate	62



5) JOB PROFILE

Majority of responses received were from students. Working and unemployed category also showed interest to participate.

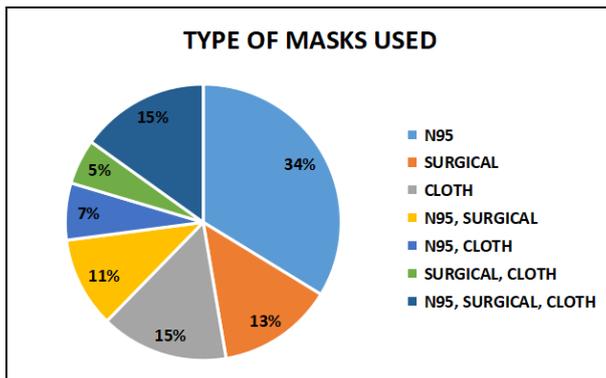
Job Profile	No: of responses
Student	523
Working	172
Unemployed	40



6) TYPES OF MASK USED

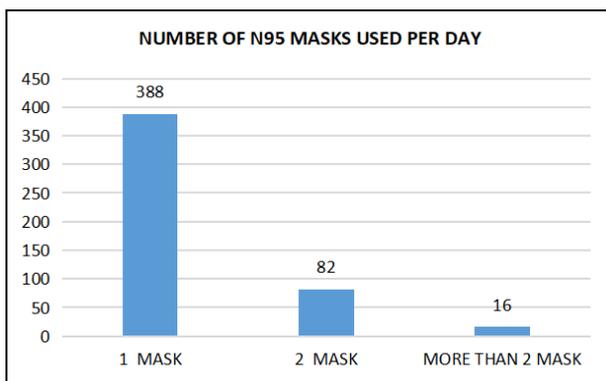
The data shows that N95 masks are more used by individuals compared to cloth and surgical masks. (S denotes Surgical masks and C denotes Cloth masks).

N95	S	C	N95,S	N95,C	S,C	N95,S,C
248	100	110	78	49	39	111



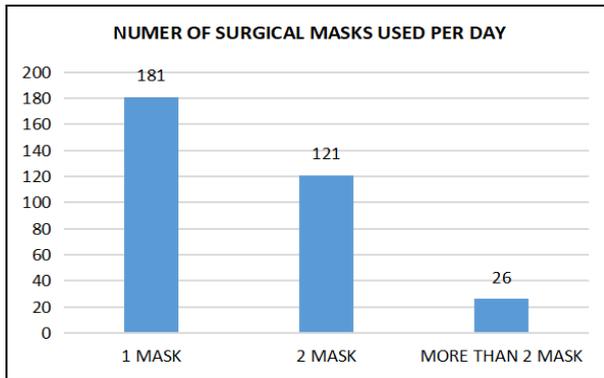
7) NUMBER OF N95 MASKS USED PER DAY

1 mask	2 mask	More than 2 mask
388	82	16



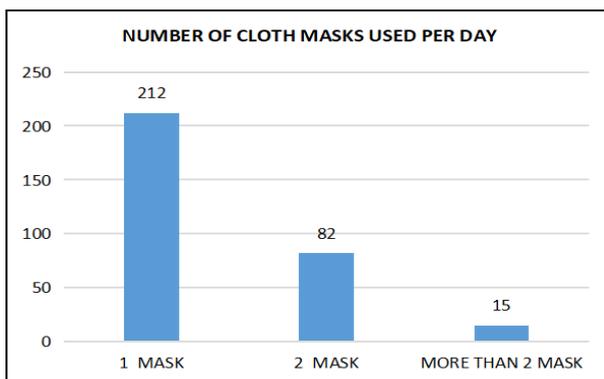
8) NUMBER OF SURGICAL MASKS USED PER DAY

1 mask	2 mask	More than 2 mask
181	121	26



9) NUMBER OF CLOTH MASKS USED PER DAY

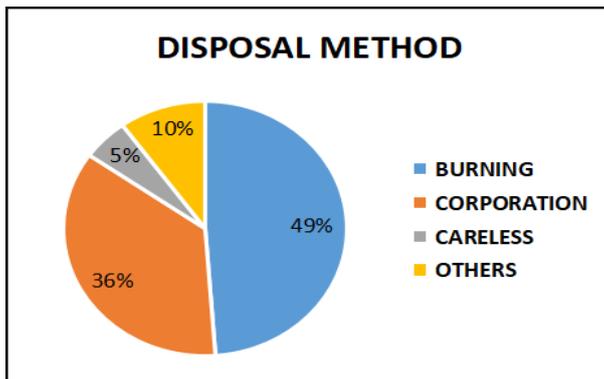
1 mask	2 mask	More than 2 mask
212	82	15



10) METHOD OF DISPOSAL

The data reveals that majority of people dispose masks by means of burning.

Disposal Method	No: of responses received
Burning	359
Cooperation	264
Careless Disposal	39
Others	73



Chapter 3

DATA ANALYSIS

3.1 Analysis on education level of people & disposal method.

H0: There is no relationship between education level of people and disposal method.

H1: There is relationship between education level of people and disposal method.

CRITICAL VALUE=0.05

OBSERVED FREQUENCY

	Schooled	Graduate	Post Graduate	TOTAL
Burning	123	207	29	359
Cooperation	87	150	27	264
Careless Disposal	19	18	2	39
Others	29	40	4	73
TOTAL	258	415	62	735

EXPECTED FREQUENCY

	Schooled	Graduate	Post Graduate	TOTAL
Burning	126.016327	202.7006803	30.2829932	359
Cooperation	92.6693878	149.0612245	2.26938776	264
Careless Disposal	13.6897959	22.02040816	3.289795918	39
Other	25.6244898	41.21768707	6.157823129	73
TOTAL	258	415	62	735

$$EF = CT \times RT/GT$$

$$p=0.10630071$$

$$\{pvalue > 0.05\}$$

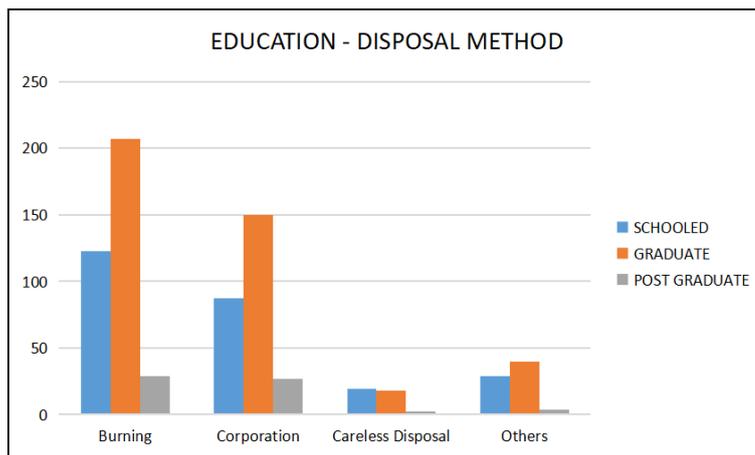
Accept H0

Reject H1

There is no relationship between education level of people and disposal method.

People's disposal methods are not dependent on their educational level. Even highly educated people dispose of masks by burning them and discarding them carelessly.

	Schooled	Graduate	Post Graduate
Burning	47.67%	49.87%	46.77%
Corporation	33.72%	36.14%	43.54%
Careless	7.36%	4.33%	3.22%
Others	11.24%	9.63%	6.45%



3.2 Analysis on age group of people & disposal method

H0: There is no relationship between age group of people and disposal method.

H1: There is relationship between age group of people and disposal method.

CRITICAL VALUE=0.05

OBSERVED FREQUENCY

	Below 18	18-30	31-60	Above 60	TOTAL
Burning	36	242	71	10	359
Cooperation	31	203	29	1	264
Careless Disposal	5	27	5	2	39
Other	12	54	6	1	73
TOTAL	84	526	111	14	735

EXPECTED FREQUENCY

	Below 18	18-30	31-60	Above 60	TOTAL
Burning	41.0285714	256.917701	54.21632653	6.83809524	359
Cooperation	30.1714286	188.93061	39.86938776	5.02857143	264
Careless Disposal	4.45714286	27.910204	5.889795918	0.74285714	39
Other	8.34285714	52.242177	11.0244898	1.39047619	73
TOTAL	84	526	111	14	735

$$EF = CT \times RT/GT$$

p=7.107E-05

{pvalue < 0.05}

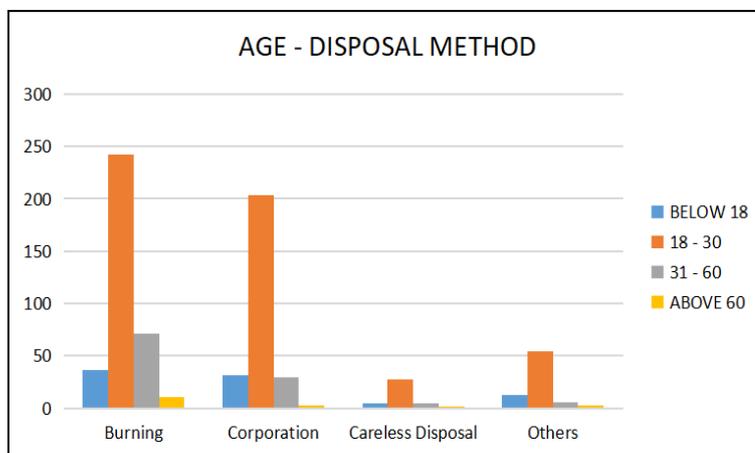
Reject H0

Accept H1

There is relationship between age group of people and disposal method.

After analysing the data, we discovered that adults over the age of 60 are more likely to dispose of masks by burning them and discarding them carelessly.

	Below 18	18-30	31-60	Above 60
Burning	42.85%	46%	63.96%	71.42%
Corporation	36.90%	38.59%	26.12%	7.14%
Careless	5.95%	5.13%	4.50%	14.28%
Others	14.28%	10.26%	5.40%	7.14%



3.3 Analysis on job profile & disposal method

H0: There is no relationship between job profile of people and disposal method.

H1: There is relationship between job profile of people and disposal method.

CRITICAL VALUE=0.05

OBSERVED FREQUENCY

	Student	Working	Unemployed	TOTAL
Burning	235	101	23	359
Cooperation	199	53	12	264
Careless Disposal	30	8	1	39
Other	59	10	4	73
TOTA	523	172	40	735

EXPECTED FREQUENCY

	Student	Working	Unemployed	TOTAL
Burning	255.4517007	84.010884	19.53741497	359
Cooperation	187.8530612	61.779592	14.36734694	264
Careless Disposal	27.75102041	9.1265306	2.12244898	39
Other	51.94421769	17.082993	3.972789116	73
TOTAL	523	172	40	735

$$EF = CT \times RT/GT$$

$$p=0.00509881$$

$$\{pvalue < 0.05\}$$

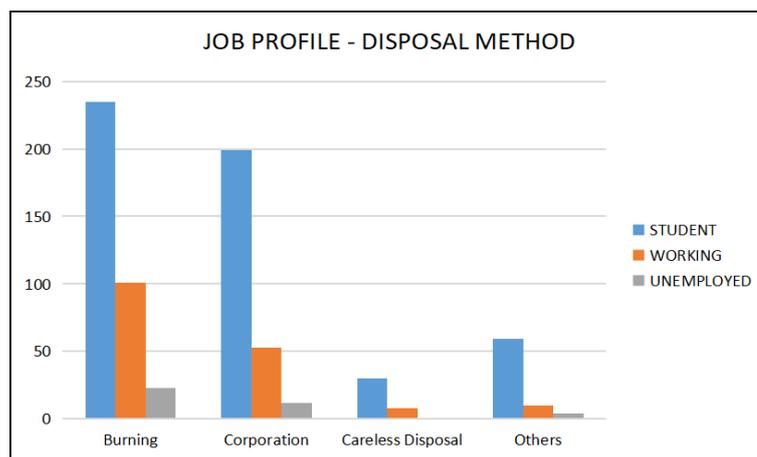
Reject H0

Accept H1

There is relationship between job profile of people and disposal method.

We may deduce from the data that working category people dispose of masks by burning them more than students and the unemployed category. Students, on the other hand, appear to be more careless when it comes to mask disposal.

	Student	Working	Unemployed
Burning	44.93%	58.72%	57.5%
Corporation	38.08%	30.18%	30%
Careless	5.73%	4.65%	2.5%
Others	11.28%	5.81%	10%



3.4 Analysis on gender & disposal method

H0: There is no relationship between gender and disposal method.

H1: There is relationship between gender and disposal method.

CRITICAL VALUE=0.05

OBSERVED FREQUENCY

	Male	Female	TOTAL
Burning	140	219	359
Cooperation	115	149	264
Careless Disposal	30	9	39
Other	35	38	73
TOTAL	320	415	735

EXPECTED FREQUENCY

	Male	Female	TOTAL
Burning	156.2993197	202.7006803	359
Cooperation	114.9387755	149.0612245	264
Careless Disposal	16.97959184	22.02040816	39
Other	31.78231293	41.21768707	73
TOTAL	320	415	735

$$EF = CT \times RT/GT$$

$$p=9.24949E-05$$

$$\{pvalue < 0.05\}$$

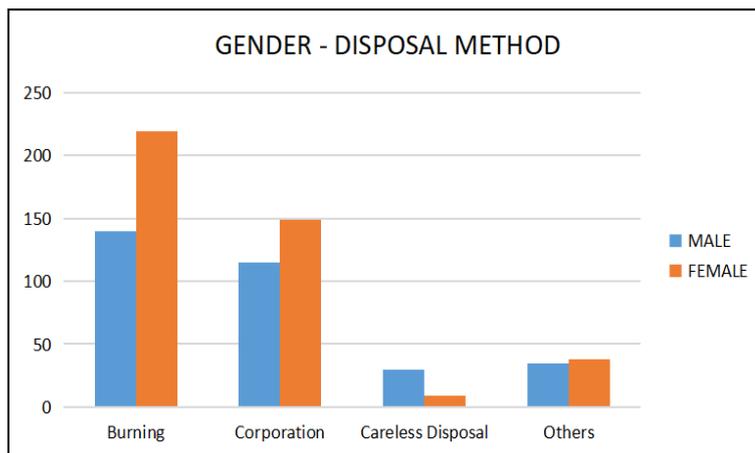
Reject H0

Accept H1

There is relationship between gender and disposal method.

We discovered that women dispose of masks by burning them more than men based on the data collected. When it comes to careless disposal, men outnumber women.

	Female	Male
Burning	52.77%	43.75%
Corporation	35.905	35.93%
Careless	2.16%	9.37%
Others	9.15%	10.93%



3.5 Analysis on area of residence of people & disposal method

H0: There is no relationship between area of residence of people and disposal method.

H1: There is relationship between area of residence people and disposal method.

CRITICAL VALUE=0.05

OBSERVED FREQUENCY

	Urban	Rural	TOTAL
Burning	189	170	359
Cooperation	219	45	264
Careless Disposal	29	10	39
Other	45	28	73
TOTAL	482	253	735

EXPECTED FREQUENCY

	Urban	Rural	TOTAL
Burning	235.4258503	123.5741497	359
Cooperation	173.1265306	90.87346939	264
Careless Disposal	25.5755102	13.4244898	39
Other	47.87210884	25.12789116	73
TOTAL	482	253	735

$$EF = CT \times RT/GT$$

$$p=9.31994E-14$$

$$\{pvalue < 0.05\}$$

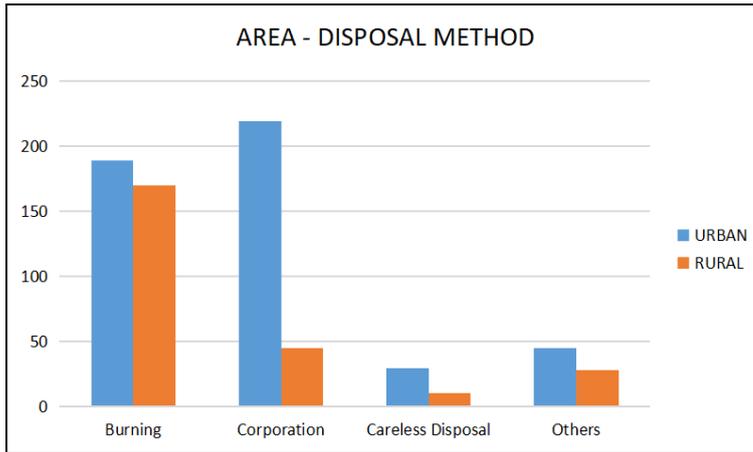
Reject H0

Accept H1

There is relationship between area of people and disposal method.

We can deduce from the data that rural individuals burn masks more than urban people. The majority of urban residents dispose of masks by giving them to corporation or municipal waste collectors , however when it comes to careless disposal, urban residents are more likely.

	Urban	Rural
Burning	39.21%	67.19%
Corporation	45.43%	17.78%
Careless	6.01%	3.95%
Others	9.33%	11.06%



Chapter 4

MAJOR FINDINGS & SUGGESTIONS

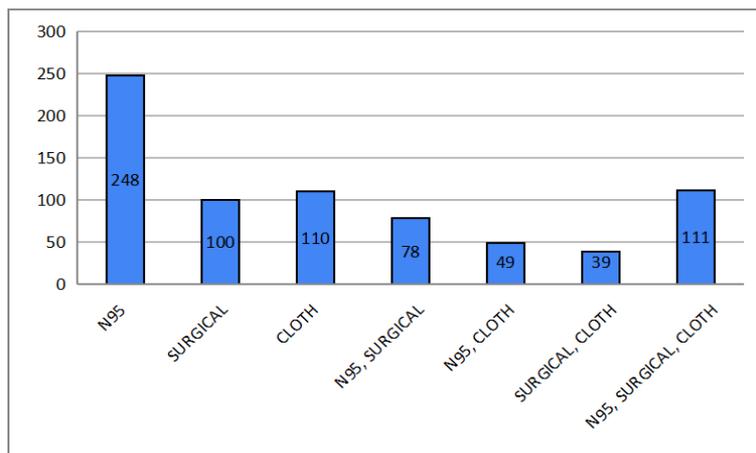
4.1 MAJOR FINDINGS

CHI SQUARE RESULTS:

- a) There is no relationship between education level of people and disposal method.
- b) There is relationship between age group of people and disposing method.
- c) There is relationship between job profile of people and disposing method.
- d) There is relationship between gender and disposing method.
- e) There is relationship between area of residence of people and disposing method.

TYPES OF MASKS USED:

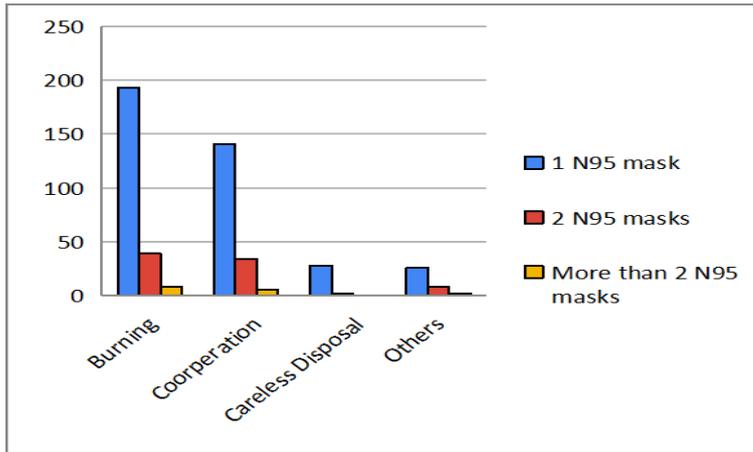
N95	S	C	N95, S	N95, C	S, C	N95, S, C
248	100	110	78	49	39	111



The various types of masks used by the survey participants are shown in the figure. This figure indicates that out of 735 samples received the majority of people (248 individuals) use N95 masks, which are highly recommend by World Health Organization to minimize the spread of virus. While 110 individuals use cloth masks as they are reusable. In addition, 111 people use N95, surgical and cloth masks. Surgical masks alone are used by 100 individuals, whereas 78 individuals use N95 and surgical, 49 individuals use N95 and cloth, and 39 individuals use surgical and cloth masks.

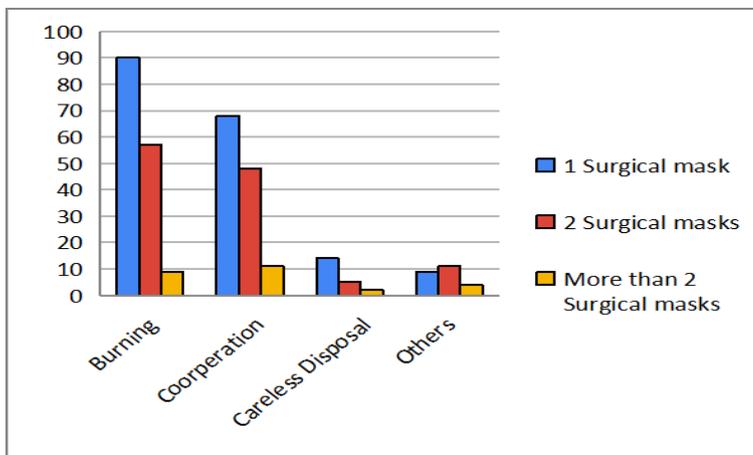
NUMBER OF N95 MASKS USED PER DAY - DISPOSAL MATHOD:

	1 mask	2 mask	More than 2
Burning	193	39	8
Corporation	141	34	6
Careless	28	1	0
Others	26	8	2



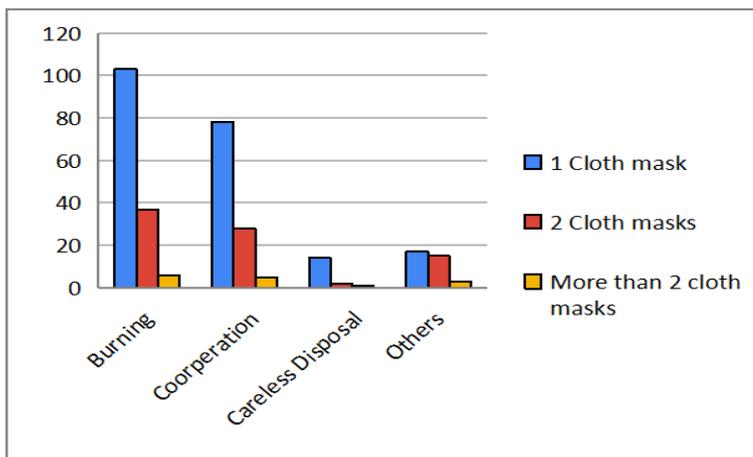
NUMBER OF SURGICAL MASKS USED PER DAY - DISPOSAL METHOD:

	1 mask	2 mask	More than 2
Burning	90	57	9
Corporation	68	48	11
Careless	14	5	2
Others	9	11	4



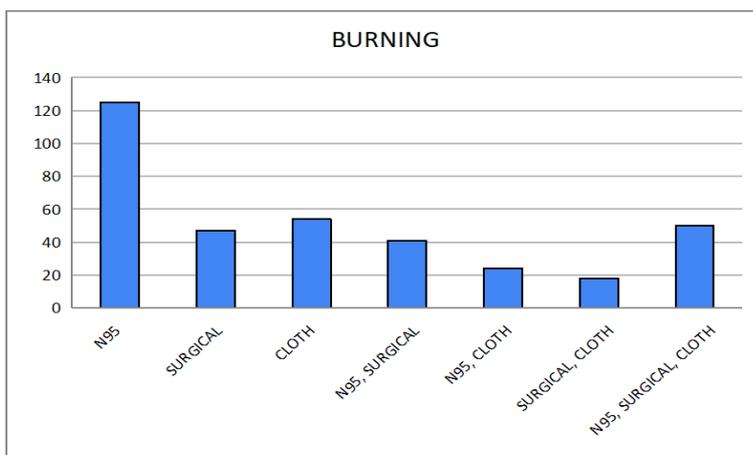
NUMBER OF CLOTH MASKS USED PER DAY - DISPOSAL METHOD:

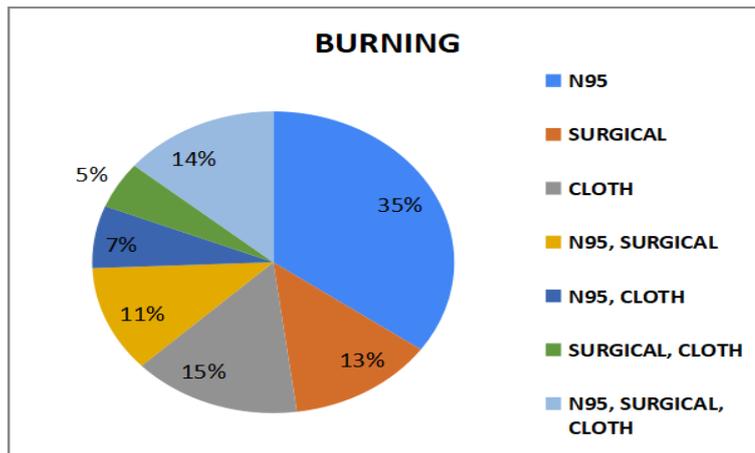
	1 mask	2 mask	More than 2
Burning	103	37	6
Cooperation	78	28	5
Careless	14	2	1
Others	17	15	3



TYPES OF MASK BURNED:

N95	S	C	N95, S	N95, C	S, C	N95, S, C
125	47	54	41	24	18	50





4.2 SUGGESTIONS

- Proper guidelines for disposal of face masks.
- Conduct awareness programs to educate citizens on how to handle medical wastes such as masks, gloves etc.
- Separate waste disposing bins should be kept in public areas. This waste should be handled separately.
- Switch to eco friendly reusable face masks. Reusable masks are more sustainable option than single use disposable masks. Also, using recycled fabric for mask making can also reduce the environmental impact.
- Wear a mask, but don't litter. Dispose of used masks carefully in waste bins whenever possible or take it home in a bag. Whatever you do, don't litter them.
- Replacing plastic materials in disposal masks with biodegradable, non toxic and recyclable alternatives. We can use natural fibres such as rice husk, jute or other sustainable fibres for the manufacturing of disposable masks, instead of plastic materials.
- Sterilizing or disinfecting masks and reusing them.

- Cut the elastic straps of masks and dispose. This will prevent elastic straps getting entangled around the necks of smaller animals.
- Disposable masks can be converted into biofuel (Proposed by India's University of Petroleum and Energy Studies).
- Extracting plastic derivatives from mask waste and using them in construction sectors (Eg Roads, Buildings...).
- A 27-year old environmentalist in India has come up with a solution to reduce the plastic waste generated during the pandemic. He is turning medical waste into eco friendly bricks (Hindustan Times, July 26 2021).

Chapter 5

CONCLUSION

The rapid spread of COVID 19 has resulted in a sharp and steady increase in the use of face masks to reduce the viral transmission of COVID 19. Due to improper disposal methods, disposable masks are now found everywhere on the earth including freshwater system and oceans. These masks are becoming an emerging threat to our ecosystem. This study analysis and reveals the number of masks used per day, types of masks used, disposal methods being employed currently, and relationship between various factors and disposal methods.

The data obtained through online survey reveals that 34% people use N95 masks, 13% use surgical masks, 15% use cloth masks while some percentage of people use a combination of these masks. Also, the data obtained shows that 49% people dispose masks by means of burning, 36% responded that used masks are taken by the corporation or municipality, 5% dispose masks carelessly while 10% people responded with others option. Graphical representation of data was made using pie chart and bar graphs for easy understanding.

The data obtained was analysed age wise, gender wise, area wise, education level wise and job profile wise to find out if there exist any relationship between these factors and disposal methods. Using Chi-square test we were able to conclude that there exist a relationship between age, gender, area of residence, job profile, and disposal methods. Also,

we concluded that there exists no relationship between education level of people and disposal methods used by them.

The impact of disposable masks on the ecosystem and some sustainable solutions to reduce mask waste were also discussed in the course of this project. This study and results obtained will help to understand more about the types of masks used by the public and mask wastes generated.

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ANNEXURE

Questionnaire

1. Gender

Female

Male

Others

2. What age category do you belong to?

Below 18

18-30

31-60

above 60

3. Area

Urban

Rural

4. District

5. Education level

Schooled

Never schooled

Graduate

Post graduate

6. Job profile

Working

Unemployed

Student

7. Which type of mask use ?

N95

Surgical

Cloth

8.How many N95 masks you use per day?

9.How many surgical masks you use per day?

10.How many cloth masks you use per day?

11.Do you reuse your N95 mask? If yes, how many times?

12.Do you reuse your surgical mask? If yes, how many times?

13.How are you disposing your mask ?

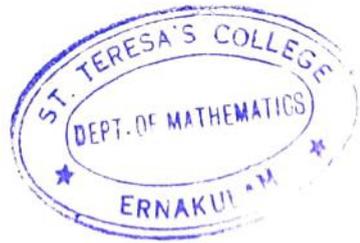
Burning

Taken by cooperation / municipality

Careless disposal

Others

14.If others ,specify.



**STUDY ON THE IMPACT OF BEHAVIOURAL DISPOSITION ON
PORTFOLIO INVESTMENT DECISION OF INDIVIDUAL INVESTORS IN
ERNAKULAM CITY.**

Dissertation

Submitted by

JELNA C. J: (SM20COM012)

Under the guidance of

Ms. REEMA DOMINIC

**In partial fulfillment of the requirement for the Degree of
MASTER OF COMMERCE**



[Handwritten signature]

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CERTIFICATE

This is to certify that the project titled **"Study on the Impact of Behavioural Disposition on Portfolio Investment Decision of Individual Investors in Ernakulam City"** submitted to Mahatma Gandhi University in partial fulfillment of the requirement for the award of Degree of Master of Commerce is a record of the original work done by Ms. Jelna C. J, under my supervision and guidance during the academic year 2021-22.

Project Guide

Ms. Reema Dominic

Assistant Professor

Department of Commerce (S.F.)

Viva Voce Examination held on....



Smt. Jini Justin D'Costa

(Head of the Department)

Department of Commerce (S.F.)

24/05/2022

External Examiner(s)

DECLARATION

I, Jelna C. J, final year M.Com student, Department of Commerce (S.F.), St. Teresa's College (Autonomous) do hereby declare that the project report entitled "Study on the Impact of Behavioural Disposition on Portfolio Investment Decision of Individual Investors in Ernakulam City" submitted to Mahatma Gandhi University is a bonafide record of the work done under the supervision and guidance of Ms. Reema Dominic, Assistant Professor of Department of Commerce (S.F.), St. Teresa's College (Autonomous) and this work has not previously formed the basis for the award of any academic qualification, fellowship, or other similar title of any other university or board.

PLACE: ERNAKULAM


JELNA C. J

DATE: 24/05/2022

ACKNOWLEDGEMENT

First of all, I am grateful to God Almighty for his blessings showered upon me for the successful completion of my project.

It is my privilege to place a word of gratitude to all persons who have helped me in the successful completion of the project.

I am grateful to my guide **Ms. Reema Dominic**, Assistant Professor, Department of Commerce (S.F.) of St. Teresa's College (Autonomous), Ernakulam for her valuable guidance and encouragement for completing this work.

I would like to thank **Smt. Jini Justin D'Costa**, Head of the Department, Department of Commerce (S.F.) of St. Teresa's College (Autonomous), Ernakulam for her assistance and support throughout the course of this study and for the completion of the project.

I will remain always indebted to my family and friends who have helped me in the completion of this project.

Last but not the least; I would also like to thank the respondents who have helped me to provide the necessary information for my study.

JELNA C. J

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CHAPTER - I INTRODUCTION

... ..

The purpose of this study is to analyze and describe the ...

1.3 STATEMENT OF THE PROBLEM

... ..

1.1 TITLE OF THE STUDY:

“Study on the Impact of Behavioural Disposition on Portfolio Investment Decision of Individual Investors in Ernakulam City.”

1.2 INTRODUCTION:

Financial decisions are ideally assumed to be free of all emotional and psychological inference and all investors are assumed to be wealth maximizers. However, the market trends show a different picture especially in a country like India, where stock market crashes are unheard of and where markets are way too volatile. True investors have some level of financial knowledge that they apply before making an investment decision and on the other hand, the fact that they don't always make rational decisions in their interest cannot be overlooked. Behavior finance is described as that field of finance that proposes psychological and human emotions-based theories to explain certain investment anomalies that are seen in real life. It assumes the characteristics of market participants and their emotions influence the investor's financial decisions and market outcomes. Behavioral finance explores investors' thoughts and feelings that means it tries to find why aspects of their decisions.

The purpose of this study is to analyze and describes individual investor's behaviour from Behavioural finance perspective. In a nutshell, this study focuses on investigating biases in investors' behaviour viz. Herding, Overconfidence, Disposition, Mental Accounting, Anchoring, Representativeness, Loss Aversion and regret Aversion.

1.3 STATEMENT OF THE PROBLEM:

Investment decisions in traditional finance theories are based on the assumption that investors are rational human beings who can make rational investment decisions. They are not, however, fully rational when making investing decisions. A variety of

psychological biases influence their investment decisions. Individual investors frequently ignore the importance of Behavioural aspects on decision-making, which affects the performance of their stock market investments. The study of the impact of behavioural aspects of investing is thus the need of the hour.

The overall purpose of this research is to gain knowledge about the key factors that influence Portfolio investment behavior and ways these key factors impact investment decision-making processes. This study aims to determine the interdependency of these socio-demographic, behavioural and risk factors on an Individual's Portfolio Investment decisions.

1.4 OBJECTIVES OF THE STUDY:

The objectives of the study are as follows:

2. To identify the behavioural factors influencing the investment decisions of individual investors.
3. To study various demographic factors that affects portfolio investment decisions of individual investors.
4. To assess the risk –taking ability of individual investors in the presence of behavioural attributes.
5. To portray the impact of past portfolio performance on future investment decisions and to determine the satisfaction level of investors in their portfolio investment.
6. To determine the impact of market information on portfolio investment decisions of individual investors.

1.5 SIGNIFICANCE OF THE STUDY:

1.5.1 TO INVESTORS:

The research will help current and potential investors make portfolio investment decisions based on a variety of factors. These variables will cover

not only basic and technical aspects, but also psychological components that are present in both the investor and the market.

1.5.2 TO GOVERNMENT:

The findings will help the government design initiatives to address any inconsistencies that arise in the course of trade and that investors confront when making portfolio investment decisions.

1.5.3 TO RESEARCHERS:

The findings will serve as a good foundation for future research into behavioral aspects and investment choices.

1.6 RESEARCH METHODOLOGY:

1.6.1 Type of Research Design: The study is descriptive in nature.

1.6.2 Population: The Population is limited to the investors in Ernakulam.

1.6.3 Sample Size: A total of 100 is the sample size.

1.6.4 Sampling Method: Convenience Random Sampling is followed in this study.

1.6.5 Primary Data: They were collected by conducting surveys through the distribution of questionnaire using Google forms.

1.6.6 Secondary Data: They were collected from published sources like websites, journals, etc.

1.6.7 Tool for Data Analysis: The tool used for data analysis is Pie chart.

1.6.8 Statistical tool used for analysis: The statistical tool used for analysis is Anova.

1.7 HYPOTHESIS:

H1: There is significant relationship between Income of the Portfolio Investors and Herd Bias.

H2: There is significant relationship between Age of Portfolio Investors and Loss Aversion Bias.

1.8 SCOPE OF THE STUDY:

This study helps to analyze those areas that traditional finance failed to explain i.e. involvement of human behaviour in investing or had difficulty in explaining. It mainly concentrates on awareness, perception, attitude and behavior of investors. It also focuses on the study of analyzing the behavioural bias and heuristics, that affect investor individual investment decision, their choices, reaction to market information, sell, buy and hold decision of investment, factors affecting their investment decisions.

1.9 LIMITATIONS OF THE STUDY:

1. The study is limited to time constrain.
2. This study is limited to investor's response
3. Limited to Ernakulam.
4. Reluctance of investors to provide complete information about their investments can affect the validity of responses.

1.10 CHAPTERISATION:

This study includes five chapters:

- I. Introduction
- II. Review of Literature
- III. Theoretical Framework
- IV. Data Analysis and Interpretation
- V. Findings, Suggestions and Conclusion

CHAPTER - II
REVIEW OF LITERATURE

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CHAPTER – II

REVIEW OF LITERATURE

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The primary purpose of this research is to examine the factors that influence individual investors' portfolio investment behaviour in the stock market.

2.1 Upadhayay Devrshi, 2021

The emergence of Behavioural finance is the output of varied lacunas faced by the traditional theories. Parallel to this, Behavioural finance seeks to compensate the difficulties of traditional finance intervening with the cognitive and emotional aspects in resolving the more complex process of decision making. The aim of this study is to check whether the individual investors in the investment decision are rational all the time, which ultimately make investors' standstill for making the correct decision for maximizing the wealth. The Behavioural biases are prone to link with the notion that rational human does not exist, but quasi-rational and irrational does exist. Individual investors are prone to behavioural biases. This has serious implications in their short term and long term investment decisions. The asset allocation by the individual investors is also based on various behavioural aspects they possess. Wrong asset allocations hamper the investment goals of individual investors. The individual investors, therefore, need to guard against their biases to avoid the investment losses.

2.2 Muhammad Anwar, 2016

Asserted the effects of behavioural biases on security market performance in Nigeria found that behavioural biases exists but not so dominant in the Nigerian security market because a weak negative relationship exists between behavioural biases and stock market performance. The paper finds strong proof that overconfident, loss aversion, framing, status quo biases and myopic loss aversion prevails in the Nigerian security market, though not presiding in the market because the result shows a low negative relationship, the resultant effect is that the market depreciates in value as investors depict behavioural biases. This suggests that behavioural biases are showed

by individuals from all sphere of life in their everyday trading activities in the market. The paper infers that, being aware of behavioural biases is the crucial first step in ensuring that the decision making process is not adversely affected by them. Rational decisions are more likely when there is ample information available to decision-makers and when that information is presented and analyzed to recognize common pitfalls.

2.2 Darnal, 2015

2.3 Yamini Gupta, 2016

A single word that has governed the stock markets since 2008 has been "Volatility" and Indian stock market is no exception. Intense movements in stock prices as a result of anxiety and expectation have increased the complexity for a rational investor. The study are to examine whether the individual investor's trading in Indian stock market are rational or not. The study also examines the impact of various behavioral biases on decision making process of investors. The study found that marital status and investment experience played an important role in influencing an investor with loss aversion bias.

2.4 Shabarisha, 2015

Stated that the investment decision-making is affected, largely by behavioral factors like greed and fear, Cognitive Dissonance, heuristics, mental accounting, anchoring. These behavioral factors must be taken into consideration while making investment decisions. Shabarisha found out that investors affected from all biases in a notable manner. All the investors were affected by the various biases while making investment decisions. Both the young and experienced investors were affected by the biases in a similar manner. Risk-taking behaviour in investment is affected by herding factors, heuristics factors, prospect factors, market factors and self-attribution bias factors. The familiarity bias factors do not significantly affect risk-taking behaviour in financial

investment. Another study showed that there is an interaction between demographic and financial behavior factors in investment decisions. It is found that gender has interaction with five of the financial behavior factors (overreaction, herding, cognitive bias, irrational thinking, and overconfidence).

2.5 Bansal, 2015

Behavioural finance seeks to understand and forecast structured financial market inferences on cognitive decision processes. This field tries to understand human behavior and its relationship with investment decision making and focuses on the reasons of involvement of emotions and sentiments rather than on the basis of investment. It has an important involvement of decision making process since it directly impacts the decision of investors and the performance of process. Therefore, a thorough study of this field helps an investor to design their investment strategy optimally. It focuses on the implications of the psychological decision making process. Inefficiency of standard finance has led to the development of behavioral finance. Additionally, it focuses on the application of cognitive and economic principles for development of financial decision making. Investors evolve beliefs and intellect on the basis of their cognitive involvement. Emotions of individuals such as happy or sad, optimistic or pessimistic attitude, under or over reaction in the condition of involve oneself in the investment decision making process. Emotions always play a significant role in rational decisions and it is also contemplated as an important control element throughout the individuals' stages of life. Whereas Efficient Market Hypothesis is adhered with the proponents that in the way of rational decisions, emotions have no part. This apparent field of behavioral finance focuses on the emotions, psychology, behavior, cognition which operates the market. Investors are human being, not machines.

2.6 Sharma, 2014

Attempted to apprehend how emotions and cognitive errors influence individual investors' behaviour. This study revealed that behavioural finance research the outcome of social, cognitive, and emotional factors on the economic assessments of individuals and the outcomes for benefit and the resource allocation. In this study, herding can add to the evaluation of professional performance since low-ability ones may mimic the behaviour of their high-ability peers so as to develop their professional standing. It was found that heuristic factors, prospect factors, market factors, herding effect factors have crash on investors' decision-making. It was concluded that the fondness of herding also depends on nature of investors, for instance, individual investors have propensity to go after the crowds in making investment decision than institutional investors. Many times investors knowingly or unknowingly exhibit this type of behaviour which is entirely against the rationality concept.

2.7 Goldstein, 2013

Asserted representativeness refers to way people make subjective probability decisions based on similarity to stereotypes. It is a likelihood to assess the equivalence of outcomes, instances and categories on relatively salient and even apparent features, and then to use these estimation and similarity as a basis of judgment. It is phenomena that people generally do not take the size of a sample into consideration .In other words, they regard a small sample to be representative of a larger population. It means that people do not understand the data generating process, and they may conclude a pattern too quickly based on a small sample. It refers to the human tendency to base judgments on similarity or stereotypes. It may explain as an inclination of people to predict recent performance into the future. Assuming that future returns will be similar to recent returns (without evaluating the reasons for the past performance or the probability of the past performance continuing), representative bias is a subset of overconfidence bias. Prior research indicates that individual investors have a tendency

to adopt the judgment of others in instances of social pressure or where experts or authority figures are exerting influence. Such kind of behavior is also identified as herd like behavior and hindsight bias.

2.8 Chaudhary, 2013

Asserted that psychology plays an important role in determining the behavior of markets. He identified two types of illusions, that is, illusion due to heuristic (using rules of thumb) and illusion generated by the adoption of mental frames. Heuristic driven illusions comprises of representativeness, over confidence, anchoring, gamblers fallacy and availability bias. The second sets of illusions identified by him are loss aversion, regret aversion, mental accounting and self-control problems. He has said that these heuristic driven bias and framing effects cause market prices to diverge from fundamental values. He concluded by stating that behavioral factors undoubtedly plays an important role in decision making process of individual investors but he also does not disprove the claims of traditional theorists. Intrinsically, behavioural finance moves towards examines the behavioural patterns of investors and attempts to understand how these patterns direct investment decision. It presents many useful insights for investment experts and thus, offers a framework for evaluating energetic investment strategies for the investors.

2.9 Razek, 2011

Behavioral finance is of the opinion that markets are inefficient and investors do not behave rationally always. Moreover, it incorporates the psychological aspects of investors in traditional finance and studies how their behavior can affect decision making and leads to irrational and misleading financial decisions. Traditional finance is of the view that investors are rational and whatever information is there, it is available to all. Thus, no one can enjoy extra profits by having insider's information.

But, even after this, various anomalies, speculative bubbles can be seen in the market which suggests that the underlying principles of Efficient Market Hypothesis are not wholly correct. It ignores the behavioral aspect of investors that plays a major role in affecting financial decisions. Thus, there is a need to incorporate human behavior along with traditional finance to learn why investors sometimes behave irrationally or do not consider all of the available information while making financial decisions.

2.10 Nayak, 2010

Enquired the nature of investors' grievances and directed the role of grievance redressal agencies. A sample of 200 persons residing in Valsad district of Gujarat state was selected through convenience random sampling. With the help of questionnaire, the investors' demographic profile, knowledge about different complaints like non receipt of dividend, allotment, annual reports etc., their awareness about the functions of the various grievances redressal agencies and their satisfaction level with respect to their agencies were collected. Percentage analysis and chi-square analysis were the techniques used for data analysis. The chi-square analysis showed a significant difference between the demographic profile and the investors' grievances. As businessmen and professionals were found more daring, informed, risk bearing as compared to the agriculturists who were found as passive, less informed. A relationship between the knowledge facet and the level of income was found i.e. as the income increases, the proportion of the investors' awareness regarding grievance redressal agencies increased. The author suggested that as the investments like hedge funds and mutual funds are increasing, there is a huge scope for research work in areas of problems and opportunities of the securities market.

2.11 Chun & Ming, 2009

Revealed that investment decisions are influenced by the behavioral biases and thus they play a significant role in the decision making process. The respondents of the Malaysian stock market are influenced by overconfidence, conservatism, loss aversion, anchoring and availability bias have significant impacts on the investors' decision making while herding behavior has no significant impact on the investors' decision making. This is simply describing the phenomena of biasness. In Pakistan Stock Exchange findings shows that there are significant relation between behavioral factors and investment performance. Representativeness, over confidence, anchoring, availability bias, gamblers fallacy is positively correlated with investment performance. While on the other hand mental accounting, loss aversion and regret aversions are negatively correlated with investment performance. In another 7 study it was found that Pakistani investors are also influenced by behavioral biases and have positively influenced by four biases Overconfidence, self-control, illusion of control and self-control. The influence of such variables on investment decision making and investment performance were identified. It was found that availability bias and mental accounting bias has the highest impact and herding behavior has an overall moderate impact. At Ho Chi Minh Stock exchange there prevail five behavioral biases that impacted the investment decisions. The behavioral factors were categorized into four groups i.e. heuristics, prospect, market variables and herding variables and concluded that individual investors are influenced by Herding, Market, Prospect, Overconfidence, Gamblers Fallacy and Anchoring. The effect of behavioral finance on investment performance showed that the heuristics and herding have positive influence while prospect variables have negative impact on investment performance.

2.12 Nik Maheran Nik Muhammad, 2009

Behavioural finance models often rely on a concept of individual investors who are prone to judgment and decision-making errors. This article provides a brief

introduction of behavioral finance, which encompasses research that drops the traditional assumptions of expected utility maximization with rational investors in efficient markets. The article also reviews prior research and extensive evidence about how psychological biases affect investor behaviour and prices. The paper found that the most common behavior that most investors do when making investment decision are (1) Investors often do not participate in all asset and security categories, (2) Individual investors exhibit loss-averse behavior, (3) Investors use past performance as an indicator of future performance in stock purchase decisions, (4) Investors trade too aggressively, (5) Investors behave on status quo, (6) Investors do not always form efficient portfolios, (7) Investors behave parallel to each other, and (8) Investors are influenced by historical high or low trading stocks. However, there are relatively low-cost measures to help investors make better choices and make the market more efficient. These involve regulations, investment education, and perhaps some efforts to standardize mutual fund advertising. Moreover, a case can be made for regulations to protect foolish investors by restricting their freedom of action of those that may prey upon them.

2.13 Chandra, 2008

Enunciated that investors are rational and risk averse and will like low risk to high risk for a given level of return. However, in the actual market place, investors show irrational behaviors; they trade abundantly, purchase stock without taken into consideration the fundamental value, base their decisions on past performance, buy stocks which their friends are buying, and keep loss making stocks while selling bullish stocks. The investors often simplify their decision processes and are prone to behavioral fundamentals that might cause systematic errors and lead to satisfactory investment choices, but which do not maximize satisfaction. The study investigates investor psychology and different facets of behavior in decision making. The basic purpose of the study is to find the effect of behavioral aspects and the relationship

between investor's behavior and risk. He found out that investors are not always rational unlike the theories of standard finance. They are subject to various cognitive and emotional errors; they are suffering from several biases while taking the investment decision. Results show that investors who are actually risk averse in their mannerism show the risk seeking behavior by holding the unprofitable investments.

2.14 Shapira and Venezia, 2001

Asserted Overconfidence can lead to excessive trading levels and result in poor rendition of individual investors. The authors established that trading was hazardous to investor wealth the investment behavior of the clients in a major brokerage firm in Israel. The behavior of the clients who made autonomous investment decisions were compared to those clients whose account was managed by the brokerage professionals. The outcomes showed that the bias effect was higher for individual investors and the professionally managed accounts were more heterogeneous in investment and had earned slightly higher returns as compared to the independent investors. Overconfidence leads to larger trading volume in financial markets and them in turn leads to lower expected utility and poor portfolio performance.

2.15 Barber and Odean, 2000

Stated an investor's good return are due to their perspective of disposition effect or due to other reason that is significant to understand behaviour of them. In their study they used transaction data of 2500 individual investor from brokerage firm during period of 1964 to 1970. They examined realized return for these investors by calculating returns for the stock purchased and stock sold. Judging by these returns, the individual investors beat the market by 5% p.a. and about 60% of the trades resulted in a profit. This out performance is not due to market timing and seems not to be due to higher risk. Since, this study many have shown that individual investors do not have

a great stock selecting skills, but significantly outperform. Schlarbaum et al. raised the possibility that their investors' seemed good performance could be due to "disposition effect" to sell winners and ride the losers, said that there indeed a disposition effect and confirmed this bias in study of trading decisions of investor discount brokerage.

2.16 Weber and Camerer, 1998

Investigated the disposition effect using the trading records for virtually all Finnish investors during 1995 and 1996 administered to a wide variety of factors, they find that investors have an inclination to hold onto losers. Relative to a stock with a capital gain, a stock with a capital loss of up to 30% is 21% less likely to be sold; a stock with a capital loss in excess of 30% is 32% less likely to be sold. Furthermore, stocks with high previous returns or trading near their monthly high are hopeful to be sold. Another experiment of the disposition effect involves buying and selling six imaginary stocks in trading rounds. They found that investors are about 50% more likely to realize gains compared to losses. Investors considered security of the investment as first priority and they believe that whatever profits they made, it is because of their own analysis and evaluation and held other persons responsible for the losses.

2.17 Banerjee, 1992

Examined the sequential decision model in which each decision maker looks at the decision made by past decision makers in taking their own conclusion. There are numerous social and economic happenings in which people are influenced their decision making by what others are doing. The author stated that decision rule are selected by investors was labelled as herding i.e. people will be doing what others are doing even when their personal information suggests doing something quite rare ,which lead to incompetency . It occurs when individuals imitate others, ignoring important private information. He also expressed that same kind of influence is also at

work, for e.g. Academic researchers choose to work on a topic that is currently hot. Whether herd bias is important to consider investment decision or not, as investor are concerned to whom they belongs, is substantial matter while estimating investors decision behaviour. Some of the forces that can lead to herd behaviour in investments. They found that under specific circumstances, managers simply imitate the investment decisions of other managers, ignoring important private information. They stated that, this behaviour is unsuitable from social standpoint, but rational from the manager's point of view, who is concerned about their reputations. Even, this is persistent to group psychology. There is one unpredictable element of investment outcome, lead to 'sharing the blame' effect that drives the investors to herd. The role of herding and positive feedback trading weakens the stock prices. According to them, herding referred to imitating the investment actions of other fund managers

Financial requirement of an individual finds no boundaries. Every individual aims at maximizing the flow of income from whatever source possible. The most interesting activity undertaken by an individual to fulfill this objective is to undertake investing. It is a very interesting activity which attracts people from all walks of life irrespective of their occupation, economic status, education and family background. Investment means employment of funds on assets with the aim of earning of income or capital appreciation. The two main factors that influence investment decisions are time and risk. Investment is the allocation of money to assets that are expected to yield some gain over a period of time. The main criteria for investment are the expected return, risk involved, and liquidity of investment and safety of funds invested. The term 'investing' could be associated with the different activities, but the common target in these activities is to "employ" the money during the time period seeking to enhance the investor's wealth. Funds to be invested come from assets already owned, borrowed money and savings. By foregoing consumption today and investing their savings, investors expect to enhance their future consumption possibilities by increasing their wealth.

An individual who commits money to investment products with the expectation of financial return is termed as an investor. Generally, the primary concern of an investor is to minimize risk while maximizing return.

3.1 Portfolio

Portfolio is a combination of securities which include debt and equity. The combination of debt and equity is necessary because debt provide assured opportunities whereas equity gives higher returns but with an element of uncertainty. Therefore in a portfolio, combination of debt instrument and equity is important to complement each other. A portfolio may contain a wide range of assets including real estate, art, and private investments. When creating and revising an investment portfolio, a person's risk tolerance, investment objectives, and time horizon are all significant factors. When you use a portfolio for investment purposes, you expect that

the stock, bond, or another financial asset will earn a return or grow in value over time, or both. A portfolio investment may be either strategic—where you buy financial assets with the intention of holding onto those assets for a long time; or tactical—where you actively buy and sell the asset hoping to achieve short-term gains.

3.1.1 Portfolio Objectives

There are four main portfolio objectives. They are stability of principal, income, growth, and capital appreciation.

- **Stability of principal:**
Sometimes the beneficiary of a portfolio cannot stand any chance of loss to the original principal. The main reason for this might be because of the client's attitude towards risk. The main emphasis here is on preserving the original value of the fund. This is the most conservative portfolio objective and in the long run it will generate modest returns. When stability of principal is the objective, the appropriate investment portfolio includes any of the money market instruments and bank certificates.
- **Income:**
The income objective differs from stability of principal. There is no specific proscription against periodic declines in principal value. When income is the chosen objective, appropriate investments include corporate bonds, government bonds, government securities and preferred stock.
- **Growth of income:**
A growth of income objective sacrifices some current return for some purchasing power protection. The growth of income objective differs from income objective in the sense that an income objective seeks to generate as much current income as possible within the risk parameters established. Initially this amount will be higher than that generated by a portfolio seeking growth of income whereas a growth of income objective requires the fund manager to seek some capital appreciation in the original principal. This means that some funds have to be invested in equity

securities. The common stock purchased will generate some income from dividends whereas the bulk income will come from fixed income securities such as long-term bonds.

- **Capital appreciation:**

Sometimes it is not necessary that a portfolio must generate income at all. For example: a retired couple might receive pension that is sufficient of finance their life style. If these people have an investment portfolio then they will be more interested in having it to grow in value rather than in getting additional income from it. Another reason could be tax consideration whereby interest or dividends received are immediately taxable whereas capital gains are not taxed until they are actually realized.

3.1.2 Advantages of Portfolio Investment

Unlike the investment approach of classic security analysis that focuses on individual security selection, portfolio investment is a modern investment method that involves asset allocation and diversification to construct a collection of investments. The biggest challenge in investing is the uncertainty of an investment's future performance and thus the risk of potential investment losses. Not counting on investment results of single investments, portfolio investment can hedge investment risks by canceling out different investment returns among component investments.

- **Risk diversification and reduction:**

Portfolio investment is about reducing risk rather than increasing return. It may well be that in certain years, individual investment returns based on security analysis exceed returns from portfolio investment. However, over the long run, portfolio investment is able to deliver a steady rate of return that is on average better than individual investment returns, because of the risk diversification among various investments inside a portfolio. Portfolio investment seeks out different asset classes that are less correlated or negatively correlated, such as combining stocks and bonds to even out volatility.

- **Minimal security analysis:**

Traditional security selection requires considerable efforts in terms of time and resources to perform the so-called three-step analysis of economy, industry and company. Although portfolio investment involves assembling a collection of individual securities, the focus is less about the merits of each security standing alone but more about how they may fit with the expected overall performance of the portfolio. Some portfolio investment, once constructed, can be left unadjusted regardless of the changing economic environment. When investment results are not solely dependent on an expected above-average performance of an individual security, a simple security analysis technique like security screening can keep the work of security analysis at a minimum.

- **Systematic investment approach:**

As portfolio investment moves away from mere individual security selections, it employs a systematic investment approach that is supposed to benefit the owner of the investment portfolio in the long run. To achieve such a positive, long-term goal, a portfolio investment starts with setting portfolio objectives followed by formulating an investment strategy. The level of expected rate of return and risk tolerance are assessed so that different weights can be assigned to different asset classes and categories. The future performance of portfolio investment hinges on the overall investment policy that strives to ensure that losses from one security are compensated by gains from the other.

- **Passive investment style:**

Active investment management of constant buying and selling increases transaction costs and has tax implications that can be especially worrisome when a short-term holding period results in capital gains taxed as ordinary income. While individual security selections rely on active stock picking to influence performance, portfolio investment is designed to be passively managed, minimizing portfolio turnovers to necessary portfolio rebalancing. The set percentage of weights assigned to different assets and securities does not have to

respond to every move of the market and even the economy, as long as the total risk profile of the portfolio remains unchanged.

3.1.3 Selection of Portfolio

The selection of portfolio depends on the various objectives of the investors. The selections of portfolio under different objective are:

- **Objectives and asset mix**

The proportion of investment in debt and equity differ according to individual's preferences. If the main objective is getting the adequate amount of current income then money is invested in short term debt and fixed income securities. The growth of income becomes the secondary objective and stability of principal amount may become the third. To ensure adequate amount of fixed income the investor may prefer sixty percentage of investment in debts and forty percentages in equities.

- **Growth of income and asset mix**

The investor's portfolio may consist of 60 to 100% equities and 0 to 40% debt instrument as the investor requires certain percentage of growth in the income received from his investment.

- **Capital appreciation and asset mix**

Capital appreciation means that the value of the original investment increases over the years. In the capital market, the value of shares is much higher than their original issue prices. The stock market provides best opportunity for capital appreciation. If the investor's objective is capital appreciation then 90 to 100% of his portfolio may consist of equities.

- **Safety of principal and asset mix**

All the investors require their money invested in different assets to be safe. The risk adverse investors are very particular about the stability of principal. The degree of risk that an investor is willing to take differs from person to person. The investors for whom the safety of principal amount is primary objective, their portfolio will consist more of debt instrument and that more of short-term debts.

3.2 Risk and return analysis

Investment in portfolio is based on certain assumptions like the individual prefers larger to smaller returns from securities. To achieve this goal, the investor has to take more risk. The ability to achieve higher returns depends upon his ability to judge risk and his ability to take specific risks. The investor analysis the varying degrees of risk and constructs his portfolio. A policy statement is prepared which allows the investor to determine what factors are personally important for investor's objectives (risk and return) and constraints. Having a policy statement allows the investor to communicate his needs to the advisor who can do a better job of constructing an investment strategy to satisfy the investor's objectives. A policy statement does not indicate which specific securities to purchase, when they should be sold, rather it should provide guidelines as to the asset classes to include and relative proportion of the investor's fund to invest in each class. While constructing an investment strategy the following points are considered:

- a. What asset classes would be considered for investment?
- b. What weight should be assigned to each eligible asset class?
- c. What is the allowable allocation ranges based on policy weights?
- d. What specific securities should be purchased for portfolio?

The asset allocation decision is based on all such factors. An asset allocation decision is a process of deciding how to distribute an investor's wealth among different classes for investment purpose. An asset class is comprised of securities that have similar characteristics, attributes, and risk return relationships. The asset allocation decision is not an isolated choice. It depends on investor's policy statement which includes the investor's goal or objectives, constraints and investment guidelines.

3.3 Traditional finance

According to conventional finance, investors are considered rational, consonant and not biased. This concept is further enunciated by Barberis and Thaler (2003) according

to them rationality has two important considerations: First, when investors gain new information they based their faiths correctly according to Bayes' law. Second, given their faiths, the investors take decisions which would maximize their expected utility. These investors make accurate investment decisions without any influence of their psyche and emotions. Jensen and Merckling (1994), Traditional finance theory is based on the assumption of the 'Rational man'. The efficient market hypothesis (EMH), Samuelson and Fama (1960) presupposes that market prices completely consider all available information. Market prices rationally and immediately reflect all available information regarding a stock's value.

The assumptions of the Efficient Market Hypothesis are as follows:

- Investors are presumed to be rational. Therefore, they value the securities rationally, taken into consideration all the available information.
- If there were irrational investors, they trade randomly, therefore their investing activities cancel each other out without making influence on the prices.
- Arbitrageurs trading activities removed the effect the effect of irrational investors on prices.

3.4 Behavioural finance

Behavioural finance is a new perceptives to financial market that has become a subject of notable interest to investment group. The field of Behavioural finance seeks to apprehend and define investor decisions by amalgamating topics of Psychology. In everyday business life, people usually take decision, these decisions might have varies outcomes. An individual investor might try to buy stock whereas an institutional investor or a fund manager might take decision to sell a stock in an effort to adjust the portfolio. At the time of decision making, it looks like an investor is employing the best financial model and everything looks incomparably all right. Most of the financial theories are based on the significant presumption that individuals act rationally and evaluate all pertinent information while taking investment decision. It is seemed that it is exactly this theoretical presumption that lands investors in difficulty and many a time one can observe many examples of recurring system of irrationality, irregularity

and inability in the way investors arrive at decisions when they are faced with unpredictability. Investor behavior evaluates Cognitive factors i.e. mental processes and Affective issues i.e. the emotional facets.

3.4.1 History of Behavioural Finance

Behavioural approach is applied to understand the movements in volatile financial markets which are contrary to the Efficient Market Hypothesis (EMH). EMH has remained the key factor of traditional finance and its management. A group of academicians believed that the financial markets are efficient and highly analytic but American empirical researcher Eugene Fama, who is best known for his empirical work on EMH, defined efficient markets as those markets in which security remained unchallenged for about half of the century. The theoretical and empirical success of Efficient Market Hypothesis strongly influenced the investors and in turn popularized "index funds" as investment option. But with the increased involvement of investors, having different personalities, the stock prices showed abnormal behaviours. These abnormalities were initially termed as market anomalies as these could not be explained in the Neo-classical framework. To answer the increased number and types of market anomalies, a new approach to financial markets has emerged, being called "behavioural finance". It focuses on investor's behavior and their investment decision making process. On contrary to the classical view of making investment decisions behavioural finance assumes that due to the combined and multiplied effect of the personalities of investors and advisors, the markets may not always be efficient. This inefficiency of financial market causes the stock prices to deviate predictions of traditional market models. Behavioural finance is consist as a new approach which supplements the standard theories of finance by introducing behavioural aspects to the decision making process. It also focuses on the application of the principles of psychology and economics for the improvement of financial decision making process. It is a part of finance that seeks to understand and predict systematic financial markets implications of psychological decision process. It is also said to be an extension of

behavioural economics which uses psychological understand to inform economic theories in a scientific way. Canadian economist Hersh Shefrin (2002), who is best known for his substantial contribution towards behavioural finance, is of the opinion that financial decisions would be better understood if it is looked beyond the normal view that market psychology is just about greed and fear. According to him, the primary emotions that determine risk-taking of an investor are hope and fear. The emotion of hope initiates in the investor a whole range of non-rational factors that are incalculable. These factors are not possible to be explained by greed. Behavioural finance is a rapidly growing discipline that deals with the influence of psychology on investment decisions and its subsequent effect on the markets. It also integrates classical economics and finance with psychology and decision making. Thus, behavioural finance offers alternative theories for each of the standard finance theories, According to behavioural finance, investors are not rational and markets are not efficient. However, investors can be considered to be „normal“ and they design portfolios according to the rules of Behavioural Portfolio Theory. Behavioural finance draws heavily from the discipline of psychology. Some of the areas borrowed from the psychology include heuristics and biases, like self-attribution bias, confirmation bias, availability bias, loss aversion, aversion to a sure loss, anchoring, overconfidence, unrealistic optimism and representativeness etc. Behavioural finance (BF) has a long and checkered history. Elements of it had existed since the end of the nineteenth century, though it did not emerge as a separate discipline at that time. It was only towards the last quarter of the twentieth century that behavioural finance emerged out of the shadow of efficient market theory as a separate discipline. An attempt is made in Table-I.I to present a brief account of the evolution and development of behavioural finance as a distinct branch of study.

3.4.2 Concept of Behavioural Finance

Behavioral finance is a branch of finance that studies how the behaviour of investors in the financial market is influenced by the psychological factors and the resulting influence on making buying or selling decisions of the investments thus affecting the prices. Behavioural finance is a relatively new field that seeks to combine behavioural and cognitive theory for providing the explanations for making irrational financial decisions by the investors. Behavioural finance is a concept taken from the field of psychology and finance, is not just a part of finance but is a broader and wider in scope. It includes insights from behavioural economics, psychology and micro economic theory. Behavioural finance is defined as the study of the influence of socio-psychological factors on making investments by the investors. Behavioural finance can be explained as modern finance in which it seeks the reasons of anomalies by justifying them with explanation of various biases that the investor has while taking investment decisions. Thus, anomalies and biases existing in the real world are explained with the help of behavioural finance. Behavioural finance studies how the emotion and psychology of the investor affects investment decisions. It also studies the influence of psychology on the behavior of financial practitioners and the subsequent effect on markets.

Behavioural finance helps to explain why and how markets might be inefficient, and how emotions and mental errors can cause stocks and bonds to be over or under valued. It argues that behaviours and mood states of humans have paramount role in determining their investment preferences. It also focuses on identifying the mental mistakes that are regularly made by investors. In addition to including psychology factors in the investment decisions, behavioural finance also provides new grounds that question the conventional methods of modeling investor behavior. It is often referred to as the study of how investors make common error in financial decision making as a result of their emotions. Further, it studies the systematic errors in judgment or „mental mistakes“ made by investors. In other sense, the aspect as to

people who are otherwise rational make totally out of context investment decisions is studied in the behavioural finance.

3.4.3 Assumptions of Behavioural Finance

The main assumptions of behavioural finance are discussed as below:

- Investors are normal and not necessarily rational.
- Markets are not efficient, even they are difficult to be termed best.
- Portfolios are designed according to the rules of behavioural portfolio, thinking not based on the theory of Mean-variance portfolio.
- The expected returns are not measured by non-standardized regression estimates and also not determined by only the risk factor.
- Investors are generally focused on the past experiences while making investment decision and follow the basis of future returns.

3.4.4 Classification of Behavioural Finance

Behavioural finance as a subject can be better explained if we categorized it into two branches of study, first one is the Micro Behavioural Finance (BFMI) and second one is the Macro Behavioural Finance (BFMA).

Micro Behavioural Finance: This branch deals with the behavior of individual investors. In BFMI we make comparison between irrational investors to rational investors, as observed in the rational or classical economic theory. These rational investors are known as “homo economics”, or the rational economic man.

Macro Behavioural Finance: Unlike micro behavioural finance which deals with the individual's behavior, macro behavioural finance deals with the drawbacks of the efficient market hypothesis. Efficient market hypothesis is one of the models in conventional finance that helps us to understand the trend of financial markets. Macro behavioural finance also addresses the limitations of portfolio principles of Markovitz, The Capital Asset Pricing Model (CAPM) of Sharpe, Linther and Black, and the Option-Pricing Theory of Black, Scholes and Merton.

3.4.5 Behavioural Finance as a Science as well as an Art

Behavioural Finance as a Science

Whether behavioural finance should be regarded as science or not depends on how we define science. To put it simply, science is a systematic and scientific way of observing, recording, analyzing, interpreting an event. The field of behavioural finance has taken inputs from standards based on various theories. The theories of standard finance also help in justifying the price movements and trend of stocks (Fundamental Analysis), the direction of markets, (Technical Analysis), and construction, revision and evolution of investor portfolios (Markowitz Model, Sharp's Performance Index, Treynor's Performance Index and the various formula plans of portfolio revision). Hence on the basis of this discussion behavioural finance can be justified as a science.

Behavioural Finance as an Art

Art as a subject is entirely different from science. In science, we work according to the rule of thumb whereas in art we create our own rules. Art refers to the application of knowledge in a specific way. Art helps us to use theoretical concepts in the practical world. While executing the theories and concepts of standard finance too, certain modifications and aberrations in the theories take place. These aberrations are because of the effect of the psychology of different users. Behavioural finance focuses on the reasons that limit the theories of standard finance and also reasons for market anomalies created. It also provides guidance to investors to identify themselves better by providing various models of human personality. Once investors get to know the limitations and also the remedies of their mental set up, they tend to plan their finances better. Behavioural finance provides various tailor-made solutions to the investors to be applied in their financial planning hence it can be justified as an art of finance in a more practical manner.

3.4.6 Scope of Behavioural Finance

The scope of behavioural finance can be visualized by examining its role in investment decision-making of individuals as well as corporate. The applications of behavioural finance are not restricted to any one economy or country, but can be found across the globe. The scope of behavioural finance may be briefly discussed as follows:

- **To Understand the Reasons of Market Anomalies:** Though standard finance theories are able to justify the stock markets to a great extent still there are many anomalies that take place in stock markets including creation of bubbles, the effect of any event and calendar effect on stock market trade etc. These market anomalies remain unanswered in standard finance but behavioural finance provides explanation and remedial actions to various market anomalies.
- **To Identify Investors Personality:** An exhaustive study of behavioural finance facilitates in identifying the different types of investor personality. Once the biases of the investor's actions are identified, by the study of investor's personality, various new financial instruments can be developed to hedge the unwanted biases created in the financial markets.
- **Helps to Identify the Risks and Develop Hedging Strategies:** Because of various anomalies in the stock markets, investments these days are not only exposed to the identified risks, but also to the uncertainty of the returns. For example, arbitrage is an activity to encash the price difference of a security in different markets. But in further explanation of behavioural finance we will find that behavioural finance also limits the arbitrage.
- **To Enhance the Skill Set of Investment Advisors:** This can be done by providing better understanding of the investors goal maintaining a systematic approach to advise, earn the expected return and maintain a win-win situation for both the client and the advisor. When many individuals participate in the capital markets, markets become vulnerable to the effect of behavior of these individuals and the outcome of their decisions then influence market behaviours. The more we understand and anticipate these behaviours, the better financial decisions can be taken by us.

3.4.8 Introduction to Behavioural theories

In order to describe the various irrational investor behaviour in financial markets, behavioural economists draw on the knowledge of human cognitive behavioural theories from psychology, sociology and anthropology. Psychologists have documented systematic patterns of bias on how people form views and take decisions. These biases influence how decision makers form investment opinions, and then how investors take investment decisions. Two major theories that need to be discussed in this perspective are: Heuristics and Prospect Theory.

Heuristics Theory

Brabazon (2000) referred to rules of thumb which humans use to make decisions in complex, uncertain environments. In reality, the investors' decision making processes are not exactly rational alone. People are not efficient enough to process all information presented on a daily basis. By gaining experiences investors come to know how to behave in a particular situation, this gives rise to rules of thumb when a similar situation is encountered. Using heuristics allows for speeding up of the decision making compared to rationally processing the presented information.

Following are the biases that are included in heuristics:

1. Herding bias:

One of the significant emotions that affects stock market movements is the herding behavior of investors. Herd behavior is the behavior where people copy the actions of other investors. The key influence of Herding is that investors incline to lack individuality in decision making and the results can be seen in market booms and busts.

In it, investors have to imitate the activities of a large group irrespective of whether or not they would make a separate decision. Herding effect occurs when a group of investors make investment decisions on a particular piece of information and ignore other relevant information such as news or financial reports. Investors trust on collective information more than personal information. Investors are sensitive to how others take their investment decisions. Consequently, their

decisions are biased and influenced by others. In contrast, well informed and rational investors usually ignore following the flow of group, and take decision on the basis of information and this makes the market efficient. Besides, herding also based on types of investors, for example, individual investors have an inclination tendency to follow the crowd more than institutional investors

Christie & Huang (1995), Demirer & Kutan (2005) defined "Herding can be considered for those investors who irrationally ignore their own analysis and adjust for the market consent, even if they do not agree with that". This reduces their uncertainty and fulfils their need to feel confident. Therefore, herding behaviour may weaken the market by moving the securities away from its fundamental value as share prices not only reflect the investors' rational expectation on the shares, but also investors' irrationalities in the market

2. Overconfidence bias:

Overconfidence genesis investors to overestimate their investment awareness, miscalculate risks, and intensify their own ability to control events. A common feature among investors is to overestimate their capabilities of selecting profitable investments, and to select when to enter or exit an investment alternative. It can offer more courage, and is commonly viewed as a key to achievement.

The overconfidence effect is a well-established bias in which an investor's individual confidence in his or her judgments is reliably greater than the objective reliability of those judgments, especially when confidence is comparatively high. It occurs when an investor over estimates the authenticity of his skills, knowledge, experience and accuracy of the information or is over optimistic about the future result and the ability to control any unfavorable situations. The key effect of Overconfidence results in indulging in too many trades, too many risks resulting in paying high brokerage, taxes and loss. It is defined as people's tendency to exaggerate their skills or abilities, that is, to be too confident of their capabilities, knowledge and received information, and, as result, to make incorrect investing options; it also implies people's arrogant attitude towards stock markets.

Overconfidence includes:

- When skill mistaken with luck.
- Risk involvement is very high.
- Too much trading is done.

The features of overconfident investors as follows:

- i. Overconfident investors overvalue their ability to assess their investment opportunities.
- ii. Overconfident investors' trade profusely based on their intuitive reasoning and by overrating knowledge.
- iii. Because of overestimating their capabilities, overconfident investors may underestimate their downside risks.
- iv. Overconfident investors hold undiversified portfolios.

3. Disposition bias:

The disposition bias refers to the method that people stay away from realizing paper losses and attempt to realize paper gains. The disposition effect exhibits itself in lots of small gains being realized, and few small losses. Regret aversion and pride seeking behaviour can cause investors to be predisposed to selling winners too early and riding losers too long. This is referred as Disposition effect.

Shefrin and Statman (1985) predicted that because people dislike incurring losses much more than they enjoy making gains, and people are willing to gamble in the domain of losses, investor will hold onto stocks that have lost values and will be eager to sell stocks that have risen in value. They called this the disposition effect.

4. Anchoring bias:

Anchoring described as the common human tendency to depend too stiffly, or 'anchor' on a particular piece of information while making decisions. When confronted with new information, the investors likely to be slow to change or the value scale is fixed or anchored by current observations. They are expecting the trend of earning is to remain with historical trend, which may lead to possible under

reactions to trend changes. It is a behavioural abnormality that occurs when an individual depends more on a particular price of information.

It is the inclination to cling to previous information, such as arbitrary pricing levels when considering a decision, such as an investment. It happens when a reference or starting point is given to the subject, as well as when the subject bases the assumption on the result of some insufficient calculation. According to Tversky and Kahneman (1974) people formed any estimates or predictions based on some initial arbitrary value. People also make estimates by starting from an initial value that is adjusted to yield. The initial value may be suggested by the formulation of the problem or it may be the result of partial calculations. The important facet of anchoring is paying too much attention on irrelevant price levels in the process of decision making, resulting in missed investment opportunities or bad entry/exit timing into the market.

It describes how individuals tend to focus on recent behavior and give less weight to longer time trends. People inclined to pay too much attention on recent experience, anticipating recent trends that are often at odds with long run average and probabilities. In the absence of any better information, past prices are likely to be important determinants of prices today. People have in their mind some reference points (anchors), for example of past stock prices. When they get new information they modify this past reference inadequately (under reaction) to the new information acquired.

5. Representativeness bias:

Representative bias means making the investment decision based on indicative characteristics of an investment alternative rather than examining the underlying circumstances. It means when the investor follows the recent experience and forgets the previous things about taking the investment decision then it is called representativeness. For example, an investor usually thinks that investment in a known company would be better than investing the funds in an unknown company,

which may be particularly true. Investors keep faith on companies which secured high ranks than others. Investors select such stocks which have preferable qualities.

Actions which describes representativeness bias:

- Investors often try to discover patterns in data which is random number.
- Investors anticipate past returns which actually follow randomness.
- Investors are highly confident about past winners.
- Good companies always yield good stocks.

Prospect theory

Prospect theory has done more to bring psychology into the heart of economic analysis than any other approach. It is developed by Kahneman and Tversky (1974, 1979, and 1981) as a best practice alternative to conventional wisdom. It is a theory of average behaviour. It theorizes how an individual or group of individuals behaves, on average, in a world of uncertainty. They described how people frame and value decision involving uncertainty. According to this theory, people look for prospective gains or losses in relation to specific reference point, which is often a purchase price. People feel more strongly about the pain from loss than the pleasure from equal gain. They further observed that investors laid more stress on perceived gains rather than on perceived losses while taking investment decisions. This theory put forward the propositions that amount of gains have lesser emotional and psychological impact on investors than amount of losses.

They asserted that people feel intolerable or unsafe to make a decision when the center is how much they could lose than what they could gain. The decision making is measured based on probabilities. The people tendency to underweight outcomes that are attached to chance not to certainty, compare these to results that are most likely to happen in what is called the certainty effect. There is also the isolation effect in which cease that this effect appears when people overlook the elements shared by prospects under consideration.

Three unique features of prospect theory:

- Prospect theory presumes that decisions are based upon a reference point independent of the decision maker's state of wealth.
- Reference points introduce a frame to a prospect, which impact choice behavior
- A kink exists at the reference point of prospect theory's value function, assuming individuals pay more attention to losses as compared to gains.

Following are the biases that are included in prospect theory

1. Mental accounting bias:

Mental accounting is the common phenomenon in finance. It is referred to the physiological position of a person or investor in which he evaluates financial transaction in own mind and evaluate their gain or losses. It is a term given to the tendency of individuals to arrange their world into different mental accounts. This can lead to ineffective decision making .The use of mental accounts could be partially explained as a self-control device. As investors have inferior self-control, investors may distinct their financial resources into capital and available for expenditure pools, in an effort to control their desire to over consume .Investors treat each component of their investment portfolio separately, perhaps relinquishing the benefits of portfolio diversification.

Mental Accounting is the cognitive bias which compels the individuals to create a separate account for each investment decision based on a difference of subjective reasons. Individuals tend to designate different functions to each asset group.

Thaler (1985, 2001) coined the term 'Mental Accounting'. It referred to the phenomena by which people examine and assess their financial transactions. Traditional finance holds that wealth in general and money in specific must be regarded as 'fungibles' and every financial decision should be based on rational calculation of its effects on overall wealth position. In reality, however, people do not have computational skills and will power to appraise decisions in terms of their

impact on overall wealth. So people separate their money into various mental accounts which has different importance to them.

It is a tendency to place specific events into mental categories, and the difference between these categories sometimes influences our behavior more than the events themselves.

Three facets of mental accounting are: The first is the acknowledgement of outcome and its experience, and how decisions are made and assessed. A second element is the allocation of activities to particular accounts. The third component concerns with the frequency with which accounts are evaluated. Each of the components of mental accounting opposes the economic Principle that money is interchangeable.

Mental Accounting exhibits itself in investors' behaviour in following ways: Investors have an inclination to ride losers as they are resistance to realize losses. Mentally, they treat unrealized 'paper loss' and realized 'loss' differently, although from a rational economic point of view they are same.

So, 'mental accounting' refers to how individuals mentally consolidate different parts of their wealth. Even over monitoring of portfolio is the result of this biasness. That reflects the way in which investors assign sums of money to different actual or notional accounts for different purposes with varying degrees of risk tolerance upon the importance of achieving the specific objective.

2. Loss aversion bias:

Loss aversion is a significant psychological concept which receives increasing attention in economic analysis. The investor is a risk-seeker when faced with the possibility of losses, but is risk-averse when faced with the possibility of enjoying gains. This happening is called loss aversion. If investor gains profit in the investment he will be happy but if investor have in loss with similar weight he feel most distress are compare to the profit that mental penalty is called loss aversion.

An investor is said to be loss averse if he/she pays more attention to losses than to gains of equal size. In economics and decision theory, it refers the people's tendency to strongly prefer avoiding losses to acquire gains. Most studies suggest

that losses are twice as strong, psychologically, as gains. It was first demonstrated by Tversky and Kahneman in their Prospect Theory (1979) under the presumption that losses have a larger influence on preference than that of the advantages of gains. If a person were given two equal options, one expressed in terms of possible gains and the other in possible losses he would choose the former. Individuals are loss-averse rather than risk averse because their pain related with a given amount of loss is greater than their pleasure acquire by an equivalent gain i.e. losses loom larger than gains, which is the theme of their Prospect theory.

3. **Regret aversion bias:**

As investors denied to acknowledge their mistakes, they turned to be more regretful when their investments suffers a loss as compared to their counterparts. Investors may evade selling lossmaking stocks in order to avoid the regret of having made a bad investment option and the fear of reporting the loss. Regret aversion entitles the investors to take sub-optimal decisions and holding onto a poorly-performing stock for long. Regret aversion may also occur in error which stops the investors from investing in profit making stocks on right time. Investors often take more risks to avoid losses than to realize gains. This aversion encourages investors to hold poorly performing shares as avoiding their sale also avoids the recognition of the related loss and bad investment decision. The main consequences of Regret Aversion are that the investors sell the winners too soon and hold on to loosing position for too long resulting in reduced investment returns. In order to avoid the pain of loss investors hold their poor performed stocks for a longer period of time. They further stated that Regret is the feeling related with the ex-post knowledge that a different past decision would have fared better than the one chose. It is a factor of disposition effect because the pain of recognizing a loss is much more than the pleasure of having a gain of an equal amount. This broadly relates to theory of investor behavior that seeks to explain why investors refuse to confess to themselves that they have made a poor investment decision so they do not have to face awful feelings related with that decision. This type of aversion causes investors not to correct bad decisions, which can make those decisions even

more inferior. The Regret Aversion theory explains why investors keep on holding on to losing stocks: investors often take more risks to evade losses than to realize gains.

The fear of regret happens often when individuals hesitate while decision making. Several experiments in psychology suggest that regret impacts decision-making under uncertainty. The main results of Regret Aversion are that the investors sell the winners too soon and hold on to losing position for too long a long period resulting in reduced investment returns. Regret is an emotion experienced for not having made the correct decision. If one wishes to avoid the pain of regret, one may alter one's behavior in ways that would in some cases be irrational. It explains the fact that investors sell stocks whose market price increases and avoid selling stocks that has shown decrement in the market value. The theory may be concluded as implying that investors avoid feeling regret. They sell stocks that have gone up in order.

3.4.9 Behavioural Finance and decision making

Investment decision-making is a tough activity. It can never be taken in a vacuum by depending on the personal resources. Decision-making can be defined as the process of selecting a specific alternative from a number of alternatives. It is an activity that follows after perfect evaluation of all the alternatives. There are tremendous challenges faced by the investors in the part of investment decision making like demographic factor, socio economic factors, educational levels, age, gender, and race.

An optimal investment decision takes part in active role and bears an important consideration among the investors. While developing investment portfolio, the investors should think about their financial goals, investment tenure, risk tolerance level, market trend, economic status and other restraints.

In psychology decision-making is regarded as the cognitive process emerging in the selection of a belief or a course of action among various available options. Every

decision-making process produces a final option that may or may not prompt action .It is an intricate multi-step process involving examination of different factors such as personal ,technical and situations. These apply to the taking decision in stock markets either without any exceptions. The subject matter of behavioural economics provides insights into the ways we make final decisions. We are all subject to biases that meticulously lead us away from taking rational decision; those with restricted resources bear the most serious results of poor decision over their portfolio. Financial education, and the development of an awareness of our biases, can help in development of decision making .Investment models can be extracted from various models of finance, e.g. Capital Asset Pricing Model (CAPM). Effective decision making involves understanding the market psychology from a global perspective .Post financial crisis in 2008 there has been major focus on the irrational behavior of the investor. Hence studying irrational behavior of the investor has become significant. Investors can learn and various biases that they will depict and then take action to avoid them and thus improving their effective financial decisions. Parikh (2011) for an investor so to succeed is to get in touch with the emotional indiscipline he has displayed, and deal with it so that it is not repeated. In the words of Warren Buffet, "It is only when you integrate sound intellect with emotional discipline that you get rational behavior". In traditional economics, the decision-maker is typically rational and self-interested. Persky (1985) this is the Homo Economics view of man's behavior in what a man acts to obtain the highest possible utility for himself given all available information about opportunities and constraints for his investment objective.

3.4.10 Influence of Behavioural Finance in decision making

Behavioral finance attempts to find how investor's emotions and psychology affect investment decisions. It is the study of how people in general and investors in particular make errors in their financial decisions due to their sentiments. It is nothing but the study of why otherwise rational people take some really thumbs investment decisions.

The association between behavioural finance biases and investors decision-making is a well-researched topic. It studies the psychological aspect of financial decision-making and explains the irrationality of investors in investment decision-making. Usually, the investor's behaviour diverges from making rational or logical decisions and leans towards being impacted by various behavioural biases. These biases influence the investor's rationality in investment decision making.

Chandra and Sharma (2010) explored the existence of behavioural biases and found that these psychological factors must be considered while dealing with investment related issues and investors' worries and suspicions are pacified and calmed. They concluded that the behavioral biases prevail among individual investor behavior in Indian stock market.

3.5 Summary

Behavioural Finance is a new perspective to financial market that has evolved, at least in part, in response to difficulties faced by the conventional ideal. In broad terms it argues that some financial happening can be better understood by models in which some agents are not fully rational.

Thaler (1999) asserted perhaps the most important contribution of behavioural finance on the theory side is the careful investigation of the role the markets in aggregating a variety of behaviours.

Behavioural finance takes a different perspective, through accepting the psychological errors and emotions, human being is subject to while making financial decisions. It is an attempt to represent human behavior positively, to understand how people behave in financial settings. This helps to understand, cognitive influences market behavior when investor perception influence markets and how the market action influence investors perception.

Thus, behavioural finance can be presented as the field which combines behavioural and psychological explanation for why people/investors make irrational choices or irrational financial decisions. It could be most interesting in the academic world for the time being.

Table 4.1: Table showing the results of the experiment.

Category	Value	Value	Value
Item 1	10	20	30
Item 2	15	25	35
Item 3	20	30	40
Item 4	25	35	45
Item 5	30	40	50
Total	100	150	200

Figure 4.1: A graph showing the relationship between the variables.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

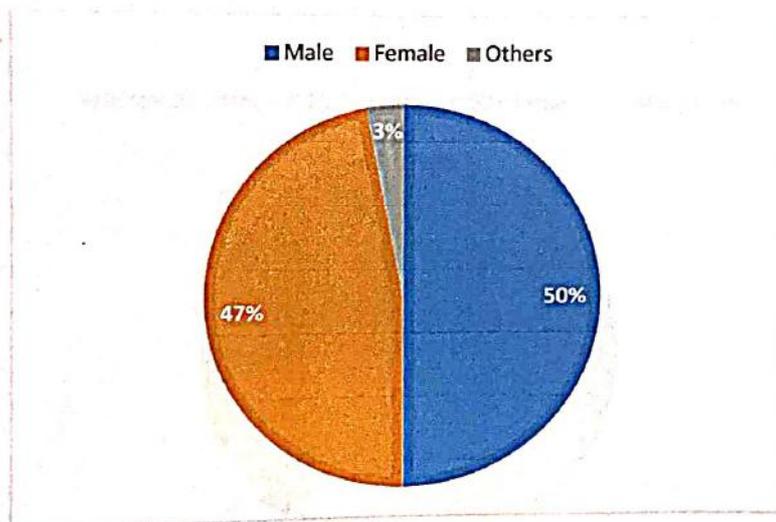


The following table shows the results of the experiment. The data is analyzed and interpreted as follows. The results are as follows.

Table 4.1: Table showing the distribution of respondents on the basis of Gender.

Gender	No of respondents	Percentage
Male	50	50%
Female	47	47%
Others	3	3%
Total	100	100%

Figure 4.1: Showing distribution of respondents on the basis of Gender.

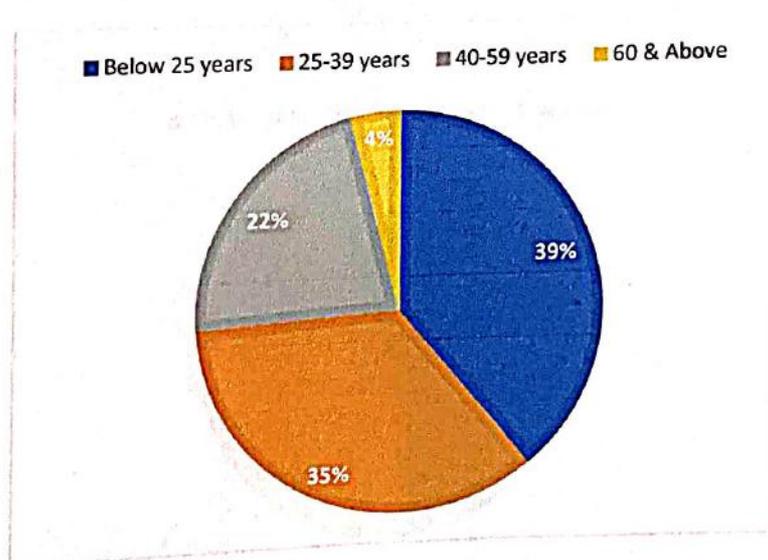


Interpretation: The table above shows that, 50 percent of the 100 respondents are male, 47 percent are female, and 3 percent are others. The majority of the respondents are male.

Table 4.2: Table showing the distribution of respondents on the basis of Age.

Age	No of respondents	Percentage
Below 25 years	39	39%
25-39 years	35	35%
40-59 years	22	22%
60 & Above	4	4%
Total	100	100%

Figure 4.2: Showing distribution of respondents on the basis of Age.

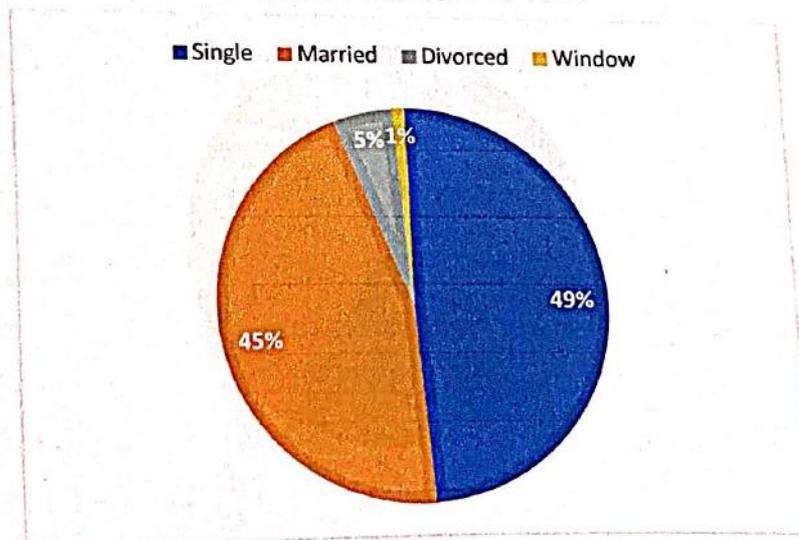


Interpretation: As shown in the above table, age group below 25 is the largest group representing 37% of the respondents, followed by 32% of respondents who belong to the age group 25-39. Smallest number of respondents of 4% belong to the age group above 60.

Table 4.3: Table showing the distribution of respondents on the basis of marital status.

Marital Status	No of respondents	Percentage
Single	49	49%
Married	45	45%
Divorced	5	5%
Window	1	1%
Total	100	100%

Figure 4.3: Showing distribution of respondents on the basis of marital status.

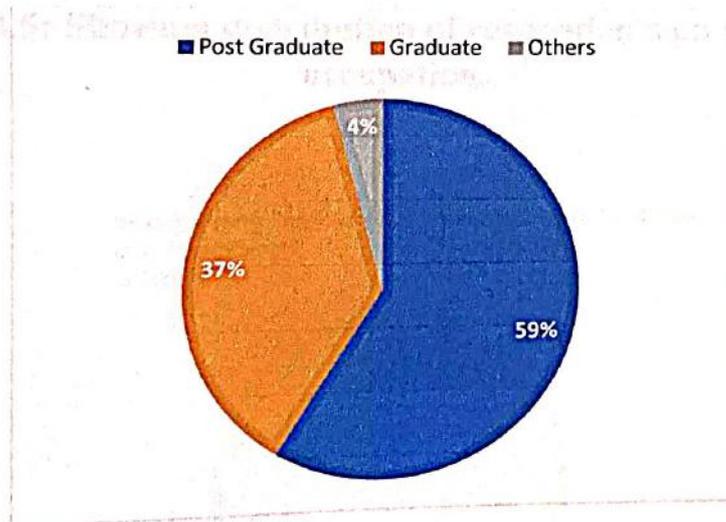


Interpretation: As shown in the above table, married status is the largest group representing 49%, followed by married status representing 45% of the respondents. 5% of the respondents are divorced and the remaining 1% widow.

Table 4.4: Table showing the distribution of respondents on the basis of Educational Qualification.

Education	No of respondents	Percentage
Post Graduate	59	59%
Graduate	37	37%
Others	4	4%
Total	100	100%

Figure 4.4: Showing distribution of respondents on the basis of Educational Qualification.

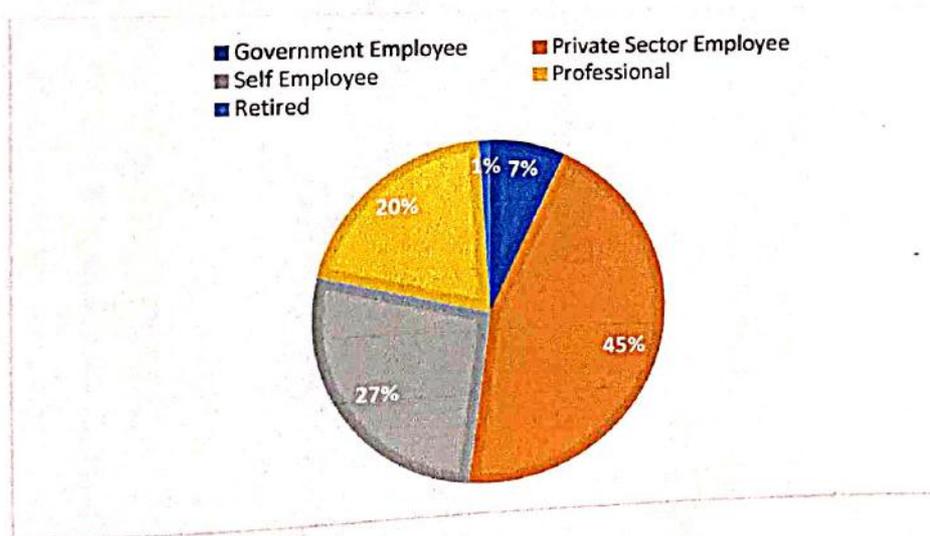


Interpretation: The above table shows that 59% of the total respondents are post graduates, 37% are graduates and 4% belongs to the other category. Hence we can conclude that the majority of respondents are post graduates.

Table 4.5: Table showing the distribution of respondents on the basis of occupation.

Occupation	No of respondents	Percentage
Government Employee	7	7%
Private Sector Employee	45	45%
Self-Employee	27	27%
Professional	20	20%
Retired	1	1%
Total	100	100%

Figure 4.5: Showing distribution of respondents on the basis of occupation.



Interpretation: As shown in the above table, the largest group of respondents are private sector employees representing 45%, second largest group of respondents are self-employees representing 27%, third largest being the professional group of respondents with 20% of responses, followed by Government employees with 7% and retired persons with the least number of responses of 1%.

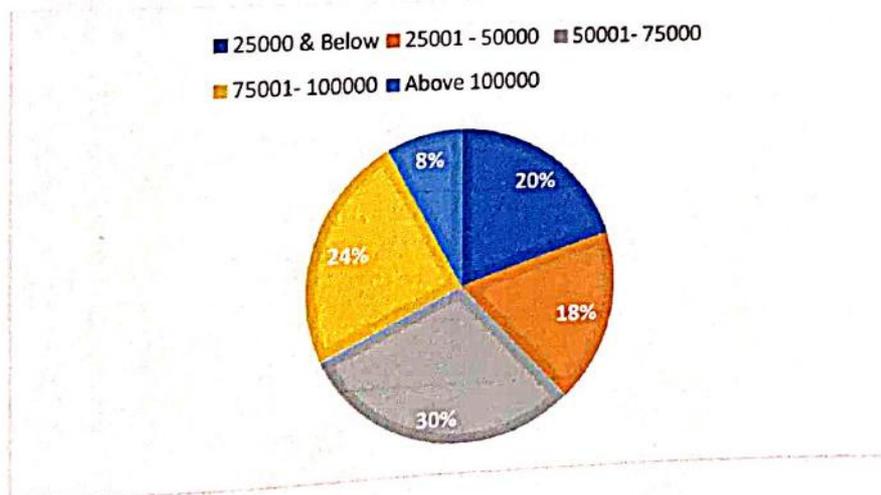
21001 - 25000	13	18%
50001 - 75000	31	43%
75001 - 100000	21	29%
Above 100000	5	7%
Total	70	100%

Figure 4.6: Showing distribution of respondents on the basis of income.

Table 4.6: Table showing the distribution of respondents on the basis of income.

Income	No of respondents	Percentage
25000 & Below	20	20%
25001 - 50000	18	18%
50001- 75000	30	30%
75001- 100000	24	24%
Above 100000	8	8%
Total	100	100%

Figure 4.6: Showing distribution of respondents on the basis of income.



Interpretation: From the above table, we can say that 30 respondents fall in the income group of 50,000-75,000 representing 30%. The second highest income group is 75,000-100000 with 24 respondents representing 24%. The next highest no of respondents are in the income group below 25,000 with 20 respondents representing 20% percentage, followed by income group of 25000-50000 with 18 respondents representing 18%. And the least no of respondents fall under the income group of above 100000 with 8%.

Income Group	No. of Respondents	Percentage
50,000-75,000	30	30%
75,000-100000	24	24%
below 25,000	20	20%
25000-50000	18	18%
above 100000	8	8%
Total	100	100%

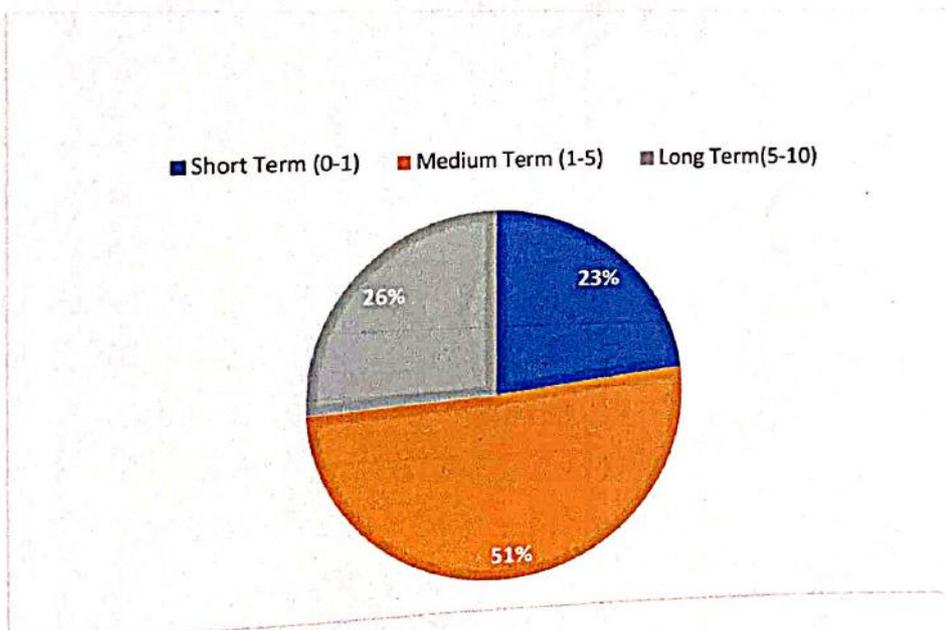
Figure 4.7: Showing distribution of respondents on the basis of their investment period.



Table 4.7: Table showing the distribution of respondents on the basis of their investment period.

Period of Investment	No of respondents	Percentage
Short Term (0-1)	23	23%
Medium Term (1-5)	51	51%
Long Term(5-10)	26	26%
Total	100	100%

Figure 4.7: Showing distribution of respondents on the basis of their investment period.



Interpretation: From the above diagram, it is understood that 51% of the respondents have made investment in medium term investments, 26% of the respondents have invested in long term investments and remaining 23% in short term investments.

Investment Avenue	Percentage
Current Assets	23%
Fixed Deposits	26%
Mutual Funds	23%
Derivative	12%
Equity Shares	6%
Total	100%

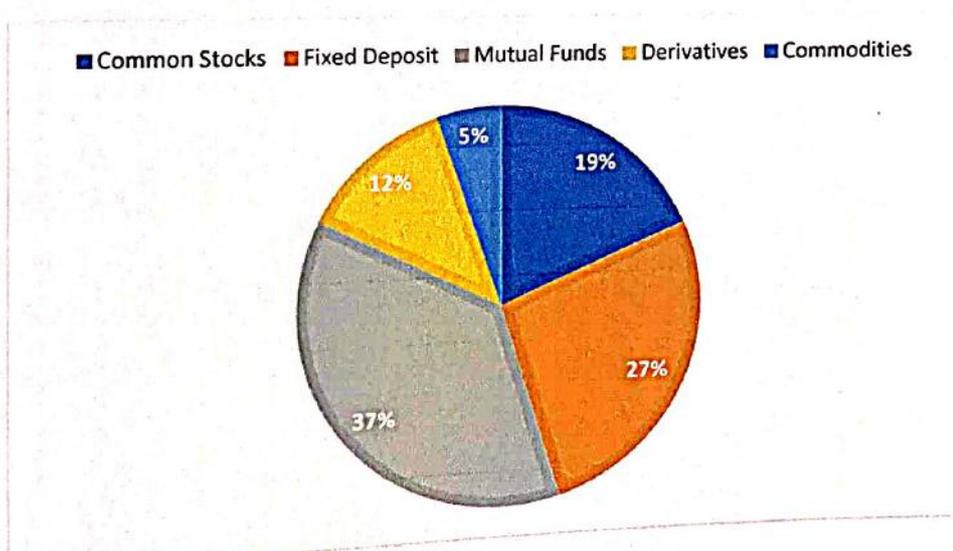
Figure 4.8: Showing distribution of respondents on the basis of investment avenue.



Table 4.8: Table showing the distribution of respondents on the basis of investment avenues.

Investment Avenue	No of respondents	Percentage
Common Stocks	18	18%
Fixed Deposit	26	26%
Mutual Funds	36	36%
Derivatives	12	12%
Commodities	5	5%
Total	100	100%

Figure 4.8: Showing distribution of respondents on the basis of investment avenues.



Interpretation: According to the above figure, 36 of the hundred respondents prefer to invest in mutual funds, 26 prefer to invest in fixed deposit, 18 in common stocks, 12 in derivatives, and 5 in commodities. The majority of respondents have invested in mutual funds, with the least in commodities.

Investment Type	Number of Respondents	Percentage
Mutual Funds	36	36%
Fixed Deposit	26	26%
Common Stocks	18	18%
Derivatives	12	12%
Commodities	5	5%
Total	100	100%

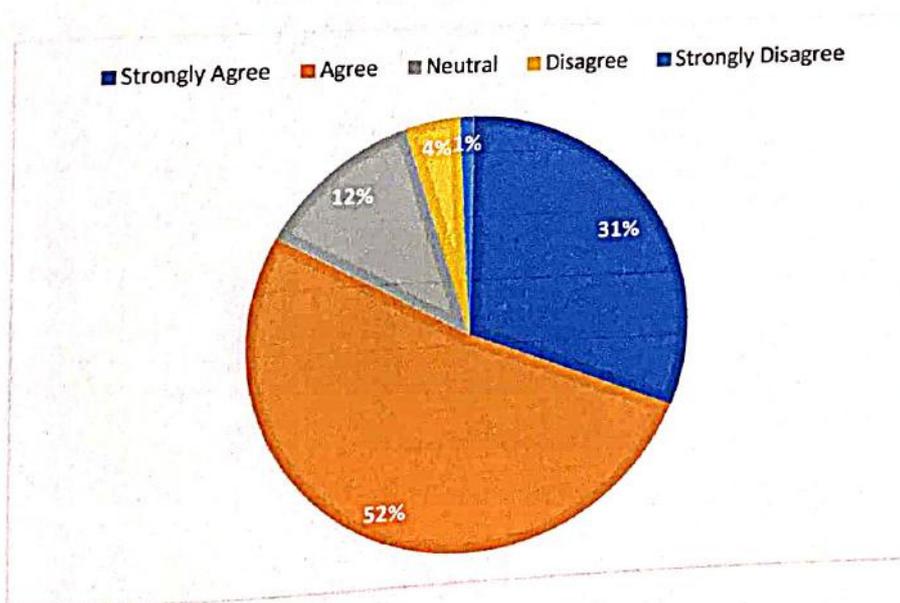
Figure 4.3: Showing influence of market information on investment decisions of respondents



Table 4.9: Table showing influence of market information on investment decision of respondents.

Answer	No of respondents	Percentage
Strongly Agree	31	31%
Agree	52	52%
Neutral	12	12%
Disagree	4	4%
Strongly Disagree	1	1%
Total	100	100%

Figure 4.9: Showing influence of market information on investment decision of respondents.



Interpretation: As shown in the above diagram, majority of the respondents agree that their investment decisions are influenced by market information representing 52%, 31% of respondents strongly agree, 12% of respondents are neutral followed by minorities 4% of respondents disagreeing and 1% of respondents who strongly disagree.

Answer	No. of Respondents	Percentage
Strongly Agree	27	20%
Agree	31	23%
Neutral	12	9%
Disagree	4	3%
Strongly Disagree	1	1%
Total	106	100%

Figure 4.16: Showing influence of past portfolio trend on investment decision of respondents.

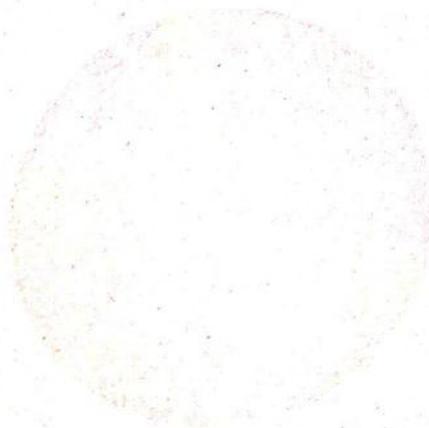
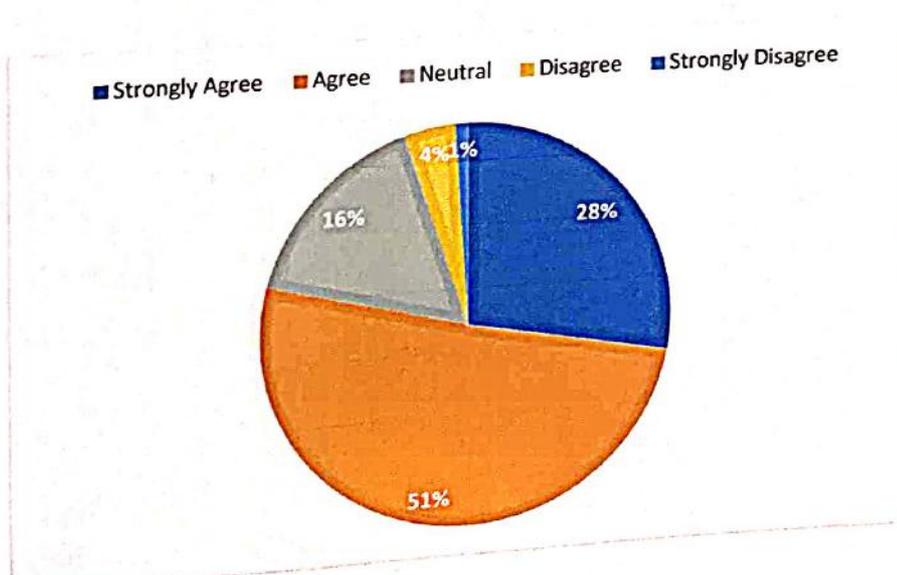


Table 4.10: Table showing influence of past portfolio trend on investment decision of respondents.

Answer	No of respondents	Percentage
Strongly Agree	28	28%
Agree	51	51%
Neutral	16	16%
Disagree	4	4%
Strongly Disagree	1	1%
Total	100	100%

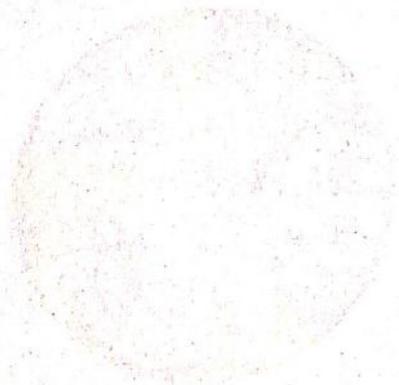
Figure 4.10: Showing influence of past portfolio trend on investment decision of respondents.



Interpretation: As shown in the above diagram, majority of the respondents agree that their investment decisions are influenced by past portfolio trends representing 51%, 28% of respondents strongly agree, 16% of respondents are neutral followed by minorities 4% of respondents disagreeing and 1% of respondents who strongly disagree.

Response	Count	Percentage
Strongly Agree	51	51%
Agree	28	28%
Neutral	16	16%
Disagree	4	4%
Strongly Disagree	1	1%
Total	100	100%

Figure 4.11: Showing influence of Herd Bias on the investment decisions of respondents.

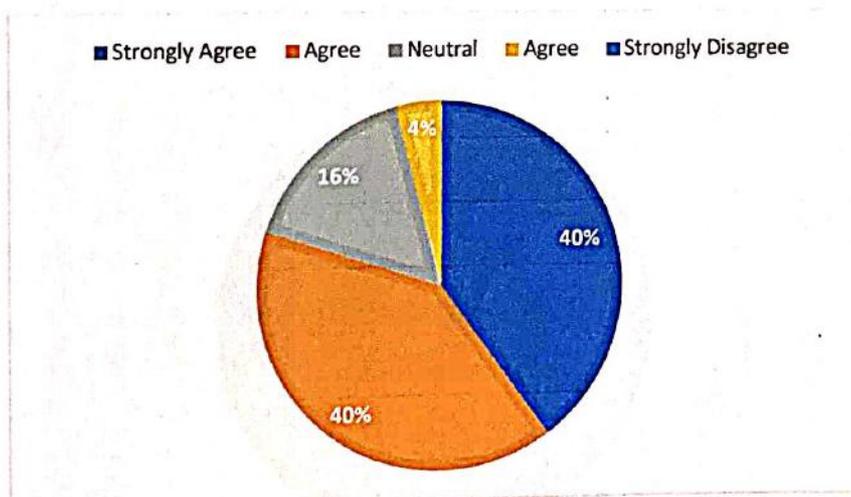


Interpretation: From the above table, 51% of the 100 respondents agreed that Herd Bias influences their investment decisions. The remaining 49% who do not agree: 16% are neutral, and 4% disagree.

Table 4.11: Table showing influence of Herd Bias on investment decision of respondents.

Answer	No of Respondents	Percent
Strongly Agree	40	40%
Agree	40	40%
Neutral	16	16%
Disagree	4	4%
Strongly Disagree	0	0%
Total	100	100%

Figure 4.11: Showing influence of Herd Bias on investment decision of respondents.

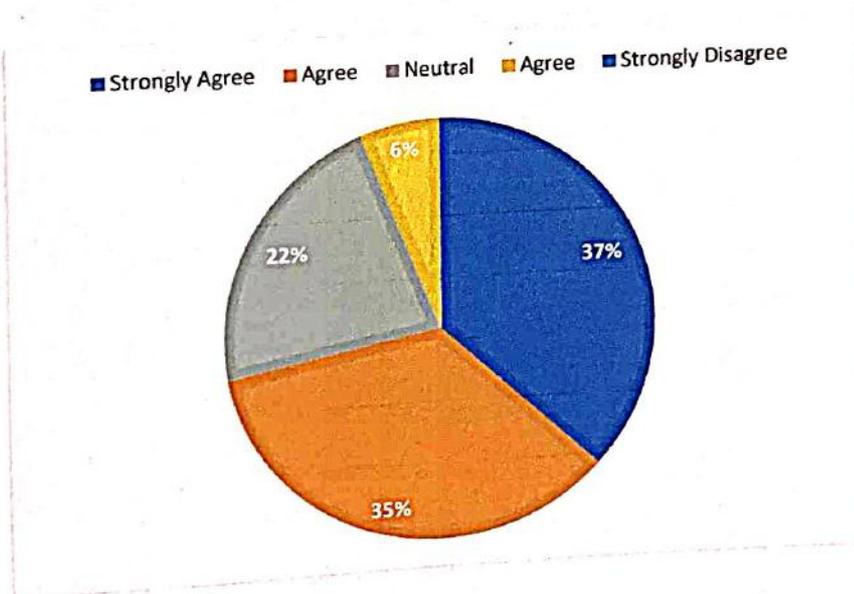


Interpretation: From the above table, 40% of the 100 respondents strongly agree that Herd Bias influences their investment decisions. The remaining 40% of the respondent agree, 16% are neutral, and 4% disagree.

Table 4.12: Table showing influence of Overconfidence Bias on investment decision of respondents.

Answer	No of Respondents	Percent
Strongly Agree	37	37%
Agree	35	35%
Neutral	22	22%
Disagree	6	6%
Strongly Disagree	0	0%
Total	100	100%

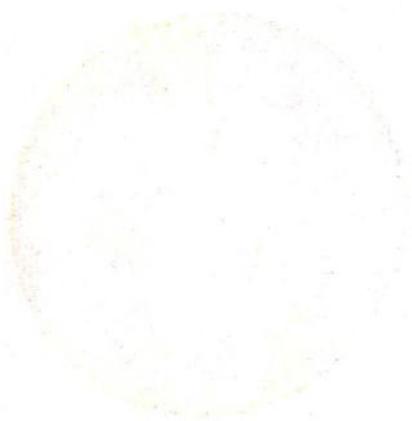
Figure 4.12: Showing influence of Overconfidence Bias on investment decision of respondents.



Interpretation: As shown in the above diagram, majority of the respondents Strongly Agree that their investment decisions are influenced by my Overconfidence Bias representing 37%, 35% of respondents Agree, 22% of respondents are neutral followed by 6% of respondents disagreeing.

Strongly Agree	37%
Agree	35%
Disagree	6%
Neutral/No opinion	22%
Total	100%

Figure 4.13: Showing influence of Overconfidence Bias on investment decision of respondents.

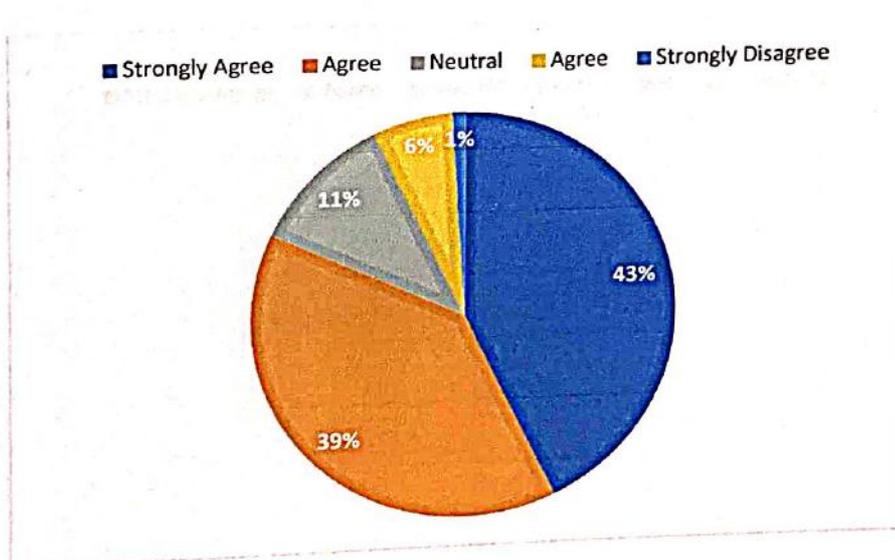


Interpretation: As shown in the above diagram, majority of the respondents Strongly Agree that their investment decisions are influenced by my Overconfidence Bias representing 37%, 35% of respondents Agree, 22% of respondents are neutral followed by 6% of respondents disagreeing.

Table 4.13: Table showing influence of Anchoring Bias on investment decision of respondents.

Answer	No of Respondents	Percentage
Strongly Agree	43	43%
Agree	39	39%
Neutral	11	11%
Disagree	6	6%
Strongly Disagree	1	1%
Total	100	100%

Figure 4.13: Showing influence of Anchoring Bias on investment decision of respondents.

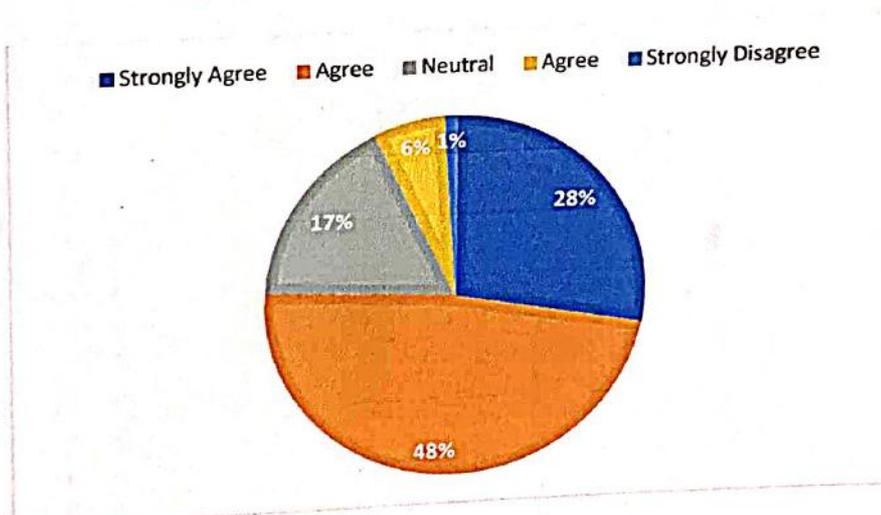


Interpretation: As shown in the above diagram, majority of the respondents Strongly Agree that their investment decisions are influenced by Anchoring Bias representing 43%, 39% of respondents Agree, and 11% of respondents are neutral followed by minorities 6% of respondents disagreeing and 1% of respondents who strongly disagree.

Table 4.14: Table showing influence of Loss Aversion Bias on investment decision of respondents.

Answer	No of Respondents	Percentage
Strongly Agree	28	28%
Agree	48	48%
Neutral	17	17%
Disagree	6	6%
Strongly Disagree	1	1%
Total	100	100%

Figure 4.14: Showing influence of Loss Aversion Bias on investment decision of respondents.



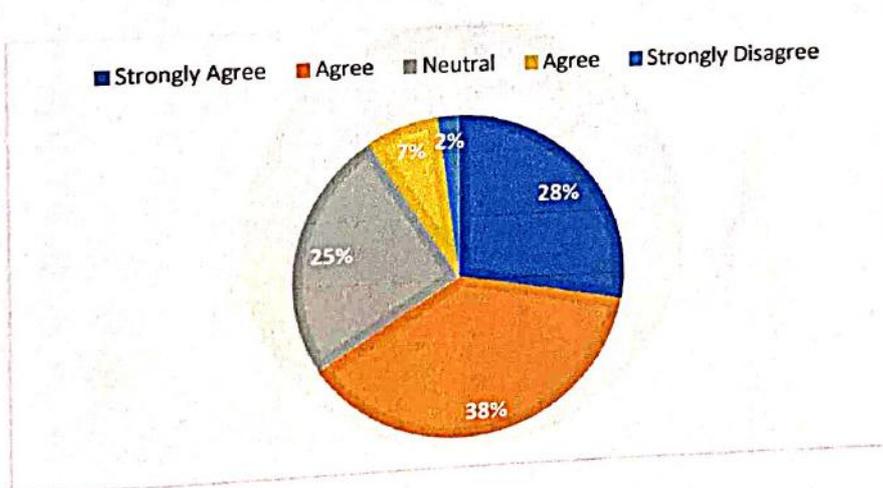
Interpretation: As shown in the above diagram, majority of the respondents Agree that their investment decisions are influenced by Loss Aversion Bias representing 48%, 28% of respondents Strongly Agree, and 17% of respondents are neutral, followed by minorities 6% of respondents disagreeing and 1% of respondents who strongly disagree.

Table 4.15: Table showing influence of Regret Aversion Bias on investment decision of respondents.

Answer	No of Respondents	Percentage
Strongly Agree	28	28%
Agree	38	38%
Neutral	25	25%
Disagree	7	7%
Strongly Disagree	2	2%
Total	100	100%

Figure 4.15: Showing level of influence of respondents

Figure 4.15: Showing influence of Regret Aversion Bias on investment decision of respondents.

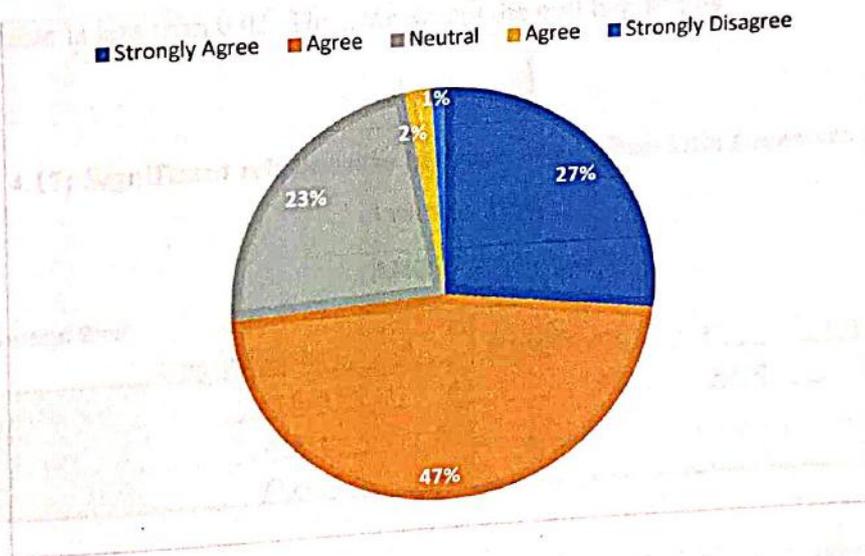


Interpretation: As shown in the above diagram, majority of the respondents Agree that their investment decisions are influenced by Regret Aversion Bias representing 38%, 28% of respondents Strongly Agree, and 25% of respondents are neutral, followed by minorities 7% of respondents disagreeing and 2% of respondents who strongly disagree.

Table 4.16: Table showing level of risk taking ability of respondents.

Answer	No of Respondents	Percentage
Strongly Agree	27	27%
Agree	47	47%
Neutral	23	23%
Disagree	2	2%
Strongly Disagree	1	1%
Total	100	100%

Figure 4.16: Showing level of risk taking ability of respondents.



Interpretation: From the above table, it can be inferred that 47% of the respondents Agree that they are willing to take risk, followed by 27% of the respondents Strongly Agreeing, 23% of the respondents are neutral, followed by minorities 2% of respondents disagreeing and 1% of respondents who strongly disagree.

Hypothesis Testing

Table 4.17: Significant relationship between Income of Portfolio Investors and Herd Bias.

ANOVA

HERDING BIAS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.595	3	2.198	3.358	.022
Within Groups	62.845	96	.655		
Total	69.440	99			

H₀: There is significant relationship between income of investors and Herd Bias.

Inference: There is significant relationship between income and herd bias as the P value is less than 0.05. Thus, we accept the null hypothesis.

FINDINGS, SUGGESTIONS AND CONCLUSION

Table 4.17: Significant relationship between Age of Portfolio Investors and Loss Aversion Bias.

ANOVA

Loss Aversion Bias

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.929	4	1.482	1.958	.107
Within Groups	71.911	95	.757		
Total	77.840	99			

H₀: There is significant relationship between age of investors and Loss Aversion Bias.

Inference: There is no significant relationship between age and loss aversion bias as the P value is more than 0.05. Thus, we reject the null hypothesis.

CONCLUSION

The findings of the study on the relationship between the variables are as follows: ...

Large portion of respondents are engaged in various activities ...

On the whole, the performance of respondents is satisfactory ...

4. Evaluation of the study ...

CHAPTER - V

FINDINGS, SUGGESTIONS AND CONCLUSION

1. The study has revealed that ...

2. The majority of respondents ...

3. The study has revealed that ...

5.1 FINDINGS

The major findings of the study are presented as per the objectives of the study.

1. From the population taken for the study, we can conclude that majority were male respondents.
2. Large group of respondents belonged to the age group Below 25.
3. Out of the total respondents, 49 respondents are single; 45 are married; 5 of the respondents are divorced and remaining are widow.
4. Education of the respondents revealed that majority have completed their post-graduation degree.
5. The study showed that 45 of the respondents are private sector employees; 27 are self-employed persons; 20 belongs to professional category; 7 are Government employees while 1 respondents are retired.
6. The majority respondents fall in the income group of 50001-75000 (30%). The second highest income group is 75001-100000(24%). The next highest group of respondents are in the income group below 25000 (20%); and least group of respondents fall under the income group of 25001-50000 (18%) followed by the income group above 100000 (8%).
7. The study showed that the most preferred period of investment of the investors were medium term.

8. It was found that portfolio investors in Ernakulam place Mutual Funds as their highly preferred investment followed by Fixed Deposit and Common Stock. Derivatives is the fourth most preferred investment avenue followed by commodities as fifth preferred investment option.
9. The majority of respondents believe that market information and past portfolio trend influences their investing decisions.
10. From the study conducted, it was found that Herd Bias and overconfidence bias has an effect on the respondents' investing decisions. Herd Bias is the investor's tendency to follow and copy what the other investors are doing. Overconfidence bias is the tendency for a person to overestimate their abilities.
11. The majority of respondents, 43 percent, strongly agree that Anchoring Bias influences their investing decisions, 39 percent agree, and 11 percent are indifferent, with minorities following. There were 6 percent of respondents who disagreed and 1% who strongly disagreed. Anchoring bias is a bias that causes us to rely too heavily on the first piece of information we are given about a topic.
12. The majority of respondents, 48 percent, agree that Loss Aversion Bias influences their investing decisions, 28 percent strongly agree, and 17 percent are indifferent, with minority following. There were 6% of respondents who disagreed and 1% who strongly disagreed. Loss aversion bias is a bias that describes why, for individuals, the pain of losing is psychologically twice as powerful as the pleasure of gaining.

13. The majority of respondents, 38 percent, agree that regret aversion bias influences their investing decisions, 28 percent strongly agree, and 25 percent are indifferent, with minority following. 7 percent of respondents disagreed, with 2 percent strongly disagreeing. An investor is said to be suffering from regret aversion bias when he/she refuses to make any decision because of the fear that the decision will turn out to be wrong and then may later lead to feelings of regret.

14. It may be concluded that 47 percent of respondents agree that they are willing to accept risks, followed by 27 percent. Strongly agreeing, 23 percent of respondents are indifferent, minority 2 percent of respondents oppose, and 1% of respondents strongly disagree.

5.2 SUGGESTIONS

- The major recommendation for investors is to make continuous efforts to enhance their knowledge on the aspects of behavioural finance by educating themselves. The knowledge of stock market and the behavioural abnormalities requires study about the dispositions which will contemplate in their decision making to achieve better self –understanding. This can be done by including the introduction of stock market and concepts of behavioural finance in the academic curriculum.
- The decisions which are influenced by emotions and psychological barriers under uncertainty require careful consideration. Since behavioural biases considerably impacts the investment decisions of individuals hence it is necessary to promote financial education so that they can prepare their own financial plan which will be beneficial to them as well for the growth of capital market in India. By educating themselves and have financial knowledge investors can increase their risk taking behavior also.
- Simulation techniques can be developed. Under it investors are given various investment portfolio alternatives and by trial and error they can form their own portfolios taken into consideration the risk and return. This will help the investors to know what behavioural biases are influencing their decisions and how they can eliminate them.
- As it can be revealed from the findings that Herd bias impacts the investment decisions the most. To overcome this disposition , forums can be established by individual investors so that they can get reliable information of the stock market to invest which will help the investors to take better investment decisions which are free from biasness and will help them confined their risks.

5.3 CONCLUSION

Behavioural finance asserted that all the investors will experience from the same psychological illusion. The prevalence of rule of thumb or heuristics and prospect theory impacts the decision making process of individual investors. The vulnerability of an investor to a specific misconception is likely to be a function of various heuristic and prospect theory variables. This thesis endeavored to find out the impact of behavioural dispositions on portfolio investment decisions of individual investors.

The respondents are mostly comprised of male investor's generally young. The investors are mostly employed in private sector and the education status revealed that maximum investors are post -graduate. The economic status of members was satisfactory according to the area of study. The objectives of this study were to check if the investment behaviour of investors is rational or biased. The focal point was on heuristics behavioral biases, viz: Herding bias, Overconfidence bias, disposition bias, Anchoring bias, Representativeness bias and on Prospect bias viz. Mental Accounting bias, Loss Aversion bias and Regret Aversion bias.

From the test we conducted using the statistical tool Anova, we found out that herd bias has an influence on the investor's decision making process and loss aversion bias has no influence on it.

So we can conclude by saying that the Behavioural Disposition has an influence on the investment decision of investors.

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STUDY ON THE IMPACT OF RELAYED-OWN RESPONSIBILITY
ON PORTFOLIO INVESTMENT DECISIONS OF INDIVIDUAL
INVESTORS IN EDINBURGH CITY.

QUESTIONNAIRE

PART A (DEMOGRAPHIC PROFILE)

1. Gender:

- FEMALE
- MALE
- OTHERS

ANNEXURE

2. Age:

- BELOW 25 YEARS
- 25-30 YEARS
- 30-35 YEARS
- 35 & ABOVE

3. Marital Status:

- SINGLE
- MARRIED
- DIVORCED
- WIDOW

4. Educational Qualification:

- GRADUATE
- POST GRADUATE
- OTHERS

**STUDY ON THE IMPACT OF BEHAVIOURAL DISPOSITION
ON PORTFOLIO INVESTMENT DECISION OF INDIVIDUAL
INVESTORS IN ERNAKULAM CITY.**

QUESTIONNAIRE

PART A (DEMOGRAPHIC PROFILE)

1. Gender:

- FEMALE
- MALE
- OTHERS

2. Age:

- BELOW 25 YEARS
- 25 – 39 YEARS
- 40 – 59 YEARS
- 60 & ABOVE

3. Marital Status:

- SINGLE
- MARRIED
- DIVORCED
- WIDOW

4. Educational Qualification:

- GRADUATE
- POST GRADUATE
- OTHERS

5. Occupation:

- GOVERNMENT EMPLOYEE
- PRIVATE SECTOR EMPLOYEE
- SELF EMPLOYED
- PROFESSIONAL
- RETIRED

6. Monthly Income:

- 25000 & BELOW
- 25001 – 50000
- 50001 – 75000
- 75001 – 100000
- ABOVE 100000

PART B (INVESTMENT DECISION)

7. What is the average time period of your investment portfolio

- SHORT TERM (0-1 YEARS)
- MEDIUM TERM (1-5 YEARS)
- LONG TERM (5-10 YEARS)

8. Which investment avenue do you prefer to invest in

- COMMON STOCK / EQUITY
- FIXED DEPOSITS
- MUTUL FUNDS
- DERIVATIVES (OPTIONS/FUTURES/SWAPS)
- COMMODITIES (GOLD/SILVER)

9. Market information have an influence on your investment decisions

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

10. Past trends of stock have an influence on your investment decision

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

11. Rank these statements on the basis of your choice of preference.

SL NO	FACTORS INFLUENCING INVESTMENT BEHAVIOUR	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
1	I purchase investments that have been recommended by my friends or colleagues.					
2	Other investor's decision of buying and selling influences my investment decisions.					
3	I feel my decisions related to investment and portfolio management is better and gives positive returns.					

4	My skills and knowledge of stock market help me to perform better in the stock market.					
---	--	--	--	--	--	--

12. Rank these statements on the basis of your choice of preference.

SL NO	FACTORS INFLUENCING INVESTMENT BEHAVIOUR	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
1	I rely on company recent financial data when making investment decisions.					
2	I depend on my previous experiences in the market for my next investment.					
3	After a loss, I become more risk averse					
4	I feel regret and disappointed if the price of the stock I sold keeps growing					

13. Please tick the choice that best describes yourself on the scale by indicating whether you Strongly Agree (5), Agree (4), Neither Agree nor Disagree (3), Disagree (2), Strongly Disagree (1).

SL NO	STATEMENT	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
1	When I face loss, I invest in risky					

	stocks to balance the returns.						
2	I invest in highly variable securities.						
3	I invest in securities which gives high return even if they are more risky.						
4	I compare and calculate risks before investing.						
5	I am open to take risk in my investment.						
6	I am ready to take risk with sufficient information.						
7	I am ready to take risk to earn above average returns.						

**Historical Evolution of the Cinematic Experience of
Malayalam Cinema with primary focus on the Period of
Renaissance (2010 onwards)**

Dissertation submitted to the
Post-Graduation Department of History, St. Teresa's College Ernakulam (Autonomous)
in the partial fulfilment of the requirements for the degree of

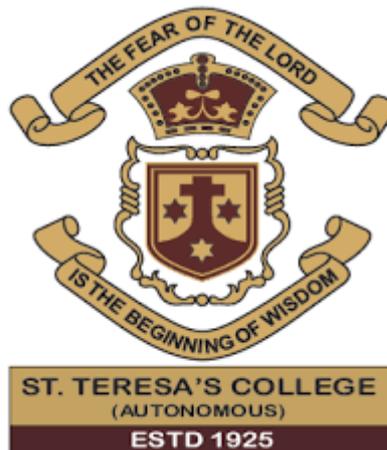
MASTER OF ARTS IN HISTORY

By

ANN RIA REJI

M.A. HISTORY (2020-2022)

REG. NO. SM20HIS004



DEPARTMENT OF HISTORY

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CERTIFICATE

This is to certify that the dissertation entitled submitted **Historical Evolution of the Cinematic Experience of Malayalam Cinema with primary focus on the Period of Renaissance (2010 onwards)** in the partial fulfilment of the requirements for M A Degree in History, Mahatma Gandhi University, Kottayam is a bonafide work done by **ANN RIA REJI** under my supervision and guidance. In addition, it is certified that this project or any part of this has not been previously submitted elsewhere to adjudge any degree, diploma or other title or acknowledgement.

Head of the Department

Supervising Teacher

Submitted to viva- voice Examination held on

At the Department of History, St. Teresa's College, Ernakulam.

Name and signature of Examiners

- 1.
- 2.

DECLARATION

I hereby declare that this dissertation work entitled “**Historical Evolution of the Cinematic Experience of Malayalam Cinema with primary focus on the Period of Renaissance (2010 onwards)**” is an original work done by me under the supervision and guidance of **Ms. Rose Mol Xavier**, Lecturer of Department of History, St. Teresa’s College, Ernakulam and I have not submitted this project to any other universities for the award of any degree or diploma.

Place: Ernakulam

Ann Ria Reji

Date:

St. Teresa’s College, Ernakulam

ACKNOWLEDGEMENT

The success and final outcome of the project required a lot of guidance from many people. So, I take this opportunity to extend my sincere gratitude to all of them. Firstly, I thank God Almighty for being with me throughout and helping me for completing the project successfully. I thank each and every person who gave me the encouragement to successfully complete this dissertation on the topic “**Historical Evolution of the Cinematic Experience of Malayalam Cinema with primary focus on the Period of Renaissance (2010 onwards)**”, which helped me to do a lot of research and broaden my knowledge about the topic.

I thank my project guide Ms. Rose Mol Xavier, Lecturer of the Department of History at St. Teresa’s College for her guidance in completing the project. I acknowledge the support which I received from my course coordinators.

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I am extremely grateful to my brother Mr. Jobby James for helping me get in touch with prominent film directors like – Mr. Sajjin Babu, Mr. Lijin Jose and Mr. Jeo Baby. Special thanks to all my friends for circulating the survey and helping me get all the responses that helped me draw a conclusion for my project.

Finally, and most importantly, I would like to express my gratitude to my parents, siblings and the faculty members for their constant encouragement and support.

ANN RIA REJI

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INTRODUCTION

India is the largest producer of feature films in the world. It is estimated that between 800 to 1000 films are produced in India annually compared to Hollywood which produces half that number. Cinema is one such topic that anyone and everyone would have something to comment on. To access the medium of cinema, it is not necessary for one to be literate or to belong to any particular class. If one can buy a ticket, they can be party to the same cinematic experience as anyone else who is seated within the closed auditorium. This is what makes popular cinema a peculiarly commercial enterprise with an immensely popular appeal. However, for cinema to mobilize a public, a degree of identification is required between what is being depicted on the screen and the people who are watching it. The language spoken in cinema, the cultural, temporal and territorial sameness between what is being shown and those who see it, are important axes through which the public is mobilized.

Malayalam cinema has always 'stood out' for its filmmaking style, narratives, etc . We often come across, in contemporary debates and historical narratives, references to even popular cinema in Malayalam as showing a certain propensity to adopt closer-to-life themes, in contrast to Indian popular cinema. However, Malayalam cinema has also had its own share of ups and downs with new breed of talented filmmakers and new styles and themes in filmmaking coming and going through different periods of time.

This dissertation aims to analyse the historical evolution of the cinematic experience of the Malayali audience over the years in particular and the audience beyond the Malayalam speaking population in general. From the initial beginnings to the glorious golden age of the 70s, the slump and then the rise of the 'second new wave' of Malayalam Cinema I trace the journey of Malayalam cinema over the years and the kind of varied experiences for its audience it generated owing to the changing times.

In my first chapter, I have attempted to chart the history of the evolution of cinematic experience of the Malayalam cinema through the study of five periods: (i) 1920s-40s (ii)1950s (iii) 1960s-70s (iv) 1980s-90s, and (v)2000s-2010. I briefly tried to discuss the kind of cinemas that were made in each of the periods and what characterised them. In the second chapter, I have made a detailed analysis of the so-called rebirth of the 'new wave' in Malayalam Cinema ever since 2011 onwards with the rise of new narratives and styles of filmmaking. It analyses some of the prominent movies of the period and tries to define the period subsequently. It also briefly highlights how the lockdown phase has helped escalate the popular rise of Malayalam

cinema crossing the boundaries of its native terrains. The third chapter encloses a sample survey on the different perceptions on the new-age Malayalam cinema across different age-groups. It further includes interviews of three prominent film directors from the Malayalam movie industry discussing their point of views on the topic. These exercises helped me get a broader idea of what people think and perceive Malayalam cinema inside and outside the film industry.

Eventually, my research tries to conclude and draw in the reasons that have led to the rise of the ‘second new wave’ in Malayalam cinema in particular and the rise of Malayalam cinema in general in the wider spectrum of Indian cinema.

OBJECTIVES

- To briefly trace the historical evolution of Malayalam Cinema through different eras in history since its inception.
- To analyse the emergence of the period of Renaissance of Malayalam Cinema
- To draw in the impacts on the new wave of Malayalam Cinema in the backdrop of the lockdown with the simultaneous rise of the digital age.

METHODOLOGY

The methodology followed in this study is historical method. The study is largely adapted to the work of reading, google sample surveys and interviewing with prominent film directors from the Malayalam industry for the purpose of research. The study relies much on books, journals, online newspaper reports and movie reviews and other online sources that related to the Malayalam cinema. I have followed the standard method of collecting sources and correlated it with other sources.

ORGANISATION OF THE STUDY

The study is proposed to be organized under five sections as below.

1. Introduction
2. Chapter 1: A brief outline of the historical evolution of Malayalam Cinema leading up to the popular rise of the new wave (starting 2010)
3. Chapter 2: The Renaissance of the ‘new wave’ in Malayalam cinema (from 2011 onwards)

4. Chapter 3: Renaissance of new wave in Malayalam Cinema – A myth or a reality
5. Conclusion

CHAPTER I

A BRIEF OUTLINE OF THE HISTORICAL EVOLUTION OF MALAYALAM CINEMA LEADING UPTO TO THE POPULAR RISE OF THE NEW WAVE (starting 2010)

This introductory chapter aims to discuss briefly on the beginning and the evolution of Malayalam Cinema, drawing a historical analysis of Malayalam Cinema until the beginning of the so-called New Wave¹, that is the era after the year 2010. Malayalam cinema has always been known for its artistic integrity and its empathetic and intimate storytelling among the Malayalam diaspora and some other cinema connoisseurs. However, in the recent years its popularity has attained greater heights not only in the other states of India but also abroad, with some cinema critics and enthusiasts and the public at large are keeping a close watch on what new and innovative it has to offer while some others like me are tracing its history to deep dive and understand how it all began in the first place.

This chapter has been primarily been divided into different eras of Malayalam Cinema since its inception. As we move through the chapter, we see different reasons that motivate a particular kind of filmmaking. We try to understand and analyze general shifts in the themes, styles and unique forms of the kind of cinema being brought forth, thus helping us characterize what aspects contributes to the Malayali-ness in the cinema from the region.

In many ways cinema in general and these shifts or changes that we see through the different eras speaks volumes about the socio – political, economic and cultural scenario of Kerala during the particular era. As once the veteran Hindi lyricist and poet Gulzar said “Cinema is a reflection of your society, what is happening (around)”.²

¹ Manoj Kumar R, “A New Wave Revives Golden Age of Malayalam Cinema,” The Indian Express, February 17, 2022, <https://indianexpress.com/article/entertainment/malayalam/the-revival-of-the-golden-age-in-malayalam-cinema-7470969/>.

² “Cinema Is a Reflection of Your Society: Gulzar - Times of India,” The Times of India (The Times of India, October 11, 2018), <https://timesofindia.indiatimes.com/life-style/books/features/cinema-is-a-reflection-of-your-society-gulzar/articleshow/66160133.cms>.

1.1 The Early Years – Sowing the seeds

In 1928, *Vigathakumaran* directed by J.C. Daniel is considered to be the “first” Malayalam film in the contemporary times to be produced indigenously in Kerala. This film was produced at a time when Kerala as a state did not yet exist and was just a geographical terrain.

For long it has been a subject of debate and still continues to be, whether *Vigathakumaran*, the first silent movie or *Balan* (1938) directed by S. Nottani, the first sound movie is the first ever Malayalam cinema. The film journalist Chelangatt Gopalakrishnan’s work on J.C. Daniel *JC Danielinte Jeevitha Katha* (2011, *Life of JC Daniel*) and later the film based on this book *Celluloid* (2013) resurfaced this debate which began in the 1960s, according to Ratheesh Balakrishnan³. JC Daniel with no prior filmmaking experience, just as a cinephile and entrepreneur strived to establish a production base in Travancore, with its own distinct characteristic feature focusing on social themes of the time rather than on mythological and devotional narratives as was popularly seen in the other more prominent Hindi (Bombay) and Tamil (Madras) film industries in India at the time.

The second silent feature film to be produced was *Marthanda Verma* (1933) directed by P.V. Rao based on a literary work for the first time - the 1891 novel of the same name by C.V. Raman Pillai. This was followed by the first sound film (or talkies as it was called) to be produced was *Balan* (1938) by S. Nottani. This was then followed by films like – *Gnanambika*(1940) by S. Nottani, *Prahlada* (1941) by a tamilian K. Subramoniam, *Nirmala* (1948) by P.V. Krishna Iyer produced by a Malayali P.J. Cherian for the first time and *Vellinakshatram* (1949) by Felix J. Beyse produced by Udaya Pictures – the oldest production house in Kerala set up by director-producer Kunchacko in Allepey (1947).

1.2 The 1950s – Finding Direction

Though Malayalam Cinema first took root in the year 1928, it was only in the 1950s (shortly after India’s Independence) that it gained traction. *Jeevitha Nouka* (1951) directed by K. Vembu was shot not only in Malayalam but also Tamil and Telugu and also dubbed in Hindi. Malayalam cinema’s distinctiveness or *keralayeetha* so to say took birth with this period when

³ M P Mohammed Shareef, “Language Territory and the Region a Study of Malayalam Cinema,” Shodhganga@INFLIBNET: Language Territory and the Region A study of Malayalam Cinema (Hyderabad), accessed April 20, 2022, <https://shodhganga.inflibnet.ac.in/handle/10603/245107>.

films based on “social realism” like *Neelakuyil* (1954) directed by P Bhaskaran and Ramu Kariat, *Newspaper Boy* (1955) directed by P Ramdas considered to a classic example of Italian neo-realism, and *Rarichan Enna Pouran* (1956) P Bhaskaran, were produced.⁴

These movies mirrored the everyday authentic life of a Malayali and the various social-political, cultural and economic realities of the time. During this period with the formation of the state of Kerala in 1956 and the rise of the Left politics, we see an increased Left influence in the realms of literature, theatre, cinema and culture that endorsed an authentic portrayal of the people and aesthetic landscapes of the region.⁵

Instead of catering to nationalistic or melodramas as seen in the other Indian industries of the time, Malayalam cinema influenced largely by the Left culture focused on the life and struggles proletariats as seen in the past and visualized the hope to realize a class-less, equal and progressive society through dedicated effort. In this period, we also see the growing popularity of music and its various attributes and distinct style.

Since its inception, especially in the early stages, cinema has been a great equalizer as it has brought people of different class, castes, religions, etc to come in unison to experience it in theatres or a big screen in an otherwise highly caste ridden society like Kerala.

1.3 The 1960s to 1970s – Formation of a Firm Regional Cinematic Identity

This period primarily the 1960s to 1970s is characterized by an aesthetic shift and a drastic spike in the number of films produced, that helped Malayalam cinema to come up with its own distinct and independent regional identity.

With *Kandam Bacha Coat* (1961) directed by T.R. Sundaram we see the entry of colour film into Malayalam cinema. The 1960s was particularly characterized by fine literary adaptations of famous works into cinema like that of director K.S. Sethumadhavan’s film *Odayil Ninnu*

⁴ M P Mohammed Shareef, “Language Territory and the Region a Study of Malayalam Cinema,” Shodhganga@INFLIBNET: Language Territory and the Region A study of Malayalam Cinema (Hyderabad), accessed April 20, 2022, <https://shodhganga.inflibnet.ac.in/handle/10603/245107>.

⁵ “Revisiting Neelakkuyil: on the Left’s Cultural Vision, Malayali Nationalism and the Questions of ‘Regional Cinema’ – Essay by Jenson Joseph,” n.d.

(1965) based on a book by Kesadev or *Anubhavgal Paalichakal* (1971) based on a novel by Thakazhi Shivashankara Pillai that were known for being social melodramas of superior aesthetic attributes. Such melodrama films had the capability to unite the audience in a sense of oneness as they were able to relate to various social – political and family circumstances, issues and emotions.⁶

The P. N. Menon’s film *Olavum Theeravum* (1969) was the first Malayalam film revolutionising film making from the studio and stage conventions of Malayalam cinema to outdoor shooting.⁷ This movie is said to have set the stage for the emergence of realist aesthetic cinema to come in 1970s from the likes of directors like Adoor Gopalkrishnan.

The 1970s is said to have brought in the wave of New Cinema Movement or parallel cinema as it was called with works of leading filmmakers like Adoor Gopalakrishnan, G. Aravindan, K.P. Kumaran, John Abraham etc under the helm of the state-controlled Film Finance Corporation (FFC) and other film cooperatives and societies. “In Malayalam film historiography, *Swayamvaram* is read as a film that inaugurated realist cinema by dealing with the ‘real’ problems of the emerging middle class like modernity, urbanization, and poverty” (Radhakrishnan 2012: 93).⁸ (*Swayamvaram* (1972) by Adoor Gopalkrishnan).

“The Kerala State Film Development Corporation (KSFDC) was in 1975 upgraded to a Public Sector Undertaking, with the explicitly nationalist objectives of ‘facilitating the production and promotion of Malayalam cinema’ as against film production that was ‘virtually monopolized by a few studios in and around Madras’ (quoting from its website). By 1978, as many as 86 of the 126 films made in Malayalam were made entirely within the state”. (Rajadhyaksha 2016: 77)⁹

The presence of a vibrant film society movement and the institutionalisation of film festivals have played a major role in facilitating the conditions for the emergence of “art films”. Figures like P A Backer should also be discussed, he was a producer and director who had started his

⁶ M P Mohammed Shareef, “Language Territory and the Region a Study of Malayalam Cinema,” Shodhganga@INFLIBNET: Language Territory and the Region A study of Malayalam Cinema (Hyderabad), accessed April 20, 2022, <https://shodhganga.inflibnet.ac.in/handle/10603/245107>.

⁷ *Ibid.*

⁸ *Ibid.*

⁹ *Ibid.*

career as an assistant of Ramu Kariat. He made films like *Kabane Nadi Chuvannappol* during the emergency.

Some prominent directors and their films during the period include –

K.S. Sethumadhavan's - *Odayil Ninnu* (1965), *Anubhavgal Paalichakal* (1971), *Aranazhika Neram* (1970), etc. Ramu Kariat - *Mudiyana Puthran* (1961) *Puthran*, *Moodupadam* (1963) and the National Award winning *Chemmeen* (1965), *Dweepu* (1976), etc. P. Bhaskaran's films like *Adyakiranangal* (1964), *Iruttinte Athmavu* (1969), and *Thurakkatha Vathil* (1971) went on to win National Film Awards for various categories. A Vincent's films like *Murappennu*, *Nadhi*, *Aswamedham*, *Nakhangal*, etc. P.N. Menon's *Olavum Theeravum* (1970), *Chembarathi* (1972), *Gayathri* (1972), *Malamukalile Daivam* (1973), etc. G. Aravindan – *Uttarayanam* (1974), *Kanchana Sita* (1978), *Oridathu* (1987), etc

1.4 The 1980s to 1990s – A mix of genres

“The 1980s and 1990s marked the emergence of the 'mainstream' Malayalam cinema that bridged the intellectual complexities of 'art' alias 'independent' cinema and the commercial viability of commercial cinema. Naturally, it gained wider acceptance among audiences beyond Kerala”¹⁰.

During this period, we see a wide variety of films come up – films with star value consisting of superstars like Shankar, Mamooty, Mohanlal, etc at its helm. Further comedy films or *chirippadangal* also saw a rise with the rise of directors like - Priyadarshan, Sathyan- Anthikad and Siddique-Lal. Actors like Jagadish, Sreenivasan, Jayaram, Mukesh, etc grew in prominence under this genre.

The Gulf crisis of the 1990s had led to lower remittances into the State thus causing a financial crisis in the state.¹¹ It was also during this period we see the emergence of soft porn or B-Grade films aimed that emerged in the 1980s and gained in prominence by the late 1990s to help the financially strapped audience and came to called *Shakeelapadam* with reference to major star

¹⁰ Deepa Gauri, “Rise of the Pan-Indian Malayalam Cinema,” *Khaleej Times* (Khaleej Times, August 15, 2016), <https://www.khaleejtimes.com/article/rise-of-the-pan-indian-malayalam-cinema>.

¹¹ M P Mohammed Shareef, “Language Territory and the Region a Study of Malayalam Cinema,” *Shodhganga@INFLIBNET: Language Territory and the Region A study of Malayalam Cinema* (Hyderabad), accessed April 20, 2022, <https://shodhganga.inflibnet.ac.in/handle/10603/245107>.

Shakeela. *Avalude Ravukal* (Her Nights) was the primary Malayalam movie to get an “A” certification.¹²

“KG George, Padmarajan, Bharathan and IV Sasi are thought-about among the many champions of latest college of filmmaking in Malayalam cinema. “Those days the visibility of Malayalam movies was very less. And the films they produced or made couldn’t reach the pan Indian audience. It was limited to Kerala. Films like *Rajavinte Makan* (1986), *Panchavadi Palam* (1984), *Peruvazhiyambalam* (1979), *Arappatta Kettiya Gramathil* (1986) are very much relevant even today,” mentioned filmmaker Mahesh Narayanan”.¹³ “At the time, a lot of slapstick films were coming out and then there was the soft-porn era. The advent of television changed a lot of things. Entertainment was defined by television as something that makes one laugh. That was wrong. So every filmmaker was trying to do comedy,” recalled Mahesh.¹⁴

It was also in this era, in 1994, The Association of Malayalam Movie Artists (A.M.M.A) an organisation of film actors and actresses working in Malayalam cinema was established. Further, in 1996 Kerala International Film Festival was also inaugurated which has since been conducted annually in Trivandrum.

Some prominent directors and their films during the period include –

1980s Masterpieces like *Oridathoru Phayalvaan* (1981), *Koodevide* (1983), *Thinkalaazhcha Nalla Divasam*(1985), *Arappatta Kettiya Gramathil* (1986), *Namukku Parkkan Munthirithoppukal* (1986), *Thoovanathumbikal* (1987) by Padmarajan, and 1990s cinema like *Mathilukal* (1990) by Adoor Gopalakrishnan, *Kattukuthira* (1990) by P. G. Viswambharan, *Amaram* (1991) by Bharathan, *Ulladakkam* (1992) directed by Kamal, *Kilukkam* (1991) directed by Priyadarshan, *Kamaladalam* (1992) by Sibi Malayil, *Devaasuram* (1993) by I. V. Sasi, *Manichitrathazhu* (1993) by Fazil, *Ponthan Mada* (1993) by T. V. Chandran, *Spadikam* (1995) by Bhadrans, *Commissioner*(1994) and *The King* (1995) by Shaji Kailas, *Hitler* (1996) by Siddique and *Desadanam* (1997) by Jayaraj to name a few.

¹² Manoj Kumar R, “A New Wave Revives Golden Age of Malayalam Cinema,” The Indian Express, February 17, 2022, <https://indianexpress.com/article/entertainment/malayalam/the-revival-of-the-golden-age-in-malayalam-cinema-7470969/>.

¹³ *Ibid.*

¹⁴ *Ibid.*

1.5 2000s to 2010 – The Trial-and-error phase

From the late 1990s and early 2000s onwards we see the advent and the rise of a new genre of low-budget films with guaranteed returns. Actors like Jayaram, Dileep etc who were set in plots primarily around a protagonist who engages in selfless acts and emerges as the neighbourhood hero. The success of these films lay in the familiar settings and the relatable characters of ordinary life.

Also as mentioned in Indian Express, the era of the late 1990s and early 2000s was characterised as – “It was a period of trial and error for the Malayalam filmmakers and actors as they were trying to adapt to the fast-changing face of entertainment. Actors like Mohanlal and Mammooty, who made successful careers playing relatable characters, gravitated towards making more and more over-the-top, deeply formulaic, commercial potboilers. It was the time when one couldn’t tell Malayalam cinema apart from, say, Tamil or Telugu”¹⁵.

“Malayalam cinema was never into the whole superstar thing—like Hindi, Tamil or Telugu,” said filmmaker Bejoy Nambiar. “I used to take pride in the fact that we loved our actors, but never idolized them like in other states. But the late 1990s and early 2000s were a confused and complex phase of trial-and-error in Malayalam cinema, where nobody knew what was working and a lot of people were aping what was happening in the Tamil, Telugu and Hindi industries,” he added.¹⁶

The film scholar, G. P. Ramachandran, in his book *Malayalam Cinema: Desam Bhasha Samskaram* noted that the conversational language, plot, narratives styles, songs, costumes, moral codes, family orders, etc. used in cinema have often been influenced by the idea of nation or region, its citizenship and the cultural priorities of the region.

Some prominent directors and their films during the period include

Narasimham (2001) by Thirupathisamy starring Mohanlal, *The Guard* (2001) by Hakim Rawther, *C.I.D. Moosa* (2003) by Johny Antony, *Meesa Madhavan* (2002) by Lal Jose and *Kunjikoonan* (2002) directed by Sasi Shanker are examples. Sequels to a number of

¹⁵ *Ibid.*,10.

¹⁶ Lata Jha, “Substance over Style: Malayalam Cinema's New Mojo,” mint, January 4, 2019, <https://www.livemint.com/Consumer/p8oTGEh7Qz7wMvf583gFoL/Substance-over-style-Malayalam-cinemas-new-mojo.html>.

successful films were made. Some movies like *Madhuranombarakattu*(2000), *Meghamalhar*(2001) and *Perumazhakallam*(2004) by Kamal Nandanam (2002) by Ranjith, and *Kaazhcha* (2004) and *Bhramaram* (2009) by Blessy; *Twenty:20*(2008) a multistarrer movie was produced to raise funds for the AMMA.

According to an article in the Indian Express, “The self-reliant nature of the industry emboldened the filmmakers, freed them from pressure to follow the narrow definition of mainstream entertainment. While their counterparts in other states were making films that pandered to the masses, the Malayalam filmmakers picked the subjects that piqued their fancy”¹⁷. Thus, Malayalam cinema has always been known for its close link to realistic portrayal of the society in and around oneself which resonates with the audience – their emotions and psyche. It has become a defining factor that has become a trademark for what Malayalam cinema stands for.

¹⁷ Manoj Kumar R, “A New Wave Revives Golden Age of Malayalam Cinema,” The Indian Express, February 17, 2022, <https://indianexpress.com/article/entertainment/malayalam/the-revival-of-the-golden-age-in-malayalam-cinema-7470969/>.

CHAPTER II

THE RENAISSANCE OF THE ‘NEW WAVE’ MALAYALAM CINEMA

(from 2011 onwards)

2.1 What is the “New Wave” Cinema?

The term “New Wave” or “nouvelle vague” (in French) was popularly used to define French cinema in the late 1950s and 1960s. Different scholars have attached varied different meanings to this term. In the history of world cinema, this movement was considered to be a significant game-changer. It was deemed to have broken the pre-existing norms of film-making, making risk-taking and experimentation the ‘new’ norm. The cinemas produced under this wave were generally put against the otherwise commercial or mainstream cinema. This term “new wave” was not only limited to cinema but also art, literature, etc. It can thus be seen a concept related to the theory of “post-structuralism” or even “post-modernism”.

As per the Dictionary of Film Studies by Annette Kuhn and Guy Westwell some main characteristics of the new wave that have been pointed out are -

- “(a) Deliberately challenged pre – existing traditions of both art and commercial cinema
- (b) Out of studio production
- (c) Small-scale budget
- (d) Realistic location
- (e) Political and aesthetic radicalism
- (f) Degrees of self-reflexivity (cause – effect relationship)
- (g) Degrees of interrelationship between texts (intertextuality)
- (h) Move storytelling from linear narration and high levels of narration
- (i) The position of viewer as an element of film narration. This means that ordinary people are portrayed in these films in native setting. This attracted people towards the realistic attempt of new waves.”¹⁸

Thus, in short the ‘new wave’ in cinema is used to represent the social realistic nature of cinema set in real settings, which emphasises on aesthetic film-making representing a cause-effect

¹⁸ “What Is ‘New’ in New Wave Cinema,” Times of India Blog, April 27, 2020, <https://timesofindia.indiatimes.com/blogs/depth-of-field/what-is-new-in-new-wave-cinema/>.

relationship of everyday life of ordinary people, generally within a small budget in contrast to the traditions of art and commercial films.

2.2 The New Wave in Malayalam Cinema

Although, the ‘new wave’ is said to have emerged first in the world through the French cinema in the late 1950s and 1960s, it first emerged in the Indian soil through the likes of filmmakers like Satyajit Ray, Mrinal Sen, Shyam Benegal, Girish Karnad etc. In Bollywood, this took the form of ‘Parallel Cinema’ or ‘New Indian Cinema’ in the 1950s spanning upto the early 1990s.

Similarly, Malayalam Cinema had its own phase of the ‘new wave’ cinema in the period spanning from the 1970s to the early 1990s, which was pioneered by the film-makers like Adoor Gopalkrishnan, M.T Vasudevan Nair, G Aravindan, Bharathan, John Abraham, Padmarajan, K.G. George, K.R. Mohanan, IV Sasi, etc. The pioneering movies like *Swayamvaram* (1972) by Adoor Gopalkrishnan, *Nirmalayam* (1973) by M.T. Vasudevan Nair, *Uttayarayanam*(1975) by G.Aravindan, etc set the stage for the rise of the new wave cinema in Malayalam. Some other prominent movies by these directors that defined this era and kept the ‘new wave’ movement intact were – *Thampu* (1978), *Chamaram*(1980), *Elipathayam*(1981), *Yavanika* (1982), *Thinkalazhcha Nalla Divasam* (1986), *Amma Ariyan* (1987), *Aparan* (1988), *Swaroopam*(1992), etc. These movies were characterised as artistic cinema that ditched traditional melodramatic clichés with dance numbers for strong screenplays representing social realistic scenarios from the life of an ordinary malayali. This new form of exemplary film-making found resonance not only among the masses but also among the film critics.

This ‘new wave’ period has been popularly deemed as the ‘golden age’ of Malayalam cinema.¹⁹What characterised this golden age, is the social realism of the narratives told with native people set in familiar settings, experiencing the everyday joys, trials and sorrows; to which everyone could connect to. This nature of cinema is also said to have taken semblance from the concept of ‘Italian neo-realism’ in film theory, which caters to the native psyche of the audience portraying – everyday life, poverty, oppression, desperation and injustice. Actors like Sukumaran, M.G. Soman, Jayan, Shankar, Sheela, Seema, Sreevidya, Jalaja, etc were the

¹⁹ Manoj Kumar R, “A New Wave Revives Golden Age of Malayalam Cinema,” The Indian Express, February 17, 2022, <https://indianexpress.com/article/entertainment/malayalam/the-revival-of-the-golden-age-in-malayalam-cinema-7470969/>.

popular faces in the Malayalam movies of this period. It was during this period that superstars like Mohanlal and Mammootty found their roots in Malayalam cinema.

However, overtime as mentioned in the previous chapter, with the late 1990s to the early 2000s (upto 2010) Malayalam cinema saw a downfall in its aesthetic story-telling and powerful narratives. It is also during this time that we see a surge in Television as a competitor to cinema. It was more like a ‘trial-and-error’ period when commercial blockbusters, comedy movies, A-grade movies and ‘super-star’ movies came to the forefront. These movies were characterized by formulaic story-telling, ordinary familiar stories with a neighbourhood hero and were generally popular commercial flicks focusing on the entertainment of the masses rather than catering to their aesthetic cinematic sensibilities.

2.3 THE TURNING POINT (2011-2020)

As mentioned in an article in the Indian Express “...the New Wave was far from a certainty even a decade ago. While even its oldest surviving superstars, Mohanlal and Mammooty, were known for rooted and realistic cinema at the beginning of their careers—with films like Bharatham (1991), Devaasuram (1991) and Amaram (1991) standing out as examples—the period from the late 1990s to the early years of the 2000s was different for the Malayalam movie industry, and not pleasantly so.”²⁰

However, since 2011 a significant transition has been taking root in the history of Malayalam Cinema. It is said by critics that the traces of the much-needed resurgence of the ‘new wave’ in malayalam cinema can be seen. With a new band of young and talented directors emerging in the period we can see Malayalam cinema gradually peaking towards the glory of the previously so-called ‘golden age’. Thus, goes the title of my second chapter – ‘Renaissance of the ‘New Wave’ in Malayalam Cinema.

Here, below I have analyzed the most significant movies during this period that stood out to

²⁰ Lata Jha, “Substance over Style: Malayalam Cinema's New Mojo,” mint, January 4, 2019, <https://www.livemint.com/Consumer/p8oTGEh7Qz7wMvf583gFoL/Substance-over-style-Malayalam-cinemas-new-mojo.html>.

have some resemblance to the features of the ‘new wave’ cinema of the golden age. These movies have may not completely have all the features, but are a proof that Malayalam cinema is moving in that direction.

i. TRAFFIC (2011)

Director *Rajesh Pillai*'s seminal hyperlink (multi-narrative) movie was a multi-starrer thriller movie that broke the star system in Malayalam cinema. Set in an urban setting, it takes us through the glimpses of the lives and flashbacks of various characters like – a newbie journalist, a superstar and his ailing daughter, a young divorced woman, a doctor who hit his wife on finding out she was cheating on him, a police constable who was tainted due to some bribery charges, etc. The movie starts with the accident of the journalist (Vineeth Sreenivasan) who as a repercussion goes into coma (in Kochi) and at the same time the superstar's (Rahman) ailing daughter needs an immediate heart transplant (in Palakkad). The main hook of the movie is to get the journalist's heart to the superstar's daughter via road (as bad weather prevented air-lifting) through a distance of 150kms in a time of 2 hours crossing various busy roads, populated areas, etc. This task is taken up by the constable (Sreenivasan) who drives the car and who hopes to do something significant to clear his name who is also accompanied with the journalist's grieving friend Rajeev (Asif Ali) and the doctor Abel (Kunchako Boban) who had hit his wife eventually forgo many physical hurdles on the road and personal dilemmas to eventually reach the hospital before time, saving the girl and in a way saving themselves from their own personal tribulations.

The riveting plot based on the actual incident that happened in Chennai and unconventional style of movie-making was a completely new experiment at the time and stood out for it, which eventually sealed it as the defining cinema that gave re-birth to the ‘new wave’ movement in Malayalam cinema.

ii. CHAPPA KURISHU (2011)

A gripping thriller movie directed by *Sameer Thahir*, has a non-linear narration that revolves around 2 main characters Arjun (Fahadh Faasil) who is an arrogant hot-headed businessman who is engaged to marry a family friend's daughter but happens to have an affair with his personal assistant; and Ansari (Vineeth Sreenivasan) who is lived a life of poverty and abuse.

The story begins when Arjun loses his mobile that has intimate videos with his assistant²¹ and this somehow lands in Ansari's hand, who uses it a tool to exert his influence on Arjun. Eventually, the video gets leaked when Ansari gives the mobile to a repair shop at towards the end we see Arjun chasing Ansari and beating him up.

This movie has laid immense ground work on characterization even though plot may loose its strength, the characters of the movie keep it together played by exemplary actors. This movie portrays the travails of poverty, desperation and human vices thus making it a significant movie in the new wave movement of Malayalam cinema.

iii. **22 FEMALE KOTTAYAM (2012)**

Aashiq Abu's revenge thriller is a critically acclaimed screenplay which tells the story of a nurse named Tessa (Rima Kallingal) who is waiting to shift to Canada and in the meanwhile falls in love with a guy named Cyril (Fahadh Faasil). It is later revealed in the movie that Cyril was a pimp who had tricked her so that his Boss could have her. This Boss happens to rape her twice and then she is sent to prison on charges of drugs. Inside, the jail she develops a revenge plan and once she is set free, she kills the Boss by poisoning him with cobra and goes after Cyril who is now in Kochi. Here, she seduces Cyril and sedates him and sadistically penectomises him as part of her revenge plan.

She reminds him that she stands for all the woman he destroyed and leaves for Canada asking him to settle the score if any remains. Cyril by no means remorseful and challenges her that he would confront her in the future. Thus, highlighting the vicious cycle that violence begets violence. The movie is an example of one of the best-crafted dialogues and brilliant performances. It stands against social reality of a hypocritical and deeply entrenched patriarchal society in a never-before seen screenplay in Malayalam cinema by the debutant director.

iv. **TRIVANDRUM LODGE (2012)**

Director *V.K. Prakash's* unconventional movie written by Anoop Menon, which made a frank and bold artistic move in normalizing the portrayal of human emotions and desires regarding sexuality, in Malayalam cinema. The movie is a black comedy, which happens to be located in Kochi. In this lodge, there is a broad spectrum of characters who each have their own stories

²¹ Tnn, "'Chaappa Kurishu' - Fahadh Faasil- Most Passionate Lover on Screen in M- Town," The Times of India (Times of India, May 4, 2018), <https://timesofindia.indiatimes.com/entertainment/malayalam/movies/photo-features/fahadh-faasil-most-passionate-lover-on-screen-in-m-town/chaappa-kurishu/photostory/64025658.cms>.

of love, lust and longing. Abdu (Jayasurya), Shibu Vellayani (Saiju Kurup), Kora (P.Balachandran), Satheeshan(Arun), Arthur Relton(Janardhanan) and Peggy Aunty (Sukumari) are the various inmates of the lodge owned by Ravishankar(Anoop Menon). Ravishankar is the son of rich concubine, who is now a widower and has a son named Arjun. The story takes a turn when Dhvani (Honey Rose), a divorcee who comes to stay at the lodge to write a novel about the Kochi and its bustling life. She turns the atmosphere at the sexually repressed lodge. She inturn is intrigued by the love stories of Peggy Aunty and Relton and Ravishankarand his dead wife.

It is an honest and earnest story about the most hidden desires of the human psyche portrayed through natural performances. ‘Anoop Menon also pays tribute to P Padmarajan and his fascination for streetwalkers (here it is Thesni Khan repeating her beautiful act).’²²

v. ANAAYUM RASOOLUM (2013)

Director *Rajeev Ravi's* movie won several National and State Awards for its making, is a classical love story. It is set in the backdrop of Kochi around working-class people who are struggling to make a better living with the lack of jobs and opportunities. The youth are caught in this frustration and anger and resort to violence and petty crimes as result. In contrast to this hussle, there lies the love story of a nurse Anna (Andrea Jeremiah) who is a Latin Christian and a taxi driver Rasool (Fahadh Faasil) a Muslim.²³ Their love blooms through the many glances they share as he follows her wherever she goes. Rasool doesn't believe that religion could be a barrier as long as they love each other, whereas Anna being the realist feels skeptical about this. But later both agree to go ahead with it knowing well the consequences. Most of the emotions between the two characters are expressed through silence. Eventually, however the movie ends on a tragic note with Anna suiciding for being forced by her family to stay away from Rasool and marry another suitable Christian groom. The direction, sound, colour grading and editing of the movie has received many accolades. It set its mark in the standard of filmmaking and stands proof of how a usual love story could be portrayed with an aesthetic appeal.

²² Paresh C Palicha, "Review: Trivandrum Lodge Is Shamelessly Frank," Rediff (Rediff.com, September 24, 2012), <https://www.rediff.com/movies/review/south-review-trivandrum-lodge-is-shamelessly-frank/20120924.htm>.

²³ Tnn, "'Chaappa Kurishu' - Fahadh Faasil- Most Passionate Lover on Screen in M- Town," The Times of India (Times of India, May 4, 2018), <https://timesofindia.indiatimes.com/entertainment/malayalam/movies/photo-features/fahadh-faasil-most-passionate-lover-on-screen-in-m-town/chaappa-kurishu/photostory/64025658.cms>.

vi. AMEN (2013)

Lijo Jose Pellissery's comical satire is a unique love story set in Kuttanad. It is a refreshing take on the concept of magical realism in Malayalam cinema. Set in Kuttanad around the life of the people belonging to a Syrian church, with its protagonists being Solomon (Fahadh Faasil) a saxophonist in a local band and Shoshanna (Swathi Reddy) a rich girl. Fr. Vincent Vattoli (Indrajith Sukumaran) is the newly appointed parish priest at the Church. It yet again highlights to show how two characters who fall in love although coming from the same religion find it difficult to marry owing to class divide depicting the social reality. Solomon being the son of a famous deceased clarinet player of the village, the villagers hold him with a lot of affection. Even when they try to elope, the attempt fails and Shoshanna's family decides to marry her off. The villagers bet to that they would help them get married if their otherwise failed band would win in the upcoming band competition. After rigorous practice, their band win the competition. However, her father steps back from keeping the bet who then later is haunted by the spirit of St. George. Eventually, they are both married off. Then, out of the blue a phone rings at the church and the person at the other end says that Fr. Vincent Vattoli was coming to take charge. Thus, suggesting the priest that actually came in first was the saint himself. The movie was given rave reviews for its brilliant cinematography for the portrayal of the picturesque landscapes of Kuttanad and the mesmerizing performances by the actors. It's simple and comic smooth-paced storytelling with a few scenes inspired from Romeo and Juliet captures the attention of the audience. The creative style of filmmaking adopted in the movie has been lauded to be unconventional in the history of Malayalam cinema.

vii. MUMBAI POLICE (2013)

This psychological thriller movie is *Rosshan Andrews* masterpiece in every sense. The intriguing non-linear plot tells the story of the friendship of 3 police officers. Of which, ACP Antony Moses (Prithviraj Sukumaran) who owing to an accident is suffering from partial memory loss while investigating the murder of his best friend ACP Aryan John Jacob who was killed during a gallantry awards ceremony and Antony's brother-in-law Commissioner of police Farhan Aman²⁴. We see Farhan re-appoint the memory lost ACP Antony to continue the investigation. Antony on retracing the killer realizes that he himself is the culprit. He figures that he had apparently killed Aryan, when Aryan discovers unintentionally that Anthony was

²⁴ "Mumbai Police Movie Review {3/5}: Critic Review of Mumbai Police by Times of India," The Times of India (The Times of India, May 4, 2013), <https://timesofindia.indiatimes.com/entertainment/malayalam/movie-reviews/mumbai-police/movie-review/19893068.cms>.

a homosexual fearing he would let it out to others.

The story is a complete surprise package that leaves the audience in utter awe. The unorthodox method of storytelling, subtly brought in the otherwise unpopular concept of 'homosexuality' into the annals of Malayalam cinema.

viii. DRISHYAM (2013)

The mastermind of this popular crime thriller *Jeethu Joseph* has efficiently used cinema as the tool for his character to escape a crime. The story revolves around Georgekutty (Mohanlal) – a cable operator and massive cinephile and his family consisting of his wife, Rani (Meena) and two daughters. While their elder daughter goes on an excursion, a boy Varun son of the IG of Police discreetly takes a perverted video and uses it to blackmail her. Later, one night he even visits her house and this ensues in a discourse between her mother, herself and Varun who eventually dies in a fit of self-defense. Later, when Georgekutty arrives he plans to save his family based on different facts that he has learnt from the movies he has seen. Like, he shifts the location of the dead body and buries it in an underconstruction police station and destroys all other evidence very discreetly making it impossible for the investigating officers.

This is one of the most gripping and brilliantly crafted crime-thrillers that placed Malayalam cinema in a pedestal not only in the national level but worldwide.²⁵The movie even got a Chinese remake for its brilliant narrative.

ix. PREMAM (2015)

Alphonse Puthren's romantic comedy has been inscribed as a cult classic in the annals of Malayalam cinema's history. The plot is based on the protagonist George (Nivin Pauly) and his various love interests through three different phases of his life – his teens (Year 2000), twenties (Year 2005) and eventually his thirties (Year 2014) with his marriage. It has been deemed to a ground-breaking blockbuster and has been immensely appreciated for its cinematography, lead performances, music, editing and humour. Its breathtaking visuals depict a simple story in an enrapturing way. Although, this movie might not exactly fit into the definition of 'new wave' cinema we can't ignore its contribution to the history of Malayalam cinema.

²⁵ Dalton L, "Malayalam Movie Review: 'Drishyam'," Deccan Chronicle (Deccan Chronicle, March 18, 2019), <https://www.deccanchronicle.com/131222/entertainment-movie-reviews/article/malayalam-movie-review-drishyam>.

x. MAHESHINTE PRATHIKARAM (2016)

This comedy drama written by Syam Pushakran and directed by *Dileesh Pothan* has been crowned as a defining movie in the Malayalam New Wave. This simple and realistic drama narrates the story of Mahesh (Fahadh Faasil) who is a local photographer in a small town of Idukki. His good friend Baby (Alencier Lopez) and his assistant Crispin (Soubin Shahir) indulge in a fight over a trivial argument with Jimson (Sujith Shankar) in which Mahesh intervenes. Mahesh embarrassed by his loss pledges to defeat Jimson and decides not to wear slippers until then. Meanwhile, his high-school sweetheart Soumya (Soumya) ditches him for a Canadian nurse. Although, initially heartbroken, he eventually falls for Jimsy (Aparna Balamurali) who is later revealed to be Jimson's sister. Several weeks back when Jimson comes back in town, Mahesh challenges him to duel in which he emerges victorious. After which, he marries Jimsy with both her brother and mother's consent. According to the director, he was inspired by the 1982 K.G. George's film 'Yavanika' to use rain as part of his narrative. It is a humble story of love and revenge told with the perfect mix of comedy making it one of the most convincing masterpieces of this period.

xi. ANGAMALY DIARIES (2017)

Lijo Jose Pellissery's this black-comedy and action coming-of-age entertainer is set in the underbelly of the small town of Angamaly in Kerala. The story revolves around the protagonist Vincent Pepe (Anthony Varghese) who idolizes local goons growing up and eventually forms his own gang. "The local atmosphere makes it engaging and immediate²⁶." He then enters into pork business in which they face many challenges. The role of the antagonist is well played by Appani Ravi (Sarath Kumar). The aggression of the youth leads to many violent encounters between the characters which is shown as a casual phenomenon in a comedic undertone. Apart from this, food is an important element of the movie. The local dialects and settings add to the authenticity making it realistic. The thumping music, brilliant cinematography and natural performances by the debutant cast is a fresh, unconventional and delightful attempt at filmmaking.

xii. THONDIMOTHAL DRIKSAKSHIYUM (2017)

This second venture by director *Dileesh Pothan* is an impressively shot subtle narration of a

²⁶ Deborah Young, "Angamaly Diaries': Film Review," *The Hollywood Reporter* (The Hollywood Reporter, May 24, 2017), <https://www.hollywoodreporter.com/movies/movie-reviews/angamali-diaries-review-1007106/>.

newly married couple – Prasad (Suraj Venjarumoodu) and Sreeja (Nimisha Sajayan) who are struggling to make their ends meet. They decide to sell off her gold chain to live off it. While the couple are traveling by bus, a chain snatcher Prasad (Fahadh Faasil) steals her chain and swallows it, causing a hullabaloo. He is then caught by the police and then his body is scanned only to find the chain in his stomach. He makes attempts to run off from the police however is caught. He is scanned again and the chain is not to be found in his stomach. He blames the Assistant Commissioner to have taken the chain. The ACP to clear his name gives Sreeja a new chain and asks her to falsely accuse Prasad (Fahadh Faasil). However, Prasad (Fahadh Faasil) convinces Sreeja (Nimisha Sajayan) by narrating his story of hardship and telling her where he actually hid the chain. Convinced Sreeja saves him from being the accused. This story is a well-crafted character study which experiments with the various emotions and vices of humans. It's earthy characters and relatable instances make it a perfect treat for the cinema lovers.

xiii. TAKE OFF (2017)

Mahesh Narayanan's directorial debut is a survival thriller based on a true story of how 19 nurses who were taken hostage by the ISIS were rescued by the Indian government from Tikrit, Iraq in 2014. Instead of focusing on the rescue, the duo spends the lion's share of the first half fleshing out its protagonist Sameera (Parvathy), a 31-year-old divorcee and a strong-willed nurse, who works to pay her loans and put food on the table for her family. She soon lets her colleague Shahid into her life and the duo travel to Iraq in search of greener pastures. What awaits them in the strife-torn country is a life in peril. Soon, IS militants take over the city and duo have to fight for their lives to make it out alive from the warzone.²⁷ Aiding them from the sideline is the shrewd Indian ambassador Manoj (Fahadh Faasil) as the Indian and Iraqi government seem helpless in the dire situation. The adversities Parvathy and the group of nurses face under IS captivity and how they endure them form the rest of the plot. And for a Malayalam film, that's an achievement that everyone in the crew could be proud of. Parvathy as Sameera is exceptional conveying the character's mindset as challenges keep surmounting – while balancing her family life along with work or trying to keep calm

²⁷ "Take off Movie Review: Parvathy's Brilliance Headlines a Riveting Survival Saga Set in Iraq-Entertainment News , Firstpost," Firstpost (Firstpost, September 27, 2017), <https://www.firstpost.com/entertainment/take-off-movie-review-parvathys-brilliance-headlines-a-riveting-survival-saga-set-in-iraq-3352984.html>.

when she is on pins and needles about what would happen next as the group is held captive by the militants Kunchacko pulls a restrained and subtle performance as Shahid, who also serves as the undying ray of hope in Sameera's life. Fahadh as the Indian ambassador is suave and brings a sense of urgency to the proceedings; his expressions of contempt and impudence at his senior officials add a few doses of heroism in the film. Asif Ali, Prem Prakash and Prakash Belawadi excel in their cameos.

The film's strength apart from Parvathy's stellar performance though is the script. Never once does it slack – despite the first half being a drama. The director also ensures that in between the taut screenplay, the movie addresses the plight of nurses who travel abroad seeking employment to pay off loans, to take care of their family and for better prospects even if it means putting their lives on the line. The last few scenes of the movie though falls short of being edge-of-the-seat moments. Sanu Varghese's shots keep the audience engaged and thrust them into the warzone in the second half.

Take Off is a brilliant take on a real-life tale and with the director's own spin on the incidents, it makes an engaging cinematic experience that could give even Bollywood movies of similar genre, made at much-bigger budgets, a run for their money.

xiv. SUDANI FROM NIGERIA (2018)

Zakariya Mohammed's sports drama narrates the story of a Nigerian football player who joins a club in Malappuram, North Kerala as part of the local football tournament. He joins Maheed's (Shoubin Shabeer) team and lifts the position of the team to the top ranks in the local football circle. Halfway through the tournament, Samuel aka Sudu has an accident and is forced to rest, and Majeed takes him home to recover.²⁸ However, one after the other a series of troubles crop up, putting both Majeed and Sudu in a soup. Sudu's passport turns out to be a fake one and Maheed arranges a way out to get him back to Nigeria when news arrives that his grandmother has passed away. When the movie traverses beyond the football zone to the war-torn world of Sudu's family and turns its attention to the

²⁸ "Sudani from Nigeria Review {3.5/5}: An Amazingly Refreshing Tale, Set in the Electric Environment of Football Frenzy in Malappuram," *The Times of India* (*The Times of India*, March 23, 2018), <https://timesofindia.indiatimes.com/entertainment/malayalam/movie-reviews/sudani-from-nigeria/movie-review/63430370.cms>.

lovelorn character of Majeed's mom, the film ends up effortlessly exploring many bigger issues too. On the whole, it is a refreshing neighbourhood tale with heartwarming characters who light up the screen. The non-formuliac form of story telling and natural performances make it an important cinema in the renaissance of the new wave of cinema.

xv. S. DURGA (2018)

Sanal Kumar Sasidharan's S.Durga is a north Indian Hindu migrant and a Muslim Keralite youth named Kabeer are eloping in the midnight. They are waiting for a transport to the nearest railway station to catch a train to Chennai. In this journey, two small time gangsters, transporting arms, offer assistance to the couple. The hapless "Durga" encounters a cross section of the society through the rest of the night. Parallel to the journey of Durga, another mysterious event intercuts in the film. In a Kerala village, devotees perform 'Garudan Thookkam, a ritual art form submitted as a reward for the problems solved in the abode of Goddess Kali, which personifies Goddess Durga's wrath & fury. "The sharp commentary with subtle symbolism touches upon how we as individuals are forced to make choices that go against our beliefs to satisfy the society." ²⁹

xvi. EE MAU YAU (2018)

Lijo Jose Pellissery's dark comedy narrates a seaside story about a son Eeshi (Chemban Vinod) who wants to give his vagabond father Vavachan Mesthiri (Kainakary Thankaraj) who had just returned; a proper burial of his dreams. Although, his father was considered to be irresponsible, every member of the family had a special bond with him. Eeshi amid his financial struggles manages to conduct the wedding. There is lot of chaos with the rain, the coming of the second wife and the rumours of Vavachan's unnatural death. The movie is a humorous portrayal of the inevitability of death and how different people internalize it. Some mourn it, some take advantage of the situation while some others remain clueless about their emotions. According to Bharadwaj Ranjan from Film Companion South – "The film, directed by Lijo Jose Pellissery, is a laugh-out-loud, yet deep, meditation on death and faith that's a masterclass in writing." ³⁰

²⁹ "S Durga Movie Review: This Is Not a Film, but a Stunning Abstract Piece of Art," Hindustan Times, August 6, 2019, <https://www.hindustantimes.com/movie-reviews/s-durga-movie-review-this-is-not-a-film-but-a-stunning-abstract-piece-of-art/story-YHerShD6QH7GDur7GZCCwJ.html>.

³⁰ "Ee.ma.Yau Movie Review {2.5/5}: Everything Is Intense but Ultimately Fails to Achieve Its Purpose.," The Times of India (The Times of India, December 1, 2017),

xvii. KUMBALANGI NIGHTS (2019)

Madhu C Narayanan's debut movie has received rave reviews for its beautifully woven story of no single hero but many common people with broken and flawed characters. It tells the story of four brothers- Saji (SoubinShahir), Bonny(Sreenath Bhasi), Bonny(Sreenath Bhasi) and Franky (Mathew Thomas). After their father died, their mother leaves them for a religious cult. These brothers are constantly fighting with each other through the movie. But eventually the dysfunctional family come together to support Bobby to convince Bobby's girlfriend - Baby's (Anna Ben) family to marry him. On Baby's side of the family, we see her newly wedded sister's husband- Shammi (Fahadh Faasil) assume power over the family matters. Thus, he prohibits Baby from marrying Bobby. Baby makes plans to elope with Bobby which Shammi discovers. He holds them captive. Bobby after sensing something off goes to Baby's house with his brothers and then ensues a struggle to save Baby, her sister and mother.

It is an essay on the subaltern life and the different socio-economic scenarios and the human relationships. The breathtaking cinematography and the surreal background score make it a treat for the eyes. The memorable characters leave a mark on us and their dilapidated house always seems to have room new people. The Indian Express reviews it as "... is a brilliant example of this new genre and how it's maturing. It has no formulaic pretensions of arthouse movies that brought laurels to the state for a long time, or doesn't overtly try to be mainstream to attract viewers, but ends up being highly successful, both in terms of art and commerce."³¹

xviii. VIRUS (2019)

Aashiq Abu's multi-starrer medical-thriller is set in the backdrop of the 2018 Nipah Virus outbreak in Kerala. The narrative is a reflection of the clinical efficiency and the methodological processes followed during the days of the Nipah struggle in Kerala. It is a testament of the all the work and effort that went behind the scene, multi-narrating the many individual stories coming together to make a wholesome watch. It is a the most fitting tribute to the real-life heroes who played significant roles in the preventing this from becoming an otherwise national disaster. The film is determined not to villainise scared citizens, but it does

<https://timesofindia.indiatimes.com/entertainment/malayalam/movie-reviews/ee-ma-yau/movie-review/61879818.cms>.

³¹ G Pramod Kumar, "Kumbalangi Nights Movie Review: A New Breakthrough in Malayalam Cinema," The Indian Express, February 9, 2019, <https://indianexpress.com/article/entertainment/movie-review/kumbalangi-nights-movie-review-rating-5576176/>.

not pedestalise anyone either.³²

It is an emotional ode to the successful containment of the virus with the meticulous collaboration of the medical professionals, bureaucrats and even the ordinary citizens. It generates a sense of awe at how from the detection of the first case the authorities start taking the necessary steps to fight it and it depicts the real-life experiences.

In an India of thin skins and combustible sensitivities, it is also courageous in the way it risks something that most of this country's quality filmmakers avoid: it recounts recent history. This is a minutely observant, unobtrusively educative and moving ode to unsung stars, the triumph of the team and the strength of the human spirit.³³ This movie can be considered as a significant in the new wave movement and was even included in The Hindu's top 25 Malayalam films of the decade.³⁴

xix. JALLIKETTU (2019)

Lijo Jose Pellissery's visual spectacle proves yet again this filmmaker's prowess in shooting frenzied violence and large crowds. 'It is based on a short story, titled Maoist, written by Hareesh S. And he himself adapts it for screen along with Jayakumar. However, Jallikettu is less of a story and more of a situation. And having few dialogues throughout works in some places, but also leaves a lot unsaid.'³⁵

The story revolves around Varkey (Anthony Varghese), who slaughters buffaloes every morning for meat for sale. One such morning one buffalo runs astray from his control and causes havoc in and around the region. The story then goes on to narrate how they finally get hold of this buffalo with many other skirmishes in between.

The name of the movie has been drawn from the controversial bull-fighting game played in Tamil Nadu, although it doesn't really show it. It's more of a tale of the man vs wild conflict and depicts how humans try to exert their control over nature. The rustic performances and

³² "Virus Movie Review: Aashiq Abu's Ingeniously Clinical-Yet-Emotional Ode to Kerala's Successful Nipah Battle-Entertainment News , Firstpost," Firstpost (Firstpost, June 12, 2019), <https://www.firstpost.com/entertainment/virus-movie-review-aashiq-abus-ingeniously-clinical-yet-emotional-ode-to-keralas-successful-nipah-battle-6778161.html>.

³³ Ibid.

³⁴ Saraswathy Nagarajan, "The 25 Best Malayalam Films of the Decade: 'Premam', 'Maheshinte Prathikaram', 'Kumbalangi Nights' and More," Return to frontpage (The Hindu, December 19, 2019), <https://www.thehindu.com/entertainment/movies/the-25-best-malayalam-films-of-the-decade-premam-maheshinte-prathikaram-kumbalangi-nights-and-more/article30349548.ece>.

³⁵ "Jallikattu Movie Review: A Spectacularly Frenzied Tale of Machismo versus Wild," The Times of India (The Times of India, October 4, 2019), <https://timesofindia.indiatimes.com/entertainment/malayalam/movie-reviews/jallikattu/movie-review/71438880.cms>.

the brilliance of the screenplay and the cinematography made it one of India's nominations to the Oscars.

xx. ANDROID KUNJAPPAN VERSION 5.25(2019)

Ratheesh Balakrishnan Poduval's this sci-fi social drama is a subtle representation of how much technology is too much. It narrates the story of a stubborn and ailing father and an engineer son who is off to Russia to work. He deploys a robot to assist his old father when he is away. Initially, the father is reluctant and infuriated by the decision but gradually grows fond of the robot and starts treating him as his son. The unconventional plot, excellent cast, and the many comedic sequences makes it an entertaining watch. In the first half, the story line, which is probably the first-of-its-kind in Malayalam, has so many moments of wonder for the audience. Be it as technology, some refreshing comic bits, novel characterisations, story settings and more, the film impresses. There are many laugh-out-loud sequences. The unconventional thinking behind the linear tale is quite impressive too, making it an unabashed entertainer. The songs, though simple, are also catchy and so are the performances of the lead cast and the new leading lady of the film, Kendy Zirido. The movie is also embellished with some delightful neighbourhood dynamics that most viewers can easily connect with.³⁶ However, the zing of the first half deserts the film post interval. The kind of nemesis created for Kunjappan is impactless, and the presentation of complications in the situation also emerge a bit dull. The way the climax is fashioned, one also doubts what the intent of the storyteller is. When emotional and programmed minds interact, the film seems to say, things can go haywire resulting in misadventures and so, one must be beware of tech upgrades. Regardless, the manner in which the thought is conveyed isn't striking enough.

These movies are only the top picks to have made to my list of the movies that have made a mark in defining the resurgence of the 'new wave' in Malayalam cinema. These movies have now set a benchmark for other movies in this period that have helped the rise of cinema on similar lines. As upcoming filmmakers are inspired and influenced by these movies which

³⁶ "Android Kunjappan Version 5.25 Movie Review: A Sci-Fi Tale with an Impressive First Half," The Times of India (The Times of India, November 8, 2019), <https://timesofindia.indiatimes.com/entertainment/malayalam/movie-reviews/android-kunjappan-version-5-25/movie-review/71968233.cms>.

further have induced such kind of script-oriented realistic movies with greater aesthetic appeal. More new styles of filmmaking and storytelling are being experimented taking a break from the previous formulaic ways of movie-making.

2 THE LOCKDOWN PHASE

Apart from the malayali diaspora, Malayalam cinema was already seeing an acceleration in its popularity among the non-malayali audience even before the lockdown, especially with the nomination of the movie *Jallikettu* (2019) as the Oscar entry from India. The COVID lockdown phase saw an unprecedented surge in its popularity across the country and abroad, thanks to the OTT and social media platforms. The digital OTT platforms like Amazon Prime, Netflix, Disney Hotstar, etc have significantly contributed to the increasing fan-base for Malayalam cinema during this period by making it easily accessible to everyone.

'C U Soon, Joji, Sara's, Aanum Pennum, and Aarkariyam are among the OTT released standout Malayalam movies that have streamed into the hearts of home-bound audiences in the recent months. Over a year ago, the film industry and the entertainment sector was brought to its knees by a rampaging virus. Even when the big film industries — Bollywood and the moneyed regional industries — were on a standstill mode, the much smaller Malayalam film industry perked up not only to respond to the pandemic in creative ways, but also to find an outlet for them on OTT platforms. In the bargain, it has discovered a clutch of actors who are not walking the formulaic routes laid out by the industry. The new platform and the newer actors are redefining the decades old big screen driven dual star system in the State.³⁷

OTTs in a way have only increased experimentation and given more freedom to the filmmakers to take risks when it comes to choosing the theme, form, script, etc of a movie, thus giving way to strongly influencing the rise of the 'new wave' cinema. 'Muraleedharan Tharayil, a film scholar, observes, "The new OTT oriented Malayalam cinema is addressing a new globalised modernity. Subjects and landscapes are the new stars. There is also a self-conscious exoticisation of the Kerala landscape, though not exactly in the mode of calendar photography. Think of all those aerial shots of the plantations in *Joji*, the seascapes in the songs of *Malik*, and

³⁷ Parshathy J Nath, "Streaming a New Reality: Malayalam Movies in the Ott World," The Hindu BusinessLine (The Hindu BusinessLine, August 26, 2021), <https://www.thehindubusinessline.com/blink/cover/ott-lifeline-a-moment-of-reckoning-for-malayalam-cinema/article36111055.ece>.

the overdone apartment interiors in *Sara's*. But I do feel it's a little early to generalise as many of the OTT releases were originally intended for the multiplexes.”³⁸

English subtitling of Malayalam movies in these platforms has been a prominent element for its wider reach across languages and cultures. “Malayalam film is finding critical acclaim and increased viewership outside Kerala. Subtitles play a crucial role in building this audience.”³⁹ Subtitles have become a powerful tool in making Malayalam cinema accessible to one and all. Also, social media platforms like – Instagram, Facebook, Youtube, etc and viable, cheaper and faster Internet connectivity have only increased the scope of its reach. They have helped to market movies through cheaper means. Less prominent directors but with good content are getting greater recognition which was difficult previously.

Thus, on the whole we can see that currently the major torch-bearers of the rebirth of the ‘new-wave’ cinema can be primarily attributed to rising directors like – Aashiq Abu, Lijo Jose Pellissery, Jeethu Joseph, Sameer Tahir, Rajesh Pillai, Dileesh Pothan, V.K Prakash , Jeo Baby, Basil Joseph etc and extremely talented actors like – Fahadh Faasil, Anoop Menon, Jayasoorya, Nivin Pauly, Roshan Mathews, Shoubin Shabir, Suraj Venjaramoodu, Rima Kallingal, Parvathy Thiruvottu , Nimisha Sajayan, Anna Ben, Darshana Rajendran, Aishwarya Lekshmi, etc. Together all these elements have led to renewed cinematic experience in Malayalam Cinema.

³⁸ Ibid.,37.

³⁹ “How Subtitling Supports the Malayalam Film Boom,” Mintlounge, September 23, 2021, <https://lifestyle.livemint.com/how-to-lounge/movies-tv/how-subtitling-supports-the-malayalam-film-boom-111632331630723.html>.

CHAPTER III

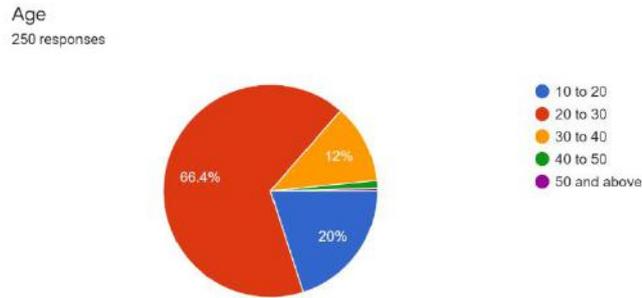
RENAISSANCE OF NEW WAVE MALAYALAM CINEMA – A MYTH OR A REALITY

Today everyone is talking about the resurgence of the ‘new wave’ of Malayalam cinema whether you listen to interviews, podcasts, etc or read blogs. Everyone believes or likes to believe that the Malayalam cinema has successfully restored its wonders of the golden age from 70s if not entirely maybe partially. As part of researching on the subject, I was curious to know and understand the psyche of different people – the public in general and the film industry experts in particular on their take on how they see this ‘new wave’ unwrapping before them. So, I conducted a sample survey asking some questions related to my project to my friends and family and also took some telephonic interviews of directors from the Malayalam film industry. This final chapter is a culmination of my research on how Malayalam cinematic experience has evolved over the years to become what it is today that has led to and promoted the rise of the renaissance of the new wave in Malayalam Cinema.

3.1 SURVEY CONDUCTED

Discussing about cinema in general, is something that most of us indulge in and enjoy in the many different ways. So, it only made sense to reach out to the public in general and my friends in specific to take their point of views on what they felt about my topic and various other aspects of the evolution of Malayalam Cinema. This helped me get a better sense of the audience perception, the kind of cinematic experiences they enjoy and how cinema viewing has changed over the course of time especially with the growing prominence of the digital and internet age.

This sample survey primarily entails MCQ (Multiple Choice Questions) type questions which mainly helped people choose their most preferred option. The main elements of the survey have been listed before -



(i)

Fig 3.1 Age.

A total of 250 sample respondents took part in the survey. Out of which 166 respondents (i.e. 66.4% of the total) were from the age group of 20-30; 50 respondents (20% of total) were from the age group of 10-20; 30 respondents (12% of total) were from the age group of 30 to 40; 3 respondents (1.2% of total) were from the age group of 30 to 40 and 1 respondent (0.4 % of total) was from the age group of 30 to 40. Thus, the sample used here for this survey primarily consists of the young population. (See. Fig. 3.1.)

(ii)

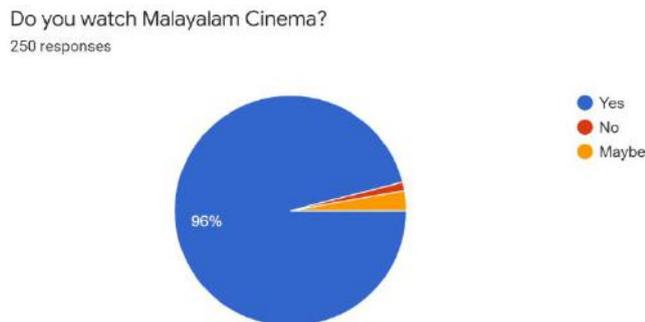


Fig 3.2 Do you watch Malayalam Cinema?

Out of these 250 respondents, 240 of the respondents (96% of total) watch Malayalam Cinema regularly and 7 respondents (2.8% of total) watch Malayalam cinema rarely or sometimes and 3 respondents (1.2% of total) don't watch Malayalam cinema. This implies that most of my

respondents watched Malayalam cinema on a regular basis while a very small proportion did not. (See. Fig. 3.2.)

(iii)

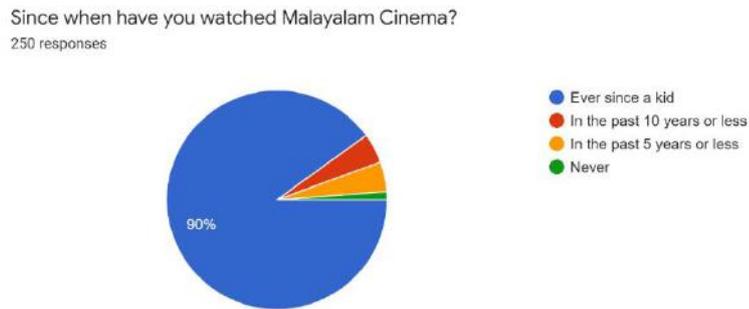


Fig. 3.3 Since when have you watched Malayalam Cinema?

225 respondents (90% of total) have been watching Malayalam cinema ever since they were a kid; 11 respondents (4.4%) have been watching Malayalam cinema in the past 10 years or less; 11 respondents (4.4%) have been watching Malayalam cinema in the past 5 years or less and while 3 respondents (1.2 %) have never watched Malayalam cinema. This implies that most of the respondents were Malayalam cinema viewers with some 22 respondents who have only started watching Malayalam cinema in past decade i.e. our period of study which is an interesting observation. (See. Fig. 3.3)

(iv)

Do you keep yourself updated about the latest Malayalam movies that come in?
250 responses

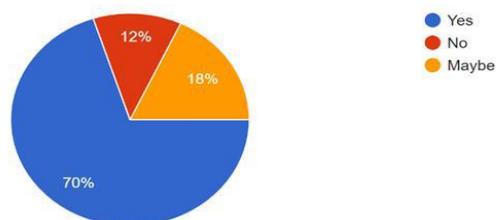


Fig. 3.4 Do you keep yourself updated about the latest Malayalam movies that come in?

A total of 175 respondents (70% of total) marked that they stay updated about the latest Malayalam movies; 45 respondents (18% of total) sometimes stay updated and while 30 respondents (12% of total) do not stay updated out of the 250 respondents. This is proof to the fact that majority of the respondents try to stay updated about the latest Malayalam movies. This can be largely attributed to the rise in smartphones and the internet. (See. Fig. 3.4.)

(v)

Do you like to read or listen to movie reviews before or after watching a movie?
250 responses

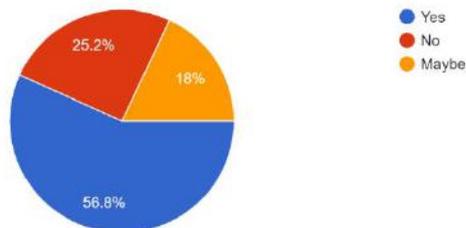


Fig. 3.5 Do you like to read or listen to movie reviews before or after watching a movie?

142 respondents (56.8% of the total) do go through movie reviews before or after watching a movie, 63 respondents (25.2% of the total) wouldn't refer to movie reviews and 45 respondents (18% of the total) may refer to movie reviews at times. Even if one looks up movie reviews once or twice then the google notifications or social media pages automatically start showing us related results from thereon. (See. Fig. 3.5.)

(vi)

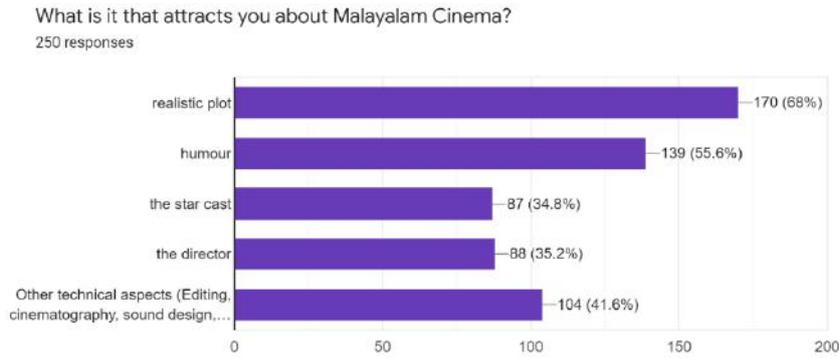


Fig. 3.6. What is it that attracts you about Malayalam Cinema?

When asked about what attracts people about Malayalam Cinema, 170 respondents (68% of total) chose realistic plot, 139 respondents (55.6% of total) chose humour, 87 respondents (34.8% of total) chose the star cast, 88 respondents (35.2% of total) chose the director of the movie, 104 respondents (41.6% of total) chose other technical aspects like editing, cinematography, sound design, etc. This is proof that social realistic narrative is what Malayalam cinema means to most viewers. Humour surprisingly is one of the other key elements attributed to Malayalam cinema by more than half of the respondents. The technical aspects are seen to be major defining factor. The star cast and the directors are also a factor considered by nearly one-third of the sample population which signifies its importance and cannot be completely be nullified. (See. Fig. 3.6.)

(vii)

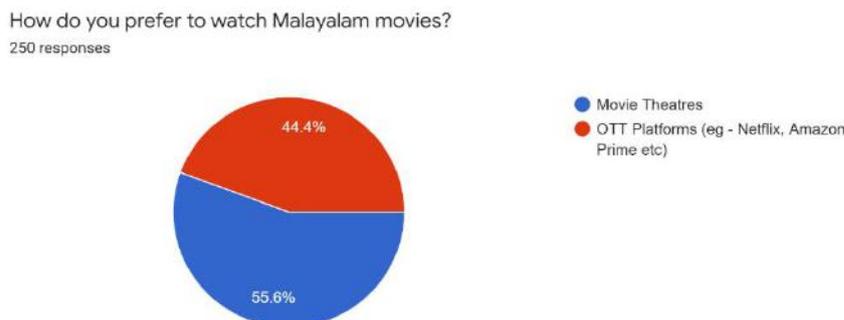


Fig. 3.7. How do you prefer to watch Malayalam movies?

139 respondents (55.6% of the total) prefer watching movies in movie theatres while 111 respondents (44.4% of the total) prefer OTT platforms to watch Malayalam movies. This indicates the rise of OTT as a significant shift seen in the recent years with nearly half of the sample population preferring to watch it in the OTT mode (eg- Netflix, Amazon, etc) in the comfort of their homes over going to the theatres. This is something that is widely becoming the norm with more cheaper and accessible devices and internet. (See. Fig. 3.7.)

(viii)

Do you believe that the recent Malayalam movies are experimenting new ways of filmmaking?
250 responses

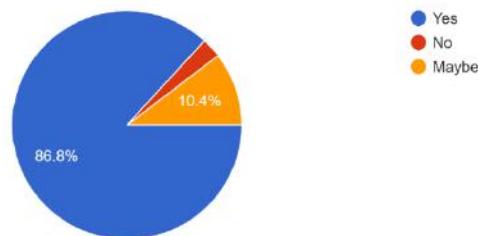


Fig. 3.8. Do you believe that the recent Malayalam movies are experimenting new ways of filmmaking?

Majority of the respondents i.e. 217 (86.8% of the total) believe that Malayalam movies are actually experimenting with newer ways of filmmaking, 26 respondents (10.4 % of the total) think that probably that is the case and 7 respondents (2.8% of the total) don't think Malayalam cinema is actually experimenting with anything new. This highlights the fact that the audience believes and hopes to see new forms of experimentation in themes and styles of Malayalam filmmaking. (See. Fig. 3.8.)

(ix)

Do you need English Subtitles to understand malayalam dialogues?
250 responses

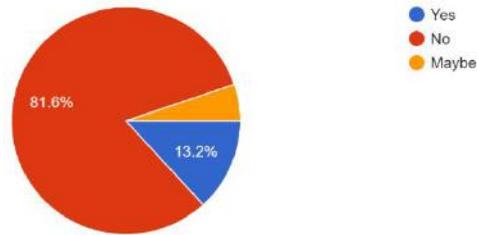


Fig 3.9. Do you need English Subtitles to understand malayalam dialogues?

Most of my respondents 204 (81.6% of the total) do not need subtitles as most of my samples come from the malayalam speaking population but 33 respondents (13.2% of the total) need subtitles while watching Malayalam movies and some 13 respondents (5.2% of the total) may or may not use which indicates that subtitles are really helping the non-Malayali speaking population to access and view the malayalam movies without any barriers of comprehending the language. (See. Fig. 3.9.)

(x)

Does social media influence you to watch a particular movie?
250 responses

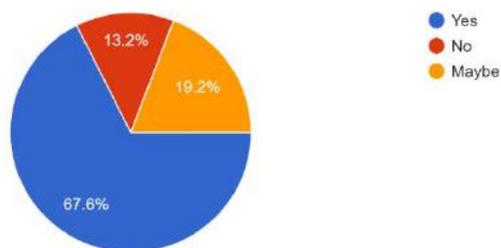


Fig. 3.10. Does social media influence you to watch a particular movie?

169 respondents (67.6% of the total) believe that social media acts as a major influence on what movies they watch as these make them aware about the recent releases and many Youtube channels like – Film Companion, Pinkvilla, etc keep posting vlogs or blogs discussing about

or reviewing the new releases, also other social media platforms like – Facebook, Instagram, etc also play a major role in this regard. This goes both ways not only does it help the viewers but also filmmakers who get to market their movies or even if they don't fans tend to promote the movie which then becomes a trend. (See. Fig. 3.10.)

Survey Analysis - The given sample survey aided my research by helping me get a better picture of how Malayalam cinema is perceived among people around me. It gave a better sense how with the rise of the internet and the digital age which in turn brought in social media platforms and the OTT platforms – the modes of cinema viewing have changed. This further has helped change the forms of filmmaking. The coming of OTT platforms has created greater opportunities for filmmakers to experiment with different and bold narratives, themes or styles. It has also democratized the process of filmmaking in a large way as anyone and everyone can create if not big movies but short films with good content; they are being recognized which has never been seen previously in the history of filmmaking in general or Malayalam cinema in particular. We see not only a shift from theatres to OTT but also Television to OTT wherein now we can view movies not only from our smartphones or other portable devices on the go. Further, subtitling has been a game changer for getting a wider audience for Malayalam cinema moving beyond the rather limited Malayali audience. The lockdown period in many ways saw the Malayalam cinema catapult above all other Indian cinema through its many successful movie releases. This inturn has given more fillip to the rise of the 'new wave' in Malayalam cinema bringing back some elements from the glorious period of the 'golden age'.

3.2 EXPERTS TALK

As part of my dissertation, to get an expert opinion on the topic I contacted a few prominent people involved in the Malayalam film industry. This aided me understand and peek into an inside view of what people working in the field think about 'the Renaissance of the New Wave in Malayalam Cinema.' It was not only thrilling to interview such talented directors but also an immensely fruitful learning experience.

The following interviews were conducted were telephonic, wherein I asked a set of questions (Appendix 2) to all the three directors. The detailed interviews have been discussed below-

INTERVIEWEE 1 – Mr. SAJIN BAABU

Bio –Sajin Baabu is an Malayalam film director, screenwriter, and producer. He made his directional debut with Unto the Dusk (അസ്തമയം വരെ or *Asthamayam Vare*) in 2014. He is noted for his latest movie Biriyaani which bagged numerous awards, including the NETPAC award for best film at ASIATICA, Rome, Italy. He is the winner of Special Jury mention for Direction for his movie Biriyaani at the 67th National Film Awards⁴⁰

INTERVIEWEE 2 – Mr. JEO BABY

Bio –

Jeo Baby started his career in the Malayalam entertainment industry by writing for Television sitcoms in 2010. He was involved in scripting the initial episodes of popular television sitcoms Marimayam, 'Uppum Mulakum' and 'M80 Moosa'. He made his directional movie debut through the Malayalam movie '2 Penkuttikal' which was released in 2016. His second movie Kunju Daivam was released in 2017. In 2020 he directed *Kilometers and Kilometers* which has Tovino Thomas playing the lead role. The movie skipped theatres due to COVID-19 pandemic & was premiered directly on Malayalam satellite channel Asianet followed by an OTT release. His fourth Malayalam film The Great Indian Kitchen which has Suraj Venjaramoodu & Nimisha Sajayan playing the lead roles was directly released over 'NeeStream '. With a positive response around the globe, the movie was officially released on Amazon Prime. His family drama film The Great Indian Kitchen won 51st Kerala state film award for best film and he bagged best screenplay award. ⁴¹

INTERVIEWEE 3 – Mr. Lijin Jose

Bio –

Lijin Jose is a Malayalam film director with two feature films and one documentary to his credit. He is also the founder of Every Dog has its Day Productions (EDHID) and Make My Theatre. He studied filmmaking from C-DIT. His diploma project film, *Night Is Difficult to Cut* won the best student film award by UGC-CEC. He worked as a paneled director at C-DIT where he made many documentaries, ad films and public awareness films. Before starting his

⁴⁰ "Sajin Baabu," IMDb (IMDb.com), accessed April 21, 2022, <https://www.imdb.com/name/nm6436754/>.

⁴¹ "Jeo Baby," IMDb (IMDb.com), accessed April 21, 2022, <https://www.imdb.com/name/nm7253286/>.

film career, he also worked as an assistant director with filmmakers V. K. Prakash, T. K. Rajeev Kumar, Deepu Karunakaran, Sunil Kariattukara and Ligy J Pullappally. He started his film career as an assistant director in 2003. He assisted Ivar, The Journey, Chacko Randaaman, Winter (2004 film) and Seetha Kalyanam. His first film was *Friday* starring Fahad Fazil and Ann Augustine. He directed *Law Point* starring Kunchako Boban and Namitha Pramod soon after and focused on making a documentary on the veteran filmmaker, K.G George on his life and career. 8½ Intercuts: Life and Films of K.G. George.⁴²

Q.1) Why do you think the mid-1970s to 1990s is considered to be the ‘golden-age’ of Malayalam cinema? What were its features?

Sajin Baabu - According to me, every period brings about its own set of changes in all genres of cinema like – commercial or parallel cinema. Filmmakers like that of my favorite Malayalam filmmaker – K.G. George tried to break-through the norm and experiment with cinema. Other prominent directors like Adoor Sir, Padmarajan Sir or Bharatan Sir tried to create cinema in their own language and styles. Thus, Malayalam cinema at the time came up with a new and vibrant set of filmmakers who had a vision for cinema. For instance – Padmarajan’s movie isn’t limited to the local but rather its content and subjects stand the test of time. Even today in 2022, if we were to discuss their cinemas – their content would have as much relevance today as it had back in then. Such a significant shift in cinema is not very prominently seen in other language cinemas in India.

Another significant element to be pinpointed is the Kerala’s film society movement that came in. It was initiated and propagated by several individuals from the filmmaking community for example – the Federation of film societies that came in especially towards the end of the 80s.

Many people like college students and other cinema enthusiasts could be exposed to varied kinds of movies from world cinema. This has greatly influenced the cinematic imagination of the Malayali audience which in turn influenced the Malayali filmmakers. Such a movement has been primarily seen in Kerala and Bengal whether back in the day or even today – where film societies have played a major role in the growth of the varied creative and artistic energies in filmmaking and also helped people to look at cinema and understand it from a different perspective. Like the Kerala Chalachitra Academy or Adoor Sir’s film society, etc

Apart from this, with the beginning of the Film Festivals like the International Film Festival of Kerala (IFFK) held in Trivandrum since the past twenty-five years or so and also local festivals like – Thrissur Film Festival, Kozhikode Film Festival etc. Thus, a culture for cinema has evolved in Kerala over the

⁴² “Lijin Jose,” IMDb (IMDb.com), accessed April 21, 2022, <https://www.imdb.com/name/nm2118392/>.

years as unlike other neighbouring states like Tamil, Kannada or Telugu where such a culture didn't exist but has rather something that has been seen in the recent times.

Foreign directors are not unknown to the Malayali cinema enthusiasts. All this must have been the reason for attributing it to the golden age. Apart from the fact that every period has its own changes. We can see similar changes in cinema in the recent past too. Also, today cinema has broken away from factors like 'stardom'. Probably, that is why we see a resurgence of Malayalam cinema.

Mr. Jeo Baby – The kind of cinemas that were made in the 'golden age' era. Talented directors like – K.G.George, G. Aavindan, Padmarajan, Adoor Gopalakrishnan, etc who have transformed the way Malayalam Cinema was made and the themes discussed.

Mr. Lijin Jose - Until mid-70s, Malayalam Cinema came in from the Kodambakam region (Tamil Nadu). So, to a large extent the Malayalam Cinema was largely influenced by the Tamil Cinema sensibilities. It was shot in sets in a mostly theatrical way at the time. P.N. Menon's landmark film 'Olavum Theeravum'(1960) movie was probably the first movie to shift the set-based movie to realistic landscapes. Apart from this, the physical transformation to realistic location and a change in the narratives was also seen i.e. previously the cliched family drama was ditched for more literary work dependent movies. Around that time, the Pune film Institute also came up and many filmmakers and technicians who passed out from the institute came into the Malayalam industry who brought in fresh creative energies.

These filmmakers tried to observe life very closely and tried to incorporate it in the realistic narrative of the cinema i.e. directors like K.G. George, Bharathan, Padmarajan, etc came in. They shifted from the typical middle-class values endorsing cinema to more realistic cinema. That is when this period came to be called as the 'golden age' of Malayalam Cinema starting from the mid-70s to the late 80s. Most prominent movies like – Adaminte Vaariyellu (1984) , Irakal (1985) , Panchavadi palam(1984), etc. K.G. George was one of the most distinct voices in the era and also others like Adoor Sir or Padmarajan.

I think this period stood out in its way that – the movies made during the period brought out such relevant and distinct themes and characters and the filmmaker's ability to create such a popular acceptance for the same among the Malayalam audience. Probably, which is why this era came to be known as the Golden Age.

Q.2) Do you think the New Wave Malayalam movies are bringing back the kind of movies that were made during the golden-age of Malayalam cinema (back in 1980s)? If so, why do you say that?

Mr. Sajin Baabu - According to me, that is only a change that is limited to the commercial film. I am talking about changes that came into cinema on the whole. Even before the coming of 'Traffic' similar movies like that of Alexander Inarritu's (Mexican Film Director) movies like that of 21 grams (200) or Babel (200) from world cinema was familiarized to the Malayali audience through the film festivals here. The movie 'Traffic' (2010) has been inspired from the movie 21 grams. So, this wasn't something new for the audience as it had already been successfully experimented in World Cinema. So, we can say that a commercial movies like 'Traffic' drew inspiration from such women.

So, we can definitely say that we saw a breakthrough in commercial cinema from the otherwise formulaic cinema to script-oriented movies that were made in the Malayalam industry. Movies like Thondimothalum Driksakshiyum, Maheshinte Prathikaram, Kamatipadam, etc and a new breed of talented filmmakers like Rajeev Ravi, Aashiq Abu, etc were seen in this period. So, yes we can say 'Traffic' was one of the first movies to make the first move in this direction.

In 90s we had the middle cinema like that of Padmarajan, Bharathan, etc. So, after 2010 – the middle cinema of sorts also started coming and was successfully accepted by the audience. But, what is significant is the fact that such a culture had already previously existed in Kerala. For long now, not many filmmakers had shown the courage to experiment with movies differently it was mainly limited to hero-oriented or action or comedy cinema.

Mr. Jeo Baby – Today what is happening in Malayalam cinema cannot be called as New Wave. Malayalam Cinema has gone through many transformations through its various stages of evolution. For eg :- the golden age . But we can say that today a shift is happening in Malayalam Cinema definitely. Cinema is going through a transformation, I'm not sure if it can be named as New Wave. Cinema is now coming up with more politically relevant and progressive themes. This is not brought about by a single cinema but array of movies like – Aarkariyam, The Great Indian Kitchen, Bheeminte Vazhi, etc. So, as a whole we can say a shift in Malayalam Cinema.

Mr. Lijin Jose - The major factor I believe Television and satellite channels. From early 90s and mid-90s on cinema had to compete with Television. Cheap thrills, comedy or sentiments through soap operas and mega serials started to enter our living rooms. Only something that could overpower that could be brought to the theatres to attract people to watch it and the filmmaker's began to make larger than life cinema. Similarly in Hindi and Tamil also, changes like that of star-oriented cinema began to come up with mega-budget projects. To compete with TV, the many so-called good actors in Malayalam Cinema were forced to become superstars. This is the period when the concept of stardom emerged in Malayalam Cinema.

Once you are deemed as a superstar you are forced to give him the next best role and then it was a rat-race of sorts. The good actors now became superstars and cinema now became projects. It became such that only those who would cater to this kind of cinema could make cinema at the time in a way that

would cater to the fans. This in turn became a very vicious circle. ‘Original’ or ‘genuine’ cinema took a backseat during this period. Thus, this period was largely seen as a chaotic period where the aesthetics of cinema was dwindling.

In many countries like the Europe and the US – such a scenario had become a reason which had forced Television to come up with better content. But why in India such a thing didn’t happen instead cinema stooped to the level of TV especially in Kerala where mimicry and comedy took the center-stage in TV – similar comedy movies came up and even soft porn.

Q.3) Why do think the period since the late 1990s extending upto 2010 is considered to be period of slump in the history of Malayalam Cinema?

Mr. Sajin Baabu -The period 2000-2010 is considered to be a period of slump. It mainly consisted of comedy, action, etc movies. Movies like that of Dileep were very popular during that period.

Mr. Jeo Baby – During that time, a lot became dependent on ‘stardom’ – that if a certain actor is part of a film, it will have been better reception and content lost prominence. Making cinema saleable became more important than the content of cinema ‘stardom’ is part of all eras of cinema but during this period. This ‘stardom’ was given more prominence in this period and was influenced greatly by the satellite business.

Mr. Lijin Jose - The period starting 2010, is when I too started my filmmaking journey. So, whenever my other filmmaker friends and myself would discuss about cinema we always discussed if we could ever come out of the vicious cycle of ‘the neighborhood hero’ and formulaic cinema. The directors from the 80s -90s had a better clarity on the themes on which they made films – which were mostly taken from our day-to-day life. The cinema from this period is something that has inspired us and continues to do so and we look up to the works of directors like – K.G. George Sir; his clarity and diversity. Also, the DVD revolution in the 2000s helped the public to get access to cinema other than that of Malayalam and English. So, talented filmmakers around the 2010 time tried to bring out a different kind of cinema – that had more life to it and movies that reflected such characters.

Even with my movie – ‘Friday’ I wanted to do something different. Growing up in Alapuzha, the movie was based on the various scenes that I have seen in and around the region growing up there. The movies from the 80s and 90s definitely inspired and gave me the confidence to make such a movie.

Q.4) What features or aspects do you think have contributed or brought the rise of the term New Wave Malayalam cinema into the current discussions about Malayalam cinema?

Mr. Sajin Baabu -It depends on different individual's sensibilities. They are generally not formulaic and have a more politically stimulating theme or a movie that takes a stand and also other technical attributes like that of visual appeal etc.

Mr. Jeo Baby – 'Content' is what defines the rise of the term New Wave cinema in Malayalam cinema. Bringing in realistic plot from our everyday lives has what has made Malayalam Cinema stand out.

Mr. Lijin Jose - The return of the new wave is attributed to many elements. Firstly, we can say that cinema has gone back to its roots that is set in local terrains primarily with grounded characters, things and themes that anyone and everyone can identify and relate with. Female characters and their roles too have widened as they not limited to roles that are no longer used as props or for dance numbers but have some opinion and stand about things. I don't think that the new wave today can be compared with the movies of the 70s-80s. As we still have not been able to bring such daring and hard-hitting themes and narratives as back then.

My movie – 'Friday' too also tried to make a multi-narrative movie with local characters but K.G. George's movie like Adaminte Vaariyellu, etc have portrayed better multi-narratives with stark characters. According to my observation the second wave hasn't really been able to excel the kind of cinemas that were made in the first wave. In the golden age in terms of morality concerns – very hard-hitting cinema was made. But today we still continue to portray our middle-class values and themes that are not very hard-hitting and are still following the trend of being safe.

Q. 5) Do you think the story and the landscapes are have replaced the 'star-value' of actors as the heroes of a movies?

Mr. Sajin Baabu -We can't really generalize it. We have both content-driven cinema & stardom-driven cinema. Every period we get to see both these kinds of movies. People watch all kinds of movies. So, I believe there is space for all types of cinemas. I can't say which kind of movie is right or wrong or good or bad. The filmmakers decide what kind of cinema they choose to make.

Mr. Jeo Baby – Landscape and other aspects are largely dependent on the content of the plot. Today – we are giving more importance to content. Even when I talk about my movie 'The Great Indian Kitchen' - I don't think people would have gone to watch in the theatres. However, OTT is something which is accessible through our phones and laptops at anytime and anywhere. 'Stardom' is being replaced by 'content' which is now the star. The mega stars that we know are exceptionally brilliant actors whom we definitely need in our movies. So, superstars taking up content driven movies is the call of the hour.

Mr. Lijin Jose - Yes, story and landscapes have replaced ‘the star-value actors’ as the heroes of movies. It is a positive change in the last few years, where superstars are being replaced by small actors and OTT platforms are really helped them to commercially break-even and gives them hope to try different types of storytelling.

Q.6) What do you think has been the influence of the coming of OTT Platforms?

Mr. Sajin Baabu -Definitely, Technological changes have always been there. From the earlier use of celluloid camera to digital cameras. Cinema has gone through many technological changes. A change in the visual language of cinema was seen.

Also, the distribution system has changed. In the past, it was heavily dependent on only theatre and satellites. Similarly, the coming of OTT has revolutionized Malayalam Cinema. The reach of Malayalam Cinema has crossed many boundaries and has been able to reach a wider audience. For example – Many people from Assam, Tamil Nadu, Maharashtra etc have contacted me with respect to my movie Biryani. This has increased the choice of cinema for the audience. Good content movies are being made and discussed, thus stimulating more content-driven movies.

Mr. Jeo Baby – Both OTT and Theatre will be seen in the future. Like I said before, OTT has become crucial in bringing out to the audience quickly anywhere anytime. However, the cinematic experience is being hampered. For a filmmaker, releasing a cinema on the big screen is the greatest dream.

Mr. Lijin Jose - Definitely, there is more freedom. Cinemas always been a big screen experience. It gives us the real cinematic experience that gives us real value. But theatres are running in an unhealthy way today. More than promoting good cinema they are more concerned with their own business interests thus promoting mostly flashy entertainers. For eg – The Great Indian Kitchen wouldn’t have gotten a wide reception as much as it got from its OTT release. If it was not for OTT, it wouldn’t have gotten the the scale of viewership that it got.

OTT thus is able to give a space to movies that could possibly be ignored or a space that the movie deserves to be given. With the coming of high-speed Internet or 5G is very encouraging to the filmmakers. A transformation that was to come some three years down the line happened to be pre-poned with the coming of the pandemic.

OTT thus definitely gives a space and freedom to filmmakers like never before. It also happens to be a much democratic space for the filmmakers. But today we also see a political influence trying to tweak these platforms in their favour. So, it is also a question to be considered where OTT’s would bend to political interests or would it continue to the remain the same.

Q.7) In what ways do you think social media like – Instagram, YouTube, etc has influenced filmmaking today in Malayalam Cinema?

Mr. Sajin Baabu -Definitely, when people write and review movies on social media – it gets a marketing value.

Mr. Jeo Baby – Social media – has especially had an immense influence on my movie – ‘The Great Indian Kitchen’ - where many women and feminist posts were posted and even in my daily life in the past few years. I have done more reading of Facebook posts than of other books.

Mr. Lijin Jose - A very visible change in cinema is cinema’s visually format or aspect ratio i.e the length and the width wherein previously the width is more and the height is less but with the coming of the mobile phones this has completely reversed where we now we see – the Instagram reels and Youtube shorts. Thus, we see that the format itself has only been broken. So, today we are watching in a never-before-seen format which is a physical change in the format.

Also, today we are watching good stories told through 30 secs shorts and reels as against watching one and half or two-hour movies. Thus, the mental attention span of the audience today we can say is shrinking. So, film-makers have to cater to such an audience with a short attention span. So, we have to come up with such content that hooks the audience and keeps them engaged through the hours.

Filmmakers can do so by making its visual language, performances, narrative, etc interesting. Like in the early 2000s we had to compete with TV. Today everybody can be filmmaker with such increased accessibility. So, if your cinema has to stand out you have to put in that much creativity and thinking into it. Even kids today – who are born today into the World of Reels and shorts – don’t have the patience to go through the movies.

Q.8) Do you think Filmmakers have more freedom today to experiment different new ways of filmmaking, than previously in history? How so?

Mr. Sajin Baabu -Yes, filmmakers are open to experiment. It is stimulating parallel cinema. It would be wrong to say resurgence of ‘the New Wave’ as such movies have always been there, just that more space is being given today for it to be able to reach a wider audience. In the past, only commercial filmmakers could afford to make cinema owing to the large costs in creating and promoting it today. Also, it has become easier and cheaper to make cinema comparatively as long as the content is strong.

Mr. Jeo Baby – A new kind of filmmaking is not particularly seen – change has primarily come in the content. Now with the internet – we are now exposed to cinema from around the world. This in turn transforms us and our thought process and our cinema.

Mr. Lijin Jose – Ofcourse, the points I mentioned previously stand true here too and has given more freedom to filmmakers to experiment new ways of filmmaking.

Q.9) Do you think the Malayali audience is flexible to accepting all the new experiments that are coming in?

Mr. Sajin Baabu -Yes, that is why people are watching it and making such new kind of movies a success and discussing about them.

Mr. Jeo Baby – The Malayali audience is a very progressive audience that is why they are accepting such diverse subjects. For long we have underestimated them and thus the filmmakers are also at fault at coming up with not so good cinema. The influence of the social media and the internet have also changed the psyche of the audience. Now, it is more about making good movies. The audience cannot be easily satisfied with just any kind of movie. We need to respect our audience.

Mr. Lijin Jose - Today as we are in 2022, I believe we are a bunch of hypocrites as an audience as a society. Today we tend to have many social values and religious or political notions. But, at the same time we are here also exposed to many ideas/ views. Today we see in Kerala as a very messed up society. For instance, a movie like Nirmalayam (1973) - where in a certain scene a Hindu priest spits on the idol placed. Such a movie was well discussed back in the 70s. However, in today's time it seems rather difficult by making unnecessary controversies. Many outdated values have taken the joint space and most people blindly believe it. For eg- Only recently a movie called 'Churuli' was released which became the main topic of discussion in all the prime time news for the rampant use of cuss words which rather is something used in our everyday lives but it became a public point of discussion; that is our hypocrisy.

So, I don't think the Malayali audience has evolved with the times, they are a regressive audience. The filmmakers have to have real conviction in their theme/ content.

Q.10) How do see the future of Malayalam cinema evolving? What new things do you think can come up or is already taking form?

Mr. Sajin Baabu -With many talented filmmakers and new technology coming in -Malayalam cinema would continue to grow. This growth has been seen to rise exponentially as seen in the COVID times – the creative space of cinema continued to grow despite the pandemic.

Mr. Jeo Baby – Malayalam Cinema has now become the center piece in the spectrum of Indian Cinema. This has happened as a consequence of not big movies or super stars but it is due to the ‘content’ of Malayalam Cinema that is fueled with such discussions. The future of Malayalam Cinema looks bright. More new and talented filmmakers and producers would come in as now ‘content’ is being seen as the key element of our filmmaking.

Mr. Lijin Jose - Yes, in 2010 a set of filmmakers tried to make different kind of cinema. The filmmakers’ need to make movies in which they have a strong conviction. In K.G. George's documentary too – he says that when I came back after studying from the Film Institute, I had clarity on what subjects he planned to make movies on subjects – politics, women, citizen, etc. Filmmakers today have to be courageous and have conviction to make bold movies. Cinema can play a crucial role in breaking through social stigmas and creating a wider sense of humanity and empathy among the people.

Concluding Analysis

The above interviews proved to be a real eye-opening experience which aided my research to get a better understanding of how different filmmakers have different perspectives on the resurgence of the so-called ‘new wave’ in Malayalam cinema in the past decade.

Mr. Baabu believes that the resurgence of ‘new wave’ is just a part of process of change through different eras and he believes that this is a shift seen primarily in the commercial films and independent films have continued to make movies through time. Since these themes and style of filmmaking started being made in commercial films they have become very prominently visible and hence are being termed as the return of the ‘new wave’. But he does believe this shift cannot be ignored and is only set to rise with greater opportunities being made available to filmmakers with the coming of the internet era and OTT.

Mr. Baby on the other hand has a similar take as that of Mr. Baabu as he perceives this ‘new wave’ to be a shift in the Malayalam cinema with the coming of new talented directors newer and more politically relevant themes are being considered. He also likes to believe that social media and OTT has been a gamechanger in this decade. Even with regard to his movie – ‘The Great Indian Kitchen’ social media and OTT did wonders and gave it a greater bandwidth.

Mr. Jose stated that Malayalam cinema has come back to its roots although it may have not come close to the 'new wave movement' of the 70s as we still have not been able to touch such bold themes or narratives as those that were brought forth in that period of time. However, he believes that there is greater scope for the resurgence of the 'new wave' to flourish in its truest sense and bring back the days of the golden era. This he believes is the need of the hour after a decade of slump in Malayalam cinema.

Thus, we can say that the general audience as seen in the survey likes to believe that Malayalam cinema is experimenting with newer forms and themes in filmmaking whereas from the interviews, we see that these directors think that it is a positive change is definitely to be seen in the past decade with more script-oriented and politically relevant movies being made but Malayalam cinema has yet a long way to go to match the brilliance of the golden era. Therefore, whether the renaissance of the 'new wave' is a myth or a reality is yet to be seen.

CONCLUSION

In this project, I have attempted to navigate the historical evolution of Malayalam Cinema through the different periods since its inception and examine the different specificities in its cinematic experience owing to the changing techniques like shooting films in studios then moving on to sets outside and gradually moving to color cinema and then the recent digital age and also the changing themes like mythical to left-oriented cinema to novel-oriented cinema and then the golden era of social realistic cinema moving on to the slump period of the late 1990s-2000s of slapstick comedy, soft porn etc to the recent decade of the so-called 'new wave'. I have in particular tried to focus on the recent decade 2010 onwards trying to highlight the specific nature of the period and its similarities with the 'golden age' of 70s and 80s. In this regard, as part of my research I have not only discussed the most defining movies from this period but have also shown how the digital age has accelerated the growth in Malayalam cinema. With the advent of the inexpensive internet and the growing use of portable smart devices from around the middle of the recent decade there has been a rise of social media like Facebook, Youtube, Twitter, Instagram, etc and the OTT platforms like Amazon Prime, Netflix, etc. This has acted as a fodder for the growth of the so-called 'new wave' in Malayalam Cinema. This has basically aided in greater experimentation with the techniques and themes in filmmaking which has helped democratize it. Today, the content or the script and the local landscapes have replaced the otherwise 'star-oriented' cinema of the early 2000s.

However, a common thread throughout these eras from my observation is the close connection of Malayalam Cinema to realism - pertaining to real, believable and relatable aspects of familiar everyday life even though once in a while there might have been some deviations from this norm especially during the period of late 1990s and early 2000s. In a way, this devotion of Malayalam cinema to social realism and aesthetic authenticity is what defines it, draws its audience to it and gives it its distinct place in the wider spectrum of Indian Cinema.

As a concluding note, the dissertation proposes that the kind of 'new wave' films of the 1970s and 1980s have seen a resurgence of sorts to some extent in the recent decade starting with the movie Traffic (2011). Since then, a new set of writers and directors have come to occupy prominent positions, as attempts to bring out the rationalist integrationist visions of social realism. But there remains yet a lot more to be done to attain the levels of glory of the golden age.

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ANNEXURE 1

Google Sample Survey Questionnaire

1. Name
2. Age.
3. Do you watch Malayalam Cinema?
4. Since when have you watched Malayalam Cinema?
5. Do you keep yourself updated about the latest Malayalam movies that come in?
6. Do you like to read or listen to movie reviews before or after watching a movie?
7. What is it that attracts you about Malayalam Cinema?
8. How do you prefer to watch Malayalam movies?
9. Do you believe that the recent Malayalam movies are experimenting new ways of filmmaking?
10. Do you need English Subtitles to understand malayalam dialogues?
11. Does social media influence you to watch a particular movie?

ANNEXURE 2

Interview Questionnaire

Q.1) Why do you think the mid-1970s to 1990s is considered to be the ‘golden-age’ of Malayalam cinema? What were its features?

Q.2) Do you think the New Wave Malayalam movies are bringing back the kind of movies that were made during the golden-age of Malayalam cinema (back in 1980s)? If so, why do you say that?

Q.3) Why do think the period since the late 1990s extending upto 2010 is considered to be period of slump in the history of Malayalam Cinema?

Q.4) What features or aspects do you think have contributed or brought the rise of the term New Wave Malayalam cinema into the current discussions about Malayalam cinema?

Q. 5) Do you think the story and the landscapes are have replaced the ‘star-value’ of actors as the heroes of a movies?

Q.6) What do you think has been the influence of the coming of OTT Platforms?

Q.7) In what ways do you think social media like – Instagram, YouTube, etc has influenced filmmaking today in Malayalam Cinema?

Q.8) Do you think Filmmakers have more freedom today to experiment different new ways of filmmaking, than previously in history? How so?

Q.9) Do you think the Malayali audience is flexible to accepting all the new experiments that are coming in?

Q.10) How do see the future of Malayalam cinema evolving? What new things do you think can come up or is already taking form?

ANNEXURE 3

PHOTOS



Figure 1: Traffic (2011)



Figure 2: Maheshinte Prathikaram (2016)



Figure 3: Jallikettu (2019)



Figure 4: Virus (2019)

ST. TERESA'S COLLEGE

ERNAKULAM-KOCHI-11

(AUTONOMOUS)

(AFFILIATED TO MG UNIVERSITY, KOTTAYAM)



FINAL YEAR B.Sc. PHYSICS

PROJECT REPORT

2021-2022

**DETERMINATION OF VELOCITY OF LIGHT THROUGH
DIFFERENT LIQUIDS**

PROJECT REPORT

Submitted by

ROYCE ROSE K R

Register No: AB19PHY013

Under the guidance of

Dr. MARY VINAYA

In partial fulfilment of the requirement for the award of



BACHELOR DEGREE OF SCIENCE IN PHYSICS

ST. TERESA'S COLLEGE (AUTONOMOUS)

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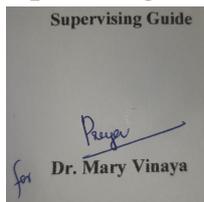
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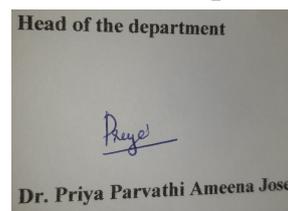
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Supervising Guide



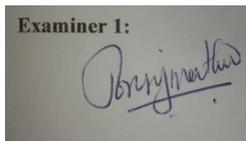
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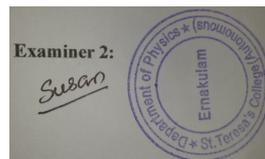
Examiner 1:



Place: Ernakulam

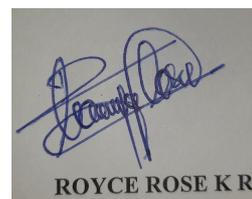
Date:09-05-2022

Examiner 2:



DECLARATION

I **Royce Rose K R**, Register No: **AB19PHY013**, hereby declare that this project entitled **“Determination of velocity of light through different liquids”** is an original work done by me under the supervision and guidance of **Dr. Mary Vinaya**, faculty, department of physics of St. Teresa’s College Ernakulam is in partial fulfilment for the award of degree of bachelor of physics under Mahatma Gandhi University. I further declare that this project is not partly or wholly submitted for any other purpose and the data included in this project is collected from various sources and are true to the best of my knowledge.



ROYCE ROSE K R

ROYCE ROSE K R

Place: Ernakulam

Date: 09-05-2022

**DETERMINATION OF VELOCITY OF LIGHT THROUGH
DIFFERENT LIQUIDS**

ACKNOWLEDGEMENT

First and foremost, I thank God Almighty for his blessings which made this project possible. I'm grateful to the Lord for making this project a success.

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I would also like to thank our faculty members of the department, support staff and our friends who directly and indirectly helped us through their valuable support and criticisms, which ensured the success of my project.

ROYCE ROSE K R

ABSTRACT

This project titled “Determination of velocity of light through different liquids” focusses on determining how the refractive index of various liquids affect the velocity of light passing through the respective liquids.

Velocity can be calculated by using the relation:

$$v = \frac{c}{n}$$

Where n is the refractive index and its given by:

$$n = \sin i / \sin r$$

It is a scientifically proven fact that velocity of light through vacuum is constant equal to 3×10^8 m/s whereas the velocity of light slows down as it passes through different media. The findings are based on the experiments conducted. The project experiment involves the usage of spectrometer - hollow prism method to determine the refractive index of different materials and hence the velocity of light through them.

It can be inferred from the results of this experiment that the velocity of light indeed decreases as it passes through different media depending on the respective refractive indices.

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INTRODUCTION

Light (visible light) is electromagnetic radiation that can be seen with the naked eye. The electromagnetic spectrum is enormously vast, ranging from low-energy radio waves to high-energy gamma rays with wavelengths of less than 1×10^{-11} metres. Electromagnetic radiation represents fluctuations in electric and magnetic fields that carry energy at the speed of light (3×10^8 m/s). Light can also be defined as a stream of photons, which are massless packets of energy that travel at the speed of 3×10^8 m/s and have wavelike qualities. A photon is the smallest unit of energy that can be transferred, and it was this knowledge that led to the origin of Quantum theory.

Light shows many different phenomena. Eg: Reflection, refraction, dispersion, diffraction, etc. Reflection of light is defined as the bouncing back of light ray after incidence on a smooth surface. The ray of light which strikes the smooth surface is known as incident ray and the ray which bounces back from the surface is called reflected ray.

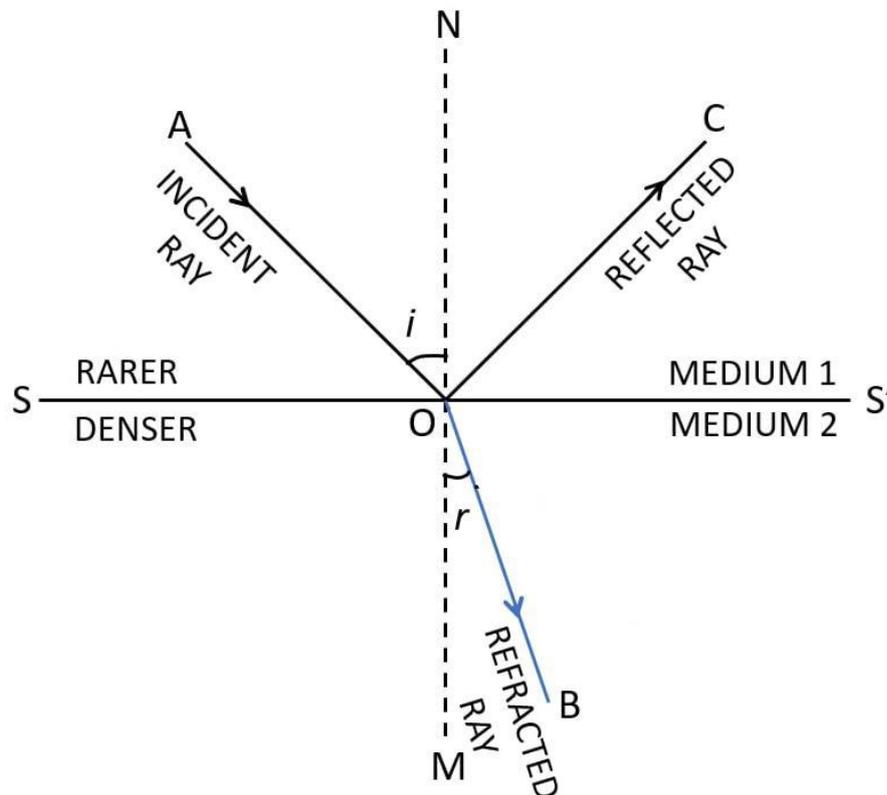
Refraction is defined as the bending of light when it passes from one transparent medium to another. The bending occurs due to density differences between the two media. When the light ray travels from denser to rarer medium, the speed of the light increases and it bends away the normal. Similarly, as a ray of light travels from rarer to denser medium, the speed of light decreases and the ray bends towards the normal.

Refractive index is defined as the ratio of speed of light in vacuum to the speed of light in a particular medium. It is used to measure the concentration of a substance and to find the density of a medium. As the temperature increases, the value of refractive index decreases and vice-versa.

PRINCIPLE

Refractive index, also known as the index of refraction, is the measure of bending of light as it passes from one medium to the other medium. If i is the angle of incidence (the angle between the incidence ray and the normal to the medium) and r is the angle of refraction (the angle between the refraction ray and the normal to the medium), then the refractive index n is defined as the ratio of the sine of angle of incidence to the angle of refraction; i.e.,

$$n = \frac{\sin i}{\sin r}$$



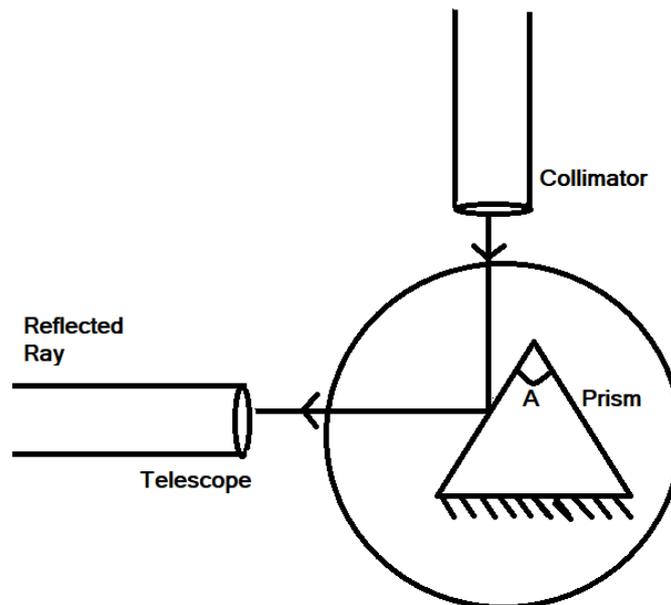
In this project, we focus to determine refractive indices of different liquids using spectrometer and hollow prism by minimum deviation method. The refractive index of the liquid filled in the hollow prism can be determined using the formula,

$$n = \frac{\sin\left(\frac{A + D}{2}\right)}{\sin\left(\frac{A}{2}\right)}$$

The angle of prism (A) is defined as the angle formed between two lateral faces of the prism. These are the faces through which the light enters into the prism and the light goes out after refraction. The determination of angle of prism (A) is done by the supplementary angle method and it is given by the formula;

$$A = 180^\circ - \theta$$

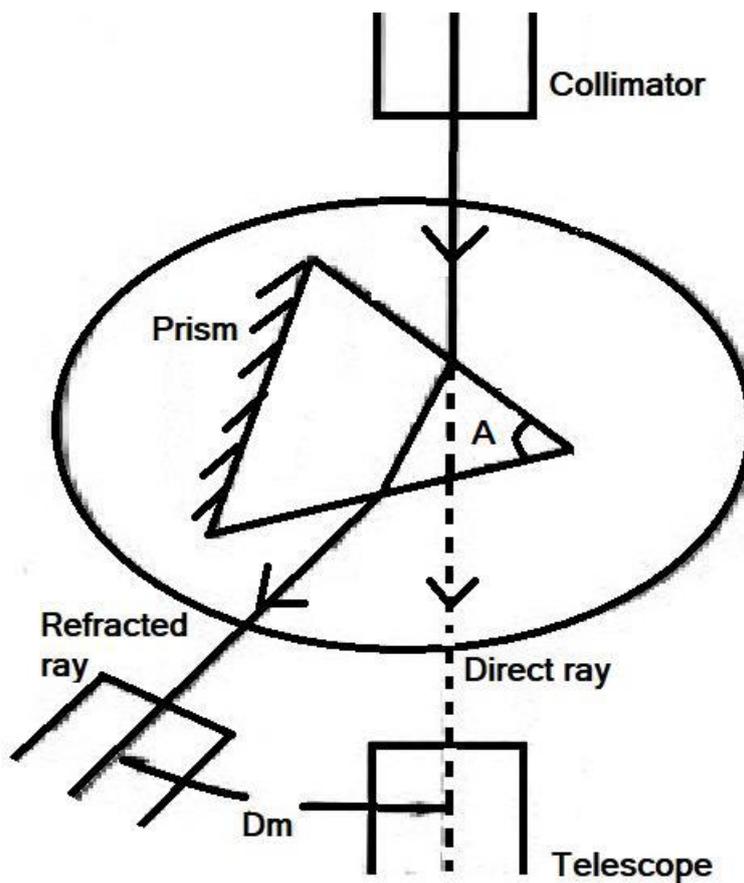
Where θ is the difference between reflected images from face 1 and 2.



Angle of deviation is defined as the angle between the direction of refracted ray and the direction of incident ray as the light travels from one medium to the another. For a given colour of light, the angle of deviation depends on the angle of incidence; as the angle of incidence increases the angle of deviation decreases and reaches a minimum value and then increases. And the smallest angle through which the light is bent by the optical element is called the angle of minimum deviation (D). In minimum deviation, the refracted ray in the prism is parallel to its base, i.e., the light ray is symmetrical about the axis of symmetry of the prism. Here, we can see that the angles of refractions are equal, i.e., $r_1 = r_2$. Also, the angle of incidence and the

angle of emergence are equal to each other ($i = e$). Then the refractive index (n) of the material is given by the formula;

$$n = \frac{\sin\left(\frac{A + D}{2}\right)}{\sin\left(\frac{A}{2}\right)}$$



Knowing the refractive index, the velocity can be calculated by using the relation;

$$v = \frac{c}{n}$$

Where c is the velocity of light in vacuum and n is the refractive index of the material.

EXPERIMENTAL SETUP

Apparatus Used

Spectrometer:- It is an optical instrument used to study the spectra of different sources of light and to measure the refractive indices of different materials. It consists of basically three parts, i.e., the collimator, prism table and telescope. Collimator is an arrangement to produce parallel beam of light. It consists of long cylindrical tube with a convex lens at the inner end and a vertical slit at the outer end of the tube. The distance between the slit and lens can be adjusted such that the slit is at the focus of the lens. Also, the width of the slit can be adjusted and thereby limiting the amount of light that enters the collimator. Telescope consists of an eyepiece provided with cross wires at the one end of the tube and an objective lens at the other end co-axially. The distance between the objective lens and the eyepiece can be adjusted so that we get a clear image at the cross wire of the telescope. Prism table is used for mounting the prism, grating etc. It can be rotated about the vertical axis passing through its center and its positions can be known from the readings taken from the two vernier; vernier 1 and vernier 2. The prism table can also be raised or lowered accordingly.

Hollow prism:- it is a prism which is hollow inside and can be filled with various liquids so that their refractive indices can be determined.

Preliminary Adjustments of Spectrometer

The telescope is adjusted to receive parallel rays by turning it towards a distant object and adjusting the distance between the objective lens and the eyepiece to get a clear image that coincides with the cross wire without any parallax error. And the telescope is brought along the axial line with the collimator. The slit of the collimator is illuminated by a source of light. The distance between the slit and the lens of the collimator is adjusted until a clear image of the slit is seen at the cross wires of the telescope. Since the telescope is already adjusted for parallel rays, a well-defined image of the slit can be formed. And the prism is placed on the prism table with its base turned towards the clamp and one of the reflecting face is perpendicular to the line joining two levelling screws. The table is rotated so that the edge point

towards the collimator. The reflected image of the slit from one of the face is observed through the telescope, then the image is made to coincide with the crosswire. Then the reflected image from the other face is observed through the telescope and it is made to coincide with the crosswire. Thus, the prism table is levelled.

PROCEDURE

1. To find the angle of prism

After the preliminary adjustments, the telescope is clamped in a direction perpendicular to the collimator. The vernier table is then rotated and a reflected image of the slit is obtained of one of the face of the prism, which is recorded through the telescope. Readings of both vernier are noted. The vernier table is unclamped and the reflected image from the other face, is obtained through the telescope. Readings of the both the vernier are noted. The difference between the corresponding readings of the vernier gives θ , the angle through which the vernier table has been rotated. Then the angle of the prism, $A=180^\circ - \theta$ is found out.

2. To find the angle of minimum deviation.

Place the prism so that its centre coincides with the centre of the prism table and light falls on one of the polished faces and emerges out of the other polished face, after refraction. The telescope is turned to view the refracted image of the slit on the other. The vernier table is slowly turned in such a direction that the image of slit is move directed towards the directed ray; ie., in the direction of decreasing angle of deviation. It will be found that at a certain position, the image is stationary for some moment. Vernier table is fixed at the position where the image remains stationary. Using telescope fine adjusting slider, make the slit coincide with cross wire. Note corresponding main scale and vernier scale reading in both vernier (vernier I and vernier II). Carefully remove the prism from the prism table. Turn the telescope parallel to collimator, and note the direct ray readings. Find the difference between the direct ray readings and deviated readings. This angle is called angle of minimum deviation. Refractive index of the material of the prism is determined by using the formula

$$n = \frac{\sin\left(\frac{A + D}{2}\right)}{\sin\left(\frac{A}{2}\right)}$$

The experiment is repeated using different transparent liquids and the corresponding angle of minimum deviation are found; hence the refractive indices are determined.

OBSERVATIONS

Angle of prism

Value of one main scale division = 30'

No of divisions on vernier scale, x = 30

Least count = $\frac{1}{x}$ x (value of one main scale division) = $\frac{30'}{30} = 1'$

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray from face 1 (a)	269°30'	3	269°33'	89°30'	13	89°43'
Reflected ray from face 2 (b)	150°	19	150°19'	330°30'	4	330°34'
Difference between reflected rays			119°14'			119°9'

Total Reading = MSR + (VSR x LC)
 = 269°30' + (3 x 1')
 = 269°33'

Mean θ = 119°11'30''

Angle of prism, A = 180° – 119°11'30''
 = 60°48'30''

ANGLE OF MINIMUM DEVIATION OF WATER (CHLORINATED)

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	82°	20	82°20'	262°	19	262°19'
Direct ray (d)	58°	15	58°15'	238°	11	238°11'
Difference between c and d			24°5'			24°8'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 82^\circ + (20 \times 1') \\
 &= 82^\circ 20'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 24^\circ 6' 30''$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.333$$

$$\text{Velocity of light through water} = \frac{c}{n} = 2.25056264 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF GLYCERINE

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	77°30'	12	77°42'	257°30'	4	257°34'
Direct ray (d)	42°30'	26	42°56'	222°30'	4	222°34'
Difference between c and d			34°46'			35°

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 77^\circ 30' + (12 \times 1') \\
 &= 77^\circ 42'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 34^\circ 53'$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.4648$$

$$\text{Velocity of light through glycerine} = \frac{c}{n} = 2.04806116 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF ISOPROPYL ALCOHOL (SPIRIT)

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	67°30'	11	67°41'	247°	9	247°9'
Direct ray (d)	41°	14	41°14'	220°30'	21	220°51'
Difference between c and d			26°27'			26°18'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 67^\circ 30' + (11 \times 1') \\
 &= 67^\circ 41'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 26^\circ 22' 30''$$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.3624$$

$$\text{Velocity of light through isopropyl alcohol} = \frac{c}{n} = 2.20199647 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF 0.9% NaCl SOLUTION

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	66°30'	9	66°39'	246°30'	2	246°32'
Direct ray (d)	42°	28	42°28'	222°	10	222°10'
Difference between c and d			24°11'			24°22'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 66^\circ 30' + (9 \times 1') \\
 &= 66^\circ 39'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 24^\circ 16' 30''$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.336$$

$$\text{Velocity of light through Sodium Chloride solution} = \frac{c}{n} = 2.224550898 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF LIQUID PARAFFIN

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	66°	16	66°16'	246°	8	246°8'
Direct ray (d)	30°30'	9	30°39'	210°	26	210°26'
Difference between c and d			35°37'			35°42'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 66^\circ + (16 \times 1') \\
 &= 66^\circ 16'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 35^\circ 39' 30''$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.4737$$

$$\text{Velocity of light through liquid Paraffin} = \frac{c}{n} = 2.03569247 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF SUNFLOWER OIL

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	50°30'	19	50°49'	230°30'	9	230°39'
Direct ray (d)	15°	28	15°28'	195°	11	195°11'
Difference between c and d			35°21'			35°28'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 50^\circ 30' + (19 \times 1') \\
 &= 50^\circ 49'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 35^\circ 24' 30''$$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.471$$

$$\text{Velocity of light through sunflower oil} = \frac{c}{n} = 2.03942896 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF ACETONE

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	356°30'	12	356°42'	176°30'	4	176°34'
Direct ray (d)	22°	28	22°28'	202°	16	202°16'
Difference between c and d			25°46'			25°42'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 356^\circ 30' + (12 \times 1') \\
 &= 356^\circ 42'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 25^\circ 44'$$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.3543$$

$$\text{Velocity of light through acetone} = \frac{c}{n} = 2.221516650 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF 10gm OF SUGAR IN 100ml OF WATER

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	345°30'	3	345°33'	165°	4	165°4'
Direct ray (d)	10°30'	11	10°41'	190°	16	190°16'
Difference between c and d			25°8'			25°12'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 345^\circ 30' + (3 \times 1') \\
 &= 345^\circ 33'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 25^\circ 10'$$

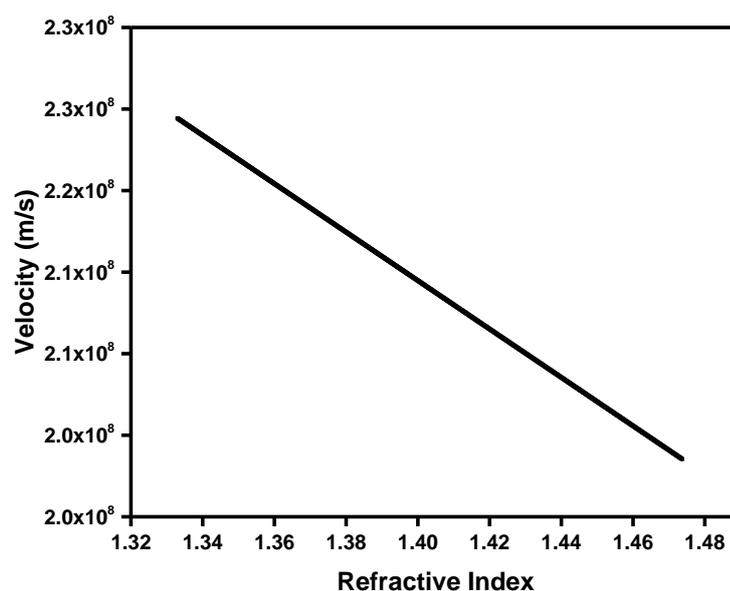
$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.3472$$

$$\text{Velocity of light through sugar water} = \frac{c}{n} = 2.22684085 \times 10^8 \text{ m/s}$$

Sl.no.	Liquid	Refractive Index		Velocity of light 10 ⁸ (m/s)
		Standard value	Obtained value	
1	Water (chlorinated)	1.33	1.333	2.25056264
2	Glycerine	1.470	1.4648	2.04806116
3	Isopropyl alcohol	1.377	1.3624	2.20199647
4	0.9% NaCl solution	1.334	1.336	2.22455089
5	Liquid paraffin	1.476	1.4737	2.03569247
6	Sunflower oil	1.473	1.471	2.03942896
7	Acetone	1.358	1.3543	2.22151665
8	10gm of Sugar 100ml of water	1.347	1.3472	2.22684085

RESULTS AND DISCUSSIONS

The variation of velocity of light with refractive indices is shown in the figure given below. The straight line with negative slope indicates the slowing of light rays in higher refractive index medium.



From the observations, we came to the following conclusion

- As the refractive index of the different liquids increases, the velocity of light through the respective liquids decreases.
- The velocity of light through vacuum is a constant given by 3×10^8 m/s whereas light slows down as it passes through different media.
- The straight line graph with negative slope point out the inverse proportionality between the velocity of light through the medium and its refractive index .

APPLICATIONS

Refractive index is the property of the material which changes the speed of light as the light passes through the sample material. It tells how fast the light is moving in that medium.

Refractive index has many useful applications, they are:

- ✚ Refractive index is used for identifying a particular substance and to confirm its purity.
- ✚ It is also used for measuring the concentration of a substance.
- ✚ It is used for determining the focussing power of lenses and the dispersive power of prisms.
- ✚ It tells us about the behaviour of light in different substances.

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ST. TERESA'S COLLEGE

ERNAKULAM-KOCHI-11

(AUTONOMOUS)

(AFFILIATED TO MG UNIVERSITY, KOTTAYAM)



FINAL YEAR B.Sc. PHYSICS

PROJECT REPORT

2021-2022

**DETERMINATION OF VELOCITY OF LIGHT THROUGH
DIFFERENT LIQUIDS**

PROJECT REPORT

Submitted by

ROYCE ROSE K R

Register No: AB19PHY013

Under the guidance of

Dr. MARY VINAYA

In partial fulfilment of the requirement for the award of



BACHELOR DEGREE OF SCIENCE IN PHYSICS

ST. TERESA'S COLLEGE (AUTONOMOUS)

ERNAKULAM, KOCHI-682011

ST. TERESA'S COLLEGE (AUTONOMOUS)

ERNAKULAM



CERTIFICATE

This is to certify that the project report titled “**DETERMINATION OF VELOCITY OF LIGHT THROUGH DIFFERENT LIQUIDS**” submitted by **Royce Rose K R** towards the partial fulfilment of the requirements for the award of degree of bachelor of physics is a record of bonifide work carried out by them during the academic year 2021- 2022.

Supervising Guide

Head of the department

Priya

Dr. Mary Vinaya

Priya

Dr. Priya Parvathi Ameena Jose

Examiner 1:

Priya

Examiner 2:

Susan



Place: Ernakulam

Date: 09-05-2022

DECLARATION

I **Royce Rose K R**, Register No: **AB19PHY013**, hereby declare that this project entitled **“Determination of velocity of light through different liquids”** is an original work done by me under the supervision and guidance of **Dr. Mary Vinaya**, faculty, department of physics of St. Teresa’s College Ernakulam is in partial fulfilment for the award of degree of bachelor of physics under Mahatma Gandhi University. I further declare that this project is not partly or wholly submitted for any other purpose and the data included in this project is collected from various sources and are true to the best of my knowledge.



ROYCE ROSE K R

Place: Ernakulam

Date: 09-05-2022

**DETERMINATION OF VELOCITY OF LIGHT THROUGH
DIFFERENT LIQUIDS**

ACKNOWLEDGEMENT

First and foremost, I thank God Almighty for his blessings which made this project possible. I'm grateful to the Lord for making this project a success.

I would like to acknowledge and give my warmest thanks to our guide Dr. Mary Vinaya, Department of Physics, St. Teresa's College, for her guidance and motivation through the stages of our project.

I would also like to thank our faculty members of the department, support staff and our friends who directly and indirectly helped us through their valuable support and criticisms, which ensured the success of my project.

ROYCE ROSE K R

ABSTRACT

This project titled “Determination of velocity of light through different liquids” focusses on determining how the refractive index of various liquids affect the velocity of light passing through the respective liquids.

Velocity can be calculated by using the relation:

$$v = \frac{c}{n}$$

Where n is the refractive index and its given by:

$$n = \sin i / \sin r$$

It is a scientifically proven fact that velocity of light through vacuum is constant equal to 3×10^8 m/s whereas the velocity of light slows down as it passes through different media. The findings are based on the experiments conducted. The project experiment involves the usage of spectrometer - hollow prism method to determine the refractive index of different materials and hence the velocity of light through them.

It can be inferred from the results of this experiment that the velocity of light indeed decreases as it passes through different media depending on the respective refractive indices.

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INTRODUCTION

Light (visible light) is electromagnetic radiation that can be seen with the naked eye. The electromagnetic spectrum is enormously vast, ranging from low-energy radio waves to high-energy gamma rays with wavelengths of less than 1×10^{-11} metres. Electromagnetic radiation represents fluctuations in electric and magnetic fields that carry energy at the speed of light (3×10^8 m/s). Light can also be defined as a stream of photons, which are massless packets of energy that travel at the speed of 3×10^8 m/s and have wavelike qualities. A photon is the smallest unit of energy that can be transferred, and it was this knowledge that led to the origin of Quantum theory.

Light shows many different phenomena. Eg: Reflection, refraction, dispersion, diffraction, etc. Reflection of light is defined as the bouncing back of light ray after incidence on a smooth surface. The ray of light which strikes the smooth surface is known as incident ray and the ray which bounces back from the surface is called reflected ray.

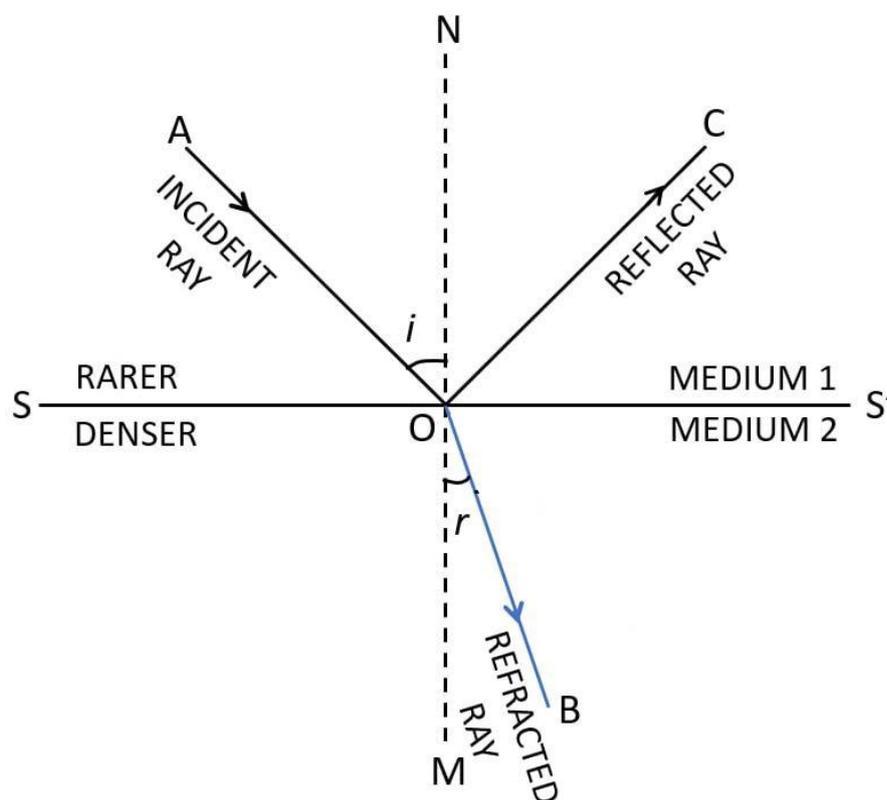
Refraction is defined as the bending of light when it passes from one transparent medium to another. The bending occurs due to density differences between the two media. When the light ray travels from denser to rarer medium, the speed of the light increases and it bends away the normal. Similarly, as a ray of light travels from rarer to denser medium, the speed of light decreases and the ray bends towards the normal.

Refractive index is defined as the ratio of speed of light in vacuum to the speed of light in a particular medium. It is used to measure the concentration of a substance and to find the density of a medium. As the temperature increases, the value of refractive index decreases and vice-versa.

PRINCIPLE

Refractive index, also known as the index of refraction, is the measure of bending of light as it passes from one medium to the other medium. If i is the angle of incidence (the angle between the incidence ray and the normal to the medium) and r is the angle of refraction (the angle between the refraction ray and the normal to the medium), then the refractive index n is defined as the ratio of the sine of angle of incidence to the angle of refraction; i.e.,

$$n = \frac{\sin i}{\sin r}$$



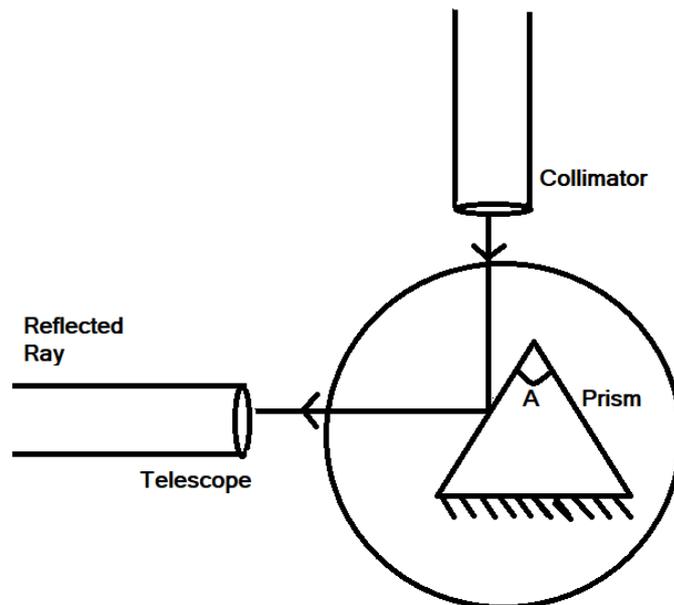
In this project, we focus to determine refractive indices of different liquids using spectrometer and hollow prism by minimum deviation method. The refractive index of the liquid filled in the hollow prism can be determined using the formula,

$$n = \frac{\sin\left(\frac{A + D}{2}\right)}{\sin\left(\frac{A}{2}\right)}$$

The angle of prism (A) is defined as the angle formed between two lateral faces of the prism. These are the faces through which the light enters into the prism and the light goes out after refraction. The determination of angle of prism (A) is done by the supplementary angle method and it is given by the formula;

$$A = 180^\circ - \theta$$

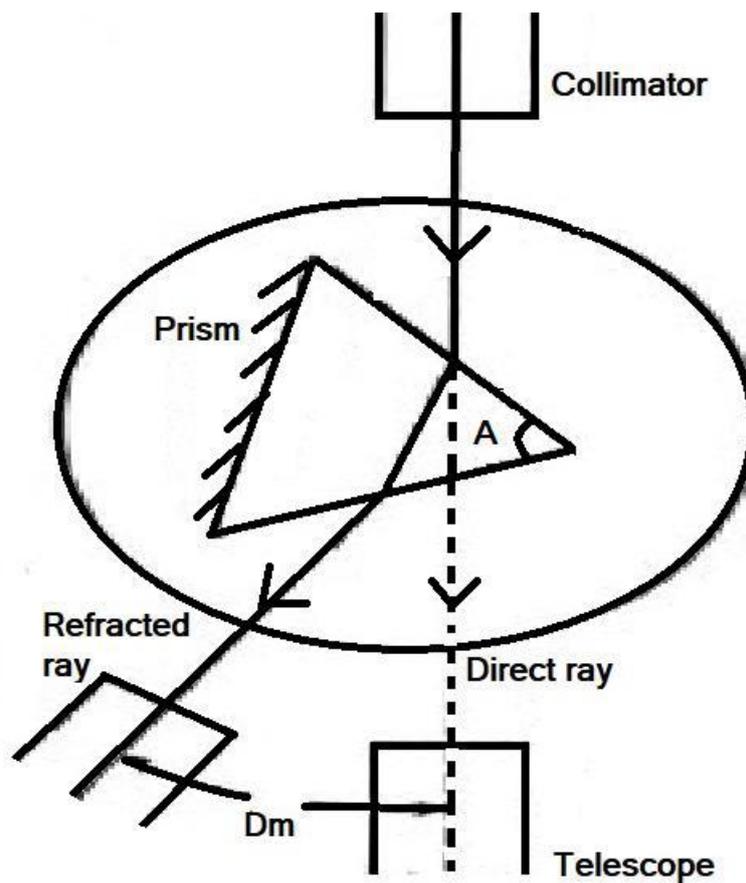
Where θ is the difference between reflected images from face 1 and 2.



Angle of deviation is defined as the angle between the direction of refracted ray and the direction of incident ray as the light travels from one medium to the another. For a given colour of light, the angle of deviation depends on the angle of incidence; as the angle of incidence increases the angle of deviation decreases and reaches a minimum value and then increases. And the smallest angle through which the light is bent by the optical element is called the angle of minimum deviation (D). In minimum deviation, the refracted ray in the prism is parallel to its base, i.e., the light ray is symmetrical about the axis of symmetry of the prism. Here, we can see that the angles of refractions are equal, i.e., $r_1 = r_2$. Also, the angle of incidence and the

angle of emergence are equal to each other ($i = e$). Then the refractive index (n) of the material is given by the formula;

$$n = \frac{\sin\left(\frac{A + D}{2}\right)}{\sin\left(\frac{A}{2}\right)}$$



Knowing the refractive index, the velocity can be calculated by using the relation;

$$v = \frac{c}{n}$$

Where c is the velocity of light in vacuum and n is the refractive index of the material.

EXPERIMENTAL SETUP

Apparatus Used

Spectrometer:- It is an optical instrument used to study the spectra of different sources of light and to measure the refractive indices of different materials. It consists of basically three parts, i.e., the collimator, prism table and telescope. Collimator is an arrangement to produce parallel beam of light. It consists of long cylindrical tube with a convex lens at the inner end and a vertical slit at the outer end of the tube. The distance between the slit and lens can be adjusted such that the slit is at the focus of the lens. Also, the width of the slit can be adjusted and thereby limiting the amount of light that enters the collimator. Telescope consists of an eyepiece provided with cross wires at the one end of the tube and an objective lens at the other end co-axially. The distance between the objective lens and the eyepiece can be adjusted so that we get a clear image at the cross wire of the telescope. Prism table is used for mounting the prism, grating etc. It can be rotated about the vertical axis passing through its center and its positions can be known from the readings taken from the two vernier; vernier 1 and vernier 2. The prism table can also be raised or lowered accordingly.

Hollow prism:- it is a prism which is hollow inside and can be filled with various liquids so that their refractive indices can be determined.

Preliminary Adjustments of Spectrometer

The telescope is adjusted to receive parallel rays by turning it towards a distant object and adjusting the distance between the objective lens and the eyepiece to get a clear image that coincides with the cross wire without any parallax error. And the telescope is brought along the axial line with the collimator. The slit of the collimator is illuminated by a source of light. The distance between the slit and the lens of the collimator is adjusted until a clear image of the slit is seen at the cross wires of the telescope. Since the telescope is already adjusted for parallel rays, a well-defined image of the slit can be formed. And the prism is placed on the prism table with its base turned towards the clamp and one of the reflecting face is perpendicular to the line joining two levelling screws. The table is rotated so that the edge point

towards the collimator. The reflected image of the slit from one of the face is observed through the telescope, then the image is made to coincide with the crosswire. Then the reflected image from the other face is observed through the telescope and it is made to coincide with the crosswire. Thus, the prism table is levelled.

PROCEDURE

1. To find the angle of prism

After the preliminary adjustments, the telescope is clamped in a direction perpendicular to the collimator. The vernier table is then rotated and a reflected image of the slit is obtained of one of the face of the prism, which is recorded through the telescope. Readings of both vernier are noted. The vernier table is unclamped and the reflected image from the other face, is obtained through the telescope. Readings of the both the vernier are noted. The difference between the corresponding readings of the vernier gives θ , the angle through which the vernier table has been rotated. Then the angle of the prism, $A=180^\circ - \theta$ is found out.

2. To find the angle of minimum deviation.

Place the prism so that its centre coincides with the centre of the prism table and light falls on one of the polished faces and emerges out of the other polished face, after refraction. The telescope is turned to view the refracted image of the slit on the other. The vernier table is slowly turned in such a direction that the image of slit is move directed towards the directed ray; ie., in the direction of decreasing angle of deviation. It will be found that at a certain position, the image is stationary for some moment. Vernier table is fixed at the position where the image remains stationary. Using telescope fine adjusting slider, make the slit coincide with cross wire. Note corresponding main scale and vernier scale reading in both vernier (vernier I and vernier II). Carefully remove the prism from the prism table. Turn the telescope parallel to collimator, and note the direct ray readings. Find the difference between the direct ray readings and deviated readings. This angle is called angle of minimum deviation. Refractive index of the material of the prism is determined by using the formula

$$n = \frac{\sin\left(\frac{A + D}{2}\right)}{\sin\left(\frac{A}{2}\right)}$$

The experiment is repeated using different transparent liquids and the corresponding angle of minimum deviation are found; hence the refractive indices are determined.

OBSERVATIONS

Angle of prism

Value of one main scale division = 30'

No of divisions on vernier scale, x = 30

Least count = $\frac{1}{x}$ x (value of one main scale division) = $\frac{30'}{30} = 1'$

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray from face 1 (a)	269°30'	3	269°33'	89°30'	13	89°43'
Reflected ray from face 2 (b)	150°	19	150°19'	330°30'	4	330°34'
Difference between reflected rays			119°14'			119°9'

Total Reading = MSR + (VSR x LC)
 = 269°30' + (3 x 1')
 = 269°33'

Mean θ = 119°11'30''

Angle of prism, A = 180° – 119°11'30''
 = 60°48'30''

ANGLE OF MINIMUM DEVIATION OF WATER (CHLORINATED)

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	82°	20	82°20'	262°	19	262°19'
Direct ray (d)	58°	15	58°15'	238°	11	238°11'
Difference between c and d			24°5'			24°8'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 82^\circ + (20 \times 1') \\
 &= 82^\circ 20'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 24^\circ 6' 30''$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.333$$

$$\text{Velocity of light through water} = \frac{c}{n} = 2.25056264 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF GLYCERINE

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	77°30'	12	77°42'	257°30'	4	257°34'
Direct ray (d)	42°30'	26	42°56'	222°30'	4	222°34'
Difference between c and d			34°46'			35°

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 77^\circ 30' + (12 \times 1') \\
 &= 77^\circ 42'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 34^\circ 53'$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.4648$$

$$\text{Velocity of light through glycerine} = \frac{c}{n} = 2.04806116 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF ISOPROPYL ALCOHOL (SPIRIT)

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	67°30'	11	67°41'	247°	9	247°9'
Direct ray (d)	41°	14	41°14'	220°30'	21	220°51'
Difference between c and d			26°27'			26°18'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 67^\circ 30' + (11 \times 1') \\
 &= 67^\circ 41'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 26^\circ 22' 30''$$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.3624$$

$$\text{Velocity of light through isopropyl alcohol} = \frac{c}{n} = 2.20199647 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF 0.9% NaCl SOLUTION

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	66°30'	9	66°39'	246°30'	2	246°32'
Direct ray (d)	42°	28	42°28'	222°	10	222°10'
Difference between c and d			24°11'			24°22'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 66^\circ 30' + (9 \times 1') \\
 &= 66^\circ 39'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 24^\circ 16' 30''$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.336$$

$$\text{Velocity of light through Sodium Chloride solution} = \frac{c}{n} = 2.224550898 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF LIQUID PARAFFIN

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	66°	16	66°16'	246°	8	246°8'
Direct ray (d)	30°30'	9	30°39'	210°	26	210°26'
Difference between c and d			35°37'			35°42'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 66^\circ + (16 \times 1') \\
 &= 66^\circ 16'
 \end{aligned}$$

Mean angle of minimum deviation, $D = 35^\circ 39' 30''$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.4737$$

$$\text{Velocity of light through liquid Paraffin} = \frac{c}{n} = 2.03569247 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF SUNFLOWER OIL

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	50°30'	19	50°49'	230°30'	9	230°39'
Direct ray (d)	15°	28	15°28'	195°	11	195°11'
Difference between c and d			35°21'			35°28'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 50^\circ 30' + (19 \times 1') \\
 &= 50^\circ 49'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 35^\circ 24' 30''$$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.471$$

$$\text{Velocity of light through sunflower oil} = \frac{c}{n} = 2.03942896 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF ACETONE

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	356°30'	12	356°42'	176°30'	4	176°34'
Direct ray (d)	22°	28	22°28'	202°	16	202°16'
Difference between c and d			25°46'			25°42'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 356^\circ 30' + (12 \times 1') \\
 &= 356^\circ 42'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 25^\circ 44'$$

$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.3543$$

$$\text{Velocity of light through acetone} = \frac{c}{n} = 2.221516650 \times 10^8 \text{ m/s}$$

ANGLE OF MINIMUM DEVIATION OF 10gm OF SUGAR IN 100ml OF WATER

Readings of	Vernier 1			Vernier 2		
	MSR	VSR (divisions)	Total Reading	MSR	VSR (divisions)	Total Reading
Reflected ray (c)	345°30'	3	345°33'	165°	4	165°4'
Direct ray (d)	10°30'	11	10°41'	190°	16	190°16'
Difference between c and d			25°8'			25°12'

$$\begin{aligned}
 \text{Total reading} &= \text{MSR} + (\text{VSR} \times \text{LC}) \\
 &= 345^\circ 30' + (3 \times 1') \\
 &= 345^\circ 33'
 \end{aligned}$$

$$\text{Mean angle of minimum deviation, } D = 25^\circ 10'$$

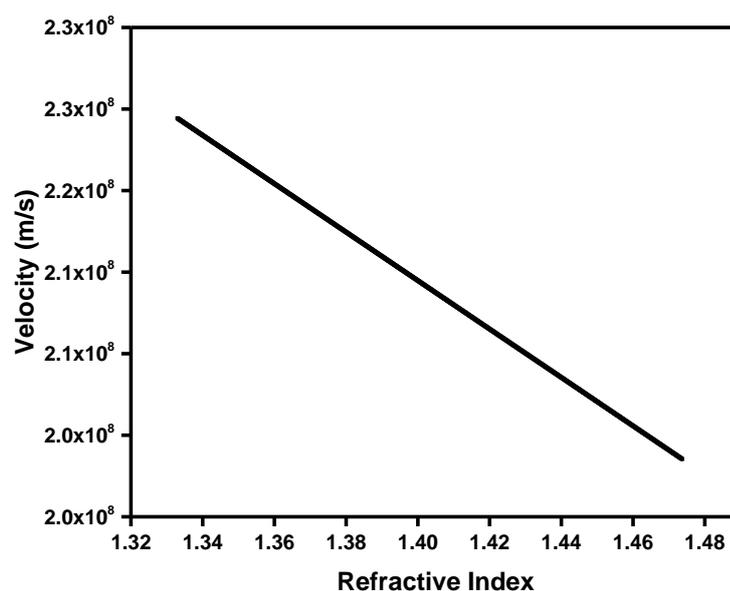
$$\text{Refractive index, } n = \frac{\sin \frac{A+D}{2}}{\sin \frac{A}{2}} = 1.3472$$

$$\text{Velocity of light through sugar water} = \frac{c}{n} = 2.22684085 \times 10^8 \text{ m/s}$$

Sl.no.	Liquid	Refractive Index		Velocity of light 10 ⁸ (m/s)
		Standard value	Obtained value	
1	Water (chlorinated)	1.33	1.333	2.25056264
2	Glycerine	1.470	1.4648	2.04806116
3	Isopropyl alcohol	1.377	1.3624	2.20199647
4	0.9% NaCl solution	1.334	1.336	2.22455089
5	Liquid paraffin	1.476	1.4737	2.03569247
6	Sunflower oil	1.473	1.471	2.03942896
7	Acetone	1.358	1.3543	2.22151665
8	10gm of Sugar 100ml of water	1.347	1.3472	2.22684085

RESULTS AND DISCUSSIONS

The variation of velocity of light with refractive indices is shown in the figure given below. The straight line with negative slope indicates the slowing of light rays in higher refractive index medium.



From the observations, we came to the following conclusion

- As the refractive index of the different liquids increases, the velocity of light through the respective liquids decreases.
- The velocity of light through vacuum is a constant given by 3×10^8 m/s whereas light slows down as it passes through different media.
- The straight line graph with negative slope point out the inverse proportionality between the velocity of light through the medium and its refractive index .

APPLICATIONS

Refractive index is the property of the material which changes the speed of light as the light passes through the sample material. It tells how fast the light is moving in that medium.

Refractive index has many useful applications, they are:

- ✚ Refractive index is used for identifying a particular substance and to confirm its purity.
- ✚ It is also used for measuring the concentration of a substance.
- ✚ It is used for determining the focussing power of lenses and the dispersive power of prisms.
- ✚ It tells us about the behaviour of light in different substances.

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**A STUDY ON THE EFFECT OF ADVERTISEMENTS ON THE URGE TO
PURCHASE INTENT IN CHILDREN**

Dissertation

Submitted by

JIGY JAMES: (SM20COM013)

Under the guidance of

Ms. MERIN ELIZABATH HARRY

**In partial fulfillment of the requirement for the Degree of
MASTER OF COMMERCE**



**ST. TERESA'S COLLEGE ESTD 1925
ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM
COLLEGE WITH POTENTIAL FOR EXCELLENCE**

Nationally Re-Accredited with A++ Grade

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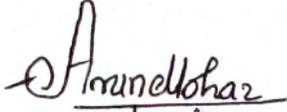
CERTIFICATE

This is to certify that the project titled "A Study on the effect of Advertisements on the urge to purchase intent in children" submitted to Mahatma Gandhi University in partial fulfillment of the requirement for the award of Degree of Master of Commerce is a record of the original work done by Mrs. Jigy James, under my supervision and guidance during the academic year 2021-22. Project Guide


Ms. Merin Elizabeth Harry
Assistant Professor
Department of Commerce (S.F)
Viva Voce Examination held on....




Smt. Jini Justin D'Costa
(Head of the Department)
Department of Commerce (S.F)


24/05/2022
External Examiner(s)

DECLARATION

I, Jigy James , final year M.Com student, Department of Commerce (S.F), St. Teresa's College (Autonomous) do hereby declare that the project report entitled " a study on the risk analysis and management in investing insurance policies" submitted to Mahatma Gandhi University is a bonafide record of the work done under the supervision and guidance of Ms. Merin Elizabeth Harry , Assistant Professor of Department of Commerce (S.F), St. Teresa's College (Autonomous) and this work has not previously formed the basis for the award of any academic qualification, fellowship, or other similar title of any other university or board.

PLACE: ERNAKULAM

DATE: 24/05/2022.



JIGY JAMES

ACKNOWLEDGEMENT

First of all, I am grateful to God Almighty for his blessings showered upon me for the successful completion of my project.

It is my privilege to place a word of gratitude to all persons who have helped me in the successful completion of the project.

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JIGY JAMES

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A Study on the Effect of Advertisements on the Urge to Purchase Intent in Children

ABSTRACT

Advertising may be a marketing concept which aims to influence the buying behavior of consumers. Whereas consumer behavior is that process and activity by which individuals select, purchase, evaluate, and consume the merchandise or service to satisfy the necessity or want. Children have emerged as the major consumer segment these days. Child consumer behavior can be identified in behavior that the child displays in consumption-related activities. TV is a permanent fixture in the lives of children nowadays. The TV set is as familiar as the faces of their family members – sometimes even more so. It entertains, informs, and most importantly, keeps children company. Children were once considered innocent and dependent, who could not make decisions on their own. Now the situation is different and they have become more expressive in their ways, and know very well about what they are doing. They set their own priorities and are capable of making their purchase decisions. The objective of the present study is to explore the factors influencing the urge to purchase intent in children and to study the relationship between advertisements and the urge to purchase intent in children. The results of this study will be highly beneficial for the parents of children between the age groups 5-14. Since children are the biggest assets of parents, this study is intended to give suggestions to them regarding how they can keep an eye on their child's purchase intent.

Keywords: Advertisements, Children, Urge to Purchase Intent.

CHAPTER I
INTRODUCTION

1.1 INTRODUCTION

Advertising may be a marketing concept which aims to influence the buying behavior of consumers. Whereas consumer behavior is that process and activity by which individuals select, purchase, evaluate, and consume the merchandise or service to satisfy the necessity or want (Guolla, G. B., 2011). In olden times marketers used different signs and symbols to plug their products and also to make awareness for the purchasers. With advancement and technology development now organizations focus to use print and electronic media excessively. The use of different marketing promotional strategies has been identified as an effective tool for creating awareness among the consumer population. Among them is popular celebrity attachment with a particular brand. In developing countries where the majority of the population live in remote areas; the effects of Television (TV) advertisement are very much high. In these areas, TV advertisement enhances the satisfaction level of those products and they prefer to buy that one (Bishnoi, V. K., & Sharma, R., 2009).

Children have emerged as a major consumer segment these days. Child consumer behavior can be identified in behavior that the child displays in consumption-related activities. TV is a permanent fixture in the lives of children nowadays. The TV set is as familiar as the faces of their family members – sometimes even more so. It entertains, informs, and most importantly, keeps children company. Children were once considered innocent and dependent, who could not make decisions on their own. Now the situation is different and they have become more expressive in their ways, and know very well about what they are doing. They set their priorities and are capable of making their purchase decisions. A decade ago, ten-year-old children could not decide what to buy. But now, they can easily recall more than 3-4 brands at a time and can even recite the ad jingles with great comfort.

Children not only have become an indispensable part of the present marketing system, but they have also occupied a central place in the Indian family. Parents have been extremely liberal when it comes to the learning aspects of children. As a result, today's children know and speak about the environment, child labor, AIDS, operate computers, are aware of the latest brands, eatables, games, comics, and entertainment. And they are not new to the luxuries of grownups. They can involve themselves in decision-making processes for their family purchases. They are supremely confident of what they want out of their parents. Besides emerging as a large and viable audience for products in their own right, children are becoming a critical component in the household decision-making process. Hence, marketers have started to realize the increasingly critical importance of recognizing and understanding the dynamics of this segment and thus came into force the emphasis on the advertisement to children's products in the modern era through technically targeted advertisements.

Advertising to children refers to that act of selling or advertising products or services to children, as defined by national legislation and advertising standards. There is no universal definition of a

toddler/child (although UNESCO – the United Nations Educational, Scientific, and Cultural Organization, defines infancy as ages 0-8 years). Children are otherwise defined according to national jurisdictions. For advertising law, the definition of a child varies from one jurisdiction to another.

Advertising is a very effective source to affect the mind of viewers and gives viewers exposure to a particular product or service. Also, television advertisements attract children with images, graphics, accounts, and stories. A television advertisement is the most prominent media even if there is no act of purchase, the product still remains in the consciousness of a person (Huat, N. C., 2008). Advertisements creator cast child actors, therefore children reacted very positively. A Child can easily identify the advertising character that appeared to be similar in age & lifestyle (Kinsey, J., 1987). Advertising plays an important role in business presentations and is a useful strategy to attract consumers (ur Rehman, F., Nawaz, T., Khan, A., & Hyder, S., 2014).

The present study is to examine the impact of advertisements on the urge to purchase intent in children, and how it leads to the consumerism of the product. The study is carried out using a model that considers the independent variables influencing purchase intent as Exposure In Ad, Food Advertisement, Repetition Of Ad, Rock Music, School Advertisement, Message Content Of Ad, Gender Power, Attitude, Children Age Group, and Celebrity Endorsement. Advertisement is that most influential and powerful medium within the present commercial society. As far as its influence on society is concerned, advertising is second only to movies (Narasimhamurthy, N., 2014).

In recent years, researchers have found that children played an effective role in the purchase of goods they wish for. And one of the most important and effective factors that are motivating children to buy and consume the products and goods is advertising, particularly through television.

Meaning and Definition

The Oxford Dictionary explains advertisements as a public announcement of goods, etc. for sale. It further says to advertise means to describe and praise (goods etc.) in the public medium to promote sales. Advertisement is, thus, the method of spreading product information among the potential buyers through a public medium so as to maximize sales. Such a public medium includes, among others, newspapers, magazines, television, and radio.

The American Marketing Association defines advertising as “any paid kind of non-personal presentation and promotion of products, services or ideas by an identified sponsor”.

1.2 STATEMENT OF THE PROBLEM

Advertisement copywriters employ various elements of communication like sound or music, actions, pictures, and colors so as to share meaning with the consumers or viewers. These elements are usually beautifully packed by the copywriters to make the specified impact and arouse the viewers' interest and possibly spur them into action.

Advertisements from different sources provide information about different products and it always have a great impact on children's behavior. Children mostly watch television advertisements so they pay their attention more on TV advertisements. Children always want to buy and taste a new brand or they purchase new products due to their most favorite and ideal personality acting in it. That's why it is important to point out the reason for children's buying behavior due to TV advertisements. Thus, the study raises the following questions:

- 1) What are the factors affecting the urge to purchase intent in children?
- 2) What is the effect of advertisements on the urge to purchase intent in children?

1.3 SIGNIFICANCE OF THE STUDY

In one way, this type of study is very essential and helpful for every sort of industry who want to increase the sales of their product. Through this research, an evaluation on how the business zone and all the advertising agencies can progress in their commercials to attract a majority of the population is done. This research can play a vital role because it will help to take decisions according to the results of the research. If a result of the research shows that advertisements haven't affected children's buying behavior, then companies can take the decision that they shouldn't make those types of advertisements in which they attack children's buying behavior and vice versa.

But in another way, this research is also helpful for the society to guide the future of children against the objectionable and undesirable effects of advertisements. It is also expected that this research would significantly add to the already existing body of facts and figures, mostly, on the influence of advertisements on children's behavior and on media effects. The significance of this study from the view point of children is very compulsory because only a few studies on this issue were undertaken. This research might be useful for industries because the situations and environments of every state are changed.

1.4 SCOPE OF THE STUDY

The scope or area of the study is limited to Ernakulam district. The data for the study has been collected from the parents of children belonging to the age group 5-14. The main purpose of the study is to find out the effect of advertisements on the urge to purchase intent in children and to suggest ways to overcome the negative effects of advertisements in children.

1.5 OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

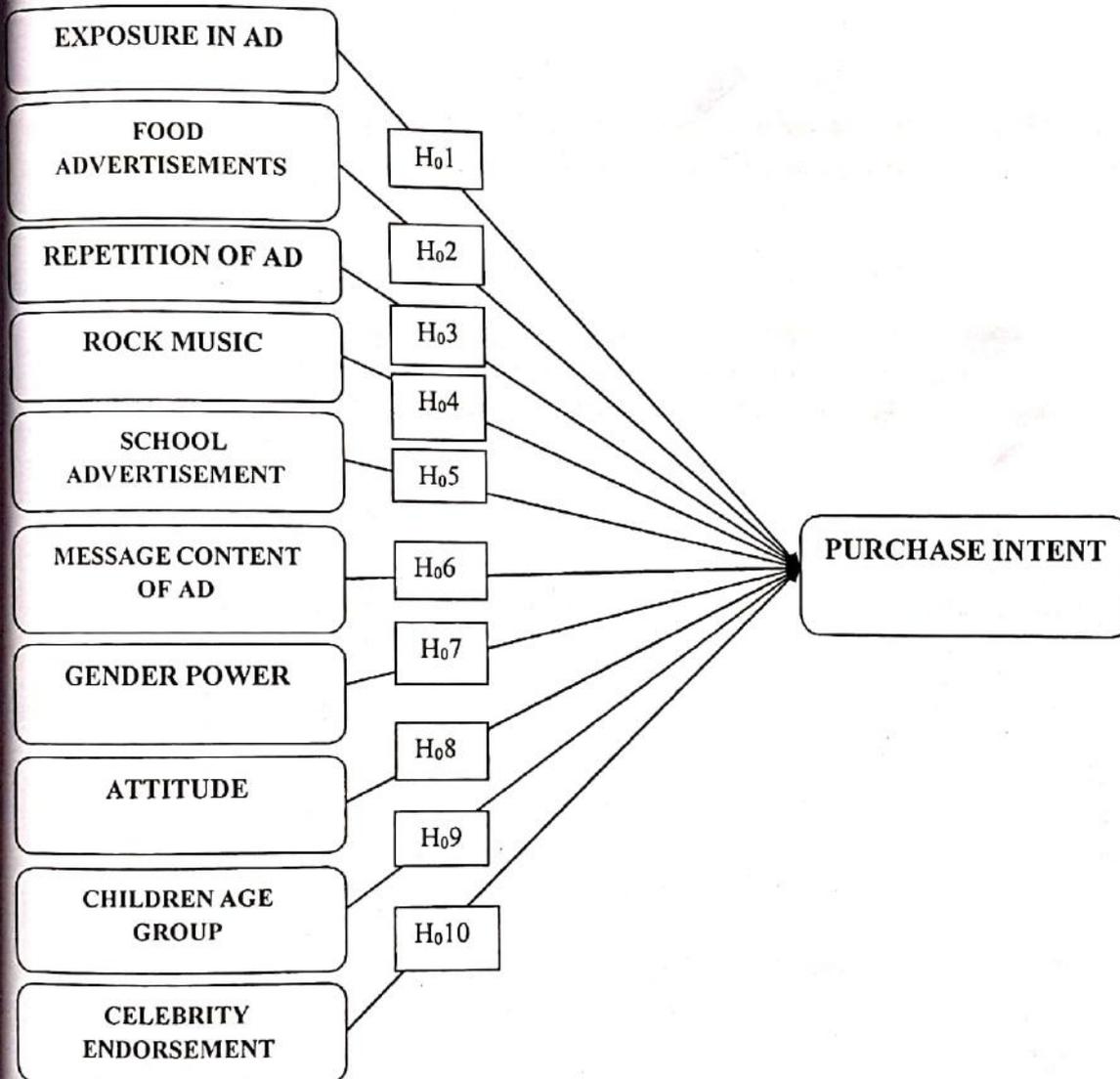
- 1) To explore the factors influencing the urge to purchase intent in children.
- 2) To study the effect of advertisements on the urge to purchase intent in children.

1.6 HYPOTHESES OF THE STUDY

Following are the null hypotheses for the study:

- H₀1: Exposure in Ad has no significant effect on the urge to purchase intent in children.
- H₀2: Food advertisements have no significant effect on the urge to purchase intent in children.
- H₀3: Repetition of Ad has no significant effect on the urge to purchase intent in children.
- H₀4: Rock music has no significant effect on the urge to purchase intent in children.
- H₀5: School advertisements have no significant effect on the urge to purchase intent in children.
- H₀6: Message content of Ad has no significant effect on the urge to purchase intent in children.
- H₀7: Gender power has no significant effect on the urge to purchase intent in children.
- H₀8: Attitude has no significant effect on the urge to purchase intent in children.
- H₀9: Children age group has no significant effect on the urge to purchase intent in children.
- H₀10: Celebrity endorsement has no significant effect on the urge to purchase intent in children.

Figure 1.1: Hypothesized Model



Source: Compiled by the Researcher based on the extensive review.

rock music, school advertisement, message content of ad, gender power, attitude, children age group, celebrity endorsement.

1.7.1 Population

A population refers to the aggregate of all units under study in any field of inquiry. The study covers children belonging to the age group of 5-14. The study was conducted among the children within the Ernakulam district.

1.7.2 Sample design

Sample design is a design that specifies the population frame, sample size, sample selection, and estimation method in detail. For this study, the samples were selected by using the convenience sampling method from the total population of parents of children belonging to the age group 5-14 from Ernakulam district.

1.7.3 Selection of Samples

A sample is a finite subset of a population, selected from it with the objective of investigating its properties. A sample of children was taken from the Ernakulam district. Data were collected from parents of children belonging to the age group 5-14.

1.7.4 Sources of Data

Data is the lowest unit of information from which other measurements and analysis are done. Data in itself can't be understood and to urge information from the data one must interpret it into meaningful information. There are various methods of interpreting data. Data sources are broadly classified into two:

Primary Data

Primary data are first-hand information collected specifically for a purpose through surveys, questionnaires, and direct interviews. In this study, the primary data was collected using a structured questionnaire prepared digitally in Google forms. The questionnaires were sent to respondents. Data were collected from 200 parents of children belonging to the age group 5-14. Responses on various measures used in the study were obtained on a 5-point Likert scale as strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1).

Secondary Data

Secondary data are the data that have been already collected and readily available from other sources. Such data are more quickly obtainable compared to the primary data. Secondary data for the study was collected from various books, published journals, and websites.

1.7.5 Tools for Analysis

The collected primary data were statistically processed, classified, tabulated, and analyzed by using statistical tools and techniques like percentages, mean, mode, and standard deviation. Correlation and regression analysis were used to test the hypotheses. In this study, statistical results were derived with the help of the software called Statistical Package for Social Science (SPSS).

1.8 LIMITATIONS OF THE STUDY

Some of the limitations of the study are as follows:

- 1) Some respondents were hesitant to give true responses.
- 2) The sample size was limited to 200 sample parents only.
- 3) A more detailed study could not be done as time was limited.
- 4) Inherent limitations of sampling have affected the study to a certain extent.

1.9 CHAPTERISATION

For the convenience of the study and the analysis, the work is divided into four different chapters.

Chapter 1- Introduction

This gives an introduction to the study. It gives details including the statement of the problem, significance, scope, objectives, hypothesis, research methodology, limitations, method of analyzing data of the study, and scheme of chapter presentation.

Chapter 2- Review of Literature and Theoretical Framework

It includes various previous studies related to the topic and also includes various information relating to an advertisement that has been obtained from various published sources and acts as secondary data for the study.

Chapter 3- Data Analysis and Interpretation

This explains the examination and analysis of the data to obtain the objectives of the study. Analysis of the study is carried out with the help of the software called Statistical Package for Social Science (SPSS).

Chapter 4- Findings, Suggestions and Conclusion

It is the final chapter which gives findings, suggestions, and conclusion derived from the study.

CHAPTER II
REVIEW OF LITERATURE

2.2 PREVIOUS STUDIES REVIEWED

2.2.1 Exposure in Ad

It is a measure showing the number of times a reader of a particular publication (newspaper or magazine) will get exposed to a print ad, keeping aside the fact whether the reader actually looks at the advertisement. In simple terms, it just means an advertisement being visible to the customer.

The advertisement is to construct awareness, sponsor products, its features and persuades the children to buy, but the perception is diverse, it may have a broader sociological impact. Advertisement makes the children materialistic since it acts as an energizer to stimulate wishes for the products that would not be vital for them otherwise (Wulfemeyer, K. T., & Mueller, B., 1992). The appearance of the product in advertisement includes such stimulators which motivate the child to observe that product is for him. The awareness is that the children ask again and again their parents to buy those products they may not otherwise purchase. The gap is, the child in every situation annoys their parents about any product which has familiarity with him.

The children use the commercial for the sake of getting acquainted with the new brand/product. They know how to use that particular brand for usage purposes. Children can consider their wants according to the products commercialized. That further helps him to demand while shopping with its parents (Mcneal & Ji, 1999). The child not only memorizes the product description but also the important thing is that the unnecessary product/brands for which he/she bargain with their parents to buy.

The negative exposure to TV commercializing, it has very instinctive effects of commercializing on the children (Kunkel, 2001). Too much publicity and exposure to the specific products shown by TV advertisements affect children (Ghaffar, Gulraiz, 2017). Based on this discussion, the study examines the following hypothesis:

H₀1: Exposure in Ad has no significant effect on the urge to purchase intent in children.

Table No. 2.2.1

Measures of Exposure in Ad

Sl.No.	Measures/Items	Reference
1.	Content of advertisements affects children.	Ghaffar, Gulraiz (2017)
2.	Advertisement creates demanding sense in the children.	
3.	Children insist their parents to buy that particular product.	
4.	No television for babies and toddlers is a good policy.	

Source: From the existing Review of Literature.

2.2.2 Food Advertisements

In advertisement, during children's programs half of the advertisements relates to food advertisements that are unhealthy (Furnham A, Abramsky S & Gunter B 1997). A study in the U.S stated that 27.2% to 36.6% of children like the advertisement related to food (Powell LM, Szczypka G & Chaloupka FJ 2007). Children view 27.6% of cereals, 17.7% sweets, 12.2% snacks, 12 % fast food, and 8.8% beverages advertisement (Hameed, A., Waqas, A., Aslam, M. N., Bilal, M., & Umair, M., 2014).

Children, who watch TV commercials particularly more, always tend to become fat because of eating less healthy food, also doing fewer activities of running, cycling, jumping, and exercise. The children's food selection is rounding with a commercialized item such as candy, snacks, cereals, beverages, and almost the fast food items (Macklin, 1987). The children's food preference is highly dependent on TV commercials however, regarding children's behavior it conveys an imbalanced nutritional message.

The positive relationship between the food commercial and the children reminds us of the food that children eat and also their demand (Borzekowski & Robinson, 2001). Food advertisements have an effect on children as the children copy the food which is advertised on TV and acts done by their favorite celebrities or their personal favorite superstars performing in the advertisement.

The child tries to buy and eat the food items and goods that entertained on television shown in advertisements (Ghaffar, Gulraiz, 2017). Based on the above discussion, the study examines the following hypothesis:

H₀2: Food advertisements have no significant effect on the urge to purchase intent in children.

Table No. 2.2.2

Measures of Food Advertisement

Sl.No.	Measures/Items	Reference
1.	Children like food advertisements.	Ghaffar, Gulraiz (2017)
2.	Children want to watch food advertisements repeatedly.	
3.	Children spend most of his/her pocket money on advertised food.	
4.	Children enforce you to purchase that product which is not advertised.	
5.	Children are happy to watch a food advertisement.	

Source: From the existing Review of Literature.

2.2.3 Repetition of Ad

A person should watch a particular advertisement nine times or above before they acquire enough interest in order to think about buying the product or service advertised, according to the book "Advertising: Principles and Practice." This simply means that a person should frequently make repetitions of an advertisement in order to get the attention of a prospective customer.

The commercial repetitions are based on the long term in which the advertiser advertises its item for a longer-term. The commercializing appeal uses the techniques of repeating the item name several times during the commercial. The best part of the commercial is the "Jingles" which often are used in the commercializing techniques to linger the item name in the mind of the mass public. The repeated transmission usually enhances the attention of the children towards the commercial; also its features that attract the children more. The children whenever they see any commercial aspects, stores in their memory easily. It is found that children tend to lose interest due to the repeated transmission of TV commercials. The direct relationship is found in the transmission, repetition, and skills of commercials to attract children's attention (Barcus et al., 2004). The children have the strong observing power from which they observe anything which goes on in their front, they grasp the different features of the seeing and prepare to do that act or state themselves. The advertiser puts in all those features that the child would definitely capture while watching the advertisement. The advertiser has the main focus on children to make its item affect more. Children's purchase decision has significance for the advertiser. This is because the advertiser not only aims the children at home but also in the schools and classroom by their brand/item (Barcus et al., 2004).

Children's perceptions and awareness about the products are getting stronger day by day due to the repetition of TV advertisements. So, the repetition of television advertisements also put a very strong impact on the children's mind and behavior to buy that specific product which was advertised in the television advertisement which is being repeated frequently. So, the repetition of the advertisement has an impact on the children's attitude (Ghaffar, Gulraiz, 2017). The repeated transmission usually enhances attention of children towards the advertisement (Barcus et al., 2004). Based on this discussion, the study examines the following hypothesis:

H₀₃: Repetition of Ad has no significant effect on the urge to purchase intent in children.

Table No. 2.2.3

Measures of Repetition of Ad

Sl.No.	Measures/Items	Reference
1.	Children are influenced by TV advertisements at first sight.	Ghaffar, Gulraiz (2017)
2.	Children like to watch frequently appearing television Ads.	
3.	Repetition of ads affects the minds of children.	
4.	Repetition of ads changes the negative feelings into positive.	

Source: From the existing Review of Literature.

2.2.4 Rock Music

Music used in advertising refers to the music merged into electronic media advertisements in order to energize its success. Music in advertisements affects the way people perceive the brand by various means and on different phases, and "can most importantly affect the emotional response to television advertisements." It also affects the musicians whose music is featured in advertisements.

During the years 1970 to 1980, rock music gave birth to sex and drugs (Fedler et al., 1982). Rock music became the reason of these things in young and adolescents. Listening to metal music has become the reason for creating a disturbance in life and using drugs (Weidinger and Demi, 1991). Those who listen to heavy rock music, they like to use drugs. Rock music produces the urge of drugs in those children who are sensitive in nature and also they show violent behaviors (Arnett, 1992). The suicide rate has increased because of listening to heavy metal music (Stack et al., 1994). Children who are fond of rock metal music movies show poor performance in school. They get bad grades. And they love sexual activities, drinking, and using drugs (Took and Weiss, 1994).

Rock music has influenced children's attitudes and behavior towards the advertised items and products. If there were children's favorite singer singing in television advertisements, then the impact of that musical advertisement is more than other advertisements. This is because music attracts children and changes the behavior and their mind towards the advertised products (Ghaffar, Gulraiz, 2017). Hence, the following hypothesis is examined in this study:

H₀4: Rock music has no significant effect on the urge to purchase intent in children.

Table No. 2.2.4

Measures of Rock Music

Sl.No.	Measures/Items	Reference
1.	Children like to watch music advertisements.	Hameed, A., Waqas, A., Aslam, M. N., Bilal, M., & Umair, M. (2014)
2.	Children are convinced by the products used in music videos.	
3.	The products advertised by children's favorite music star convince very much.	

Source: From the existing Review of Literature.

2.2.5 School Advertisement

The advertisements that are in-school in nature are perceivable kinds of advertising which can be seen on billboards, school buses, scoreboards, etc. In-school advertisements include those advertisements on cover of books and the one in piped-in radio programming. Advertising is also found in product coupons and in give-away that are distributed in schools.

In the last 10 years, advertisement in public high school was very much in demand because in this manner sales increases to a large extent and also increases the loyalty of the children to a particular product (consumer union of USA 1995 and Levine 1999). In a survey researchers also found that students do not purchase 100% juices instead that they purchase soft drinks, energy drinks, fruit drinks and snacks purchase 58% in primary school 83% in the schools known as middle school(Wechsler, H., Brener, N. D., Kuester, S., & Miller, C., 2001). In the USA 80% of primary schools, 50% of the middle schools, and 25% of the college are those institutes which give the contract to the companies to sell their products or services in their institutes (Wechsler, H., Brener, N. D., Kuester, S., & Miller, C., 2001).

Since children spend about 20 percent of their time in schools, advertisers have been impatient to influence school-based marketing through various means. Although traditionally there have been links between business and education in this country (Harty, 1979), commercialism in schools has recently skyrocketed and has spurred public debate. Due to children's importance in purchasing decisions, advertisers target the children not only in households but also in

schoolrooms and institutes (Barcus, 1980). Based on the above discussion, the following hypothesis is established:

H₀₅: School advertisements have no significant effect on the urge to purchase intent in children.

Table No. 2.2.5
Measures of School Advertisement

Sl.No.	Measures/Items	Reference
1.	Children buy food placed in their schools.	Hameed, A., Waqas, A., Aslam, M. N., Bilal, M., & Umair, M. (2014)
2.	Children want to purchase everything that is placed in school.	
3.	Children like to eat something in the school's canteen.	
4.	Product exhibitions in school influence a child.	
5.	Children like product exhibitions in school every month.	

Source: From the existing Review of Literature.

2.2.6 Message Content of Ad

There are a so many specific identifiable approaches that are used in advertising in order to bring out a message. These mainly include animation, analogy, celebrity sponsorship, contrast, demonstration, diagrammatic, familiar, nostalgic, participation, a slice of life, etc. These approaches are primarily ways of organizing a visual structure, or a form for some content to be presented to the ultimate audience. While these advertising approaches are ways of dispatching a message, they do not mean the message itself.

The increase in the television channel in Pakistan had increased the demand for advertisement also. The electronic media is unable to sustain without advertisements. There are several advertising companies that carry out business in Pakistan and these companies order the quality of advertisements as per the international standards. So the Pakistani advertisement had furnished itself with modern approaches of international standards. But in the older times, the outdoor advertisements and store signage in Pakistan were usually oil painted and were at risk to different threats such as fading of colors and average constitution, with most hoardings and shop frames being manufactured with low gauge metal sheets or plastic (Primemedia, 2013).

Advertisement is a very important marketing communication tool for sellers. It is a crucial factor in spreading awareness about the new products in the markets. It is, therefore, challenging for the managers to compete with this global challenge of attracting the consumers towards their products and services. At this posture, advertisements played a significant role in creating the awareness of the products of an organization to the prospective buyers. The advertisement media

is very important for the promotion of advertisements. Such advertisements have a positive effect on the buying behavior of people (Arshad, M., & Aslam, T., 2015). Based on this, the study examines the following hypothesis:

H₀₆: Message content of Ad has no significant effect on the urge to purchase intent in children.

Table No. 2.2.6

Measures of Message Content of Ad

Sl.No.	Measures/Items	Reference
1.	Advertising is a valuable source of information about sales/products.	Pollay and Mittal (1993)
2.	Advertising contributes to the knowledge of a quality product.	
3.	Advertisements are a useful source of information.	
4.	Advertising tells children which brands have the features they are looking for.	
5.	Advertising helps children keep up to date about products/services available in the marketplace.	

Source: From the existing Review of Literature.

2.2.7 Gender Power

One of the most determined designs in the distribution of power is that one which relates to the inconsistency between women and men. The set of roles, behaviors, and attitudes that societies define as accurate for women and men ('gender') can be the reason, after effects, and medium of power relations, from the close sphere of the household to the toppest levels of political decision-making. Wider composition and institutions can also configure the distribution of power by strengthening and depending on gender roles.

Gender advertisement relates to the images in advertising that show stereotypical gender roles and displays. Gender exhibits are used largely in advertising in order to initiate the role of one gender in relation to another. Some scholars debate that advertisers are too much obsessed with gender. Advertisers mainly look upon gender relationships. This is because people define themselves by gender, and gender may be "communicated at a glance". This makes it easy for advertisers make use of this theme in their work. "Within the current scenario people are aware about the avenue and body image's close relation. Particularly, the body image advertising portrays affects our body image. Certainly, lot of other things pursues our body image: parenting, education, intimate relationships, etc. The media in demand does have a huge effect, though." The reason for this is that, thousands of advertisements consist of messages about physical attractiveness and beauty, examples which include advertisements for dresses, cosmetics, weight reduction, etc. Researchers have carried out studies in an attempt to see whether such

commercials have impact on teenage body image, and what those impacts might be. Women account for 85% of consumer purchases.

The way in which the children acquire gender proper behavior and their influences of TV commercializing upon the child perception and rebuild of gender fancy (Smith, 1994). The commercial has the right to use theme and character they believe will sell their items most effectively, they need also to appreciate the social implication of their activities. Many of the commercial (cartoon based) are also made for the separate gender but launches overall to the children. The female-oriented commercials on the TV influence the child. The commercial basically consists of two parts of characters one is male-oriented and the second one is female-oriented commercial. The commercial of different gender has a different effect on purchasing and consuming. The gender-based commercial constructs the sense of differentiation in the mind of viewers to separate their gender commercial from the other gender commercial.

In the commercial the child has a variety to observe in the gender-based commercial although the male and female observing of a commercial is not the same (Courtney & Whipple, 1983). The female child-oriented commercial will never be interested in the male child's as in the other hand the boys are aggressive in nature so have different behavior as compared with female children. The children basically observe and realize from the character symbolized in commercial apparent shapes and support of gender (Courtney & Whipple, 1983). Based on the above discussion, the study examines the following hypothesis:

H₀7: Gender power has no significant effect on the urge to purchase intent in children.

Table No. 2.2.7

Measures of Gender Power

Sl.No.	Measures/Items	Reference
1.	Celebrities in advertisements make it more powerful.	Ghaffar, Gulraiz (2017)
2.	An advertisement having male attracts a male child and vice versa.	
3.	Children get attracted to advertisements that have cartoons, robots, and colors.	
4.	A child enforces to purchase food items after watching cartoon characters' advertisement.	

Source: From the existing Review of Literature.

2.2.8 Attitude

Attitude towards commercials is defined as "a tendency to acknowledge in a favorable or unfavorable manner to a particular advertising motive during a particular exposure occasion."

The attitude toward advertising as an institution can be defined as the overall evaluation of advertising at large. The first comprehensive and systematic examinations of the attitude toward advertising were conducted in the 1960s. Bauer and Greyser (1968) report the results of survey studies among over 1,800 male and female consumers, and among over 2,300 businessmen in the U.S. In a partial replication and extension of the Bauer and Greyser study, Haller (1974) surveyed 500 students, from a number of different fields and schools in the U.S.

The literature (Reid and Soley, 1982) indicates that the attitude toward advertising in the U.S. became less favorable from the beginning of the 1930s until the mid-seventies, but that it has become more positive since then (Gaski and Etzel, 1986). Advertising is a too complex societal phenomenon to simply analyze the overall evaluation that consumers have of it (Gaski and Etzel, 1986). An analysis of the cognitive structure that is the basis of the attitude provides a richer and deeper understanding. Several specific aspects of the attitude toward advertising have received due attention in research. Some discuss the social and economic consequences of advertising (Mishan, 1977; Reid and Soley, 1982), while others focus on the ethic and aesthetic aspects (Bauer and Greyser, 1968; Haller, 1974; Kirkpatrick, 1986).

The representation of attitude towards advertisements is the most leading and influencing theory of advertising and marketing research. The attitude which is formed towards the ad helps in the transformation of attitude of consumers toward the products or brands until their purchase intention is formed (Goldsmith and Lafferty, 2002). Attitude towards advertising is a significant concept since it is one among the determinants of attitude towards particular advertisements (Lutz, 1985) and can impact the way a customer will respond to any particular advertising (Mehta, 2000). However, these studies scrutinize customers' attitude towards advertising in general, rather than advertising in a specific medium (Tan and chia, 2007). Pollay (1986, 1987) and Holbrook (1987) review a number of general arguments against and in favor of advertising, and a number of different elements within each argument. Based on this, the study establishes the following hypothesis:

H₀₈: Attitude has no significant effect on the urge to purchase intent in children.

Table No. 2.2.8

Measures of Attitude

Sl.No.	Measures/Items	Reference
1.	Children consider television advertising a bad thing.	Reid and Soley (1982)
2.	Children like advertising.	
3.	Children consider television advertising to be very essential.	

Source: From the existing Review of Literature.

2.2.9 Children Age Group

Lawfully, the term child may relate to anyone below the age of 18 or some other age group. The UN Convention on the Rights of Child defines a child as "a human being under the age of 18 unless, under the law pertinent to the child, majority is attained earlier".

Younger children tend more to form a behaviour towards the items that it lookouts from commercial, the message of advertisement may be diffused or complex in nature and decision made by the child with the exposure in advertisement. The children stage feels difficulty to recall the previously stored information and in making the decision (Kobasigawa, 1977). As the child has more memory to store the item description as it's the gap that the child anytime during the itemsit lookouts it attaches its consideration with that item. The child also uses the pester power as it knows its parents will not purchase that item for him. So it also strengthens its memory abouta certain item so the peer influences can help him to get more information about that item. The researcher shows that the children's item knowledge is firstly based on a TV commercial and gets information by discussing it with its peers, friends, and whom they observe an expert (Caron & Ward, 2004).

There was a problem faced in knowing what age of the children understands the advertisement. Then in the study it was known that at the age of three years children could understand the advertisement (Donohue et al. 1980). But after that the advertisement understanding level at higher age was known (Park and Young, 1986).

However it was also known that commercials could be realized by the children at the age of 5. But the attitude of the children could be transformed about the advertisement according to their age (Kline, 1995). After that it was also known that when children reached the age of maturityhis or their mental ability also increased so, in this way they would be able to realise better the advertisement (Rossiter 1977, Rodder 1981-1999 and Moore 2004). Children attract that kind of advertisement in which they found a situation which occurs about them in actual (Gold Berg and Gorn 1982 and Aitkin et al. 1998).

Age has been addressed as a major explanatory variable in many studies on the socialization of the consumer. Piaget (1952) argued that a large part of socialization develops until the age of 15. Children of the age 15 and more hold more information on prices, have strong materialist values, and also socially accepted behaviours regarding utilization. Therefore, as they get older, children use more information resources in purchasing, behave more objectively in evaluating goods, and better understand marketing practices and policies. Children's Age group doesn't matter a lot but it also has an impact on children's behavior as the age of the children increases they're more influencing their parents to buy that particular product which is being advertised on the television screen. So, we can conclude that by changing in age, children are more impatient about buying that specific product which might be a food item or any other item (Gulzair Ghaffar & Usma Noreen, 2017). Based on the above discussion, the study examines the following hypothesis:

H₀₉: Children's age group has no significant effect on the urge to purchase intent in children.

Table No. 2.2.9

Measures of Children Age Group

Sl.No.	Measures/Items	Reference
1.	Children influence parents for purchasing the product at the age of 5 years after watching the advertisement.	Hameed, A., Waqas, A., Aslam, M. N., Bilal, M., & Umair, M. (2014)
2.	As age increases, children are more influencing parents for purchasing food.	
3.	Children could understand the advertisement of food.	
4.	A child likes to watch advertisements mostly.	

Source: From the existing Review of Literature.

2.2.10 Celebrity Endorsement

Celebrity branding or celebrity endorsement is a form of an advertising campaign or marketing strategy used by brands, companies, or a non-profit organization which involves celebrities or a well-known person with the use of their social status or their star value assist in promoting a product, service or they even give awareness on environmental or social matters. Marketers use celebrity endorsers in the hope that the positive images of the celebrity endorser of the brand will also be passed on to the products or the brand image associated with the celebrities. Celebrity endorsement is mostly utilized by fashion or beauty brands. But a non-profit organization depends on celebrities as well, since celebrities have large communication skills which can persuade people's attention and is helpful in reaching out to a large number of audiences to raise their awareness towards a certain organization or a matter, thus making celebrities effective fundraisers.

Hakimi et al. (2011) proposes the model of relationship of attributes of celebrity endorsement with the positive brand image which in return leads to consumers' positive purchase intentions and buying behaviors. Celebrity endorsement has been the modern communicational technique used in marketing mix communication in which celebrities played the role of spokespersons by the organizations for the promotion of their brand and products. The global business world is dynamic and unstable (Majeed and Razzak, 2011). In this competitive world the competition had increased to a great extent and it had been become unmanageable for the organizations and companies for the attraction and retaining of the potential and the actual customers. The most important and prominent tool for any organization to attract potential buyers for their products was that of advertisement.

(McCracken, 1989) through his research defines celebrity endorser. As per his study, a celebrity endorser is a person who enjoys public recognition and who makes use of this recognition on behalf of a consumer product by appearing with it in a commercial. His research has shown that in general celebrity endorsement influences the feelings of the consumers, the consumer's attitude towards advertisement, and consumer's attitude towards the brand. This in turn can increase the consumer's purchase intention and would boost the sales of the company.

Consumers are attracted more towards those advertisements to which they are frequently exposed. Moreover the impact of celebrity endorsement effect of advertisement was not seen significant in the detergent advertisements because consumers rely more on the quality of the detergents rather than the affective perspective of the celebrity endorsement. As the consumer's intention for the purchasing of the product through the repeated frequency of detergent ads was significant and insignificant of that of celebrity endorsement construct, the researchers had proposed that the effect of celebrity endorsement could be analyzed in any other product industry rather than the detergent industry of Pakistan (Arshad, M., & Aslam, T., 2015). Based on these, the study examines the following hypothesis:

H₀10: Celebrity endorsement has no significant effect on the urge to purchase intent in children.

Table No. 2.2.10

Measures of Celebrity Endorsement

Sl.No.	Measures/Items	Reference
1.	Celebrity also used those products which they themselves endorse.	Arshad, M., & Aslam, T. (2015)
2.	The picture of famous celebrities in ads makes children think that the product is of good quality.	
3.	Celebrity in ads reflects a child's feelings of trustworthiness.	

Source: From the existing Review of Literature.

2.2.11 Urge to Purchase Intent

Spears and Singh (2004) define purchase intention as a consumer's conscious plan or intention to make an effort to purchase a product.

Purchase intention is a consumer's objective intention towards a product (Fishbein and Ajzen, 1975). Purchase can be made through online shopping sites as well as through traditional rick and motor markets. Purchase intention focuses on whether consumers are willing and intending to buy a certain product (Pavlou, 2003).

Advertising has become a powerful medium of communication. The degree of effect of commercials on adults may be troublesome. But the outcome is destructive in nature for children. Advertisers of children television used to appeal to parents- earlier, but now they directly appeal to children, (Nawathe, A., Gawande, R., & Dethe, S., 2007) who don't have the emotional or cognitive device to assess what is being sold to them. The influence of media in general and advertisements in particular on the psychological development of children is profound. Children easily believe in what is being told to them by their counterparts through advertising.

In the present market there is severe competition among the sellers to sell the product. Children are omnipresent targets for almost all products. Children lack the expertise and the knowledge required to interpret the contents of the advertisements as well as the motive behind the same. The socio-cultural, political, and economic orders have transformed the children into sophisticated consumers (Singh, D., 1998). Korgaonkar, P., & Wolin, L. D. (2002) revealed that decision making is shifting towards the younger population. Many shopkeepers come to know of new products from these young children and stock them up in their shops (Narayan, 2000). The phenomenon of kids' power is now recognized by a growing breed of marketers; the kids have in-depth knowledge about things like TVs and Computers and therefore they play a critical role in making purchase decisions.

The role of children in modern society is changing. Children continually assume a larger role in their homes and are becoming further entrenched and involved in shopping and buying habits of the households in which they live. Children are influenced by their surrounding and this includes television and radio contents. Studies show that nearly 61% of parents say 'Yes' to the demands of their children based on what they have seen as TV advertisements (Hite and Eck, 1987).

Table No. 2.2.11

Measures of Urge to Purchase Intent

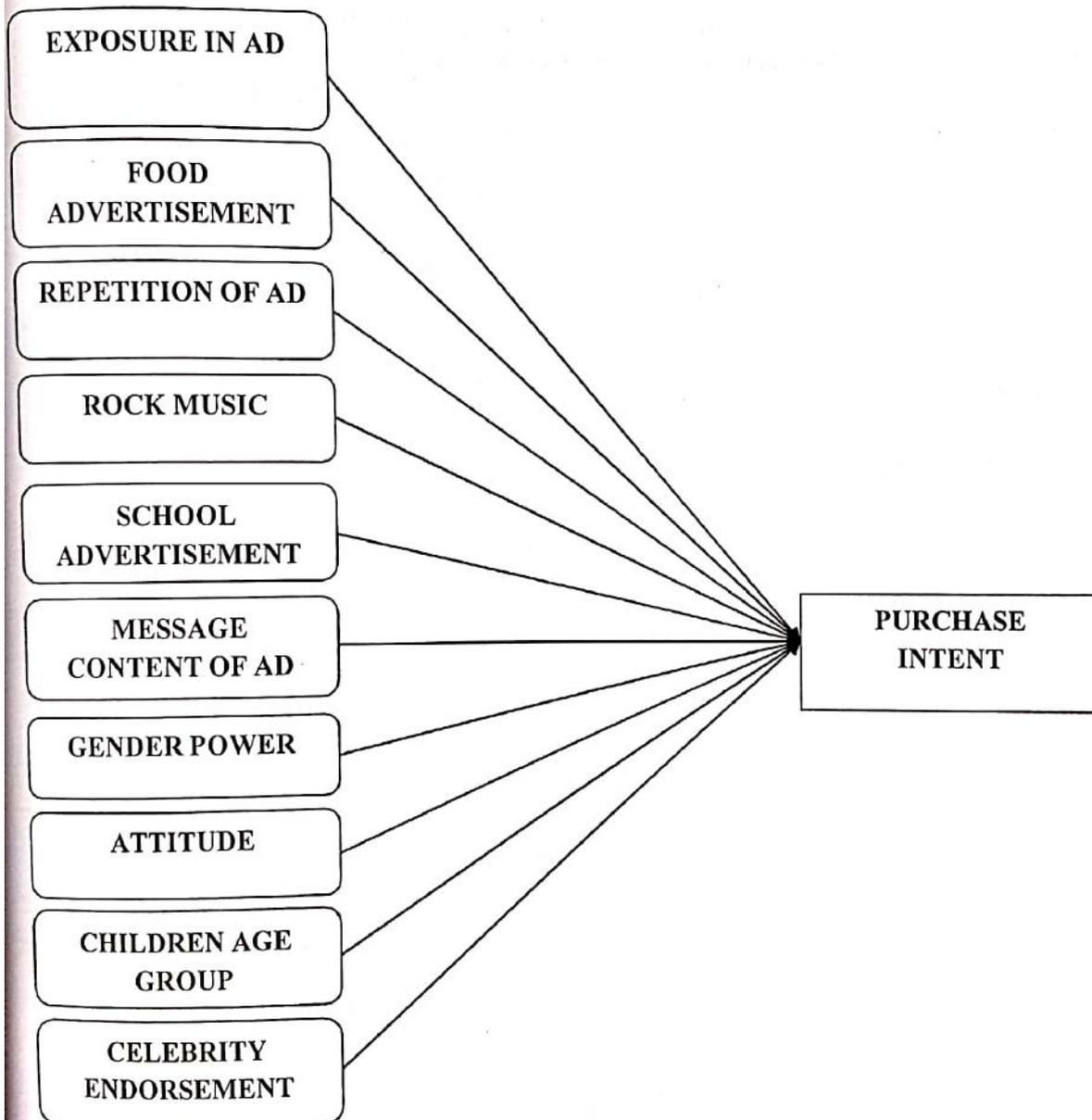
Sl.No.	Measures/Items	Reference
1.	I would definitely intend to buy the product.	Ahmed et al. (2010)
2.	I would obviously consider my child's purchase intent.	
3.	I would definitely expect to buy the product.	
4.	I would absolutely plan to buy the product.	

Source: From the existing Review of Literature.

2.2 MODEL FOR VALIDATION

Based on the above identified variables and review, the following model was developed for validation.

Figure 2.1: Model for Validation



Source: Compiled by the Researcher based on the extensive review.

2.4 SUMMARY

In this chapter the theoretical framework of 'A Study on the Effect of Advertisements on the Urge to Purchase Intent in Children' was made and the model development and review regarding the construct used are done. This provides a detailed idea and structure to ahead the project in the track and questionnaire development was made easeful. The variables or construct mentioned here were measured using several items identified in the present review itself. To conclude, all the available previous studies were reviewed to make a meaningful model to be validated.

CHAPTER III
THEORETICAL FRAMEWORK

3.1 INTRODUCTION

Today, companies spend a massive amount of their earnings on advertising in different media such as television, radio, magazine, online platforms, etc. Television is one among the common media for this reason. Advertising is that non-personal message containing the details frequently purchased and credible in nature about products, services, or ideas by recognized sponsors through the varied media (Srinivasa, D., 2008). The promoter intends to increase his ideas about the products and offerings among the forecast. The popularization of the products is thus, the basic aim of advertising (Ramaswami & Namakumari, 2004). The greater part of the marketers uses mass media for their marketing message. The choice of media depends upon the characteristics of the message and upon the intended target viewers (Etzel et al, 2008). Television advertising is that best viewed and economical media ever invented. It has a possible advertising impact matchless by the other media (Saxena, 2005). The advantage of television over the other mediums is that it's perceived as a mixture of audio and video features; it provides products with instant validity and fame and offers the best chance for creative advertising (Kavitha, 2006).

Advertising could also be a marketing communication that employs an openly sponsored, non-personal message to plug or sell a product, service, or idea. Sponsors of advertising are typically businesses wishing to market their products or services. Advertising is differentiated from public relations therein an advertiser pays for and has control over the message. It differs from personal selling in that the message is non-personal, i.e., not directed to a specific individual. Advertising is communicated through various mass media, including traditional media like newspapers, magazines, television, radio, outdoor advertising or direct mail; and new media like search results, blogs, social media, websites or text messages. The actual presentation of the message during a medium is mentioned as an advertisement, or "ad" or advert in brief.

Commercial ads often seek to urge increased consumption of their products or services through "branding", which associates a product name or image with certain qualities within the minds of consumers. On the opposite hand, ads that shall elicit an instantaneous sale are referred to as direct-response advertising. Non-commercial entities that publicize more than consumer products or services include political parties, interest groups, religious organizations, and governmental agencies. Non-profit organizations may use free modes of persuasion, like a public service announcement. Advertising can also help to reassure employees or shareholders that an organisation is viable or successful.

3.1.1 CLASSIFICATION

Advertising could also be categorized in a varied number of ways, including by style, audience, geographic scope, medium, or purpose. For example, in print advertising, classification by style can include display advertising (ads with design elements sold by size) vs. classified advertising (ads without design elements sold by the word or line). Advertising may be local, national, or

global. An ad campaign may be directed toward consumers or businesses. The purpose of a billboard could also be to boost awareness (brand advertising) or to elicit an instantaneous sale (direct response advertising). The term above the line (ATL) is employed for advertising involving mass media; more targeted sorts of advertising and promotion are mentioned to as below the line (BTL). The two terms dates back to 1954 when Procter & Gamble began paying their advertising agencies differently from other promotional agencies. In the 2010s, as advertising technology developed, a replacement term, through the line (TTL) began to return into use, pertaining to integrated advertising campaigns.

Traditional media

Virtually any medium can be used for advertising. Commercial advertising media consists of wall paintings, billboards, street furniture components, radio, cinema and TV adverts, web banners, mobile telephone screens, etc. Any situation during which an "identified" sponsor pays to deliver their message through a medium is advertising.

Television

Television advertising is one among the foremost expensive sorts of advertising; networks charge large amounts for commercial airtime during popular events. The annual Super Bowl football within the United States is understood as the most prominent advertising event on television – with an audience of over 108 million and studies showing that 50% of these only tuned in to watch the advertisements. During the 2014 edition of this game, the typical thirty- second ad cost US\$4 million, and \$8 million was charged for a 60-second spot. Virtual advertisements could also be inserted into regular programming through special effects. They are inserted into blank backdrops or used to replace local billboards that are unimportant to the remote broadcast audience. More controversially, virtual billboards may be inserted into the background where none exists in real life. This technique is particularly utilized in televised sporting events. Virtual product placement is also possible. An infomercial may be a long-format television commercial, typically five minutes or longer. The word "infomercial" may be a portmanteau of the words "information" and "commercial". The main objective in an infomercial is to make an impulse purchase so that the target sees the presentation and then suddenly buys the merchandise through the advertised toll-free telephone number or website. Infomercials describe, display, and sometimes demonstrate products and their features, and commonly have testimonials from customers and industry professionals.

Radio

Radio advertisements take place through radio waves to the air from a transmitter device to an antenna and lastly to a receiving device. While radio has the limitation of being restricted to sound, proponents of radio advertising often cite this as a plus. Radio is an expanding medium that will be found on air, and also online. According to Arbitron, radio has approximately 241.6 million weekly listeners or greater than 93 percent of the U.S. population.

Online

Online advertising may be a sort of promotion that uses the World Wide Web for the expressed purpose of delivering marketing messages to draw in customers. Online ads are delivered by an ad server. Examples of online advertising include contextual ads that appear on program results pages, banner ads, in pay per click text ads, rich media ads, social network advertising, etc. A newer form of online advertising is Native Ads; they go into the website's news feed and are alleged to improve user experience by being less intrusive. However, some people argue this practice is deceptive.

Domain names

Domain name advertising is an advertising method which is mostly done through pay per click web search engines. Advertisers often lease space directly on domain names that generically describe their products. When an online user visits an internet site by typing a website name directly into their browser, this is known as "direct navigation", or "type in" web traffic. Although many Internet users look for ideas and products using search engines and mobile phones, an outsized number of users in the world still use the address bar. They will enter a keyword into the address bar like "geraniums" and add ".com" to the end. Sometimes they do the same with ".org" or a country-code Top-Level Domain (TLD like ".co.uk" for the UK or ".ca" for Canada). When Internet users enter a generic keyword and add .com or another top-level domain (TLD) ending, it produces a targeted sales lead. Domain name advertising was originally developed by Oingo (later referred to as Applied Semantics), one among Google's early acquisitions.

Product placements

Covert advertising is that type of advertising which takes place when a product or brand is embedded in entertainment and media. For example, in a film, the important character can use an item or other of a particular brand, as within the movie *Minority Report*, where Tom Cruise's character John Anderton owns a phone with the Nokia logo clearly written within the top corner, or his watch engraved with the Bulgari logo.

Print

Print advertising is that type of advertising which uses a printed medium such as a newspaper, magazine, etc. This consists of everything starting from media with a very wide readership base, such as an important national newspaper or magazine, to a much narrowly aimed media such as local newspapers and trade journals on certain specialized topics. One of the types under print advertising is classified advertising. This allows private individuals or organisations to purchase a small, narrowly targeted ad paid by the word or line. Yet another type of print advertising is the display ad, which is generally a bigger ad with design elements that typically run in an article section of a newspaper.

Outdoor

Billboards, also known as hoardings in some parts of the world, are large structures located in public places that display advertisements to passing pedestrians and motorists. Usually, they are

located on main roads where there is a large amount of passing motor and pedestrian traffic. However, they can also be placed in any location with large numbers of viewers, such as on mass transit vehicles and in stations, in shopping malls, etc. When there is large outdoor advertising space aimed to influence the observer; the product is promoted indoors, where the creative acts improve the impression.

Point-of-sale

In-store advertising is that type of advertisement placed in a retail store. It includes placing a product in visible locations inside a shop, such as at eye level, near checkout counters (a.k.a. POP – point of purchase display), eye-catching displays which promote a specific product, and advertisements in such places as shopping carts and in-store video displays.

Novelties

These are advertisements printed on small tangible items such as coffee mugs, T-shirts, pens, bags. A few printers specialize in the printing of novelty items, which can be distributed directly by the advertiser after such printing. Items may also be distributed as a part of cross-promotion, like ads on top of fast food containers.

Celebrity endorsements

In this, a celebrity endorses a product or brand using celebrity power, fame, money, popularity to gain recognition for their products, or to promote specific shops and their products. Advertisers often advertise products, for example, when celebrities share their favorite products through their personal profiles in social media or wear clothes by specific brands or designers. Celebrities usually get involved in advertising campaigns such as television or print adverts to advertise specific or general products. The use of celebrities in order to endorse a brand can have its own downsides. But, one mistake by a celebrity can be disadvantageous to the public relations of a brand. For example, following his performance of eight gold medals at the 2008 Olympic Games in Beijing, China, swimmer Michael Phelps' contract with Kellogg's was terminated, since Kellogg's didn't want to associate with him after he was seen smoking marijuana in a photograph.

3.1.2 RISE IN NEW MEDIA

As the Internet came into effect, many new advertising opportunities arose. Pop-up, Flash, banner, email advertisements, etc. are now common. Since the rise of "entertaining" advertising, some people may like an advertisement so much and they wish to watch it later or show it to a friend. Generally, the advertising community has not yet made this scenario easy. But, some have used the Internet to widely distribute their advertisements to anyone who is willing to watch or hear them.

Niche marketing

Another important trend relating to the future of advertising is the growing significance of the niche market that uses niche or targeted ads. Brought about by the Internet and the theory of the long tail, advertisers will have a growing ability to reach certain audiences. In the older

times, the most efficient method to deliver a message was to cover up the largest mass-market audience as possible. However, usage tracking, customer profiles and the increasing popularity of contents in niche brought about from blogs to social networking sites, gave advertisers with audiences that are smaller but defined in a much better manner, leading to ads that are more important to viewers and more effective for organizations that market products. Nichemarketing could also be helped by bringing the problem of color into advertisements. Various colors play major roles when it comes to marketing strategies. For example, seeing the blue can promote a sense of calmness and gives a feeling of security which is the reason why many social networks such as Facebook use blue in their logos.

Crowd sourcing

This concept has given way to the trend of user-generated advertisements. User-generated ads are the ones created by people, as opposed to an advertising agency or the company themselves. This results from brand sponsored advertising competitions. For the 2007 Super Bowl, the Frito-Lays division of PepsiCo held the "Crash the Super Bowl" contest, allowing people to make their own Doritos commercials. Chevrolet held a similar competition for their tag line of SUVs. Another example of companies using crowd sourcing successfully and efficiently is the beverage company Jones Soda that motivates consumers to participate in the label design themselves.

Global advertising

Advertising has gone through five distinct stages of development: domestic, export, international, multi-national, and global. For global advertisers, there are mainly four, possibly competing, business objectives that must be kept balanced when developing in the worldwide advertising area: building a brand while speaking with a single voice, developing economies of scale through a creative process, maximizing local effectiveness of advertisements, and improving the company's speed in implementation. Advertising research is a key to determine the success of an advertisement in any of the country or region. The ability to identify which elements or moments in an ad contribute to its success is how the economies of scale are brought to the maximum. Once a person comes to know what works in an ad, that ideas can be imported by any other market.

Foreign public messaging

Foreign governments, specifically those that have marketable commercial products or services, usually promote their interests and positions through the advertising of such goods. This is because the target audience is not only largely unaware of the forum as a vehicle for foreign messaging but they are also willing to receive the message while in a mental state of absorbing information from advertisements during commercial breaks in TV, while reading a periodical, etc. An example of this messaging technique is advertising campaigns used to promote international travel. While advertising foreign places and services may take place from the typical goal of increasing income by bringing in more tourism, some travel campaigns carry out

additional or alternative intended purpose of promoting good sentiments or increasing the ones which exist among the target audience to a given nation or region.

Diversification

In the domain of advertising agencies, continued industry diversification has noticed. Observers view that "large global clients don't need big global agencies any more". This is reflected by the growth of non-traditional agencies in several global markets, such as Canadianbusiness TAXI and SMART in Australia and has been referred to as "a revolution in the ad world".

3.1.3 FEATURES OF ADVERTISING

The main characteristics of advertisements are as follows:

Advertising is a non-personal form or presentation because there is no face to face contact with the consumers of the product.

It is a paid form of communication since the advertiser will have to pay for the space or time hired by him for the purpose of advertising.

It is done by an identified sponsor. It is always done on or for the behalf of somebody called a sponsor.

It can be oral, written, or visual.

It is done through media such as press, video, television, cinema, internet, etc.

The basic function of advertising is to raise the demand for a particular product.

Advertising is a basic form of mass communication as the advertisements are aimed at a large number of people.

Advertising is different from publicity as it takes place throughout the lifetime of a firm or the product.

3.1.4 OBJECTIVES AND FUNCTIONS OF ADVERTISEMENT

The ultimate objectives of advertising are to sell something- a product, a service, or an idea.

To create demand: Advertising aims at energizing demand for a particular product by making people aware of the new products and the existing uses of the old products. It tempt attention, creates interest, etc. among the consumers.

To face competition: Advertising is designed in such a way as to face new competition. It aims to bring about loyalty to the advertised brand and to built permanent customers. It

wins the confidence of the customers in the quality of the advertised products.

To build goodwill: Advertising programs which are well planned build goodwill for the organisation and its products. Advertising improves the image and prestige of the advertiser by highlighting the advantages of the products and services.

To support salesman: Advertising creates awareness about the advantages and disadvantages of the advertised products. By explaining the unique features and uses of products, repeated buying is motivated. Advertised goods enjoy a ready market and little sales efforts are required for them. Dealers are always willing to deal with such stocks of goods.

To educate customers: Advertising gives useful details about the uses and features of the products. It educates customers in buying better functional goods.

To eliminate middleman: Advertised products enjoy recognition and acceptance from the public. A direct link is made in between the producers and the consumers. Advertising puts down the need for a middleman in order to sell goods that lowers the retail rate of a commodity.

To improve living standards: Advertising gives a better desire for a better living. It energizes hard work and improves the living standard of people.

To introduce new products: Advertising helps in the launch of a new product and making it popular in the market. It helps in convincing the customers about the superiority of a brand new product over the competitive products that already exist in the market.

3.1.5 BENEFITS OF ADVERTISEMENT

Benefits of advertisements for the business

Meeting competition: Since, today a number of products on the same need of the consumers are available in the market, it is obvious that no company will be able to make profits for a long time if the customers keep on changing their brands. Hence, advertisements attract the consumers towards a particular product and urge them to stick to that brand.

Steady demand: Certain products that have only a seasonal demand. For example, umbrellas can be used only in the rainy season but the advertising asks us to use it in summer to prevent ourselves from the direct rays of the sun. Hence, the firms do not need to close themselves during the off-season.

Higher sales volume: Advertisements help the producers to reach the consumers quickly and improve their sales. If we are pursued by products, we buy those products which we do not need at that moment. It's obvious that we are also influenced by the timely offers

the producers give. If the offer lasts only for a certain period of time, we show our hurry to buy that product quickly.

Introduction of new products: The producers find it really easy to communicate the launch of new products to the consumers in a very efficient and cost-effective manner through advertisements. It makes the work easy for a salesman and it also allows the customers to reach out to other products.

Economies of scale: Advertisements also allow the producers to increase the volume of production which in turn increases the benefits they get from production on a large scale. It is a fact that if we buy things in bulk, we get it at a cheaper rate. The same thing is also applicable to the production process. We will also be able to eliminate middlemen such as wholesalers that brings down the cost for the customers by reducing the profit margin. Commercial Banks also grant financial support to such firms whose products are advertised.

Goodwill: If a particular company producing cosmetic products uses an actress or actor to advertise the products of its brand, it shall definitely bring reliability for its products. The public can trust that company and their products which subsequently shall increase the valuation of the goodwill and the image of the firm. It helps the firm to face strict competition during the business conditions of depression when all the consumers develop mistrust against a particular product.

Employee morale: When the employees know that the products of a firm are advertised and have developed sufficient trust in the public, they shall be assured that their jobs will be safe and they can receive bonuses on account of profits made by the firm. It also enhances the qualities of a good salesman.

Benefits of advertisements to the consumers

Convenience: When we know that we have to purchase the product of a particular brand, we should not waste our time in searching the best one. We can make a choice even before going to the market.

Education of the consumers: Advertisements help a person to become aware about the uses of a new product. If there are no advertisements, a person will not be able to know about the new companies that enter the market or the launching of new and better products in the market.

Fair prices: Advertisements reduce the cost of the product by giving the organizations with the advantages of economies of scale and the elimination of the middleman. As a result of this, customers get goods at lower prices. A lot of expensive products of previous years has come within the reach of the common people due to continuous advertising and consequent fall in prices. Prices of largely advertised products tend to be stable during adverse business conditions such as depression.

Better quality: As said before, the producers always try to hold their old consumers and make new ones by bringing out some special changes in their product to make them different from the others. Manufacturers are forced to keep better standards of the commodity to retain consumers.

Contact between producers and consumers: Advertisements provide links or contact numbers of the product or the service so that the customers can report their grievances against the use of certain products so that the quality can be improved. Hence, it brings the customers and the producers closer to each other.

Benefits of advertisements for the society

Generates employment: Advertisements provide employment opportunities to people all around the world who are concerned in every field of work. Since through advertisements producers improve the sales and reach out to the customers quickly, it improves the employment level in the country as more labour will be required to bring up the production.

Standard of living: Advertisements help in improving the quality of the products and it also helps the firms to introduce variable and different kinds of products with some special features. Hence, it improves the standard of living of people by allowing them to buy goods relating to the current standards.

Sustains the press: Most of us get the newspapers at a nominal cost of Rs.2 to Rs.4. But there is a large number of costs involved in its production. Hence, to make it affordable for the lower class people, newspapers sustain themselves by publishing advertisements on each page.

Stimulates research and developments: If you have gone through the cost sheet of any firm, you will notice that a large amount of money is spent on the research and development of the product. Every firm tries to convince its old consumers and make new customers by developing some new types of products or making some improvements in the existing product.

Promote art and culture: Advertisements have promoted the art of our country by showing the customs and traditions of old tribal and rural people to a large extent. It also acts as a source of entertainment for the people.

3.1.6 CRITICISMS OF ADVERTISING

Higher prices: Advertisements involve huge expenditure and hence it leads to increasing the cost of distribution. Manufacturers and traders charge higher rates from the customers to cover up their costs.

Artificial living: Advertising louden the need of people. It encourages wasteful consumption. It influences people to buy those goods which they do not need or cannot

afford. People are even motivated to buy products that are harmful to their health like cigarettes, alcohol, etc.

Misleading: Advertising is sometimes deceptive and it misguides consumers.

Exaggerated and a lot of false claims are made in the advertisements. Bogus testimonials and other questionable methods are used to sell products.

Wastage of national resources: The role of industries in Indian economy is incomparable. Manufacturers create artificial differences in the products in order to develop brand loyalty through advertising. The natural resources, capital requirements, and labor that are used in production leads to wastes as these could be better employed in the making of new industries. Here, the public enterprises help the economy to conserve natural resources as there is very little competition between the public enterprises.

Unethical: Many advertisements are highly objectionable in nature because they undermine values and ethics that are to be followed. Vulgar advertisements like that of Axe offend public decency and bring about materialism in society.

CHAPTER IV
DATA ANALYSIS AND
INTERPRETATION

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis of the data collected. The data were analyzed in three different stages. The first section is the profile analysis which includes a brief analysis of the Demographic profile of the sample respondents. In the second section the descriptive analysis and reliability test of the measures are done. In the third section the hypotheses formed at the outset are tested.

Section I

4.1 Demographic Profile of the Respondents

4.1.1 Age of Child

Table 4.1.1

Age of Child

Age	Frequency	Percentage
5-7	75	37.5
8-10	69	34.5
11-14	56	28.0
Total	200	100

Source: Primary Data

Table 3.1.1 presents the age-wise composition of respondents' children. It can be inferred that from a total of 200 respondents, 37.5 percent were children of the age group 5 to 7, 34.5 percent were children of the age group 8 to 10, and 28 percent were the children of the age group 11 to 14. Majority of the children belong to the 5-7 age group.

4.1.2 Gender of Child

Table 4.1.2

Gender of Child

Gender	Frequency	Percentage
Male	101	50.5
Female	99	49.5
Total	200	100

Source: Primary Data

Table 3.1.2 presents the gender-wise composition of respondents' children. Out of a total of 200 respondents, 50.5 percent of the children were male and the rest 49.5 percent were female. It is evident that male children are more.

4.1.3 Watching Advertisements more than other Programs

Table 4.1.3
Watching Advertisements more than other Programs

Status	Frequency	Percentage
Yes	107	53.5
No	56	28.0
Maybe	37	18.5
Total	200	100

Source: Primary Data

Table 3.1.3 presents whether children spent more time watching advertisements than other programs. Out of 200 respondents, 53.5 percent opted yes, 28.0 percent opted no and 18.5 percent opted maybe. Majority of the respondents chose the option yes which means that children watch advertisements more than any other program.

4.1.4 Type of Ad to which Children are Exposed

Table 4.1.4
Type of Ad to which Children are Exposed

Type of Ad	Frequency	Percentage
TV Advertisements	157	78.5
Online Advertisements	43	21.5
Total	200	100

Source: Primary Data

Table 3.1.4 presents the type of advertisement to which children are exposed more. Out of a total of 200 respondents, 78.5 percent said their children watch TV advertisements more and 21.5 percent said their children watch online advertisements more. It is evident from the table that majority of the children watch TV advertisements.

4.1.5 Preferred Category of Ad

Table 4.1.5
Preferred Category of Ad

Category of Ad	Frequency	Percentage
Food Advertisements	88	44.0
Superhero Advertisements	108	54.0
Others	4	2.0
Total	200	100

Source: Primary Data

Table 3.1.5 presents the Category of advertisement that children prefer more. Out of the 200 respondents, 44 percent said that their children prefer food advertisements more, 54 percent said that their children prefer superhero advertisements more and 2 percent said that their children prefer other categories of advertisements which included sports items, toys, cosmetic and film based advertisements and advertisements of children's topics. Superhero advertisements are the most watched category of advertisements.

4.1.6 TV/Mobile Viewing Hours of Child

Table 4.1.6
TV/Mobile Viewing Hours of Child

Viewing Hours	Frequency	Percentage
0-2	79	39.5
2-4	86	43.0
4-6	29	14.5
6-8	6	3.0
Total	200	100

Source: Primary Data

Table 3.1.6 presents the TV/Mobile viewing hours of children. Out of a total of 200 respondents, 39.5 percent opted 0 to 2, 43 percent opted 2 to 4, 14.5 percent opted 4 to 6 and 3 percent opted 6-8 percent. It is evident that majority of the children's TV/Mobile viewing hour is 2 to 4.

Section II

4.2 Reliability Analysis

A Reliability Test was carried out using Cronbach's Alpha, which measures the internal consistency of research constructs and the result is exhibited in Table 3.2.1. The Alpha values for the eleven factors are above 0.70, the threshold suggested by Nunnally (1978). Thus, it can be concluded that the scale has internal consistency and reliability. In other words, the items that are used in it measures what is intended to measure.

Table 4.2.1

Cronbach's Coefficient Alpha – EA, FA, RA, RM, SA, CA, GP, AT, AG, CE and PI

Factors (Constructs)	Number of Items	Cronbach's Alpha
Exposure in Ad (EA)	4	.708
Food Advertisements (FA)	5	.804
Repetition of Ad (RA)	4	.761
Rock Music (RM)	3	.798
School Advertisements (SA)	5	.815
Message Content of Ad (CA)	5	.839
Gender Power (GP)	4	.799
Attitude (AT)	3	.749
Children Age Group (AG)	4	.723
Celebrity Endorsement (CE)	3	.714
Purchase Intent (PI)	4	.892

Source: Author's Calculation

Section III

4.3 Descriptive Analysis I

4.3.1 Exposure in Ad

It a measure of the number of times a reader of a publication (newspaper or magazine) will get exposed to a print ad, leaving aside the fact whether the reader actually looks at the ad. In very simple terms, it just means an advertisement becoming visible to the consumer. Too much publicity and exposure to the specific products shown by TV advertisements affect children (Gulzair Ghaffar and Usma Noreen, 2017).

Table 4.3.1

Measures of Exposure in Ad

Measures	Item Acronym	Mean	Mode	SD
Content of advertisements affects children.	EA1	4.33	5	.796
Advertisement creates demanding sense in the children.	EA2	4.32	5	.735
Children insist their parents to buy that particular product.	EA3	4.20	4	.821
No television for babies and toddlers is a good policy.	EA4	3.89	4	.963

Source: Primary Data

The mean, mode, and SD for EA1, EA2, EA3, and EA4 are given in table 3.3.1. Mean for EA1 is the highest with 4.33 followed by EA2 with a slight difference of 0.01. Mode for EA1 and EA2 is 5 and for EA3 and EA4 mode is 4. From the mean scores, it can be concluded that content and demanding sense are almost at the same level in their influence on children.

4.3.2 Food Advertisement

The business of advertising is an aspect of commerce that is an integrated part of industrialized and affluent societies that can afford to purchase goods. Advertising brings notice to a wide range of consumer products, including food, a major consumer of advertising. In an advertisement, during children's programs half of the advertisements relates to food advertisements that are unhealthy (Furnham A, Abramsky S & Gunter B 1997).

Table 4.3.2
Measures of Food Advertisement

Measures	Item Acronym	Mean	Mode	SD
Children like food advertisements.	FA1	3.98	4	.868
Children want to watch food advertisements repeatedly.	FA2	3.71	4	1.026
Children spend most of his/her pocket money on advertised food.	FA3	3.53	4	1.061
Children enforce you to purchase that product which is not advertised.	FA4	3.29	4	1.039
Children are happy to watch a food advertisement.	FA5	3.86	4	.937

Source: Primary Data

Table 3.3.2 delineate the highest mean of 3.98 for FA1 and also the lowest SD of 0.868 which expresses that a great portion of the respondents believed that children like food advertisements whereas, FA4 has the least mean of 3.29 which shows that children do not enforce their parents to purchase those products which are not advertised.

4.3.3 Repetition of Ad

People must see an advertisement at least nine times before they will acquire enough interest to consider buying the product or service advertised, according to the book "Advertising: Principles and Practice." This means that you must repeat an advertisement many times to get the attention of a potential customer. The repeated transmission usually enhances their attention towards the commercial (Barcus et al., 2004).

Table 4.3.3
Measures of Repetition of Ad

Measures	Item Acronym	Mean	Mode	SD
Children are influenced by TV advertisements at first sight.	RA1	3.97	4	1.014
Children like to watch frequently appearing television Ads.	RA2	3.90	4	1.012
Repetition of ads affects the minds of children.	RA3	4.12	4	.877
Repetition of ads changes the negative feelings into positive.	RA4	3.64	4	.957

Source: Primary Data

Table 3.3.3 portrays the various measures of repetition of ad affecting children's purchase intent. RA3 has the highest mean of 4.12. The mode is 4 for all the four measures which clearly depicts that respondents were of the opinion that children's purchase intent is affected to a large extent by the repetition of ad. It can be concluded that the repetition of ads affects the minds of children.

4.3.4 Rock Music

Music in advertising refers to music integrated into (mass) electronic media advertisements to enhance its success. Rock music has influenced children's attitudes and behavior towards the advertised items and products. If there were children's favorite singer singing in television advertisements, then the impact of that musical advertisement is more than other advertisements. Because music attracts children and changes the behavior and their mind towards the advertised products (Gulzair Ghaffar and Usma Noreen, 2017).

Table 4.3.4
Measures of Rock Music

Measures	Item Acronym	Mean	Mode	SD
Children like to watch music advertisements.	RM1	4.02	4	.836
Children are convinced by the products used in music videos.	RM2	3.83	4	.894
The products advertised by children's favorite music star convince very much.	RM3	3.87	4	.900

Source: Primary Data

The mean, mode, and SD for RM1, RM2, and RM3 are given in Table 3.3.4. RM1 has the highest mean of 4.02 and all the three measures have 4 as their mode. This resultantly makes it evident that children like to watch music advertisements.

4.3.5 School Advertisement

In-school ads are conspicuous forms of advertising that can be seen on billboards, on school buses, on scoreboards, and in school hallways. In-school ads include ads on book covers and in piped-in radio programming. Advertising is also found in product coupons and in give-away that are distributed in schools. Although traditionally there have been links between business and education in this country (Harty, 1979), commercialism in schools has recently skyrocketed and has spurred public debate. Due to children's importance in purchasing decisions, advertisers target the children not only in households but also in schoolrooms and institutes (Barcus, 1980).

Table 4.3.5
Measures of School Advertisement

Measures	Item Acronym	Mean	Mode	SD
Children buy food placed in their schools.	SA1	3.80	4	.920
Children want to purchase everything that is placed in school.	SA2	3.60	4	.972
Children like to eat something in the school's canteen.	SA3	3.90	4	.845
Product exhibitions in school influence a child.	SA4	3.93	4	.808
Children like product exhibitions in school every month.	SA5	3.77	4	.880

Source: Primary Data

Table 3.3.5 depicts that the measure SA4 has the highest mean of 3.93 followed by SA3 with a slight difference of 0.03 in its mean. From this, it can be concluded that product exhibitions in school and the school's canteen influences children almost at the same level.

4.3.6 Message Content of Ad

There are a number of specific identifiable techniques that are used in advertising to produce a message. These include animation, analogy, celebrity sponsorship, contrast, demonstration, diagrammatic, familiar, nostalgic, participation, personalization, sequencing, and a slice of life. These techniques are primarily methods of organizing a visual structure, or a form for some content to be presented to an audience. Although these advertising techniques are ways of delivering a message, they are not the message itself.

Table 4.3.6
Measures of Message Content of Ad

Measures	Item Acronym	Mean	Mode	SD
Advertising is a valuable source of information about sales/products.	CA1	3.93	4	.911
Advertising contributes to the knowledge about a quality product.	CA2	3.80	4	.851
Advertisements are a useful source of information.	CA3	3.94	4	.821
Advertising tells children which brands have the features they are looking for.	CA4	3.81	4	.872
Advertising helps children keep up to date about products/services available in the marketplace.	CA5	3.80	4	.874

Source: Primary Data

Table 3.3.6 shows the mean, mode, and SD of the four measures CA1, CA2, CA3, CA4, and CA5 respectively. It is clear from the table that CA3 has the highest mean of 3.94 followed by CA1 with a slight difference of 0.01 in its mean. All the four measures have the same mode. It can be hence concluded that advertisements are considered a useful source of information and a valuable source of information about sales/products almost at the same level.

4.3.7 Gender Power

Gender advertisement refers to the images in advertising that depict stereotypical gender roles and displays. Gender displays are used heavily in advertising in order to establish the role of one gender in relation to the other, and some scholars argue that advertisers are obsessed with gender. Advertisers focus on gender relationships, because people define themselves by gender, and gender can be "communicated at a glance", making it easy for advertisers to use this theme in their work. In the commercial the child has a variety to observe in the gender-based commercial although the male and female observing of a commercial is not the same (Courtney & Whipple, 1983).

Table 4.3.7
Measures of Gender Power

Measures	Item Acronym	Mean	Mode	SD
Celebrities in advertisements make it more powerful.	GP1	3.97	4	.817
An advertisement having male, attracts a male child and vice versa.	GP2	3.46	4	.981
Children get attracted to advertisements that have cartoons, robots, and colors.	GP3	3.98	4	.856
A child enforces to purchase food items after watching cartoon characters' advertisement.	GP4	3.79	4	.900

Source: Primary Data

The mean, mode, and SD of the measures of gender power are given in Table 3.3.7. From the table, it is evident that GP3 has the highest mean of 3.98. From this, it can be concluded that children get attracted to advertisements that have cartoons, robots, and colors.

4.3.8 Attitude

Attitude toward the ad is defined as "a predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion." The attitude which is formed towards the ad helps in the transformation of attitude of consumers toward the products or brands until their purchase intention is formed (Goldsmith and Lafferty, 2002). Attitude towards advertising is an important concept as it is one of the determinants of attitude towards specific advertisements (Lutz, 1985) and can influence the way a consumer will respond to any particular advertising (Mehta, 2000).

Table 4.3.8
Measures of Attitude

Measures	Item Acronym	Mean	Mode	SD
Children consider television advertising a bad thing.	AT1	3.05	3	1.204
Children like advertising.	AT2	3.99	4	.853
Children consider television advertising to be very essential.	AT3	3.70	4	1.043

Source: Primary Data

From Table 3.3.8, it can be seen that AT2 has the highest mean of 3.99 and the least SD of .853. It is hence concluded that children like advertising and they have a positive attitude towards it.

3.3.9 Children Age Group

Children's Age group doesn't matter a lot but it also has an impact on children's behavior as the age of the children increases they're more influencing their parents to buy that particular product which is being advertised on the television screen. So, we can conclude that by changing in age, children are more impatient about buying that specific product which might be a food item or any other item (Gulzair Ghaffar & Usma Noreen, 2017).

Table 4.3.9

Measures of Children Age Group

Measures	Item Acronym	Mean	Mode	SD
Children influence parents for purchasing the product at the age of 5 years after watching the advertisement.	AG1	3.63	4	.974
As age increases, children are more influencing parents for purchasing food.	AG2	3.64	3	.947
Children could understand the advertisement of food.	AG3	3.84	4	.884
A child likes to watch advertisements mostly.	AG4	3.60	4	.919

Source: Primary Data

Table 3.3.9 portrays the mean, mode, and SD of AG1, AG2, AG3, and AG4 respectively. It is clear from the above table that AG3 has the highest mean of 3.84. This shows that children could understand the advertisement of food as their age went up. AG3 has also got the lowest SD of .884 which confirms the above interpretation.

3.3.10 Celebrity Endorsement

Celebrity branding or celebrity endorsement is a form of advertising campaign or marketing strategy used by brands, companies, or a non-profit organization that involves celebrities or a well-known person using their social status or their fame to help promote a product, service or even raise awareness on environmental or social matters. Hakimi et al. (2011) propose the model of the relationship of attributes of celebrity endorsement with the positive brand image which in return leads to consumers' positive purchase intentions and buying behaviors.

Table 4.3.10
Measures of Celebrity Endorsement

Measures	Item Acronym	Mean	Mode	SD
Celebrity also used those products which they themselves endorse.	CE1	3.47	4	1.065
The picture of a famous celebrity in ads makes children think that the product is of good quality.	CE2	3.79	4	.832
Celebrity in ads reflects a child's feelings of trustworthiness.	CE3	3.75	4	.895

Source: Primary Data

Table 3.3.10 clearly shows that CE2 has the highest mean of 3.79. All the three measures have the same mode i.e., 4 which means that respondents agree to the fact that celebrity endorsement affects the minds of children and they have a positive approach towards it. From the mean value, it can be said that picture of famous celebrity in ads makes children think that the product is of good quality.

4.3.11 Purchase Intent

Pears and Singh (2004) define purchase intention as a consumer's conscious plan or intention to make an effort to purchase a product. Purchase intention is a consumer's objective intention towards a product (Fishbein and Ajzen, 1975). Purchase can be made through online shopping sites as well as through traditional rick and motor markets. Purchase intention focuses on whether consumers are willing and intending to buy a certain product (Pavlou, 2003).

Table 4.3.11
Measures of Purchase Intent

Measures	Item Acronym	Mean	Mode	SD
I would definitely intend to buy the product.	PI1	3.62	4	.916
I would obviously consider my child's purchase intent.	PI2	3.66	4	.894
I would obviously consider my child's purchase intent.	PI3	3.58	4	.958
I would absolutely plan to buy the product.	PI4	3.61	4	.918

Source: Primary Data

Table 3.3.11 displays various measures of purchase intent. PI2 has the highest mean of 3.66 followed by PI1 with 3.62. It indicates that parents obviously consider their child's purchase intent and that they would definitely intend to buy the product. The mode is 4 for all the

measures which convey a significant influence of advertisements on the urge to purchase intent in children.

Table 4.3.12
Measures of Variables

Measures	Item Acronym	Mean	SD
Exposure in Ad	EA	4.1838	.60799
Food Advertisement	FA	3.6710	.74020
Repetition of Ad	RA	3.9050	.73778
Rock Music	RM	3.9017	.74032
School Advertisement	SA	3.7970	.67205
Message Content of Ad	CA	3.8540	.67540
Gender Power	GP	3.7975	.64552
Attitude	AT	3.5750	.71978
Children Age Group	AG	3.6738	.68829
Celebrity Endorsement	CE	3.6667	.74648
Purchase Intent	PI	3.6163	.80078

Source: Primary Data

The mean and standard deviation of the independent and dependent variables are given in Table 3.3.12. Mean is highest for Exposure in Ad (EA) which is 4.1838 followed by Repetition of Ad (RA) with mean 3.9050. The mean of Attitude (AT) is the lowest with 3.5750. Similarly, Exposure in Ad (EA) has the lowest standard deviation with .60799 followed by Gender Power (GP) with .64552 respectively.

4.4 Descriptive Analysis II

4.4.1 One-Sample T-Test for Independent and Dependent Variables

The mean scores of 7 main variables are calculated and compared with the second quartile (i.e. central value Q2). As per the measure the opinion of the respondent is considered low and very low if the mean score is less than the second quartile. The opinion of the respondents is treated as average if the mean score is equal to the second quartile and the opinion of the respondent is considered high and very high if the mean score is above the second quartile (Jojo, 2008). The below table details the criteria fixed in this regard.

Table 4.4.1

Criteria for comparison - Mean Score and Central Value

Mean Score	Opinion
Less than Q1 (<2)	Very Low
Between Q1 and Q2 (2 - 3)	Low
Equal to Q2 (=3)	Medium
Between Q2 and Q3 (3-4)	High
More than Q3 (>4)	Very High

Source: Compiled by the Researcher

In order to find out whether the responses of the respondents significantly differ from the moderate or neutral state of response i.e., second quartile, the T-test was carried out and the results are depicted in Table 3.4.2.

Table 4.4.2

T-Test Statistics

Measures	Mean	Q2	T Value	P Value	Inference
Exposure in Ad	4.1838	3	27.535	.000**	Very High
Food Advertisement	3.6710	3	12.820	.000**	High
Repetition of Ad	3.9050	3	17.347	.000**	High
Rock Music	3.9017	3	17.224	.000**	High
School Advertisement	3.7970	3	16.772	.000**	High
Message Content of Ad	3.8540	3	17.882	.000**	High
Gender Power	3.7975	3	17.472	.000**	High
Attitude	3.5750	3	11.298	.000**	High
Children Age Group	3.6738	3	13.843	.000**	High
Celebrity Endorsement	3.6667	3	12.630	.000**	High
Purchase intent	3.6163	3	10.883	.000**	High

Source: Compiled from Field Survey Data

Note: ** denotes significant at 5% level.

Based on the above table, the mean score of Exposure in Ad is 4.1838. It is statistically significant from Q2 (3). As per the self- developed scale, the value falls in more than Q3 category (>4), which is denoted as very high. Hence there exists a very high level of exposure in ad which affects children's urge to purchase intent.

From the above table the mean score of Food Advertisement is 3.6710. It is statistically significant from Q2 (3). As per the self- developed scale, the value falls between Q2 and

Q3 (3 – 4), which is denoted as high. Hence there exists a high effect of food advertisements on children's purchase intent.

The table shown above reveals that the mean score of Repetition of Ad is 3.9050. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence there exists a high effect of repetition of ad on the urge to purchase intent in children.

Based on the table given above the mean score of Rock Music is 3.9017. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence rock music has a high effect on the urge to purchase intent in children.

From the above table the mean score of School Advertisement is 3.7970. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence there exists a high effect of school advertisements on children.

The table shown above reveals that the mean score of Message Content of Ad is 3.8540.

It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence there is a high effect on the urge to purchase intent in children due to the message content of ad.

Based on the above table, the mean score of Gender Power is 3.7975. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence there exists a high effect of gender power on children's urge to purchase intent.

From the above table the mean score of Attitude is 3.5750. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence there exists a high effect of attitude on children's purchase intent.

The above table depicts that the mean score of the Children Age Group is 3.6738. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence there exists a high effect of children's age group on children's purchase intent.

The table shown above reveals that the mean score of Celebrity Endorsement is 3.6667. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence there exists a high effect of celebrity endorsement on the urge to purchase intent in children.

Based on the table given above the mean score of Purchase Intent is 3.6163. It is statistically significant from Q2 (3). As per the self-developed scale, the value falls between Q2 and Q3 (3 – 4), which is denoted as high. Hence it is concluded that there is a high level of purchase intent in children.

4.4.2 One Way ANOVA Test for Mean Difference

The one-way analysis of variance (ANOVA) is used to determine whether there are any statistically significant differences between the means of two or more independent (unrelated) groups. The ANOVA tests the null hypothesis, which states that samples in all groups are drawn from populations with the same mean values.

4.4.2.1 Mean Difference among Age of Child on Purchase Intent

The purchase intent of children may be different for the various age groups of children. An analysis of variance test was conducted to study the factor. The results are shown below.

ANOVA Table 4.4.2.1
Age of Child on Purchase Intent

Age Group	N	Mean	SD	F Value	P Value
5-7	75	3.8000	.67783	3.297	.039*
8-10	69	3.5290	.86234		
11-14	56	3.4777	.84110		

*significant at 0.05 level

Based on the above table since P value is less than 0.05 the mean differences are significant at 5% level. It is understood that, on the basis of the mean scores, the urge to purchase intent in children due to advertisements is the highest among the children having age between 5-7. Since the low mean score is for children having age between 11-14, their level of the urge to purchase intent is the lowest.

3.4.2.2 Mean Difference of Watching Advertisements more than other Programs on Exposure in Ad

ANOVA Table 4.4.2.2

Watching Advertisements more than other Programs on Exposure in Ad

Status	N	Mean	SD	F Value	P Value
Yes	107	4.3925	.53323	20.726	.000**
No	56	3.8036	.62106		
Maybe	37	4.1554	.51150		

**significant at 0.01 level

Based on the above table since P value is less than 0.01 the mean differences are significant at 1% level. It is evident that, on the basis of mean scores, the exposure in ad is affected highest among children for whom the parent has the opinion 'Yes'. Since the lowest mean score is for the 'No' option, the level of exposure in ad is affected lowest among children for whom the parent has the opinion 'No'.

4.4.2.3 Mean Difference of Watching Advertisements more than other Programs on Food Advertisement

ANOVA Table 4.4.2.3

Watching Advertisements more than other Programs on Food Advertisement

Status	N	Mean	SD	F Value	P Value
Yes	107	3.9346	.63113	19.552	.000**
No	56	3.2464	.70941		
Maybe	37	3.5514	.76508		

**significant at 0.01 level

It is evident from the table that P value is less than 0.01; the mean difference is significant at 1% level. We can come to an inference that the food advertisement is affected highest for the children in which parents opted 'Yes' based on the mean score. Since the low mean score is for the one for which parents opted 'No', the level to which food advertisement is affected is the lowest among this category of children.

4.4.2.4 Mean Difference of Watching Advertisements more than other Programs on Repetition of Ad

ANOVA Table 4.4.2.4

Watching Advertisements more than other Programs on Repetition of Ad

Status	N	Mean	SD	F Value	P Value
Yes	107	4.2243	.51273	30.682	.000**
No	56	3.4107	.78107		
Maybe	37	3.7297	.76689		

**significant at 0.01 level

Based on the above table since P value is less than 0.01 the mean difference is significant at 1% level. It is evident that, on the basis of mean scores, the repetition of ad is highly affected for children for whom parents chose the option 'Yes'. Since the lowest mean score is for the 'No' category, the level to which repetition of ad is affected is the lowest for these children.

4.4.2.5 Mean Difference of Watching Advertisements more than other Programs on Rock Music

ANOVA Table 4.4.2.5

Watching Advertisements more than other Programs on Rock Music

Status	N	Mean	SD	F Value	P Value
Yes	107	4.1464	.55923	21.140	.000**
No	56	3.4226	.88647		
Maybe	37	3.9189	.61063		

**significant at 0.01 level

Depending on the above table, since the P value is less than 0.01 the mean difference is significant at 1% level. It is clear that the rock music, on the basis of the mean scores is affected the highest for the children for whom the respondent parent said 'Yes' option. Since the low mean score is for the 'No' category, the effect of rock music on children is the lowest here.

4.4.2.6 Mean Difference of Watching Advertisements more than other Programs on School Advertisement

ANOVA Table 4.4.2.6

Watching Advertisements more than other Programs on School Advertisement

Status	N	Mean	SD	F Value	P Value
Yes	107	4.0187	.63158	18.620	.000**
No	56	3.3964	.55333		
Maybe	37	3.7622	.67633		

**significant at 0.01 level

Based on the above table, since the P value is less than 0.01 the mean difference is significant at 1% level. It is clear that, on the basis of the mean score, the effect of school advertisement is the highest for the children for whom the parent opted 'Yes'.

4.4.2.7 Mean Difference of Watching Advertisements more than other Programs on Message Content of Ad

ANOVA Table 4.4.2.7

Watching Advertisements more than other Programs on Message Content of Ad

Status	N	Mean	SD	F Value	P Value
Yes	107	3.8822	.60747	5.793	.004**
No	56	3.6357	.79462		
Maybe	37	4.1027	.57469		

**significant at 0.01 level

Based on the above table since P value is less than 0.01 the mean differences are significant at 1% level. It is evident that, on the basis of mean scores, the message content of ad is affected highest among children for whom the parent has the opinion 'Maybe'. Since the lowest mean score is for the 'No' option, the level of message content of ad is affected lowest among children for whom the parent has the opinion 'No'.

4.4.2.8 Mean Difference of Watching Advertisements more than other Programs on Gender Power

ANOVA Table 4.4.2.8

Watching Advertisements more than other Programs on Gender Power

Status	N	Mean	SD	F Value	P Value
Yes	107	3.8505	.58566	3.913	.022*
No	56	3.6027	.74281		
Maybe	37	3.9392	.60210		

*significant at 0.05 level

It is evident from the table that P value is less than 0.05; the mean difference is significant at 5 % level. We can come to an inference that gender power is affected highest for the children in which parents opted 'Maybe' based on the mean score. Since the low mean score is for the one for which parents opted 'No', the level to which gender power is affected is the lowest among this category of children.

4.4.2.9 Mean Difference of Watching Advertisements more than other Programs on Attitude

ANOVA Table 4.4.2.9

Watching Advertisements more than other Programs on Attitude

Status	N	Mean	SD	F Value	P Value
Yes	107	3.7975	.62572	14.597	.000*
No	56	3.2024	.69828		
Maybe	37	3.4955	.77229		

**significant at 0.01 level

Based on the above table since P value is less than 0.01 the mean difference is significant at 1% level. It is evident that, on the basis of mean scores, the attitude is highly affected for children for whom parents chose the option 'Yes'. Since the lowest mean score is for the 'No' category, the level to which attitude is affected is the lowest for these children.

3.4.2.10 Mean Difference of Watching Advertisements more than other Programs on Children Age Group

ANOVA Table 4.4.2.10

Watching Advertisements more than other Programs on Children Age Group

Status	N	Mean	SD	F Value	P Value
Yes	107	3.7804	.62732	9.646	.000*
No	56	3.3482	.73342		
Maybe	37	3.8581	.63612		

**significant at 0.01 level

Depending on the above table, since the P value is less than 0.01 the mean difference is significant at 1% level. It is clear that the children's age group, on the basis of the mean scores is affected the highest for the children for whom the respondent parent said 'Maybe' option. Since the low mean score is for the 'No' category, the effect of the children age group is the lowest here.

3.4.2.11 Mean Difference of Watching Advertisements more than other Programs on Celebrity Endorsement

ANOVA Table 4.4.2.11

Watching Advertisements more than other Programs on Celebrity Endorsement

Status	N	Mean	SD	F Value	P Value
Yes	107	3.8318	.65617	7.560	.001**
No	56	3.3690	.84490		
Maybe	37	3.6396	.70876		

**significant at 0.01 level

Based on the above table, since the P value is less than 0.01 the mean difference is significant at 1% level. It is clear that, on the basis of the mean score, the effect of celebrity endorsement while watching advertisements is the highest for the children for whom the parent opted 'Yes'.

4.4.2.12 Mean Difference of Watching Advertisements more than other Programs on Purchase Intent

ANOVA Table 4.4.2.12
Watching Advertisements more than other Programs on Purchase Intent

Status	N	Mean	SD	F Value	P Value
Yes	107	3.8551	.64248	16.631	.000*
No	56	3.1473	.89668		
Maybe	37	3.6351	.76738		

**significant at 0.01 level

Based on the above table since P value is less than 0.01 the mean differences are significant at 1% level. It is evident that, on the basis of mean scores, the purchase intent is affected highest among children for whom the parent has the opinion 'Yes'. Since the lowest mean score is for the 'No' option, the level of the urge to purchase intent is affected lowest among children for whom the parent has the opinion 'No'.

4.4.2.13 Mean Difference of Preferred Category of Ad on Exposure in Ad

ANOVA Table 4.4.2.13
Preferred Category of Ad on Exposure in Ad

Category of Ad	N	Mean	SD	F Value	P Value
Food Advertisements	88	4.2443	.50993	6.130	.003**
Superhero Advertisements	108	4.1713	.65447		
Others	4	3.1875	.51539		

**significant at 0.01 level

Based on the above table since P value is less than 0.01 the mean differences are significant at 1% level. It is understood that, on the basis of the mean scores, the exposure in ad among children due to advertisements is the highest among the children who watch food advertisements.

Since the low mean score is for children who watch other categories of ad which include toys, sports items, advertisers of children's topics and cosmetic and film based advertisements, their level of exposure in ad is the lowest.

4.4.2.14 Mean Difference of Preferred Category of Ad on Food Advertisement

ANOVA Table 4.4.2.14

Preferred Category of Ad on Food Advertisement

Category of Ad	N	Mean	SD	F Value	P Value
Food Advertisements	88	3.8250	.65236	3.849	.023*
Superhero Advertisements	108	3.5611	.78178		
Others	4	3.2500	.91469		

*significant at 0.05 level

Based on the above table since P value is less than 0.05 the mean differences are significant at 5% level. It is evident that, on the basis of mean scores, the food advertisement is affected highest among children who watch food advertisements. Since the lowest mean score is for the 'Others' option, the level of food advertisement is affected lowest among children who watch other categories of ads like toys, sports items, etc.

ANOVA Table 4.4.2.15

Summary

Measures	Mean Score	EA	FA	RA	RM	SA	CA	GP	AT	AG	CE	PI
AC	Highest	8-10	8-10	5-7	5-7	8-10	8-10	5-7	11-14	5-7	8-10	5-7
	Lowest	11-14	5-7	11-14	11-14	5-7	11-14	11-14	8-10	8-10	11-14	11-14

WA	Highest	Yes	Yes	Yes	Yes	Yes	Maybe	Maybe	Yes	Maybe	Yes	Yes
	Lowest	No	No	No	No	No	No	No	No	No	No	No
PC	Highest	Food	Food	Food	Super hero	Food	Other	Super hero	Food	Super hero	Super hero	Super hero
	Lowest	Other	Other	Other	Other	Other	Food	Other	Other	Other	Other	Other
VH	Highest	6-8	4-6	0-2	0-2	0-2	2-4	4-6	4-6	4-6	0-2	4-6
	Lowest	4-6	2-4	6-8	2-4	6-8	6-8	6-8	6-8	6-8	6-8	6-8

The above table reviews the outcomes of ANOVA concerning the 4 measures in relation to the main variables of the study. The measures selected are AC (Age of Child), WA (Watching Advertisements more than other Programs), PC (Preferred Category of Ad), and VH (TV/Mobile Viewing Hours). All these measures were checked with the identified variables of the study namely EA, FA, RA, RM, SA, CA, GP, AT, AG, CE, and PI.

The concluded results are as follows:

Children whose age is between 5-7 are affected highly by the repetition of ad, rock music, and gender power used in the advertisements. It is also seen that children belonging to this age group are highly affected by the advertisements. This has ultimately led to a high level of the urge to purchase intent in children. But, it is also found that a child of this age group is the least affected by food advertisements and school advertisements. Now, when children of the age group 8-10 are taken, it is found that they are highly affected by exposure in ad, food advertisement, school advertisement, message content of ad, and celebrity endorsement but their attitude towards the advertisement and their age group has only low effect on them. Whereas, a child belonging to the age group

11-14 is found to have a high level of attitude towards the advertisements which can be said to be positive. This group of children is least affected by most of the other factors which have ultimately lead to a lower level of the urge to purchase intent in them.

Parents, who were the respondents were of the opinion that their children who watch advertisements more than any other programs were highly affected by the exposure in ad, food advertisement, repetition of ad, rock music, school advertisement, attitude they have towards the advertisement, celebrity endorsement. This has lead to a high level of purchase intention in children. It is also found that parents who had the opinion that their children do not watch advertisements more than other programs was the lowest. The mean score shows a high level of purchase intent in children due to the effect of advertisements.

The preferred content of ad by children has shown that superhero advertisements have the highest effect on rock music, gender power, children age group, and message content of ad. This has also lead to the highest level of purchase intent. But, the other categories of advertisement namely those related to toys, sports items, advertisers of children's topic, and cosmetic and film-based products have got the lowest effect on these factors and such advertisements do not lead to a high purchase intent in children. On the other hand, food advertisements were found to have the lowest impact on the message content of ad.

Children who watched TV/Mobile for 4-6 hours were found to be highly affected by food advertisement, gender power, and attitude towards advertisements. It is also seen that children's age group is another factor with which the TV/Mobile viewing hours increases. This has finally led to the highest urge to purchase intent in children. On the other hand, children who watched TV/Mobile for 6-8 hours were at the least level which has lead to the lowest effect on most of the factors. This also showed that this group of children has low purchase intention.

4.4.3 Independent Sample T-Test for Significant Differences between Means of Two Groups

An independent sample T-test compares the means of two independent groups in order to determine whether there is statistical evidence that the associated population measure significantly differs. The Independent sample T-test is a parametric test.

The independent sample T test was done to analyze whether there is any statistical difference in the means of gender and type of ad to which children are exposed among the identified main variables. The results are shown in the below tables.

Table 4.4.3.1
T-Test Statistics Summary - Gender

Gender	Male (101)		Female (99)		T Value	P Value
	Mean	SD	Mean	SD		
Exposure in Ad	4.2302	.64680	4.1364	.56500	1.092	.276
Food Advertisement	3.7010	.70463	3.6404	.77722	.578	.564
Repetition of Ad	3.8837	.77747	3.9268	.69826	-.412	.681
Rock Music	3.8284	.75368	3.9764	.72257	-1.418	.158
School Advertisement	3.8455	.61376	3.7475	.72652	1.032	.303
Message Content of Ad	3.7663	.67295	3.9434	.66947	-1.866	.064
Gender Power	3.7277	.67555	3.8687	.60855	-1.549	.123
Attitude	3.5182	.75200	3.6330	.68428	-1.129	.260
Children Age Group	3.6708	.70705	3.6768	.67220	-.061	.951
Celebrity Endorsement	3.6601	.73482	3.6734	.76187	-.126	.900
Purchase Intent	3.5916	.77357	3.6414	.83082	-.439	.661

While analyzing gender, no statistically significant difference could be found. All the values were above 0.05 and hence there is no significant difference in the means of gender and the identified variables.

Table 4.4.3.2
T-Test Statistics Summary – Type of Ad to which Children are Exposed

Type of Ad	TV (157)		Online (43)		T Value	P Value
	Mean	SD	Mean	SD		
Exposure in Ad	4.2134	.58958	4.0756	.66712	1.319	.189
Food Advertisement	3.7032	.71812	3.5535	.81397	1.176	.241
Repetition of Ad	3.9920	.70166	3.5872	.78658	3.264	.001**
Rock Music	3.9894	.65418	3.5814	.93462	3.279	.001**
School Advertisement	3.8420	.67179	3.6326	.65455	1.821	.070
Message Content of Ad	3.8752	.61703	3.7767	.85991	.846	.399
Gender Power	3.8248	.57140	3.6977	.86527	1.145	.253
Attitude	3.6348	.67176	3.3566	.84639	2.269	.024*
Children Age Group	3.7150	.60477	3.5233	.92552	1.625	.106
Celebrity Endorsement	3.7070	.69425	3.5194	.90648	1.465	.145
Purchase Intent	3.6720	.75312	3.4128	.93682	1.893	.060

*significant at 0.05 level

**significant at 0.01 level

From the above table 3.4.3.2, it can be inferred that repetition of ad and rock music statistically differs at 1% significance level. Both these variables are affected more for TV advertisements than online advertisements. The variable attitude statistically differs at 5% significance level and attitude is affected the highest for TV advertisements than online advertisements.

Section IV

4.5 Hypotheses Testing and Model Validation

4.5.1 Correlation Analysis

Correlation analysis is carried out before conducting regression analysis in order to quantify the strength of the relationship between the variables. It tests the linear relationship between the variables. The correlations on the main diagonal are the correlations between each variable itself.

Table 4.5.1
Correlation between Independent and Dependent Variable

Variable	PI	EA	FA	RA	RM	SA	CA	GP	AT	AG	CE
PI	1										
EA	.395**	1									
FA	.401**	.617**	1								
RA	.550**	.634**	.662**	1							
RM	.472**	.482**	.505**	.670**	1						
SA	.367**	.523**	.599**	.616**	.526**	1					
CA	.334**	.284**	.296**	.357**	.423**	.383**	1				
GP	.422**	.367**	.411**	.523**	.508**	.301**	.636**	1			
AT	.655**	.442**	.501**	.542**	.446**	.517**	.345**	.438**	1		
AG	.637**	.447**	.522**	.548**	.554**	.508**	.543**	.577**	.622**	1	
CE	.595**	.349**	.373**	.430**	.500**	.357**	.401**	.576**	.502**	.625**	1

Source: Compiled by the Researcher

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

The correlation coefficients between the independent variables like Exposure in Ad, Food Advertisement, Repetition of Ad, Rock Music, School Advertisements, Message Content of Ad, Gender Power, Attitude, Children Age Group, and Celebrity Endorsement and the dependent variable Purchase Intent are reported in table 3.5.1. The correlation coefficient should always be in the range -1 to 1. A correlation is statistically significant if its P value < 0.05 and P value < 0.01. From the above table it is understood that there is a correlation that is statistically significant at a P value of < 0.01. Hence it can be concluded that there exists a positive correlation between the independent and dependent variables.

The correlation between various variables can be interpreted as follows:

The correlation between purchase intent and exposure in ad is 39.5 percent.

The correlation between purchase intent and food advertisement is 40.1 percent.

The correlation between purchase intent and repetition of ad is 55 percent.

The correlation between purchase intent and rock music is 47.2 percent.

The correlation between purchase intent and school advertisement is 36.7 percent.
The correlation between purchase intent and message content of ad is 33.4 percent.
The correlation between purchase intent and gender power is 42.2 percent.
The correlation between purchase intent and attitude is 65.5 percent.
The correlation between purchase intent and children age group is 63.7 percent.
The correlation between purchase intent and celebrity endorsement is 59.5 percent.
The correlation between exposure in ad and food advertisement is 61.7 percent.
The correlation between exposure in ad and repetition of ad is 63.4 percent.
The correlation between exposure in ad and rock music is 48.2 percent.
The correlation between exposure in ad and school advertisement is 52.3 percent.
The correlation between exposure in ad and message content of ad is 28.4 percent.
The correlation between exposure in ad and gender power is 36.7 percent.
The correlation between exposure in ad and attitude is 44.2 percent.
The correlation between exposure in ad and children age group is 44.7 percent.
The correlation between exposure in ad and celebrity endorsement is 34.9 percent.
The correlation between food advertisement and repetition of ad is 66.2 percent.
The correlation between food advertisement and rock music is 50.5 percent.
The correlation between food advertisement and school advertisement is 59.9 percent
The correlation between food advertisement and message content of ad is 29.6 percent.
The correlation between food advertisement and gender power is 41.1 percent.
The correlation between food advertisement and attitude is 50.1 percent.
The correlation between food advertisement and children age group is 52.2 percent.
The correlation between food advertisement and celebrity endorsement is 37.3 percent.
The correlation between repetition of ad and rock music is 67 percent.
The correlation between repetition of ad and school advertisement is 61.6 percent.
The correlation between repetition of ad and message content of ad is 35.7 percent.
The correlation between repetition of ad and gender power is 52.3 percent.
The correlation between repetition of ad and attitude is 54.2 percent.
The correlation between repetition of ad and children age group is 54.8 percent.
The correlation between repetition of ad and celebrity endorsement is 43 percent.
The correlation between rock music and school advertisement is 52.6 percent.

The correlation between rock music and message content of ad is 42.3 percent.
The correlation between rock music and gender power is 50.8 percent.
The correlation between rock music and attitude is 44.6 percent.
The correlation between rock music and children age group is 55.4 percent.
The correlation between rock music and celebrity endorsement is 50 percent.
The correlation between school advertisement and message content of ad is 38.3 percent.
The correlation between school advertisement and gender power is 30.1 percent.
The correlation between school advertisement and attitude is 51.7 percent.
The correlation between school advertisement and children age group is 50.8 percent.
The correlation between school advertisement and celebrity endorsement is 35.7 percent.
The correlation between message content of ad and gender power is 63.6 percent.
The correlation between message content of ad and attitude is 34.5 percent.
The correlation between message content of ad and children age group is 54.3 percent.
The correlation between message content of ad and celebrity endorsement is 40.1 percent.
The correlation between gender power and attitude is 43.8 percent.
The correlation between gender power and children age group is 57.7 percent.
The correlation between gender power and celebrity endorsement is 57.6 percent.
The correlation between attitude and children age group is 62.2 percent.
The correlation between attitude and celebrity endorsement is 50.2 percent.
The correlation between children age group and celebrity endorsement is 62.5 percent.

4.5.2 Regression Analysis

Regression analysis was conducted to measure the influence of EA, FA, RA, RM, SA, CA, GP, AT, AG, and CE on PI. The independent variables are EA, FA, RA, RM, SA, CA, GP, AT, AG, and CE and the dependent variable is PI. The main objective of regression analysis is to explain the variation in one variable (called dependent variable) based on the variations in one or more other variables (independent variables). If multiple independent variables are used to explain variation in a dependent variable, it is called a multiple regression model. The output of multiple regression analysis was used to test the hypotheses.

Table 4.5.4
Coefficients of Regression Analysis

Factors (Constructs)	Item Acronym	Standardized Beta Coefficient (β)	Sig. (P Value)
Exposure in Ad	EA	.060	.030*
Food advertisement	FA	.076	.046*
Repetition of Ad	RA	.297	.000**
Rock Music	RM	.016	.017*
School Advertisement	SA	.164	.017*
Message Content of Ad	CA	.017	.043*
Gender Power	GP	.140	.049*
Attitude	AT	.363	.000**
Children Age Group	AG	.261	.001**
Celebrity Endorsement	CE	.273	.000**

Source: Compiled by the Researcher

*significant at 5% level

**significant at 1% level

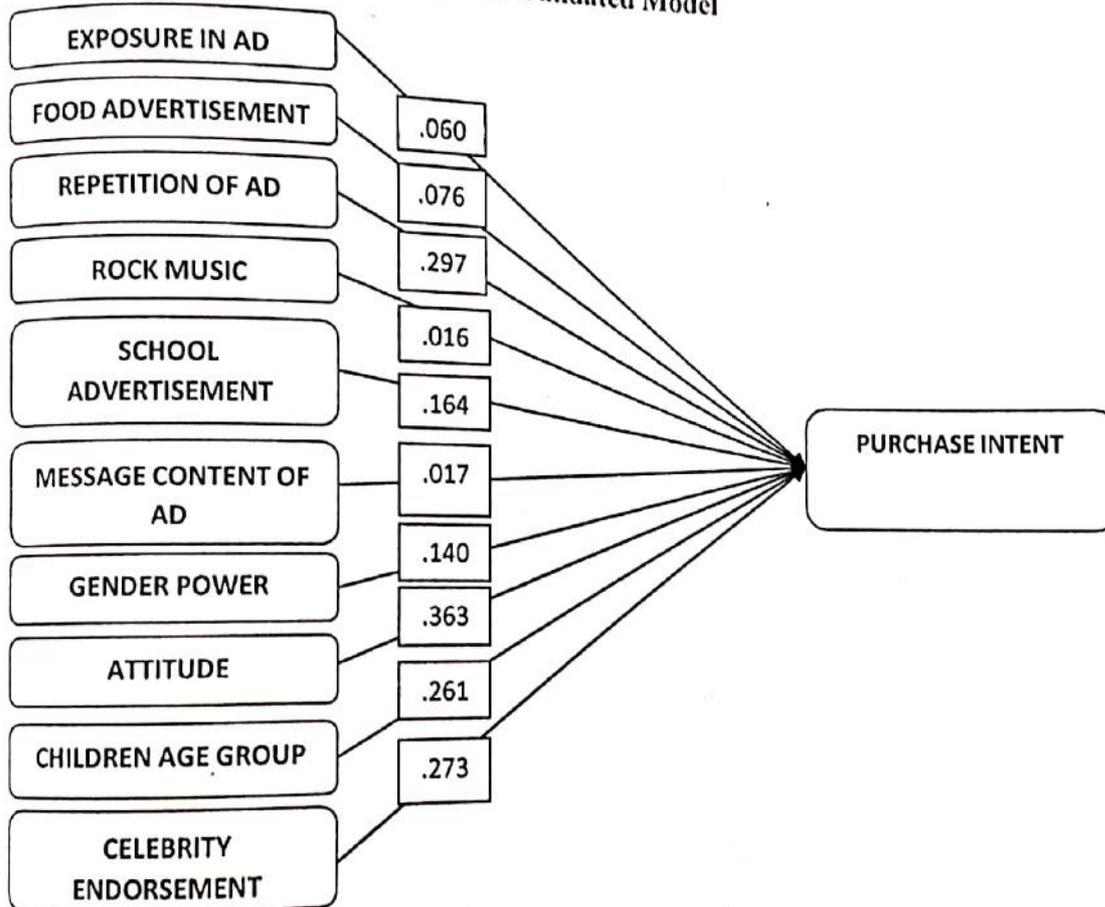
Table 3.5.4 presents the Standardized Beta Coefficient values and the significant values of independent variables exposure in ad, food advertisement, repetition of ad, rock music, school advertisement, message content of ad, gender power, attitude children age group, and celebrity endorsement. The independent variables repetition of ad (RA), attitude (AT), children age group (AG), and celebrity endorsement (CE) are statistically significant at 1 percent significance level. Whereas, exposure in ad (EA), food advertisement (FA), rock music (RM), school advertisement (SA), message content of ad (CA), and gender power (GP) are statistically significant at 5 percent significance level.

Therefore, it is clear that all ten independent variables have a significant positive effect on the urge to Purchase Intent. Hence, H_{01} , H_{02} , H_{03} , H_{04} , H_{05} , H_{06} , H_{07} , H_{08} , H_{09} , and H_{010} are rejected. The beta coefficients give a measure of the contribution of each variable on to the model. Higher the beta value, the greater is the effect of the independent variable on the

dependent variable. Among the independent variables, attitude (AT) has the greatest effect followed by repetition of ad (RA), celebrity endorsement (CE), children age group (AG), school advertisement (SA), and gender power (GP).

4.5.4 Validated Model

Figure 4.1 Validated Model



Source: Compiled by the Researcher based on Hypothesis tested

The empirically validated model is portrayed in Figure 3.1. Attitude ($\beta = 0.363$) has the highest beta coefficient followed by Repetition of Ad ($\beta = 0.297$), Celebrity Endorsement ($\beta = 0.273$), Children Age Group ($\beta = 0.261$), School Advertisement ($\beta = 0.164$), and Gender Power ($\beta = 0.140$). The beta coefficients of Rock Music, Attitude, Children Age Group, and Celebrity Endorsement are statistically significant at 1 percent significance level ($p < 0.01$) and Exposure In Ad, Food Advertisement, Repetition Of Ad, School Advertisement, Message Content Of Ad and

Gender Power are statistically significant at 5 percent significance level ($p < 0.05$). Based on the above model it is understood that all 10 null hypotheses are rejected and there exists a strong significant relationship between these variables.

4.6 Summary

This chapter deals with the analysis of the data collected. The data were analyzed in four different stages. In the first stage, a brief analysis of the Demographic Profile of the respondents was carried out. In the second stage, the Reliability of the measures was tested and found satisfactory. In the third stage, Descriptive analysis of the measures was done under two sections: Descriptive Analysis I and Descriptive Analysis II. Descriptive analysis I include analysis of each measures belonging to the particular variable whereas, in Descriptive analysis II one sample T-test was carried out to check whether the responses of the respondents significantly differ from the moderate or neutral state of responses and one way ANOVA test was carried out to determine whether there are any statistically significant differences between the means of two or more independent groups and independent sample T-test was carried out to examine whether there are any statistically significant differences between the means of two groups. The fourth and the final stage dealt with the testing of hypothesis and model validation. The multiple regression analysis of the measures was done in this stage.

It was found that exposure in ad, food advertisement, repetition of ad, rock music, school advertisement, message content of ad, gender power, attitude, children age group and celebrity endorsement creates or ends up in bringing out an urge to purchase intent in children. The independent variables Exposure In Ad, Food Advertisement, Repetition Of Ad, Rock Music, School Advertisement, Message Content Of Ad, Gender Power, Attitude, Children Age Group and Celebrity Endorsement have significant relation with the urge to Purchase Intent in children. Attitude has the highest influence on the urge to Purchase Intent in children.

CHAPTER V
FINDINGS, SUGGESTIONS AND
CONCLUSION

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1 INTRODUCTION

Today, companies spend a massive amount of their earnings on advertising in different media such as television, radio, magazine, online platforms, etc. Television is considered to be one among the common media for this purpose. Advertising is an indirect message that consists of the information for which payments are made continuously and acceptable in nature about products, services, or ideas by well-known sponsors through different media (Datta, 2008). The promoter aspires to broaden his ideas about the products and offerings amidst the estimate. The popularization of the products is thus, the basic aim of advertising (Ramaswami & Namakumari, 2004). A larger part of the marketers utilizes mass media in order to bring out their marketing message. The option of media relies upon the characteristic of the message and the target viewers considered (Etzel et al, 2008). Television commercial is the best viewed and economical media which has been ever invented. It has a feasible advertising effect incomparable by any other media (Saxena, 2005). The merit of television over the other means is that it is recognized as a blend of audio and video attributes. It gives products with ready soundness and fame and extend the greatest possibility for creative commercial (Kavitha, 2006).

Advertising is a method of marketing transmission that engage a publicly sponsored, indirect message in order to promote or sell a product, service, or an idea. Sponsors of commercials are generally businesses wishing to advance their products or services. Advertising is altered from public relations in that manner an advertiser makes payment for and has command over the message. It diverges from personal selling in that sense where the message is indirect or non-personal, i.e., not directed to a specific person. Commercials are transmitted through variety of mass media, consisting of traditional media like newspapers, magazines, television, radio, etc.; and new media like search results, blogs, social media, or text messages. The real presentation of the message through a medium is mentioned to as an advertisement, or "ad" or advert in short.

Commercial advertisements frequently seek to build up increased utilization of their products or services through "branding", which connects a product name or image with specific qualities in the minds of customers. Diversely, advertisements that intend to extract an instantaneous sale is referred to as direct-response advertising. Non-commercial enterprises that advertise more than

consumer products or services consists of political parties, interest groups, religious organizations, etc. Non-profit organizations might utilize free modes of attracting people, such as a public service announcement. Commercials might also assist to reassure employees or shareholders that an organisation is viable or successful.

4.2 OBJECTIVES OF THE STUDY

“A Study on the Effect of Advertisements on the Urge to Purchase Intent in Children” is carried out with the following objectives:

- 1) To explore the factors influencing the urge to purchase intent in children.
- 2) To study the effect of advertisements on the urge to purchase intent in children.

The data collected from the respondents provide the following findings.

5.3 FINDINGS

Based on the data analysis that was carried out in chapter three, the following are the major findings of the study:

5.3.1 DEMOGRAPHIC FINDINGS

In this section, the findings regarding the Demographic Profile of the respondents are being discussed:

- 1) Majority of the children (37.5%) belonged to 5-7 age group.
- 2) Most of the children (50.5%) of the respondents were male.
- 3) Majority of the respondents (53.5%) agreed that children watched advertisements more than any other program.
- 4) A major part of children (78.5%) watched TV advertisements more.
- 5) Superhero advertisements were the most preferred (54%) category of advertisements among majority of the children.
- 6) Majority of the children's (43%) TV/Mobile viewing hour was 2 to 4.
- 7) **Reliability Test** was carried out which showed the Cronbach's Alpha values for all the eleven factors and it can be concluded that the scale has internal consistency and reliability since all the factors has value above 0.70.

5.3.2 DESCRIPTIVE FINDINGS

This section deals with the findings regarding the Descriptive Statistics:

- 1) Most of the respondents were of the opinion that the content of advertisement affects children to a large extent. It was also noted that advertisements create a demanding sense in children.
- 2) Majority of the respondents said that children do not enforce their parents to purchase those products which are not advertised.
- 3) A major part of the parents was of the opinion that the repetition of ads affects the mind of children.
- 4) It was evident that majority of the children like to watch music advertisements.
- 5) Another finding was that a product exhibition in school and the school's canteen influences children almost at the same level.
- 6) Majority of the parents had the opinion that advertisements are considered a useful source of information and a valuable source of information about sales/products almost at the same level by children.
- 7) Most of the children get attracted to advertisements that have cartoons, robots, and colors.
- 8) Most of the parents said that children like advertising and they have a positive attitude towards it.
- 9) Majority of the children could understand the advertisement for food as their age went up.
- 10) Most of the parents agreed that picture of famous celebrity in ads makes children think that the product is of good quality.
- 11) It was found that majority of the parents obviously consider their child's purchase intent and that they would definitely intend to buy the product.

5.3.3 ONE SAMPLE T TEST FINDINGS

This section deals with the findings relating to the T-Test carried out:

- 1) It was found that there exists a very high level of exposure in ad which affects children's urge to purchase intent.

- 2) It was found that there exists a high effect of food advertisements on children's purchase intent.
- 3) There exists a high effect of repetition of ad on the urge to purchase intent in children.
- 4) Rock music has a high effect on the urge to purchase intent in children.
- 5) It was found that there exists a high effect of school advertisement on children.
- 6) The finding was that there is a high effect on the urge to purchase intent in children due to message content of ad.
- 7) There exists a high effect of gender power on children's urge to purchase intent.
- 8) There exists a high effect of attitude on children's purchase intent.
- 9) It was found that there exists a high effect of children age group on children's purchase intent.
- 10) The finding was that there exists a high effect of celebrity endorsement on the urge to purchase intent in children.
- 11) There is a high level of purchase intent in children.

5.3.4 ONE WAY ANOVA TEST FINDINGS

In this section, findings of One Way ANOVA Test are being discussed:

- 1) Children whose age is between 5-7 are affected highly by the repetition of ad, rock music, and gender power used in the advertisements. It is also seen that children belonging to this age group are highly affected by the advertisements. This has ultimately led to a high level of the urge to purchase intent in children. But, it is also found that a child of this age group is the least affected by food advertisement and school advertisement.
- 2) Parents, who were the respondents were of the opinion that their children who watch advertisements more than any other programs were highly affected by the exposure in ad, food advertisement, repetition of ad, rock music, school advertisement, attitude they have towards the advertisement, celebrity endorsement. This has led to a high level of purchase intention in children.
- 3) The preferred content of ad by children has shown that superhero advertisements have the highest effect on rock music, gender power, children age group, and message content of ad. This has also led to the highest level of purchase intent. But, the other categories of

advertisement namely those related to toys, sports items, advertisers of children's topic, and cosmetic and film-based products have got the lowest effect on these factors and such advertisements do not lead to a high purchase intent in children.

- 4) Children who watched TV/Mobile for 4-6 hours were found to be highly affected by food advertisement, gender power, and attitude towards advertisements. It is also seen that children's age group is another factor with which the TV/Mobile viewing hours increases. This has finally led to the highest urge to purchase intent in children.

5.3.5 INDEPENDENT SAMPLE T TEST FINDINGS

This section discusses the Independent Sample T-Test findings:

- 1) It was found that there is no significant difference in the means of gender and the identified variables.
- 2) It was inferred that repetition of ad and rock music statistically differs at 1% significance level. Both these variables are affected more for TV advertisements than online advertisements. The variable attitude statistically differs at 5% significance level and attitude is affected the highest for TV advertisements than online advertisements.

5.3.6 REGRESSION ANALYSIS FINDINGS

Following are the results and findings based on the Multiple Regression Analysis that was carried out to measure the influence of independent variables over dependent variables:

- 1) The correlation coefficient between the independent variables and the dependent variable exhibits a positive correlation.
- 2) The R square and adjusted R square was almost the same. The adjusted R square shows that 57.5 percent variation in Purchase Intent is explained by Exposure in Ad, Food Advertisement, Repetition of Ad, Rock Music, School Advertisement, Message content of Ad, Gender Power, Attitude, Children Age Group, and Celebrity Endorsement.
- 3) The Durbin-Watson statistic is 2.037, which indicates the independence of observations.
- 4) The model is statistically significant at 0.01 level with F value at 27.872.
- 5) The beta coefficients of repetition of ad (RA), attitude (AT), children age group (AG), and celebrity endorsement (CE) are statistically significant at 1 percent significance level ($p < 0.01$). Whereas, exposure in ad (EA), food advertisement (FA), rock music (RM),

school advertisement (SA), message content of ad (CA), and gender power (GP) are statistically significant at 5 percent significance level ($p < 0.05$).

- 6) Attitude ($\beta = 0.363$) has the highest beta coefficient followed by Repetition of Ad ($\beta = 0.297$), Celebrity Endorsement ($\beta = 0.273$), Children Age Group ($\beta = 0.261$), School Advertisement ($\beta = 0.164$) and Gender Power ($\beta = 0.140$).

5.3.7 HYPOTHESES TESTING AND MODEL FINDINGS

- 1) The independent variables repetition of ad (RA), attitude (AT), children age group (AG), and celebrity endorsement (CE) are statistically significant at 1 percent significance level. Whereas, exposure in ad (EA), food advertisement (FA), rock music (RM), school advertisement (SA), message content of ad (CA) and gender power (GP) are statistically significant at 5 percent significance level. Therefore, it is clear that all ten independent variables have a significant positive effect on the urge to Purchase Intent. Hence, H_{01} , H_{02} , H_{03} , H_{04} , H_{05} , H_{06} , H_{07} , H_{08} , H_{09} , and H_{010} are rejected.
- 2) Exposure in ad establishes the least positive relationship with the urge to purchase intent in children. This is shown by the beta coefficient of 6%.
- 3) Food advertisement establishes the least positive relationship with the urge to purchase intent in children. It is evident from the beta coefficient of 7.6%.
- 4) Repetition of ad has a strong positive impact over the urge to purchase intent in children which is clear from the beta coefficient of 29.7%.
- 5) Rock music has the least positive impact on purchase intent. It is shown by the beta coefficient value of 1.6%.
- 6) School advertisement establishes a strong positive relationship with purchase intent. It is evident by the beta coefficient of 16.4%.
- 7) It was found that message content of ad has the least positive impact over the urge to purchase intent in children and it is clear from its beta coefficient value of 1.7%.
- 8) Gender power has got a strong positive effect on the purchase intent in children which have its beta coefficient of 14%.
- 9) Attitude establishes the strongest and the highest positive relationship with the urge to purchase intent in children. This is evident from its beta coefficient of 36.3%.
- 10) Children age group has a strong positive relationship over purchase intent which is evident from the beta coefficient value of 26.1%.

- 11) Celebrity endorsement establishes a strong positive relationship over the urge to purchase intent in children. This is shown by the beta coefficient value of 27.3%.

5.4 SUGGESTIONS

- 1) Parents have to serve as a model and make a time table of how to watch television, as a gatekeeper permitting or disproving approach to the TV and also interpret the content of television programs and suggest which type of channel their children can watch.
- 2) Parents have to permit children to watch television in their presence so that when the child is watching television, the parents could monitor their children and children will learn which advertisement they have permission to see and which is not.
- 3) If the child watches an advertisement which makes him/her happy just permit them to watch that advertisement but don't let them get more attracted to it.
- 4) Providing separate television sets in a child's room can have a great effect on children and this can eventually lead to a high level of purchase intent in them. Avoiding such acts can help to an extent.
- 5) Attitude, having the highest influence on purchase intent; organizations should develop advertisements in such a way that children's positive attitude towards an advertisement is increased than creating a negative attitude. This will ultimately increase the sales of the product due to the high purchase intent in children.
- 6) Companies should try using more celebrities in advertisements and the theme of the advertisements can be made in such a way that children get attracted easily. This will help in improving the demand for a particular product advertised.

5.5 CONCLUSION

Nowadays, television advertisements have a very strong grip on conveying any information regarding a product they want to sell in the market. Day by day advertisements is regularly and consistently changing and coming up with brand new ideas, improvements, and innovations to show its products on media for the viewers, especially for children to get influenced and then buy that advertised product. In this study, it is checked whether advertisements impact children's urge to purchase intent or not. Advertisements mostly target children as we all know that children have some weak insights about the goods and products which are best for them and which aren't best for them. So the products advertised on various media have a great impact on

children. In this research, the results of the study are helpful and positive and the average response rate of the study lies between strongly agree and neutral. So, it is concluded that the respondents have almost agreed with the statement that advertisements have an impact on the urge to purchase intent in children. The results of the average describe that if children watch more television advertisement then they influence their parents to buy something that is being advertised.

The results of the correlation analysis describe that there is a positive correlation of independent variables with the dependent variable. So, it means that there is a relationship between the independent variables with purchase intent.

The children are influenced very much by those products which are being advertised on TV. It is also concluded that too much publicity and exposure to specific products shown by TV advertisements affect the children. Children's perceptions and awareness about the products are getting stronger and stronger day by day due to the repetition of advertisements. So, the repetition of advertisements also put a very strong impact on the children's mind and behavior to buy that specific product that was advertised and being repeated frequently. So, the repetition of the advertisement has an impact on the children's attitude.

The opposite gender acting and performing in the advertisement is also putting a strong effect on children's behavior. It is influencing negatively on the child due to the opposite gender acting in the advertisement. Food advertisements have an effect on children as the children copy the food which is advertised and acts done by their favorite celebrities or their personal favorite superstars performing in the advertisement. The child tries to buy and eat the food items and goods that are shown in advertisements. The acts of celebrities performing in food advertisement influence the attitude and behavior of the children a lot. So, in the end, it is concluded that the advertisements lead the children towards the influential, forceful, and aggressive attitude that results in leading the children towards a change in their behavior which leads to an urge in their purchase intent.

Children's age group doesn't matter a lot but it also has an impact on children's behavior as the age of the children increases they're more influencing their parents to buy that particular product which is being advertised. So, it can be concluded that by a change in age, children are more impatient about buying that specific product which might be a food item or any other item.

Rock music has also influenced children's attitudes and behavior towards the advertised items and products. If there were children's favorite singer singing in television advertisements, then the impact of that musical advertisement is more than other advertisements. This is because music attracts children and changes their behavior and mind towards the advertised products.

Attitude has the strongest and highest effect on the urge to purchase intent. This means that children usually have a positive attitude towards advertisements. For example, commercials that appeals to a child's optimism make them far more likely to fall in love with the brand, regardless of the product being advertised.

When the ANOVA test was applied to compare the children age group, watching advertisements more than other programs, preferred content of ad, and TV/mobile viewing hours of children, it is concluded that there is no big difference from all of these groups.

Except very few differences no matter from which background a child belongs to, what is a child's parental education, or what are the living standards they have, if children watch the television or some other media, he or she will be affected by the advertisements in some way or the other. With this, it is also directed that an organization should develop advertisements in such a way that the demand for a product is increased through the increasing purchase intent in children.

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QUESTIONNAIRE

A STUDY ON EFFECT OF ADVERTISEMENTS ON THE URGE TO PURCHASE INTENT IN CHILDREN

(Do you have children belonging to the age group of 5-14 at your home? If the answer is "YES", please proceed with the questionnaire).

Demographic Information:

1. Age of your child

5-7 8-10 11-14

2. Gender of your child

Female Male Other: _____

Basic Information:

3. Does your child spent more time watching advertisements than other programs?

Yes No Maybe

4. To which type of advertisement your child is more exposed?

TV advertisements Online Advertisements Other: _____

5. Which one does your child prefer?

Food Advertisements Superhero Advertisements Other: _____

6. TV/mobile viewing hours of your child.

0-2 2-4 4-6 6-8

Factors influencing the urge to purchase intent in children:

7. Please express your rating about the statements choosing the most suitable option.

MEASURES	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Content of advertisement affects children. 2. Advertisement creates demanding sense in the children. 3. Children insist their parents to buy that particular product. 4. No television for babies and toddlers is a good policy. 5. Children like the food advertisement. 6. Children want to watch the food advertisements repeatedly. 7. Children spend most of his/her pocket money on advertised food. 8. Children enforce you to purchase that product which is not advertised. 9. Children are happy to watch the food advertisement. 10. Children are influenced by TV advertisement at first sight. 11. Children like to watch frequently appearing television Ads. 12. Repetition of ads affects minds of children. 13. Repetition of ads changes the negative feelings into positive. 14. Children like to watch the music advertisements. 15. Children are convinced by the products used in music videos. 16. The products advertised by children's favorite music star convince very much. 17. Children buy food placed in their school. 18. Children want to purchase everything					

that is placed in school.

19. Children like to eat something in school's canteen.
20. Product exhibitions in school influence a child.
21. Children like product exhibitions in school every month.
22. Advertising is a valuable source of information about sales/products.
23. Advertising contributes to the knowledge about quality product.
24. Advertisements are useful source of information.
25. Advertising tells children which brands have the features they are looking for.
26. Advertising helps children keep up to date about products/services available in the marketplace.
27. Celebrities in advertisement make it more powerful.
28. Advertisement having male, attracts male child and vice versa.
29. Children get attracted towards the advertisements that have cartoons, robots and colours.
30. A child enforces to purchase food items after watching cartoon characters' advertisement.
31. Children consider television advertising a bad thing.
32. Children like advertising.
33. Children consider television advertising to be very essential.
34. Children influence parents for purchasing the product at the age of 5 year after watching the advertisement.
35. As age increases, children are more influencing parent for purchasing food.
36. Children could understand the advertisement of food.
37. A child likes to watch advertisements mostly.

38. Celebrity also used those products which they themselves endorse.
39. The picture of famous celebrity in ads makes children think that the product is of good quality.
40. Celebrity in ads reflects a child's feelings of trustworthiness.
41. I would definitely intend to buy the product.
42. I would obviously consider my child's purchase intent.
43. I would definitely expect to buy the product.
44. I would absolutely plan to buy the product.

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