# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 14 No. 01 JANUARY - MARCH 2021

Fr. Dr. CHERIAN J KOTTAYIL
PRINCIPAL
Mar Athanasios College For Advanced Studies
Tiruvalla- 689101, Kerala

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ISSN No: 0974-8334
A MACFAST PUBLICATION

# Journal of Science, Technology and Management

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts **and Akash M Dev, Anusree P, Finas Anzar, Vishnu S for compiling Science updates.**

PUBLISHER, PRINTER & OWNER
Fr. Dr. Cherian J. Kottayil
Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT: St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN: Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN No: 0974-8334


08.06.2022

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Tiruvalla- 689101, Kerala

ISSN No. 0974-8334

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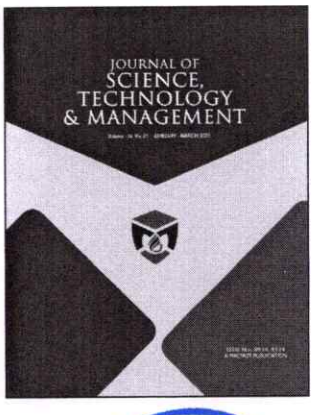


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**Journal of Science, Technology and Management**
Vol. No. 14, No. 01, January - March 2021, ISSN No: 0974-8334

# Strategies for Brand Management and Growth during COVID-19- an analysis

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*Abstract: Brand management is a branding component that involves maintaining and bettering products, services andbrand perception. Unfortunately, the year 2020 didn't get onto the most prosperous start. In the past fewmonths, COVID-19, a human tragedy with long-term economic damages, had posed enormous impact onconsumers and brands. Marketing during this period will require a lot of creativity and tact to ensure that themessage of the brand is effectively communicated and organizations are now uniting in an effort to help theirvaluablecustomersduringthisunprecedentedtime. The reforeth is study mainly focuse son howorganization swereable to maintain their brand value and what contribution sweremadeby them to accelerate their growth induring this pandemic.*

***Keywords:*** *Brand Management, Brand Strategy, Covid-19.*

## Introduction

Why is brand management so important? In a world where consumers make decisions onbrands in the blink of an eye, companies mustbe prepared to wieldinfluence over thepublic's view of them. In fact, many businesses will succeed or fail based solely on their ability to successfully market their brand.

Developing a strategic brand management system requires aclear and comprehensive understanding of three things: the brand itself, its target market, and your company's overall vision and goals. Strategies are of tenset during the best of times, butthey' retruly tested

when uncertainty abounds. The COVID-19 pandemic is requiring leaders to review their strategies and quickly adjust for new market conditions. Those strategies will be tested further as the economy gradually reopens and people return to work. It's important to prepare now for what might comenext. Several bigstrategic challenge shave emerged: rapidly changing demand patterns, majore xpenses in the face of falling revenue and massive challenges as businesses incorporate virtual ways of working. How business leaders respondduring this time of great uncertainty will have long-term implications for the brand when theeconomy and people begin to recover. The impact of the pandemic is unprecedented anddevastating, with its duration unknown. So businesse smust manage their brand and reputation with utmost care and most importantly, start preparing for post-p and emicre covery.

Apeople-centric,transparentapproachshould beadaptedwithagoaltocreateanenvironment for best possible recovery. It requires a pivot on strategy to maintain business asusual while adapting to the reality of life during and after the global pandemic. Like all crises,the focus for brands should not be on managing the crisis, but rather on managing through thecrisis. This future-centric thinking will ensure business



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mergerand integration of Vodafone and Idea. Started installing protective shields attelecom retail outlets in Delhi NCR region to safely and efficiently deliverservices during Covid-19 epidemic. These shields are made of hard MDFboard and transparent PVC sheet to prevent direct contact between the retail personnel and customers. Other initiatives include:

GoogleVoice-based contact lessre charges at stores.

Multiple digital modes of recharges and bill payments for customers to avail services from their homes.

Recharge For Good initiative to enable digital savvy customer store charge for digitally unconnected.

Launch of AI-powered, virtual service assistanton Whats App.

Enabled 2 Gcustomers to recharge through SMS and USSD.

Rs10 talk time credit and extension of unrestricted incomingserviceto 100 million low income customers.

Home delivery of SI Mcards.

**Suggestions**

Some of the suggestions for improving Brand value among the consumers areas follows:

Take adisciplined approach to consumer engagement

Emphasize the truerel evance of your productor service

Focus on social media marketing

Modify youre mail marketing campaign

Use this Down Time to Finish Your Digital To-Do Lists

Prepare Your Business for the Bounce-Back Surge

Offer discounts and cash backs for essential items

**Conclusion**

Indian brands have put a great effort in improving their brand image by catering end-to-end needs of the customers. Yet, still some companies face loss even after spending considerable amount for advertising. The main problem is that the covid-19 era has madethe entire world to manage their business in a quarantine mode which abruptly affected their supply chains. Even though, we can see that for many companies, this phase wasviewed as an opportunity for them to attract the customers and through efforts they wereable to come out from their initial struggles and thrived excellently in the market. Ascustomers are adjusting towards the new normal, many companies are trying to new andbetter ways to sell their products and make their businesses more profitable. Increase dusage of social media by the consumers has made the companies to revamp their existing marketing strategies and to launch and sell their products through online. As digitalization has already succeeded in revolutionizing the behaviour of customers, brands must try toact fast meet the expectations of digital consumers. So, if a brand wishes to improve itsimage in future, especially in the post covid scenario, it has to regularly engage andmaintain a healthy relationship with the customers. Be transparent, positive and optimisticasthiswill always help the customers around you. Always remember that difficult situations may pave the path for extraordinary results and like all difficult situations, this too shall pass.

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**Journal of Science, Technology and Management**
Vol. No. 14, No. 01, January - March 2021, ISSN No: 0974-8334

# Wings of wisdom: a practical model to foster entrepreneurship culture in business schools for an Atmanirbhar Bharat

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***Abstract:*** *Entrepreneurship is about starting a new venture or initiative. It involves the willingness and capacity to manage, to organize a new business venture along with its risks to make a profit. The Atmanirbhar Bharat Abhiyan (self-reliant India) campaign announced by Prime Minister Narendra Modi in May 2020, is a launchpad to boost entrepreneurship, nurturing innovation, and development of an environment for rural-urban symbiotic development. India's call to become a self-reliant economy is not aimed at protectionism or isolationism. It is for taking up a pragmatic growth strategy that would empower the country to identify and capitalise on the inherent strengths. This study analyses the importance of entrepreneurship culture, current status of entrepreneurial spirit among students in professional institutions, especially Business Schools (B-Schools), and proposes a working model with clear strategy and actionable plans to foster entrepreneurship attitude among students to encourage setting up of start-ups and similar ventures.*

***Keywords:*** *Atmanirbhar Bharat, Entrepreneurship, Start up, B-School, Innovation*

## Introduction

Prime Minister Sri Narendra Modi had launched the Atmanirbhar Bharat Abhiyan in May 2020, for India's economic self-reliance as a Covid-19 relief package worth Rs 20 lakh crore. Atmanirbhar Bharat Abhiyan is a framework for building a self-reliant India, which would be competitive globally. It is also aiming to strengthen local manufacturing, build local supply chains, and convert local products into global brands. The Prime Minister had also encouraged people to adopt Made in India 'products to benefit domestic businesses and that every Indian must become vocal for our local.

Supporting the creation of an environment of innovation and entrepreneurship, the individuals have been urged to adopt the Atmanirbhar Bharat campaign to transform the local'India into global' India. This is a launching pad for nurturing entrepreneurship, fostering innovation and creating an ecosystem for rural-urban symbiotic development. It is for accepting a pragmatic development strategy that would enable the nation to recognise and capitalise on the inherent strengths. Indian start-ups and innovators would play a crucial role in the success of the mission. The Atmanirbhar Bharat Abhiyan is a chance for Indian start-ups to take charge of the innovations for which India is usually dependent on global suppliers. They can show the way by innovating and developing products and services that are world-class, yet affordable.

Entrepreneurship is the heart & soul of the rise



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entrepreneurs stay on the course. In Phase 1, the 1st and 2nd activities can be given mandatory to all the students, rest can be made voluntary activities. Each month, one activity can be given to the club members with weekly feedbacks. Throughout the course, faculty members who are having expertise in the core field can help the students. All the activities will enable the students to face the real business world and give them the confidence to be an entrepreneur.

## Conclusion

B-schools hold the key to develop and bring forth entrepreneurs who would in turn produce more employment and wealth for the whole nation. It is a great opportunity to not only develop fitting personalities required for successful startups, but also create employment for a larger section of citizens. This can counter the problem of unemployment and under-employment in India. The entrepreneurial talent pool in the society can be expanded and with robust government initiatives like the Atmanirbhar Bharat Abhiyan, Startup India Action Plan, and Make in India, B-schools today have more reasons than before to develop cutting-edge entrepreneurial education in India. This proposal is framed to promote research and development activities among the students in B-Schools, which lead to cultivate entrepreneurship culture. Throughout the activities in the proposed model, students will be equipped with the traits that an entrepreneur should possess. There is a growing pool of entrepreneurial talent in young India and educational institutions need to take up the mantle of turning this potential into rich dividends in the future and play a major role in the country's mission to become *Atmanirbhar*.

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**Journal of Science, Technology and Management**
Vol. No. 14, No. 01, January - March 2021, ISSN No: 0974-8334

# Contribution of Indian handloom industry in fashion business: an Atmanirbhar Bharat perspective

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***Abstract*** *:India's textiles sector is one of the longstanding industries in the Indian economy, dating back to many centuries. Along with the skills of weavers, the Indian handloom industry exhibits the richness and diversity of Indian culture. Indian handloom products are famous for their unique designs and elegance. Government of India's 'Atmanirbhar Bharat' programme, the 'vocal for local' campaign, together with 'Make in India', presents a huge opportunity to the handloom sector to further strengthen the Indian positioning in the global textiles space. This article is about the nature and characteristics of Indian handloom industry and its opportunities to emerge as a prominent part of fashion industry, in relation to the above campaigns. The study identifies the progressive path to realise the idea of a 'Self-reliant India' is to mix old designs with new techniques and create original fashion products for the global market. It also illustrates a few success stories of Indian handloom fashion brands in the form of short caselets.*

***Keywords:*** *Handloom, Fashion, Atmanirbhar Bharat, Vocal for local*

## Introduction

The Indian handloom industry plays a very important role in the country's economy. It is one of the oldest and biggest cottage industries in India with a proud ancient tradition of thousands of years for their superior craftsmanship, representing the vibrant Indian culture. The significance of handloom sector in the nation's economy cannot be overstated on account of having the advantages in flexibility of small production run, inimitability, innovation and suitability to the exports requirement. Indian artisans since the Egyptian Babylonian times had such refined mastery over their fabric they were appreciated world over for their hand spinning, weaving and printing techniques that were transferred down from generations.

Traditionally, handloom industry could be seen in every state of India. Tie and Die technique from Rajasthan, Chanderi from Madhya Pradesh, Ikat fom Andhra Pradesh and the Jacquard from Uttar Pradesh are some of the examples. Due to their characteristic rich variety, Indian Handloom Industry had a consistent high demand in the Indian market as well as all globally for their craftsmanship and sophistication of designs. This industry used to be a household-based one and was the largest employment sectors both directly and indirectly, providing livelihood to lakhs of weavers in India. The handloom industry because of its unique nature of requiring low capital and little or no power and flexible, environment-friendly innovative product, flourished in India for thousands of years.



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unorganised production system, traditional product, insufficient working capital, poor marketing link, overall sluggishness of production and sales and, moreover, competition from power loom and mill sectors. Because of effective Government intervention through financial aid and execution of many development and welfare schemes, handloom sector, has been able to overcome these disadvantages, to a large extent. Hence, handloom forms a valuable component of the generational legacy and epitomises the richness and diversity of our country and the artistry of the weavers.

Hence, the handloom sector will have to play to its different strengths in the modern economy to emerge as a major face in the global fashion industry. The impact of energy and environmental impairment caused by handloom technology is almost zero. The characteristic of power loom industry is such that there is large potential for many newcomers. It is also noted that the industry is on its path to survive and prosper because of individuality, originality and workmanship of the artistic weaver. The prudent strategy to make it self-reliant, as envisaged in the Atmanirbhar Bharat Abhiyan, lies in bringing a balanced compromise between retaining the cultural heritage of the profession and the initiation of advanced modern technology weavers in the weaving industry.

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# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 14 No. 02 APRIL - JUNE 2021



ISSN : 0974-8334
A MACFAST PUBLICATION

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts and Akash M Dev, Anusree P, Finas Anzar, Vishnu S for compiling Science updates.

PUBLISHER, PRINTER & OWNER
Fr. Dr. Cherian J. Kottayil
Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT: St. Joseph's Offset Printing Press, Tiruvalla, Pathanamthitta District, Kerala

DESIGN: Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN : 0974-8334



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ISSN : 0974-8334

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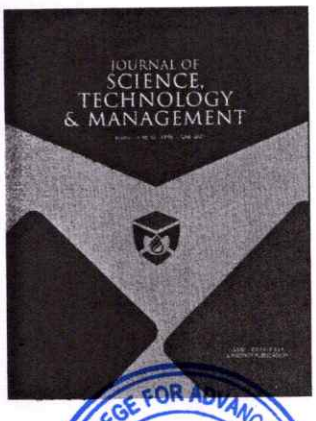


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**Journal of Science, Technology and Management**
Vol. No. 14, No. 02, April - June 2021, ISSN: 0974-8334

# Corporate social responsibility practices among Indian companies during COVID-19 pandemic period

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***Abstract:*** *There are many stakeholders within a societal structure, one amongst them are companies or corporate houses. These companies are meaningfully contributing from their fund to support societal initiatives, which impact their internal stakeholders also. In India, corporate houses like TATA and Birla have been practicing Corporate Social Responsibility (CSR) for decades, long before CSR became a popular activity. There are many examples where corporate have played a principal role in taking up issues of health, education, environment and livelihoods by way of their CSR interventions in the country. The purpose of this study is to explore the different definitions and descriptions of Corporate Social Responsibility (CSR); elaborate upon development of CSR in India; study the theoretical concepts developed by various researchers and review the implementation of current CSR practices of top companies in India.*

***Keywords:*** *Corporate Social Responsibility, Stakeholders, CSR in India, COVID-19*

## Introduction

Corporate Social Responsibility (CSR) is an automatic plan of action that enables an organisation to be socially responsible to itself, its partners, and society. By practising corporate social duty, also called corporate citizenship, organisations can be aware of the impact they are having on all facets of society, including social, financial, and natural. To take part in CSR means that, in the conventional course of business, an organisation is working in manners that improve society and the climate, rather than contributing contrarily to them.

As per United Nations and the European Commission, CSR results in triple bottom-line: profits, protection of environment and fight for social justice. It is expected that civil society, activist groups, Government and corporate sectors should work together to create appropriate means and ways for the marginalised and bring them to the mainstream. It is imperative for the corporate sector to find, promote and execute successful policies and practices that realise triple bottom-line results (Sehgal, 2011).

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**Journal of Science, Technology and Management**
Vol. No. 14, No. 02, April - June 2021, ISSN : 0974-8334

# Global challenges and local solutions: A study on use of information technology for Atmanirbhar Bharat in post-COVID era

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***Abstract:*** *At the start of the twenty-first century, the world seemed more divided than ever: the rich were becoming richer and the poor were becoming poorer. The global consequences of this stark contrast between the 'haves' and the 'have-nots', and between the developed and the developing world, has been one of the main topics in major discussion forums of multiple economies. The huge gap between the developed and the developing world is best characterised by the availability of good connectivity and information technology (IT) infrastructure. Faced with one of the most disruptive health challenges in recent history resulting in significant changes in lifestyles and livelihood options, each country is crafting its own strategy to cope with the Covid-19 pandemic. To manage the crisis during the time of sheer uncertainty and constant fear, the decision to adopt information technology as a major solution is helping India. This paper looks into the various environmental factors related to managing the challenges posed by the Coronavirus outbreak in India and analyses how IT infrastructure and its applications could enable India to attain self-reliance or Atmanirbharatha.*

***Keywords:*** *Global challenges, Information technology, Atma Nirbhar Bharat, Post-Covid-19, MACFAST, Local Solutions*

## Introduction

With the world output growth growing at its slowest pace of 2.9% in 2019 since the global financial crisis in 2009, COVID-19 emanated as an uninvited guest to the already strained economic conditions of the world. The economy of India had already been on a downturn since 2016, GDP growth rate hitting an all-time low of 5% in 2019 after 2008 (3.09%), on top of which the present economic system had to encounter the unprecedented impact that Covid -19 brought. The nation was already on a digital-first trajectory with one of the largest volumes of digital transactions in the world when the pandemic struck, and

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# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Vol. 14 No. 03 July - September 2021



ISSN 0974 - 8334
A MACFAST PUBLICATION

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts and Akash M Dev, Anusree P, Finas Anzar, Vishnu S for compiling Science updates.

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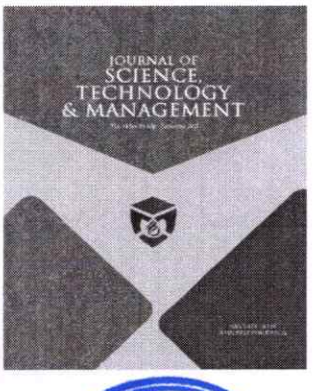


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*Journal of Science, Technology and Management*
Vol. 14, No. 3, July-September 2021, ISSN: 0974-8334

# Molecular Biology techniques used in the treatment of COVID-19

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***Abstract:*** *A major revolution in the molecular biology technique began with the invention of Polymerase Chain Reaction (PCR). Apart from this method, many more evolved for more accurate diagnosis of diseases which have an empirical role in the rapid detection of infections when there is no availability of drugs against the pathogen in the market. Currently, nucleic acid-based detection techniques are the primary diagnostic tools for the detection of COVID-19, which detect specific antigens or antibodies. More efficient techniques and test kits for the diagnosis are underway, that can be used on a large scale. This review aims in understanding the major techniques used in COVID-19 detection and to analyze the efficiency of each.*

***Keywords:*** *Pathogenesis, Transmission, COVID-19, Molecular Techniques*

## Introduction

IMolecular Biology is an emerging and trending field in life science that gives much understanding about life at its basic level. It is a branch of biological science providing new perspectives into the nature of genes and proteins and their relationships (Li & Zhao, 2013). Studies of life at its basic level will lend a hand to develop new vaccines, more effective medicines, plants with improved qualities, etc. Molecular biology is not only beneficial to humans but it applies to all living things (Nygren, 2000). Studies and development in molecular biology came to light by the development of some techniques that makes a significant role in the evolution of emerging molecular science. The importance of these techniques allows the accurate diagnosis of diseases thereby enhancing the treatment (Poxton, 2005). Studies in Molecular Biology began in the 1930s by understanding life at its fundamental level. It mainly focuses on the interaction between the various systems of a cell that includes the interrelationship of DNA, RNA, and protein synthesis and how these interactions are regulated. The evolution of molecular



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Journal of Science, Technology and Management
Vol. 14, No. 3, July-September 2021, ISSN: 0974-8334

# Driving towards sustainable development through Green Logistics

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***Abstract:*** *Green logistics is a critical function of the production system in today's world. It combines various efforts to quantify and control the environmental impact of production activities in an organisation. This research is intended to emphasize the ways by which organizations can accomplish positive ecological effects by modifying their logistics practices, thereby moving towards the goals of sustainable development. The study also appraises an account of green logistics practices in the present Indian business environment. This paper presents a study on the different dimensions of green logistics, challenges faced by companies in pursuing it and proposes strategies, by analyzing the alternatives for green practices along with organizational objectives.*

***Keywords:*** *Green logistics, sustainable development, business environment*

## Introduction

In today's highly competitive environment, green logistics issues are earning high attention. Since it is an important part of supply chain management and plays an important role in the improvement of the transport system. Logistics enables in getting products and services as and when they are desired and required to the customer.

Ecological concerns have become essential for organizations given the current context of globalization (Molina- Besch & Palsson 2014). Industrialization and consumerism are evergrowing bringing in a scenario where trade pursuit of humans has begun to spread unfavorable environmental impact (Ratnajeewa & Bandara, 2015). The greater focus now is on ecological pollution through logistics practices. In the recent past, interest has shifted to the effects of logistics on climate change, owing to the improved understanding of the danger being posed by global warming (McKinnon et al., 2010)



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Journal of Science, Technology and Management
Vol. 14, No. 3, July-September 2021, ISSN: 0974-8334

# A comparative analysis of financing MSEME's by the private sector and public sector banks

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***Abstract:*** *MSME or Micro, Small and Medium Enterprises, primarily engaged in the production, manufacturing, processing, or preservation of goods and commodities. MSME's are an important sector for the Indian economy and have contributed immensely to the country's socio-economic development. It not only generates employment opportunities but also works hand-in-hand towards the development of the nation's backward and rural areas. According to the annual report by the Government, there are around 6.33 crore MSMEs in India. Financing of MSMEs by both, the private and public sector banks is compared and analyzed in this research. Atmanirbhar Bharat, which translates to 'self-reliant India' or 'self-sufficient India', is the vision of the Prime Minister of India of making India "a bigger and more important part of the global economy", pursuing policies that are efficient, competitive and resilient, and being self-sustaining and self-generating. Atmanirbhar Bharat doesn't mean "self-containment", "isolating away from the world" or being "protectionist". The first mention of this came in the form of the 'Atmanirbhar Bharat Abhiyan' or 'Self-Reliant India Mission' during the announcement of India's COVID–19 pandemic related economic package on 12 May 2020. The five pillars of 'Atmanirbhar Bharat' are stated as economy, infrastructure, technology-driven systems, vibrant demography and demand.*

***Keywords:*** *MSME, Atmanirbhar Bharat, Self-reliant India, Banks.*

## Introduction

Micro, small and medium scale industries are instrumental in determining the growth of the nation. The central statistical office (CSO) has reported the 37.54 percent of the Indian GDPP is contributed through Micro Small and Medium-scale industries. The Indian government is running a separate ministry for these Micro Small and Medium-scale industries named T Union Ministry of Micro, Small and Mediu Enterprises. This ministry is continuou supporting the growth and development MSMEs by introducing new schemes and cr policies. The financial strength of the Mi Small and Medium-scale industries is very when compared to the giant enterprises that the business world. This need for funds ha



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unwillingness to pay. Factors related to these include the delay in buyer payments as also a whole host of other reasons.

A second reason mooted to the crunch is the cost-to-serve – often attributed to the inability in assessing creditworthiness.

The factors are given above, for the poor credit access to this sector, can be addressed with an impetus to supporting this sector, made mandatory by the governments at the center. The credit squeeze stymies the optimal flow of funds into working capital and other important operational requirements.

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# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Vol. 14 No. 04 October - December 2021



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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts and Harikrishnan T N for compiling science updates

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PRINTED AT: St. Joseph's Offset Printing Press,
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# Journal of Science, Technology and Management

Vol. 14 Number 04 October - December 2021

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**Journal of Science, Technology and Management**
Vol. 14, No. 04, October - December 2021, ISSN: 0974-8334

# Role of Start-ups in building Atmanirbhar Bharat

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***Abstract:*** *Ever since the COVID - 19 pandemic began in March 2020, the world's economy has been in dis order due to the resulting health and economic shocks. To face the pandemic, countries imposed stringent lockdowns on the movement of people, on internation al travel, and on the carriage of goods and services to minimise the threat to health and safety. This however resulted in many industries and firms either being shut down or operating at the lowest capacity, and the effects are evident globally. To tackle the economic challenge, on 12th May, India's Prime Minister, in his Atman irbhar Bharat Abhiyan (Self-reliant India Campaign), announced an overall economic package worth $20 lakh crore (US$280 billion),10% of India's GDP, with em phasis on making India as a self-reliant nation. This paper analyses the role of start-up initiatives and inno vative projects in making a self-reliant India. The study further assesses how this mission can help micro, small and medium enterprises (MSME) in forming their busi ness. It also illustrates a few caselets of successful start-ups from India.*

***Keywords:*** *Atmanirbhar Bharat, Start-up, Innovation, Self-reliant India, COVID - 19*

## Introduction

A start-up is a company or project under taken by an entrepreneur to seek, develop, and validate a scalable economic model.while entre preneurship refers to all new businesses, including self-employment and businesses that never intend to become registered, start-ups refer to new businesses that intend to grow large beyond the solo founder. Start-ups face high uncertainty and have high rates of failure, but a minority of them do go on to be successful and influential.

Start-ups typically begin with a founder (solo-founder) or co-founders who have a way to solve a problem. The founder of a start-up will begin market validation by problem interview, solution interview, and building a minimum vi able product (MVP), i.e. a prototype, to develop and validate their business models. The start-up process can take a long period of time (by some estimates, three years or longer), and hence sus taining effort is required. Over the long term, sus taining effort is especially challenging because of the high failure rates and uncertain outcomes.

The COVID - 19 pandemic is a global shock 'like no other', causing simultaneous interruptions to both supply and demand in an interconnected

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**Journal of Science, Technology and Management**
Vol. 14, No. 04, October - December 2021, ISSN: 0974-8334

# Import and export trend of the Indian economy during COVID-19 pandemic period

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***Abstact :*** *This article is about the imports and exports' sway in India during the COVID-19 pandemic period. The authors have explored the Exports and imports of India- at a glance, trends in the industrial sector, Industry and Infrastructure of India at a glance, Economic inflation, foreign trade and national income present scenario, Inflation forecast, Union budget 2020-21 and controversies during COVID-19 circumstances, logistics performances in India during COVID 19, Exports and Imports impacts. The authors have proposed to the public authority of India, for example, sales inventory cost will go up, so all organizations will have to look into new strategies to dispose of their inventories. In India, we should construct capacities of territorial coordination's organizations to change with the adjustment of interest at a short time frame. The public authority ought to think about modern creations and development for empowering trade from India. All are foreordained as the purchaser value list will be drifted between from 3.5 % to 4.2 %. However, the Coronavirus will change the assurance to expand the buyer value file because of the Coronavirus cataclysmic event. These will help the policymaker to equivalent the financial conditions to inspire the product from the effect.*

***Keywords:*** *Import and Export, Indian Economy, Import and Export of India, COVID-19*

## Introduction

In an export from one country to anoth er, the receiving country is known as an import. The financial transactions that define international trade are importation and exportation. Import quo tas and mandates from the customs department re strict the importing and exportation of products in international trade. Tariffs (taxes) on products may be imposed by importing and exporting authori ties. Furthermore, trade agreements between the importing and exporting states govern products importation and exportation.

An export in international trade may be a good produced in one country that's sold into another country or a service provided in one country for a national or resident of another country. the vendor of such goods or the service provider is an export er; the foreign buyer is an importer. Services that figure in international trade include financial, ac counting and other professional services, tourism, education likewise as material possession rights. The exportation of goods often requires the in volvement of customs authorities.

A part of the financial set-up is in its EXIM poli cies. Basically, the balance of payment in interna tional trade determines the money value, and it creates the demand for exchange. the surplus of domestic productions to be exported and deficien cies of domestic productions to be imported under the priority and essential requirements, depend ing upon the central and authorities' restrictions and relaxations on the circumstances prevailing within the national and international EXIM envi ronments. During the COVID-19, the export and import of international trade are abstruse of the movement of products from one country to a dif

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Therefore, the government of India should consid er that export and import are the essential sectors to survive the needs of the society and economy. Foreign trade is expected to rebound in FY 2021-22, according to experts. Now in Q3 FY 2021-22, recovery is afoot with exports growing to US$33.1 billion in August, 45 % higher than this period last year. Exports have totaled approximately US$163 billion since the start of the current financial year.

The target for exports for the current fina ncial year is set at US$400 billion, and India is set to achieve. To assess India's recent favourable trade performance despite the epidemic, it is important to note that shipments of petrol and diesel account for a significant portion of the increase in exports. Official data revealed that petroleum product ex ports increased by 139 % to US$4.6 billion in Au gust, owing to a rise in world prices, compared to a 36.6 % gain in non-oil exports to US$28.6 billion. Another aspect is the economic recovery that major economies have seen from the beginning of 2021. In June of this year, goods trade between the United States and India increased by 40%, and it is anticipated to surpass pre-COVID-19 epide mic highs. The Chinese economy also contributed to the downturn in 2020, increasing 18.3% in the first quarter of 2021 before weakening in the second. The steady recovery of economies around the world is a positive sign, but breakdowns in multilateral relations, geopolitical rivalries, or sup ply chain blockages due to COVID shutdowns, logistics barriers, and high shipping and contai ner costs suggest that more pain is on the way for international trade in the near future. Nonetheless, these obstacles and dangers, particularly those stemming from the pandemic and trade rivalries, are likely to drive India to maintain its focus on im proving its trade profile and pursuing trade deals more freely, albeit on its own terms.

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**Journal of Science, Technology and Management**
Vol. No. 14, No. 04, October - December 2021, ISSN: 0974-8334

# Dominance of social media in liveable community

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*Abstract : Social media refers to a computer based technology that facilitates the sharing of ideas thoughts and infor mation through virtual networks and communities. The Internet has expanded rapidly and shifted from being solely an information access tool to being an interactive tool used by individuals to discover and share content opinions and information. To develop information connections individuals are using a variety of techniques to access content and join a virtual communication on various social networking sites, therefore social media plays an integral role in everyone's life and has a huge bearing on society. There are beneficial consequences on business, politics, and society, as well as negative effects including cyberbullying, privacy, and fake news. This research paper assesses the dominance of social media in liveable communities, its positive and negative impact on society during the COVID-19 pandemic. This paper studies the usage of various social media platforms such as Facebook, WhatsApp, YouTube, Instagram, and Twitter. The findings suggest that algorithmic and social corrections are equally success ful in limiting misperceptions, and that correction happens for persons with both strong and low conspiracy beliefs. Recommendations for social media initiatives to correct global health misinformation, such as encouraging people to refute erroneous or misleading health information and providing them with suitable sources to support their repudiationare discussed.*

**Keywords:** *Social media, COVID-19, Global health,*

## Introduction

Social media platform has become a forum where users can share content and interact with one another. Despite the fact that the word "social" implies that people play a significant part in shar ing their social lives on these digital platforms, they are increasingly becoming corporate networks or media. They're reshaping business paradigms and repositioning the market. Social media have also shaped the existence of online communication that shares common interests and tendencies.

In the previous decade, organizations have been working by cutting edge levels of data and correspondence. Technology innovations define new methods of communication and socializing. Technology is primarily adopted as a means of de creasing communication barriers. Innovative tech nology has ushered in a new era of communication with far-reaching implications for business, open ing up new channels of contact and introducing us to a whole new world of possibilities new sociali zing median called social media.

A social media is an online platform that people use to build social networks or social re lations with other people who share similar per sonal or career interests, activities, backgrounds, or real-life connections. Due to the advancement in technology, people are pressured to accept dif ferent lifestyles. Social networking sites can assist young people to become more so cially capable. Social media is a web-based form of data com munication. Social media platforms allow users to have conversations, share infor mation and cre ate web content. Social media has different forms, together with blogs, micro-blogs, wikis, social net



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Journal of Science, Technology and Management
Vol. 14, No. 04, October - December 2021, ISSN: 0974-8334

# Dragon Fruit: nutritive value, therapeutic uses, processing, and waste utilization

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***Abstract:*** *Dragon fruit is a delicious and healthy exotic fruit that is grown in arid locations around the world, mainly in Asian countries. The fruit, which has a beautiful shape, a stunning colour, and has a delectable flavour. It is high in carotene, calcium, fiber, vitamin B, vitamin C, and phosphorus, all of which are essential nutrients. Antioxidants are also present in it. It has several health benefits such as cancer prevention, heals cuts and wounds and increases eyes sharpness. It contains bioactive compounds which increase immunity in humans. A new natural product can be obtained from dragon fruit 'albedo' which can be used to colour other food products. Although only at small-scale processing firms, the fruit is processed into a variety of value-added products. In addition to pulp pro cessing, the utilisation of by-products (peel, seed) helps to reduce waste disposal difficulties while also increasing the product's value for food and other industrial applications. Furthermore, extracting and using bioactive components from fruit waste for food fortification can enhance the overall efficiency of the process.*

***Keywords:*** *Dragon fruit, Antioxidants, vitamin C, Albedo, Bioactive compounds.*

## Introduction

Dragon fruit, also known as Pitaya or Pitahaya, is found in the Cactaceae family and is divided into two genera: Hylocereus and Selenice reus. The Hylocereus genus, which includesrough ly 16 different species, has the most commercially grown variants. Climbing cacti with a 6-meter long stem are used to cultivate the fruits, and places with less yearly rainfall are better for growth. Pi taya species are generally found in Mesoamerica, where they can be found in a variety of landscapes with elevations ranging from a few meters to 1700 meters above sea level with rainfall ranging from 500 to 2000 mm. Thailand, Indonesia, Taiwan, Viet nam, Sri Lanka, Bangladesh, Japan, Malaysia, Philippines,Aust ralia, United States, and China are among the countries where cultivation is popular. Despite the fact that India is a net importer of dragon fruit, the cultivation area is expanding. *Hylocereus undatus* (white dragon fruit), *Hylocereus polyrhizus* (red dragon fruit), and *Selenicereus megalanthus* (yello zwdragon fruit) are the three commercially produced kinds of dragon fruits. Because of the black, gritty seeds, the feel of the fruit is some- times compared to that of a kiwi fruit. The fleshis moderately pleasant and minimal in calories when eaten uncooked. The seeds are eaten with the flesh and have a nutty flavour. They are high in lipids (Ariffin et al., 2008).

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Journal of Science, Technology and Management
Vol. 14, No. 04, October - December 2021, ISSN: 0974-8334

# Neutrophil immunity: The role played by vitamin C

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***Abstract*** *: To maintain a healthy life and active immune system we have to have food with appropriate nutrients. Vitamin C, a micronutrient with antioxidant and immunomodulatory property is highly recommended to prevent infections, to lower risks of inflammation and stress-related disease conditions. Though vitamin C is competent in influencing various aspects of the immune system this review mainly focuses on the impact of vitamin C on neutrophils.*

***Keywords:*** *Vitamin, anti-oxidant, neutrophil, free radicle, inflammation, oxidative stress*

## Introduction

A diet that we take, should be rich in nu trients to sustain growth and health. Antioxidants in food have a lot more to do with our immunity. The term antioxidant is attributed to those mole cules which scavenge free radicles from cells and tissues (Kurutas, 2015). Natural fruits and vegeta bles (Jideani et al., 2021), herbs and spices (Alok et al., 2014), whole grains (Jideani et al., 2014), and medicinal plants (Xu et al., 2017) are indispensable sources of antioxidants. Phenolics, steroids, flavo noids, and other bioactive compounds (Jideani et al., 2021; Alok et al., 2014; Xu et al., 2017) present in them are responsible for these antioxidant proper ties. Another group of antioxidants includes vita mins (Kurutas, 2015; Dal-Pizzol et al., 2001; Niki, 2013; Chow, 2001; Palace et al., 1999) and they play a pivotal in maintaining a healthy metabolism (Huskisson et al., 2007).

## Vitamins and their antioxidant property

Vitamins are dietary supplements that ne cessitate normal growth and development. They include vitamin A, B, C, D, E, and K, and depend ing on their solubility they are categorized into fat-soluble (A, D, E, K) and water-soluble vita mins (B and C). These micronutrients are involved in metabolism (Huskisson et al., 2007) as well as protect from different oxidative stress conditions (Zaidi and Banu, 2004). Some vitamins directly act as antioxidants while others indirectly act on free radicles thus reducing oxidative stress (Kurutas, 2015). Vitamin A is capable of instigating anti-ox idant gene expression (shi et al., 2016; Gad et al., 2018; Ahlemeyeret al., 2001) and antioxidant en zyme activity (Dal-Pizzol et al., 2001). The hydro phobic chain of polyene units in vitamin A is also capable of quenching singlet oxygen, stabilization of peroxy radicles, and also in neutralizing thiyl



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**Journal of Science, Technology and Management**
Vol. 14, No. 04, October - December 2021, ISSN: 0974-8334

# Antimicrobial peptides: Small, promising biomolecule with a bright future

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***Abstract:*** *Antimicrobial peptides (AMP) belong to a large class of small peptides. In many organisms, they are contemplated as a part of the innate immune response. AMP belongs to all classes of life and is regarded as premeditated compounds. This helps to deal with antimicrobial resistances which have advantages over standard antibiotics. They have a great outlook to control microbial infections by directly eliminating or blocking bacterial activity and/or by regulating the immune response of the host. The present review represents a broad analysis of studies on antimicrobial peptides and their approach in different fields. It also includes analysis of various AMP databases representing the work and impor tance of AMPs in specific fields. The importance of AMP has been expanding to a dimension and is surging furtherin its application in the forth coming generation.*

***Keywords:*** *Antimicrobial peptides, Antibiotic resistance, Multidrug resistance, AMP databases*

## Introduction

Antimicrobial peptides (AMPs) are low molecular weight polypeptides. They act as weap ons in the fight against bacteria, yeasts, fungi, vi ruses and even cancer cells with multimodal func tionalities, and least resistance generation. AMPs are also described as host defense peptides (HDPs) which have vast importance. Many reviews con sidering AMPs and their prospective as drug can didates and their importance have been published in the last couple of years (Mookherjee, et al., 2020; Raheem, et al., 2018; Brogden, et al., 2016). AMPs are polypeptide sequences (typically12–50 residues in length) including cationic and hydro phobic amino acids and they can work in a variety of ways and are considered as an impressive sub stitution to antibiotics (Haney, et al.,2019; Kumar,et al., 2018; Hancock, et al., 2006). They act against in fectiousmicroorganisms such as bacteria, viruses, fungi, parasites (Travkova, et al., 2017) and can display anti-cancer activity (Chernysh, et al., 2013; Felício, et al., 2017) or activate the immune respons es (Haney, et al., 2013; Bowdish, et al., 2005). AMPs onstraight contactwith bacteria can kill Gram-pos itive or Gram-negative bacteria in the plankton ic (free-swimming) or biofilm form (De la Fuen-te-Núñez,et al., 2016; Yasir, et al., 2018; Raheem, et al., 2018). AMPs can performone or more functions at a time (Raheem, et al., 2020; Haney, et al.,2019). AMPs arean important part of the immune system, and they are isolated and purified from bacteria, fungi, algae, insects, frogs, and mammals (Brog den, et al., 2016). The activity of AMPs generates a disruption in the plasma membrane which caus es cell lysis (Peravali, et al., 2013). Therefore, these peptides with broad-spectrum can be assigned asa new prospective the rapeutic agent which has broad application (Brogden, et al., 2016).

Alexander Fleming discovered lysozyme in 1922, and his discovery opened the world of an



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Volume - 13, No. 01, JANUARY - MARCH 2020

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MACFAST

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN No: 0974-8334


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ISSN No. 0974-8334

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**Journal of Science, Technology and Management**
Vol. No. 13, No. 01, January - March 2020, ISSN No: 0974-8334

# The significance of neural network approach in this era

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***Abstract:*** *Neural networks are a category of successful programming paradigms capable of dealing with prediction and classification. A neural network learns from observational data and automatically finds the expected solution for the programmer. With the advent of deep learning networks in 2006, the picture changed dramatically owing to their better outcomes. But the significance of neural networks is still valid due to their ability to produce decent outcomes in a data starved environments. This article showcases the working principle of neural networks, their importance and some applications for insect classification.*

***Keywords:*** *Neural networks, Deep learning, Acoustic classification, Insect classification, Covid-19*

## Introduction

In the traditional way of dealing with computational problems, the role of the programmers is quite important as they have to mastermind the workflow of the algorithm. By contrast, in a neural network scenario, programmers are free to relax as the process of computation is triggered. A neural network learns from observational data and automatically finds the expected solution for the programmer. The picture changed dramatically in 2006 due to the introduction of deep learning models (Goodfellow, 2016), which promised better outcomes. Today many new models such as deep neural networks achieve outstanding performance for a range of problems in image processing, computer vision, speech recognition etc. The dependence on these algorithms by technological giants such as Google and Facebook stands testimony to their significance.

This paper is structured as follows. Section 2 addresses the concept of neural network, explaining its benefits in this era. Section 3 details an example which is worked out so that the concept can be well understood. Section 4 describes the application of neural networks in insect classification, in particular emphasising its need in the wake of the novel corona virus infection. Section 5 highlights the value of the method and gives an elaborate discussion related to classifying bats. Finally, we suggest further work and conclude in Section 6.

## Neural Network

To understand the underlying concepts, there is a need to understand the basic concept of artificial neuron called a perceptron. Perceptrons (Rosenblatt,1961) were introduced in the 1950s and 1960s by the scientist Frank Rosenblatt, motivated by the former work done by Warren McCulloch and Walter Pitts. To start off, we will see the working of a perceptron. A perceptron is an entity that takes several binary inputs, x1, x2, . . .xn, and produces a single binary output:






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Journal of Science, Technology and Management
Vol. No. 13, No. 01, January - March 2020, ISSN No: 0974-8334

# Software engineering concepts - A study and application in life

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***Abstract:*** *The design methods and software development lifecycle methodologies apply to areas outside the software environment. As a Technologies & IT head and Professor, I learn, implement and teach many software principles in day-to-day life both at the office and home. After knowing the power of Agile outside the software development environment, I often self-retrospect about how well I can make use of the computer science knowledge I am acquiring in my life. Hence for my analysis, I attempt to study different SDLC (Software Development Life-Cycle) processes that might be usable in life. I assume if the model such as Agile is a useful tool, then the others can also have room for application in my life. The software types I will study is open source. My work verifies open and closed software standards. To make my work brief and focused, I will focus primarily on Linux and Agile for Open Source (OS) and Closed Software (CS) models, respectively. Both open and closed software standards extensively impact on the software revolution. Especially closed software standards have famous beyond the software engineering environment. Before the research, I thought first to describe the commonalities that they have. During my study, I was able to identify the positive attributes of methods that define the open-source development model, which can help me to do productive things in my life. Software engineering standards, processes, guidelines, methods and tools can be used as a catalyst to improve our daily lives.*

***Keywords:*** *Open Source (OS), Closed Software (CS)*

## Introduction

The description of the development process of the Linux kernel by Robert Love contradicts my findings. Love describes the process of open source development as "chaos." I would suggest that the process of open source development - highly well organized and strictly controlled.

One of my study's aims is to explain the underlying paradigms, methodologies, and practices describing OS and CS processes to the reader. The study would compare the critical activities of CS and OS to assess the reader's similarities and differences. I will concentrate on results on which methodologies lead to better performance of software. My findings shall link the reader uses development models and their commercial applications in their life. I will quote personal experience and other relevant examples.

## Methodology

### A. Target readers and Plan

The target audience of this paper is the one who is interested and willing to learn and understanding on how software development paradigms work and want to know how those processes are incorporated in other own lives. The goal is to explore and equate few models in software development, and illustrate through examples and case studies that these can bring you a better parent, wife, manager, engineer, physician, sportsperson or the role that you dream of being, by applying the processes used in those models.



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Journal of Science, Technology and Management
Vol. No. 13, No. 01, January - March 2020, ISSN No: 0974-8334

# Image forgery detection: A review

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***Abstract:*** *In recent years there has been a growing attention in the different methods for processing and detecting forgery in digital images. The advancement of powerful digital image processing tools makes it relatively easy to tamper digital images. Therefore claiming the authenticity of a digital image has become a challenging task. Copy-move forgery is a specific type of image tampering where a part of the image is copied and pasted on another part generally to hide unwanted portions of the image. The goal in detection of copy-move forgeries is to detect image areas that are same or extremely similar or detect those regions which occur more than once in an image. In this paper, different forgeries in digital images and the different forgery detection methods are reviewed.*

***Keywords:*** *Digital Forensics, Image Tampering, Copy move forgery.*

## Introduction

Digital images play a vital role in areas like forensic investigations, journalism, surveillance systems, insurance etc. Rapid advancement in imaging technology and availability of powerful digital image processing programs such as Photoshop, GIMP etc, makes it relatively easy to manipulate digital images. Therefore establishing the authenticity of an image has become a challenging task. Anyone with the basic knowledge of digital image and tools can modify an image easily (Popescu, 2004).

Image tampering can be defined as the intentional manipulation of images for malicious purposes. Image forgery can be traced back to as early as 1840s, "Self Portrait Of a Drowned Man", created by Hippolyte Bayrad is the very first fake image, in which he was shown committing suicide, shown in Fig1: (Redi, 2011).

Digital Image Forensics is a field that analyses images of a particular scenario to establish the credibility and authenticity through a variety of means. Digital Image Forgery is generally categorized into- active approach and passive approach, Fig2. The active approach such as Digital watermarking and digital signature, watermarks must be embedded during image acquisition. In this type of detection, access to original image is required to insert a watermark which is practically infeasible (Fridich, 1999). In passive approach, no prior information is required. The common image tampering techniques include:

- Copy- Move Forgery- where some region is copied and then pasted to another location in the same image.
- Image splicing- involves composite of two or more images which are combined to create a fake image.
- Image retouching- is the slight change (blurring, illumination, color change) in the image for various aesthetic and commercial purposes.



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Journal of Science, Technology and Management
Vol. No. 13, No. 01, January - March 2020, ISSN No: 0974-8334

# A study on mathematical tools for decision making problems

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*Abstract. The most appropriate theory for dealing with uncertainty in the theory of fuzzy set developed by Zadeh in the year 1965. Later in 1999, Molodstov introduced soft set theory for modelling vagueness and uncertainty in decision making problems. In this paper, the study two mathematical tools namely, fuzzy set and soft set for decision making problems.*

*Keywords: Fuzzy set, Soft set, Decision Making.*

## Introduction

Decision makers in any discipline are always challenged to make the best decisions. In order to successfully run and ow through the normal operations of any organization and to improve the existing processes, decision makers usually depend on their expertise and the large volumes of available information. The golden rule for perfect decision making is that the best decisions can be made with a thorough understanding of the system. Therefore, a prior study of the system under consideration is vital, before any decision process. The traditional decision-making approach is based on continuous improvement and on the experience of the decision maker. However, this approach is inferior in many areas including the amount of time required, the cost and uncertainty in the result.

The designing and working on these systems, especially in a complex scenario, is extremely risky, mainly due to the high number of resources involved, the uncertainty resulting from these activities occurring at dierent moments and due the distinct probability of simultaneously required resources. There are many mathematical tools or theories to deal with uncertainty cases in decision making problems. Some of the prominent mathematical theories are fuzzy set, soft set, fuzzy soft set, and so on (Molodstov, 1999; Sut, 2012; Feng, 2010; Alcantud, 2015; Zadeh, 1965; Maji, 2002).

The theory of fuzzy set provides a host of attractive aggregation connectives for integrating membership values describing uncertain information. In 1965, Zadeh (Molodstov, 1999), proposed and dened the operations of fuzzy set theory in his seminal publication. A commonly used method in handling uncertainties and representing incomplete and unreliable data is soft computing, which gained further importance as a direct result of the establishment of soft set theory by Molodtsov (Kovkov, 2007). The denition by Molodtsov applies for a single universe and the relationship between associated parameters. These extensions all contribute itself to Zadeh's concept of fuzzy sets in modelling uncertainty in decision making problems.

Soft set is a mathematical tool free from the problems arising due to the inadequacy of parameters and was introduced by Molodstov in



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It can be concluded that $c_m$ is the maximal choice object, which conrms the most suitable car for buying, based on customer preferences. Incorporating the choice values, one of the reduced soft set can be represented as:

**Table 2.** Reduced Soft set- Tabular representation of the problem

| C | Good looking | Cost | Quality | Comfortable | Choice Value |
|---|---|---|---|---|---|
| 1 | 0 | 1 | 1 | 1 | 3 |
| 2 | 0 | 1 | 1 | 1 | 3 |
| 3 | 1 | 1 | 1 | 1 | 4 |
| 4 | 1 | 1 | 0 | 1 | 3 |
| 5 | 0 | 1 | 0 | 1 | 2 |
| 6 | 1 | 1 | 0 | 1 | 3 |

Here the max value is $c_i = c_3$. Hence the Mrs. A can decide to buy the car $c_3$.

## Conclusion

In this paper we have concentrated on the mathematical tools namely, fuzzy set and soft set which are very much interesting and useful for solving real-life problems. These tools helps to make decision in a critical situation, especially when uncertainty is involved.

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Journal of Science, Technology and Management
Vol. No. 13, No. 01, January - March 2020, ISSN No: 0974-8334

# Virus vs Cancer: A brief insight into Oncolytic Virus Therapy

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***Abstract:*** *The idea of using viruses to treat cancer began about 100 years ago, but a significant jump occurred only in recent decades with the growing discovery and knowledge of the working mechanisms adopted by these viruses. Recent advances in this field has proved that Oncolytic viruses, which can replicate within cancer cells and induce tumor lysis and immune responses can be combined with the normal Immunotherapy regimes to improve the immune response against cancer. Although, successful clinical trials of these oncolytic viruses has opened new paths for cancer therapy, the consequences of their immune activity remains unclear to this day.*

***Keywords:*** *Cancer, Oncolytic virus, Tumor lysis, Immunotherapy*

## Introduction

A virus is a small collection of genetic code, which could be either DNA or RNA and is surrounded by a protein coat or an outer envelope of lipids. Since they cannot replicate alone, they infect cells and use components and machinery of the host cell to make copies of themselves. For several decades, researchers all around the world have looked at viruses as potential agents of tumor destruction and various research has been carried out in this field in search of a tool to directly kill cancer cells.

Exploiting viruses for therapeutic gain was first suggested at the beginning of the twentieth century (Kelly and Russell, 2007) and in the upcoming years, it developed into the field of Virotherapy (Russell, 2012) which is a treatment procedure that uses various biotechnological techniques to reprogram viruses into therapeutic agents. It includes branches such as Anti-cancer oncolytic viruses, viral vectors for gene therapy, and viral immunotherapy. Notable progress in the field of virotherapy started with the increasing observation throughout the years that, occasionally some cancer patients who contracted an infectious disease went into brief periods of clinical remission (Dock, 1904).

After years of research, scientists were able to identify some viruses that tend to infect and kill tumor cells. Soon they also modified these viruses in the laboratory to confer them the ability to reproduce efficiently in cancer cells without harming the healthy cells of the host. These viruses are now known as oncolytic viruses.In October 2015, Imlygic (talimogene laherparevec) turned in to the the first oncolytic virus to receive the U.S Food and Drug Administration (FDA) approval. It is also known as T-VEC and is used for the treatment of patients with melanoma lesions in the skin and lymph nodes (Ledford, 2015). The treatment includes injecting the virus directly into melanoma lesions, which resulted in increasing



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Journal of Science, Technology and Management
Vol. No. 13, No. 01, January - March 2020, ISSN No: 0974-933x

# *In vitro* propagation of an important medicinal plant *Justicia gendarussa* Burm. f.

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***Abstract :*** *Justicia gendarussa* Burm.F. Commonly known as willow-leaved Justicia is a valuable medicinal plant and various parts of this plant are used for the treatment of various diseases like arthritis, rheumatism etc. A complete protocol for in vitro propagation of *J.jenderussa* using axillary bud and nodal region as replant was developed. The axillary shoots effectively induced in full strength and half strength Murashige and Skoog medium supplemented with BAP and NAA at different concentrations. The medium supplemented with 1.5mg/L BAP and 1mg/L NAA was found to be the most suitable combination for root and shoot proliferation. The in vitro regenerated plantlets are hardened using a mixture of sterile sand: soil : manure (1:1:1) and successfully established in greenhouse.

**Keywords:** *Justicia gendarussa, In vitro* propagation, axillary bud, proliferation, hardening.

## Introduction

Plants play a pivotal role in the field of medicine to maintain world health. Medicinal plants have been discovered and used in traditional medicine practices since long before the arrival of modern medicine. *Justicia gendarussa* Brum. F. is one of the important plants in traditional medicinal plants, belonging to the family Acanthaceae. It is rare, much-branched, smooth, shade-loving, erect shrub with long leaf having acute tips; small flowers on long terminal pinkish spikes with purple spots. The quick growing evergreen plant mostly found in moist areas. It is deemed to be native of china and distributed widely across India Sri Lanka and Malaysia. It is a prominent plant because of its medicinal properties. The whole plant used to treat different aliments. They are useful for rheumatism, inflammations, bronchitis, dyspepsia, eye diseases, fever, hemiplegia, headache, earache, muscle pain, vaginal discharges, otalgia, digestive trouble and respiratory disorder (Periyanayagam *et al.*, 2019). Other some benefits of leaves and roots include for lumbago, arthritis, facial paralysis, cough, jaundice, hemicranias and liver disorder (Ahmad *et al.*, 2003). The antilarvicidal and adulticidal properties of this plant against the malarial vector, Anopheles stephensi have been reported (Senthilkumar *et al.* 2009). The plant is rich in alkaloids, triterpenoids, tannins, justicin, steroids and flavanoides (Prajogo *et al.*, 2009) serving as secondary metabolites that can be utilized various medicinal applications.

Due to the wide range of medicinal applications increases the demand of *J.gendarussa* also unawareness of this plants leads to extinction. In vitro propagation carries a crucial role for the conservation of a rare medicinal plant *J. gendarussa*. Plant tissue culture increases the crop productivity with short time period.



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## Conclusion

The present study showed that the concentration of growth hormone shows the significant effect on growth of explants. Combination of BAP and NAA induced organogenesis. BAP promoted shoot proliferation; it shows BAP is crucial to induce organogenesis. High concentration of cytokinin promoted callus induction. The threshold level of endogenous hormones presumably influences the callus induction. The study showed indicated that by standardizing the technique, it is possible to develop the plants through micro propagation in an effective way. *In vitro* propagation is most effective method for large-scale propogation and conservation of *J. gendarussa.*

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Journal of Science, Technology and Management
Vol. No. 13, No. 01, January - March 2020, ISSN No: 0974-8334

# Digital marketing: an effective tool during economic crisis

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***ABSTRACT:*** *Marketing is significant for the immense growth of a company. During economic crisis, allocation of marketing resources is a complex decision. An effective marketing strategy is essential during an economic recession and the emergence of digital marketing provides a wide horizon for creating new opportunities and challenges for the companies. By using digital marketing channels and methods, the marketers can analyse the effectiveness of their campaigns in real time basis.. For the business to thrive it is important to choose the best digital marketing channel and this depends on the type of business and the kind of customers.As technology is improving day by day, digitization has been a part of the economic growth and as more customers are using the internet nowadays, the scope of digital marketing is also widening.*

*This paper covers the concept of digital marketing. Extends by analysing the advantages and disadvantages of the same and also tries to analyse whether this digital marketing is effective during economic crisis.*

**Keywords:** *Digital marketing, Economic crisis, Content marketing, Marketing strategies, Social network.*

## Introduction

The world is running towards the online life style. Even businesses have started following the same trend in order to be more successful and there comes the digital marketing. The economic and financial crisis affected all the economic sectors, spreading all over the world. The digital marketing strategy during recession can offer the ability to test various tactics and thus evaluation is possible which identifies the best response thereby the marketing strategies can be adjusted accordingly.Currently, the digital economy contributes decisively to an increase in competitiveness, especially as a digital transformation involves migrating to new technological models where digital marketing is a key part of growth. Internet and Digital Marketing have become important factors in campaigns, which attract and retain Internet users. This study aims to identify the main ways in which users can be gained and retained by using Digital Marketing.

Marketing strategy begins with changing environment. The business environment and marketing strategies have gone through big changes due to digitalization. Every company that has competitors must have a strategy. The purpose of the strategy is to create competitive advantage. A marketing strategy is a plan for how the



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important because it is a personal digital storage for the mails. The message can be used to deliver quotes or newsletters specifically targeted to a prospect. Usually, email marketing can be quite challenging but rewarding if implemented correctly. Communicating your message correctly plays a crucial part in email marketing.

## Affiliate Marketing

Affiliate marketing is the process by which an affiliate earns a commission for marketing another person's or company's products. The affiliate simply searches for a product they enjoy, then promotes that product and earns a piece of the profit from each sale they make. Affiliate marketing is a type of performance-based marketing in which a business rewards one or more affiliates for each visitor or customer brought by the affiliate's own marketing efforts. Affiliate marketing overlaps with other Internet marketing methods to some degree, because affiliates often use regular advertising methods. Those methods include organic search engine optimization (SEO), paid search engine marketing (PPC – Pay Per Click), e-mail marketing.

## Pay -per-click

PPC stands for *pay-per-click*, a model of internet marketing in which advertisers pay a fee each time one of their ads is clicked. Essentially, it's a way of buying visits to your site, rather than attempting to "earn" those visits organically. Search engine advertising is one of the most popular forms of PPC. It allows advertisers to bid for ad placement in a search engine's sponsored links when someone searches on a keyword that is related to their business offering. For example, if we bid on the keyword "PPC software," our ad might show up in the very top spot on the Google results page. Every time our ad is clicked, sending a visitor to our website, we have to pay the search engine a small fee. When PPC is working correctly, the fee is trivial, because *the visit is worth more than what you pay for it*. In other words, if we pay $3 for a click, but the click results in a $300 sale, then we've made a hefty profit.

## Online public relation

The main goal of our online PR is to raise brand awareness via online marketing channels. It consists of communication with customers, development of your community and other activities aiming at new potential customers.

PR as a whole consists of long-term activiti that help companies to improve the recogniti of their brand, receive a useful feedback and rai their brand awareness, partly via internet. The are many means of communication with yo customers, employees, fans, business partner investors, suppliers, journalists and other peopl important for the success of your company.

Digital PR is an online marketing strategy use by businesses to increase their onlin presence. Digital PR agencies network wit journalists, bloggers and influencers an send online press releases to gain high-qualit backlinks, social media mentions and to improv SEO.

## Conclusion

Digital marketing is growing with a rapid pac not only in India but throughout the world a well.More people spend more time online in Indi every year, and the digital tools and sites they us play an evergrowing role in their lives. Smar marketers keep on top of the scale of change an ensure their marketing strategies an touchpoint'smirror where the consumer i spending their time.The goal of this research pape was to examine the best digital marketin strategies, through a thorough, in-depth revie of literature. This present study revealed severa digital marketing strategies that are useful t companies, businesses, non-profits, educationa facilities and other professional areas.

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Vol. 13 No. 01, January - March 2020


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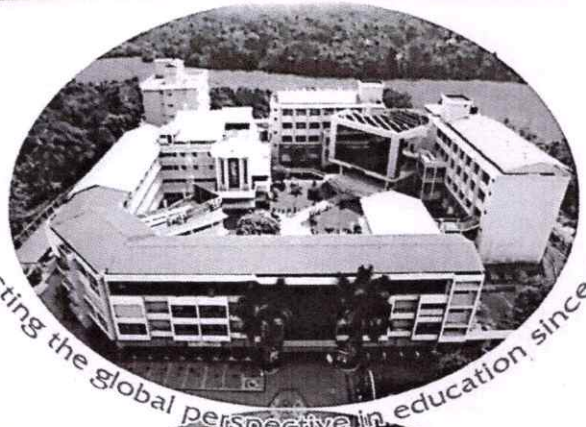

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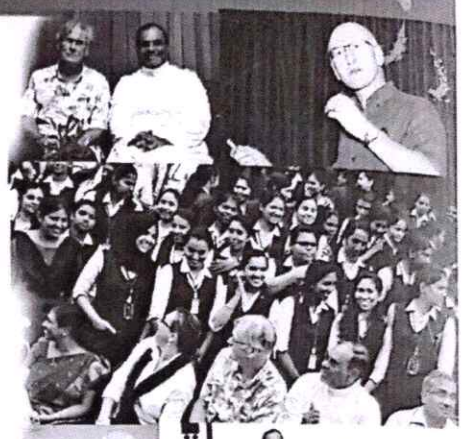









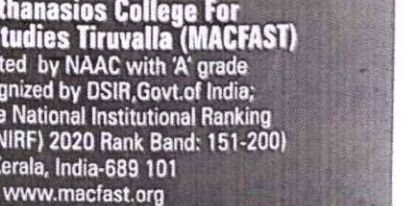

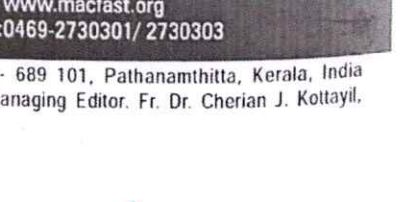

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Kerala, India-689 101
www.macfast.org
Phone:0469-2730301/ 2730303


Printed, published and owned by Fr. Dr. Cherian J. Kottayil, Principal, MACFAST, Tiruvalla - 689 101, Pathanamthitta, Kerala, India and printed at St. Joseph's Offset Printing Press, Tiruvalla - 689 101, Pathanamthitta, Kerala. Managing Editor. Fr. Dr. Cherian J. Kottayil.

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05.06.2020
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Tiruvalla- 689101, Kerala

Volume - 13, No. 02, APRIL - JUNE 2020

# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA
MACFAST

ISSN No: 0974-8334
A MACFAST PUBLICATION

Attested
08.06.2022
Fr. Dr. CHERIAN J KOTTAYIL
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# Journal of Science, Technology and Management

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Mob: + 91-94471 21718

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

PUBLISHER, PRINTER & OWNER
Fr. Cherian J. Kottayil, Ph.D.
Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN No. 0974-8334


Attested
09.06.2022
Fr. Dr. CHERIAN J KOTTAYIL
PRINCIPAL
Mar Athanasios College For Advanced Studies
Tiruvalla- 689101, Kerala

ISSN No. 0974-8334

# JOURNAL OF SCIENCE, TECHNOLOGY AND MANAGEMENT

Volume 13 Number 02 April - June 2020

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**Journal of Science, Technology and Management**
Vol. No. 13, No. 02, April - June 2020, ISSN No: 0974-8334

# The nutritive values, therapeutic properties and bioactive compounds of mushrooms

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***Abstract:*** *Mushroom cultivation can represent a valuable small scale enterprise option because of the widened knowledge,more dimensions of its utility, provoking extensive cultivation of mushroom through out the world and its popularization in every sphere of life. They are highly medicinal, delicious as well as rich in dietary fibre, protein and having various micronutrients.They are widely used as human food.The present review gives an account of nutritive value, medicinal properties,bioactive compounds of mushrooms so as to help the researchers in their crusade to explore more novel metabolites from this mushroom fungus that can be used as new potential drug.*

***Keywords****: Mushroom, nutritive value, therapeutic, bioactive compounds.*

## Introduction

Mushrooms are widely accepted as salubrious food because of its nutritional quality and also preventing numerous human health complications and medicinal component. To meet the nutritional quality,itis important to tackle the problems by addressing the demand of qualityfood, health and environmental feasibility (Singh *et al.*, 2017). Mushroom cultivation is an economical viable biotechnology process where waste materials, crop residues may be converted into valuable food (Wood,1985). It is an important horticultural cash crop. Production and consumption of mushroom has tremendously increased due to their medicinal and nutritional value (Rai and Arumuganathan, 2003). Mushrooms constitute at least 12,000 species world wide and 2000 of these species are reported as edible. About 35 edible mushroom species are commercially cultivated whereas nearly 200 wild species are being used for medicinal purposes (Beulah *et al.*, 2013). The usage of mushrooms is increasing day by day throughout the world. It plays a significant role in human health andnutrition (Mshandete, 2011). According to Thakur (2014), mushroom cultivation technology is friendly to the environment. It can directly improve livelihood through economic, nutritional and medicinal contributions.

## Nutritive values

Mushrooms are a cheap source of world's untapped resources of nutritional sound food. Edible mushrooms are important sources of food. They are consumed for their nutritive value, intense flavour and taste. According to Nita 2009, the mushrooms are a cheap source of good quality proteins, vitamins, fibre, antioxidant and water. The mushrooms being a complete food, rich in carbohydrates,proteins,vitamins,fats, dietary fibres,and minerals (Alam and Raza, 2001). Pavel, 2009 reported that on account of the digestibility property, mushrooms are treated as a substitute of muscle protein.



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Journal of Science, Technology and Management
Vol. No. 13, No. 02, April - June 2020, ISSN No: 0974-8334

# Role of fish in human nutrition with special emphasis to seasonal variation- A critical review

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***Abstract:*** *Fish is one in every of the foremost necessary foods within the human diet attributable to its high nutritional value. They act as the well-known source of most of the essential unsaturated fatty acids (PUFAs) particularly polyunsaturated fatty acid and omega-6 fatty acid. These fatty acids have very crucial preventive effects on coronary heart diseases, response disorders, arrhythmias, lowering plasma lipoid levels, and force per unit area. Many of the minerals present in fish that is needed by our body's growth, and maintenance. The minerals content in fish iron (Fe), metal (Ca), Zinc (Zn), Phosphorus (P), atomic number 34 (Se), chemical element (F), Iodine (I). These minerals have great bioavailability. The present review deals with an up-to-date information regarding the importance of fish in human nutrition and the impact of seasonal variation on the nutritional profile of fish muscle tissue reviewed.*

***Key words:*** *Fish, nutritional profile, seasonal variation, human nutrition*

## Introduction

Fishing is one of the most important industries in the world economy. One of the most importantcharacteristics of buyerconsummation is the nutritional quality of a food item. As they contain all the ten essential amino acids, animal proteins are known as the complete protein(Hoffman and Falvo, 2004). Therefore, it has been proposed that at least one-third of the total protein requirement in the daily diet must come from animal sources (Ferdose *et al.*, 2011). Native endemic fish species are considered valuable micronutrients and micronutrient resources and play an important role in providing essential nutrients to the human body. The muscle of fish consists of protein, fat and water as the main components of food, and the trace components are carbohydrates, vitamins and minerals. Good food and fish recognition are becoming more and more relevant due to their unique nutritional value. A proper understanding of the biochemical composition of fish is a key prerequisite for dieticians in this context. Moreover, for better processing and preservation, its assessment is significant.

## Proximate composition

Proximate analysis of the food sample determines the total protein, fat, ash, and moisture expressed as a percentage of the product. The main components of the edible part of fish are water, protein, lipids and ash (minerals), which make up about 96-98% of all components of fish tissue (Love, 1988; Nowsad, 2007). In addition, carbohydrates, vitamins, nucleotides, and non-protein nitrogen components are present as small components. This biochemical composition depends on the age, habitat, size, age and habitat, migration, gender differences, hunger, maturity, season, species and even individuals (Sankar and Ramachandran 2001, Gopakumar, 2002, Pawar and Sonawane, 2013) reported that the proximate composition of fish depends on various factors



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**Journal of Science, Technology and Management**
Vol. No. 13, No. 02, April - June 2020, ISSN No: 0974-8334

# Mycoendophytes: A new vision to the biological synthesis of silver nanoparticles

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***Abstract:*** *Nanoparticles are microscopic materials that varies from 1 to 100nm in size. They possess distinctive physical and chemical properties due to large surface to volume ratio and nanoscale size. Optical properties of nanoparticles depend on the size which transmits different colours because of the absorption in visible region. Reactivity, toughness, and other characters depends on their unique size, shape and structure and hence makes nanoparticles suitable for various commercial and domestic applications like catalysis, bio sensing, imaging, medical and environmental applications.*

***Keywords:*** *Nanoparticles, biotechnology, bio sensing, Sputtering, Laser Ablation, Co precipitation, Hydrothermal, Green synthesis.*

## Introduction

"There is plenty of room at the bottom" is the title of the talk delivered by Richard Feynman in 1959 while introducing the idea of nanotechnology to the world. He attributed the concept and early research in the area (Bowman and Hodge, 2007). Nanotechnology is committed with the synthesis and effective use of nanomaterial, which is in a size range of 1 to 100 nm (Hasan and Hasan, 2015). Nanotechnology obtained massive recognition in the current century. The distinctive properties of nanoparticles make them unique compared to their respective bulk materials (Iravani *et al.*, 2016). Nanotechnology has an insurgent impact on day to day life and it is driven by the aspiration to formulate materials with new and effective significance in almost all industries (Khan, 2016). Nanoparticles can be of different configuration, dimension and nature; their properties directly depend on the size and shape. If there is change size or shape it will ultimately result in the loss of their unique property (Ealia, 2017)

From the ancient time onwards silver and silver-based compounds are used as an antimicrobial agent (Siddiqi *et al.*, 2018). Nowadays research is displaying massive attention towards nanoparticles of various metals. Among all the metals the massive importance is given to silver nanoparticles because from the old civilization, silver was known for antimicrobial properties (Natsuki *et al.*, 2015). Physical and chemical methods of silver nanomaterial synthesis are an extensively studied area but the biological synthesis is an underexplored area. Physical and chemical synthesis is very easy but reported with many drawbacks such as the use of poisonous and expensive chemicals as reducing and stabilizing agents. To reduce the risk of hazardous chemicals, which may cause many health and environmental risk, the industry is in search for a new eco-friendly, safe method for the development of silver nanoparticles (Gandhi *et al.*, 2016). Use of microorganisms for the synthesis of silver



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Journal of Science, Technology and Management
Vol. No. 13, No. 02, April - June 2020, ISSN No: 0974-8334

# The financial fraud detection system using the fraud triangle theory (FTT)

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***Abstract:*** *Monetary extortion is generally spoken to by the utilization of illicit practices where they can intercede from ranking directors until finance representatives, turning into a wrong doing deserving of law. There are numerous systems created to dissect, distinguish and forestall this conduct, being the most significant the misrepresentation triangle hypothesis related with the exemplary monetary review model. So as to play out this examination, a study of the related works in the current writing was completed, to build up our own structure. Right now, paper presents Fraud Find, an applied structure that permits to distinguish and diagram a gathering of individuals inside a financial association who submit extortion, upheld by the misrepresentation triangle hypothesis. Misrepresentation Find works in the methodology of nonstop review that will be accountable for gathering data of specialists introduced in client's hardware. It depends on semantic strategies applied through the assortment of expressions composed by the clients under investigation for later being moved to a vault for later examination. This proposal encourages contributing with the field of cyber security, in the reduction of cases of financial fraud.*

***Keywords:*** *Fraud Detection, cyber security, Data mining*

## Introduction

Data security means protecting digital data such as those in a database, from destructive forces and from the unwanted actions of unauthorized users such as a cyber-attack or a data breach. Data security is used while amount transaction. (Begum, *et.al*, 2009) Data mining is the process of discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems.

Bank extortion is the utilization of possibly illicit intends to get cash from investors by deceitfully acting like a bank or other money related organization. It influences open and private organization. It is considered by the legislature to be one of the most genuine offenses than bank burglary. Misrepresentation against an organization can be submitted either inside by workers, directors, officials, or proprietors of the organization, or remotely by clients, merchants, and different gatherings. In numerous cases, an organization's representatives are the greatest extortion dangers to the business main concern.

Employees may have a few key inspirations that lead to extortion. The dominating helpers are monetary weights, addictions, way of life requests or other individual issues. They lead workers to look for extra assets to straightforwardness such weights. To the impediment of the business, representatives may accept open doors to misuse shortcomings in their boss' frameworks and controls for their very own benefit. Fraud



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sufficient funds required to implement the proposed project is included in the financial feasibility. Other aspects of financial feasibility should also be viewed, if appropriate, like credit worthiness, loan availability, and equity and loan schedule. The implication of land purchase, lease and other estates in land are also reviewed in the financial feasibility analysis.

This project checks whether the new system runs successfully. In this context, the system is analyzed whether the new technologies proposed could be successfully implemented. From the basis of these following facts and to the best of our knowledge, the financial fraud detection system is feasible in economically, technically and financially.

## Conclusion

In the data security and data mining strategy all the significant data from such a colossal measure of information and changes all the elevated level dynamic in the banks and retail segments. From various databases, they blend the changed information and store the blended information utilizing information put away in a worthy organization that data-digging should be possible for it. Examination of information is finished further and, in this way, the caught data is utilized in the banking area. Information Mining is the most significant instrument for distinguishing the extortion exercises occurring in the banks related data and keeps the fakes from occurring in our everyday life because of the fraudsters. Data security works to provide the security to the database and data mining to improve the decision-making power, taking the correct choices at the privilege time, and choosing the right alternatives. It gets the significant example from the huge database which encourages us in improving the nature of the database. Consequently, the paper incorporates loads of issues related with the banking data security and approaches to beat the issues of the financial framework cheats or frauds effectively through the procedures given by data security and data mining.

## Acknowledgement

The authors are thankful to the whole Department of Computer Applications and MACFAST for their support in bringing out this article.

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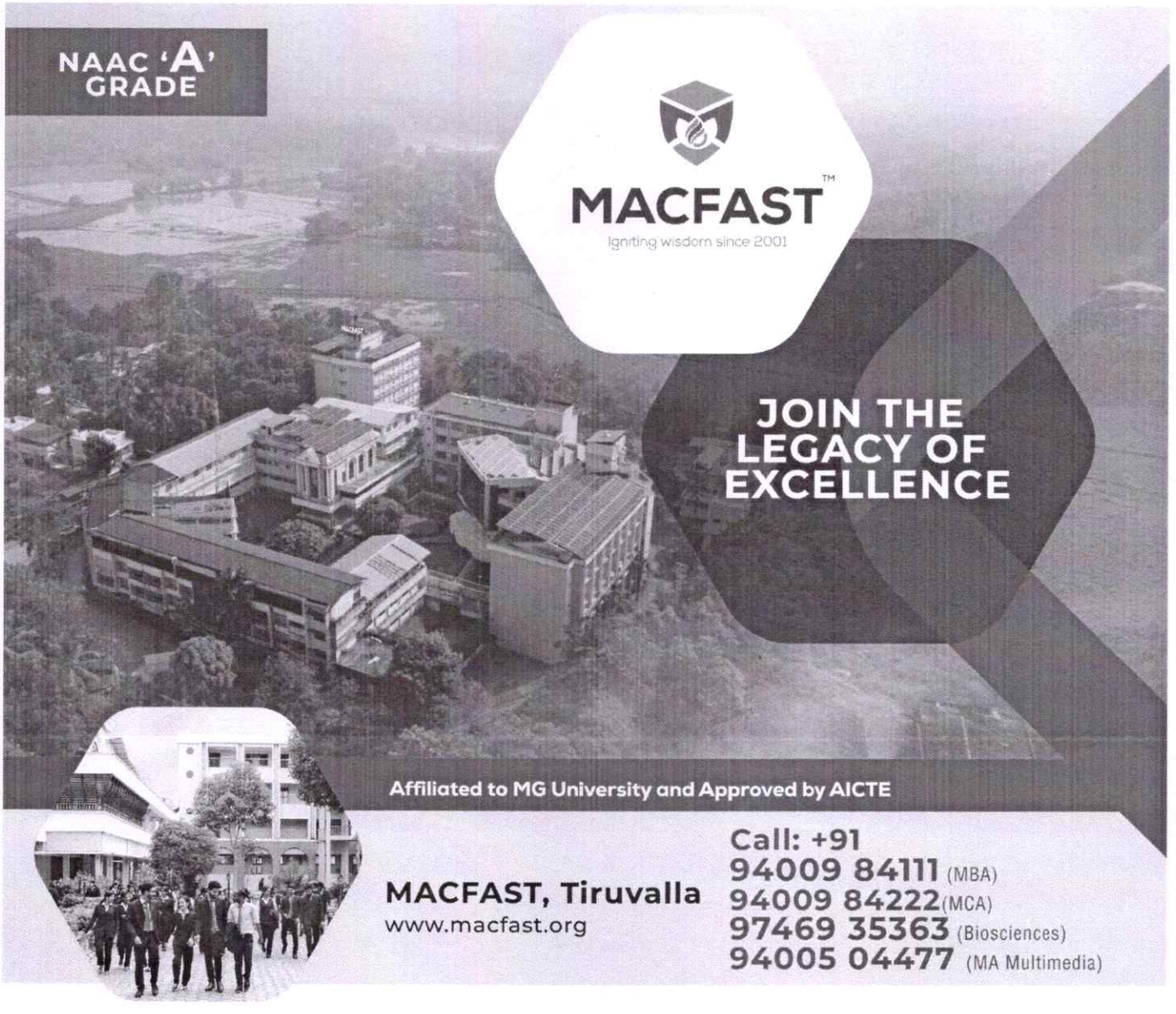
Title verification letter No. KERENG/2008/29261
**Journal of Science, Technology and Management**
Vol. 13 No. 02, April - June 2020

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Volume - 13, No. 03, JULY - SEPTEMBER 2020

# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT






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ISSN No: 0974-8334
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Acknowledgements
The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

PUBLISHER, PRINTER & OWNER
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Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Kottayam, Ph: 0481-2300798

ISSN No: 0972-8334


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ISSN No. 0974-8334

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Journal of Science, Technology and Management
Vol. No. 13, No. 03, July - September 2020, ISSN No: 0974-8334

# Analysing the factors influencing information security culture in an organization using DEMATEL technique

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***Abstract:*** *The need to protect information as one of the assets in the organization and mitigate the issues is more paramount than before.Typically, management considers information security governance under the jurisdiction of information technology department, segregated from management's main business operation. This paper investigates the issues related to information security. It further identifies six key factors influencing the information security culture in an organization. The six factors are Behavioural, Change Management, Information Security Awareness, Organizational System, Security Requirements and Knowledge. The study theoretically says that Change management has high influence in developing Information Security culture.*

***Keywords:*** *Multi criteria decision making tool (MCDM), DEMATEL,Cause and Effects digraph*

## Introduction

Information security is defined as the activity to protect information from a wide range of threats inorder to ensure business continuity, minimize business damage and maximize return on investments andbusiness opportunities Information security culture is part of the organisational culture depicted from various facets. Culture relates to the way in which things are done in organisation It relates to the behaviour and attitude of people. Informationsecurity culture is defined as the assumptions of which types of information security behaviour are accepted andencouraged by the employees of the organization. The quality of a security culture should, however,not only be determined by the organizational beliefs, but alternatively, by how the organization evaluatesand manages the basis of truth and rationality of various beliefs that end-users and managers hold uponorganization's security. As information security becomes one of the challenging issuesin today's organization, it is important to create a comprehensive security culture within the organization. Organization represents a unique system as it is built based on



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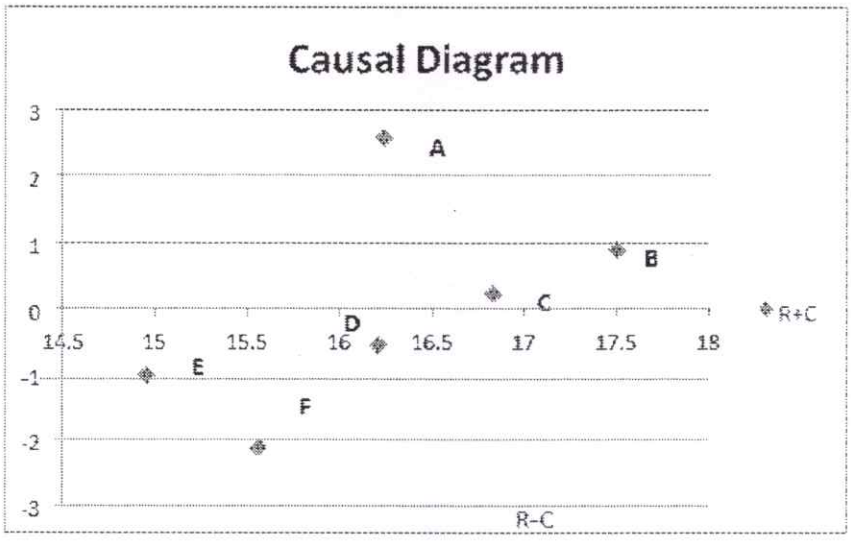


**Fig. 1:** Diagraph or causal diagram

## Conclusion

The study gave a big insight about the various parameters that influence information security. With the help of research articles, we selected six parameters for the study. Among the selected six factors we found that Change Management has very high importance as compared to other factors and the least important is Behavioural approach. The Diagraph consists of cause and effect region, upper region is cause and the lower region is effect region. The cause region consists of Change Management, Behaviouraland Information Security awareness.The effect region consists of Security Requirements, knowledge and Organizational System.Causal factors which can influence others by their order are: Change management and Information Security Awarenessthat means if we modify any of these two factors, it will be get reflected on other factors also. In an organization if we try to modify any of the above mentioned two parameters, it requires special attention.

## Acknowledgement

This work is highly supported by 11IT experts from various organizations.

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**Journal of Science, Technology and Management**
Vol. No. 13, No. 03, July - September 2020, ISSN No: 0974-8334

# Atmanirbhar Bharat Abhiyaan a call to the nation for self-reliance

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***Abstract:*** *The Atmanirbhar Bharat Abhiyaan (Self-reliant India campaign) declared the Special economic package of INR 20 lakh crores - equivalent to 10% of India's GDP – to fight COVID-19 pandemic in India. The central point of the concept is to make the nation self-reliant with more focus on local manufacturers and service providers. The aim is to make the country and its citizens independent and self-reliant in all senses. At a time when the world is suffering from a deadly epidemic, India plans to convert this crisis into an opportunity and reinforce its fight by becoming Aatmanirbhar or self-reliant*

***Keywords:*** *Atmanirbhar Bharat Abhiyaan, self-reliant, pandemic*

## Introduction

The intended objective of this plan is two-fold. First, interim measures such as liquidity infusion and direct cash transfers for the poor will work as shock absorbers for those in acute stress.The second, long-term reforms in growth-critical sectors to make them globally competitive and attractive. Under this campaign, a special economic package has been released by the government, which will benefit various segments including cottage industry, Micro, Small and Medium Enterprises (MSMEs), labourers, middle class, and industries, among others.

### Objectives of the study

To examine the relevance of *Atmanirbhar Bharat Abhiyaan*

To identify the five *pillars of India's self-reliance campaign*

To expose the complete break-up of the package launched to make India 'self-reliant'

To Explore the challenges of *Atmanirbhar Bharat Abhiyaan*

### Methodology

The present study is descriptive in nature. The data required for the present study are collected from secondary sources. The study was mainly focused on the facts and figures drawn from the Reports of thePrime minister and Finance minister of Government of India, and various articles published by experts in this field.

### Various reasons for the introduction of the scheme

**To drift from Globalization to Localizations:** To achieve self-reliant, sectors such as pharmaceuticals, food, leather, furniture, clothing industry, electronics, plastics, toys etc. shall revamp their processes of pronouncement to a local level which were earlier dependent widely on Chinese products.



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The total government expenditure that will be incurred through the package is only 1% of the India's GDP growth. As such these measures will not be adequate enough to boost the demand sentiment in the economy.

**Steps to Be Taken**

Enhancing Demand

Mobilising Finances

Holistic Reforms

## Conclusion

This is one of the largest economic boosts up schemes announced by a nation in the world. In the journey to attain a self-reliant India, it is necessary for the government to break up its policies, take decisions for rural crowd and labors, keep poor and neglected at priority, and make environmental friendly policies that are rooted to make India a self sufficient nation globally.Making the country self reliant in all spheres- from manufacturing to supplying. It will help the country to reduce its dependence on imports and may also give a boost to exports.This will strengthen the economy, improve the standard of living and most importantly improve the trade deficit and the exchequer balance of the country.And will also ensure that the country is able to sustain and tackle any black swan event that may emerge in future.

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Journal of Science, Technology and Management
Vol. No. 13, No. 02, April - June 2020, ISSN No: 0974-8334

# An overview of a new neural deep learning network- capsule network

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***Abstract:*** *In today's scenario the different neural networks need efficient solutions in the field of image processing. Deep learninguses many neural net works such as Recurrent Neural networks (RNN), Convolution Neural Networks (CNN). RNN is a kind of artificial neural networks (ANN) in which connections are in the form of directed graph and it shows a dynamic behaviour. While using RNN in deep learning we are not able to process long sequences, and training for this model is difficult. CNN is used in deep learning to analyze visual images which uses a linear mathematical operation called convolution. The CNN needs lots of training data for analyzing visual images and also sometimes we are not able to capture some poses and contortion of objects. The above problems of neural networks leads to the introduction of new neural networks which overcomes the limitations of RNN and CNN called capsule net works.*

***Keywords:*** *Capsule network,Convolution network, Capsnet, DigitCaps, ConvNets*

## Introduction

Today many image classification techniques are available in neural networks like Recurrent Neural Net works *(RNN)*, Convolutional Neural Net works etc. Convolutional Neural Net works (CNN) is the back bone of the image classification and object detection developments seen over the past years. But these networks preserve only the shape of the object results in its inefficiency. Gesture based applications are quite unsuccessful in Yoga, and related art forms etc. and they require the identification of image location for better accuracy. Hence, we use Capsule Networks, which preserves equivariance in an image by analyzing the hierarchy and order of objects within the image. Since CNN looses the location information of an object due to its pooling layers that extract only important features, this process leads to wrong classification of the images. However, the capsule networks have proven better accuracy.

## Literature Review

### Convolution Neural Network

Convolution neural network is a type of deep learning network used for the analysis of visual images. They are made up of neurons that have biases and weights. ConvNets are unable to identify the position of one object relative to another. For example, Conv Net predicts all the key features of a face to a bunch of randomly assembled face parts. Convolution Neural Networks had some basic problems like, it cannot retrieve the logical connection between the sub regions in the image or it fails to predict the geometrical transformations of some images.

### Transformation from CNN to Capsule Network

Hinton and his colleagues (Sabour *et al.*, 2017) proposed Capsule Networks to overcome the limitations byadding newstructures called



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Keras is a Python interface for Capsule network. Keras is a high-level framework that hides the backend computation and allows us to quickly build a Capsule network model. TensorFlow is an open source library for numerical computation and large-scale machine learning developed by the Google Brain team.

## Conclusion

Capsule networks introduce a new building block that can be used in deep learning to better model hierarchical relationships within an internal knowledge representation system.The objective behind capsule network features is to improve the existing state of the system that operatesin a different manner than CNN features. In the activation maximization analysis, one could see that the capsule features were better able to describe all facets of the class objects than the traditional CNN models.

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**Journal of Science, Technology and Management**
Vol. No. 13, No. 03, July - September 2020, ISSN No: 0974-8334

# Antiviral role of medicinal plants

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***Abstract:*** *Medicinal plants have been widely used for treating various pathological conditions for many years and some are proved to be effective against even viral and bacteriological infections. It has been accepted that medicinal plants can provide an effective source of compounds to provide antiviral therapies. Natural, plant-derived products can be considered as potential, new drugs which provide a number of advantages such as reduced side effects, less resistance and low toxicity. This review focuses on the role of some plant derived compounds against four deadly viruses such as Dengue Virus, Hepatitis B Virus, Hepatitis C Virus and Herpes Simplex Virus.*

***Keywords:*** *Antiviral agents, medicinal plants, dengue virus, hepatitis b virus, hepatitis c virus, herpes simplex virus*

## Introduction

Virus infection and the associated pathogenesis have been creating severe complications to the world since many decades and counteracting the serious complications of the same has become a major healthcare hazard these days. The unavailability of specific drugs, effective vaccines and side effects associated with the available medications has increased the severity of viral pathogenesis. Along with that, drug resistance to various available therapeutic options also has worsened the conditions further. Traditional plant-based therapies have become a point of consideration these days because of less or no side effects, easy availability and comparatively low cost of production. Plants, plant extracts and specific plant-derived compounds are being monitored for their efficiency to cure viral infections and many are found as effective antiviral agents both *in vitro* and *in vivo*. This review illustrates the antiviral potential of a few traditional plants, which are commonly found in India and other tropical regions of the world, against some fatal viruses.

### Dengue Virus (DENV)

Dengue virus infection is a mosquito-borne infection with high mortality rate in tropical and sub-tropical areas of the world, transmitted by the *Aedes aegypti* species. The four serotypes of DENV (1, 2, 3 and 4) cause severe dengue infections ranging from Dengue fever (DF) to Dengue Hemorrhagic Fever (DHF) and Dengue Shock Syndrome (DSS), which further result in severe complications and can even lead to death. The role of medicinal plants in alleviating the effect of DENV infection has been observed by using various types of plants and plant-derived compounds and this review highlights a few of the important ones among these compounds. According to the statistics of World Health Organization, natural products are considered as the main source of basic materials in the development of antiviral drugs based on traditional medical practices and also, traditional medicinal plants have been used for antiviral treatments in animals and humans.In the Philippines, *Euphorbia hirta*, is used in folk medicine to treat dengue fever in the rural areas and



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**Journal of Science, Technology and Management**
Vol. No. 13, No. 03, July - September 2020, ISSN No: 0974-8334

# Role of mutan TP53 protein and hormones in breast cancer: A review

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***Abstract:*** *TP53, a protein with tumor suppressive activities is located at 17p13.1 of thehuman chromosome. The mutations that normally occur are recessive. Dominant gain-of-function (GOF) mutations lead to uncontrolled cell division and help in promoting cancer growth. Since these mutations are capable of being expressed in heterozygous conditions,they are often associated with cancers. The mutation of p53 is one of the most frequent changes seen in cancer cells. The status of p53 with respect to the gain of functions and the inhibition of the normal functioning of the transcription factors has been well studied. But its status in the presence of hormones is not studied yet. This review can be an insight for the selective targeting on the hCG signaling pathway which might turn out very useful forthe treatment of mutant p53 humancancers.*

***Key Words:*** *mutant p53; interaction; hCG*

## Introduction

TP53, a protein with tumor suppressive activities is located at 17p13.1 of the human chromosome. This protein contains 393 amino acids and mutations that occur at 175, 248, and 273 leads to the loss of function of the protein were the mutational changes at 273 is the most common. The mutations that normally occur are recessive. Dominant gain-of-function (GOF) mutations lead to uncontrolled cell division and help in promoting cancer growth. Since these mutations are capable of being expressed in heterozygous conditions, they are often associated with cancers. The mutation of p53 is one of the most frequent changes seen in cancer cells. In addition to mutations that arise during the growth and development of individuals (sporadic mutations), there are forms of cancer associated with the inheritance of a damaged version of p53 and also of several viruses that has evolved ways of inactivating the p53 protein. The genetic function of this gene is to prevent the cell division of the cell having DNA damage. The damaged DNA might contain the genetic changes that promote uncontrolled cell division. Therefore, preventing the cell division until the damaged DNA is repaired is one mechanism for preventing the onset of cancer. The p53 protein being a transcription factor and its pivotal role in maintaining genomic integrity has earned it the nickname "guardian of the genome".

## TP53 gene mutations in spontaneous breast cancer

On an average, TP53 is mutated in 31% of all tumors included in the Catalog of Somatic Mutations in Cancer (COSMIC) database (Forbes *et al.*, 2011) and is mutated ~23% of breast cancer samples, where it is the second most frequently mutated gene after PI3KCA proto-oncogene (26% in COSMIC). Mutations in TP53 occur most frequently in ovarian (50% of cases in COSMIC), large intestine (43%), and lung (36%) cancers.



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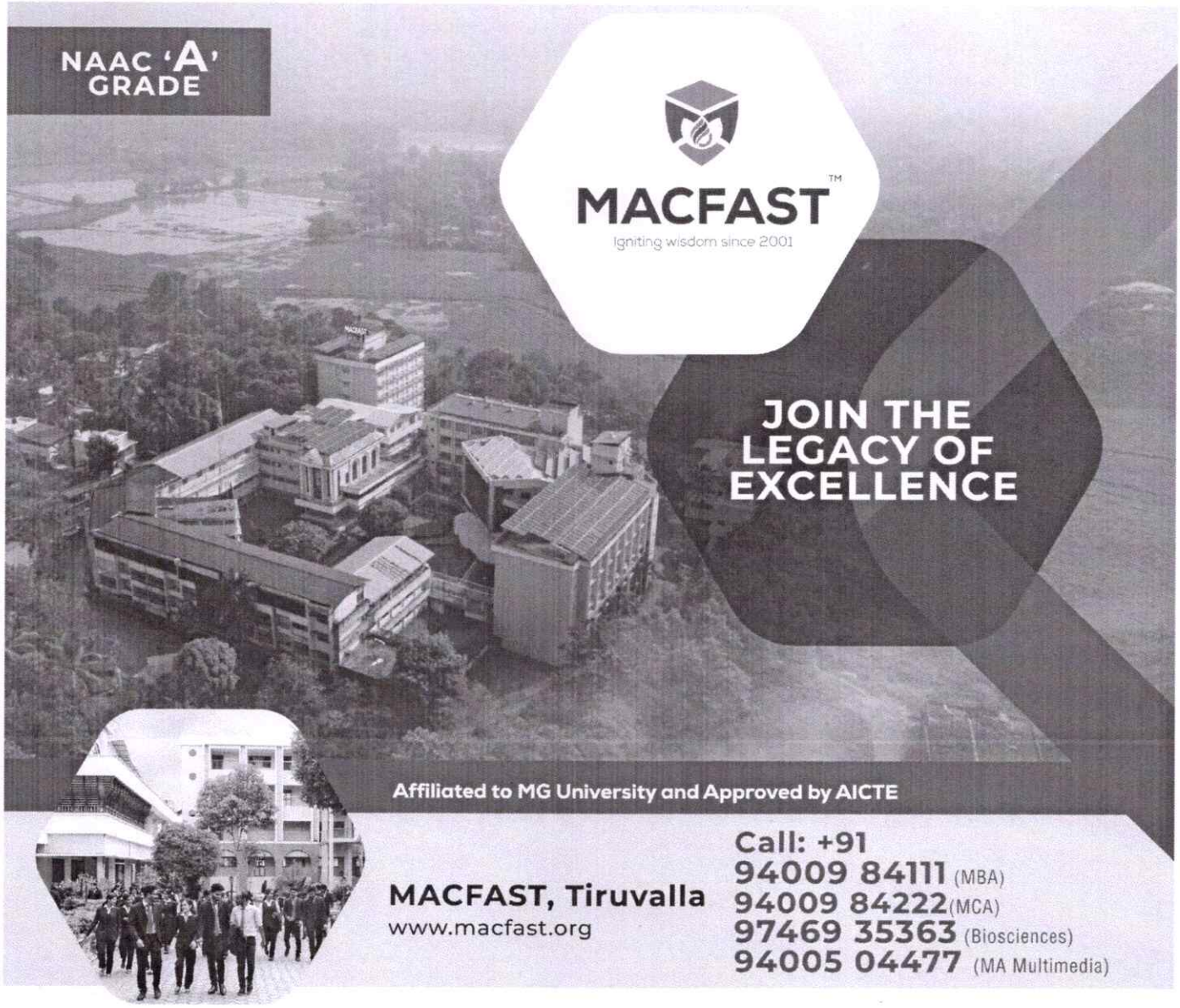


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Volume - 12 No. 01 JANUARY - MARCH 2019



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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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ISSN No: 0974-8334


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JOURNAL OF SCIENCE, TECHNOLOGY AND MANAGEMENT

Volume 12 Number 01 January - March 2019

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**Journal of Science, Technology and Management**
Vol. No. 12 No. 1, January-March 2019 ISSN No: 0974-8334

# The Effect of pH on Colour Behaviour of Anthocyanin Pigment from *Brassica oleracea*

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## ABSTRACT

This study focuses on the extraction of anthocyanin pigment from *Brassica oleracea* and its application as natural pH indicator. An indicator is a chemical that turns different colour when it comes into contact with an acid or a base. Red cabbage contains a pigment molecule called flavin (an anthocyanin). Very acidic solutions will turn anthocyanin a red colour. Natural solutions result in a purplish color. Basic solutions appear in greenish-yellow. Therefore, it is possible to determine the pH of a solution based on the color it turns the anthocyanin pigments in red cabbage juice. Samples of anthocyanin in aqueous solutions were studied at various pH levels between 1.0 to 12.0 at a period of 10 days. Powdered anthocyanin exhibits more stable compared to juice anthocyanin at most pH values, showing no changes in color intensity and color tone and little changes in color lightness. The variation in the results suggested that further developments of anthocyanin as a potential pH color indicator in food packaging system are required.The color of the juice changes in response to changes in its hydrogen ion concentration. pH is the -log[H+].

**Key words:** Indicator, pH, anthocyanin

## Introduction

Anthocyanins are the naturally occurring, water-soluble compounds that impart many of the orange, red, magenta, violet, purple and blue colours to a variety of fruits, vegetables and plants. Color stability of anthocyanin influenced by many factors include structure and concentration, pH, temperature, light, presence of co-pigments, self-association, metallic ions, enzymes, oxygen, ascorbic acid, sugar and their degradation products, proteins and sulphur dioxide (Ersus and Yurdagel, 2007).

The main focus of this study is to determine the colour behaviour of anthocyanin towards various pH levels. Generally, increasing of pH during storage increased the degradation rates of anthocyanin. Anthocyanin can be found in



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**Journal of Science, Technology and Management**
Vol. No. 12 No. 1, January-March 2019 ISSN No: 0974-8334

# Antioxidant Activities of Betel Leaf (*Piper betle* L.) Extracts

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## ABSTRACT

Natural antioxidants play an important role in the prevention of many age-related diseases and promotion of health. Among natural antioxidants from plants, flavonoids and other phenolic compounds are potent antioxidants and chelating agents. Betel (*Piper betle*) is the leaf of a vine belonging to the family *Piperaceae*, which also includes pepper and kava. It is valued both as mild stimulant and appetizer. Betel leaf is mostly consumed in Asia, and elsewhere in the world by some Asian emigrants, with or without tobacco, the later is an addictive psychostimulating and euphoria-inducing formulation with adverse health effects. Betel leaf is said to have antioxidant properties. The antioxidant activities of leaf extracts of selected betel leaf extracts were carried out. Results revealed that the leaves have sound ROS scavenging activity. Present papers highlights the antioxidant and medicinal importance of common betel leaf.

**Keywords:** Antioxidant activity, Betel leaf Extracts, Scavenging Activity

## Introduction

Antioxidants provide protection against degenerative diseases including cancer, coronary heart, and Alzheimer's diseases. Reactive Oxygen Species (ROS), contribute to cellular aging, mutagenesis, carcinogenesis, and coronary heart disease, likely through destabilization of membranes, DNA and protein damage and oxidation of low-density lipoprotein (LDL) (Rahaman, 2007). Furthermore, antioxidants scavenge reactive species, and upregulate antioxidant defenses. Plants are rich sources of natural antioxidants, the best known are tocopherols, carotenoids, Vitamin C, flavonoids, and different other phenolic compounds. Recently, among natural antioxidants, flavonoids have received increasing attention (Dehshahri *et al.*, 2012). As compared with Vitamin C and E, dietary flavonoids are considered to be more powerful antioxidants. Flavonoids are known to be highly effective antioxidants playing the role by scavenging oxygen radicals (Dinicola *et al.*, 2014). They also possess interesting anti-cancer, hypolipidemic, anti-ageing, and anti-inflammatory activities. Moreover, the protective effects of flavonoids in biological systems are attributed to their capacity to

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**Journal of Science, Technology and Management**
Vol. No. 12 No. 1, January-March 2019 ISSN No: 0974-8334

# Zebrafish and its Gene Similarity with Human

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## ABSTRACT

Zebrafish (*Danio rerio*) is an important and widely used vertebrate model organism in scientific research. Zebrafish was the first vertebrate to be cloned. The zebrafish genome has some unique features that are not seen in other vertebrates. Zebrafish is an ideal vertebrate system which is used to model cancer. Zebrafish as an experimental model offers many advantages including their ability to produce large number of eggs, they develop outside the body are transparent, development is rapid. With the exception of few organs namely like lungs, prostrate and mammary gland, most of the tissues and organs present in human are found in zebrafish. Zebrafish genome possesses a high degree of similarity to that of humans. The use of zebrafish in the drug screening approach potentially facilitates fast and cost effective identification of potential lead components and initial validation as potential therapeutics. Using of zebrafish models to characterize human diseases helps researchers to identify and test new drugs to treat the diseases being modeled. The ability of zebrafish to generate many embryos every time they breed makes them especially useful for high throughput drug screening. This article deals with its genetic similarity with human and about related studies.

**Keywords** : Zebrafish, *Danio rerio*, Genome, Databases

## Zebrafish

The Zebrafish has recently emerged as an important model organism for studies of invertebrate genetics, genomics and development. Zebrafish is an important model system for analysis of vertebrate development (Kimmel, 1989; Driever *et al.*, 1996) and an emerging model system for human disease (Zon, 1999). Understanding the relationship between the zebrafish and human genomes will help identify roles for human genes from zebrafish mutations, and help identify zebrafish models for genes identified by human disease (Brownlie *et al.*, 1998).



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**Journal of Science, Technology and Management**
Vol. No. 12 No. 1, January-March 2019 ISSN No: 0974-8334

# Fish Collagen as a Potential Biocompatible Composite with Biomedical Applications

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## ABSTRACT

Collagen is the most abundant protein in fish. Most characteristic feature of this protein is its ability to form supramolecular aggregates in extracellular space. Collagen is widely used for biomedical and pharmaceutical applications owing to its cell attachment capabilities, excellent biocompatibility, biodegradability and weak antigenicity. Main applications of collagen are shields for drug delivery systems, sponges for burns/wounds, mini-pellets and tablets for protein delivery, gel formulation in combination with liposomes for sustained drug delivery, transdermal material delivery, and nanoparticles for gene delivery and basic matrices for cell culture systems. It was also used for tissue engineering including skin replacement, bone substitutes, and artificial blood vessels and valves. This article reviews biomedical applications of collagen including the collagen film.

**Keywords:** Collagen, Biomaterial, Drug/gene delivery, Tissue engineering

## Introduction

Fish collagen is a complex structural protein that helps maintain the strength and flexibility of skin, ligaments, joints, bones, muscles, tendons, blood vessels, gums, eyes, nails and hair. The scales, skin, bones and fins of fresh or saltwater fish are used for the creation of fish collagen source. Since these parts are considered waste products during fish processing, using them to create other products helps reduce environmental pollution.

Collagen is an important natural biological material and has been extensively studied as a polymer for use in manufactured materials. The triple helix nature of collagen is due to high content of glycine, an amino acid residue. However, the length of the helix and the nature and size of non-helical portions of the molecule vary from type to type. The dominant collagen of skin, tendon and bone is type-I. Type II collagen is unique to cartilage, and type- III collagen occurs in adult skin (5-10%) in association with type-I.

Atelocollagen, which is produced by

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**Journal of Science, Technology and Management**
Vol. No. 12 No. 1, January-March 2019 ISSN No: 0974-8334

# A Review on Design and Modelling of Plant System for Phytoremediation with Hydroponics as a Potential approach

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## ABSTRACT

Hydroponic systems have been utilized as one of the standard methods for plant biology research and are also used in commercial production for several crops. It is also established to be effective in the reduction of different contaminants in water. Textile dyeing effluents containing recalcitrant dyes are one of the major contaminants polluting water. Conventional treatment systems based on chemical or physical methods are quite expensive and consume high amounts of chemicals and energy. In this review article, design and modelling of a cost-effective and environmentally stable phytoremediation system is studied and evaluated.

**Keyword :** Hydroponic, phytoremediation, Textile dyeing effluents

## Introduction

In recent years, due to the rapid industrialization, urbanization and population growth the environment of India has become a delicate issue. In the past two decades the use of plants for treatment of soil and ground water polluted with heavy metals and other organic compounds has gained acceptance due to its cost effective and invasive property.

Textile industries for the manufacturing and processing of fabrics have turned out to be one of the worst polluters of the environment. In the textile industries, dyes are used for the purpose of colouring the fabrics. Up to 30% of the dyes used in colouring are lost and discharged with the effluent. Therefore, the removal of dyes from the textile effluent has become major environmental concern. Dyes have the property of high brilliance which makes them visible even in small quantities and this property makes the effluent from textile industries even more aesthetically unpleasing. The textile effluent contains large quantity of recalcitrant dyes, surfactants, acids, bases, detergents, oxidants etc. which makes it totally undesirable. The textile dyes are designed in a way that they become resistant to fading and chemical attack which makes it even more difficult to treat and degrade. Also, textile dyes



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**Journal of Science, Technology and Management**
Vol. No. 12 No. 1, January-March 2019 ISSN No: 0974-8334

# Digital Economy: The Great India Journey towards a Developed Nation

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## ABSTRACT

Digitization of the economy is the future. There is no looking back on that. In order to make the economic growth move through an upward route, it is important for the government, business organizations, education system and the people to realize that embracing the changing technology would help the country and its people to grow and remain competitive enough to be developed. Both developed and developing economies are reaping benefits for digitization. Researchers say developed countries are trading higher economic benefits from digitization; although job creation is more in the developing countries. This article discusses the relationship between the digital economy and economic development and explores the benefits and challenges for emerging economies

**Keywords.** *Digitization, digital economy developed and developing economies*

## Introduction

According to the OCED, "Digital economy is an umbrella term used to describe markets that focus on digital technologies." It refers to the full range of our economic, social and cultural activities supported by the Internet and related information and communications technologies. "These typically involve the trade of information goods or services through electronic commerce. It operates on a layered basis, with separate segments for data transportation and applications" (OECD 2012).

The term 'Digital Economy' was coined in Don Tapscott's in his best-seller 'The Digital Economy: Promise and Peril in the Age of Networked Intelligence' (1995). Academicians and institutions are fine tuning the concept as well as boundaries of digital economy since then. A widely-accepted understanding about digital economy is its activities on and around the digital world. Mesenbourg (2001) has provided three main components for Digital Economy.



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based on digital technologies – such as the internet of things, big data, artificial intelligence, machine learning, to name but a few – also fit the logic of digital commoditisation.

In fact, the sharp fall in the price of robots and other sophisticated technologies, and cheap and quick access to markets via e-commerce platforms, are among the manifestations of this trend. Affordable and low-cost labour, tax incentives, and other conventional forms of attracting and retaining investment in emerging countries thus need to be reassessed.

## Conclusion

Whatever the government benefits from digital economy, directly have a positive impact on every citizen's life. However, the let-down here is that according to the World Bank, "nearly a billion Indians are still not able to tap the benefits of a digital economy."

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# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 12 No. 02 APRIL - JUNE 2019



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APRIL - JUNE 2019
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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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ISSN No: 0974-8334


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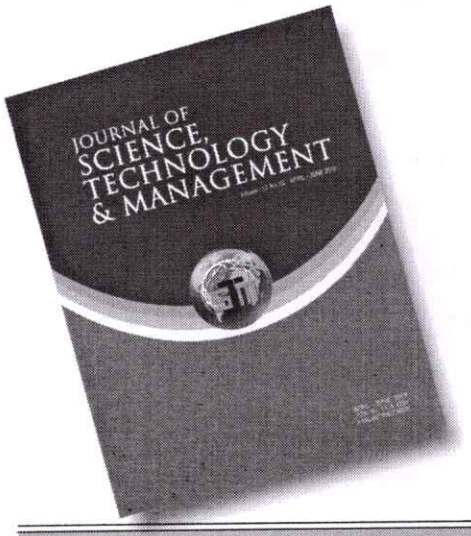


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**Journal of Science, Technology and Management**
Vol. No. 12 No. 2, April-June 2019 ISSN No: 0974-8334

# Anti-inflammatory Drugs : Current Scenario

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## ABSTRACT

Inflammation can be defined as the response of the human body to pathogenic stimuli. The process of inflammation is important to maintain a generalised health of the human body. This review serves to explain the basic processes involved in inflammation. The mediators of inflammation have been discussed followed by the different strategies involved in the control of inflammation. Anti-inflammatory drugs and the mechanism of action are also explained. Medicinal plants can also serve as excellent source of anti-inflammatory drugs but more requires a focussed translational research.

**Key words:** Inflammation, innate immunity, Inflammatory mediators

## Introduction

Inflammation is a physiological reaction that develops as a response to a variety of stimuli. The stimulus involved can be mechanical (pressure), chemical toxins, physical conditions (temperature), internal biochemistry of the system, or due to the presence of microorganisms. Inflammation is considered a part of innate immunity as it is not a specific response to a particular pathogen but a generalised response to any stimuli that causes a deviation in the normal conditions of the system (Abbas and Lichtman, 2009). Inflammation includes numerous complicated processes involving cellular and humoral components and ultimately targets the repair and regeneration of the biological system (Ferrero *et al.*, 2007). This process is important in the protection of the biological system from complications and diseases by unleashing a barrage of cells and chemical mediators to face the attacking factors and prevent infection.

The initial response to any harmful stimulus that is achieved by the transport of blood leukocytes into the inflamed site can be classified as acute inflammation. This acute inflammation



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**Journal of Science, Technology and Management**
Vol. No. 12 No. 2, April-June 2019 ISSN No: 0974-8334

# Analysis of Factors Influencing Online Banking Portals Using DEMATEL Method

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## ABSTRACT

This study investigates the impacts of various internet banking portal service quality dimensions on overall internet banking portal service quality. The research used the dimensions of online service quality, internet banking service quality and web portal service quality to develop a framework that can be used to measure internet banking portal service quality in Pathanamthitta District. Data for the research was collected from a sample of 10 bank employees of some selected Indian public and private banks. Five dimensions of internet banking portal service quality are identified. These include information quality, website design, ease of use, reliability, security and privacy. Analysis is done using a multi criteria decision making tool called DEMATEL. The results of the analysis show that security and privacy have the top priority as compared to the other four dimensions,Furthermore, a cause and effect relation diagram were also constructed to gain a better understanding of the interactive relationship between those dimensions. Finally, this paper prioritizes the factors influencing the online banking portals.

**Key words**: Service quality, Dimensions of online service quality, Decision-making Trial and Evaluation Laboratory (DEMATEL), Causal diagram, Online banking.

## Introduction

With the popularity of the internet, innovation in technology and the changing needs of customers, banking services have been undergoing tremendous transformation. In banking services, a new technological innovation is internet banking portal. Internet banking portal means that all stages of the financial transactions can be processed electronically. This is achieved by replacing personal interaction and physical facilities with technological solutions. As a consequence, customers are able to carry out different financial transactions at one site including paying bills, booking railway and air tickets, charging mobile phone and TV, donating money, paying tax, filing tax return, viewing bank statements, purchasing stocks and other



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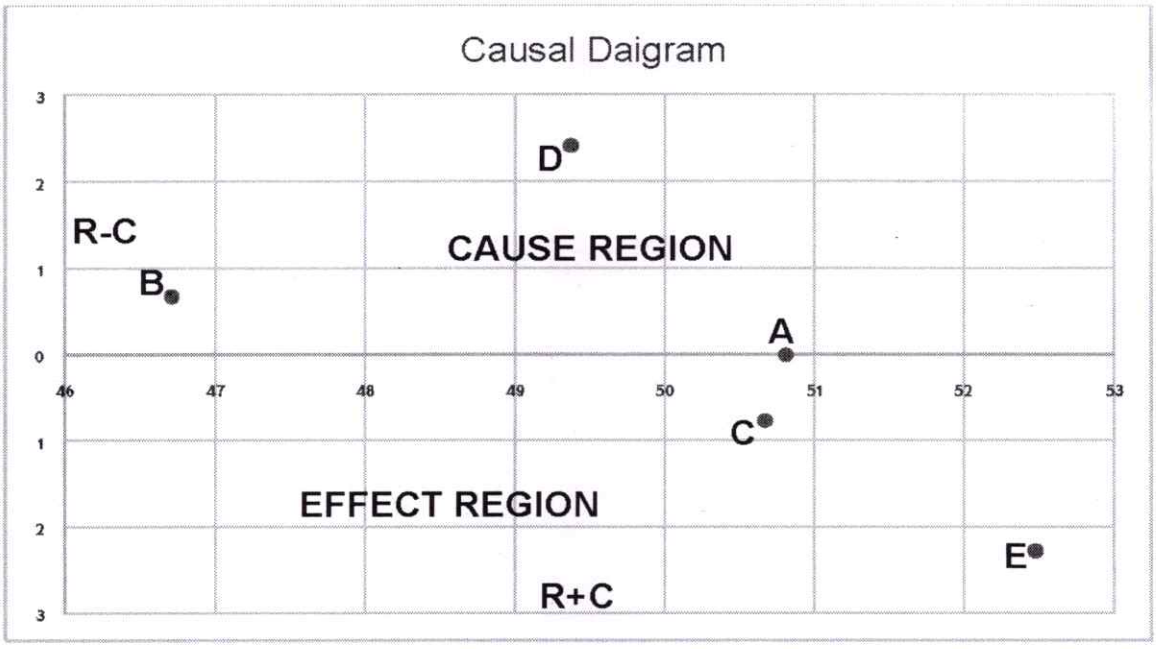


Figure 2: The Causal Diagram

**Further Implications of the study**

The proposed model of this study could be extended by taking fuzzy environments into consideration in order to deal with the imprecise judgments, and the ambiguity of human being's judgment. This study provides a static relationship of the relationships among factors. Factors such as Interactive interrogation, personalisation/ customization, Basic service quality, other financial products service quality; Added values also can be used for the similar study. Nevertheless, these relationships may change over time. As such, what-if analysis based on the dynamic situation should be conducted. Moreover, there are other multi attribute decision-making methods such as TOPSIS and PROMETHEE which could be applied for ranking those criteria or comparing the results of the study.

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**Journal of Science, Technology and Management**
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# Six sigma – An Overview

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## ABSTRACT

Since its instigation at Motorola, Six Sigma has been widely accepted by different sorts of organizations. Six Sigma is a systematic business strategy and is considered as an important advance in quality management and process improvement. The techniques acceptability is due to the fact that its systematic use can lead to the breakthrough in profitability through quantum gains in product/service quality, customer satisfaction and productivity. The paper mainly focuses on six sigma, its invention and method followed for implementation. The elements of six sigma along with the pros and cons faced by organization after implementation also forms a part of the paper

**Keywords**: Six sigma, quality management, product/service quality, customer satisfaction.

## Introduction

Six Sigma is that it is a defect rate metric. In statistics, the Greek letter 'sigma' refers to standard deviation and hence Six Sigma implies six standard deviations. Thus six sigma means that processes incorporating the techniques are highly capable that customer specifications are actually six standard deviations away from the process centre. In other words Six Sigma is a disciplined, statistical-based, data-driven approach for eliminating defects in a product, process or service.

## Times Gone by Six Sigma

Six Sigma was invented at Motorola in the 1980s (Barney, 2002; Delsanter, 1992) and the credits goes to Bill Smith, an engineer of the firm. The invention was motivated by the high cost of poor quality discovered at Motorola. Like many companies at that time, it was as high as 15% to 20% of the sales revenue (Crosby, 1979). The production processes had low capability. A large portion of the products failed to meet customer requirement. This led to scrap, rework, field service, or return or



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considered a defect. It is highly effective as it addresses the entire process behind the production of an item or completion of a service, rather than just the final outcome. Thus we can state that six sigma is proactive rather than reactive, as it sets out to determine how improvements can be made even before defects or shortcomings are found.

**Disadvantages of Six Sigma implementation includes the following**

**Difficulty in implementation**

Six Sigma requires a complete participation of all the employees working in the operations, and in other business processes. It may be easily implemented in a company of smaller size, it can be practically difficult to implement Six Sigma in the large-sized business organizations.

**Complications**

Six Sigma inspects the business processes and large amounts of statistical and empirical data are generated during its implementation. The data needs to be carefully scrutinized and analysed to find out the variances. The process can be very complicated and time-consuming when running and sustained over a long period.

**May get costly in the long run**

Six Sigma may provide for cost saving in the long run, but as it is a quality improvement process at its core, it's repetition beyond a certain point may increase overhead and operational costs.

**Conclusion**

It can be stated that Six sigma is a successful and emerging business strategy that can be imperative for operations and business excellence. The concept has gained wide acceptance in the developed nations and is implemented in most of the organisations irrespective of being manufacturing or non manufacturing sector. This powerful business management strategy has been exploited by many world class organisations such as General Electric (GE), Motorola, Honeywell, Bombardier, ABB, Sony, to name a few from the long list. It has been embraced by many service oriented firms like J P Morgan, American Express, Lloyds TSB, Egg, City Bank, Zurich Financial Services, BT, etc. Though the success of these companies stand to be an inspiration, it is distressing to remind that the concept has got less importance in developing nations including India. The research works with regard to six sigma in Indian concept are very limited and hence it act as a good scope for future works. The combined effort of government and private entities are worth welcoming to embrace such an efficient concept in our country.

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Volume - 12 No. 03 JULY - SEPTEMBER 2019



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JULY-SEPTEMBER 2019
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Acknowledgements
The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

PUBLISHER, PRINTER & OWNER
Fr. Dr. Cherian J. Kottayil
Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN No: 0974-8334


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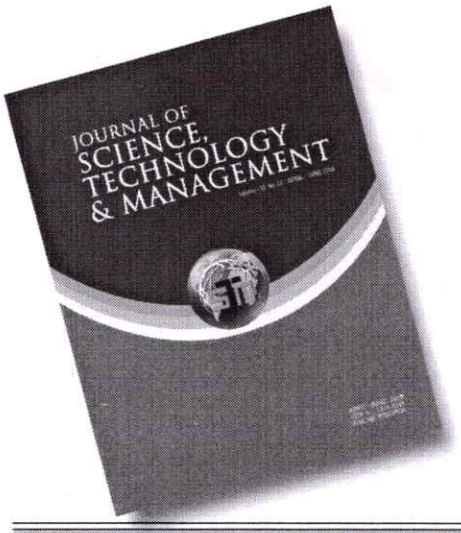


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**Journal of Science, Technology and Management**
Vol. No. 12 No. 3, July-September 2019 ISSN No: 0974-8334

# A Review on Molecular Screening Techniques for Identifying Adulterants in Meat Products

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## ABSTRACT

Due to their high market value and increasing demand, meat products are often subjected for adulteration. Adulteration literally means debasing something or mixing it with some inferior or harmful substances. The determination of food authenticity and detection of adulteration are major concern in food industry and are increasing attention nowadays. Detection of species adulteration in meat products is important in consumer protection and food labelling law enforcement. Identification of the species of origin in meat samples is relevant to consumers for no possible economic loss from fraudulent adulterations, medical requirements of individuals who might have specific allergies and for religious reasons. Molecular based methods due to their easiness, rapidness and sensitivity are recognized as the most appropriate means to detect fraudulent practices. This review lists out some of the molecular screening techniques for identifying adulterants in meat products.

**Keywords**: DNA, PCR, ELISA, SDS PAGE, Sequencing, DNA Barcoding

## Introduction

Adulteration may be intentional or unintentional. The intentional adulteration is a willful act intended to increase the margin of profit while the incidental contamination is usually due to ignorance, negligence or lack of proper facilities (Sahoo 2014). Food manufacturers as well as food processing factories may purposely add different types of meats to a particular meat product so as to add bulk or make up the volume of the product. For example, pork is a potential source for adulteration of higher value meat such as beef and veal (Ong *et al.*, 2007). Single and multispecies adulterations have been reported in commercial meat products (Hsieh *et al.*, 1997).Compared to fresh meats, the chances of adulteration are more in processed and comminuted meat products like sausages because the comminution, processing and using other ingredients can mask the adulteration effects thus putting the consumers

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**Journal of Science, Technology and Management**
Vol. No. 12 No. 3, July-September 2019 ISSN No: 0974-8334

# Library services In and As a mobile phone application: A perspective Study

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## ABSTRACT

In the current communication world, mobile and its applications are the most promising trends. Mobile phone applications are the exact replacements of web based applications. Based on the statistics migration of web based application of college library to mobile application is desired. In most of the college websites applications like latest news, attendance, login and registrations, e-books, forums, results, chat application, web mail, etc. are used. Based on this we would do the same in a mobile application. The reason behind the work is that the mobile applications do not need any third party browsers, or any domain registration. So in order to take the advantages of all this limitations we are planning to develop the mobile applications. Now the important modules that are to be implement on mobile application is OPAC (Online Public Access Catalogue) for a library account. Using OPAC mechanism in mobile one can just access the library account of his/her from anywhere using his mobile device, So that they can check the availability of books in the library instead of going to library. They can even check the number of books that are taken in there account and its submission date, fine to be paid in case.

**Keywords:** OPAC, Mobile app, Database, Bibliography

## Introduction

Communication is a process of transmitting information. During the past five decades different media have been used for communication. These media could make a huge changes in the communication scenario. In the case of library, traditional libraries store their information in printed formats like papers, palm lets skin sheets etc. Information is physically assembled in one place called stack rooms; users must go to the library to select their books and find out whether their relevant topic is in that book or not. But the emergence of information communication technology



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**Journal of Science, Technology and Management**
Vol. No. 12 No. 3, July-September 2019 ISSN No: 0974-8334

# Integrating Green Practices in Human Resource Management

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## ABSTRACT

Green human resource management is an emerging topic in the filed of sustainable development. The demand for strategic green human resource management is increasing; combining environmental management with human resource management. The organization's human resources function is so important in achieving sustainable development. This approach involves incorporating various green practices in the existing human resource activities for transforming them so that it cause less harm to the environment and eventually contribute to the sustainable development initiatives of the organisation. The green human resource management is a part of broader corporate social responsibility of the organisation. Green HR management will contribute to the organization's concern towards environmental issues by leveraging management philosophy, HR policies and practices, training people and implementing legal aspects related to environmental protection. Through this paper the researcher had made an attempt to identify the integration of green practices followed in human resource activities such as green job design and Job Analysis, green Human Resource planning, green Recruitment and Selection, green Induction, Green Performance management, green training and Development, Green Compensation and rewards, Green Health and Safety Management, Green Discipline Management and green Employee relations for sustainable development.

**Keywords:** green HR, Sustainable Development, green job design and Job Analysis, green Human Resource planning, green Recruitment and Selection, green Induction, Green Performance management, green training and Development, Green Compensation and rewards, Green Health and Safety Management, Green Discipline Management, green Employee relations

## Introduction

"How can we be so arrogant? The planet is, was, and always will be stronger than us. We can't destroy it; if we overstep the mark, the planet will simply erase us from its surface and carry on existing." Paulo Coelho.

Green is the color of nature and the most beautiful color in the world. Coexistence with nature and the environment can bring us happiness and prosperity - whether it is our



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# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 12 No. 04 OCTOBER - DECEMBER 2019



OCTOBER-DECEMBER 2019
ISSN No: 0974-8334
A MACFAST PUBLICATION

08.06.2020

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Acknowledgements
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PRINTED AT
St. Joseph's Offset Printing Press,
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DESIGN
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ISSN No: 0974-8334


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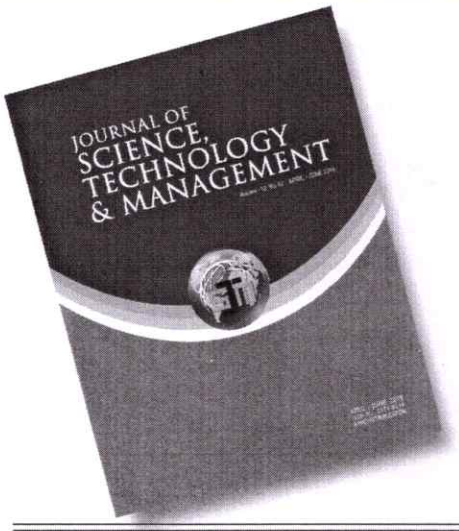


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**Journal of Science, Technology and Management**
Vol. No. 12 No. 4, October-December 2019 ISSN No: 0974-8334

# A review on avenanthramide, a therapeutic polyphenol from Oats

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## ABSTRACT

Oat (*Avenasativa*) is a cereal known since antiquity as a useful grain with abundant nutritional and health benefits. It contains distinct molecular components with high antioxidant activity, such as tocopherols, tocotrienols, and flavonoids. In addition, it is a unique source of avenanthramides, phenolic amides containing anthranilic acid and hydroxycinnamic acid moieties, and endowed with major beneficial health properties because of their antioxidant, anti-inflammatory, and antiproliferative effects. This review discuss on the therapeutical activities of avenanthramides, how they act on body and their role in many diseases

**Keywords**: Avenanthramides, NF-Kb, Tranilast

## Introduction

The oats (Avenasativa) is a pseudo cereal, which is nutrient rich food which can reduce the risk of cholesterol. Oats are generally considered as healthy food as it contain many essential nutrients, fibre rich, several B vitamins and numerous minerals. Oat bran is the outer layer of the oats the daily consumption of this has proven the decrease of low density lipoprotein. Beta glucan is the one type of soluble fibre which has been proven to lower cholesterol. Oats contain a globulin or legume protein avenalin (80%) as storage protein. Oat protein is nearly equivalent by quality when it is compared by soy protein.Oats contain other important bioactive compounds, such as phenolic compounds, which exert protective effects against the development of various pathologies, including cardiovascular diseases (CVDs), diabetes, inflammatory bowel disease (IBD), cancer, obesity, and celiac disease, acting synergistically



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peroxidation in human hair follicles and alleviate scalp itchiness and tenderness, indicating Avns as an ideal active ingredient for scalp care formulations (Evans and Miller 1997)

**Conclusion**

For more than 4000 years, Avenasativa has been recognized as a food and its traditional use has been recorded since the 12th century. Recent in vitro and in vivo investigations highlighted the potential therapeutic effects of oat preparations and its signature compounds AVAs in the oncological field. It is generally accepted that antioxidants exert health-promoting effects by scavenging intracellular ROS; thus, their consumption as food additives and nutraceuticals has been greatly encouraged (Guo, *et. al*, 2010) Studies are necessary to fully address the beneficial effects of Avns in human health.The polyphenols of oats have also recently been shown to exhibit anti-inflammatory, antiproliferative, and anti-itching activity, which may provide additional protection against coronary heart disease, colon cancer, and skin irritation.

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**Journal of Science, Technology and Management**
Vol. No. 12 No. 4, October-December 2019 ISSN No: 0974-8334

# Exploring seaweed and melanin based cosmetics as a therapeutic agent

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## ABSTRACT

As cosmetic industry is expanding its market day by day incorporation of natural bioactive instead of chemical supplements into the products has gained more consumer satisfaction. Seaweed *Gelidium spinosum* collected from Vizhinjam coast,Trivandrum was processed for extraction of antioxidant compounds. The extracted antioxidant was characterized for its flavonoid, carotenoid and polyphenol content.Bioactive compound was further characterized by FT-IR and NMR spectroscopy. Cream was formulated using cream base of oil in water emulsion and bioactive compound was incorporatedinto the emulsified base. Formulated cream showed antimicrobial activity against *S. pyogens, S. aureus, P. aeruginosa, E. coli and S. typhi.*

**Keywords**: Seaweed extract, *G. spinosum*, Cream, Antioxidant, Antimicrobial activity.

## Introduction

The growth in global economies, changing lifestyles, rising demands of skin and sun care products; encourages the growth of the market for cosmetics. A shift of preference towards natural and organic beauty products fosters the growth of the cosmetics market. Rising demand for natural, herbal and organic therapeutic products creates potential opportunities for manufacturers to innovate and develop new products in accordance to consumer preferences.

According to the definition of the Federal Food, Drug & Cosmetic Act of the US FDA and article L5131-1 of the French Public Health Code, a cosmetic product is any substance or preparation that is to be rubbed, poured, sprinkled, or sprayed on, introduced into or applied to external parts of the body, in particular the epidermis, hair and capillary



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aureus and *Pseudomonas aeruginosa* are two important species which cause skin infections. So it indicates that this antimicrobial activity is more useful in the cream formulation. But the activity is lower as compared to other red seaweeds. *Gelidiumspinosum* is an edible seaweed so its antimicrobial activity can be more useful in food application as well

The total antioxidant activity of the melanin was 0.884 ascorbic acid equivalent. Melanin particle were found to possess antioxidant property in biological systems. It can scavenge free radicals and has the ability to sequester redox active metal ions. The scavenging activity is 70% .and it is almost similar to that of seaweed extract.

FT-IR studies showing that absorption at 3300.20 cm-1 indicate the presence of – OH and NH2 groups and small band at 2911 cm-1 can be assigned to stretching vibration of aliphatic C-H group. The band at 1611.2 cm-1 attributed to vibrations of aromatic ring C=C of amide I C=O and/or of COO- groups of carboxylate.weak bands below 700 cm-1 ascribed to alkene C-H substitution in the melanin pigment. The band 1169.76, 1205.51 cm-1 indicate sulfate groups (s=o stretching) branching of from fucoidan or alginic acid residues. The observed IR patterns for the cream were similar to the earlier reported study (Korumilli Tarangini1 and Susmita Mishra, P.Shanura Fernando et al, 2017).

## Conclusion

The present study primarily focused on the formulation of a therapeutic cream with Gelidiumspinosum seaweed extract and melanin were prepared with its application as an antioxidant and antimicrobial skin care cream. Available antioxidant assays were done to ensure the free radical scavenging activity of the seaweed extract and melanin. The seaweed extract also have antimicrobial activity against two important skin infecting bacteria staphylococcus aureus and Psuedomonasaeruginosa. The physiochemical properties of the cream were checked for each combination to ensure the best variant. Characterization of cream were done by FT-IR.

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**Journal of Science, Technology and Management**
Vol. No. 12 No. 4, October-December 2019 ISSN No: 0974-8334

# The use of probiotics in aquaculture: a review

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## ABSTRACT

With increasing demand for environment friendly aquaculture, the use of probiotics in aquaculture is now widely accepted. Probiotics, which are micro-organisms or their products with health benefit to the host, have found use in aquaculture as a means of disease control, supplementing or even in some cases replacing the use of antimicrobial compounds. This review provides a summary of the uses and challenges of probiotic application in aquaculture.

**Keywords**: Probiotics, Aquaculture, Broodstock

## Introduction

The probiotics is defined as live microbial feed supplements that improve health of man and terrestrial livestock. They have found its use in aquaculture as a means of disease control, supplementing or even in some cases replacing the use of antimicrobial compounds. The research of probiotics for aquatic animals is increasing with the demand for environment friendly aquaculture. Aquaculture is the farming of aquatic organisms by intervention in the rearing process to enhance production and private ownership of the stock being cultivated. Compared to fishing, this activity allows a selective increase in the production of species used for human consumption, industry or sport fishing. Due to overfishing of wild populations, aquaculture has become an economic activity of great importance around the world. Aquaculture's contribution to world food production, raw materials for industrial and pharmaceutical use, and aquatic organisms for stocking or ornamental trade has increased dramatically in recent decades. Nowadays, aquaculture is a lucrative industry .However, the intensification of aquaculture practices requires cultivation at high densities, which has caused significant damage to the environment



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capacity depends on appropriate concentrations of lipids, proteins, fatty acids, vitamins C and E, and carotenoids.At present, for most cultured fish species, there are commercially available "broodstock diets" that just are larger-sized diets. In practice, many fish hatcheries improve the nutrition of their broodstock by feeding them solely on fresh fish byproducts or in combination with commercial diets. The most common 8 ISRN Microbiology fresh organisms used to feed broodstock fishes include squid, cuttlefish, mussels, krill, and small crustaceans. The use of these unprocessed fish products often do not provide adequate levels of nutrients needed by broodstock fishes, increasing the risk of pathogens transmission to the parents and offspring, including parasites, bacteria, and viruses. Therefore, probiotics added to food or water were used in order to prevent infections and to explore their effect on reproduction (Gatesoupe, 1999).

**Challenges of Probiotics**

The general concept that the use of probiotics in aquaculture may produce various beneficial effects has been proven beyond doubt. However, safety considerations neglected for a long time are now taken into account for the development and marketing of probiotics. Safety is the state of being certain that adverse effects will not be caused by an agent under defined conditions. New species and more specific strains of probiotic bacteria are constantly identified. It cannot be assumed that these novel probiotic organisms share the historical safety of tested or traditional strains. Prior to incorporating them into products, new strains should be carefully assessed and evaluated for both safety and efficacy. In addition, Probiotic manufacturers should apply modern molecular techniques to ensure that the species of bacteria used in their products are correctly identified, for quality assurance as well as safety. Lactic acid bacteria treated as probiotics are generally considered to be non-pathogenic. However, a growing number of diseases that appeared with the worldwide development of aquaculture may be assigned to distinct bacteria belonging to the genera Streptococcus, Lactococcus, Vagococcus and Carnobacterium (Gatesoupe, 1999). Therefore, the safety profile of a potential probiotic strain is of critical importance in the selection process. This testing should include the determination of strain resistance to a wide variety of common classes of antibiotics such as tetracycline's, quinolones and macrolides and subsequent confirmation of non-transmission of drug resistance genes or virulence plasmids Evaluation should also take the end-product formulation into consideration because this can induce adverse effects in some subjects or negate the positive effects altogether (Wang,, et.al. 2008).

**Conclusion**

The current global food crisis and increasing production costs has put pressure on governments and the international community to ensure sufficient food supply for a growing population. Thus, aquaculture is presented as a way to meet the growing demand for fresh water food or seafood, and to meet current challenges relating to the ongoing globalization of trade, intensification and diversification of aquaculture, progress in technological innovations for food production, changes in ecological systems and human behavior, including a greater awareness to protect biodiversity, public health, and the environment.Lactic acid bacteria are also good candidates, and further studies are necessaryto evaluate the interest of yeasts as probiotics. The bacteria normally dominant in healthy animals may be sources of probiotics, but there are many potential pathogens among Vibrionaceae and pseudomonads. It may be wise to carry out long-term surveys to make sure that the bacteria keep innocuous, without risk of apparition of potentially detrimental mutants. The influence of probiotics on gastrointestinal micro biota remains poorly described, but further investigation may be expected with the propagation of molecular approaches to analyze bacterial communities. In the near future, it is necessary to conduct studies relating to probiotics resistance to antibiotics, and the chances of transmission of genetic elements to other microorganisms in the fish GIT, and thus to humans when consuming the aquaculture product. On the other hand, there is a need to strengthen studies of microbial ecology in aquaculture systems, correlating microbial communities (microorganisms on water and in the GIT of aquatic species) with animal growth and its relationshipto the water quality.



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**Journal of Science, Technology and Management**
Vol. No. 12 No. 4, October-December 2019 ISSN No: 0974-8334

# The economic impacts of heritage conservation

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## ABSTRACT

Heritage is considered now as an important lever for economic development. Cultural and natural heritage is not only an excellent source of identity and inspiration, but also a key driving force for development. It is considered as an instrument for satisfying the demand for leisure activities, the opportunity for some deprived areas to create new jobs, a source of new references for economic innovations, and a way of positively enforcing the identity of the local authorities. In other words, investment in heritage can generate return in a form of social benefits and economic growth. In this new view the major problems to solve will be the ones of identifying, assessing, producing and delivering these new services.

**Key words**: Heritage, economic innovations, social benefits, and economic growth

## Introduction

Internationally accepted definition of heritage was distinct by UNESCO that "**Heritage is our legacy from the past, what we live with today, and what we pass on to the future generations**" (UNESCO 2008a, p.5).Cultural and natural heritage is not only an exceptional source of identity and inspiration, but also a key driving force for sustainable development. Today, heritage represents the whole environment that is influenced by its interaction with humanity and is therefore qualified to be recognized as a heritage Cities that lack memory, away from their past, and do not preserve their heritage and identity cannot build their own future, which make them vulnerable to destruction. Countries with special cultural heritage provide a humanitarian service to the world



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facilities – that can cause significant negative impacts to the Outstanding Universal Value of the World Heritage properties.But contributions may not be realized just by the existence of cultural heritage, especially if it sits in a museum storage or archive. Even if it is present in the public sphere, it may contribute to a lesser degree than it could. Therefore, our emphasis is on the communication of cultural heritage content and experiences through innovative approaches, products and services

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JANUARY - MARCH 2018
ISSN No: 0974-8334
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# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 11 No.01 JANUARY - MARCH 2018

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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Principal, MACFAST, Tiruvalla,
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PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN No: 0974-8334


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# JOURNAL OF SCIENCE, TECHNOLOGY AND MANAGEMENT

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**Journal of Science, Technology and Management**
**Vol. No. 11 No. 1, January - March 2018 ISSN No: 0974-8334**

# Seaweed Biotechnology

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## Introduction

Seaweeds or marine macro algae are primitive non-flowering plants without true root, stem and leaves. They form one of the commercially important marine living renewable resources. They are the only source for theproduction of phytochemicals such as agar, carrageenan and algin. Seaweeds occur in the intertidal, shallow and deep waters of the sea upto 180m depth and also in estuaries and backwaters. They grow on rocks, dead corals, stones, pebbles, solid substrata and on other plants. Based on the type of pigments, external and internal structures, seaweeds are divided into green, brown, red and blue-green algae. Seaweeds contain many trace elements, minerals, protein, iodine, bromine, vitamins and many bioactive substances. The luxuriant growth of seaweeds is found in southeast of Tamil Naidu, Gujarat Coast, Lakshadweep and Andaman-Nicobar Islands. Rich seaweed beds occur at Mumbai, Ratnagiri, Goa, Karwar, Varkala, Vizhinjam, Pulicat Lake and Chilka Lake. About 220 genera and 740 species of marine algae have been reported so far from Indian waters. The total standing crop of seaweeds from intertidal and shallow waters of all maritime states and Lakshadweep was estimated as 91,333 tonnes (wet wt.). The quantity of seaweeds estimated in deep waters of Tamil Nadu was 75,373 tonnes (wet wt.) in an area of 1863 sq. km. from Rameswaram (Dhanushkodi) to Kanyakumari (Kaliaperumal*etal*, 1987a; Kaliaperumal, 1994).

Seaweeds areutilized for the production of phytochemicals such as agar, carrageenan and alginate which are widely used as gelling, stabilizing and thickening agents in many industries such as food, confectionary, pharmaceutical, dairy, textile, paper, paint and varnish etc. Agar is manufactured from red algae like *Gelidiella, Gracilaria, Gelidium* and *Pterocladia.* Some other red algae *viz.Eucheuma, Chondrus, Hypnea* and *Gigartina*are used for the production of carrageenan. Alginate is obtained from brown algae such as *Sargassum, Turbinaria, Laminaria, Undaria,Macrocystis* and *Ascophyllum.* Other chemical products namely mannitol,



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Journal of Science, Technology and Management
Vol. No. 11 No. 1, January - March 2018 ISSN No: 0974-8334

# Establishment of an Efficient *in vitro* Regeneration Protocol for Rapid and Mass Propagation of *Dendrobium chrysotoxum Lindl.* Using Seed Culture

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## ABSTRACT

An efficient *in vitro* regeneration protocol from seed culture has been established successfully for *Dendrobium chrysotoxum*, an epiphytic orchid having tremendous ornamental and medicinal values. Seed germination response was encouraging in MS medium enriched with different combinations of auxins and cytokinins. Medium supplemented with 0.4% citric acid, 2 mg/L 6-benzyl amino purine (BAP), and 0.5 mg/L indole-3-acetic acid (IAA) produced best seed germination percentage in 2 weeks of culture. Incorporation of higher concentration of kinetin (KN) or BAP in combination with low auxin in medium induced pronounced shooting and leaf formation. Reduction in leaf development was evident when cytokinins exist singly in medium indicating synergistic effect of auxin and cytokinin in leaf induction. Presence of elevated level of indole-3-acetic acid (IAA) or 1-indole butyric acid (IBA) with low cytokinin content in medium generated more *in vitro* rooting, though IAA was found to be more effective in rooting induction as compared to IBA. The *in vitro* protocol for asymbiotic seed germination developed from the present investigation can be used for rapid mass propagation of this highly important Dendrobium orchid species.

*Keywords:* 6-Benzyl Amino Purine [BAP], Indole-3-Acetic Acid [IAA], Kinetin [KN], Indole Butyric Acid (IBA), Naphthalene Acetic Acid [NAA], Dendrobium Orchid Seeds, Mass Propagation

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Journal of Science, Technology and Management
Vol. No. 11 No. 1, January - March 2018 ISSN No: 0974-8334

# Present Environment for Entrepreneurship Developments in India

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## ABSTRACT

In India, various initiatives have been taken by the government from time to time for entrepreneurship development in the country. However, literature reveals that entrepreneurs face a number of problems which obstruct the growth of entrepreneurship. To meet these challenges, a need was felt by government to initiate a new set of policy reforms in India which has led to a improvement in recent years. Therefore, an attempt has been made to study the implications of the recent remarkable policy reforms of entrepreneurship in India which has made India a hotspot destination for start-ups. The study found that most of these recent reforms are focusing on skills development measures giving birth to technology enabled start-ups. The government and the non-government organizations and academicians are in favor to enhance the skill and the quality of the entrepreneurship in our country. The solutions to this problem can be easily made if positive attitude and the tilt for entrepreneurship from us can be charmed.

*Keywords:* Entrepreneurship, employment, policy reforms, skills development

## Introduction

The entrepreneurship is very a old concept according to which any one who runs business is called an entrepreneur. The more precise meaning of entrepreneur is; one who perceives a need and then brings together manpower, material and capital required to meet that need. The word „entrepreneur is derived from the French verb „enterprendre . It means "to undertake. Around 1700 A.D. the term was used for architects and contractor of public works. #The entrepreneur in an advanced economy is an individual who introduce something new in the economy- a method of production not yet tested by experience in the

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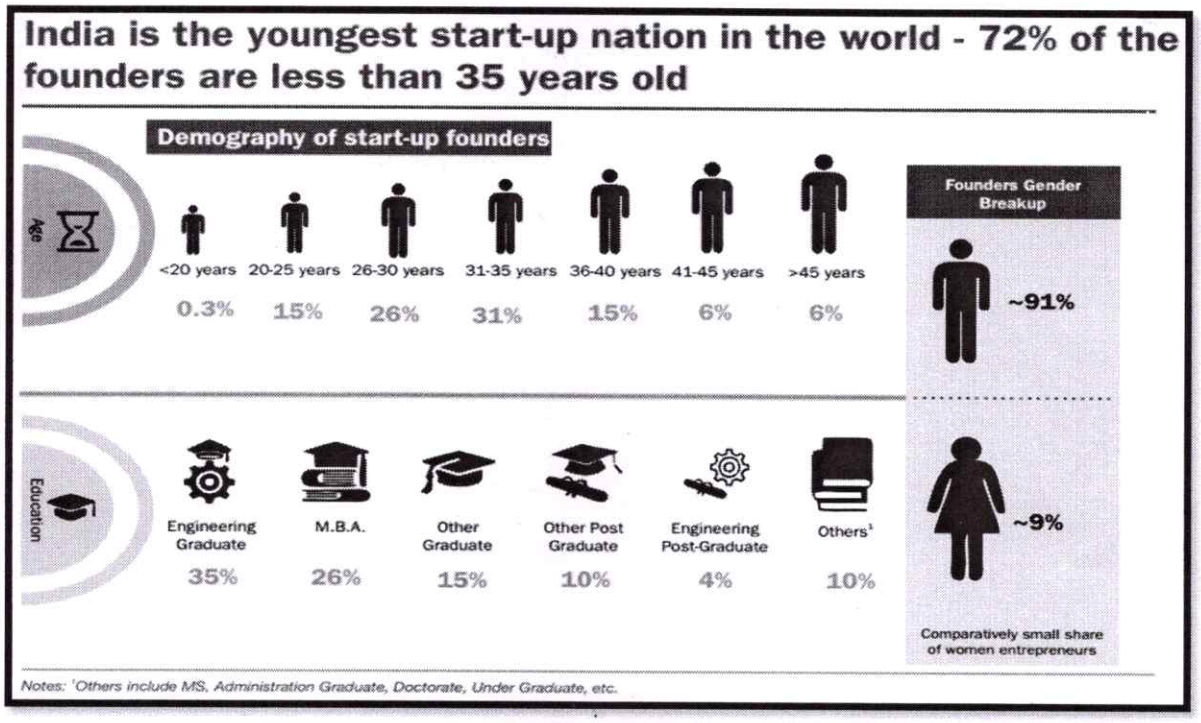


forefront of economic growth of a country The study of entrepreneurship has relevance today, not only because it helps entrepreneur better fulfill their personal needs but because of the economic contribution of the new ventures. More than increasing national income by creating new jobs, entrepreneurship acts as a positive force in economic growth by serving as the bridge between innovation and market place

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APRIL - JUNE 2018
ISSN No: 0974-8334
A MACFAST PUBLICATION

# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 11 No.02 APRIL - JUNE 2018

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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Principal, MACFAST, Tiruvalla,
Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
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ISSN No. 0974 8334



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Journal of Science, Technology and Management
Vol. No. 11 No. 2, April - June 2018 ISSN No: 0974-8334

# Review on Antidiabetic Properties of Indigenous Medicinal Plants in Kerala, India

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## ABSTRACT

Diabetes mellitus is a chronic metabolic disorder affecting people worldwide. It is caused mainly by insulin insufficiency or insulin dysfunction. Various medicinal plants of India have been studied for diabetes treatment. Even though various approaches exist to reduce the ill effects of diabetes herbal drugs are more preferred due to fewer side effects. Medicinal plants such as *Allium sativum, Coccinia indica, Gymnema sylvestre* etc. used in the traditional ayurvedic medicine can lead to the development of drugs and nutraceuticals for controlling diabetes mellitus. Therefore, this work is on traditional medicinal plants in Kerala, India that show antidiabetic activity.

**Keywords:** Diabetes mellitus; Insulin; Medicinal plants; Antidiabetic activity; Hyperglycemia; Beta cells

## Introduction

Diabetes mellitus is a metabolic disorder of the endocrine system. According to WHO, around 347 million people suffer from diabetes and in India 62 million people suffer from this disease (http://www.searo.who.int/india/mediacentre/events/2016/en/). Diabetes is caused when human body does not produce or utilize insulin. The insulin hormone acts via IGF-1 (Insulin like growth factor-1) protein. Insulin acts on cells to stimulate glucose, protein and lipid metabolism by modifying the activities of enzymes. The action of insulin is initiated by insulin binding to its plasma membrane receptor. Partial failure of insulin signalling system leads to various metabolic disorders like

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Journal of Science, Technology and Management
Vol. No. 11 No. 2, April - June 2018 ISSN No: 0974-8334

# Plant defense arsenal against insect herbivores

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## ABSTRACT

Plants and insect herbivores have acquired diverse mechanisms to fight against each other in their prolonged course of interactions and coevolution. In this concealed war that we seldom notice, chemicals act as both weapons and messengers. This complex interface has led to the development of a number of direct and indirect plant defensive traits and the counter-adaptive features in insects as well. In both cases these traits comprise morphological and biochemical defensive traits and the latter are considered more significant and effective than the former. From an economic point of view herbivorous insects cause considerable damage to global crop production which makes it is more important to understand the plant defensive traits against insect herbivory. In this review, direct and indirect line of plant defense against insect herbivory with detailed account of specialized phytochemicals including phenolic compounds and alkaloids, and plant proteins are discussed.

***Key words***: *insect herbivory, plant defense, phenolics, defense proteins*

## Introduction

Plants are sessile organisms which do not have a devoted immune system such as found in higher animals. They are under attack from a wide range of potent enemies which mainly comprises bacteria, virus, nematodes, fungus and insect herbivores. However, plants are found to possess vast and specialized arsenal against each class of invading species. The defense response of plants varies depending on the nature of the invading species, majority of which are attributed to fungal pathogens and insect herbivory. Based on observations in plants, inducible defenses against herbivory can be classified into two: direct defenses and indirect defenses. Direct defenses include any plant traits that by themselves empower the host plants against insect attacks. Plant traits that by themselves do not affect the susceptibility of host plants, but can serve as

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Journal of Science, Technology and Management
Vol. No. 11 No. 2, April - June 2018 ISSN No: 0974-8334

# Integrated fuzzy dematel and fuzzy topsis to evaluate supplier in green supply chain

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## ABSTRACT

To stay competitive in the present global market, it's essential for a company to select the best supplier because company performance not only depends on its internal efforts but also on supplier's performance. Due to growing environmental issues & increased awareness among public, and stricter environmental laws imposed by the government made the companies consider environmental sustainability matters while selecting suppliers. If in case suppliers have any capacity constraint or any other constraints, then complexity in selecting suppliers who fulfill both company's demand and standards increases. Information from the literature review and through the opinion of experts, the effort has been made to find essential criteria for the evaluation and at the same time for the selection of a green supplier. For the same an integrated decision-making tool, on the basis of fuzzy TOPSIS and fuzzy DEMATEL has been presented to show the procedure for the selection of the best supplier. Due to vagueness in human judgment fuzzy concept has been used.

*Keywords*— **Green supplier selection, MCDM techniques, Fuzzy DEMATEL, Fuzzy TOPSIS.**

## Introduction

We are in the midst of a competitive environment and here finding the best suppliers is the major critical issues that manufacturing firms are confronting. In such firms, the final cost of a product essentially relies upon the initial cost of raw material, and to reduce purchasing price selection of the best supplier is necessary(Amid et al., 2011).Due to expanding awareness between people for the



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Journal of Science, Technology and Management
Vol. No. 11 No. 2, April - June 2018 ISSN No: 0974-8334

# Biosynthesis of Silver Nanoparticles by *Lactobacillus* spp. and its Activity against *Pseudomonas auerogenosa*

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## ABSTRACT

Tomorrow technology is going to depend on nanostructured metals. The impact of this technology will be felt greatly at the interphase of chemistry and biology. The desire to synthesize nanoparticles using efficient and green chemistry approaches has led to the use of microorganisms. Among microbes prokaryotes have received most attention in the area of silver nanoparticles production. Here we report the eco-friendly production of silver nanoparticles assisted by *Lactobacillus* strain found in curd when exposed to appropriate ions. *Lactobacillus sps* isolated from curd was inoculated to Sterilized milk and latter (after 24hr) the whey was collected by coarse filtration (Whatman no.40). Silver nitrate (1 mg) was added to 5 ml of pale yellow filtrate then incubated at 37p C. UV-Vis measurements were done with Spectrophotometer (Thermo Spectronic Genesys 10 UV) for the samples drawn at every 12 hours. The silver nanoparticles of size ranging from 2 to 20nm were synthesized by *Lactobacillus sp* VRS2 which was confirmed by TEM. The biosynthesized silver nanoparticles (AgNPs) showed excellent antibacterial activity against *Pseudomonas auerogenosa* (MTCC strain no: 424).

**Key words:** Silver nanoparticles, Nosocomial pathogen, TEM, *Lactobacillus sps*, Antibacterial activity

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approach for synthesizing silver nanoparticles by using *Lactobacillus sps*. The characterizations of silver nanoparticles formed are characterized by UV-visspectra and TEM studies. The size of the particles was of 2- 20 nm. The possibility of protein as a stabilizing material in silver nanoparticles is revealed by TEM studies. Study was carried out on *P.aeruginosa* and the effect of the nanoparticles was found to be significantly more pronounced.

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JULY - SEPTEMBER 2018
ISSN No: 0974-8334
A MACFAST PUBLICATION

# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN No: 0974-8334


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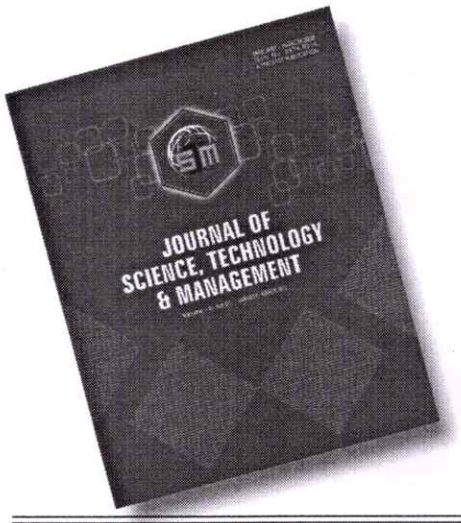


JOURNAL OF SCIENCE, TECHNOLOGY AND MANAGEMENT

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Journal of Science, Technology and Management
Vol. No. 11 No. 3, July-September 2018 ISSN No: 0974-8334

# Molecular Docking Studies of Plant Derived Natural Ligands as Insulin Activators for the Treatment of Diabetes Mellitus

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## ABSTRACT

Diabetes mellitus is a chronic metabolic disorder faced by the people worldwide. It is caused mainly by insulin insufficiency or insulin dysfunction. Various medicinal properties of herbal plants have been studied over 1000 years for diabetes treatment. Even though various approaches exist to reduce the ill effects of diabetes herbal drugs are more preferred due to fewer side effects. Medicinal plants such as *Allium sativum, Coccinia indica, Gymnema sylvestre* etc. used in the traditional ayurvedic medicine can lead to the development of many commercial drugs and nutraceuticals for controlling diabetes mellitus. Phosphorylated Insulin Receptor Tyrosine Kinase in complex with peptide substrate was selected as the targeted protein in this study. For the molecular docking studies Autodock version 4 was used. Several tools *like Chemsketch, Open Babel, SPDBV, UCSF chimera* were used. Protein databases, KEGG pathway were also used as an aid for collecting data required for docking. All the selected ligands were natural origin and undergone several screening processes to find out the best lead molecule. The screening process includes formation of H bonds between ligands and target protein, ADME properties, toxicity, Lipinski rule of five and druglikness score etc. This project identified 5 potential lead molecules against diabetes mellitus which may be further evaluated for various studies to prove the safety and efficacy of the molecules in the treatment of diabetes.

**Keywords** : Diabetes mellitus, Insulin receptor, Molecular docking, Antidiabetic activity



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Journal of Science, Technology and Management
Vol. No. 11 No. 3, July-September 2018 ISSN No: 0974-8334

# A Brief Review on Phytochemical Analysis, Pharmacognostial Status and Propagation of *Elaeocarpus serratus* L.

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## ABSTRACT

*Elaeocarpus serratus* L. commonly known as Ceylon olive, belongs to the family Elaeocarpaceae (Rudraksh family). It is an evergreen tree by which its fruit is edible as well as it has some medicinal applications also. This paper reviews on different phytomedical compounds identified in the plant and its antioxidant activity. Studies on minerals and heavy metals present in various plant parts are also reviewed. Additionally medicinal application, cloning using conventional methods, induced seed germination and *in vitro* studies about the plant are reviewed.

**Key words:** *Elaeocarpus serratus* L., Rudraksh, medicinal applications, antioxidant activity, *in vitro* studies

## Introduction

*Elaeocarpus serratus* L. is commonly known as Ceylon olive, which belongs to the family Elaeocarpaceae (Rudraksh family). *Elaeocarpus serratus* is a tree which grows up to 20m height. It has branches and branchlets from the trunk and its leaves are simple and alternate. It bears velvet -hairy white racemose pattern of inflorescence which is up to 8 cm long. It starts flowering from the beginning of September to October. Its fruit is a drupe which is edible and its seed has a hardened seed coat.

It is an evergreen tree by which its fruit is edible as well as it has some medicinal applications also. It is commonly found in Kerala and other parts of India and in countries such as Nepal, Srilanka,Myanmar, Malaysia, Indonesia etc. It requires proper sunlight to moderate shade, fertile, moist, but we'll drained soil.

## Phytomedical screening and antioxidant activity

The current study in the phytochemical screening of leaf extracts (aqueous, ethanol or methanol) of *E. serratus L.* shows the positive result with the presence many significant



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rooting percentage of softwood cuttings. Seasonal variation influencing the rooting percentage of softwood cutting is there. The wet summer season (June - August) was the best season for the rooting of softwood cuttings. Air layers of hardwood branches, prepared during the wet summer season by pre-treating with 7.5mM of IBA resulted in 87.1% rooting. The spliced grafting technique could be applied to elite the survival rates of softwood and hardwood grafts as 70% and 50% respectively.

**Induced seed germination**

This has a hard seed coat. So the germination potential of this cultivar is low. It takes more than 12 months in natural conditions. Dahanayake et al. (2013) explored the possibilities of improving seed germination through mechanical, physical and chemical treatments to develop cost effective and rapid seed germination method. Complete Randomised Design (CRD) with 4 replicates and 10 seeds for a replicate was used for the study. The seeds are treated with 29 different treatments and data were analysed using SAS programme. The seeds when treated with 50% $HNO_3$ for 15 minutes recorded the highest seed are eaten as germination (6 seedlings out of 40 seeds),followed by 75% $HNO_3$ for 15 minutes (1.9 seedlings out of 40 seeds) and 25% $HNO_3$ for 15 minutes (1seedling out of 40 seeds) which is compared to the untreated control (0%) and the other treatments during 8 months.

***In vitro* culture**

Other species of *Elaeocarpus* such as *E. robustus* were successfully established and maintained in *in vitro* condition. But invitro clonal propagation of *E. serratus* is not found as a recognised work in anywhere. Proper media or media constituents or supplements such as hormones were not standardized still. This is a very useful tree with lots of importance in pharmaceuticals and health which is needed to be propagated rapidly by tissue culture methods. The invitro propagation of *E. serratus* will be a great achievement in the agricultural sector, pharmaceutical industry and also for the health care sector by planting the seedlings in hectares as a cultivar.

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Journal of Science, Technology and Management
Vol. No. 11 No. 3, July-September 2018 ISSN No: 0974-8334

# Antiviral Activity of Minocycline, an FDA Approved Drug, Against Dengue Virus Infection

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## ABSTRACT

Dengue, one of the most common arthropod-borne viral diseases in the world is caused by dengue virus (DENV), and has become a severe health care hazard these days. Infection with DENV results in a wide range of clinical stages ranging from dengue fever (DF) to severe dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS). The complex interplay between the host and viral factors and the adverse effect of hosts' immunological response further accelerate the pathogenesis associated with infection. This makes it difficult for the development of safe therapeutic options against DENV infection and there exists the need for an effective antiviral therapy. This review discusses the recent advances in the antiviral research by targeting FDA approved drugs. Minocycline, a second-generation tetracycline antibiotic, was proved to have antiviral action against many viruses. When used to examine its effect against DENV, it was found to be effectively decreasing the virus production. Viral RNA synthesis and protein synthesis were found to be significantly decreased after minocycline treatment.

**Key words:** Dengue Virus Infection, Minocycline, Virus Production, Antiviral Genes



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Journal of Science, Technology and Management
Vol. No. 11 No. 3, July-September 2018 ISSN No: 0974-8334

# Significance of HbA1c Test in Diagnosis of Diabetic Patients

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## ABSTRACT

Diabetes mellitus (DM) is a major public health problem worldwide. Current global estimates indicate that this condition affects 415 million people and is set to escalate to 642 million by the year 2040 (IDF,2017).The American Diabetes Association has recommended glycated hemoglobin (HbA1c) as a possible substitute to fasting blood glucose for diagnosis of diabetes. HbA1c is an important indicator of long-term glycemic control with the ability to reflect the cumulative glycemic history of the preceding two to three months. HbA1c not only provides a reliable measure of chronic hyperglycemia but also correlates well with the risk of long-term diabetes complications. Elevated HbA1c has also been regarded as an independent risk factor for coronary heart disease and stroke in subjects with or without diabetes. The valuable information provided by a single HbA1c test has rendered it as a reliable biomarker for the diagnosis and prognosis of diabetes. This review highlights the role of HbA1c in diagnosis and prognosis of diabetes patients.

**Keywords :** Diabetes, HbA1c, Diagnosis, Prognosis, Blood test

## Introduction

Analysis of glycated hemoglobin (HbA1c) in blood provides evidence about an individual's average blood glucose levels during the previous two to three months, which is the predicted half-life of red blood cells (RBCs). The HbA1c is now recommended as a standard of care (SOC) for testing and monitoring diabetes, specifically the type 2 diabetes (Khan, 2011). Historically, HbA1c was first isolated by Huisman et al. in 1958 and characterized by Bookchin and Gallop in 1968, as a glycoprotein(WHO, 2011). The elevated levels of HbA1c in diabetic patients were reported by Rahbar et al. in 1969. Bunn et al. identified the pathway leading to the formation of HbA1c in 1975. Using the HbA1c as a biomarker for monitoring the levels of glucose among diabetic



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Journal of Science, Technology and Management
Vol. No. 11 No. 3, July-September 2018 ISSN No: 0974-8334

# Brief evaluation of GST on MSMEs in India

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## ABSTRACT

Implementation of Goods and Service Tax has been making huge impact in the Indian economy. This study focus on the impact of Goods and Service Tax on MSME's in India. The study is relevant because, in India MSMEs contribute over MSMEs contribute around 6.11% of the manufacturing GDP and 24.63% of the GDP from service activities as well as 33.4% of India's manufacturing output. They have been able to provide employment to around 120 million persons and contribute around 45% of the overall exports from India. The sector has consistently maintained a growth rate of over 10%. After the study after the study I can realize that there are multiple impacts in the functioning of MSMEs after GST.

**Keywords**: Goods and Service Tax (GST), Micro small Medium Enterprises(MSME)

## Introduction

The introduction of goods and service tax in India makes a huge impact in the field of taxation in India. This is the first time the nation witnessed such a massive restructuring of taxation after independence. The prime intention of GST is to minimize the tax burden by merging various types of both central and stats taxes. for the customers point of view the total cost will be reduced by 20%- 30%.

Since the introduction of GST there is a mix of responds from the industrial sector, the registration of small scale industries and new start ups recued by 14 % and from main stream industry we can see that a positive impact in the terms of cost reduction.

### MSME in India

The Indian MSME sector is the backbone of the national economic structure and has unremittingly acted as the bulwark for the Indian economy, providing it resilience to ward off global economic shocks and adversities. With



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goods and other goods so the small companies tempted to competes with larger firms in the industry. Goods and Service Tax that is ultimately levied on supply will not be available for input credit. This will helps to put up the cost of the products for businesses that supply directly to end users.

**Favorable Impacts of GST SMEs**

- Easily to start business by uniformity in the Centralized registration process.
- An easy regulatory mechanism for all industry
- Exemption to the new registered firms by extending the limit up to 25 lakhs which will minimize the tax burden of new companies .
- GST will make simple the taxpaying system by a single tax.
- The composition scheme attracts the lower tax rates on the limit between Rs. 20-50 lakhs. It would be plus point for existing SMEs.
- Goods and Service Tax will reduce the logistic cost of the firm by bulk goods by 20%.
- Another advantage is that the payment is made only after the goods is reached the destination
- In GST various input tax credits are available for set off, but in past tax system this facility wasn't available.

Unfavorable Impacts of GST on Startups or SMEs

- It is mandatory to register each states where we have businesses
- Monthly filing of GST returns is compulsory for all firm, otherwise the will levy Rs.100 for each delay day. In the older system only TIN holders mandatory to file VAT return on monthly basis.
- Under the GST system 36 returns need to be file in an year is tough task to an ordinary accountant and firm.
- For e-commerce companies all the firm mandatory to pay GST irrespective of trading volume .
- As SMEs have to pay tax first then they will be getting the returns; they have to defuse additional funds in advance till they get the returns
- The colossal interdependence between MSMEs and supply chain create more burden MSMEs
- GST will not provide tax relaxation for supply of goods under input credit, it may lead to increase total cost.
- The increased tax burden increases the cost of production and that may tempted to increase the product price to avoid loss

**Conclusion**

Goods and service tax is one of the major tax reform in India after the independence. As like one tax one country slogan GST abolish numerous types of indirect taxes and one tax for all types of indirect taxes over the entire country. Since it is implemented we witnessed a mixed impact in the economy. However the Micro small medium enterprises in India have some problems more than its benefits. Studies and reports indicate that the post GST period has not been supported the MSME's, a sharp decline in the registration of MSME's and start up witness its drawbacks. In essence, the GST's effect on the entire Indian economy will have to be scrutinized in totality to reach a widely accepted conclusion.

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Journal of Science, Technology and Management
Vol. No. 11 No. 3, July-September 2018 ISSN No: 0974-8334

# Exploring the Intention to Watch Advertisemnts on YouTube Among Youth

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## ABSTRACT

YouTube is the most popular online video platform. Thousands of videos are being uploaded in to YouTube every day. Marketers are placing their advertisements inside the YouTube videos and over a period of time,this has evolved as a business model which generates revenue for the people who upload videos. The purpose of this study is to analyse various factors resulting in the behavioural intention to watch advertisement on YouTube with the help of the Theory of Reasoned Action. The relationship between attitude towards online advertisements, subjective norms and prior watching of online advertisement videos on the viewer's intention to watch online advertisement is analysed. The study was conducted among the students who are doing their graduation in colleges across Ernakulamdistrict of Kerala. The sample size for the study is 300. The result of the study indicated that there is a positive correlation between Attitude towards online advertisements, Subjective norms and prior experience in watching online advertisements with the intention to watch online video advertisements on YouTube

**Keywords:** Online advertisements, YouTube video advertising, attitude towards advertising, intention to watch online advertisements

## Introduction

The digital revolution in India, driven by the roll out of 4G, reducing data costs, increasing smart phone penetration and increasing time spent on mobile phones, will ensure that digital advertising will also grow at a faster clip as against the traditional media in the very near future. According to a report on digital advertising by Dentsu Aegis Network, the Indian digital advertising industry, currently pegged at around Rs 8,202 crore, is slated to see a growth at 32% CAGR to reach Rs 18,986 crore by 2020. The report also forecasts that digital media spends, currently contributing 15% of the total



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OCTOBER-DECEMBER 2018
ISSN No: 0974-8334
A MACFAST PUBLICATION

# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 11 No.04 OCTOBER-DECEMBER 2018

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Acknowledgements

The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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Principal, MACFAST, Tiruvalla, Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm. Ph: 0481-2300798

ISSN No: 0974-8334


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Journal of Science, Technology and Management
Vol. No. 11 No. 4, October-December 2018 ISSN No: 0974-8334

# A Review on Bioformulations in Plant Growth Promotion

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## ABSTRACT

Microbes have one of the important roles in sustainable agriculture as these microorganisms tend to reduce the dependence on chemical fertilizers and pesticides. The regular use of the pesticides and chemical fertilizers has a negative effect on agro-ecosystem and is also harmful to human and animal health.In recent years, the development of microbial bioinoculants for enhancing plant growth and disease eradication has emerged as an alternative. Bioformulations are the products that contains microbes or their metabolites which can be used for providing bioregulators or nutrients or to fightphytopathogens. At the economic and social level, the green strategy of using microbes as bioformulation is facing hurdles and lags behind the competitors which are mainly the synthetic fertilizers and pesticides. It has been found most of the times that results given by bioformulationsis different and is not good compared to laboratory conditions. Such constraints are one of themajor challenges of this greener approach. This review article intends to explore different aspects of bioformulation development.

**Key words**: Active ingredients, additives, bioformulation, carriers

## Introduction

Bioformulations are theproducts that contain microbes or their metabolites which can be used for providing bioregulators or nutrients or to fightphytopathogens. A bioformulation is tipically a mixture of an active ingredient with inert or inactive substances. A typical bioformulation has an active ingredient, carrier material and additive

The active ingredient is mostly a living or viable organism. Active ingedients can also be called as bioagents and they are generally found in rhizosphere. Bioagents have diverse mechanisms which effect the plant growth directly or indirectly (Jambhulkaar *et al.*, 2013). Microbes belonging to genera Brady-rhizhobium, Rhizobium, Mesorhizhobium,



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Journal of Science, Technology and Management
Vol. No. 11 No. 4, October-December 2018 ISSN No: 0974-8334

# The Gut Microbiome and Mental Health

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## ABSTRACT

A Microbiome mainly refers to a collective genome of microorganisms in a specific environment and microbiota is a community of same microorganisms. Gut Microbiome is a complex community of microorganisms that lives in digestive tract of human and animals. Gut microbes play a very significance role in many aspects of human health including immune, metabolic and neurobehavioural traits.It also influences many areas of human health from innate immunity to appetite and energy metabolism.The Microbiome consists of at least 1000 different species of known bacteria with more than 3 million genes. This article deals with the relationship gut Microbiome and various mental health issues.

**Key words**: Gut Microbiome, Microbiota, Prebiotics, Probiotics, Brain

## Introduction

Almost half the cells and 1% of the unique genes found in our bodies are human, the rest are from microbes, pre-dominantly bacteria, archaea, fungi, and viruses. These microorganisms collectively form the human microbiota, with most colonizing the gut (Tremlett *et al.*, 2017).The gut microbiome is the centre of human health.Bacteroidetes and Firmicutes make up around 90% of the gut microbiota. The human gut microbiota is an important environmental factor for human health, having evolutionarily conserved roles in the metabolism, immunity, development, and behaviour of the host (Bäckhed *et al.*, 2015).The inbalancing of gut microbiome has been associated with various disorders like obesity,diabetes,autism,mood disorders etc.

Gut microbiome, also known as microflora of gut is 150 x larger than the human genome.Its composition is quantified using DNA based methods such as next generation sequencing of 16S ribosomal RNA genes or whole genome shotgun sequencing.The gut microbiota, composed of thousands of different microbial species and more than 15000 kinds



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Journal of Science, Technology and Management
Vol. No. 11 No. 4, October-December 2018 ISSN No: 0974-8334

# Clovora -A New Herbal Mouthwash for Oral Hygiene

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## ABSTRACT

The aim of the study is to reveal the relevance of herbal mouthwash over the chemical one. Nowadays numerous mouthwashes are available in the market in various brands. Most of the ingredients used in it are chemicals and it may cause adverse effects to the oral health. Thus comes the relevance of herbal mouthwash which doesn't contain any chemical ingredients. Therefore we formulate a new herbal mouthwash – 'CLOVORA'. The study shows the effectiveness of the herbal mouthwash against the harmful oral bacteria.

**Key words** : Herbal mouthwash, Clovora, Oral Hygiene, Antimicrobial studies.

## Introduction

The importance of mouth and teeth cleanliness has been recognized from the earliest days of civilization to the 21st century.Patients and oral health practitioners are faced with a multitude of mouthwash products containing many different active and inactive ingredients. Making informed decisions as to the suitability of a particular product for a particular patient can be a complex task. Although many popular herbal products have helped to control dental plaque and gingivitis, they have been used for a short time and only as an adjunct to other oral hygiene measures such as brushing and flossing (Bhavana and Vidya, 2012).

Plaque accumulation and oral micro-organisms are the main predisposing factors to various orodental infections and targeting these, therefore, can prove to be an effective way of combating these diseases. Herbal extracts have been of particular interest these days owing to various side effects associated with conventional modes of treatment (Metha *et al.*, 2013).

The mouth contain a wide variety of oral bacteria, but only a few species of bacteria are believed to cause dental caries; *Mutans*



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*Mimusops elengi* is Indian native plant and is used for a long time in the history of the medicine. Plant was well studied in majority of the world because of its high potential medicinal value. Traditionally all different part of this plant, namely leaf, root, fruit, seed, bark and flower are used to cure various kinds of disorders. Information compiled here will be useful to improve the present investigation of several health care research regarding the *Mimusops elengi*.

One of the main ingredient in the mouthwash is *Mimusops elengi*. *Mimusops elengi* companied with cinnamon, cardamom and clove shows antibacterial effect against the harmful oral bacteria. From the table 1 and 2 it is clear that the sample no 1 one with aqueous extract is more effective and thus the chemical alcohol which is harmful to the oral health can be avoid. Table 3 shows the absence of microbial contamination in the mouthwash.

The bark is acrid and sweet; cooling, cardiotonic, alexipharmic, stomachic, anthelmintic, astringent; cures biliousness and diseases of the gum and teeth. *M. elengi* is well documented for several medicinal properties like antinociceptive, diuretic effects, gastroprotective, antibacterial, antifungal, anticariogenic, free radical scavenging, antihyperglycemic etc. (Manipal *et al.*, 2016).

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Journal of Science, Technology and Management
Vol. No. 11 No. 4, October-December 2018 ISSN No: 0974-8334

# A Review on Detection of Adultrants in Chilli Powder

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## ABSTRACT

Food is adulterated to increasethe quantity and to make profit. Detection of food adulterants in food products is mandatory to ensure food quality. If adulterants are not detected properly various health hazards and fatal diseases may occur. Adulteration in chilli powder became much prominent now days. Most of the adulterants are added to increase the quantity, to improve color and appeal. This review gives an account on various techniques involved in determination of adulterants in chilli powder, which is a commonly used ingredient in cuisines. It includes simple physical methods to highly sophisticated spectrophotometric techniques.

**Key words** : Adulteration, chromatography, NIR Spectroscopy, RAPD, SCAR

## Introduction

Food is a basic need of all people and must be wholesome and safe, deliberate attempts to tamper with the purity or genuineness of a food commodity should be considered as one of the most heinous crimes. Now a day's food adulteration is a major public health hazard which causes many health problems. Food adulteration is an act of intentionally debasing the quality of food by substitution of inferior substances or removal of some valuable agents (Kaleeswari and Vasantharathna, 2016). Though some adulterants may not pose any health hazard, certain others may lead to quite serious consequences (Whagray *et al.*, 2011). Adulterants when used in illicit drugs are called cutting agents, while deliberate addition of toxic adulterants to food or other products for human consumption is known as poisoning.



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Journal of Science, Technology and Management
Vol. No. 11 No. 4, October-December 2018 ISSN No: 0974-8334

# Role of Advertising in Creating A Customer-Centric Ecosystem

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## ABSTRACT

Advertising effectiveness pertains to how well a company's advertising accomplishes the intended result. The Advertising effectiveness greatly depends up on the attitude of the customers towards the advertisements. The attitude of consumers' is influenced by their beliefs regarding the roles played by the advertising and can be successfully predicted by the dimensions of those beliefs. The current research explored the customer's belief about the roles played by the advertising on the overall attitude towards Advertising. Data were collected from 300 students who are doing undergraduate and post graduate studies in Kerala using nonprobability convenience sampling. Online Questionnaire is used as the survey Instrument. The questionnaire consists of 28 items anchored on agreement continuum scale ranging from strongly disagree to strongly agree and 3 questions related to demographic profile of customers. Pearson Correlation analysis was used to investigate the relationship between variables such asProduct Information, Hedonic/ Pleasure, Social image and Role, Good for economy, Materialism, Falsity/ No Sense and value corruption and Attitude towards advertising. Product Information, Hedonic/ Pleasure, Social image and Role, Good for economy have got positive relationship with attitudes towards online advertising while Materialism, Falsity/ No Sense and value corruption was found negatively related with attitudes.

**Key words** : Product Information, Hedonic/ Pleasure, Social image and Role, Good for economy, Materialism, Falsity/ No Sense and value corruption.



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## Data Analysis

**Table - 3: Demographic Profile of the respondents**

| Demographic Variables | | Number | Percentage |
|---|---|---|---|
| Gender | Male | 168 | 56 |
| | Female | 132 | 44 |
| Age | Less than 19 | 78 | 26 |
| | 19-21 | 140 | 47 |
| | Above 21 | 82 | 27 |
| Monthly Family Income | Less than 25000 | 64 | 21 |
| | 25000-50000 | 150 | 50 |
| | More than 50000 | 86 | 29 |

Source: Primary Data Sample Size:300

56% of the respondents were male and by 44% were female.47% of the respondents were in the age-group of 19-21 followed by 27% above 21 years of age followed by 26% having less than 19 years. 50 % of the respondent's monthly family income is between 25000-50000 followed by 29% with monthly family income of more than 50000 followed by 21% with monthly family income less than 25000

## Hypothesis Testing

| Variable-1 | Variable-2 | Test Conducted | Test Value | Sig | Decision |
|---|---|---|---|---|---|
| Product Information | Overall Attitude towards Advertisement | Correlation Pearson 2-tail | 0.86 | 0.021* | Reject Null |
| Hedonic/ Pleasure | Overall Attitude towards Advertisement | Correlation Pearson 2-tail | 0.73 | 0.000** | Reject Null |
| Social image and Role | Overall Attitude towards Advertisement | Correlation Pearson 2-tail | 0.46 | 0.035* | Reject Null |
| Good for economy | Overall Attitude towards Advertisement | Correlation Pearson 2-tail | 0.37 | 0.029* | Reject Null |
| Materialism | Overall Attitude towards Advertisement | Correlation Pearson 2-tail | -0.58 | 0.0378* | Reject Null |
| Falsity/ No Sense | Overall Attitude towards Advertisement | Correlation Pearson 2-tail | -0.72 | 0.000** | Reject Null |
| Value corruption | Overall Attitude towards Advertisement | Correlation Pearson 2-tail | -0.69 | 0.046* | Reject Null |

* Significant @ 5%
** Significant @ 1%

Sample size: 300
Source: Primary Data

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JANUARY - MARCH 2017
ISSN No: 0974-8334
A MACFAST PUBLICATION

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Volume - 10 No.01
JANUARY - MARCH 2017

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Acknowledgements
The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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PRINTED AT
St. Joseph's Offset Printing Press,
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ISSN No: 0974-8334


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Journal of Science, Technology and Management
Vol. No. 10 No. 1, January - March 2017 ISSN No: 0974-8334

# How do plants defend themselves from their natural enemies? An overview.

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## ABSTRACT

*Evolution has bestowed plants with a wide range of sophisticated defense mechanisms to counter attacks by pathogens and parasites of various scales, ranging from microscopic viruses to animal predators. Both mechanical and chemical defenses are involved which allow the plant to survive in the same environment as its potential attackers. The initial response to pathogen invasion occur rapidly when specific gene products in plants as well as in microbes interact to cause cell death in the process known as hypersensitive response (HR), that restricts further invasion by the pathogen. Other than HR, the sophisticated and comprehensive defense mechanisms evolved in plants include de novo synthesis of pathogenesis-related proteins (PRs). 17 different families of PR proteins have been described till date. Systemic acquired resistance (SAR), usually follows a HR, is a heightened state of resistance in distal unaffected parts of the plant. SAR is characterized by expression of PR genes and induction of the phenyl propanoid pathway which results in extensive reprogramming of primary to secondary pathways. The plant-pathogen interaction is demonstrated by the 'zig-zag' model involving PAMP (pathogen associated molecular pattern) in pathogens and PRR (pattern recognition receptors) in plants. The initial but rather weak plant response is generated in the form of PAMP triggered immunity (PTI). Countermeasure molecules (Effectors) are produced in the pathogen that further results in much more effective response, the effector triggered immunity (ETI). Defense responses are regulated by signal transduction networks that are well interconnected with plant hormones that include salicylic acid, jasmonic acid and ethylene.*

***Keywords***: *plant defense, plant-pahthogen interaction, PR gene, insect herbivory*

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08.06.2020

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Journal of Science, Technology and Management
Vol. No. 10 No. 1, January - March 2017 ISSN No: 0974-8334

# Comparative analysis on various image edge detection algorithms

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## ABSTRACT

*In this modern information technology era image and image mining have some relevant role to play, In most image application uses image processing algorithms, so edge and edge identification has a curtail role. The techniques like content based image processing the edge detection have a relevant role. Edge is the basic noticeable quality of an image. Edge detection has critical role in computer vision and image analysis. It is one of the crucial parts in image processing. Edge detection refers to the process of identifying and locating sharp discontinuities in an image. Edge detectors form a collection of very important local image processing method to locate sharp changes in the intensity function. Edge detection is an important technique in many image processing applications such as object recognition, motion analysis, pattern recognition, medical image processing. Various edge detection algorithms are Roberts, Sobel, Prewitt, LOG and Canny. This paper manly studies various edge detection algorithms and evaluates the performance based on various key facts.*

***Keywords:*** Image Processing, Edge Detection, Detection Algorithms, Object Recognition

## INTRODUCTION

Edge detection is a basic tool used in image processing, for feature detection and extraction, which aim to identify points in a image where brightness of digital image changes sharply and find discontinuities. The purpose of image edge detection is significantly reducing the amount of data in an image data and preserves the structural properties for image processing. Edge detection is difficult to apply in noisy images,



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used in current image processing techniques. It is mainly uses in the medical field such as MRI and X –rays, for number plate reorganization, military purpose, and traffic management etc.. .

## Conclusion

This paper, study the different edge detection techniques. From the study and evaluation canny edge detector found best when comparing with the selected edge detecting approaches.The comparison is made upon with a well-known benchmark image file namely butterfly. The results of output images shows that canny gives the better result and also low sensitive to noise. Gradient-based algorithms such as the Prewitt have a major drawback of being very sensitive to noise. Canny is more immune to noise, much adaptive in nature, provides good localization and detects sharper edges as compared to all others techniques. Thus it is considered as optimal edge detection technique. But the research have to progress to reduce the computational cost of canny and also find an edge operator to find edges that lead to produce discontinuous edge for any images.

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08.06.2022

Attested

Journal of Science, Technology and Management
Vol. No. 10 No. 1, January - March 2017 ISSN No: 0974-8334

# A Review on Rain Technology

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## ABSTRACT

*RAIN is a group of nodes or clusters which are designed using specific topology with multiple interference and redundant storage. It also provide distributed data storage and protection tonetworkArchiture. RAIN is dedicated design to improve the shortcomings of non-redundant network-attached storage systems. The concept of RAIN is derived from redundant array of independent disks (RAID), it is approximately similarto the system implemented at the disk level.Redundant array of independent nodes may also called redundant array, it is inexpensive (nodes).The main aim of RAIN technology is to address the fault management, communication as well as storage in a disturbed environment and capable of supplying the solution by decreasing the number of nodes.It provide correction or replacement facility if a node failed permanently or temporarily. It has an open architecture for storing and makes the hardware very efficient manner. The focus of this paper is describing the overview, functionalities, architecture as well as various applications.*

***Keywords:*** RAIN, Technology, nodes, Management Software, Cluster, network, topology, storage, memory.

## INTRODUCTION

RAIN architecture developed by combing research program of California Institute of Technology, NASA's Jet Propulsion Laboratory and Defense Advanced Research Projects Agency. The name of the technology is derived from its original research project, i.e., RAIN, which stands for Reliable Array of Independent Nodes. Directed by Caltech professor ShukiBruck, the RAIN research team in 1998 formed a company called Rainfinity.The RAIN technology increases fault tolerance in a cluster

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08.06.2022
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Journal of Science, Technology and Management
Vol. No. 10 No. 1, January - March 2017 ISSN No: 0974-8334

# A Technical Review on Tsunami Warning System

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## ABSTRACT

*Tsunamiconsist of a series of very huge waves generated by any rapid large scale disturbance of the sea. It is generated because of sea floor displacements due to sea earthquakes.Tsunami can cause great destruction and loss of lives within minutes on shores and near thesourcealso some tsunamis can cause destruction within hours across an entire ocean basin. The Indian Ocean is likely to be affected by tsunamis generated mainly by earthquakes from the two potential source regions, the Andaman-Nicobar-Sumatra Island Arc and the Makran Subduction Zone. A warning center has been established at INCOIS with all the necessary computational and communication infrastructure that enables reception of real time data from the network of national and international seismic stations, tide gauges and bottom pressure recorders (BPRs). That includes three technologies for detecting tsunami as well as warning: seismometers, coastal tidal gauges, and Dart buoys. This paper revives the functionality and literature of Tsunami Warning System.*

***Keywords:*** Tsunami,Warning System, sea,Ocean, earthquakes Hazards seismometers, coastal tidal gauges, and Dart buoys.

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## CONCLUSION

There is nothing can do to stop earthquakes and tsunamis and should invest in better technology to predict early warning, also the research has to progress to invent inexpensive technologies to accommodate poorer countries.The tsunami warning center senses tsunami,transits these discrete magnitude values to central place via GSM cell phone network and uses computer based decision making to deliver alert signals. The warning information is concurrently passed to thereceivers placed at different towns and cities. This can be avail by both public and government.The system is simple and could be configured with available resources. This paper discusses the concepts and conducted a detailed review on Tsunami warning system..

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08.06.2022

Journal of Science, Technology and Management
Vol. No. 10 No. 1, January - March 2017 ISSN No: 0974-8334

# A Study on Identifying Phished Website Using Fuzzy Data Mining Techniques

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## ABSTRACT

*Phishing refers to electronic communications that are sent with the purpose of illegally gaining access to user information. It is a new identity theft crime. The media reports stories almost on a daily basis about an organization that has customers targeted by a phishing attack. The financial organizations like bank always try to improve their security techniques in order to protect their customers. Phishes develop even more sophisticated attacking techniques. Ina real time detecting and identifying any phished websites especially for e-banking, using is very complex and dynamic problem involving many factors and criteria. This paper studies Fuzzy data mining techniques used to identify phishing, the fuzzy based approach is very effective approach to identify phished website. The fuzzy logic based data mining approach provides more information for managing risks effectively by assessing and ranking website.*

***Keywords:*** Phishing, data mining, e-banking, fuzzy security techniques

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MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES THRUVALLA
MACFAST
05.06.2022

APRIL - JUNE 2017
ISSN No: 0974-8334
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Volume - 10 No.02
APRIL - JUNE 2017

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Acknowledgements
The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.



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PUBLISHER, PRINTER & OWNER
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Principal, MACFAST, Tiruvalla,
Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm.

ISSN No: 0974-8334


08.06.2022

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Journal of Science, Technology and Management
Vol. No. 10 No. 2, April - June 2017 ISSN No: 0974-8334

# A Survey on Multimodal Human-Computer Interaction

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## ABSTRACT

The paper surveys the major aspect of human-computer interaction by exemplifying both from the user and computer perspective. The technic described mainly exploits non-verbal scenarioinvolving body language, gestures, facial expression, eye gaze and emotions. The objective ofMultimodal Human-Computer Interaction (MMHCI) system is to avoid increasing error and error resolution.Different research shows the improvements and significant role of MMHCI in computer vision, psychology, artificial intelligence etc. As a result of the interactive nature of MMHCI, it provides an interactive system in varying range of areas like psychology and cognitive science, graphic design, sociology, computer science and engineering etc.,also MMCHI has vital role in improving the video indexing technique in ambient spaces.It helps in reducing the problems posed by current interfaces in the mobile/wearable. Robotics is yet another thriving application of MMHCI system. It provides the free choice of modalities resulting in naturalness of communication and it provides accuracy in communication. The main advantage of MMHCI from other forms of interactive networks is that it provides a useful platform for disabled users by using various types of sensors. This paper gives a close review on user and task modeling and extents how MMHCI has been used, multimodal fusion, highlighting the major challenges faced by this systemand emerging applications in the field of Multimodal Human Computer Interaction research.

**Keywords:** Human-computer interaction, Artificial Intelligence, modalities

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accepted emotions in facial expressions can be used in attaining a better MMHCI. 4) how emotion recognition influence precise smoothness, speed and acceleration of mouse movements.The study aimed at the replacing the common interaction techniques with more innovative and adaptive techniques.

A multimodal interface analyaing gaze, facial,gesture and emotion recognition will find use in different areas in future time. Some of them are 1)Gaze behavior can be combined with other measurements from the user's face and body, enabling multimodal physiological computing. Gaze-based user modeling may offer a step toward truly intelligent interfaces in future that are able to facilitate the user in a smart way that complements the user's natural behavior.2)Facial expression recognition used in a wide range of areas such as video surveillance, monitoring of human activity and virtual environments and help in transmitting video for teleconferencing and improve man-machine interaction. 3)Future research in gesture recognition system will provide an opportunity for researchers to create efficient system that overcome the disadvantages associated with core technologies in the existing state of enabling technologies for gesture representations and recognition system as whole.

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Journal of Science, Technology and Management
Vol. No. 10 No. 2, April - June 2017 ISSN No: 0974-8334

# A Review onHand-written Malayalam Character Recognition Using OCR

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## ABSTRACT

OCRis used for high-powered computing which allows the development of more powerful character recognition software that can read printed as well as handwritten characters.As the language world, the dominance of English in information processing is a fait accompli. Researchers are trying to break this language supremacy by equipping local language computing. Reading printed or written document is very easy for human. OCR aims at gaining similar capabilities for machine. This paper discusses how the OCR system is functioning for handwritten Malayalam characters. Indian scripts are rich in patterns while the combinations of such patterns makes the problem even more complex and these complex patterns are exploited to arrive at the solution.This review is intended only to recognize handwritten Malayalam characters.It will not attempt to recognize characters from manuscript or non-standard sources like palm leaf, and stylized writing.The input to the system would be the scanned image of text and output is machine editable file. Initially image is pre-processed to remove noise and skew.Lines, words and characters are segmented from the processed document image then extracts features to accomplish the recognition tasks.

**Keywords:** OCR, Malayalam, Image, segmentation, skew, local language computing, Indian scripts, manuscripts



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Journal of Science, Technology and Management
Vol. No. 10 No. 2, April - June 2017 ISSN No: 0974-8334

# A review on Sixth Sense Technology Based on Hand Gestures

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## ABSTRACT

Sixth Sense Technology uses gestural interface device that builds up the physical world around us with the digital information and enables the users use natural hand gestures to connect such information. It is a pendant like device that consist two main components; a data projector and a camera. The device works on the principles of gestural recognition and image processing. The name Sixth Sense was given to this technology because of light wearable device and the digital information could act in addition to the five traditional sensoryorganssuch as eyes, skin, nose, ears and tongue. It can project information on any surface like wall, table or any other object and uses hand/arm movements to help us interact with the projected information/ system. The device brings us closer to reality and assists us in making right decisions by analyzing hand gestures then provide the relevant information.

**Keywords:** Gesturerecognition, Image processing,Digital world, Sixth sense, Sensor, hand movements, arm.

## Introduction

Sixth sense technology is gesture-based wearable computer, which bridges between real world and digital world, it enables userto use natural hand gestures to connect.With this Technology, people can used to carry small size pocket devices instead of using large devices,these types of devices connect frequently to the digital world without any direct link extra digital devices like personal Computer Laptop to make aninteractions with the physical world. The sixth sense technology



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JULY - SEPTEMBER 2017
ISSN No: 0974-8334
A MACFAST PUBLICATION

# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 10 No.03
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Acknowledgements
The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.



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PUBLISHER, PRINTER & OWNER
Rev. Fr. Pradeep Vazhatharamalayil
Principal, MACFAST, Tiruvalla,
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PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm.

ISSN No: 0974-8334


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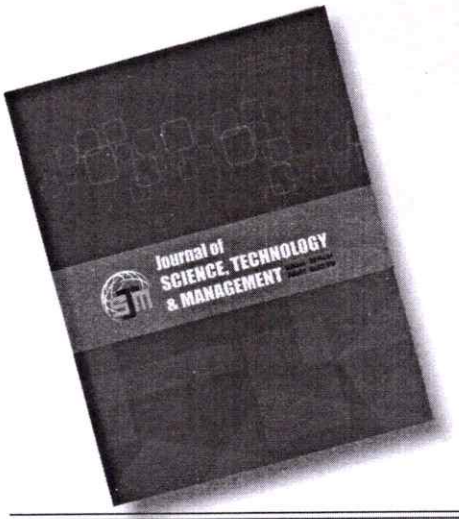


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Journal of Science, Technology and Management
Vol. No. 10 No. 3, July - September 2017 ISSN No: 0974-8334

# Phytochemical screening of ethno veterinary plants commonly used by farmer of westernghats for mastitis of cattle

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## ABSTRACT

Medicinal plants are a source of naturally active compounds used extensively by tribal people worldwide for many aliments.Village farmers using medicinal plant for veterinarymedicine. The study based on the idea from village farmers, Tapeworm plant *(Homalocladium platycladium)* and Bannimbu *(Glycosmis mauritiana)* commonly using mastitis medicine for cattle. The current investigation aimed at extraction and detection or screening of active phytochemical compounds from extract of leaves of medicinal plant. Phytochemical screening of different extractions revealed the presence of phenols, flavonoids, tannin,saponins, alkaloids, steroids, terpenoids, and glycosides which could account for anti-inflammatory activity, and find the common components present in both plants.

**Keywords :** Phytochemical screening, ethno veterinary plants, Secondary metabolism

## INTRODUCTION

The medicinal plants are useful for healing or curing of both humans and animals diseases because of the presence of phytochemical constituents .Phytochemical are secondary metabolites are naturally occurring in the plants leaves, stem bark, fruits, flowers and root that have defense mechanism and variousdiseases. Secondary metabolism produces a large number of specialized compounds (estimated 200,000) that do not aid in the growth and development of plants but are required for the plant to survive in its environment. Secondary metabolism is



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Tiruvalla- 689101, Kerala

Journal of Science, Technology and Management
Vol. No. 10 No. 3, July - September 2017 ISSN No: 0974-8334

# Valuation of Human Capital: An Accounting Perceptive with special reference to Banking Sector in Kerala

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## ABSTRACT

It is widely accepted fact that the success of any organisation, business or otherwise, to a great extent, depends upon the quality, calibre and character of the people working in it. An organisation having vast physical resources, with latest technology, may find itself in midst of severe crisis, in case it does not have the right people to manage and conduct its affairs. Human resource accounting is of recent origin and is striving for acceptance. Human resources accounting is an accounting analysis system and in the last decade a large body of literature has been published for setting the various procedures for analysis. At the same time from academicians the theory and underlying concepts of accounting measurement have received sizeable attention and a considerable body of literature has developed. Thus in spite of all technological developments, the importance of human resources has in no way diminished. It is unfortunate that even till now accountants have not been in a position, to evolve a generally accepted system to value and record this important asset, viz human resources. This study mainly focuses on the models used for valuation of human capital in banking business in Kerala.

**Keywords:** Human Resource, Technological Development, Banking Business, Kerala.

## INTRODUCTION

The first attempt to value human beings in monetary terms was made by Sir William Petty as early as 1961. Further efforts in connection, were made by William Farr in 1853 and Earnest Engel in 1883. In worth, previous study have shown and debated various magnitudes related to valuing human resource. For accounting human resources, different models have been developed which are helpful to identify and



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## CHALLENGES FOR IMPLEMENTING HRA PRACTICE IN BANKING SECTOR

The problems involved for implementing HRA practice are as follows:

• Quantification of human resource: There is no specific measurement tool. Since the productive life of HR is uncertain, future benefit derived by him also is uncertain. As the useful life of human resources is uncertain, amortization of human resource cost is not possible.

• Lack of standard norms: There are no standard norms in case of practicing HRA as like as finance or accounting with which actual performance can be compared.

• Supremacy of financial accounting: Where the existence of financial accounting the interest of practicing HRA resulting the poor scope to implement.

• Additional cost: Most of the financial analyst think the practice of HRA require the additional cost which lead the concern become expensive and non-profitable.

• Poor concept of HRA: Resource personnel in the vital areas of business functions i.e. human resource, marketing, production, planning and development are unable to understand and recognize accounting as well as finance functions of an organization. But the case is different in case of human resource in the areas of finance and accounting.

## REMEDIES TO OVERERCOME THE BARRIERS FOR IMPLEMENTING HRA PRACTICE IN BANKING SECTOR / RECOMMENDATIONS

The probable suggestions to overcome the barriers for implementing HRA practice in banking sectors are as follows:

- Quantification of human resources problem may be solved by applying economic value approach or present value approach.
- A top official should be designated to yearly analyse the value of human capital in banks
- The period of retirement of human resource assets may be taken as the certain percentage of effective useful life of the individual personnel of the organization.
- The Government contribution should be into the driving force in promoting the HRA practices in public sector as well as in private sector financial and non-financial organizations.
- If a case like demonetisation happen again in any economy only bank can make the country the country withstand.

## CONCLUSIONS

The commercial banks in Kerala are a long away from the touch of proper practicing of Human Resource Accounting. In addition, banking sector in India is often alleged as too vague in the issues of practicing human resource accounting along with a series of problems to implement. But, if the banks can formulate standards according to their priority basis to compare the actual performance, undertake training and development programs for better understand the utility of practicing.

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OCTOBER-DECEMBER 2017
ISSN No: 0974-8334
A MACFAST PUBLICATION

# JOURNAL OF SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 10 No.04
OCTOBER-DECEMBER 2017

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Acknowledgements
The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

PUBLISHER, PRINTER & OWNER
Rev. Fr. Pradeep Vazhatharamalayil
Principal, MACFAST, Tiruvalla,
Pathanamthitta, Kerala

PRINTED AT
St. Joseph's Offset Printing Press,
Tiruvalla, Pathanamthitta District, Kerala

DESIGN
Greeshma Designs, Ktm.

ISSN No: 0974-8334


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# JOURNAL OF SCIENCE, TECHNOLOGY AND MANAGEMENT

Volume 10 Number 04 October-December 2017

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**Journal of Science, Technology and Management**
**Vol. No. 10 No. 4, October-December 2017 ISSN No: 0974-8334**

# A Pharmacological Review of *Tinospora Cordifolia*, The Magic Healer Plant of Ayurveda

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## ABSTRACT

The traditional system of medicine, ayurveda operates on the concept of rasayana which ultimately means substances that promote physical and mental health and that which improves the immunity of the body thereby enhancing the human longevity. *Tinospora cordifolia* has been an integral part of many ayurvedic formulations and have been used for centuries as a rasayanic preparation. It has several medicinal properties like anti-inflammatory, immunomodulatory, anti-diabetic, gout relieving etc. and determines the significance of its presence in Ayurveda. The plant could act as a potential candidate for the development of adaptogens that serve the purpose of a generalised well-being of individuals.

**Keywords :** Medicinal plants, Tinospora cordifolia, diabetes, anti-inflammatory, guduchi, Ayurveda

## INTRODUCTION

Ayurveda believes in the concept of rasayana which can be compared to the modern concept of adaptogens. Adaptogens are defined as "a new class of metabolic regulators (of natural origin) which increase the ability of an organism to adapt to environmental factors and to avoid damage from such factors" (Panossian *et al.*, 1999). A number of plants used in ayurveda have been selected as probable adaptogenic candidates with *T. cordifolia* ranking high in the list. *Tinospora cordifolia,* also known as guduchi was introduced as an adaptogen by the study conducted by Rege *et al.* (1999), where experimental animals were exposed to biological, physical, and chemical stressors. *T. cordifolia* was found to exert a normalizing effect against these stressors together with five other possible adaptogens all used in ayurveda as rasayanas. Guduchi has



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**Journal of Science, Technology and Management**
**Vol. No. 10 No. 4, October-December 2017 ISSN No: 0974-8334**

# Study on Treatment Process of Effluent Drug in Industry

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## ABSTRACT

Drug industry is one of the major industries causing water pollution. In India, Drug industry generates about Gallons of waste water processed depending upon the process employed and product manufactured. Considering the increased demand for Drugs, the Drug based industries in India is expected to grow rapidly and have the waste generation and related environmental problems are also assumed increased importance. Poorly treated waste water with high levels of pollutants caused by poor design, operation or treatment systems creates major environmental problems when discharged to surface water or land. Considering the above stated implications an attempt has been made in the present project to evaluate one of the WWTP for Drug industry. The waste water is treated in two units based on characteristics namely LTDS (Unit-I), it is a common ETP process and HTDS (Unit-II) is Multiple evaporating system (MEE). Samples were collected from six points; Raw effluent [P-1], Oil and grease trap [P-2], Equalization tank [P-3], Aeration tank 1 [P-4], Aeration tank 2 [P-5] and Secondary clarifier [P-6] to evaluate the performance of WWTP. Parameters analyzed for evaluation of performance of WWTP are COD, BOD at 20° C, TSS, TDS, oil and grease, Chloride and Alkalinity. Mass balance of COD, TSS and TDS was performed to find the fate of pollutants in WWTP. Parameters like pH and oil & grease were used to access the suitability of secondary effluent for reuse in irrigation. The COD, BOD5 at 20° C and TSS removal efficiency of WWTP were 96%, 95%and 94% respectively, which are in acceptable range for Disposal in to marine.

**Key words**: WWTP: Water waste treatment plant, MEE: Multiple Evaporation System, APS: Activated sludge process, LTDS: Low total dissolved solids, HTDS: High total dissolved solids. TSS: Total suspension solids, TDS: Total dissolved solids, COD: Chemical oxygen demand, BOD: Biological oxygen demand.

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treated waste water which is generated from unit – I (treatment plant) is collected and stored in treated effluent tank and then disposed in to marine through pipe lines in to sea, the dry sludge generated from unit – II (MEE) collected in gunny bags and disposed safely.

**Salient features of the present study are as follow:**

The COD, BOD and TSS removal efficiency of WWTP was observed to be 96%, 95% and 94% respectively in spite of the fact that raw sewage BOD5: COD was 0.53. Sludge wastage was observed to be 371.6 kg/day and is due to net synthesis, cell debris and inorganic fraction from raw effluent. Treated effluent from WWTP showed high removal efficiency of organic matter and TSS but higher SRT leads to high operational and running cost. The present flow rate was also less than the designed flow thereby making one secondary clarifier redundant. The current result suggests that the secondary effluent is complying with the standards for unrestricted irrigation based on, pH, TDS, and organic loading.

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**Journal of Science, Technology and Management**
**Vol. No. 10 No. 4, October-December 2017 ISSN No: 0974-8334**

# Studies need for the Assessment of Sex Determination in Zebrafish (*Daniorerio*)

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One of the most popular model organisms amongteleosts is the zebrafish (*Daniorerio*). Natural habitatsof the zebrafish stretch from South Asia (e.g.Pakistan, Nepal and India) to Southeast Asia (e.g.Myanmar) (Spence *et al.*,2008). This small-bodied freshwater speciesis most commonly found in slow or stagnant waters,such as rivers, ponds and paddy fields. Theambient water temperature at these natural habitatstypically ranges from 26–32°C (Engeszer*et al.*,2007). Among the reasons that make zebrafish a popular laboratory model is its short generation time. In the laboratory, zebrafish reach reproductive maturity at around 3-4 months. Despite its relatively small size, the species is quite fecund, mature females produce 200-300 eggs/ week regularly.

Zebrafish (*Daniorerio*) has emerged as a model organism in drug discovery, disease studies and developmental biology (Streisinger*et al.*,1981; Grunwald and Eisen 2002). An advantage of zebrafish as a model organism is that the embryos and larvae are small, transparent and undergo rapid development outside the mother's body, allowing phenotypic analysis of embryogenesis and organogenesis *in vivo* (Coley-smith *et al*, 1996). The gonadal sex differentiation mechanism(s) in zebrafish is however an elusive phenomenon. Unraveling the molecular mechanisms could facilitate the use of zebrafish in exploring human reproductive diseases such as polycystic ovary syndrome (PCOS) and testicular dysgenesis syndrome (TDS). Despite the popularity of zerbrafish as a research model, its sex determination (SD) mechanism is still unknown.

In vertebrates, sex is determined either by genetic mechanisms (genetic sex determination or GSD) or by the environment (environmental



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Journal of Science, Technology and Management
Vol. No. 10 No. 4, October-December 2017 ISSN No: 0974-8334

# A Combined Classifier for Offline Malayalam Handwritten Character Recognition

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## ABSTRACT

Offline Handwritten Character Recognition of Malayalam scripts have gained remarkable attention in the past few years. The complicated writing style of Malayalam characters with loops and curves make the recognition process highly challenging. The proposed method of combining classifiers overcomes the limitations of single classifiers in solving difficult pattern recognition problems involving large number of out- put classes. This paper presents a combined classifier system for the recognition of offline handwritten Malayalam characters. The features used are density features, RLC features and projection profiles. These feature sets are fed as input to three feedforward neural networks. The results of these three neural networks are combined using a weighted majority voting scheme.

**Keywords :** Neural Networks; charcter recognition; feature extraction; weighted majority voting

## I. Introduction

Automatic recognition of handwritten text has been a frontier area of research for the past few decades. Here, we investigate the results of combining the results of multiple classifiers for the recognition of handwritten Malayalam characters. The extracted features are based on the Density features, Run-length count and Projection profiles. These features are fed as input to three different neural networks and finally the results of these three networks are combined and evaluated using weighted classifier combination methods.

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**Journal of Science, Technology and Management**
**Vol. No. 10 No. 4, October-December 2017 ISSN No: 0974-8334**

# A Review on Mind Reading Computer using Brain Signals

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**ABSTRACT**

A Computer can be easily be defined as a machine that can solve extraordinary complex problems with high speed and accuracy. For a computer, the technique of reading the mind of a human being involves more than a regular programming work. Although the computer have the capability to perform complex operations, the part which the information or the input is fed to them is so slow. This delay in the operation is caused due to the way in which the information is transferred to the system that is using typewriters, Keyboards or punch cards etc... The Electroencephalograph is a device that is used by the medical researchers to pick up electrical signals or currents from various parts of the human brain. So if it is possibleto identify the brain waves that is generated from a person's thoughts or commands, it might be able to teach the computers with the same skills. Still there exists computers that has been taught to recognize different commands like, UP, DOWN, LEFT, RIGHT, FAST, SLOW, STOP and more...This paper study and explain various mind reading techniques by exploiting the facial expression and elaborate the functionality of the same.

**Keywords :** mind reading, facial expression, Electroencephalograph, brain waves, information

## Introduction

Humans will express their emotions,states,thoughts and their desires all the time through different facial expressions, voice sounds, and gestures. It also happens likewise automatically when they are interacting with the machines. The mental states and the gestures that make will govern how each others are communicating, and this mental states will gradually affect a person'sperformance. So the ability to identify the knowledge from the mental states,gestures,facial expressions and brain signals , and use this knowledge to guide our



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the computer is blurred. Partial or full uploading is possible and inevitable. Futurists predict that from there, superhuman artificial intelligence won't be far behind.

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JULY - SEPTEMBER 2016
ISSN No: 0974-8334
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# Journal of SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 09 No.03
JULY - SEPTEMBER 2016

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**Acknowledgements**
The Editorial Board hereby express their thanks and gratitude to the referees for evaluating the manuscripts.

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PRINTED AT
St. Joseph's Offset Printing Press,
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DESIGN
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ISSN No: 0974-8334


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Journal of Science, Technology and Management
Vol. No. 9 No. 2, April - June 2016 ISSN No: 0974-8334

# Consolidation of Indian Banks: An opportunity for Inorganic Growth

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## ABSTRACT

The composition of Indian banking is expected to go through a renovation, led by consolidation, convergence and technology. Banks in India have observed major reforms in last18 years or so and banking sector is on a way to become global. Mergers and acquisitions (M&A) as a means for inorganic growth are increasingly being used the world over to carry out reorganization of leading business enterprises. This paper aims to elucidate the existing strengths and weaknesses of the Indian banking system and potential opportunities and threats if it undertakes consolidation by M&A as an opportunity for inorganic growth.

**Key words:** consolidation, inorganic growth, Mergers and acquisitions (M&A)

## 1 .INTRODUCTION

Today, we are having a fairly well developed banking system with different classes of banks public sector banks, foreign banks, private sector banks – both old and new generation, regional rural banks and co-operative banks with the Reserve Bank of India as the fountain Head of the system. Considering the growth prospects of India, it can easily be said that banking and financial services will be of key importance to fuel the growth in the future. The banking sector reforms undertaken in India from 1992 onwards were basically aimed at ensuring the safety and soundness of financial institutions and at the same time at making the banking system strong, efficient, functionally



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ISSN No: 0974-8334
A MACFAST PUBLICATION

# Journal of SCIENCE, TECHNOLOGY & MANAGEMENT

Volume - 09 No.04
OCTOBER-DECEMBER 2016

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Journal of Science, Technology and Management
Vol. No. 9 No. 4, October - December 2016 ISSN No: 0974-8334

# CRISPR - A Revolution in Genome Editing

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## ABSTRACT

Clustered regularly interspaced short palindromic repeats—or CRISPR raised a revolution in the genomic field. It is a new type of site specific nucleases and this technology is an important new approach for generating RNA guided nucleases such as Cas9,with custamizable specificities. Genome editing mediated by the nucleases has been used to rapidly, easily and efficiently modify endogeneous genes in a wide variety of biomedically important cell types and in organisms that have traditionally been challenging to manipulate genetically. The CRISPR Cas system is an acquired immune system of many bacteria and Archea which can identify the alien plasmids or phages and cut them by the cas protein. By inserting a plasmid containing Cas genes and specifically designed CRISPRs, an organism's genome can be cut at any desired locations. Gene targeting of the CRISPR/Cas system is mediated by a small RNA, which make it very easy to design and achieve multiplex genome editing.

CRISPR, a new genome editing tool, could transform the field of biology—and a recent study on genetically-engineered human embryos has converted this promise into media hype. CRISPR allows scientists to edit genomes with unprecedented precision, efficiency, and flexibility. The past few years have seen a flurry of "firsts" with CRISPR, from creating monkeys with targeted mutations to preventing HIV infection in human cells. Earlier this month, Chinese scientists announced they applied the technique to nonviable human embryos, hinting at CRISPR's potential to cure any genetic disease. It might even lead to the development of designer babies. The technology has the potential to alter not just human genome, but the entire world and all its ecosystems.

**Key words:** CRISPR/Cas, gene editing, ZFN, TALEN.



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