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Role of Venture Capital and Green Financing in Supporting Sustainable Entrepreneurship

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Abstract

Sustainable entrepreneurship, which integrates economic value creation with environmental and social benefits, has emerged as a key driver for achieving long-term sustainability goals. Financing such ventures remains a critical challenge due to the perceived risks and longer time horizons associated with their profitability. This paper explores the roles of venture capital and green financing as pivotal mechanisms in supporting sustainable entrepreneurship. It examines their synergies, contributions, challenges, and prospects for fostering innovation while aligning with global sustainability goals.

Keywords: Entrepreneurship, Venture capital, Green financing

Introduction

Sustainable entrepreneurship plays a pivotal role in tackling global challenges such as climate change, resource depletion, and social inequality. It seeks innovative solutions that harmonize profitability with environmental sustainability and social impact. Unlike conventional businesses, sustainable ventures face unique challenges, including higher upfront costs, longer return periods, and the need for stakeholder engagement. These factors often make traditional financing mechanisms inadequate for addressing the specific requirements of such businesses.

Venture capital (VC) and green financing emerge as complementary approaches to bridge this gap. VC provides high-risk capital and strategic support, helping sustainable entrepreneurs scale their innovations and navigate market challenges. VCs often bring industry expertise, networks, and a focus on disruptive technologies, making them a vital resource for startups aiming to create transformative environmental and social impact.

Green financing, on the other hand, offers tailored financial products designed to support environmentally friendly projects. These include green bonds, sustainability-linked loans, and grants, which incentivize practices like renewable energy adoption, circular economy models, and carbon reduction. Green financing focuses on enabling long-term sustainability goals, appealing to stakeholders who prioritize environmental and social outcomes alongside financial returns.

By integrating the agility and market-driven nature of VC with the mission-oriented, long-term approach of green financing, sustainable ventures can overcome financial barriers. This synergy not only helps entrepreneurs address pressing global issues but also fosters an economic transition toward a more inclusive and sustainable future.

Venture Capital in Sustainable Entrepreneurship

Venture capital (VC) plays a crucial role in driving sustainable entrepreneurship by providing equity financing to early-stage, high-potential companies. This support enables innovative solutions to address pressing environmental and social challenges while fostering economic growth.

Risk Capital: One of VC's significant contributions is **risk capital**. Sustainable ventures often face high levels of uncertainty due to unproven technologies, emerging markets, or complex regulatory landscapes. Traditional lenders are hesitant to finance such risky endeavors, but VCs actively invest in these opportunities, betting on their transformative potential. This financial backing allows entrepreneurs to focus on developing groundbreaking solutions without immediate profitability pressures.-

Scalability: VCs also emphasize **scalability**, identifying and nurturing businesses with the potential to grow rapidly and make a large-scale impact. By providing the necessary capital, expertise, and infrastructure, VCs help sustainable startups expand their operations, reach broader markets, and maximize their environmental and social contributions. Successful scaling ensures that innovations in renewable energy, clean technology, or sustainable agriculture can transition from niche solutions to mainstream practices.

Strategic Support: Another critical role of VCs is **strategic support**. Beyond funding, they offer mentorship, share industry expertise, and facilitate access to networks of partners, suppliers, and customers. This guidance accelerates growth and enhances the operational efficiency of sustainable ventures, positioning them for long-term success.

Focus on Innovation: Moreover, VCs increasingly align investments with **Environmental, Social, and Governance (ESG)** principles. This shift reflects a growing recognition of the importance of

sustainability in business. By prioritizing ESG criteria, VCs drive innovation in areas like renewable energy, clean transportation, waste reduction, and circular economy models. These investments not only generate financial returns but also contribute to achieving global sustainability goals.

In summary, venture capital empowers sustainable entrepreneurship by addressing financial risks, enabling scalability, and fostering innovation. Through their strategic focus on ESG-driven businesses, VCs play a pivotal role in shaping a more sustainable and equitable future.

Challenges for Venture Capital in Sustainable Entrepreneurship

Sustainable entrepreneurship, which seeks to balance profit, environmental stewardship, and social equity, poses unique challenges for venture capital (VC) investors. Two key issues are balancing profitability with impact and the misalignment of short-term horizons in VC strategies with the typically long gestation periods of sustainable ventures.

Profitability vs. Impact

Many sustainable businesses prioritize ecological and social outcomes alongside financial returns. However, these goals often require significant upfront investment in innovation, infrastructure, or education, which can delay profitability. For VCs, this creates a tension: while their investors demand high returns, sustainable entrepreneurs are often focused on impact metrics like carbon reduction or community development. The pressure to scale rapidly may also conflict with the sustainable principles of the venture, such as local sourcing or fair labor practices.

Short-Term Horizon

VC firms generally seek exits within five to seven years through IPOs or acquisitions. This timeframe clashes with the longer development cycles often needed for sustainable ventures, such as clean energy startups or circular economy models, to reach scalability and profitability. Sustainable technologies may also face regulatory delays, higher R&D costs, and slower market adoption, further extending the path to returns.

Case Study: Impossible Foods

Impossible Foods, a plant-based meat company, exemplifies these challenges. The startup aimed to create a sustainable food alternative to reduce the environmental footprint of livestock farming. While its mission aligned with global sustainability goals, the company faced initial skepticism from VCs due to its high R&D costs and uncertain time-to-market. To address these concerns, Impossible Foods aggressively demonstrated its scalability and appeal to mainstream

markets, securing significant funding from investors like Khosla Ventures and Bill Gates. Yet, critics argue that the pressure to grow quickly has led to compromises, such as prioritizing rapid expansion over local supply chains.

In conclusion, VCs in sustainable entrepreneurship must navigate the tension between short-term profitability and long-term impact. Innovative funding mechanisms, patient capital, and mission-aligned investors are vital to bridging these gaps and enabling a transition to a sustainable economy.

Green Financing for Sustainable Entrepreneurship

Green financing includes financial products like green bonds, loans, and grants aimed at environmentally sustainable projects. Its role in sustainable entrepreneurship is characterized by:

Accessibility: One of the key attributes of green financing is its **accessibility**. These financial products are designed specifically to support projects that create significant environmental benefits, such as renewable energy installations, sustainable agriculture, and eco-friendly manufacturing. By providing funding mechanisms that prioritize sustainability, green finance reduces the entry barriers for entrepreneurs. This accessibility enables small and medium enterprises (SMEs) and startups to innovate and contribute to the green economy, which might otherwise struggle to secure traditional financing due to perceived risks.

Policy Alignment: is another critical role of green financing. Many green financial instruments are structured to comply with national and international sustainability agendas, such as the United Nations' Sustainable Development Goals (SDGs) and commitments under the Paris Agreement. By aligning entrepreneurial ventures with these policies, green financing encourages private sector participation in achieving global environmental objectives. Governments and financial institutions often collaborate to promote green financing, offering incentives like tax breaks, subsidies, or technical assistance to entrepreneurs who adopt sustainable practices.

Lower Cost of Capital: Additionally, green financing often provides a **lower cost of capital**, making it an appealing choice for startups. Favorable terms, including lower interest rates, longer repayment periods, and subsidies, are common features of green financial products. These incentives reduce the financial burden on entrepreneurs, enabling them to allocate more resources to innovation and operational efficiency. Moreover, businesses that adopt green financing can enhance their reputation, attracting environmentally conscious consumers and investors.

Green Financing Instruments

Green Bonds, Climate Funds, and Sustainability-Linked Loans: Driving Sustainable Finance

Green Bonds, **Climate Funds**, and **Sustainability-Linked Loans (SLLs)** are pivotal financial tools fostering sustainable development globally. Each plays a unique role in addressing environmental challenges.

Green Bonds are fixed-income instruments issued specifically to fund projects with environmental benefits, such as renewable energy, energy efficiency, clean transportation, and sustainable water management. These bonds offer investors an opportunity to align their financial returns with environmental goals. For instance, the *World Bank Green Bond Program* has financed over $14 billion in projects addressing climate change since 2008. In India, the *Indian Renewable Energy Development Agency (IREDA)* issued green bonds in 2021 to fund solar and wind projects, helping the nation transition toward a low-carbon economy.

Climate Funds focus on reducing greenhouse gas emissions and enhancing climate resilience. Internationally, the *Green Climate Fund (GCF)* mobilizes financing for projects in developing countries. A notable example is the GCF-supported *KawiSafi Ventures* in East Africa, which invests in off-grid solar energy projects, bringing affordable, clean energy to underserved communities while reducing dependency on fossil fuels.

Sustainability-Linked Loans (SLLs), unlike green bonds, are not restricted to specific use cases but link the loan's financial terms to the borrower's sustainability performance. If a company meets pre-defined environmental, social, or governance (ESG) targets, it enjoys reduced borrowing costs. For example, in 2020, *Royal DSM*, a Dutch multinational, secured an SLL tied to achieving carbon emission reductions and renewable energy targets. This incentivized them to meet aggressive sustainability goals while offering financial benefits for compliance.

Case Study: Chile's Green Bond Initiative

In 2019, Chile issued Latin America's first sovereign green bond to finance clean transportation and renewable energy projects, such as solar and wind farms. This $1.4 billion bond was instrumental in accelerating the nation's renewable energy capacity and expanding its metro system. Not only did it attract global investors, but it also demonstrated the potential for public finance to lead sustainable transitions in emerging markets.

Together, these financial instruments are driving global climate action by channeling capital into impactful initiatives, fostering collaboration among governments, corporations, and investors.

Challenges for Green Financing

Measurement and Verification: Assessing the true environmental impact of projects can be complex and resource-intensive.

Fragmented Market: The green finance market lacks standardization, making it difficult for entrepreneurs to navigate.

Synergies between Venture Capital and Green Financing

Venture capital (VC) and green financing are two key drivers of innovation and sustainability. While VC focuses on funding high-growth startups, green financing ensures that these ventures align with sustainable development goals. Their collaboration creates a powerful synergy that can accelerate the transition to a greener economy while fostering innovative solutions to pressing global challenges.

1. Shared Risk

One of the primary synergies between VC and green financing is shared risk. Green financing often involves funding through low-interest loans, grants, or green bonds, which come with fewer financial pressures for early-stage startups. VCs, known for taking high risks, can partner with green financiers to mitigate potential losses while boosting the scalability of startups focused on sustainability. By pooling resources, both VCs and green financiers can help startups thrive with reduced financial burden.

2. Market Development

Green financing plays a crucial role in market development for sustainable technologies, which in turn creates a favorable environment for VC-backed firms. For instance, green bonds or sustainable funds can offer financial incentives, like tax rebates or subsidies, to promote green innovations. This drives demand for eco-friendly products and services, creating a broader market opportunity for VCs who fund these startups. It also helps the transition from niche markets to more mainstream adoption of sustainable solutions.

3. Long-Term Value

While venture capitalists are often focused on short-term growth, green financing can enable a longer-term perspective for sustainability-driven startups. Many green financing mechanisms emphasize long-term impact, which aligns well with VCs' growing interest in sustainable investments. By combining the flexibility of VC funding with the long-term outlook of green finance, startups can implement strategies that foster lasting environmental and financial returns.

5. Case Studies

Several ventures highlight the effectiveness of combining VC and green financing:

1. Tesla Inc.: Tesla Inc. has become a dominant player in the electric vehicle (EV) market, largely due to its innovative approach to financing and scaling production. In its early stages, Tesla's growth was significantly supported by venture capital (VC) investments, which provided the necessary funding for research, development, and manufacturing. This influx of early-stage venture capital allowed Tesla to build a prototype of its first vehicle, the Roadster, and later fund the development of its flagship Model S sedan. The capital helped Tesla navigate the high upfront costs of EV production, including research into battery technology and vehicle design, which were critical to its success.

Tesla's ability to scale production was also aided by its use of green bonds, a relatively new financial instrument aimed at funding environmental and sustainable projects. In 2014, Tesla raised $1.8 billion through its green bonds, which were earmarked for the construction of the Gigafactory in Nevada. This large-scale factory would become key to Tesla's strategy of reducing battery costs and increasing production capacity, helping to make electric vehicles more affordable for the mass market. The bonds were attractive to investors due to their alignment with the growing demand for sustainable investment options, particularly as global concerns about climate change mounted.

By combining early-stage VC funding with green bonds, Tesla created a diversified and innovative funding strategy that allowed it to scale its production rapidly. The success of these financial approaches helped Tesla build a vertically integrated supply chain and become the largest producer of electric vehicles globally. In addition, Tesla's strategy attracted a wide array of investors, including traditional venture capital firms, green-focused funds, and institutional investors interested in the future of sustainable energy.

Overall, Tesla’s strategic use of venture capital and green bonds has not only enabled the company to scale its electric vehicle production but also positioned it as a leader in the global transition to clean energy, demonstrating the power of combining innovative financing with visionary technological development.

2. Oatly: Oatly, the Swedish company renowned for its oat milk products, has become a leader in the plant-based milk industry, attracting significant venture capital (VC) backing to fuel its growth and innovation. The company’s rise has been largely driven by its ability to tap into the growing demand for sustainable and plant-based alternatives to dairy. Oatly’s oat milk, made from

oats, offers a more environmentally friendly and nutritious option compared to traditional dairy products, appealing to the growing number of consumers seeking eco-conscious choices.

In its early years, Oatly secured significant investment from venture capital firms, helping the company expand its operations and scale its product offerings. These investments were crucial in allowing Oatly to bring its innovative products to a wider audience, with the company successfully entering markets outside of Sweden, including the U.S. and China. This VC funding not only helped support product development but also allowed Oatly to increase its production capacity to meet the surging demand for plant-based milk.

A key element of Oatly's strategy has been its commitment to sustainability and reducing its environmental footprint. In addition to raising VC funds, the company has utilized green financing to support the development of environmentally friendly production facilities. This financing approach aligns with Oatly's mission to create a more sustainable food system. The company has invested in cutting-edge technology to minimize water usage, reduce energy consumption, and cut CO2 emissions during production. This green financing model has enabled Oatly to build and expand its production plants with a focus on renewable energy sources and lower environmental impact.

Oatly's approach demonstrates how companies in the food and beverage sector can drive both innovation and sustainability through strategic investment. By aligning its growth strategy with environmental goals, Oatly is not only meeting consumer demand for plant-based products but also setting a standard for responsible business practices in the industry. As it continues to grow, Oatly's focus on green financing and innovation positions it as a leader in the sustainable food movement.

3. Beyond Meat: Beyond Meat, a leader in plant-based meat alternatives, has attracted significant venture capital (VC) funding and aligned its operations with green financing to scale its business and promote sustainable food systems. The company's mission to reduce the environmental impact of food production by offering plant-based substitutes to traditional meat products has resonated with investors who are increasingly focused on sustainable and socially responsible businesses.

Venture capital has played a critical role in Beyond Meat's growth. The company has received large investments from prominent VC firms and private investors, enabling it to scale operations, enhance production capabilities, and expand its product offerings. Beyond Meat's success in attracting venture capital is largely due to the growing demand for alternative proteins driven by health, ethical, and environmental concerns. Investors see Beyond Meat not just as a food

company, but as a key player in the future of sustainable agriculture and the global food supply chain.

In addition to traditional VC funding, Beyond Meat has also embraced green financing initiatives to reinforce its commitment to sustainability. This includes issuing green bonds, which allow investors to direct capital toward projects with environmental benefits. By aligning its financial strategy with green financing principles, the company underscores its dedication to addressing the environmental impact of meat production, which contributes significantly to greenhouse gas emissions, deforestation, and water usage. These efforts are in line with the increasing consumer demand for products that are both healthy and environmentally friendly.

Furthermore, Beyond Meat has been actively partnering with foodservice providers and major retailers, expanding its reach and making plant-based options more accessible to the public. Through these collaborations and its continued focus on scaling production, Beyond Meat is well-positioned to make a significant impact on the global food industry. By combining VC investment, green financing, and innovative partnerships, Beyond Meat is shaping the future of food systems, moving toward a more sustainable and responsible way of producing and consuming food.

Policy Implications and Recommendations

To maximize the potential of venture capital and green financing in supporting sustainable entrepreneurship, policymakers and stakeholders should:

Promote ESG Integration: Encourage VCs and financiers to adopt robust ESG frameworks.

Standardize Green Finance: Develop uniform standards for assessing and verifying green financing impacts.

Foster Public-Private Partnerships: Collaborate to de-risk investments and incentivize participation in sustainable ventures.

Capacity Building: Train entrepreneurs to effectively navigate the complexities of VC and green financing.

Conclusion

Venture capital (VC) and green financing play pivotal roles in advancing sustainable entrepreneurship. In a world grappling with environmental challenges and the urgency of transitioning toward a more sustainable future, these financial mechanisms offer the necessary capital to scale innovative solutions and promote long-term sustainability. Venture capital, with its focus on high-growth potential startups, provides critical funding for entrepreneurs with game-

changing ideas. In the context of sustainability, VC can support businesses that tackle environmental issues, whether through clean technology, renewable energy, or sustainable agriculture. These investments enable startups to scale quickly, test innovative models, and drive widespread change. However, the traditional venture capital model often prioritizes short-term financial returns, which can be at odds with the long-term nature of sustainability goals. As a result, there is a growing need for a more tailored approach to VC that aligns both with profitability and environmental responsibility.

Green financing, on the other hand, includes investments specifically directed toward projects that have positive environmental impacts. Green bonds, sustainable loans, and impact investing are examples of how financial markets are increasingly shifting to prioritize sustainability. This form of financing addresses the capital gap for projects that aim to reduce carbon footprints, enhance energy efficiency, or promote circular economies. While green financing often requires a clear environmental impact measurement, it also ensures that projects align with global sustainability targets, like the Paris Agreement or the United Nations Sustainable Development Goals (SDGs).

The synergies between venture capital and green financing can accelerate the pace of innovation in the sustainable entrepreneurship space. By combining the agility of VC with the long-term, impact-focused nature of green financing, startups can access a broad spectrum of resources that propel them toward achieving sustainability milestones. To maximize these mechanisms' potential, governments, corporations, and investors must collaborate to create conducive policies and regulatory frameworks that encourage responsible investment.

Ultimately, when aligned properly, venture capital and green financing have the power to transform industries and accelerate the transition toward a more sustainable global economy, fulfilling both economic and environmental goals.

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Sustainable Practices and Innovations in the Indian Leather Industry: Challenges, Opportunities, and Global Trends

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Abstract

Indian leather has a long history and produces a wide variety of goods, making it a major contribution to the world economy. The foundations of the Indian leather industry are explored in this collection, which covers exports, current conditions, past trends, and future prospects. The industry is flourishing and making a positive impact on the Indian economy. This series explores a variety of leather industries, such as clothing, accessories, and footwear, to show how they affect both domestic and international trade. An overview of the market size and the factors influencing the global demand for Indian leather goods is provided by the examination of export performance. It also takes industry-related elements such changing consumer tastes or concerns about the environment into account. The leather industry in India has an upward trajectory despite the challenges. The issue looks at potential avenues for development and innovation, including company diversification, technology developments, and environmentally friendly procedures. The significance of the company's success and tenacity in maintaining its supremacy in the worldwide market was emphasized by him in his conclusion.

Keywords: Indian leather industry, current status, export performance and prospects

Introduction

An important part of the Indian economy is the leather, footwear, and leather goods sectors. Among India's top 10 most lucrative foreign exchange those with incomes, these occupations are renowned for their stability and high export earnings. It is anticipated that footwear, leather that exist, and leather goods will export for $5.26 billion in 2022–2023. With 20% of the world's cattle and cow population and 11% of its goat and sheep population, India possesses a wealth of raw materials. The industry gains from increased compliance with worldwide regulations regarding the environment, highly skilled personnel, cutting-edge technologies, and government assistance for

company growth. Due to its labor-intensive nature, the leather industry employs over 4.42 million individuals, many of whom come from low-income households. In the world, India ranks fourth in terms of exporting leather goods, third in terms of exporting harnesses, and second in terms of exporting leather clothing. With important manufacturing hubs in Chennai, Ambur, Ranipet, Vaniyambadi, Vellore, Pernambut, Trichy, Dindigul, and Erode, Tamil Nadu is the core of the foot and leather-based product industries. West Bengal's Kolkata, Uttar Pradesh's Agra, Maharashtra's Noida, Saharanpur, Mumbai, Madhya Pradesh's Dewas, Kerala's Kozhikode, Ernakulam, Cochin, Rajasthan's Jaipur, and Jammu and Kashmir's Srinagar are some of the other major commercial hubs.

Growth of the Leather Industry

The leather industry growth has been sustained by the country's large livestock population, which claims a unique position in the world, "estimated at 425million cattle, buffaloes, sheep, and goat." (57 percent made up of buffaloes, 16 percent of cattle, 20 percent of goat and 4 percent of sheep population in the world). However, because livestock is increasing only at a 1.2 percent rate per annum, the availability of ingenious hides and skins has been almost stagnant. According to CLRT (Chennai), over Rs.3.3 crores worth of ovine skins are lost annually to non-flaying of carcasses. Thus in the future, the availability of raw materials will be one of the major constraints for the growth of the leather sector. "Among India's important centers of leather and leather products, Kanpur specializes in tanning and finishing buffaloes and production of harness (safflery) and shoe leathers. In Calcutta, tanning and finishing of cowhides and goatskins processing is a prime activity. Madras and several districts in Tamil Nadu specialize in finished leathers of various kinds".

Strengths of Indian Leather Sector

- Own raw material source–About3billions qft of leather produced annually
- Some varieties of goat/calf/sheep skins command premium position
- Strong and eco-sustainable tanning base
- Modernized manufacturing units
- Trained/skilled manpower at competitive wage levels
- World-class institutional support for Design & Product Development, HRD and R & D.
- Presence of support industries like leather chemicals and finishing auxiliaries
- Presence in major markets–Long European experience
- Strategic location in the Asian landmass.

Emerging Strengths

- Design development initiatives by institutions and individuals
- Continuous modernization and technology up-gradation
- Economic size of manufacturing units
- Constant human resource development program to enhance productivity
- Increasing use of quality components
- Shorter pro-to-type development time
- Delivery compliance
- Growing domestic market for footwear and leather articles.

Highlights of Product Segments of Indian Leather and Footwear Industry Tanning Sector

- Annual availability of leathers in India is about 3billions q.ft.
- India accounts for13% of world leather production of leathers.
- Indian leather trends/colors are continuously being selected at the MODEUROPE Congress.

Footwear Sector

- India is Second largest footwear producer after China, with Annual Production of 2.58 billion pairs (2018).
- India is also the second largest consumer of footwear after China, with a consumption of 2.60 billion pairs.
- Footwear (leather and non-leather) export accounts for about51%share in Indian leather and footwear industry's export (2022-23)

Leather Garments Sector

- India is the second largest global exporter of Leather Garments.
- Accounts for7%share of India's total export from leather sector (2022-23).

Leather Goods &Accessories Sector including Saddlery & Harness

- India is the fifth largest global exporter of Leather Goods & Accessories and third largest exporter of Sadldery and Harness items.
- Accounts for 29%share of India's total export from leather sector (2022-23).

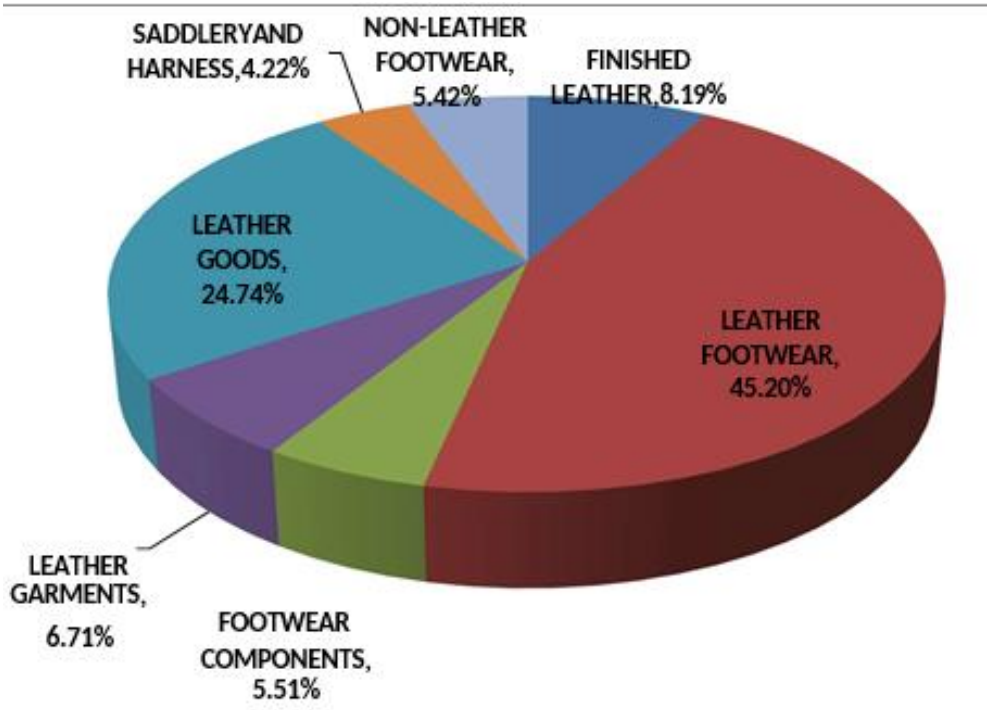
India's Export of Leather & Leather Products 2021-22 to 2022-23

(Value in Million US$)

CATEGORY	APR-MAR 2021-2022	APR-MAR 2022-2023	% VARIATION	%Share 2021-22	%Share 2022-23
FINISHEDLEATHER	456.10	430.93	-5.52%	9.36%	8.19%
LEATHERFOOTWEAR	2047.08	2377.23	16.13%	42.01%	45.20%
FOOTWEARCOMPONENTS	249.87	289.81	15.98%	5.13%	5.51%
LEATHERGARMENTS	342.38	353.07	3.12%	7.03%	6.71%
LEATHERGOODS	1287.06	1301.34	1.11%	26.41%	24.74%
SADDLERYANDHARNESS	276.10	222.17	-19.53%	5.67%	4.22%
NON-LEATHERFOOTWEAR	214.11	284.98	33.10%	4.39%	5.42%
TOTAL	**4872.70**	**5259.53**	**7.94%**	**100.00%**	**100.00%**

Source: DGCI&S

% Share of Leather & Leather Products FY2022-23



Analysis – Country wise Export Performance of Leather, Leather Products & Footwear From India During April-March 2021-22 and April- March 2022-23 (Value in Million US$)

COUNTRY	TOTAL			Share in Total Export 2021-22	Share in Total Export 2022-23
	APR-MAR 2021-22	APR-MAR 2022-23	% Change 2022-23		
U.S.A	1158.24	1173.08	1.28%	23.77%	22.30%
GERMANY	536.02	579.33	8.08%	11.00%	11.01%
U.K.	456.75	481.55	5.43%	9.37%	9.16%
ITALY	287.95	354.82	23.22%	5.91%	6.75%
FRANCE	278.93	281.28	0.84%	5.72%	5.35%
SPAIN	212.68	228.54	7.46%	4.36%	4.35%
U.A.E.	105.48	123.87	17.43%	2.16%	2.36%
NETHERLANDS	216.82	219.80	1.37%	4.45%	4.18%
HONGKONG	68.03	57.52	-15.45%	1.40%	1.09%
CHINA	136.59	147.24	7.80%	2.80%	2.80%
POLAND	82.32	81.48	-1.02%	1.69%	1.55%
BELGIUM	115.71	135.79	17.35%	2.37%	2.58%
SOMALIA	29.66	41.97	41.50%	0.61%	0.80%
VIETNAM	60.40	64.78	7.25%	1.24%	1.23%
AUSTRALIA	91.23	94.01	3.05%	1.87%	1.79%
PORTUGAL	59.43	71.37	20.09%	1.22%	1.36%
DENMARK	67.36	81.52	21.02%	1.38%	1.55%
KOREAREP.	40.37	46.74	15.78%	0.83%	0.89%
JAPAN	64.60	77.88	20.56%	1.33%	1.48%
RUSSIA	42.79	44.84	4.79%	0.88%	0.85%
S.AFRICA	33.40	36.76	10.06%	0.69%	0.70%
CHILE	47.07	41.39	-12.07%	0.97%	0.79%
MALAYSIA	29.75	29.86	0.37%	0.61%	0.57%
AUSTRIA	37.96	55.65	46.60%	0.78%	1.06%
CANADA	60.92	70.34	15.46%	1.25%	1.34%

SWEDEN	31.83	27.04	-15.05%	0.65%	0.51%
NIGERIA	16.50	15.05	-8.79%	0.34%	0.29%
INDONESIA	21.28	23.47	10.29%	0.44%	0.45%
MEXICO	32.35	37.85	17.00%	0.66%	0.72%
SAUDIARABIA	28.56	43.36	51.82%	0.59%	0.82%
KENYA	7.49	10.34	38.05%	0.15%	0.20%
SWITZERLAND	20.35	22.54	10.76%	0.42%	0.43%
SLOVAKREP	18.12	19.26	6.29%	0.37%	0.37%
HUNGARY	18.98	11.42	-39.83%	0.39%	0.22%
THAILAND	15.63	16.39	4.86%	0.32%	0.31%
BANGLADESH	17.68	17.54	-0.79%	0.36%	0.33%
FINLAND	14.08	18.76	33.24%	0.29%	0.36%
TURKEY	17.23	24.29	40.98%	0.35%	0.46%
ISRAEL	16.99	17.55	3.30%	0.35%	0.33%
CAMBODIA	6.27	8.41	34.13%	0.13%	0.16%
CZECHREPUBLIC	12.27	11.17	-8.96%	0.25%	0.21%
GREECE	7.15	9.77	36.64%	0.15%	0.19%
NEWZEALAND	10.74	9.49	-11.64%	0.22%	0.18%
OMAN	7.01	9.63	37.38%	0.14%	0.18%
SRILANKADSR	7.15	6.66	-6.85%	0.15%	0.13%
SINGAPORE	10.8	10.93	1.20%	0.22%	0.21%
SUDAN	3.67	2.89	-21.25%	0.08%	0.05%
TAIWAN	6.65	6.67	0.30%	0.14%	0.13%
NORWAY	5.99	7.71	28.71%	0.12%	0.15%
DJIBOUTI	2.56	2.32	-9.38%	0.05%	0.04%
OTHERS	194.86	247.58	27.06%	4.00%	4.71%
TOTAL	**4872.70**	**5259.53**	**7.94%**	**100.00%**	**100.00%**

Source: DGCI&S

Major Markets

- The major markets for Indian Leather & Leather Products are USA with a share of 22.30%, Germany 11.01%, UK 9.16%, Italy 6.75%, France 5.35%, Netherlands 4.18%, Spain 4.35%, China 2.80%, Poland 1.55%, Belgium 2.58%, UAE 2.36% and Hong Kong 1.09%.
- The Top 15 countries together account about 78.55% of India's total leather, leather products & footwear export during April-March 2022-23 with export value of US $ 4131.56 Mn.

Conclusion

A key component of the Indian the economy, the leather industry has shown resilience and expansion in global markets. Because of its strong infrastructure, skilled labor force, and special access to raw materials, India has become a major supplier of leather and leather products. The company is on course for long-term growth in spite of obstacles like environmental concerns, poor cattle growth, and changing consumer preferences. In addition to being a pioneer in the production and export of footwear, it is the second-largest exporter of leather apparel worldwide. The industry's growth into apparel, accessories, footwear, and finished leather demonstrates its versatility and room for further innovation. The adoption of sustainable practices, leveraging technological advancements, and conforming to global environmental standards are all essential to the industry's success. Using better parts, expanding the nation's market, and enhancing design and product development skills are all examples of growth prospects. In the future, the Indian leather sector needs to address the shortage of raw materials, give human resource development top priority, and take advantage of emerging international trends. By promoting sustainability and innovation, the sector can stay competitive over the long run and make a significant contribution to India's economic growth.

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A Study on Impact of Audio Books among Students in Madurai City

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Abstract

Audiobooks are ideal for anyone who, like the majority of us, likes to listen rather than read. It is just not possible to purchase and store them in your home on a bookshelf. The aim of this study is to analyse the impact of audio books among students in Madurai city. With the development of computer technology, digital media technology has also developed rapidly; the audiobook industry is growing day by day. This study reveals that there is positive impact on usage of audio books among the students of Madurai City. The findings indicated that grappling readers' use of audiobooks had a positive impact on reading skills and attitudes toward reading. It was found that the majority of students in this study improved fluency and comprehension when they followed along and listened to a book. Their sight word recognition improved over time, which impacted comprehension levels.

Keywords: Audiobooks, Grappling readers and Digital media tech

Introduction

Audio books are recorded versions of a book's text that we listen to rather than read. Audiobooks can be literal word- for- word transcriptions of novels or shortened versions that exclude unnecessary language. For instance, we may convert short stories otherwise novels into audiobooks so that scholars can rapidly obtain a description of the work. Text-to-speech related audio reading tools are widely accepted across the world and they are implemented in an attempt to encourage students listening skills. They help children in listening short stories at bed time as parents can now convert any story storiesor light novels into audiobook.

Objectives

1. To study impact of audio books among students in Madurai city.
2. To reveal the usage of audio books among students in Madurai city.
3. To study the satisfaction level of the students in usage of audio books.

Methodology

This study is based on the primary data and secondary data. The primary data have been collected from School and college students of Madurai district.

Primary data: After completing the research area, the researcher gathered the primary data. Primary data was collected through a questionnaire. It was collected from 120 respondents.

Secondary Data: Websites, journals, and magazines related to research served as sources of secondary data. It was collected through a library to facilitate a proper understanding of the conceptual framework of the study.

Period of Study: Period of study the study is conducted from June-August 2023

Sample Size: 120 questionnaires were collected for the survey. Convenience sampling method is used.

Data Analysis: Collected data is edited, combined and subjected to appropriate statistical test and data is presented in percentagesand brochures.

Tools used in the Analysis

Percentage Analysis & Mean Score Analysis.

Limitation of the Study

1. Selected Sample is limited to 120. Hence findings cannot be generalized.
2. Student's preferences and opinions are supposed to change from time to time due to generation gap.

Analysis & Interpretation

Table 1: Distribution of Respondents on the Basis of Demographic Factors

No	Variable	Category	No of respondents	Percentage (%)
1	Gender	Male	65	54%
		Female	55	46%
		Total	**120**	**100**
2	Age	Less than 18	8	7%
		18-25	54	45%
		25 – 30	47	39%
		30- 35	11	9%
		Total	**120**	**100**
3	Education	High School	11	9%
		Diploma	25	21%
		UG Degree	67	56%
		PG Degree	17	14%
		Total	**120**	**100**

Findings

1. About 54% of students are Male.
2. About 45% of students are in age group 18-25.
3. About 67% of students are in UG Degree in Educational Qualification.

Table 2: Level of Agreement for Reasons to Prefer Audio Books

Product	SA	A	NO	D	SD
Audio books are very good	56	31	19	8	6
Audio books are easy to use	61	43	10	4	2
Audio books are extremely helpful in listening	68	33	11	8	-
Using audio books is not difficult	60	45	8	6	1
Audio books should be applied widely	51	32	21	10	6
My Listening comprehension has improved	73	25	15	7	-
I am more confident in listening comprehension	48	56	12	3	1

	TOTAL	MEAN SCORE
1. (56*5) + (31*4) + (19*3) + (8*2) + (6*1)	= 483	0.4025
2. (61*5) + (43*4) + (10*3) + (4*2) + (2*1)	= 517	0.4308
3. (68*5) + (33*4) + (11*3) + (8*2) + (0*1)	= 521	0.4341
4. (60*5) + (45*4) + (8*3) + (6*2) + (1*1)	= 517	0.4308
5. (51*5) + (32*4) + (21*3) + (10*2) + (6*1)	= 472	0.3933
6. (73*5) + (25*4) + (15*3) + (7*2) + (0*1)	= 524	0.4366
7. (48*5) + (56*4) + (12*3) + (3*2) + (1*1)	= 507	0.4225
	TOTAL 3541	

Mean score = 3541/ (10*120) =2.9508

From the above analysis, it is clear that variable "**My Listening Comprehension has improved**" carries the highest mean score of 0.4366 when compared with the other variables; this is followed by "**Audio books are extremely helpful in listening**" with 0.4341.

Suggestions

1. Usage of the audio books should be applied widely in the intuitions.
2. Institutions have to create more awareness about the audio books to the students.
3. Listening to audio books must be implemented as a practice in the schools and colleges.

Conclusion

The listening comprehension among the experimental group has improved greatly and audio books are extremely helpful in listening scores has got higher scores during the course of three months listening to audiobooks and doing related exercises. Finally, most of the students' feedback related to audiobooks are positive. They admitted that the use of audiobooks has helped them make significant improvements in listening comprehension. The List of books included should me more as well as the quality of the audio. Actually, the audiobooks applied in the research have proven to be extremely useful thus creating a pleasant environment where learners are able to read, listen and interact with the others.

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Consumer Preference and Satisfaction towards Electric Vehicles with Reference to Madurai City

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Abstract

Electric vehicle is defined as a vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source. An Electric vehicle is a shortened acronym for an electric vehicle. The main aim of the study is to identify the factors driving the respondents to purchase E-Vehicles and their satisfaction level towards various factors of E-Vehicles. The study suggests that introducing more range and models in two wheelers and four wheelers also installing charging facilities at convenient locations would improve customer perception. The study concludes that in order to reduce pollution, citizens of our country may change the transportation system either by using by-cycle nor using electric vehicle.

Keywords: customer perception, E-Vehicles and transportation system.

Introduction

An electric vehicle (EV) is a type of vehicle that uses electric motors powered by a battery, rather than a traditional internal combustion engine. In 2023, electric car sales exceeded 14 million, with EVs accounting for around 18% of all cars sold. The industry is experiencing healthy growth, with improved range, wider model availability, and increased performance. Governments worldwide are implementing policies and incentives to encourage the adoption of EVs, such as subsidies, tax credits, and investments in charging infrastructure. The Delhi government has been actively promoting electric vehicles (EVs) in the city. In fact, they aim to have 25% of all vehicles sold in Delhi to be electric by 2024. To achieve this goal, they've introduced the Delhi Electric Vehicles Policy, 2020, which offers fiscal incentives in addition to the demand incentives available under the FAME India Phase-II scheme.

Objectives

1. To identify the factors driving respondents to purchase E-Vehicles.
2. To identify the type of E-vehicle preferred by the respondents.
3. To analyse the level of satisfaction of respondents towards E-Vehicles.

Review of Literature

1. Janjanam Chandra Prakash Rao (2023), conducted a study on consumer perception of E-Vehicles, the study concluded that , Most of the respondents are agree that electric cars can replace regular cars in terms of satisfying consumer needs. Most of the consumers expect changes like travel efficiency, comfort, maintenance, average and durability from E-vehicle rather than regular vehicle. Overall, based on analysis we can say that the most of the people are not more prefer as an E-vehicle, they prefer other than E-vehicle.
2. Dr. M. Kalimuthu and Sugeerthi (2023), conducted a study on customer perception towards e-vehicle with special reference to Coimbatore city, the study concluded that, Electric vehicles (EVs) are a rapidly growing segment of the automotive industry as more and more consumers seek environmentally-friendly and cost-effective alternatives to traditional gasoline-powered vehicles. Sales have nearly doubled in the last two year. There is a 9% increase in sales. With advances in battery technology, EVs now offer longer ranges and faster charging times, making them more practical for everyday use would change the customer perception.
3. Prof. Tushar Pradhan(2021), conducted a study on Consumer perception towards e-vehicle in Vadodara city, the study concludes that , People consider positive environmental effect, price, low noise level and new trends for buying E-vehicle. Most of the respondents thinks that electric cars are very expensive.

Research Methodology

This study is based on the primary data and secondary data. The primary data have been collected from consumers of large-scale units from Madurai City.

Sample Size

The population of Madurai is (**1,872,000)** infinite. The study is conducted among E-Vehicle users to infer their preference and satisfaction level towards electric vehicles. Study is conducted through distribution of questionnaires and a total of 130 responses were collected. The sampling technique used in this study is snow ball techniques.

Summary of Data Collection

Table 1: Type of Vehicle Preferred by the Respondents

Type	No. of Respondents	Percentage
ELECTRIC BIKE	31	24
ELECTRIC SCOOTY	57	44
ELECTRIC CAR	42	32
Total	**130**	**100**

Sources: Survey data

From the above table it is found that 24% of the respondents preferred Electric Bikes, 44% of the respondents preferred Electric Scooty, 32 % of the respondents preferred Electric Cars.

Table 2: Company Preferred by the Respondents

Companies	No. of Respondents	Percentage	Rank
Tata	**33**	**25**	**II**
Mahindra	7	5	VII
MG	10	8	V
Ather	12	9	IV
Bajaj Chetak	13	10	III
Ola	9	7	VI
Hyundai	4	3	IX
TVS	**35**	**27**	**I**
Revolt	5	4	VIII
Others	2	1	X

From the above table it is found that 27% of the respondents prefer TVS company scooty as the best brand and 33% of the respondents prefer tata company car are the best brand cars.

Table 3: Factor that Drives to Purchase Electric Vehicles

Null Hypothesis Ho: There is no significant difference in the ranks provided by respondents to the factors that motivate to purchase electric vehicles.

Alternate Hypothesis H_A: There is significant difference in the ranks provided by respondents to the factors that motivate to purchase electric vehicles.

FACTORS THAT MOTIVATE TO PURCHASE ELECTRIC VEHICLES	MEAN RANK	CHI-SQUARE VALUE	p Value
Eco-Friendly	6.42	721.619	**0.000**
Low Maintenance	5.88		
Comfort	5.34		
Fuel Efficiency	2.09		
Low-Noise	6.61		
Cost Efficient	8.30		
Durability	4.01		
Trend	6.69		
Subsidies	5.15		
Others	4.51		

Source: Resulted computed through spss package.

From the above Table 3, it is clear that, fuel efficiency for the mean rank is minimum (2.09) that motivate the respondents to purchase electric vehicles. So, Fuel efficiency is most preferred by the respondents.

As the computed p value is less than the assumed value of 0.05, the above null hypothesis is rejected. Hence, there is significant difference in the ranks provided by respondents to the factors that motivate them to purchase electric vehicles.

Table 4: Level of Satisfaction Level towards Electric Vehicles

S.No	Weight	5	4	3	2	1	Total	Rank
	Factor	Level Of Satisfaction						
		HS	S	N	D	HD		
1	Mileage	18	28	17	32	35	352	I
		90	**112**	**51**	**64**	**35**		
2	PRICE	20	27	10	35	38	326	III
		100	**108**	**30**	**70**	**38**		

3	MAINTENANCE	15	25	24	30	36	**343**	**II**
		75	**100**	**72**	**60**	**36**		
4	SAFETY	10	20	23	39	38	**315**	**VI**
		50	**80**	**69**	**78**	**38**		
5	CHARGING STATIONS	9	29	18	35	39	**324**	**IV**
		45	**116**	**54**	**70**	**39**		
6	AFTER SALES SERVICE	10	6	45	25	44	**303**	**VII**
		50	**24**	**135**	**50**	**44**		
7	AVAILABILITY OF SPARE PARTS	9	14	40	30	38	**319**	**V**
		45	**56**	**120**	**60**	**38**		

From table 4 it has been inferred that mileage is the highly satisfying factor for the respondents to use E-Vehicles and it has been ranked Ist. Maintenance is the IInd satisfying factor for the respondents to use E-Vehicles since it requires low maintenance cost and the IIIrd is Price of the E-Vehicle is satisfying since they receive subsidies from government.

Suggestions

1. Introducing more range and models in two wheelers and four wheelers would improve customer perception.
2. Installing charging facilities at convenient locations.
3. Reduction in the cost of electric vehicles and making them affordable also helps in the changing the customer perception.
4. Educating the public about new electric car modes should be a top priority for businesses.
5. By increasing the number of charging stations, more people will be interested in purchasing electric vehicles.

Conclusion

Electric vehicles (EVs) have become increasingly popular in recent years due to their environmentally friendly features and cost-saving benefits. Overall, the research suggests that consumer perception towards electric vehicles is generally positive, but there are still some barriers to

widespread adoption. Some of the key factors influencing consumer perception include fuel efficiency, subsidies from government and mileage. Increased government incentives and investments in charging infrastructure could also help to boost consumer confidence in electric vehicles and drive more widespread adoption. In order to reduce pollution, citizens of our country may change the transportation system either by using by-cycle nor using electric vehicle.

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The Impact of Artificial Intelligence on Human Resource Management

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Abstract

AI is a technology that can be accessed over the Internet. The Internet Society acknowledges that in order to build a trustworthy Internet, it is crucial to comprehend the advantages and disadvantages of AI. Reasoning, knowledge representation, planning, learning, vision, and robotics assistance are some of the more conventional aims of artificial intelligence research. Objectives of the study are to understand how artificial intelligence will impact human resource management, to understand how Al can help in various HRM functions and limitations of Al in HR Functions, to analyzing the significance of Artificial Intelligence on Human Resource Management etc., In order to achieve deep learning, the inputs and outputs of the network are connected using many layers of neurons. As the number of layers increases, more complex characteristics may be extracted from the original data. With the advancement of this theoretical inquiry, it is evident that AI for HRM, the importance of AI in HRM procedures, the ways in which AI may help with recruitment and selection, and the ways in which AI technology and its integration into HR procedures affect HRM effectiveness. Companies looking to improve their human resource operations via technology have a road map in the verified beneficial impacts on efficiency and insights into the particular HR roles where AI is most valuable.

Keywords: Opportunities, Knowledge, Technology, Efficiency

Introduction

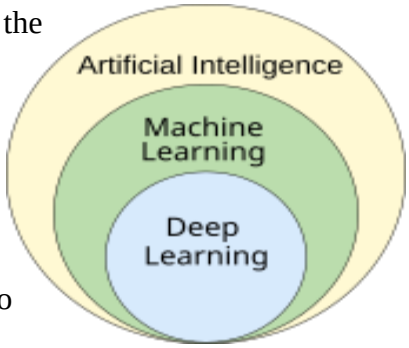
Machines, and especially computer systems, that display intelligence is known as artificial intelligence (AI) in its widest definition. Artificial intelligence (AI) is a subfield of computer science concerned with creating and studying programs and systems that give computers the ability to understand their surroundings, learn from their mistakes, and behave intelligently to achieve predetermined objectives. Different branches of artificial intelligence study specific problems using specialized methods. Reasoning, knowledge representation, planning, learning, vision, and robotics assistance are some of the more conventional aims of artificial intelligence research. Many people look

up to John McCarthy as the man who started the AI movement. America lost a computer scientist named John McCarthy. He first used the phrase "Artificial Intelligence" in his work.

The academic area of artificial intelligence suffered through a number of "AI winters" (periods of pessimism and funding cuts) after its 1956 founding. After deep learning surpassed earlier AI approaches in 2012, funding and attention surged. By the early 2020s, artificial intelligence had already attracted investments totaling hundreds of billions of dollars, thanks to the transformer architecture, which had further expedited this expansion (the "AI boom"). Discussions on regulatory measures to guarantee the safety and advantages of AI arose in response to the existing and potential hazards and damages brought about by the technology's extensive usage in the 21st century.

Deep Learning

In order to achieve deep learning, the inputs and outputs of the network are connected using many layers of neurons. As the number of layers increases, more complex characteristics may be extracted from the original data. For example, in image processing, lower layers may be in responsibility of identifying edges, whereas higher layers would be in charge of identifying concepts that are significant to humans, such as faces, numbers, or letters.



Numerous significant areas of AI have benefited greatly from deep learning's enhanced program performance. These areas include computer vision, voice recognition, NLP, picture categorization, and many more. As of 2023, nobody knows why deep learning works so effectively in so many domains. Two factors contributed to deep learning's explosive growth between 2012 and 2015: first, the abundance of training data, especially from big curates datasets used for benchmark testing like Image Net; and second, the enormous increase in computing power. This was true even though there have been many descriptions of deep neural networks and back propagation going back to the 1950s. Making the move to GPUs resulted in a 100-fold gain in speed.

The ability of a machine to simulate human intellect in domains such as creativity, learning, planning, and thought processes is known as artificial intelligence (AI). Artificial intelligence has made it possible for technical systems to see their environment, process that perception, resolve problems, and act to achieve an objective.

HRM (Human Resources)

All managers are tasked with the distinct and specialized responsibility of human resource management. Human resource management is the subfield of management that focuses on finding, hiring, developing, and maximizing the potential of people. As a result, HRM makes sure that every worker does his part to help the company reach its objectives. Many major, interconnected changes that occurred after the industrial revolution shaped modern human resource management.

Using AI for HRM

Whether it automates boring and time-consuming tasks or enhances and multiplies human abilities, artificial intelligence (AI) might change our lives and the way we operate. Complex human resource management procedures, such as talent management, staff development, assessments, benefits distribution, selection, engagement, performance monitoring, feedback, etc., are being facilitated by Al.

As a result, HR has a golden opportunity—and an urgent need—to change and evolve. It is now up to HR managers to choose how much AI should be permitted to impact HR procedures, since AI and HR are now integrated. There has to be a distinct division between the responsibilities of AI and HR, and HR should exert influence to improve the Al in every function.

Intelligence is defined as the ability to think critically, organize one's thoughts, comprehend abstract ideas, find solutions to difficulties, and draw on one's own experiences and expertise. If someone can meet requirements and standards in the most effective way, that person is intelligent. Artificial intelligence (A) is the term used to describe when machines display similar intelligence features. The fundamental idea of the field is that human intelligence may be so accurately described that it could be replicated by a machine.

Objective of the Study

Here are the study's objectives

1. To understand how artificial intelligence will impact human resource management
2. To understand how Al can help in various HRM functions and limitations of Al in HR Functions
3. To analyzing the significance of Artificial Intelligence on Human Resource Management.
4. To determine the function of AI-powered software in attracting top industry professionals.

Human Resource Management

Every establishment depends on constant expansion and growth. The company needs human capital for the same objective. A fair response to the labor requirement is provided by efficient recruiting, which guarantees that all organizational functions are staffed consistently throughout the year. The most valuable asset any business can have is its people, who allow it to increase its value, expand its market share, and stay in business for the long haul. An organization gains human capital via the hiring, screening, training, and, finally, placement of its employees. On its own, the recruiting process is a tedious and time-consuming ordeal.

AI Enhances the Recruiting Process

1. AI may assist in selecting the most qualified applicant from a pool of candidates by comparing their qualifications and work history to the requirements of the role.
2. Al can assist job seekers in finding the ideal position by instantly alerting them whenever a position online opens up that fits their qualifications.
3. Human resources (HR) data is used in artificial intelligence (AI) candidate matching to determine an applicant's projected performance in the role, project duration, and likelihood of staying on the job.
4. Artificial intelligence (AI) may help with the employment process since it allows applicants more flexibility in when and where they are interviewed, allows them to exchange notes, and suggests resources for further study.

AI assists with the Selection Process

Here are some ways AI may make picking easier

1. It might be useful to compare the top prospects with the current top performers and the job description while going through the process.
2. It can be possible to create personalized offers by comparing the salary data of organizations that are providing the same work duties.
3. Al may make selection procedures more efficient by comparing a particular offer with an employee's previous actions and predicting if the person would accept the employment offer.

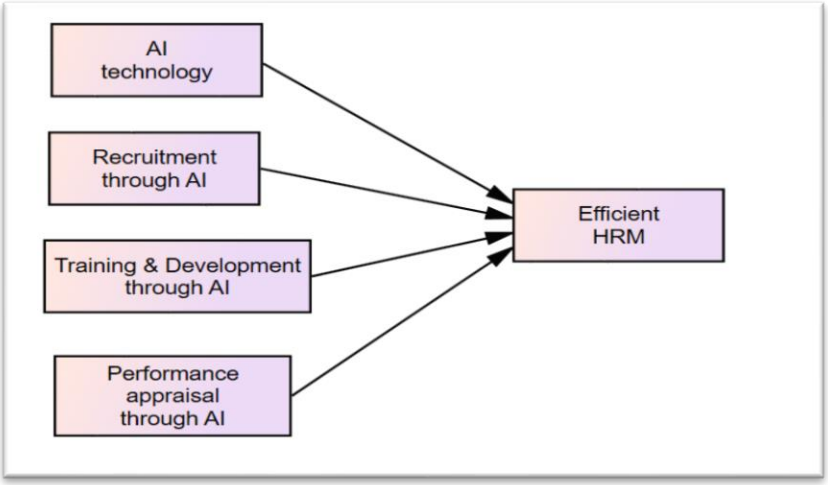
What AI means for HRM

Of all the departments that need data administration and analysis, human resources has the most complex needs. Artificial intelligence (AI) can accomplish a lot of things, such reduce the burden

of staff, simplify procedures, analyze data, and more. Connecting certain machines, computers, and other devices is what AI engineering is all about. Application screening, staff engagement, re-engagement, and career advancement are just a few of the many uses for the AI framework.

A number of HR functions are made possible by the AI programme, including the provision of thorough education, the encouragement of skill development, and the facilitation of certification preparation. An outstanding AI software may boost quick development by providing incentives and awards that are specific to each worker's profile, and it also allows people to work at their own speed.

There is a lot of good literature on the topic of artificial intelligence (AI) in HRM, and it has many uses in the field, from hiring to employee development and training.



Challenges Raised by AI in HRM

1. "Gap in talent": it may be costly and challenging to locate someone with the necessary education and expertise.
2. Wondering about personal data security: Secure access is required for all sensitive HR data, ensuring that only authorized individuals may access it.
3. continuation of maintenance: Like other cutting-edge technologies, artificial intelligence requires ongoing assessment and improvement as well as deep learning.
4. Capabilities for integration: In HR, there has been a shift toward SAAS, which has reduced data availability.
5. There are just a few confirmed uses: Proof of concept alone may support the viability of several goods and services.

How an Artificial Intelligence and Its Application to HRM Impact Efficiency

New artificial intelligence (AI) technologies, including recruitment, training and development, and performance evaluation, should be available from all organizations. Artificial intelligence (AI) has had a favorable effect on human resources (HR) in efficient organizations. Although these HR technologies powered by AI can analyze, predict, and diagnose, they still can't match a human's intelligence or capacity for empathy. However, they are an invaluable asset to any company.

Conclusion

It is up to HR managers and businesses to consider the demands of their employees and the potential consequences of AI-based services, which would impact a certain proportion of the workforce. Findings from this study highlight AI's critical role in determining HRM's trajectory going forward. Companies looking to improve their human resource operations via technology have a road map in the verified beneficial impacts on efficiency and insights into the particular HR roles where AI is most valuable. The study's conclusions give businesses valuable information to help them adjust to AI's transformative effects and make informed choices as they navigate the evolving HRM landscape in the digital era.

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Role of Social Media in Empowering Women Entrepreneurs in India

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Abstract

The purpose of this research was to identify the aspects of social media that have the greatest impact on the success of women entrepreneurs, with a focus on women who utilize these platforms to launch and manage their enterprises. The term "social media" describes a wide variety of online communities where people may publish, share, and exchange information. It includes a wide variety of web-based resources that promote communication and teamwork among users. The study's goals are to(1) identify the various social media marketing platforms; and(2) examine the ways in which these platforms help female entrepreneurs. This research went on to say that women entrepreneurs are defined as individuals or groups of women who voluntarily launch and manage a company. In many fields, including academia, athletics, politics, the media, the arts, the service industry, technology, etc., women play an active and equal role. We need to know how successful female entrepreneurs are using social media to run their businesses, and we also need to know how these same women can empower other women to follow in their footsteps. Findings suggest that social media in its current, unstructured form accounts for a significant portion of India's GDP and job market. In today's business world, female entrepreneurs are a major force.

Keywords: women entrepreneurship, Initiative, Social Media, Successful, Employment.

Introduction

In order to boost a country's economic development, the entrepreneurial mindset is essential. Entrepreneurship is not a mindset but rather the proactive pursuit of change and new chances for employment. Discovering, evaluating, and capitalizing on chances to produce products and services in the future is what it's all about. Finding new opportunities for company by creatively combining existing resources or creating new ones is what it's all about. Because nothing stays the same for very long, companies need to be flexible and respond quickly when customers have questions or concerns. Due to the COVID-19 pandemic's displacement of enterprises, personnel, and markets, there has been an increase in the incidence of firm failure. In 2020, women had a 6.4% higher likelihood of closing their businesses than men did.

Customers seek immediate responses to their ever-evolving requests and requirements. A lot of people who own small businesses utilize social media for a variety of purposes. When compared to bigger corporations, small firms may face unique marketing challenges. Consequently, this trend shows that small company owners have come to see social media for what it is: a powerful marketing tool that is easy to use, effective, and inexpensive. It exemplifies the adaptability of modern businesses to changing technological and commercial conditions. To reach and engage customers, businesses have turned to social media in recent years, which has changed the game for how brands interact with consumers. The global economy relies on small enterprises run by women, and its transformational influence is especially felt by them.

Considering Social Media The term "social media" describes a wide variety of online communities where people may publish, share, and exchange information. It includes a wide variety of web-based resources that promote communication and teamwork among users. Businesses, communities, and people are all able to interact and communicate via social media platforms. Some examples of well-known social networking sites include YouTube, LinkedIn, Instagram, and Twitter. Every person's way of life has been fundamentally altered by social media. It has revolutionized the way people think, communicate, and do business, as well as their decision-making and comprehending processes. There have always been a lot of obstacles for women in business in India due to the patriarchal culture. But there are special chances for female entrepreneurs on social media that help them break through these restrictions and start profitable businesses. Women business owners can use social media to their advantage in many ways, including increasing their exposure, connecting with others, developing their personal brands, interacting with consumers, and ultimately, growing their businesses and brands. Additionally, it discusses the possible hazards and difficulties of social media as they pertain to women entrepreneurs in India. Women company owners in India may break through gender barriers and succeed by using social media.

Female Business Owners

The term "women entrepreneurs" may refer to an individual or collective of women who voluntarily launch and manage a commercial firm. The Indian government has established a definition of "women entrepreneurs" that emphasizes their role in equality and employment inside a company. For this reason, "an enterprise owned and controlled by a woman having a minimum financial interest of 50% of the capital and giving at least 51% of the employment generated in the enterprise to women" is the definition of a woman-run enterprise.

Definition of Women Entrepreneurs

"Women who innovate, imitate or adopt a business activity are known as women entrepreneurs"

- J.A. Schumpeter

"The stage is set for social take-off for women from a low development path to an accelerated pace in achieving higher level of self-sustaining economic growth".

- Dr. Vasanth Desai

Objectives of the Research

1. To learn about the various social media marketing platforms.
2. To examine how female entrepreneurs use social media as a marketing tool for their businesses.
3. To learn about various forms of social media advertising.
4. To examine the ways in which women entrepreneurs are empowered by social media and networking platforms.
5. To research how women-owned businesses use social media.
6. To become successful entrepreneurs by learning how to leverage social media.

Women business owners in India

A crucial component of human resource development is empowering women to start their own businesses. In India, the number of women who have started their own businesses is quite low. One of the most rapidly expanding segments of India's entrepreneurial population at the moment is the number of women who operate their own enterprises. In recent times, there has been an emphasis on women's entrepreneurship. More and more women are learning about themselves, their rights, and the workplace. Nonetheless, middle-class women are wary of societal backlash if they change their traditional roles. Among metropolitan middle- and upper-class households, the improvement is more apparent. The desire to go out on one's own is a common motivator for entrepreneurs.

Actually, a lot of these entrepreneurs aren't getting any formal coaching on how to run their businesses. They get the same knowledge by making mistakes, and then they point out the opportunities and threats that lie ahead. Knowing the history of women in India and the many role models they have had is essential to comprehending Indian women, their identity, and particularly their role taking and path breaking.

In order to meet the demands of the market, more and more women are pursuing degrees in professional and technological fields. As a result, they are finding success in fields such as fashion design, interior decoration, exporting, publishing, and garment manufacturing, among others. Perhaps these are the reasons why academic institutions, government agencies, NGOs, social scientists, and researchers from across the world have taken an interest in women business owners in India. Women business owners have shown themselves in the traditionally male-dominated business world by investigating potential new ventures, taking calculated risks, introducing ground-breaking inventions, and coordinating the management and control of the company.

Women in Global business

Throughout the last few thousand years, there have been several significant shifts for women in global commerce. The history of women in India has been filled with events, spanning from ancient periods when they were equal to males to the medieval era, when they were oppressed, and finally, the support of equal rights by many reformers. Several prominent Indian political figures in contemporary times have been women, including the country's president, prime minister, speaker of parliament, and opposition leader. In many fields, including academia, athletics, politics, the media, the arts, the service industry, technology, etc., women play an active and equal role.

According to the Global Entrepreneurship Monitor, the number of women starting their own businesses has been rising globally in recent years. But there is still a gender disparity in the number of entrepreneurs, with women being the most underrepresented demographic. If we can persuade more women to apply their abilities to their full potential in established businesses or in the launch of new ventures, our economy will reap great benefits. About 90% of men and women who operate their own businesses work for themselves. There are a lot of programs out there that aim to help women understand their role in the workplace and encourage them to start their own businesses, which is a crucial policy goal for many areas.

What role do networking and social media play in empowering female entrepreneurs?

There has always been a cultural bias against women who work outside the home or establish their own enterprises. But in the long run, modern women are starting to make it big with microbusinesses that are heavily dependent on social media and other internet technologies. Social

media is especially important for Indian women business owners, since 63% of these companies promote themselves on social media sites like Facebook and Instagram. Women company owners may find their ideal consumers and connect with other women business owners via the power of social media. With the rise of online platforms and social media, millions of women all over the globe have found a new way to start their own businesses.

Women Business Owners in India and the Role of Social Media

Due to the widespread availability of mobile phones and cheap data, several unforeseen consequences have emerged. The creative economy has been strengthened as a result, which is great news for female creators who are looking for new ways to get into the profession.

Because to social media, amateur producers may take charge of their content's dissemination and profit again. Conventional channels for content promotion, like television networks or publishing deals, are becoming obsolete. Rather, it has evolved into a DIY movement, with people able to showcase their creations on their own websites or social media accounts. But now a big change is happening, and that is the transition from just being famous to really making money.

Entrepreneurial women are making waves in the digital world, particularly in the realms of style blogging and tech leadership. They build their names and engage with fans in their own unique ways by using social media. It help to prove that entrepreneurship is the way to achieve success no matter if you are a man or a woman, from the working or privileged class. On the contrary, success is made through the determination of ambition, novelty thinking, adaptability, and good oratory skills in the society. Indeed this is the right time that women with entrepreneurial minds share their ideas on their followers, communities and the audiences.

In the light of the current study, social media has been discovered to bring a new form of awakening to women business owners in India. Some important ways that social media has given women business owners a leg up in the nation are as follows:

Traditional hurdles: Common examples are the ability of women to leverage social media platforms to shatter long-held glass elevator in the business world. It eliminates distance fixations and empowers women to fight gender Sodomy in order to construct their personal commercial opportunities.

Increased exposure and credibility: It means that women business owners can name themselves on social media platforms and show the world what they can do. It erases gender discriminations and the context in which women may perform and succeed based on ideas and content rather than their gender.

Social networks are helpful in within formation of women business owners, allowing the women to discuss ideas, information, and experiences. The use of twitter chats, linkedIn groups and Facebook groups all bring togethsr women with similar interests and they get to learn from each other or even work together in some projects.

Possibly the most telling benefit of not requiring first-time massive investments in advertising is that social media directly opens doors to markets and consumers. Women business owners maybe able to reach to more customers directly on social media and for a lot less than what it would cost them to use other forms of advertising media.

The Function of Social Media for Female-Led Businesses

This research targets to give a philosophical approach on the different works of women entrepreneurs as their instruments for business social media, and establishing the contribution of social media for women entrepreneurship. Social media is a product of more than 20 years of existence and development, though they have evolved themselves into tools to interact with family and friends through virtually limitless connectivity.

The last ten years technology, particularly social media brought about unprecedented interconnectedness globally. Internet usage is universalạm reaches over 70% to 80% of people in developed and developing countries and the users are mainly the youth aged between 18–35 years. These young adults spend a disproportionate amount of time on social media and the internet, whether it's searching for information, shopping, or just chatting with friends and family. Thanks to social media and other forms of modern technology, millions of individuals across the world are able to start their own enterprises or participate in existing ones. Millions of women have taken advantage of these chances, and for over a decade, women have utilized social media to sell goods and services. This trend is not exclusive to women entrepreneurs.

Numerous doors have opened for self-reliant women because to the proliferation of social media. For all those women with the ability to change things, it has been a fortunate turn of events. As

a result, women's economic empowerment has been greatly aided by social media. The gap between abstract, floating ideas and their seamless implementation has been partially filled by social media.

Some ways that social media has aided women's economic empowerment are as follows: It is now much simpler to connect with clients and build simple networks: Managing all of the spending and investing heavily were the mainstays of traditional marketing strategies. On the other side, social media has improved marketing strategies. Useful social media marketing offerings make marketing efforts a breeze to manage.

There is no greater way to directly construct one's market than via social media platforms, which allows for direct connection with consumers and, hopefully, improved engagement. The rise of social media marketing has made it easier than ever for businesses to keep consumers up-to-date about sales and new products. A growing number of female business owners are taking use of this medium of expression to raise their profile in the marketplace.

Bigger gains are possible with more partnerships: It may be a real pain to try to build a devoted consumer base via social media.

In order to broaden their professional horizons, female entrepreneurs might join a wider network of other companies. This is where teamwork really shines, as it often results in more exposure for one's own brand on the internet. Women, in particular, may gain from this as, unlike males, they are more likely to pitch in and help one another out.

When running a company on social media, women entrepreneurs should prioritize the following

Find out who you want to sell to and figure out how to get in touch with them. Grab their interest with the perfect product or service.

Pick the best combination of social networking sites. Find the platform that complements your product and target audience the most.

Arrange for the regularity of postings. People will stop caring about your business and unfollow if you don't provide them with fresh, interesting content or innovative goods. Make smart, original movies and images showcasing the items. This is going to be the main element that draws in your target audience to your brand on social media.

Motivate clients to provide favorable evaluations. This is something significant good which might affect other followers to make the right purchasing decision.

Focus on building relation with people. For word-of-mouth to be effective it has to meet or even exceed the expectations of the customers.

Set a plan of how best to deliver high quality service.

What can a flourishing female entrepreneur do to positively impact the lives of other females by using social media platforms?

One responsibility that successful female entrepreneurs have within social media platforms is to mentor young attitude female business owners. It can also be expected that the help and guidance that the aspiring entrepreneurs receive from them will certainly be to the benefit of the latter and because of their expertise and experience. How successful female entrepreneurs may use social media to inspire one another is as follows:

Establishing a mutually beneficial network

This is very good news for successful female entrepreneurs because they can easily find likeminded people on social media platforms. They might motivate and propel young women, who are planning to start businesses of their own, by sharing their experiences of the highs and lows of being businessmen women. They may motivate team formation, offer advice and foster an environment where prospective entrepreneurs can find an ear through meetings conducted online, chat with other entrepreneurs online etc.

Availability of information and materials

Female business owners who have enjoyed success in their businesses may engage in training more new business owners through the sharing of their experiences on social media. They might help to inform people about the latest developments in the industry by saving and swapping suitable articles, bog posts, and other materials. As such, they may provide the prospective owners of companies the knowledge of the ways to reach for the company's growth through offering such things as online classes, webinars, and other learning materials.

Promoting partnerships spearheaded by women

Successful female entrepreneurs who use social networks as a means of communication can find other great-minded business owners to share the details of the partnership. It has the capability to

start conversations, point at successes of females running their businesses, and connect those who share interests and skills. An environment of cooperation and teamwork can only be fostered by way of educating these aspiring business entities to empower each other by playing to each other' s strengths to ensure that a team effort is employing the best strategies to deliver on their objectives.

Shifting the focus from work to life

High profile women in business could post how they balance between work and care giving on the social media platforms. As a result, female entrepreneurs can share information on how they can tackle the challenges experienced in their businesses by sharing tips on how to balance work and family commitments. They may inspire those who wish to become business owners to start businesses without losing their loved ones' company by passing the simple message that it IS possible to be in business as well as having a fulfilling personal life.

Cracking the code on social and cultural

Thus, social media becomes a perfect weapon for cultural and social norms fighting by successful women-entrepreneurs. They have the ability to debunk myths and drive gender equality in business, should they want to, with access to their platform and followers. Helping women, who are dreaming to become successful businessmen, to achieve their goal regardless of social prejudices and expectations it is possible to inspire them with success stories and examples of other women businessmen.

This is an excellent approach successful female entrepreneur can use in order to support other female entrepreneurs, through social media to create networks that can assist aspiring and starting female entrepreneurs. These young women entrepreneurs might find the help of the other women urging them to learn something new about entrepreneurship, create networks, reconsider how they balance work and the family, face social challenges, and make others learn from their experiences.

Conclusion

The trend of using social media as a marketing tool has really helped the ladies in India to take their business forward. All the possibilities and applications of social media and its multiplicity of types have changed the way brands interact with buyers, and women are among the first to seize this opportunity. Social media has helped female entrepreneurs in many ways: eliminating barriers, finding people with similar interests, having an opportunity to get resources, partnership, new perspective on work-life balance, and doubting the efficiency of various norms. Due to the social networks female

businessmen have a place to where they may come find role models, also work on specific projects most of which suits there creativity, and also they can relate with other women. The rapid growth of influencer marketing, advancements in augmented and virtual reality (AR/VR) and artificial intelligence (AI), dawn of personalization and absolute dominance of video format all signify a promising future for social media in India for companies. It is a rapidly evolving business environment and matrix where women business owners can foster innovation, power and positive achievement provided they leverage in social media.

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An Examination of CSR Efforts by Indian Banks

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Abstract

By implementing corporate social responsibility (CSR) initiatives, a business or organization can easily improve its reputation in the marketplace. The main objectives of corporate social responsibility are to uphold moral standards and advance society. CSR considers the value for their customers as well as internal and external factors. Significant corporate social responsibility (CSR) contributions benefit businesses in a variety of ways, such as improved finance availability, new opportunities, stakeholder satisfaction, staff retention, and brand image. Banks are expanding their customer base through corporate social responsibility programs as globalization picks up speed. The Indian banking industry's corporate social responsibility (CSR) program is centred on initiatives like poverty alleviation, rural area development, and health and medical care. Additionally, it seeks to tackle financial inclusion, offer financial services to bolster domestic investment, and advance the nation's socioeconomic growth. In addition to several other projects, the Bank's CSR efforts are primarily focused on environmental sustainability, Swachh Bharat Abhiyan, and educational programs like Beti Bachao Beti Padhao Abhiyan. The purpose of this study is to assess the CSR initiatives that the banking industry has put in place. The information comes from the bank's CSR report.

Keywords: CSR, Goodwill, Ethical, Globalization, Development, Environmental, Initiatives.

Introduction

The Companies Act, 2013, passed by the Ministry of Corporate Affairs, Government of India, was one of the largest attempts globally to mandate corporate social responsibility (CSR). It mandated that businesses participate in CSR efforts that bolstered social welfare programs. Therefore, for a small number of companies registered under the Act, India is currently the only country that regulates and mandates corporate social responsibility

(CSR). CSR, or banking social responsibility, is now a global mandate. In appreciation of corporate social responsibility, educational, cultural, environmental, and health initiatives, banks worldwide now provide support 4,444 times a day. Furthermore, they finance charitable organisations and vulnerable populations (Persefoni Polychromatous *et al.*, 2013). Actually, the role of CSR in banks has been the subject of numerous studies. Furthermore, there is a fair amount of research on the causes, consequences, and application of social responsibility. Nevertheless, further CSR obstacles,

Since bank CSR models and banking industry success criteria are still not well established, 4,444 more research papers on crucial topics are required.

This CSR effort will transform India through the achievement of sustainable development goals and public-private partnerships. Corporate social responsibility (CSR) is a self-regulating business model that can help a company become more socially accountable to its stakeholders, the public, and itself. Although the idea of corporate social responsibility is not new, its main emphasis shifts in response to shifting business needs and societal trends. The notion of corporate social responsibility was first referenced in the 1953 book "Businessman" by William J. Bowen, which focused on social responsibility. Let's discuss the various forms of CSR:

1. *Environmental Responsibility*: The idea that businesses should operate in a way that benefits the environment as much as is practical is known as environmental concern. This is one of the most widely used forms of CSR. Some companies call these initiatives "environmental stewardship" programs.

2. *Ethical Responsibility*: Ensuring that a firm is conducting its operations in a fair and moral manner is the aim of ethical responsibility. Businesses that respect ethical responsibility in their operations strive to apply morality by treating all stakeholders—executives, investors, suppliers, and customers—equitably.

3. *Philanthropic Responsibility*: This refers to a company's intention to actively enhance the globe and society. Businesses motivated by social responsibility frequently conduct their business in an ethical and ecologically responsible manner while also distributing a percentage of their profits. While many businesses support charities and organisations that share their values, some donate to deserving causes unrelated to their industry. To give back and better society, some even create their own charitable trust or non-profit organisation.

4. Financial Accountability Economic responsibility is putting a company's commitment to doing good at the center of its financial operations. The ultimate objective is to ensure that, in addition to boosting profits, company activities benefit society, the environment, and people. Most businesses choose corporate social responsibility (CSR) because it aligns with their moral principles and has the potential to improve society in a number of ways. The triple bottom line is one concept that typically serves as a guidance for businesses. Bottom line. It states that a company must be dedicated to tracking its earnings, social and environmental effects, and sustainability initiatives. A common saying that captures the essence of this idea is "profit, people, planet," which is also known as the "three P's."

To benefit society and its stakeholders, businesses must actively integrate social and other good factors into their operations, according to the theory known as "corporate social responsibility" (CSR). The goal of this strategy is to raise environmental awareness and corporate social responsibility.

However, any company that fulfilled any of the following criteria in the preceding fiscal year is subject to the CSR regulations:

1. A net worth exceeding Rs. 500 crore
2. Over Rs. 1000 crore in turnover
3. A net profit exceeding Rs. 5 crore

The Board of Directors of every business subject to the CSR requirements must certify to the company's dedication to upholding its CSR policy and allocating at least 2% of its average net earnings from the three fiscal years prior to every fiscal year to CSR projects. According to the company's CSR policy, 2% of the average net income from the three fiscal years before the company's founding will be used if those years haven't already passed. Corporate social responsibility, or CSR, has become increasingly important in today's business world, particularly in the banking and finance industries. Banks and other financial institutions start promoting environmentally and socially responsible lending and investing practices. The Reserve Bank of India has made the decision to prioritise energy-efficient building methods in order to reduce adverse ecological and environmental impacts. The Bureau of Energy Efficiency awarded the Bank's first star ratings to its branches in Bhubaneswar and New Delhi. There are four structures in today's business world, particularly in the banking and finance industries.

Banks and other financial organisations begin to advocate for lending and investing methods that are socially and environmentally responsible.

Additionally, the RBI (2007) instructed Indian banks to begin their CSR initiatives for sustainable development and non-financial reporting activities for the environmental, social, and economic accounting periods. The Reserve Bank of India (2007) states that corporate social responsibility (CSR) allows a business to incorporate social and environmental concerns into its business operations and stakeholder relationships. The corporate social responsibility (CSR) priority areas of Indian banks, both public and private, are similar. These include issues related to children, social welfare, healthcare, education, the environment, rural development, employment, women's empowerment, and gender-based poverty prevention. To encourage long-term expansion, the Small Industries Growth Bank of India, which acts as the major source of capital for small and medium-sized enterprises, has included social and environmental issues into its core business activities. It is providing small and medium-sized enterprises that are launching energy-saving initiatives and putting pollution control plans into action with substantial and flexible loans. CSR is a broad term that refers to an organization's efforts to significantly impact society. The following justifies the importance of CSR:

- Corporate social responsibility (CSR) improves a company's reputation by supporting efforts for a better society and increasing its chances of gaining clients.
- CSR increases media coverage since it presents the company in a positive light.
- By cultivating strong relationships with its customers, CSR enhances a company's social capital.
- CSR helps companies differentiate themselves from rivals when they interact with any kind of community.

An illustration of corporate social responsibility

1. ICICI Bank is eliminating hunger, promoting cleanliness, and offering free healthcare to the Swatchh Bharat Kosh.
2. The HDFC Bank-developed program for skill development and advancement is sponsored by Parivarthan, a subsidiary of the bank.
3. To safeguard the disabled and empower over 10 lakh Indian communities, SBI introduced the SBI Grama Seva program.

Economic Responsibility

The banking industry plays a major role in the expansion of the Indian economy by sustaining a variety of industries, such as energy, transportation, logistics, defence, fashion, pharmaceuticals, technology, information technology, fisheries, iron and steel, agriculture, retail, warehousing, manufacturing, services, and others. Better financial aid is urgently needed and opens up new avenues for methodical resource management and risk management. Additionally, by implementing the following actions, you can advance CSR and gain the trust of your esteemed clients:

1. Providing funding for classroom literacy.
2. Offers residents safe water.
3. Giving money to non-governmental organisations.
4. Turning over the car to the police and medical facilities.
5. The creation of universal immunisation camps.
6. The defence of those suffering from mental illnesses.
7. Opening an account for others who are less fortunate.
8. Encouragement of creative and scientific endeavours.
9. Giving locals access to business training.
10. The construction of brand-new bus shelters nearby.
11. Modern medical equipment for hospitals.
12. Financial assistance for nursing homes and child care centres.

Financial Liabilities

By supporting a number of industries, including energy, transportation, logistics, defence, fashion, pharmaceuticals, technology, information technology, fisheries, iron and steel, agriculture, retail, warehousing, manufacturing, services, and others, the banking sector contributes significantly to the growth of the Indian economy. Better financial aid is urgently needed and opens up new avenues for methodical resource management and risk management.

Literature Review

CSR is not a novel concept. Only the focus point is always changing to satisfy both business goals and societal needs (Aupperle, 1985). Corporate social responsibility includes more than just making a profit; it also includes protecting the environment and making various developmental contributions to society. The importance of corporate social

responsibility, or CSR, has increased. It's a notion where a company combines commercial and social responsibility. Activities. Companies are required to return the resources they took from the community.

CSR first emerged in 1960 as an effort to connect business and society. During this time, the prevailing notion was to use resources responsibly, i.e., to advance social welfare in addition to economic growth. The primary contention was to use the tools of production available to the economy through production and distribution in a way that would improve socioeconomic well-being overall. Pinto (2006) believes that the "enterprise has a single and exclusive social obligation, which is to use its resources and engage in profitable endeavours as long as it plays by the rules, that is, participates in open and rivalry free from dishonesty or deceit."

In early 1973, State Bank of India introduced the concept of corporate social responsibility (CSR) under the term Innovative Banking. Both banking and non-banking activities were covered by this idea. The bank initially concentrated on providing opportunities for the poor and disenfranchised segments of society to improve their financial situation. As part of its non-banking activities, the bank focused on community projects that promote superior public administration. The previously described including blood drives, health camps, educational initiatives, participation in local festivals, etc. These days, the bank fulfils its CSR responsibilities to the community and acts as a responsible corporate citizen by using Community Service Banking Schemes. Numerous studies have demonstrated that this is also true in the context of SBI. According to Rana Ashutosh Kumar Singh, DMD and CDO of SBI, the bank is the most respected in the country. For over 200 years, we have believed that the bank has a responsibility to contribute to the well-being of society.

CSR acknowledges that companies must act in a way that is socially responsible. CSR initiatives are growing in popularity for a variety of reasons, according to Dusuki and Dar (2005). more significant. These include heightened market demand for ethical and social issues, ongoing demands from various regulatory agencies, and greater media coverage. Sharma (2011) noted that the lack of institutional norms controlling CSR reporting is the reason why CSR efforts are weaker in emerging countries, particularly in the banking industry.

S. Kaur (2016) discussed how banks focus their CSR efforts mostly on rural development, education, women's welfare, and women and children. Incorporating more social development issues that are related to business will help banks increase their corporate social responsibility (CSR) activities. Their analysis indicates that the majority of the total donations to the programs have come from public financial institutions. The private sector However, international banks and financial institutions are falling behind in this area.

E. Sharma and M. Sathish (2022) assert that a comprehensive ideology is required to determine the practical ramifications of the banks' CSR operations. For the banks to keep all of their operations "SMART," or truthful, ethical, liable, answerable, and transparent, they must create an appropriate and creative plan. Additionally, they should focus on the useful fields that will have a favourable impact on the long-term growth of the economy. Current studies in this field demonstrate that many facets of corporate social responsibility (CSR) and sustainable banking necessitate an assessment and comprehensive presentation of the existing literature, as well as recommending future directions for more study and value addition. Consequently, a study of the literature on sustainable banking and To understand and stay up to date with the present research emphasis and future trends for sustainable banking, CSR activities are essential.

In order to examine CSR practices in Indian public and private sector banks that are listed on the BSE and NSE, Parthiban, Aiswarya S. Sajeev, and Dinesh Kumar R. (2018) conducted trend analysis. They found that leading private sector banks are taking part in an increasing number of corporate social responsibility initiatives. A population's economic, legal, ethical, and charitable expectations of a company or corporate state are known as corporate social responsibility. According to this definition, corporate social responsibility calls for more expertise and professionalism in the banking industry than in the financial sector. Furthermore, the significance of adhering to moral guidelines and confirming the abilities of cooperation partners, as well as crucial aspects of transparency that highlight institutional collaboration and interest. The benefits and drawbacks of corporate social responsibility were discussed by Masud Rana (2015) from the viewpoints of numerous public and private banks. The banking sector used to be able to exist only on customer satisfaction and profit margins, but these days, a corporation needs to act morally and contribute a portion of its earnings to societal development if it hopes to stay in business.

Some banks disregard corporate social responsibility, which is bad for our economy and society, according to Shravya Saxena's (2016) research. Giving to charities and the underprivileged is only one aspect of corporate social responsibility (CSR); another is attempting to reduce poverty among these individuals. In a different poll, Dutta and Durga Mohan (2009) found that after education, social factors and health rank second and third, respectively. Similarly, a poll on how companies view specific CSR factors has been presented by CSM (2001). Businesses value a number of CSR aspects, including national wealth, employment, the environment, and social programs including those related to health and literacy.

Businesses have utilised corporate social responsibility (CSR) to calculate cost-benefit ratios, and it has become increasingly significant as a part of strategic decision-making. Corporate responsibility, according to Wilson (2000), must start with the understanding that a company needs to be successful in order to generate a return for its shareholders that would motivate "continuation of investment." Companies have started to handle their stakeholders with dignity and provide them a platform for discussion. The development of conduct codes was aided by the implementation of certification programs by companies, labour unions, environmental groups, and other relevant parties (Kapstein, 2001).

Research conducted in 2011 by Suman Kalyan Chaudhury, Sanjay Kanti Das, and Prasanta Kumar Sahoo indicates that knowledge of corporate social responsibility (CSR), sustainable development (SD), and non-financial reporting (NFR) has increased globally. Their involvement is crucial given the vital role those financial institutions—banks in particular—play in sustainable development. They contribute to the financing of international development and economic projects. initiatives for corporate social responsibility in the hotel sector that exacerbate environmental and social space degradation.

Additionally, the study makes an effort to distinguish "sustainable development" and "green practices" from CSR. It's possible that "green practices" refer more to eco-friendly behaviour. The terms "environmental sustainability" and "sustainability" describe the methods and procedures that businesses employ to get better. However, corporate social responsibility (CSR) is a multifaceted notion with three elements that cannot be viewed as a single idea for an organisation.

The findings suggest that public sector banks contribute more to corporate social responsibility than private sector banks. the CSR initiatives of the Indian banking industry and identifies the topics in which banks talk about CSR before concluding that they use it as a marketing gimmick. The latest CSR efforts in the Indian banking industry are identified. States that bank are focussing on at the moment the importance and necessity of environmental preservation and social wellbeing. examines the many CSR programs that Indian banks have put in place, highlighting the contributions made and the impact these programs have on the performance of the banks.

Research Methodology

For this article, we chose five Indian banks as an example. These include: Bank of Baroda; Punjab National Bank; State Bank of India; HDFC Bank; and ICICI Bank.

We examined each of these Indian banks' corporate social responsibility (CSR) programs, focusing on their strong points and areas for further development in order to become more innovative and dynamic. There have been discussions on issues including education, ruralization, the welfare of women and children, and ending poverty.

Health

Organisations provide a variety of health services around the country as part of their CSR initiatives, especially in rural areas with limited access to medical facilities. reachable. The banking sector participates in a number of significant CSR programs in the medical field, such as blood banks, medical camps, ambulances, generators, water purifiers, medical equipment distribution, patient financial aid, prosthetic limb distribution, mobile clinics, hospitals, adult diapers and dresses, support for the physically challenged, and various health projects. The following CSR initiatives are included in the health portion of this paper: health care and medical camps; financial assistance to patients; provision of hygiene or sanitation facilities; provision of ambulances and medical equipment; and distribution of mobility aids and artificial limbs. Controlling pollution, managing garbage, protecting and planting trees, providing dustbins, collecting rainwater, creating green belts, using renewable energy sources, maintaining ecological balances, and

Environment

The rapid expansion of industry leads to an excessive use of the resources that are accessible. Natural resources are being used by organizations in enormous quantities. CSR in the environment actions is designed to reduce any negative impact that business operations may have on the environment. Pollution control, waste management, tree planting and protection, dustbin availability, rainwater harvesting, green belt development, use of renewable energy sources, ecological balances and natural resource conservation, environmental protection activity, etc. are major CSR actions carried out by the banking industry in the environmental field. The following CSR initiatives are examined in this paper's Environment section: conservation of natural resources, utilization of renewable energy sources, promotion of clean India, planting and preservation of trees, and environmental sustainability and protection.

Social development

Corporate Social Responsibility (CSR) initiatives support society's efforts to improve the standard of living. Society and business are essential to each other's growth. Organizations employ social resources to grow their business and, in turn, benefit society through their endeavours. These initiatives are carried out in the company's location. Here are several environmental sector initiatives that the banking industry has embraced, including job creation, skill development, women's empowerment, rural development, infrastructure, livelihood (food for the underprivileged, water filters, gas stoves), training for the advancement of people with disabilities, etc. The skill development, women's empowerment, social welfare, livelihood, and rural development are CSR activities that are taken into account in this article within the social development area.

Education

CSR initiatives support the nation's efforts to provide high-quality education. A dearth of high-quality educational resources contributes to the high school dropout rate. Diverse instructional Students benefit from CSR initiatives and receive high-quality educational resources. The banking industry engages in a number of major CSR initiatives in the field of education, including study kits for students, computer and laptop loans, furniture and uniform provision, skill development, training, financial literacy, e-learning facilities, digital libraries, projectors for smart classrooms, public awareness campaigns and more. Scholarship programmes, financial literacy, vocational skills, education

promotion, and the provision of study materials and tools are CSR initiatives that are taken into account in this article under the Education area. Environment: The rapid expansion of industry leads to an excessive use of the resources that are accessible. Natural resources are being used by organizations in enormous quantities. CSR in the environment actions is designed to reduce any negative impact that business operations may have on the environment. Pollution control, waste management, tree planting and protection, dustbin availability, rainwater harvesting, green belt development, use of renewable energy sources, ecological balances and natural resource conservation, environmental protection activity, etc. are major CSR actions carried out by the banking industry in the environmental field. The following CSR initiatives are examined in this paper's Environment section: conservation of natural resources, utilization of renewable energy sources, promotion of clean India, planting and preservation of trees, and environmental sustainability and protection.

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and more. Scholarship programmes, financial literacy, vocational skills, education promotion, and the provision of study materials and tools are CSR initiatives that are taken into account in this article under the Education area.

Major CSR initiatives in the environmental sector that the banking sector undertakes include environmental protection, conservation of natural resources, etc. The section on the environment in this paper looks at the following CSR initiatives: protecting the environment, using renewable energy sources, planting and maintaining trees, promoting clean India, and conserving natural resources.

Development of society: Initiatives aimed at enhancing the standard of living in society are supported by corporate social responsibility, or CSR. The development of business and society is interdependent. In order to expand their operations and, ultimately, improve society, organisations use social resources. These programs are implemented on-site at the business. The banking sector has supported a number of environmental sector activities, such as skill development, women's empowerment, job creation, rural

Findings

Table 1: Comparison of various schemes of CSR part 1

Name	Health & Care	Environmental activity	Tree plantation	Education	Social Service
State of India	Yes	Yes	No	No	Yes
Bank of Baroda	Yes	Yes	No	No	Yes
HDFC	Yes	Yes	No	No	Yes
ICICI	Yes	Yes	No	No	Yes
Punjab National Bank	Yes	Yes	No	Yes	Yes

Table 2: Comparison of various schemes of CSR part 2

Name	Women Empowerment	Rural Development	Welfare Society	Skill Development	Financial literacy
State of India	Yes	Yes	No	No	Yes
Bank of Baroda	Yes	Yes	No	No	Yes
HDFC	Yes	Yes	No	No	Yes
ICICI	Yes	Yes	No	No	Yes
Punjab National Bank	Yes	Yes	No	Yes	Yes

SBI

State Bank of India (SBI), the largest bank in India, is a leader in corporate social responsibility (CSR) efforts and committed to bettering the communities it serves. In FY2023, the bank has committed INR 316.76 crore to fund corporate social responsibility activities. A significant portion of their influence is also derived from the fact that 70–80% of their CSR initiatives target the poor and marginalised. SBI consistently emphasises its commitment to ethical and sustainable banking.

Baroda Bank

The bank participates in CSR activities through RSETIs, FLCC centres, and other CSR projects like contributions. Through a variety of programs in the following areas, it also actively supports socioeconomic development: women's empowerment; social welfare and economic development; sanitation, health care, education, drinking water facilities, and literacy; youth training initiatives; Among other things, the promotion of digital payments. In addition to the previously mentioned, the following categories' expenses in 2022–2023 total 1350.50 core: Instruction and Training Health and Care, Women's Empowerment and Welfare, RSETIs, and Social Welfare and Economic Development.

HDFC

HDFC Bank was one of the country's largest CSR spenders for the fiscal year that ended in March 2023. As of March 31, 2023, the Bank had invested Rs 820.89 crore in CSR initiatives across the country. As of March 2023, the Bank has reached over 9.93 crore beneficiaries nationwide, substantially strengthening its impact.

1. Details of the Parivartan fact sheet:
2. About 14,000 solar lights have been installed.
3. Over 74,500 competent farmers were present.
4. Approximately 94,000 female entrepreneurs received training.
5. Over 750 educational institutions were constructed.
6. Roughly 1,000 water-efficient structures were constructed
7. Over 4,300 biomass burners were made available
8. More than 2,600 sanitary units have been installed.
9. Over 1.40 lakh financial literacy workshops were conducted.

* Impact statistics as of March 2023, encompassing both direct and indirect recipients

ICICI

Today, it was announced that ICICI Bank would contribute Rs 1,200 crore to the esteemed Tata Memorial Centre (TMC), which runs cancer treatment and research facilities around the country.

ICICI Bank will use its CSR funds to contribute money to build three new, 7.5 lakh square foot facilities with state-of-the-art equipment at TMC's centres in Visakhapatnam, Andhra Pradesh; Sultanpur, Punjab; and Navi Mumbai, Maharashtra. Over 2.6 million trees have been planted nationwide by the ICICI Foundation. built capacity to collect 17.1 billion litters of rainwater annually at 5000 rural schools and watershed structures, installed rooftop solar panels for rural schools, and enhanced the lives of over 2.9 million people through skill-building programs, with skilled labour accounting for more than half of those benefits.

PNB

Each CSR initiative is overseen by a certain industry, such as healthcare, education, rural development, or the environment. However, PNB does not disclose the exact amount it spends on each industry separately. To ascertain the investment in a certain industry, you can review their extensive 2022–2023 CSR report, which is available on their website. 55,898 of the nearly 3.5 lakh recipients of the programs experienced immediate changes in their lives as a result of various interventions. recently renovated facility with cutting-edge equipment and labs, were added to two government hospitals and six health facilities. 250 deaf children were given aid in the form of hearing aids so they could hear. 73 schools have received advanced infrastructure, including e-learning installations. They established seven businesses to function.

Conclusion

The Indian banking sector is keen to incorporate sustainability into its operations, but its CSR reporting practices are far from meeting standards. The majority of banks utilise corporate social responsibility (CSR) as a marketing tool, and many just attempt to promote CSR symbolically by supporting events, giving to nonprofits, or contributing to charity organisations. An overview of Indian banks' corporate social responsibility (CSR) policies is given by this study. This article shows how Indian banks are trying to improve the condition of the country's impoverished neighbourhoods and give back to the community. The main areas of interest for the model banks include rural development,

education reform, MSME growth, internet banking awareness-raising, skill development, and training. Every aspect of development should employ these processes. The bank must decide on and implement a number of social responsibility programs. The CSR initiatives of Indian banks are limited in some areas and completely ignored in others.

Numerous corporate social responsibility initiatives have been participated in by both public and private banks. Private sector banks like HDFC and ICICI Bank, as well as public sector banks like State Bank of India, Punjab National Bank, and Bank of Baroda, have excelled in a number of CSR areas. Banks' implementation of social responsibility is most noticeable in the following domains: education, skill development, healthcare, financial inclusion and awareness, environmental sustainability, and rural economic growth. Women's empowerment, sports, vocational skills, sustainable livelihoods, poverty and nutrition, and the water issue are among the neglected subjects. For In addition to making corporate banking decisions that consider climate change, banks must ensure that their staff members receive enough training on the social and environmental hazards of financing.

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An Overview of Digital HRM

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Abstract

Human Resource Management has undergone a digital transformation with the advent of Digital HRM (DHRM). The processes in DHRM are supported by information technology (IT), as well as mobile, electronic, social media, and other online platforms. These devices will build HRM's significance in the ongoing climate. The capacity to perform human positions utilizing programming, an assortment of applications, and the web is an element of computerized HRM. Through the powerful utilization of social, versatile, examination, and cloud (SMAC) advances, computerized HR will empower associations to assume command and obligation to ensure that inner suppositions and assumptions persuade the appropriate way of behaving. This study intends to stress the commitment of computerized HRM to improving authoritative execution. Essential as well as Auxiliary information were utilized in this review. For a business association to comprehend and apply advanced human asset the board and to improve and upgrade authoritative execution, the review's discoveries would be vital.

Keywords: DHRM, Execution, Data innovation

Introduction

In the present quickly developing business scene, associations are progressively perceiving the significance of computerized advancements in driving their tasks and acquiring an upper hand. As innovation proceeds to reshape the way business' capability, the field of Human Resource management (HRM) has additionally gone through critical changes. Customary HR rehearses are being changed by the reception of advanced arrangements, leading to another worldview known as Digital Human Resource management (DHRM).

Advanced HRM use Digital innovations to improve HR processes, upgrade correspondence and cooperation, further develop independent direction, and at last add to authoritative execution. It envelops a scope of works on, including the execution of HR programming frameworks, mechanization of schedule HR errands, digitization of worker records, use of information examination

for HR experiences, and the joining of advanced apparatuses for enrollment, preparing, execution the board, and representative commitment

History of Digital HRM

The history of Digital Human Resource Management (HRM) is intertwined with advancements in technology and the evolving needs of organizations to manage human resources more efficiently. The digital transformation in HR has been a gradual process, shaped by the increasing use of computers, the internet, and, more recently, artificial intelligence (AI) and big data. Here's a timeline of the key stages in the development of Digital HRM:

1. Early HRM and the Pre-Digital Era (Pre-1970s)

Before the digital age, Human Resource Management was heavily paper-based and manual. HR tasks such as recruitment, payroll, performance evaluations, and employee record-keeping were done manually, which was time-consuming and prone to errors. HR was often viewed as an administrative function rather than a strategic partner.

2. The Advent of Computers and the First HR Software (1970s-1980s)

In the 1970s and 1980s, the advent of computers began to automate administrative HR tasks. Early HR software systems were introduced to streamline basic functions like payroll, time tracking, and benefits administration. These systems, however, were isolated and not integrated with other business functions.

Key developments

- Payroll systems: Early HRM systems mainly focused on automating payroll and benefits.
- Mainframe systems: Large organizations implemented mainframe systems to manage HR data more efficiently.

3. The Rise of HRMS (Human Resource Management Systems) (1990s)

The 1990s marked the rise of Human Resource Management Systems (HRMS), which integrated several HR functions into one system. HRMS platforms combined recruitment, training, payroll, performance management, and employee records into a centralized database. These systems allowed HR professionals to move beyond manual processes and focus more on strategic management.

Key developments

- Client-server architecture: Companies adopted HRMS solutions on their own servers, allowing greater flexibility and control over data.
- Self-service portals: Employee self-service systems allowed employees to access and update their own information, reducing HR's administrative workload.

4. The Emergence of Cloud-based HRM (2000s)

The early 2000s saw the shift from on-premise HR software to cloud-based HRM solutions. This shift made HR systems more accessible to small and medium-sized businesses, which previously could not afford large-scale systems. Cloud-based solutions also improved scalability, data security, and ease of updates.

Key developments

- Software-as-a-Service (SaaS): HR systems became available as cloud-based SaaS solutions, allowing businesses to access HR software without needing to maintain expensive infrastructure.
- Integration with other business functions: HR software began integrating with finance, operations, and other business systems, enabling better alignment between HR and business strategy.
- Globalization: Cloud-based HR systems allowed multinational companies to manage their global workforce more efficiently.

5. The Integration of Analytics and Big Data (2010s)

In the 2010s, HRM took a significant leap with the incorporation of big data and analytics. The use of data-driven decision-making in HR gained momentum, and HR professionals began to leverage data for talent acquisition, performance management, employee engagement, and retention strategies.

Key developments

- People analytics: HR departments started using data analytics to improve hiring, training, and performance reviews, making decisions based on predictive models and employee data.
- Social media: The use of social media platforms for recruitment (e.g., LinkedIn) and employer branding grew.
- Mobile technology: Mobile applications allowed HR processes like recruitment, training, and performance management to be carried out on-the-go.

6. The Role of AI, Machine Learning, and Automation (2020s)

The 2020s saw the rapid integration of artificial intelligence (AI), machine learning, and automation in HRM, transforming traditional HR functions. AI-powered systems are used for recruiting, employee engagement, and talent development, and machine learning algorithms predict future trends and help personalize HR services.

Key developments

- AI in recruitment: AI tools for resume screening, candidate assessments, and even chatbots for interviews became commonplace.
- Automation of repetitive tasks: Robotic Process Automation (RPA) automated time-consuming tasks such as payroll processing, attendance tracking, and employee data management.
- Employee experience platforms: AI-powered platforms offer personalized experiences for employees, from onboarding to career development, providing tailored content and recommendations.
- HR chatbots: AI-driven chatbots assist in answering HR-related queries, streamlining the employee experience.
- Remote work technology: The COVID-19 pandemic accelerated the adoption of digital tools to support remote work, with HR software facilitating virtual collaboration, performance tracking, and employee wellbeing programs.

7. Future Trends (2024 and Beyond)

Looking forward, the future of digital HRM will likely continue to evolve with more sophisticated technologies. Key trends include:

- AI-driven decision-making: AI systems will take a larger role in predicting workforce trends, engagement levels, and employee turnover.
- Virtual and augmented reality (VR/AR): These technologies will be used for virtual training, on boarding, and even recruitment interviews.
- Employee well-being and mental health: HR software will increasingly focus on supporting employee well-being, offering tools for stress management, mental health, and work-life balance.
- Block chain: Block chain technology could provide more secure ways of verifying credentials and managing employee data, offering transparency and privacy in HR processes.

Core Components of Digital HRM

1. **Cloud-Based HR Systems:** Cloud-based HR platforms are central to Digital HRM. These systems offer software as a service (SaaS) that allows companies to access HR tools and data securely over the internet. Cloud systems help eliminate the need for on-premises infrastructure, making it easier for HR departments to scale operations, update systems, and manage global teams.
    - Examples: Workday, SAP SuccessFactors, Oracle HCM Cloud, BambooHR.

2. **HR Analytics and People Analytics:** People analytics refers to the use of data analysis tools and techniques to make more informed HR decisions. Data-driven insights help in areas such as:
    - **Talent Acquisition**: Predicting candidate success, assessing resumes, and even using AI to evaluate interview performance.
    - **Employee Engagement**: Analyzing surveys, feedback, and performance to identify issues and improve workplace culture.
    - **Retention and Turnover**: Identifying patterns of employee attrition and taking preventive actions.

    People analytics allows HR professionals to move from intuition-based decisions to evidence-based strategies that align with business goals.

3. **Artificial Intelligence (AI) and Machine Learning (ML):** AI and ML are revolutionizing various aspects of HRM. AI tools can streamline recruiting, onboarding, employee engagement, and performance management by analyzing large volumes of data to make decisions and recommendations. Some specific applications include:
    - **Recruiting**: AI can scan resumes, rank candidates, conduct initial interviews via chatbots, and predict cultural fit.
    - **Performance Management**: AI systems track performance metrics, provide feedback, and identify skill gaps for employees.
    - **Employee Experience**: AI-based chatbots answer HR queries, while virtual assistants help employees with HR processes, such as leave requests or benefits enrollment.

4. **Automated HR Processes (RPA - Robotic Process Automation):** RPA is used to automate repetitive, rule-based tasks like payroll processing, benefits administration, attendance tracking, and even compliance reporting. By automating these tasks, HR departments can save time, reduce errors, and free up HR professionals to focus on more strategic activities.

5. **Mobile HR**: With the proliferation of smartphones, many HR systems now offer mobile applications, allowing employees to access HR tools, update personal information, check payroll details, request leave, and complete training from anywhere. This mobile-first approach is crucial in enhancing the employee experience, especially in an increasingly remote and hybrid work environment.

6. **Employee Self-Service Portals**: Digital HRM often includes self-service portals that allow employees to update personal details, track their performance, manage their benefits, request time off, and access other HR services independently. This reduces the burden on HR departments and increases employee autonomy.

7. **Learning and Development (L&D) Platforms:** Digital learning platforms allow employees to access training and development resources online. These systems track learning progress, offer personalized learning paths, and enable continuous learning. AI-based recommendations for courses, webinars, and certifications can be made based on an employee's career goals and performance.

8. **Collaboration Tools:** HRM has increasingly integrated collaboration tools like Slack, Microsoft Teams, or Zoom to support communication, collaboration, and employee engagement. These tools, combined with HR systems, allow HR teams to manage performance, development, and employee relations in virtual and hybrid environments.

Challenges of Digital HRM

1. Data Security and Privacy: With the growing reliance on digital platforms, HR departments must ensure that sensitive employee data (e.g., personal information, payroll data) is protected from cyber threats and is compliant with data protection laws (such as GDPR).

2. Employee Resistance: Some employees may resist the digital transformation, especially those who are not familiar with technology. It's crucial to provide proper training and support to help employees adapt to new tools.
3. Integration with Legacy Systems: For organizations that already have legacy HR systems, integrating new digital tools with existing infrastructure can be complex and costly.
4. Cost of Implementation: While digital HRM solutions offer long-term savings, the initial investment in software, training, and implementation can be expensive, especially for smaller organizations.
5. Over-Reliance on Technology: Excessive reliance on AI and automation can lead to the loss of the human touch in HR processes. Balancing technology with personalized, human-led HR interventions is crucial for maintaining employee trust and engagement.

Advantages of Digital HRM

1. Increased Efficiency and Productivity
    - Automation: Routine administrative tasks such as payroll, attendance tracking, and benefits management can be automated, freeing up HR professionals to focus on more strategic tasks.
    - Faster Processes: HR processes, including recruitment, employee onboarding, performance reviews, and training, can be completed much faster using digital tools.
    - Error Reduction: Automation and digital tools help reduce human errors that are common with manual processes, such as payroll mistakes or mismanaged employee data.

2. Improved Decision-Making with Data Analytics
    - People Analytics: Digital HRM tools provide access to real-time data, which can be analyzed to make better, data-driven decisions. Predictive analytics can forecast turnover, identify high-potential employees, and help HR teams plan for future workforce needs.
    - Employee Insights: Organizations can track employee performance, engagement levels, and satisfaction, enabling HR to make informed decisions regarding promotions, development, or interventions.

3. Enhanced Employee Experience
    - Self-Service: Employees can access their personal information, request time off, view payroll details, and complete other HR tasks through self-service portals, increasing transparency and autonomy.
    - Employee Engagement: Digital HRM solutions often feature tools for real-time feedback, surveys, and performance reviews, which help engage employees and improve communication between staff and HR.

4. Cost Savings
    - Reduced Administrative Costs: Automation and streamlining of HR tasks can lead to significant savings in time and money. It can also reduce the need for large HR teams to handle routine administrative duties.
    - Lower Infrastructure Costs: Cloud-based HR solutions eliminate the need for expensive on-premise infrastructure and reduce IT maintenance costs.

5. Global Workforce Management
    - Remote and Distributed Teams: Cloud-based HR tools enable HR teams to effectively manage remote and distributed teams, track performance, and maintain communication and engagement, regardless of location.
    - Scalability: Digital HRM systems can scale to accommodate organizations of all sizes, supporting the growth of the company without requiring large investments in new infrastructure.

6. Streamlined Recruitment
    - AI and Automation: AI-driven recruitment tools can help screen resumes, rank candidates, and conduct initial interviews, significantly speeding up the hiring process. Machine learning algorithms can also predict the likelihood of a candidate's success based on historical data.
    - Broader Reach: Digital HRM tools, especially when integrated with social media platforms, broaden the talent pool by reaching a global audience.

Disadvantages of Digital HRM

1. Data Security and Privacy Risks
    - Sensitive Information: Digital HR systems store a vast amount of personal and sensitive employee data (e.g., financial, health, and performance records). This creates potential security risks if data is not adequately protected.
    - Cybersecurity Threats: Organizations must invest in robust cybersecurity measures to prevent breaches, data theft, or unauthorized access, which could lead to reputational damage or legal penalties.
2. High Initial Implementation Costs
    - Software Licensing and Setup: The initial cost of purchasing and implementing digital HR software can be high, especially for small or mid-sized businesses. In addition, customization, training, and integration with other systems can add to the cost.
    - Maintenance: Ongoing updates, system maintenance, and support can also incur costs, especially if the software requires regular customization to meet the organization's evolving needs.
3. Employee Resistance and Adaptation
    - Change Management: Employees, especially those who are not tech-savvy, may resist the adoption of new digital tools. There might be reluctance in moving away from traditional HR processes or fear of technological obsolescence.
    - Training: Implementing new digital systems often requires training employees and HR staff, which can be time-consuming and costly. Additionally, frequent updates to software may require continuous learning.
4. Over-Reliance on Technology
    - Loss of Personal Touch: Digital HRM systems may reduce face-to-face interactions between HR personnel and employees. This can lead to a loss of the personal touch, which is crucial in certain HR activities like conflict resolution, performance management, or employee development.
    - Impersonal Decisions: Over-reliance on AI-driven tools for decision-making, especially in areas like recruitment or performance reviews, could lead to decisions that feel impersonal or detached from the organization's culture.

5. Integration Issues
    - Legacy Systems: Many organizations already have legacy HR systems, and integrating new digital tools with these older platforms can be complex and costly. Incompatibility between systems can lead to data discrepancies or inefficiencies.
    - Vendor Lock-In: Some digital HRM solutions may not integrate well with other systems or software, creating a situation where organizations are dependent on a single vendor for all HR-related software needs.
6. Employee Privacy Concerns
    - Excessive Monitoring: Digital HRM tools often track employee performance, engagement, and activity in real time. While this can provide useful insights, it may lead to concerns over privacy and the extent to which employees are being monitored.
    - Surveillance: Constant monitoring through digital platforms can create a culture of surveillance, which might be perceived as invasive, leading to lower employee morale and trust in the organization.

Future trends in Digital HRM

1. AI-Powered Workforce Planning: AI and predictive analytics will continue to transform workforce planning by helping HR professionals anticipate skills shortages, project future workforce needs, and identify high-potential employees.
2. Blockchain for HR: Block chain could revolutionize HR by providing secure, verifiable digital records of employee credentials, contracts, and performance reviews, reducing fraud and enhancing transparency.
3. Wellness and Mental Health Tools: As employee well-being becomes a top priority, HR systems will incorporate tools to monitor and improve mental health, wellness, and work-life balance.
4. Augmented Reality (AR) and Virtual Reality (VR): AR and VR could be used for training, simulations, and virtual interviews. These immersive technologies will make employee onboarding and development more engaging and effective.

5. Customizable Employee Experiences: HR platforms will use AI to offer highly personalized experiences for employees, from tailored learning paths to personalized career development plans.

Conclusion

Digital Human Resource Management (Digital HRM) represents a significant transformation in how organizations manage their workforce. By leveraging advanced technologies such as cloud computing, artificial intelligence (AI), machine learning, and data analytics, Digital HRM enables HR departments to streamline operations, improve decision-making, and enhance the employee experience. It allows for more efficient management of administrative tasks, better recruitment and performance evaluation, and real-time employee engagement, all while reducing costs and improving scalability.

Despite its many advantages, including improved efficiency, better decision-making, and cost savings, Digital HRM also presents challenges, particularly in areas such as data security, integration with legacy systems, and potential employee resistance to technological change. Furthermore, the reliance on technology may reduce personal interactions in HR processes, which can affect the overall employee experience in some cases.

However, when implemented thoughtfully and with a focus on balancing automation with the human touch, Digital HRM has the potential to drive significant organizational growth and adaptability. By embracing digital tools, organizations can optimize their HR functions to meet the evolving needs of a modern workforce, fostering a more agile, efficient, and data-driven approach to talent management.

Ultimately, Digital HRM is not just about adopting new technologies—it's about strategically leveraging these innovations to align HR practices with broader business goals, improve employee satisfaction, and create a competitive advantage in a rapidly changing business landscape. The future of HR lies in digital transformation, and organizations that successfully integrate these tools will be better equipped to navigate the complexities of the future of work.

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The Role of Government Policies in Promoting Venture Capital Investments

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Abstract

Venture capital (VC) plays a pivotal role in fostering innovation, job creation, and economic growth, particularly in developing economies. This paper examines the critical influence of government policies in shaping the venture capital landscape and promoting investments in startups and emerging sectors. By analyzing various policy frameworks, tax incentives, regulatory reforms, and public funding mechanisms, this study highlights how government intervention can either stimulate or inhibit the growth of venture capital investments. Focusing on case studies from both developed and developing economies, this research explores the effectiveness of policies such as capital gains tax reductions, easing of foreign investment regulations, and government-backed venture funds. Furthermore, the paper delves into the challenges and opportunities faced by governments in creating a supportive environment for VC firms, particularly in sectors like technology, renewable energy, and healthcare. This study contributes to the growing discourse on public-private partnerships in venture capital and offers insights into optimizing policy frameworks to foster a thriving VC ecosystem, ultimately benefiting economic development and global competitiveness.

Keywords: Venture Capital, Private Public Partnership, Tax Incentives, Innovation

Introduction

Venture capital (VC) has emerged as a fundamental driver of economic growth and innovation worldwide. Governments increasingly recognize the importance of VC in enabling new business ventures, especially in high-tech industries, where initial costs and risks are high (Kortum & Lerner, 2000). These investments are instrumental in facilitating job creation, fostering technological advancements, and enhancing national competitiveness. According to Gompers and Lerner (2001), effective government policies are critical in establishing a favourable environment for venture capital investments. Such policies may include tax incentives, regulatory frameworks, and direct funding programs designed to mitigate investment risks and attract private investors to emerging industries (Lerner, 2009).

In recent years, developing countries have also started adopting policies to attract VC investments, inspired by the successful models of economies like the United States and the United Kingdom (Dossani & Kenney, 2002). However, challenges remain, especially in economies with restrictive regulatory environments, lack of transparency, and limited access to early-stage funding. A robust policy framework is therefore essential to enhance venture capital's impact on economic development, innovation, and entrepreneurship (Cumming & Johan, 2009). This paper seeks to examine the various roles government policies play in promoting venture capital investments, analyzing their effectiveness in different economic contexts and providing policy recommendations for developing economies aspiring to strengthen their VC ecosystems.

Objective of the Study

1. To examine the role of government policies in fostering a conducive environment for venture capital investments.
2. To analyze the effectiveness of various policy instruments (e.g., tax incentives, regulatory reforms, public-private partnerships) in stimulating venture capital investments.
3. To explore challenges faced by governments in promoting venture capital investments in emerging markets.
4. To compare the impact of government-backed venture capital programs in developed and developing countries.
5. To provide policy recommendations for enhancing the role of government in the venture capital ecosystem.

Statement of Problem

While venture capital (VC) is recognized as a key driver of economic growth, innovation, and entrepreneurial activity, many regions still struggle to attract and sustain VC investments due to insufficient or ineffective government policies. In many emerging and developing economies, policymakers face challenges in creating regulatory, financial, and infrastructural conditions that would attract VC firms and investors. Despite the adoption of various policy measures such as tax incentives, government-backed funds, and eased foreign investment regulations, the effectiveness of these policies remains mixed and context-dependent.

The problem lies in identifying which government policies truly contribute to a vibrant VC ecosystem and understanding the barriers that hinder the implementation and success of these policies, especially in resource-constrained and risk-averse markets. Additionally, there is a need for a

comparative analysis of how different economic contexts—developed versus developing countries—impact the outcomes of VC-promoting policies. Addressing these issues is critical to devising informed strategies that can harness the full potential of venture capital to support innovation, job creation, and economic growth in diverse global markets.

Review of Literature

Venture capital (VC) plays a vital role in nurturing innovation, particularly within high-growth sectors, by providing essential early-stage funding to startups and entrepreneurs. Numerous studies have examined the dynamics between government policies and the growth of the VC sector. This literature review synthesizes the research on government interventions, policy effectiveness, and challenges in promoting VC investments globally.

According to Gompers and Lerner (2001), tax incentives, particularly capital gains tax reductions, significantly impact venture capital activity by improving investment returns, which attracts more investors to the sector. Lerner (2009) further underscores that targeted government programs, such as state-sponsored venture funds and loan guarantees, can encourage private sector participation in VC markets, especially in high-risk sectors like technology and biotech.

According to Kortum & Lerner, 2000 Government-backed VC initiatives have shown varying degrees of success across regions. In developed economies, such as the United States, public funding has spurred private investment, particularly through programs like the Small Business Investment Company (SBIC) program. However, Brander, Du, and Hellmann (2015) found that public venture capital funds often underperform compared to private ones, suggesting that government intervention may need careful structuring to avoid market distortions. According to Dossani & Kenney, 2002, the emerging markets, where the VC landscape is relatively nascent, government-backed funds play a crucial role in filling capital gaps, as observed in India's VC ecosystem.

The regulatory environment is a critical determinant of venture capital growth. A study by Cumming and Johan (2009) showed that streamlined regulatory procedures, protection of intellectual property rights, and mechanisms for fair competition create a favorable climate for venture investments. Countries with complex regulatory frameworks often struggle to attract VC, as compliance burdens discourage investors and slow down the startup funding process. This view is supported by Colombo and Grilli (2010), who argue that simplified regulations not only attract

domestic investment but also encourage foreign direct investment (FDI) in the venture capital sector, which is essential for developing countries with limited local VC resources.

Several comparative studies examine the effectiveness of government policies in different economic contexts. Aghion, Van Reenen, and Zingales (2013) argue that government interventions should align with a country's level of economic development and the maturity of its financial markets. In developing countries, initial focus on basic infrastructure and education can be more effective than immediate tax incentives, as a lack of skilled labor and technology infrastructure can hinder the growth of a VC sector. Research by Wonglimpiyarat (2016) further shows that Asian economies, such as China and South Korea, have successfully used government-backed venture capital initiatives to boost entrepreneurship and innovation, creating positive spillovers to the broader economy.

While government policies can stimulate venture capital, several challenges limit their success. Dossani and Kenney (2002) highlight that excessive government involvement or misaligned incentives can lead to inefficiencies and hinder private sector investment. This view is echoed by Da Rin, Nicodano, and Sembenelli (2006), who find that well-intentioned subsidies and tax incentives may lead to dependency on government support, reducing competitiveness among venture-backed firms. Additionally, Aizenman and Kendall (2012) suggest that political and economic stability are prerequisites for venture capital success, as macroeconomic instability deters long-term investments in high-risk ventures.

The literature reveals a consensus that government policies significantly impact the venture capital landscape. Effective policies include tax incentives, public venture funds, and a supportive regulatory framework, each influencing venture capital growth across varying economic contexts. However, excessive intervention, poor policy alignment, and lack of structural support can undermine these efforts. A gap remains in understanding how policies can be tailored to the specific needs of emerging markets, where VC ecosystems are still developing. This study aims to bridge this gap by exploring the diverse roles of government policies in fostering venture capital investments in both developed and developing economies, providing insights into the challenges and opportunities for future policy development.

Research Design

This study employs a qualitative research design, utilizing secondary data to analyze the role of government policies in promoting venture capital investments. Given the scope and nature of the

study, a thematic approach has been adopted to systematically organize and interpret data, facilitating an in-depth exploration of the various policy frameworks and their effectiveness in fostering venture capital across different economic contexts.

This research relies exclusively on secondary data from multiple credible sources, including, published academic literature (books, journal articles, and reviews) on government policies related to venture capital and economic development. Government reports and policy documents that detail legislative and regulatory frameworks influencing venture capital in various countries. The use of secondary data allows the study to capture a broad spectrum of perspectives and gather comparative data across different countries and timeframes.

Data Analysis and Interpretation

The analysis uses a thematic approach to organize and interpret data on how government policies influence venture capital (VC) investments. This method enables a focused examination of specific policy interventions, regulatory frameworks, and challenges that different economies encounter. Findings are presented under key themes, highlighting patterns and differences across countries.

Tax Incentives and Financial Policy Interventions

Tax incentives have been widely adopted by governments to stimulate VC investments, particularly through capital gains tax reductions and tax credits. For instance, Gompers and Lerner (2001) found that capital gains tax reductions in the United States led to an increase in VC investment activity by attracting both domestic and international investors. Singapore's tax exemption schemes for startup investors and capital gains tax waivers have similarly been effective in drawing global venture capital to the country, significantly boosting the startup ecosystem (Wonglimpiyarat, 2016).

The data suggest that tax incentives positively impact VC investment by increasing investor returns. Such incentives, however, may be more effective in markets with mature financial systems and established investor confidence. Developing nations often require complementary measures, such as enhanced financial literacy and transparency, to maximize the effectiveness of these tax benefits.

Regulatory Frameworks and Ease of Doing Business

A supportive regulatory framework is essential for venture capital growth. Research by Cumming and Johan (2009) indicates that countries with streamlined business regulations and strong

intellectual property protections see higher rates of VC investments. For example, in Canada, regulatory reforms that reduce bureaucratic barriers for new businesses have contributed to the growth of VC investments (Brander, Du, & Hellmann, 2015). Conversely, countries with complex regulations, such as India, often face challenges in attracting VC due to lengthy approval processes and inconsistent enforcement (Dossani & Kenney, 2002). The Regulatory efficiency and strong legal protections are critical for creating a conducive environment for venture capital. Simplified regulations encourage VC investment by minimizing compliance burdens, making the startup ecosystem more accessible to both local and foreign investors.

Public-Private Partnerships and Government-Backed Venture Capital Funds

Government-backed VC initiatives, particularly those structured as public-private partnerships, have been effective in supporting early-stage businesses in high-risk sectors. The United States' Small Business Investment Company (SBIC) program, for instance, demonstrates how government partnerships can successfully leverage private capital for VC investments (Kortum & Lerner, 2000). South Korea’s government-funded VC programs have similarly catalyzed growth in sectors like biotechnology and information technology (Wonglimpiyarat, 2016). Public-private partnerships help governments to spread investment risks while encouraging private sector participation in high-risk ventures. These partnerships are especially beneficial in early-stage investments and serve as a model for countries seeking to build robust VC ecosystems.

Challenges and Barriers in Emerging Markets

In emerging economies, numerous structural barriers limit the impact of VC-promoting policies. Studies on India, Brazil, and other developing nations reveal that lack of infrastructure, political instability, and limited investor trust hinder the success of government-backed VC initiatives (Dossani & Kenney, 2002; Aizenman & Kendall, 2012). For example, India's focus on tax incentives for venture capitalists has been insufficient due to inadequate support infrastructure and inconsistent policy implementation (Dossani & Kenney, 2002). In emerging markets, tax incentives and other financial policy interventions alone are insufficient to foster VC investments. Broader support, including infrastructure development and stable regulatory environments, is necessary to build investor confidence and enhance the effectiveness of VC-promoting policies.

The analysis indicates that government policies play a crucial role in influencing venture capital growth, yet their effectiveness varies significantly across economic contexts. Developed economies benefit from direct incentives and regulatory reforms that enhance ease of doing business. Emerging

economies, however, face distinct challenges requiring a holistic approach that goes beyond financial incentives to include structural and institutional reforms.

Findings and Discussion

The findings from this study reveal that government policies have a substantial impact on the growth of venture capital (VC) investments, but their effectiveness varies widely based on economic context, regulatory environment, and the maturity of financial markets. The discussion below synthesizes these findings and explores the implications for policy-making.

Tax Incentives and Financial Policy Interventions

Tax incentives, such as capital gains tax reductions, have been shown to significantly encourage venture capital investments in developed economies. For instance, Gompers and Lerner (2001) found that capital gains tax cuts in the United States led to an increase in VC activity by attracting a broader base of investors. Singapore's similar tax exemption strategies have been instrumental in attracting international investors to its rapidly growing VC ecosystem (Wonglimpiyarat, 2016).

Tax incentives directly enhance investor returns, making venture capital a more attractive asset class. However, while these policies work effectively in developed markets, their success in emerging economies is often limited by other structural factors. In developing countries, investor confidence can be undermined by regulatory instability or economic volatility, which tax incentives alone cannot resolve (Aizenman & Kendall, 2012). Thus, while tax policies are an essential tool, they are most effective when combined with measures to strengthen market confidence and transparency.

Regulatory Frameworks and Ease of Doing Business

Supportive regulatory frameworks play a pivotal role in fostering a conducive environment for venture capital. Cumming and Johan (2009) highlight those countries with clear business regulations and strong intellectual property laws tend to experience higher VC inflows. In Canada, regulatory reforms aimed at reducing administrative barriers have correlated with an increase in VC investments (Brander, Du, & Hellmann, 2015).

Regulatory efficiency reduces entry barriers for startups, allowing venture capitalists to invest in a wider array of high-potential firms. The success in Canada underscores the importance of simplifying regulatory procedures to attract venture capital. Conversely, countries with complex or inconsistent regulatory processes, such as India, face difficulties in securing VC despite offering tax

incentives (Dossani & Kenney, 2002). For emerging markets, regulatory reforms focused on improving ease of business are as critical as financial incentives to stimulate venture capital.

Public-Private Partnerships and Government-Backed Venture Capital Funds

Public-private partnerships and government-backed VC funds have demonstrated considerable success in catalyzing investments in high-risk sectors. The United States' Small Business Investment Company (SBIC) program exemplifies how government interventions can effectively leverage private capital (Kortum & Lerner, 2000). South Korea's state-backed VC initiatives have similarly fostered growth in sectors such as biotechnology and IT, making it one of the leading VC hubs in Asia (Wonglimpiyarat, 2016).

Government-backed funds mitigate the inherent risks associated with early-stage investment, encouraging private investors to participate in high-potential ventures that they might otherwise avoid. Public-private models, particularly in sectors requiring significant R&D investment, illustrate how governments can bridge funding gaps in nascent industries. However, in emerging markets, the success of such initiatives depends on consistent and transparent policy frameworks to attract private sector involvement.

Challenges and Barriers in Emerging Markets

Emerging markets face unique barriers that limit the effectiveness of VC-promoting policies. Lack of infrastructure, political uncertainty, and limited financial literacy are recurrent issues in regions like South Asia and Latin America (Aizenman & Kendall, 2012). For instance, India's efforts to increase VC through tax incentives have been met with limited success due to inadequate support infrastructure and inconsistencies in policy application (Dossani & Kenney, 2002).

In emerging economies, venture capital policies must address broader structural challenges that go beyond financial incentives. The success of policies in these regions hinges on a more holistic approach that includes regulatory reform, infrastructure development, and efforts to enhance investor literacy. Without addressing these foundational issues, even well-designed financial incentives may struggle to stimulate a sustainable VC ecosystem.

The thematic analysis suggests that government policies are most effective in promoting venture capital when they combine financial incentives with regulatory support and infrastructure development. Developed economies benefit from straightforward tax incentives and regulatory

efficiency, while emerging markets require multifaceted approaches that tackle deeper structural challenges.

Conclusion

This study underscores the pivotal role of government policies in fostering venture capital (VC) investments, which are essential for driving innovation, economic growth, and competitiveness. However, the findings reveal that the effectiveness of VC-promoting policies varies significantly based on economic development levels, regulatory stability, and institutional infrastructure within different countries. In developed economies, policies that focus on tax incentives and regulatory streamlining have proven effective in attracting venture capital investments. Such measures enhance investor returns, minimize bureaucratic obstacles, and create a supportive environment that encourages both local and international investors. In these regions, VC investment policies have largely succeeded due to the presence of mature financial markets, stable regulatory frameworks, and high levels of investor confidence.

Conversely, emerging markets face distinct challenges that require a broader approach. While tax incentives and direct investment support are beneficial, they alone are insufficient to attract substantial venture capital flows in the absence of stable regulatory environments, supportive infrastructure, and investor education. Structural issues, such as regulatory inconsistencies, political volatility, and limited market transparency, often reduce the effectiveness of these policies in developing economies. To promote a thriving VC ecosystem, emerging markets must prioritize regulatory reforms that simplify business processes, strengthen legal protections, and establish a transparent framework for investor engagement.

Furthermore, public-private partnerships and government-backed VC funds have demonstrated potential in bridging funding gaps in high-risk, high-growth sectors. These partnerships mitigate investment risks and serve as effective vehicles for channeling capital to startups and early-stage ventures, especially in critical sectors like technology and biotechnology.

Overall, government policies can play a transformative role in shaping venture capital markets when they are designed in alignment with each country's unique economic landscape. By addressing the specific needs of their economic contexts, policymakers can foster sustainable VC ecosystems that fuel innovation, economic diversification, and long-term growth.

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A Study on Organization's Support for Work Life Balance with Special Reference to Female Teachers in Sivakasi

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Abstract

The issue of work/life balance is becoming a major concern for many businesses and employees, both at work and at home. Human resource professionals look for ways to increase employee morale, retain individuals with important company expertise, and stay up to date with workplace developments in today's fast-paced culture. When the elements of one's personal and professional lives are perfectly balanced, it's referred to as work-life balance. According to Greenhaus (2002), work-life balance is the ability to perform well both at work and at home with the least amount of role conflict. This study focused on organization's support on work life balance of female teachers in colleges because in the teaching industry teachers need to work apart from their working hours. Because of this curiosity we plan to know how they are balancing their work and private life. According to the respondents, the first rank is given to "respecting our working hours" with the highest Garrett and average score, Second rank is "Organization explaining our benefits", third rank is "Healthy work environment" and fourth rank is "Family picnic / tour arranged by organization". The above statements are the organizations support towards work/life balance.

Keywords: Work/life balance, organisation support on work/life balance

Introduction

When the elements of one's personal and professional lives are perfectly balanced, it's referred to as work-life balance. The issue of work/life balance is becoming a major concern for many businesses and employees, both at work and at home. Human resource professionals look for ways to increase employee morale, retain individuals with important company expertise, and stay up to date with workplace developments in today's fast-paced culture.

Now - a- days women are engaged in economic activities for satisfy their family and their basic needs. These increase the role of women in the family and society. Working women must bear

additional responsibilities like managing their children, elders and household chores. These sometimes bring role conflict and bring heavy pressure. This role conflict affects their performance in the organisation. So most of the organization trains their women workers how to overcome this type of role conflict and maintain their work and personal life balance.

This study focused on work life balance of female teachers in college because in the teaching industry teachers need to work apart from their working hours. Because of this curiosity we plan to know how they are balancing their work and private life and want to that organizations effort to balance their role.

Literature Review

A few definitions will be provided to help us see things more broadly. According to Greenhaus (2002), work-life balance is the ability to perform well both at work and at home with the least amount of role conflict. In countries where labour markets are the primary means of generating and distributing income, work-life balance is defined by Felstead et al. (2002) as the link between the institutional and cultural times and spaces of work and non-work. Aycan et al. (2007) presented the idea of "life balance" from a more comprehensive viewpoint, but they limited the discussion to work and family.

A more diverse workforce and a greater need for employees to balance their work and non-work lives have resulted from demographic changes, such as the rise in dual career families and the number of women in the workforce (Bharat, 2003; Komarraju, 1997; Rajadhyaksha & Bhatnagar, 2000; Ramu, 1989; Sekharan, 1992). In addition to reasons like shifting marital patterns and smaller families, the information economy has given women more access. As a result, there are now more working mothers and working women overall (Grossman, 1981).

Methodology

The purpose of the paper is to study the organization’s support on work life balance of female teachers in colleges by assessing their working style, working condition, life style. This study was carried out using a structured questionnaire and exploratory research methods. The sample of 100 female college teachers from the colleges from Sivakasi including Ayya Nadar Janaki Ammal College, SFR College for women, Sri Kaliswari College and MEPCO College.

Results and Discussion

The researcher has used the Garrett ranking Method for ranking the respondent opinion about the organisational support to balance the work and private life.

Table 1 shows that the demographic profile of the respondents in which 36% (54) of respondents are under the age category of Below 35, 26% (39) of the respondents are between 35 – 45, 31.33% (47) of the respondents are between 46-55 and 6.67% (10) of the respondents are above 55. And Marital status shows 38.67% (58) of the respondents are unmarried and single while 61.33% (92) of the respondents are married.

Table 1 - Demographic Profile of the Respondents

Demographic profile		**NO.**	**Percent**
Age	Under 35	54	36
	35 – 45	39	26
	46 – 55	47	31.33
	Above 55	10	6.67
Marital Status	Married	92	61.33
	Unmarried/Single	58	38.67

Table 2 shows the rank given by the respondents. Statement “Family picnic / tour arranged by organization” receives rank 1 from 14 respondents, rank 2 from 80, rank3 from 32 and rank 4 from 24 respondents. Statement “Respecting our working hours” receives rank 1 from 47 respondents, rank 2 from 21, rank3 from 28 and rank 4 from 54 respondents. Statement “Healthy work environment” receives rank 1 from 55 respondents, rank 2 from 18, rank3 from 42 and rank 4 from 35 respondents. Statement “Organization explaining our benefits” receives rank 1 from 34 respondents, rank 2 from 31, rank3 from 48 and rank 4 from 37 respondents

Table 2 - Ranking Given by Respondents

S.No	**Statement**	**1**	**2**	**3**	**4**
1	Family picnic / tour arranged by organization	14	80	32	24
2	Respecting our working hours	47	21	28	54
3	Healthy work environment	55	18	42	35
4	Organization explaining our benefits	34	31	48	37

Table 3 shows the Garrett scores and average scores. The Garrett scores are computed by determine Garrett value and the found out using Garrett mean score. The average score is ranked according to their values. The first rank is given to "respecting our working hours" with the highest Garrett and average score, Second rank is "Organization explaining our benefits", third rank is "Healthy work environment" and fourth rank is "Family picnic / tour arranged by organization".

Table 3 – Garrett Score and Average Score

S.No	Statement	Garrett Score	Average Score	Garrett Rank
1	Family picnic / tour arranged by organization	6923	46.15	IV
2	Respecting our working hours	8547	56.98	I
3	Healthy work environment	6974	46.49	III
4	Organization explaining our benefits	7256	48.37	II

Conclusion

This motive of the paper is to identify the organizations support towards the work life balance of their employees. Through this study we know that the organization support their employees to overcome their role conflict and create strong bonding towards the organisation. As well that the employees are also able to recognize their effort, which explicit through the Garrett score for respecting employees working hours by organization ranked first. The Further scope of the study are same topic for all genders or expand the study through the country or any other industry or business.

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Impact of Fintech on Financial Inclusion

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Abstract

In recent years, financial technology (FinTech) has become a transformative force in the global financial sector, providing innovative solutions such as digital payments, online lending, and blockchain-based services. This evolution of FinTech is improving financial accessibility, especially for underserved and unbanked populations. Financial inclusion, which ensures access to financial services for all individuals, has traditionally been a challenge, particularly in developing countries, due to factors like limited banking infrastructure and high transaction costs. However, FinTech innovations are helping overcome these barriers by lowering service costs, enhancing mobile accessibility, and offering alternative credit scoring methods. These advancements are bridging the gap between the banked and unbanked, enabling broader access to services like savings, credit, insurance, and payments. This article explores the impact of FinTech on financial inclusion, focusing on its opportunities, challenges, and potential risks. Through global trends, case studies, and regulatory frameworks, the research aims to provide a comprehensive understanding of how FinTech is shaping financial inclusion.

Keywords: FinTech, Financial Inclusion

Introduction

In recent years, financial technology (FinTech) has emerged as a transformative force in the global financial services industry. FinTech refers to the use of technology to provide innovative financial services and solutions, ranging from digital payments and online lending to blockchain-based services and robo-advisory platforms. Financial inclusion, which refers to the accessibility and availability of financial services to all individuals, regardless of income or geographic location, has long been a challenge, particularly in developing economies. According to the World Bank, a significant portion of the global population remains excluded from the formal financial system, with barriers such as lack of access to banking infrastructure, high transaction costs, and limited financial literacy hindering their participation. However, with the rise of FinTech, these barriers are gradually being dismantled.

FinTech innovations are offering new ways to enhance financial inclusion by reducing the cost of services, increasing accessibility through mobile platforms, and providing alternative credit scoring methods. These developments are helping bridge the gap between the banked and unbanked, enabling individuals in remote and underserved areas to access essential financial services such as savings, credit, insurance, and payments. As a result, the role of FinTech in advancing financial inclusion is becoming an increasingly important area of study and policy focus.

This research article aims to explore the impact of FinTech on financial inclusion, assessing both the opportunities and challenges it presents. It will examine how specific FinTech innovations are contributing to expanding access to financial services, as well as the potential risks and limitations that could affect their long-term effectiveness in fostering inclusive growth.

Review of Literature

Kumar, V., & Patel, R. (2022) in their article titled **"The challenges of financial inclusion through FinTech: Risks and regulatory concerns",** concluded that the risks associated with FinTech, such as data privacy issues and regulatory uncertainties. They argue that without appropriate regulation, FinTech's potential to enhance financial inclusion may be limited, especially for vulnerable groups.

Mlachila, M., & Chirwa, E. (2021) in their article titled **"Financial inclusion through financial technology in sub-Saharan Africa: Challenges and opportunities",** concluded that how FinTech, especially mobile banking and digital payments, is improving financial inclusion in sub-Saharan Africa by reducing transaction costs and expanding access to financial services in remote areas. These innovations are particularly valuable in regions with limited traditional banking infrastructure.

Gupta, A., & Singh, R. (2020) in their article titled **"FinTech and financial inclusion: The role of alternative credit scoring",** concluded that the role of alternative credit scoring models enabled by FinTech, which use non-traditional data (e.g., mobile phone usage) to offer credit to those without formal credit histories. This has expanded financial access for underserved populations, particularly in emerging markets.

Objectives

- To know the demographic profile of the respondents.
- To explore how FinTech helps people access financial services.
- To identify the challenges and risks that came with using FinTech for financial inclusion.
- To understand how FinTech is improving financial access in developing countries**.**

Research Methodology

This study employs a mixed-methods approach, integrating both quantitative and qualitative data to provide a comprehensive analysis of impact of FINTECH on Financial Inclusion.

Data Collection

To gather primary data, a structured questionnaire was designed and administered to collect firsthand information from respondents.

A sample size of 60 respondents was selected for this study. The respondents were selected using a Convenience sampling technique to ensure diversity in terms of age, gender, and socio-economic background, thereby enhancing the reliability and validity of the findings.

Secondary data was collected through a review of existing literature, including academic journals, industry reports, and previous research studies related to FinTech Innovations and Financial Inclusion. This secondary data provided a contextual backdrop for the primary data, allowing for a comparative analysis and a deeper understanding of the trends observed.

Data Analysis

The collected data was analyzed using Statistical Package for the Social Sciences (SPSS) tools. Quantitative data from the questionnaires were subjected to various statistical analyses, including descriptive statistics, frequency distributions, and cross-tabulations, to identify patterns and correlations in consumer spending behavior.

Tools used for Hypothesis Testing

- One- way ANOVA
- CHI Square

Hypothesis

- **H_0**: There is no significant difference between age of the respondents and their use of FinTech services for financial inclusion.
- **H_0**: There is no association between gender of respondents and their frequency of usage towards FinTech services for financial inclusion.
- **H_0** : There is no significant difference between education level of respondents and their awareness on risk level associated with FinTech services for financial inclusion.

Findings and Interpretation

Hypothesis 1(H_0): There is no significant difference between age of the respondents and their use of FinTech services for financial inclusion.

Table 1.1

Usage of FinTech

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
18- 25	39	1.23	.427	.068	1.09	1.37	1	2
26- 35	4	1.00	.000	.000	1.00	1.00	1	1
36- 45	9	1.00	.000	.000	1.00	1.00	1	1
46 and above	8	1.50	.535	.189	1.05	1.95	1	2
Total	60	1.22	.415	.054	1.11	1.32	1	2

(Source: Primary Data collected through Questionnaire)

Table 1.2

ANOVA

Usage of FinTech

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.260	3	.420	2.636	.059
Within Groups	8.923	56	.159		
Total	10.183	59			

(Source: Primary Data collected through Question

Interpretation

Since the p-value is **0.59**, which is greater than 0.05 and the null hypothesis is fail to reject. So there is no significant difference between the different age groups in terms of their use of FinTech services. Therefore age of respondents does not appear to have a meaningful effect on their use of FinTech services in this dataset.

Hypothesis 2 (H_0): There is no association between gender of respondents and their frequency of usage towards FinTech services for financial inclusion.

Table 2.1

Gender of the Respondents * Usage Frequency by the Respondents Crosstabulation

Count

		Usage Frequency by the Respondents					Total
		Daily	Weekly	Monthly	Rarely	Never	
Gender of the Respondents	Male	8	9	4	0	4	25
	Female	4	14	4	2	11	35
Total		12	23	8	2	15	60

(Source: Primary Data collected through Questionnaire)

Table 2.2

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.192[a]	4	.185
Likelihood Ratio	6.950	4	.139
Linear-by-Linear Association	3.617	1	.057
N of Valid Cases	60		

(Source : Primary Data collected through Questionnaire)

Interpretation

Since the p-value 0.185 is greater than 0.05and the null hypothesis is fail to reject. So there is no significant association between the gender of respondents and their frequency of usage of FinTech

services for financial inclusion. Therefore gender does not appear to have a meaningful effect on how often individuals use FinTech services.

Hypothesis 3 (H_0): There is no significant difference between education level of respondents and their awareness on risk level associated with FinTech services for financial inclusion.

Table 3.1

Risk Awareness Level of the respondents

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
UG	21	1.19	.402	.088	1.01	1.37	1	2
PG	28	1.14	.356	.067	1.00	1.28	1	2
Doctoral	11	1.27	.467	.141	.96	1.59	1	2
Total	60	1.18	.390	.050	1.08	1.28	1	2

(Source: Primary Data collected through Questionnaire)

Table 3.2

ANOVA

Risk Awareness Level of the respondents

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.135	2	.067	.434	.650
Within Groups	8.848	57	.155		
Total	8.983	59			

(Source: Primary Data collected through Questionnaire)

Interpretation

Since the p-value 0.650 is greater than 0.05, and the null hypothesis is fail to reject. So there is no significant difference between the education level of respondents and their awareness of the

risk level associated with FinTech services for financial inclusion. Therefore education level does not appear to meaningful effect on awareness of the risks associated with FinTech services.

Conclusion

FinTech is revolutionizing the financial world, making it easier than ever for people to access the services they need. By cutting costs, expanding mobile access, and offering alternatives to traditional banking, it's bridging the gap between those with and without access to financial systems. This is especially impactful in developing countries, where banking services have historically been hard to reach. Now, individuals and communities that were once overlooked are gaining new opportunities. Of course, there are still challenges like regulations, cyber security etc., but the need for digital literacy can't be ignored. But despite these hurdles, the potential of FinTech to reshape financial access is enormous. With continued technological innovation and smart policies, this progress can be made equitable and sustainable. FinTech is doing more than changing how we handle money—it's unlocking economic opportunities, boosting social mobility, and playing a role in reducing poverty across the globe.

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Impact of AI on the Future of Mixed Currency Markets

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Abstract

This paper explores the transformative impact of Artificial Intelligence (AI) on currency markets, focusing on how AI technologies such as machine learning, predictive analytics, and automated trading systems are reshaping traditional financial models. The study examines the current applications of AI in currency forecasting, market analysis, and risk management, highlighting its potential to improve decision-making and efficiency in the foreign exchange market. Furthermore, the paper discusses the challenges, including ethical concerns and regulatory frameworks, associated with the integration of AI in financial markets. Through case studies and data analysis, the research provides insights into the future role of AI in driving innovation and stability within global currency markets.

Keywords: Artificial Intelligence, Currency Markets, Foreign Exchange, Automated Trading.

Introduction

The financial markets are not an exception to the remarkable developments brought about by the 21st century's rapid technological advancements. Artificial intelligence (AI) has fueled the development of new tools and procedures, particularly in the currency markets, which are frequently regarded as the most volatile and liquid markets in the world. AI tools like machine learning, deep learning, and natural language processing are no longer merely abstract ideas; they are starting to change the way institutions and traders handle currency trading.

Currency markets have traditionally relied on fundamental analysis, technical indicators, and human judgment to predict trends and make informed decisions. However, these methods often struggle to cope with the immense complexity and volume of real-time data. AI, with its ability to process vast amounts of information at unparalleled speed and accuracy, is addressing these limitations. Today, AI algorithms are utilized to identify patterns, optimize trading strategies, and even predict price movements with greater precision than ever before.

The purpose of this essay is to examine how AI is changing currency markets through better risk management, enhanced decision-making, and increased market efficiency. Furthermore, there are difficulties in integrating AI. The growing reliance on artificial intelligence raises important difficulties, including data privacy, ethical considerations, and the dread of technological unemployment. AI's impact on international currency markets is only going to grow as it develops further, which raises significant concerns about how trading will develop in the future.

Objectives of studies

1. To examine how artificial intelligence affects trading tactics and currency market decision-making.
2. To assess how AI-powered technologies enhance financial sector risk management and market forecasting.
3. To investigate the restrictions and difficulties of incorporating AI into currency markets, including moral and legal ramifications.

Impact of artificial intelligence on trading strategies

Analyzing the impact of AI on trading strategies and decision-making in currency markets involves exploring various dimensions, including algorithmic trading, predictive analytics, risk management, and market sentiment analysis. Here's a detailed breakdown of how AI influences these areas:

a) Algorithmic trading

- ✓ *Automation of Trades:* AI-driven algorithms can execute trades at speeds and frequencies far beyond human capabilities. They can analyze multiple currency pairs and execute trades based on predefined criteria or real-time signals.
- ✓ *High-Frequency Trading (HFT):* AI systems enable HFT by quickly processing market data and executing trades in fractions of a second. This allows traders to capitalize on small price movements that are often unnoticed by human traders.

b) Predictive analytics

- ✓ *Market Forecasting:* AI models can analyze historical price data, economic indicators, and other relevant information to predict future currency movements. Machine learning techniques, such as regression analysis, decision trees, and neural networks, are often employed to improve forecasting accuracy.

- ✓ *Sentiment Analysis:* Natural Language Processing (NLP) can be used to analyze news articles, social media, and other textual data to gauge market sentiment. Understanding public sentiment can provide insights into potential currency movements.

c) Risk management

- ✓ *Real-Time Risk Assessment:* AI can continuously assess the risk associated with different currency positions, enabling traders to make more informed decisions. By analyzing market volatility and liquidity, AI can help identify potential risks before they materialize.
- ✓ *Dynamic Hedging Strategies:* AI can develop and adjust hedging strategies in real time based on changing market conditions, helping to minimize potential losses from adverse currency movements.

d) Enhanced decision-making

- ✓ *Data-Driven Insights:* AI can process vast amounts of data, identifying patterns and trends that human traders might miss. This data-driven approach allows for more informed decision-making.
- ✓ *Personalized Trading Strategies:* AI can adapt trading strategies based on an individual trader's preferences, risk tolerance, and trading style, leading to more customized and effective trading approaches.

e) Improved backtesting and strategy development

- ✓ *Backtesting Capabilities:* AI allows traders to backtest their strategies against historical data efficiently, assessing their viability and optimizing parameters to enhance performance.
- ✓ *Strategy Optimization:* Machine learning algorithms can continuously learn from new data, optimizing trading strategies in real time to adapt to changing market conditions.

f) Challenges and limitations

- ✓ *Market Complexity:* Currency markets are influenced by a multitude of factors (economic indicators, geopolitical events, etc.), making it challenging for AI models to capture all relevant variables accurately.
- ✓ *Data Quality and Availability:* The effectiveness of AI models depends on the quality and quantity of data available. Inaccurate or incomplete data can lead to suboptimal decision-making.

- ✓ *Regulatory Concerns:* As AI becomes more integrated into trading, regulatory bodies may impose stricter regulations on algorithmic trading to ensure market fairness and transparency.

g) Future trends

- ✓ *Integration of Blockchain Technology:* The intersection of AI and blockchain could lead to more transparent and efficient trading processes in currency markets.
- ✓ *Increased Collaboration:* Human traders may increasingly collaborate with AI systems, using AI-generated insights to augment their decision-making rather than replace it.

The integration of AI into currency trading strategies has transformed decision-making processes, enhancing speed, accuracy, and risk management. However, traders must remain aware of the challenges and limitations associated with AI technologies to harness their full potential effectively. As the technology evolves, it will likely continue to reshape the landscape of currency trading, creating new opportunities and challenges for traders and investors alike.

AI-Powered technologies enhance financial sector

AI-powered technologies have significantly transformed the financial sector, particularly in risk management and market forecasting. Here are several ways in which they enhance these areas:

a) Data analysis and predictive modeling

- ✓ Big Data Processing: AI algorithms can process vast amounts of structured and unstructured data, allowing for a more comprehensive analysis of market trends and risks.
- ✓ Predictive Analytics: Machine learning models can identify patterns and predict future market movements based on historical data, improving forecasting accuracy.

b) Risk assessment and management

- ✓ Real-Time Risk Monitoring: AI systems can continuously monitor market conditions and financial portfolios, enabling institutions to detect and respond to potential risks more quickly.
- ✓ Credit Risk Modeling: Machine learning algorithms can analyze borrower data and transaction histories to assess creditworthiness more effectively than traditional models.

c) Fraud detection and prevention

- ✓ Anomaly Detection: AI can identify unusual patterns in transactions, helping to detect fraud in real-time and reduce losses for financial institutions.

- ✓ Behavioral Analytics: By analyzing customer behavior, AI can flag suspicious activities, enhancing security measures.

d) Stress testing and scenario analysis

- ✓ Simulations: AI can conduct complex simulations to assess how different scenarios may impact financial stability, allowing institutions to prepare for adverse conditions.
- ✓ Dynamic Stress Testing: Instead of static models, AI can adjust stress tests based on real-time data, providing more relevant insights.

e) Portfolio optimization

- ✓ Algorithmic Trading: AI can execute trades based on predefined strategies that respond to market conditions more efficiently than human traders.
- ✓ Asset Allocation: AI models can optimize portfolio allocation by analyzing market trends, risk factors, and individual investor preferences.

f) Enhanced decision-making

- ✓ Data-Driven Insights: AI provides decision-makers with data-backed insights, reducing reliance on intuition and potentially leading to better investment decisions.
- ✓ Automated Reporting: AI tools can generate comprehensive reports and dashboards, providing stakeholders with timely and relevant information.

g) Regulatory compliance

- ✓ Automated Compliance Monitoring: AI can help financial institutions adhere to regulatory requirements by continuously monitoring transactions and flagging compliance issues.
- ✓ Risk Reporting: AI tools can streamline the process of generating risk reports for regulatory bodies, improving transparency and efficiency.

h) Customer insights and personalization

- ✓ Behavioral Insights: AI can analyze customer data to identify preferences and behaviors, allowing for more tailored financial products and services.
- ✓ Chatbots and Virtual Assistants: AI-powered chatbots can assist clients in real-time, improving customer service while freeing up human resources for more complex tasks.

The integration of AI-powered technologies in the financial sector enhances risk management and market forecasting by enabling more accurate predictions, improving decision-making processes, and streamlining operations. As these technologies continue to evolve, their impact on the financial landscape will likely grow, presenting both opportunities and challenges for financial institutions.

New avenues in AI

The AI into currency markets presents a myriad of opportunities that could reshape the future of trading and market behavior. As AI continues to advance, its ability to enhance efficiency, reduce risks, and uncover new avenues for profitability in currency markets is becoming increasingly evident. Several key opportunities are emerging from this AI revolution:

- ✓ **Enhanced market efficiency:** AI's ability to process vast amounts of data in real time provides a distinct advantage in identifying inefficiencies within currency markets. Algorithms can analyze historical price patterns, market sentiment, and macroeconomic indicators simultaneously, offering traders actionable insights that were previously inaccessible. This can lead to more efficient markets with fewer price anomalies, benefiting both institutional and retail traders by reducing transaction costs and improving liquidity.
- ✓ **Automated trading and algorithmic strategies:** One of the most transformative opportunities AI offers is the automation of trading strategies. AI-driven systems can execute trades at optimal times, even in milliseconds, based on predefined conditions or real-time data analysis. This reduces the need for human intervention, minimizing errors and allowing for consistent execution. Furthermore, AI enables the creation of more sophisticated algorithmic trading strategies that can adapt to changing market conditions dynamically, thereby maximizing profits while managing risks.
- ✓ **Risk management and predictive analytics:** AI's predictive capabilities can significantly enhance risk management practices in currency trading. Machine learning models can forecast market trends, currency fluctuations, and potential risks by analyzing historical data, geopolitical events, and sentiment analysis from global news. Traders can utilize this information to hedge against adverse movements, optimize their portfolios, and create better contingency plans. This predictive advantage not only helps in minimizing losses but also provides an edge in capturing potential gains from volatile currency movements.
- ✓ **Personalized trading experiences:** AI also offers the opportunity for more personalized trading experiences. Through AI-driven platforms, traders can receive tailored insights and recommendations based on their trading history, risk appetite, and investment goals. These

personalized services can improve decision-making, as AI can recommend strategies that align with individual preferences and market conditions, enabling more effective portfolio management.

- ✓ **Global expansion and access to emerging markets:** AI technologies can also bridge the gap between developed and emerging markets. As AI-based platforms become more widely accessible, traders and financial institutions in emerging economies can participate more actively in global currency markets. This democratization of access creates new trading opportunities and increases liquidity, fostering a more interconnected and diversified global marketplace.

Conclusion

The advent of Artificial Intelligence in currency markets marks a significant shift in how trading, analysis, and risk management are conducted. AI's ability to process large-scale data in real time, optimize trading strategies, and predict market trends has already begun to transform the financial landscape. As AI technologies continue to mature, their potential to enhance market efficiency, reduce human error, and democratize access to trading becomes more pronounced.

This paper has explored how AI is reshaping currency markets by offering enhanced trading algorithms, predictive analytics, and automated risk management. While the opportunities are vast, challenges such as regulatory concerns, ethical implications, and the risk of over-reliance on automated systems must be addressed to ensure a balanced integration of AI into the financial ecosystem.

The role of AI in currency markets will likely continue to expand, providing traders and institutions with powerful tools to navigate increasingly complex financial environments. Those who can adapt to these technological advancements will be well-positioned to thrive in the future of global finances.

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Impact of Integration of Blockchain in Voting System

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Abstract

This paper explores the application of blockchain technology in voting systems, emphasizing its potential to enhance transparency, security, and trust in electoral processes. Traditional voting systems, whether paper-based or electronic, have often been faced by issues such as voter fraud, tampering, lack of transparency, and accessibility challenges. Security of digital voting is always the biggest concern when considering to implement a digital voting system. Blockchain, with its decentralized and immutable ledger, promises a transformative approach to address these challenges. This paper investigates how blockchain can be integrated into voting systems, the benefits it offers, and the limitations and obstacles to its widespread adoption.

Keywords: Blockchain, Transparency, Security, Decentralization voting, Electoral Fraud

Introduction

In any country, democratic voting is the most important event that allows a citizen to choose their representative. For that conducting the fair election is very important. In traditional voting system, the voters have to summit his/her vote to a centralized EVM. However, there is chance of hacking the centralized system and also a chance of manipulation of vote. Blockchain offer a novel approach to addressing this concern. With the help of blockchain chain technology it is possible for the election commission to eliminate the scope of forgery and data manipulation and also provide a complete transparency by eliminating the third party. This paper aims to analyze the potential of blockchain voting systems and identify their benefits and challenges.

Objective of the study

1. To analyze the existing challenges in traditional voting systems.
2. To explore the fundamentals of blockchain technology and implementations of blockchain voting systems.
3. To examine the challenges and future scope of blockchain for voting systems.

Limitations of traditional voting system

Traditional voting systems, whether paper-based or electronic, have been the cornerstone of electoral processes for many years. In paper-based voting system, there is chance of inserting any unauthorized ballot voting box during transportation. The individuals are not aware of the power of vote, they can simply sell their vote for money. Traditional voting system was often controlled by a central authority (government or election commission). If there is any corruption or cyber-attack happen in a traditional voting system, the entire voting system can be manipulated. People living in other countries and abroad was interested to cast their vote by spending lot of amounts in transportation. A large amount of amount is need to be spended by the election commission like buying paper ballots, ballot boxes, voting machines, hiring and training personnel for smooth running of election, transportation expenses etc., In case of paper ballot, it should be counted manually and involve large time for counting and announcing the result.

Features of blockchain technology in voting system

- **Decentralization:** In blockchain technology there is a decentalised network where control is distributed to various nodes rather than held by a central authority. By using blockchain technology in voting system, it eliminates the need for central authority to manage the election which helps to reduce the risk of corruption or manipulation. Voting data is spread across a network, making it resistant to tampering by any single entity
- **Transparency:** In order to get the trust from the voters, transparency is very important. With the help of blockchain, the entire voting system is open to independent verification allowing the voters to observe the process and validate the result. Double voting, ballot tampering are migrated when using blockchain technology
- **Immutability:** Immutable means something which cannot be alter or delete. Voters are not allowed to alter or delete their vote once they casting it. This result in preserving the integrity of the election result.
- **Security through cryptography:** It is very important to ensure, whether any unauthorised voters are participated in voting process. Blockchain can do this job with the help of using advanced cryptographic techniques to ensure that eligible registered voters are casting their vote and each vote is securely transmitted and stored.
- **Privacy:** Blockchain technology can protect voter privacy by encrypting personal data while maintaining the transparency and verifiability of the vote. This security is critical in

protecting the integrity of elections, particularly in countries or regions with a history of election fraud.

Blockchain - based voting systems

The design and functionality of the program will be demonstrated as follows: Users access the platform's web application, register, and cast their votes in a transparent and secure manner.

- ✓ **Registration phase:** The voter must first register using a unique ID, along with personal details such as name, roll number, and mobile number. All of this information is stored in the database.
- ✓ **Login:** After registration, the voter attempts to log in to cast their vote. In this phase, the voter first logs in using their password. Upon successful login, the voter must authenticate themselves to proceed with voting. For real-time authentication, an OTP verification is used to ensure enhanced security.
- ✓ **Blockchain technology:** This technology is primarily utilized for its security features. Blockchain ensures a secure and transparent environment by encrypting the voter's message (cast vote) using an asymmetric encryption algorithm. Blockchain provides a public key, while the private key is held by the host. The public key is used for verification purposes by the ledger.
- ✓ **Database:** The user database is stored in a MySQL database, which contains details such as name, gender, and unique ID. MySQL is the chosen database for this purpose.
- ✓ **Ethereum network:** The Ethereum network provides a framework for the creation and storage of blockchain. Each block is generated, and its details are stored in an encrypted ledger. These blocks are then distributed across nodes, ensuring high fault tolerance for the system.
- ✓ **Result phase:** The processing and tallying of votes occur in the results phase. The results are generated and displayed on the website, where users can verify their votes using their own public key. This ensures transparency in the voting system.

The application is built using the Model-View-Controller (MVC) architectural pattern, which is widely used. In this approach, the application is divided into three main logical components: the model, the view, and the controller.

- ❖ **View:** The top layer serves as the interface through which the end-user interacts with the application, such as clicking buttons, entering details, accessing the camera, selecting radio

buttons, or uploading files. This layer is responsible for presenting data, either in full or partially, based on the application's requirements. Additionally, it functions as a bridge between the user and the application, facilitating communication and data exchange.

- **Controller:** The middle layer of the application encompasses the business logic and core functionality. When a user interacts with the application, the response is processed within this layer. From logging in to casting a vote, all background operations are handled here. This layer primarily consists of functions that process data and send the resulting output to the view layer.
- **Model:** This layer is responsible for managing and storing the user's data. MySQL, a relational database, is used to securely store the user information.

Real-world implementations of the system

- **Estonia:** Estonia has long been at the forefront of e-Governance and has investigated blockchain solutions to further secure its internet voting system (i-Voting), which allows Estonians to vote from anywhere in the world.
- **West Virginia, USA**: In the 2018 midterm elections, West Virginia used a blockchain-based mobile voting system for overseas military personnel, allowing secure absentee voting.
- **Sierra Leone**: A blockchain voting platform was used during the 2018 presidential elections to enhance transparency and security, though it was not an official part of the voting process.

Challenges and considerations

While blockchain voting systems offer many advantages, there are also challenges to address before widespread adoption. Current blockchain technologies can face scalability issues when handling large numbers of transactions. For large-scale national elections, blockchain systems would need to be optimized to handle millions of votes without delays. At the same time not all voters have access to digital devices or the internet, which could exclude certain populations. Ensuring equal access to blockchain voting systems would require significant infrastructure development. Voters need to understand how to use blockchain voting systems, which requires education and training to ensure widespread adoption.

Future scope of the research

The main problem faced by blockchain technology was its scalability issue, a proper research should be conducted to enhance the system to handle large volume of voters. Designing voting

systems that are intuitive and accessible to all voters, regardless of their technical expertise. Exploring how governments can implement blockchain voting systems within existing legal frameworks.

Conclusion

The researcher can infer from this study that blockchain technology presents a strong defense against the problems with conventional voting procedures. It is the perfect option for boosting electoral confidence because of its built-in security, transparency, and impenetrability. But there are still a lot of societal, legal, and technical obstacles to overcome. Blockchain voting technologies have the potential to revolutionize democratic processes in the future by guaranteeing more secure and equitable elections with cautious deployment and ongoing research.

The integration of blockchain technology in voting systems has the potential to enhance security, transparency, and accessibility while reducing fraud. By addressing challenges through well-thought-out solutions and engaging various stakeholders, we can maximize the benefits of this innovative technology for electoral processes. Continued collaboration with experts in technology, policy, and security will be crucial in realizing these solutions.

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A Study on Customer Satisfaction towards Online Banking Services

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Abstract

Banking industry plays a key role in the Indian financial system. For the development and growth of the nation, banks play a very important role. Over the period with the growth of technology the banking sector has also increased their services to the customers. Technology has brought huge transformation in the banking sector as well as the functioning of the bank. The banking industry has this innovation has transformed the way individuals, business, and financial institutions interact and handle financial matters easily. Online banking became popular with the growing trending of the usage of internet.

Keywords: internet, technology

Introduction

E- Banking is a system that helps the customer of a bank or a financial institution to access many transactions through financial institution's website or mobile app. It is the most common method to customers for accessing their bank accounts. The online banking helps the banks to reduce the operating costs of the bank and also helps the customers as they need to go the bank branch for transactions even when the bank branches are closed for holidays. The scope of online banking is increasing as there is a high technology advancement and the growing use of internet all around the world. The advancement of this technology transformed the individuals, business sector to operate their financial transactions smoothly.

There is a need for internet access for the customer to enroll themselves to avail the online services of the bank. The customer should register themselves with the username and the password to avail the services anytime and anywhere. The customers need to visit the website of the financial institutions so that they can use the banking facility of the bank using customer number and password which was given to them individually.

There is a list of online services provided by the bank such as electronic bill payments, financing loans and funds transfer between customers or another accounts. These online services from the bank will help the customers for making the transactions easily so that they need not go the bank directly for making the transactions.

Objectives of the study

1. To assess the quality, security level and accessibility of E- Banking services.
2. To overcome the problems faced by customers while using the online services
3. To assess the degree of awareness among clients of the bank's online banking services.

Evolution of Online Banking in India

After the introduction of computerization all around the world it gave a tremendous development in all fields which gave development to the online banking sector also. With the growing technology it paved way to the services such as e-commerce, e-fund, e-statements and bill payments.

Online banking was first started in the early 1980's. In India it is emerged in 1990's with introduced services like ATM card, Debit card and Credit card. Between the years of 1997-1999 ICICI bank, HDFC bank stared their online banking services to their customers. To provide legal framework in the electronic services Indian government enacted Information Technology Act, 2000 which is enacted from October 17th2000.

Scope of Online Banking

- ✓ **Account Management:** With the help of online banking the customers can able to check the bank balance, history of their transactions without going to the bank directly.
- ✓ **Online bill payments:** With the growth of the online banking services customers can pay their electric bills, loans through online easily.
- ✓ **Mobile Banking:** The growth of smart phones has helpful for the customers to avail the services like mobile wallets and mobile-based payment options.
- ✓ **Online Shopping and Payments:** There is also the services like online shopping with the debit card, credit card which make the customers very easy.

Online Banking: Payment System

The following are some of the online payment system through which the customers can easily make them payment

a) NEFT-National Electronic Fund Transfer

This payment system facilitates the fund transfer national wide. With the help of NEFT amount can be transferred from one entity to another entity within the country. In NEFT there will be no maximum or the minimum limit on the transfer of funds. Earlier the working time of NEFT is from 8.00am to 6.30pm in Monday to Friday and in Saturday it is from 8.00am to 1.00pm. But from December 16,2019 24*7 NEFT is available and no charges are charged for money transfer from January 1st2020.

b) RTGS-Real Time Gross Settlement

The minimum amount to be transferred through RTGS is Rs. 2 Lakhs. The working time of RGTS from Monday to Friday is 8:00am to 4:00pm.

Online Banking: Limitations

- The personal contact of banker and customer is lacking in the online banking system
- Security is a major challenge in the online banking system during online transactions
- Certain banks may not provide all types of online banking services.

Online banking: Pros

- Provides 24/7 access to the bank account
- It enables digital transactions from anywhere
- As customer need not go to the bank for transaction it is more convenient to them
- It helps to reduce the transaction cost for the bank.

Conclusion

This study has been taken to analyze how customers are satisfied towards the online banking services of the bank. There is a tremendous change in the online services provided for the customers by the banking. By providing these services customers fell very easy to avail the services of the banking anywhere and at anytime. In the future there should be reforms to provide safe and secure transactions for the customers. Also, the bank should take some of the steps to get their customers more aware about the online services provided by the banking sector.

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A Comparative Analysis of Rural Non-Farm Employment in India and Tamil nadu

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Abstract

The growth of employment or output shares in the rural non-farm sector (RNFS) appears to be positively associated with absolute growth rates in rural districts of TN. In other words, the faster the growth of the share in employment of the RNFS among TN districts, the faster the growth of total employment. Mellor (1976), Hazell and Haggblade (1992) support the view that the growth of RNFS takes place when agricultural growth precede. Thus, the argument of this study is that, if the distress diversification is dominant, a rapid rise in the RNFS share of workers normally focused on 'traditional' occupations such as household crafts, carpenter, blacksmith, handlooms, petty trade, milk vending, butchers, barbers, goes with slow agricultural and total growth. If the growth linkage diversification dominates, as rapid rise in the RNFS share normally focuses on 'modern' occupations such as transport, retail, construction, services goes with fast agricultural and total growth. The moot point that needs to be underlined is that the distress diversification out of unsuccessful agriculture leads to traditional RNFE. Growth from successful agriculture leads to modern RNFE.

Keywords: Growth, Employment, RNFE, Agriculture

Introduction

In a predominantly agrarian economy like India, unemployment and underemployment are common phenomena, particularly in the agricultural sector. Such an economy is characterized by low out per agricultural worker, a precarious land-man ratio and a high incidence of poverty. These adverse conditions tend to get accentuated with increasing demographic pressure, since the capacity of the agricultural sector to provide productive employment to the growing labour force is limited (Bhalla, 1993). Also, the labour absorptive capacity of the new technology proved to be rather limited. In most of the developing countries the industrial sector has been unable to generate employment opportunities mainly due to the high capital intensity of industrial production techniques. Besides, attempts to rapidly

industrialise by establishing large-scale urban-based capital-intensive industries often lead to disappointing results in terms of income inequalities and rural-urban differentials. Because of the limitations of agriculture and the large-scale manufacturing sector, scholars and development planners began to think in terms of diversification of the rural economy. It is to this end that considerable interest has been generated to show in the promotion and expansion of various rural non-farm activities. The expansion of the non-farm sector as a means of coping with these pressures thus acquires a great deal of importance. Under these circumstances, the trends in the incidence of rural non-farm employment (RNFE) and the spatial distribution of such employment are clearly of considerable interest in describing an aspect of the developmental process.

Non-Farm Employment: Meaning

There is no precise and clear-cut definition for the term 'non-farm' in the literature. The term non-farm is used in different terms in the literature such as 'non-agriculture', 'off-farm', 'non-crop' activities. However, the term 'non-crop' activities are found to be in limited usage in the literature. One aspect of controversy is whether non-farm should only mean non-agricultural activities. Because the non-crop would include homestead based agricultural production (raising vegetables, fruits etc.,) and other non-crop agricultural production. Hence, in a general sense, the term non-farm is defined as an economic activity which is non-agricultural and includes all non-farm pursuits such as mining and quarrying, manufacturing, electricity, gas and water supply, construction, trade, transport and services and all other activities undertaken on a commercial basis outside the farm sector.

Parthasarathy and Shameem (1998) definition of non-agriculture in Census varies from the definition given in the NSS. NSS agricultural workers include those engaged in allied occupations while Census agricultural workers include only those engaged in crop production i.e. cultivators and agricultural labourers.

Gangadhara Rao, (1997) the author, based on the survey of literature, the concept of rural non-farm employment (RNFEE) is defined as employment in pursuits other than cultivation, livestock, forestry, fishing, hunting, plantations, orchards and allied activities. In brief, it covers employment in mining and quarrying, manufacturing (manufacturing, processing, servicing and repairs in household

industry and other than household industry), construction, trade and commerce transport, storage and communications and other services.

The purpose of this study is to analyse the collected secondary information. The present analysis is therefore concerned with the growth and structural changes in India and Tamil Nadu. It's also studies the workforce diversification and its inter-district variation in RNFE in Tamil Nadu. For the purpose of reviewing the empirical evidence with special reference to Tamil Nadu, the present analysis to describes the behaviour of sectoral shares and the growth of total output in Tamil Nadu in the wider all India context.

Growth of Total Output

GDP figures in absolute terms say little about the performance of the economy over time. However, the conventional yardstick of economic performance is the rate of growth of national/state domestic product. To have a better understanding of the behaviour of sectoral growth in GDP/GSDP over time, the same data can be looked at in terms compound rates of growth at a more disaggregated level. Details are given in Tables 1. and 2 It is evident from the table that India's economic performance over six decade sending in 2010, which was marked by two military conflicts and a war with neighbouring countries (China and Pakistan) in 1962,1965 and1971 respectively and the successive droughts of 1965 – 66 and 1966 – 67, 1971 – 72, 1972 -73 appears to have been fairly stable. A closer look reveals that the growth of GDP tended to move up from 1951 to 1970. Thereafter, rates of growth declined steadily during the seventies, but picked up again in the eighties. However, the growth performance of Indian economy has witnessed a decreasing trend in the nineties and thereafter. In Tamil Nadu, the growth rate of GSDP has been more than that of India as a whole over the study period (1961 - 2010). The position in the sub – periods shows that the growth rate moved up as in India as a whole, until 1970. There was a second growth episode during the period 1976-1990. Between these two episodes from 1971 to 1985 total GSDP registered a negative growth. During the nineties and in 2004-05 the Tamil Nadu economy has witnessed a decreasing trend like the rest of country.

The Primary Sector

Overall, the rate of growth of the primary sector over the whole period has been relatively low as compared to the non-farm sectors both in respect of GDP and GSDP. However, in Tamil Nadu, the primary sector has registered an appreciable two-fold increase over the rate of growth achieved in India as a whole. Even so, it has recorded a negative growth rate both at the national and Tamil Nadu state level during the seventies. Yet the recorded growth rate of the primary sector in GSDP for the period 1971 – 75 turns out to be at an abysmally low level. But it has picked up its growth performance during the period 1976 – 80 to rates better than the all-India picture. Further, the primary sector has made an impressive record of growth during 1966 – 70 for the country as a whole and 1981 – 85 in the Tamil Nadu case. In the nineties, primary sector growth has dampened at the all-India level while it has recorded a high growth rate in the state of Tamil Nadu. During the recent years 2009-2010, the growth performance of the primary and non-farm sectors have declined both in India and Tamil Nadu.

Table.1 Sectoral Compound Growth Rates with Respect to GDP of India at Factor Cost by Industry Ofin Constant At 1990-91, 1999-2000 And 2004-05 Prices

Sl No	Industry	50-51 to 54-55	55-56 to 59-60	60-61 to 64-65	65-66 to 69-70	70-71 to 74-75	75-76 to 79-80	80-81 to 84-85	85-86 to 89-90	90-91 to 94-95	95-96 to 99-00	20-01 to 04-05	05-06 to 09-10
1	Agriculture	3.47	1.98	1.86	4.10	-0.64	-1.36	3.20	3.27	2.41	3.28	3.07	3.02
2	Allied Activities	-0.48	1.01	1.89	1.28	2.16	-3.07	-1.69	4.09	1.48	2.08	3.79	3.21
3	Mining & Quarrying	3.99	3.94	4.32	2.62	2.93	2.09	5.67	7.70	2.96	3.22	3.75	4.11
4	Manufacturing	4.24	4.59	6.38	3.41	2.90	4.67	6.14	6.12	3.70	3.12	6.83	9.50
5	Electricity, Gas &Water Supply	6.41	10.23	10.59	8.20	3.88	5.67	6.70	7.77	6.67	5.11	7.08	7.18
6	Construction	2.80	3.16	5.41	4.36	-1.43	2.28	2.23	4.40	2.71	5.33	7.54	9.23

7	Trade, Hotels & Restaurants	3.29	3.90	5.23	3.13	2.21	3.34	4.31	5.13	5.28	9.11	9.97	11.93
8	Transport, Storage & Communications	2.96	5.57	5.18	3.99	4.82	4.40	4.99	6.05	4.85	4.97	6.46	9.32
9	Financing, Insurance, Real Estate & Business Services	2.30	2.40	2.69	2.69	2.21	4.12	4.91	6.76	6.46	6.90	7.69	12.04
10	Community, Social & Personal Services	2.34	3.34	4.96	3.69	3.01	3.39	4.38	5.64	3.33	7.45	9.05	8.19
11	Primary Sector	3.03	1.87	1.86	3.77	-0.32	-1.54	2.80	3.33	2.35	3.18	4.84	3.05
12	Secondary Sector	3.98	4.40	6.19	3.76	2.09	4.14	5.44	6.07	3.74	8.80	5.85	8.56
13	Tertiary Sector	2.67	3.45	4.45	3.27	2.75	3.68	4.57	5.81	5.01	4.32	15.25	10.18
14	Agriculture	3.47	1.98	1.86	4.10	-0.64	-1.36	3.20	3.27	2.41	3.28	3.07	3.02
15	Non-Agriculture	3.15	3.82	5.17	3.49	2.47	3.87	4.94	5.92	4.46	5.60	12.62	9.57
16	GDP	3.08	2.80	3.54	3.61	1.27	1.71	4.14	5.07	3.83	5.04	10.71	8.62
	Gap	0.91	1.93	2.79	0.85	-3.88	-2.84	1.54	1.81	1.85	6.69	7.54	10.91

Notes and **Sources:** ibid

Table.2 Sectoral Compound Growth Rates with Respect to GSDP of Tamil nadu at Factor Cost by Industry of Origin Constant at 1990-91, 1999-2000 and 2004-05 Prices

Sl No	Industry	1960-61 to 1964-65	1965-66 to 1969-70	1970-71 to 1974-75	1975-76 to 1979-80	1980-81 to 1984-85	1985-86 to 1989-90	1990-91 to 1994-95	1995-96 to 1999-00	2000-01 to 2004-05	2005-06 to 2009-10
1	Agriculture	-0.96	1.36	-4.07	-0.87	6.60	2.55	6.24	1.13	-2.38	2.01
2	Allied Activities	8.95	2.60	-1.51	0.13	0.87	17.03	0.95	2.26	-3.14	-0.01
3	Mining & Quarrying	36.56	7.25	-2.54	-1.41	4.82	7.19	5.18	0.60	17.17	1.62
4	Manufacturing	5.11	4.48	-2.48	6.56	5.18	2.50	0.91	4.32	1.44	6.44
5	Electricity, Gas &Water Supply	5.83	6.30	1.61	4.97	6.07	8.49	3.67	10.16	5.41	-27.89
6	Construction	3.93	3.97	0.35	3.29	-0.12	5.38	2.60	9.34	-12.03	4.07
7	Trade, Hotels & Restaurants	1.63	2.53	-1.06	3.34	3.11	3.21	3.89	6.83	5.73	6.71
8	Transport, Storage & Communications	4.93	9.70	2.50	4.24	4.88	1.92	5.92	7.84	6.96	9.05
9	Financing, Insurance, Real Estate & Business Services	3.72	2.82	2.13	4.72	4.49	8.69	6.85	8.88	7.06	12.28
10	Community, Social & Personal Services	3.02	3.25	2.83	4.13	3.70	7.20	3.31	7.31	3.29	9.92
11	Primary Sector	-0.70	1.41	-3.99	-0.84	6.42	3.07	6.01	1.21	-2.46	1.72
12	Secondary Sector	5.38	4.63	-1.65	5.78	4.49	3.44	1.56	4.76	2.99	5.37
13	Tertiary Sector	2.81	3.82	1.14	3.95	3.86	5.10	4.89	8.00	4.78	8.53
14	Agriculture	-0.96	1.36	-4.07	-0.87	6.60	2.55	6.24	1.13	-2.38	2.01
15	Non-Agriculture	3.78	4.16	-0.05	4.76	4.15	4.38	3.48	6.74	4.09	7.75
16	SGDP	1.56	2.99	-1.52	2.76	4.72	4.08	4.04	5.63	3.16	7.25
	Gap	-3.95	3.05	0.01	-5.45	0.63	1.72	0.56	8.58	5.39	8.37

Notes and **Sources:** ibid

The Non-Farm Sector

Taking the whole period, the non-farm sector has contributed significantly the structural change in the economy. The changes are in the desired direction, both in respect of the India as a whole and in the Tamil Nadu case. Over all, the rate of growth of the non-farm sector was twice that of the primary sector, with the secondary sector having an edge over the tertiary sector both in Tamil Nadu and the country as a whole. In comparison, the state of Tamil Nadu has an impressive record of growth in the non-farm sector during the overall period. But, the growth performance of the non-farm sector witnessed a declining trend during 1965-75, 1990-95 and 2005-10 at the all India level; whereas in Tamil Nadu it registered a negative growth rate during 1971 – 75 and has fallen in the nineties and during 2000-05. However, its growth rate has been consistent for the past four decades excluding the period 1971 – 75 and 1991 -95 in Tamil Nadu as compared with the country as a

whole. The slackening of the growth of the non-farm sector in its GDP/GSDP contribution, especially during 1965 – 75 and 1991 95 seems to indicate a state of retrogression in the economy. This is entirely due to the fall in the growth rate of the secondary and tertiary sector during the period.

The Secondary Sector

Taking the whole period, GDP/GSDP originating from the secondary sector has grown almost as fast as the tertiary sector in the Indian and Tamil Nadu economies. As stated earlier, the rate of growth of the secondary sector is greater than that of the other two main sectors over the whole period both in respect of India as a whole and Tamil Nadu particularly. In spite of this achievement, the secondary sector has experienced a marked decline in the rate of growth of GDP over the period 1966 – 75; In Tamil Nadu secondary sector registered negative growth during 1971 – 75. Admittedly, its growth rate in GDP and GSDP picked up during the period 1976 – 80. Much of these increases are attributed to the exceptional performance of the secondary sector during the subsequent years. Furthermore, secondary sector growth rates continued to rise until 1990 in the Indian economy whereas the state of Tamil Nadu marked a declining trend during each subsequent five-year period up to 1995. Thereafter, the performance of the secondary sector has fluctuated during the recent decade.

These works were done for all sub-sectors of the secondary sector as well. During the period 1966 – 75, the rates of growth of manufacturing, electricity, gas and water supply, and construction have gone down significantly at the national level. Especially, the construction industry recorded a negative growth rate during 1971 – 75. The second episode of declining growth rates took place in the nineties. During this period except for electricity, gas and water supply, the rates of growth of all its sub-sectors have substantially gone down in the Indian economy. However, all the components of secondary sector have steadily gone up for the past one and half decade. In the case of Tamil Nadu, accumulating evidence from its components show that the growth rates of all sub-sectors have significantly declined, most suitably manufacturing and mining and quarrying suffixed negative growth during the period 1971 – 75. Subsequently during1976 – 80 the rate of growth of the sub-sectors, except mining and quarrying which again recorded negative growth, have recovered. Thereafter, the growth rate of manufacturing has continuously declined whereas construction registered a negative growth rate during 1981 – 85. However, the growth of mining and quarrying,

electricity and construction, which is only in 1986 -90, recorded a healthy trend during the eighties. In recent years (1995 – 2010), growth rates in sub-sectors have considerably fallen.

The Tertiary Sector

In the case of the tertiary sector, similar behaviour has been noticed as in the case of the secondary sector in India. Its growth rate gradually moved up during the period 1951 – 65. Then, the rate of growth of the tertiary sector witnessed a setback during 1966 – 75. The second episode of growth began in the late seventies a d ended with a high growth rate in late eighties. However, the tertiary sector growth rate has dropped in the nineties. But its growth rate has considerably risen in 2000-05 and again dropped in recent years. In Tamil Nadu, the rate of growth of GSDP originating from the service sector exhibits no clear trend until 2010, but it has remained positive. However, its growth rate has decelerated considerably during 1971 – 75 and dropped a little during 1981 – 85,1991-95and again in 2000-05.

Within the service sector, rates of growth have considerably declined for all its sub-sectors during a decade of 1966-1975, excluding the transport sector where growth rates improved in the mid-seventies. Moreover, the growth rate of finance did not change markedly until 1970. However, the rates of growth of all the sub sectors of the service sector have dropped during the nineties and in recent years. This is the picture for the Indian economy. Comparing this picture with the state of Tamil Nadu, it may be noted that all the sub-sectors in the state behave in the same way as the service sector as a whole during the study period. During this period the growth rates of all sub-sectors have massively gone down. Thereafter, the growth rates have not shown a neat trend until 1995. During 1981 – 85 except the rate of growth of the transport, all other sub-sectors' growth rates have come down. On the contrary, the rate of growth of transport sector alone has considerably gone down during the subsequent period 1986 – 90. Meanwhile, all the other sub-sectors have gained during the same period. Particularly the finance and service sectors' rates of growth have almost doubled. During the period of 2000-05, all the components of the service sector have registered a declining trend in Tamil Nadu. In more recent years, except the service, these sectors have registered upward trend.

Based on the above analysis of total output growth, some salient features for the state of Tamil Nadu need to be underlined here in the context of India. Firstly, the most prosperous period for the growth of non-farm sector in Tamil Nadu has been the 2005-10 followed by 1995 –2000 and 1975 – 80 respectively; whereas for all India, it was during the period 2000-05 followed by 2005-10 and

1985-90. Secondly, the growth of the non-farm sector witnessed a negative growth during 1971 -75. Only the growth of construction industry has been more pronounced for the state of Tamil Nadu. Thirdly, within the non-farm sector, the growth rates of secondary and tertiary sectors have trailed the Indian figures except 1965 – 70 and 1975 – 80. But, the growth of the Tamil Nadu tertiary sector has been better in the late nineties. Fourthly, among the sub-sectors, only the finance and service stand apart from the restin Tamil Nadu. During late eighties, the rates of growth of all the sub-sectors in the non-farm sector except the mining and quarrying and electricity, gas and water supply, have exceeded their respective growth rates in India. However, the rates of growth of mining and quarrying and the transport sectors are also greater in the recent years. Fifthly, the growth rate of the primary sector has been higher than India during 1981-1985 and 1991-95. The allied activities, a part of the primary sector, have consistently shown upward growth since 1961 with the exception of the years 1971-75. But the growth rate of agriculture which is another part of the primary sector has been lower in Tamil Nadu than in India during the entire period (1961-2010) except for the years 1980-85 and 1990-95. Sixthly, the growth of all sectors in GSDP has been impressive during 1976-90 and 1966-70. However, it recorded negative growth rate during 1971-75 and relatively low growth during 1961-65 and 1991-95 as compared with all India figure. Lastly, overall, both the Indian and the Tamil Nadu economies have been badly affected during the period 1971-75.

Problems of RNFE

Every non-farm activity has its own problems. These problems vary from occupation to occupation in the study area. However, the main problems of RNFE in agriculturally developed or undeveloped areas have been identified. They are seasonality, real estate, demeaning of occupations, low wage or salary, long duration of working hours, exploitation of workers, lack of social security, irregular job availability, outsourcing job, contract-based jobs, advent of modern technology, caste-based occupation, educated unemployed and underemployed, strains of workers, and non-availability of healthy food.

Conclusion

A detailed scrutiny of the study leads to the conclusion that the analysis of national/state income data highlights important structural changes during the past decades. The emerging structural change witnessed a vast decline in the share of Agriculture, coupled with a modest increase in the share of industry and a much sharper increase in the share of services which now account for roughly half of the total income. It is also emerged that with a shift of GDP/GSDP from agriculture to

industry, there was a nearly proportionate shift in employment. Similarly, a rise in the share of services in GDP/GSDP was accompanied by a proportionate increase in employment. Nevertheless, the Tamil Nadu economy continues to be dominated by the agriculture and by unorganised sectors. However, the latest trend towards modernisation, market orientation and casualisation of labours has shown a tendency to shift away from agriculture for both genders. Therefore, the policy directions of government should be pursued in future so that the sectoral disparities in GDP/GSDP and employment pattern are reduced.

Recommendations

The following are the recommendations of the study.

1. The CSO does not estimate GDP separately for rural and urban areas. It is suggested that as in other countries like China, where such data are available, India may also attempt to estimate the GDP for rural and urban areas separately.
2. The changing structure of the GDP/GSDP needs to be strengthened further by stepping up the programme of industrialization. This does not mean neglect of agriculture, but for accelerating the growth process in agriculture, industrialization of the economy with emphasis on agro-based industries and industries supplying inputs to agriculture. Then only, the process of structural change of the economy from developing economy to developed economy will be accomplished.
3. RNFE is often viewed as an offshoot of poor agricultural performance – a distress diversification in India. This is where the problem arises. This study suggests that more RNFE emerges primarily out of prosperity of agriculture. This will lead to a healthy employment environment and also boost demand for consumer goods. Thus, an increase in investment on irrigation particularly countrywide integration of rivers, statewide integration of rivers, district wide integration of rivers or channels, even taluk wide integration of channels, and infrastructure coupled with large scale non-farm activities would generate a significant increase in non-farm employment.
4. The problems of non-farm employment in agriculturally developed and undeveloped regions must be identified separately and area specific non-farm development programmes must be planned and implemented.
5. Government must promote training centres and encourage skill development in the rural areas. The present young generation needs modern skills to enable them to engage in some

non-farm activity. For this the Government may introduce vocational based general education to students.

6. The marginal farmers, agricultural labours and casual labours are the largest section of the rural poor. They have not benefited sufficiently from the prosperity of agriculture. There is a need to assist them to improve their incomes by means of subsidiary occupations and off-season employment.
7. Lastly, the Government should take necessary steps to improvement the educational standards particularly in rural areas. These policies are likely to accelerate the growth of RNFE.

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An Impact of Industrial Revolution

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Abstract

The goal of Industry 5.0, which is thought of as the next stage in industrial evolution, is to combine the creativity of human experts with effective, intelligent, and precise machinery to provide manufacturing solutions that are more user-friendly and resource-efficient than those of Industry 4.0. Industry 5.0 is anticipated to benefit from a variety of promising technologies and applications that will enable increased production and spontaneous delivery of customized products. In this work, we seek to present a survey-based tutorial on prospective applications and supporting technologies of Industry 5.0 to provide a very first discussion on Industry 5.0. We begin by introducing a number of fresh terms and terminology related to Industry 5.0 from the viewpoints of various experts and practitioners in the sector. The possible applications of Industry 5.0, including intelligent healthcare, cloud manufacturing, supply chain management, and manufacturing production, are then thoroughly discussed. In the following section, we talk about some enabling technologies for Industry 5.0, including edge computing, digital twins, collaborative robots, the Internet of Everything, blockchain, and 6G and beyond networks. In order to actualize Industry 5.0, we highlight a number of research hurdles and unresolved problems.

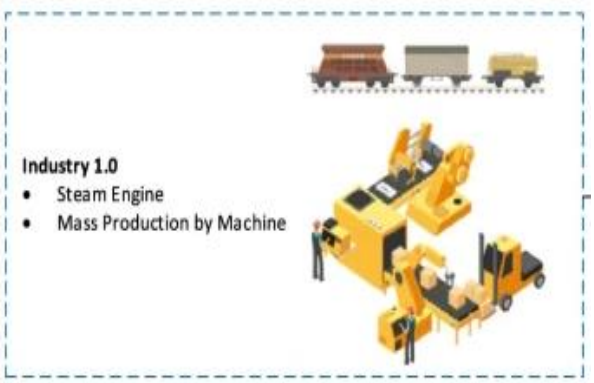
Introduction

Revolutions may ultimately follow one another in quick succession during the next ten years and beyond as technology advancements pick up speed. The first three industrial revolutions lasted for decades, whereas the current revolutions only last until industry-wide implementation is complete. It's crucial to remember that Manufacturing 5.0 is an improvement over 4.0 and not a whole new system. Overall, Industry 5.0 development may turn out to be the full fulfillment of what the designers of Industry 4.0 could only have imagined at the start of the 2010s. The connection between computers, robots, and human workers will eventually become more meaningful and

mutually enlightening as artificial intelligence advances and factory robots acquire more human-like characteristics.

Industrial Revolution I

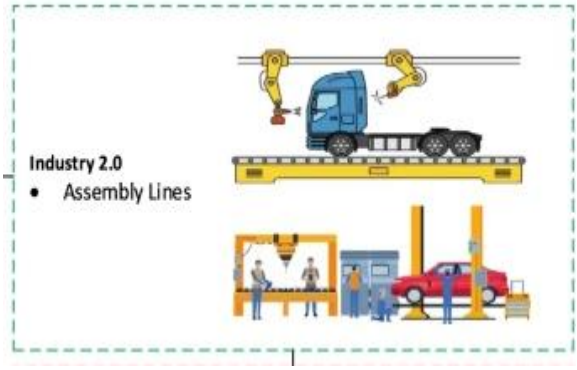
The utilization of steam power and the robotization of production marked the start of the first Industrial Revolution in the 18th century. The historical period it alludes to was between 1760 and 1820 or 1840 in Europe and the United States since it took a long time for new technology to be implemented. This had an impact on the iron assiduity, agriculture, mining, and cloth manufacturing—one of the first industries to adopt comparable changes—as well as social goods with a weakening middle class. Brume's strength was once well renowned. The biggest improvement in increasing human productivity was its utilization for artificial purposes. Brume-machines could be utilized to generate power instead of human muscles to drive weaving looms. Similar advancements like the steamer or (approximately 100 times later) the brume-powered locomotive brought considerably more significant improvements because people and products could move farther in less time. The term "industry 1.0" describes the mechanization of labor that our predecessors performed manually. Therefore, the mechanization of labour only became conceivable after the invention of steam. For instance, a weaving loom.



Industrial Revolution II

The period between 1871 and 1914, commonly referred to as the Technological Revolution, was marked by the construction of massive railroad and telegraph networks that facilitated the speedier exchange of people, ideas, and electricity. companies were able to create the modern production line thanks to increased electrification. Due to the invention of electricity and the introduction of assembly lines, it started in the 19th century. A slaughterhouse in Chicago, where pigs were strung from conveyor belts and each butcher only completed a portion of the slaughtering process, gave Henry Ford (1863–1947) the idea for mass production.

Henry Ford applied these ideas to the manufacture of automobiles, fundamentally altering the industry. Previously, a whole automobile was assembled at one station; now, vehicles were produced on a conveyor belt in small batches, which was much faster and less expensive. It was a time of significant economic growth and productivity gains, which together with the replacement of many factory workers by machines led to an increase in unemployment. The change known as "Industry 2.0" resulted from the use of electricity in a variety of operations. As a result, assembly lines might be used. In 1870, the first electric assembly line was constructed.



The distinction between industries 1.0 and 2.0:

	Industry 1.0	Industry 2.0
Source of power	The primary energy sources for machines and industrial processes were water and steam.	Most machinery and industrial operations were powered mostly by electricity and oil.
Labor	The majority of industrial operations needed more laborers and human resources because there was a greater need than supply, which resulted in more people being employed and putting in long hours.	Because robots took over most of the tasks that workers would have performed, fewer workers were needed, which led to a greater number of job losses.

Industrial Revolution III

After the end of the two world wars, there was a pause in industrialization and technological development compared to earlier eras, which led to the Third Industrial Revolution, also known as the Digital Revolution. A decade later, the creation of the Z1 computer, which made use of binary floating-point numbers and Boolean logic, marked the start of increasingly sophisticated digital innovations. The supercomputer was the next important advancement in communication technologies and with its widespread usage in the manufacturing process, equipment started to replace the need for human labor. Industry 3.0 represented a significant advancement in which

automation and the introduction of computers dominated the industrial scene. More and more robots were deployed in processes to carry out jobs that were previously undertaken by people during this time of transformation. For instance, using robots and programmable logic controllers.

The distinction between Industry 2.0 and 3.0:

	Industry 2.0	Industry 3.0
Production systems	Large-scale production was mostly carried out with the aid of mechanical machinery.	In mass production, automated methods are used because they can do difficult human activities.
Major invention	The use of electricity in manufacturing was a significant invention at this time.	The turning points of Industry 3.0 were the arrival of computers and automation.

Industrial Revolution IV

The Fourth Industrial Revolution is characterized by technological advancements in cyber-physical systems, such as high-capacity connectivity, new human-machine interaction paradigms, like touch interfaces and virtual reality systems, and advancements in translating digital instructions to the real world, like robotics and additive manufacturing, the Internet of Things (IoT), "big data" and cloud computing, artificial intelligence-based systems, and better data transfer.

The next stage of factory automation is this. The networking of all systems creates "cyber-physical production systems" and, consequently, "smart factories," where people, components, and production systems interact over a network and produce almost autonomously. People may be drawn into smarter networks through Industry 4.0, which could lead to more productive working. The production environment has become more digitalized, which opens up more flexible ways to deliver the correct information to the right person at the right time.

The Smart Factory

The Smart Factory is not just a concept anymore. While various model factories illustrate what is technically possible, numerous businesses have already demonstrated how the Smart Factory works in practice. Cyber-physical systems that communicate with one another via the Internet of Things and Services are the technical basis of the Smart Factory, or intelligent factory. The data transfer between the product and the production line is a crucial step in this process. This makes it possible for the Supply Chain to be connected much more effectively and for any manufacturing environment to be better organized.

The "smart factory" is fostered by the Fourth Industrial Revolution. Cyber-physical systems control physical processes, simulate the real world, and make decentralized choices within modularly built smart factories. Cyber-physical systems communicate and work together with humans and other cyber-physical systems across the internet of things in real time, both within and between organizational services provided and used by value chain players.

Differences between Industry 3.0 and 4.0:

	Industry 3.0	**Industry 4.0**
Human intervention	Most production processes are automated using information technology and logic processors. However, they rely on some human intervention.	Most production processes use huge quantities of data and smart & interconnected machines that do not rely on any human intervention.

Industry 5.0

Industry 5.0 is a relatively recent notion. Industry 5.0, in the words of the European Union, "provides an industry vision that aims beyond efficiency and productivity as the sole goals, and

reinforces the role and the contribution of industry to society." and "It respects the planet's production limits while putting the welfare of the worker at the center of the production process and using new technologies to provide prosperity beyond jobs and growth." By "specifically putting research and innovation at the service of the transition to a sustainable, human-centric, and resilient European industry" (original emphasis), it completes the industry 4.0 strategy.

Industry 5.0 may resemble science fiction in some ways, but it may be on the rise. At this point, A.I. and people will collaborate to increase production efficiency. Industry 5.0 aims to improve automation of the manufacturing process through human-robot collaboration and improved customization for clients.

It leverages new technology to provide prosperity beyond jobs and growth while respecting the planet's production constraints and places the welfare of the worker at the center of the production process. By expressly placing research and innovation at the service of the transition to a sustainable, human-centered, and resilient European industry, it enhances the current "Industry 4.0" strategy. In the current economic and sociological changes we are living through, European industry is a major force. Industry must take the lead in the digital and green transitions if it wants to continue being the source of wealth. This method strengthens the function and value of industry in society by offering a vision of business that goes beyond efficiency and productivity as the only objectives.

How Come Industry 5.0?

Industries can actively contribute to finding answers to societal problems including resource preservation, climate change, and social stability. The Industry of the Future strategy helps business, employees, and society. Along with addressing the employees' changing skill and training demands,

it empowers workers. It makes business more competitive and aids in luring top people. It benefits circular production methods and technologies that optimize the use of natural resources, which is excellent for the environment. Making industries more resistant to outside shocks, like the COVID-19 crisis, can also be accomplished by revising current value chains and energy consumption habits.

What Distinguishes Industry 4.0 From Industry 5.0?

The merging of the physical and digital worlds utilizing cutting-edge technology is at the heart of both Industry 4.0 and Industry 5.0. Despite differences in strategy, both periods of the business are distinguished by the provision of tools that lead to smooth interactions with end users.

Industry 4.0 is centered on using IoT, big data, and artificial intelligence to automate and optimize production processes. The focus of Industry 5.0, on the other hand, is on human-machine collaboration, in which people and robots work together to develop new goods, services, and business models that make use of each party's distinct advantages. Like all industrial revolutions, one cannot occur without the other, and the technology created during one, along with the background information, is what sparks the next. To put it another way, industry 5.0 is a result of industry 4.0 and will ultimately lead to industry 6.0.

Conclusion

The pace of technological advancement is increasing every day. Over the next ten years and for many years beyond that, we anticipate additional developments. In fact, we think that there will be more industrial revolutions after Industry 4.0. Instead, there is a strong likelihood that Industry 5.0 may emerge sooner than we anticipate, and when it does, we can anticipate that this period will be the full manifestation of all that Industry 4.0 can only imagine. Artificial intelligence and the advancement of factory robots will enable more meaningful interactions between humans, computers, and robots, which will improve living conditions, productivity, and sustainability.

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Humanizing Machines: The Evolution of Artificial Intelligence and its Applications

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Abstract

The simplest definition of artificial intelligence is any machine-based system that is created with human-defined goals in mind to carry out tasks that would otherwise require the intelligence of humans or animals. AI systems can accomplish one or more of the following, depending on its programming and goal: recognize patterns, comprehend natural language, create content, anticipate and make judgments, offer suggestions, solve issues, or adjust to and learn from new data and situations. In order to make a computer machine think and behave like a human, artificial intelligence (AI) simulates human intelligence.

Keywords: AIED, Challenges, Types, Issues, Benefits and Future AI.

Introduction

Artificial intelligence (AI) systems are made to mimic or mimic human cognitive functions as perception, reasoning, learning, and problem-solving. Large volumes of data are processed and analyzed by AI using algorithms and computer models, which then use the data to identify patterns and make predictions or choices. AI has many applications and uses in a variety of fields, including education. One quickly developing technology that is drastically altering the way we work, study, teach, and live is artificial intelligence. AI is present almost everywhere. Many individuals, both, use AI on a regular basis consciously and unconsciously, in everything from media and surveillance systems to cell phones and computer apps. Streaming services.

Education Using Artificial Intelligence (AIED)

The term AIED describes the use of AI tools and methods in the classroom. AIED emerged as a specialized field in the 1970s to address emerging technologies in teaching and learning,

particularly in higher education. AIED's primary goal is to help students with fundamental automated tasks as well as flexible, personalized, and interesting learning. Adaptive learning, pedagogical agents, smart classroom technologies, and intelligent tutoring systems are a few of the most well-liked trends in AIED.

Numerous uses of AI in Education

Intelligent Tutoring Programs

These systems provide interactive and captivating learning experiences, evaluate student data, and modify the curriculum to meet the needs of each individual.

Adaptive Education

To develop individualized learning paths, AI systems examine student performance data. To maximize the learning process for every learner, it may pinpoint knowledge gaps, recommend relevant readings, and modify the content's degree of difficulty.

Automated Feedback and Grading

Multiple-choice questions and other objective evaluations can have their grading automated by AI. Additionally, it can give students immediate feedback, enabling them to pinpoint their areas of weakness and modify their learning approaches accordingly.

NLP, or natural language processing

Applications for language learning, automated essay grading, and intelligent chatbots that respond to student enquiries can all benefit from natural language processing (NLP). Intelligent Content Creation: AI is capable of producing educational materials, exercises, and quizzes.

Augmented reality (AR) and virtual reality (VR)

Immersion learning environments can be created by combining AI technology with VR and AR. These technologies improve comprehension and participation in a variety of subjects by offering interactive simulations, virtual field trips, and 3D visualizations.

Analytics of Data and Predictive Models

AI is able to find patterns and trends in vast amounts of educational data, including behavior, attendance, and student performance. Teachers can identify kids who are at risk of falling behind and provide appropriate interventions with the use of predictive models.

Systems for intelligent learning management (LMS)

Teachers can concentrate more on teaching by using these tools to automate administrative duties like scheduling and grading.

Challenges with AI in Education

Overuse of AI

The value of human mentoring, guidance, and the social components of education may be overlooked if AI systems are overused. Instead of replacing human teachers, AI should be viewed as an additional tool.

Use of Ethics and Openness

Gaining the trust of stakeholders, educators, and students requires openness in the decision-making and recommendation-making processes of AI systems.

Absence of Equity and Universal Access

Some pupils may fall behind due to a digital divide caused by differences in training, dependable internet, and technology access.

Security and Privacy of Data

AI-powered educational systems gather and examine vast volumes of student data. Strong data security protocols and adherence to privacy laws are essential.

Algorithmic Fairness and Bias

Biases in the data that AI systems are educated on may unintentionally be reinforced. Discrimination in educational performance and unfair treatment may result from failure to overcome these prejudices.

Three Types of Artificial Intelligence

Reactive AI: Reactive AI products, like Roomba vacuums and AI assistants like Alexa and Siri, react to particular inputs or circumstances without drawing on prior knowledge.

Predictive AI: Predictive AI technologies, like those that Amazon or Netflix use to show you recommended things, use past data and experiences to forecast future occurrences or behaviors.

G**enerative AI:** Using preexisting data patterns and structures, generative AI technologies like ChatGPT and Gemini produce original text, photos, videos, and other content.

It's crucial to remember that humans have long used reactive and predictive AI technologies, even though generative AI has drawn the most attention in recent months. Furthermore, the development of AI technology is accelerating, with new models and tools being released on a regular basis.

Student-focused AI: Among other tools designed to assist students, student-focused AI comprises catboats, automated writing assessment systems, and adaptive tutoring systems.

Teacher-focused AI: Teacher-focused AI solutions, such as resource curation systems, lesson planning tools, and assessment support, are designed with educators in mind.

Institution-Focused AI: Institution-Focused AI supports campus and school operations and administration, including scheduling, looking for safety issues, and identifying pupils who may be at risk.

Difficulties and Moral Issues

Even though AI has the potential to revolutionize education, there are a number of issues and moral dilemmas that need to be resolved.

Data privacy issues

AI cannot operate well without vast volumes of data. Academic records, learning preferences, and other personal data are among the data that artificial intelligence in education uses. Making sure that the data is gathered and used in an ethical manner is essential. Teachers must also safeguard student privacy and secure the data.

Biases in AI algorithms

Depending on the data they are trained on, AI systems may reinforce preconceived notions. It will influence student learning recommendations and be reflected in the algorithm's decision-making process. Teachers need to be conscious of these biases and actively seek to reduce them by routinely examining and keeping an eye on AI systems.

Problems with accessibility

AI-powered tools and platforms might not have been created with all students in mind, which could cause problems for students with impairments. To give all students equal opportunity, it is

crucial to take accessibility into account from the very beginning of development and make sure AI is applied inclusively.

Bringing AI to Education

It is evident that future advancements in AI could bring about much-needed innovation in education as we build on the lessons learnt. We must deliberately and safely implement new technologies while keeping the following things in mind to ensure they live up to their potential to improve Education 4.0 and lifelong learning:

Create with Equity in Mind

Given that, AI has the potential to widen existing educational disparities, equity must be given top priority in the design of AI-enabled educational advances. This entails eliminating barriers related to language and access, addressing gender imbalances, addressing public vs private schooling, and accommodating students with a range of skills and learning styles.

Improve pedagogy driven by humans

AI will never take the place of excellent, human-led instruction. In light of this, the majority of instances concentrate on improving human-led instruction by giving teachers access to appropriate AI tools that automate administrative duties and free up their time to concentrate on their craft or by giving them pertinent training on AI techniques that improves their ability to teach AI lessons.

Co-create and carry out with assisting stakeholders

AI-enabled educational innovations ought to recognize the vital roles that educators, parents, and educational institutions play in embracing this new technology. The significance of collaboratively built educational solutions with input from students, instructors, and professionals is highlighted by successful examples of AI integration in education.

Teaching using AI is just as important as teaching about it

AI tools have long been a part of education, such as those that offer data analytics and gamified learning. It is becoming more and more clear that teaching about AI in schools is essential, even as advancements in generative AI present new ways to use AI tools.

Access and economic viability

To avoid widening the already-existing digital divide and generating new educational inequalities, it is crucial to guarantee that all students have access to AI-learning possibilities and economic feasibility. Significant investment is needed to realize the potential of AI in education, not just in the products themselves but also in training, data protection, and supporting infrastructure.

The Following are the Main Benefits of AI in Education for Students

1. Increased engagement

AI motivates students by personalizing their educational experiences. They are more engaged with the educational resources that are catered to their requirements and interests.

2. Individualized pace

Every student learns at a unique rate. Adaptive platforms change the learning pace based on the needs of each student. It guarantees that the student is not hurried through the content or left behind. When they perform well, it advances to more difficult content and provides clearer explanations of the areas in which they require additional assistance.

3. Customized learning experiences:

Various learning styles necessitate various methods of instruction. AI delivers content in a way that works best for each learner by taking into account their unique needs and preferences. It alternates between lectures, interactive exercises, and visual and audio learning.

4. Improved comprehension

AI provides extra resources to support learning and assists in identifying gaps in student performance. It results in better material retention and comprehension.

5. Simple accessibility

To address student enquiries and dispel ambiguities, adaptive systems make use of text-to-voice software, speech recognition software, and natural language processing (NLP). Before going on to the following idea, it guarantees that pupils fully comprehend the content.

6. Increased engagement

Gamification is a cutting-edge use of AI in education. It makes learning entertaining and interesting by presenting instructional content in games.

7. Improved skill development

AI in education promotes the growth of soft skills in addition to academic knowledge. Personalized education fosters creativity, critical thinking, and problem-solving skills. It offers focused assistance to help pupils acquire particular abilities.

AI-Powered Teaching Resources

Technological development has spurred educational innovation. AI in education is capable of processing enormous volumes of data and simulating human decision-making. AI-powered learning aids improve the educational process by giving students access to individualized, interesting, and easily available content. Among the AI-powered teaching resources that are having an effect are:

Online tutors

Virtual instructors are intelligent machines that communicate with students in a conversational manner using NLP and ML algorithms. They offer individualized educational opportunities. Because virtual tutors can adjust to each student's unique speed, learning preferences, and style, learning becomes more effective and enjoyable.

Recommendations for intelligent content

These technologies use algorithms and data analytics to suggest pertinent educational resources to students. The suggestions are predicated on their development, interests, and learning preferences. Students are exposed to a variety of viewpoints and save time when looking for relevant information.

Automated evaluation tools

Conventional evaluation techniques can take a lot of time and don't provide immediate feedback. These issues are intended to be addressed by AI-powered automated assessment systems, which use algorithms to assess students' performance in real time. It helps students better grasp a certain subject by pointing out knowledge gaps and offering tailored feedback.

Gamified educational resource

Gamification is the application of aspects of game design to non-gaming environments. It is now a successful strategy for getting students involved in educational activities. Data and analytics are used by AI-powered gamified learning platforms to generate customized tasks, avatars, and prizes. It encourages pupils to learn while honing their abilities.

Chabot's

catboats are computer programs driven by artificial intelligence that can be used in classrooms to have conversations with pupils. NLP is used to respond to questions about deadlines, assignments, and course material. Teachers can handle more complicated enquiries and dispel misconceptions with the help of catboats. The convenience of round-the-clock accessibility and customized solutions is advantageous to students.

Systems for intelligent tutoring

AI, cognitive psychology, and educational theory are all used in intelligent tutoring systems (ITS) to produce flexible learning environments. To deliver individualized learning, it integrates AI, NLP, ML, and data mining tools. To determine students' strengths and shortcomings, ITS analyses information from their interactions, including their responses to questions, amount of time spent on assignments, and mistakes committed. In order to give tailored feedback, it evaluates the student's knowledge and abilities.

Tools driven by natural language processing (NLP)

NLP makes it easier for people and computers to communicate using natural languages, such as text and speech. Students' written and spoken responses are analyzed using NLP-powered technologies. Teachers can use it to automatically assess pupils' writing abilities and evaluate essays. It offers structure, spelling, and grammar corrections. Non-native speakers can also become more proficient in the language with the aid of NLP-powered technologies.

Future Directions for AI in Education

Through individualized experiences, adaptable learning plans, and readily available possibilities, artificial intelligence is revolutionizing education. IDC projects that by 2027, the global market for AI-enabled educational technology would be worth over $150 billion.

Generative AI is disrupting the laborious process of developing curricula. It takes in a tone of educational resources and curriculum materials. For analysis, deep learning networks collect information from lesson plans, tests, quizzes, and textbooks. The ML model identifies important components like subject matter depth, difficulty gradients, instructional strategies, and evaluation frameworks. Using the data, generative AI creates a fresh, contextually relevant curriculum that can be tailored to each student's learning style.

By making abstract ideas come to life, AR and VR technologies offer engaging educational experiences. While VR technology produces a completely immersive experience in a simulated environment, AR technology overlays digital content over the user's genuine surroundings. Through practical learning, it makes difficult ideas more relatable and understandable. AR and VR tools are used for everything from dissecting a virtual frog to simulating real-life situations or investigating the solar system.

NLP and ML are two ways AI offers more objective and accurate evaluation techniques. It assesses students' answers in a way that is human-like. To generate an accurate score, the system examines the language usage, coherence, and substance. Grading takes less time and effort when AI-powered assessment techniques are used. Additionally, it gets rid of any possible prejudices.

Conclusion

Parents who are constantly worried about their kids' social lives would profit from AI. They may now keep a closer eye on their child's internet activity than ever before thanks to AI technology. In order to categories pupils according to their needs, schools use software that examines data points including how well different students understand the topic. AI makes it possible to access instructors and lessons around-the-clock, from any location. By using AI algorithms to provide individualized feedback on assignments, tests, and other assessments, AI can be utilized as an educational tool to help students reach their objectives. Through automation, artificial intelligence has the ability to improve everyone's quality of life by eliminating the need for time-consuming tasks like sorting emails or locating files. The educational future has arrived! One of the main forces behind the transformation of education is AI. The advantages of AI are numerous. No matter their learning style or disability, all students will have equal access; this is a huge change because different kids learn differently and have different skill sets. Students can brighten their futures with AI's assistance.

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The Intelligence Enterprise: A Comparison of AI and BI Strategies for Business Success

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Abstract

Artificial intelligence (AI) investigates the application of computer systems to replicate various elements of human intelligence, including problem solving, learning, and judgment. Although still in its early stages of technology, companies recognize significant potential in AI for tasks like speech recognition, decision-making, and much more. A survey from 2017 by PwC indicates that more than 72 percent of business leaders think that utilizing AI can "enable humans to focus on meaningful work". Business intelligence (BI) denotes the employment of different technologies and tools to gather and interpret business data. The primary aim of BI is to equip companies with valuable information and analysis to support decision-making. Utilizing BI enables businesses to make decisions nearly five times quicker than they could otherwise. Both AI and BI possess key, and in certain instances overlapping, applications within enterprises. There are, however, significant distinctions between these technologies that businesses should understand. This article outlines some of the goals and use-cases for both AI and BI. Recognizing these distinctions can elucidate how AI and BI can work together and might assist businesses in conserving valuable resources in the future.

Introduction

Artificial Intelligence

Artificial intelligence refers to the discipline of computer science dedicated to creating machines that are designed to think and solve problems in a manner similar to the human brain. These machines are capable of undertaking tasks akin to human activities and can learn from previous experiences just like individuals do. Artificial intelligence encompasses sophisticated algorithms and principles of computer science. It finds extensive application in both robotics and gaming.

Business Intelligence

Business intelligence comprises a collection of technologies, processes, and applications that assist in transforming raw data into valuable information for decision-making. It includes data analysis via statistical methodologies. It integrates data mining, data warehousing techniques, and various tools to derive more data-driven insights. It encompasses the processing of data followed by utilizing that data for making decisions.

Artificial Intelligence (AI) can assist Businesses

Automating tasks

AI can handle repetitive tasks such as data entry, scheduling, and responding to customer service inquiries, thereby allowing employees to concentrate on more intricate work.

Improving decision-making

AI is capable of examining extensive datasets to uncover patterns and trends, aiding businesses in making better-informed decisions.

Reducing errors

AI systems have the capability to learn and adapt, which decreases the chances of human errors.

Improving customer experience

AI can assist businesses in understanding customer preferences, behaviors, and requirements, enabling them to customize products and services.

Encouraging innovation

AI can facilitate businesses in investigating new concepts and developing innovative solutions.

Streamlining processes

AI can enhance the efficiency and cost-effectiveness of business processes.

Improving cyber security

AI-driven cyber security tools can oversee system activity and protect against cyber attacks.

AI can be applied in various aspects of a Business

Product design

AI can evaluate market trends, customer input, and past data to develop products that cater to existing and future market demands.

Finance

AI can enhance efficiency in financial operations like payments, expense tracking, and invoice processing.

Supply chain

AI can establish a sustainable and risk-resilient supply chain.

Procurement

AI can innovate procurement into an agile, data-driven, and forward-thinking process.

Human resources

AI can foster a dynamic, inclusive, and future-ready workforce.

Sales and customer service

AI can integrate AI functionalities throughout a company's CRM system.

Marketing and commerce

AI can be leveraged to execute AI-driven strategies across various digital platforms.

Artificial Intelligence (AI) with Businesses

Automation

AI can perform repetitive tasks automatically, such as handling customer service inquiries, processing insurance claims, and evaluating creditworthiness. This enables employees to concentrate on more strategic initiatives.

Data analysis

AI can scrutinize extensive datasets to deliver insights and forecast future results.

Customer experience

AI can assist businesses in comprehending customer preferences and providing personalized service.

Marketing

AI can aid businesses in audience segmentation and developing focused marketing campaigns.

Fraud detection

AI can analyze transaction trends to spot irregularities and potentially fraudulent actions.

Talent acquisition

AI can support resume creation and revision to help more individuals secure job opportunities.

Skill development

AI can serve as an on-the-job assistant or customized tutor to aid employees in enhancing their skills and productivity.

Applications of Artificial Intelligence in Business

1. Automating Repetitive Tasks (Robotic Process Automation)

Repetitive office tasks can severely hinder employee productivity. AI-driven Robotic Process Automation (RPA) solutions can take over these tasks, allowing human workers to concentrate on

more strategic initiatives. RPA is capable of managing tasks such as data entry, form handling, report creation, and scheduling, which significantly enhances efficiency and minimizes errors.

2. Business Analytics and Intelligence

Businesses produce enormous quantities of data, yet deriving valuable insights may be difficult. AI-driven analytical tools can process this data to uncover trends, forecast future results, and suggest actions. This can assist businesses in making data-informed decisions concerning various areas from marketing strategy to product innovation.

3. Enhanced Customer Service

AI chatbots are transforming customer service. These digital assistants can respond to customer inquiries, troubleshoot issues, and even fully resolve straightforward problems. This offers round-the-clock customer support, decreases waiting times, and enables human representatives to concentrate on more intricate requests.

4. Personalized Marketing and Recommendations

AI can examine customer behavior and preferences to tailor marketing efforts and product suggestions. This enables companies to reach the correct audience with the appropriate message at the most opportune moment. For example, e-commerce sites utilize AI to propose products based on a customer's previous purchases and browsing activities.

5. Fraud Detection and Risk Management

AI can examine financial transactions and spot trends that may suggest fraudulent behavior. This assists companies in avoiding financial losses and safeguarding customer information. Likewise, AI can be applied to evaluate financial risks and guide prudent investment choices.

6. Optimized Inventory Management and Supply Chain

AI can evaluate sales data and forecast upcoming demand. This helps businesses fine-tune their inventory levels, averting both shortages and excess stock. Moreover, AI can be employed to enhance supply chains by reviewing logistics information and pinpointing areas for improvement.

7. Improved Product Development and Design

AI can be utilized to assess customer feedback and market dynamics to guide product development. AI-driven design software can aid in creating prototypes and enhancing product characteristics.

8. Predictive Maintenance for Increased Efficiency

AI can process sensor data from equipment to anticipate possible failures. This enables companies to execute preventive maintenance, thereby reducing downtime and prolonging equipment lifespan. This is especially advantageous in manufacturing and industrial environments.

9. Personalized Learning and Training

AI can customize learning experiences for employees and customers. AI-powered educational platforms can adjust to different learning preferences and paces, providing a more effective and efficient means of gaining knowledge and skills.

10. Enhanced Cyber security

AI can be employed to identify and thwart cyber attacks instantly. AI systems can scrutinize network activity and recognize patterns that may reveal harmful behavior. This helps businesses safeguard their critical data and infrastructure against cyber risks.

Apart from these ten applications, AI holds the promise of disrupting and transforming numerous other areas of business. For instance, AI-enriched legal research tools can assist lawyers in locating pertinent case law more effectively. In healthcare, AI is aiding in the development of new medications, more accurately diagnosing illnesses, and personalizing treatment strategies.

Challenges of Implementing AI in Business:

Even though AI offers numerous advantages, it also introduces certain challenges and factors for businesses to consider:

Job displacement: There are worries about AI-driven automation resulting in job reductions. While certain positions will be automated, AI is simultaneously generating new roles that require various skills. Companies must concentrate on reskilling and upskilling their workforce to adjust to the evolving environment.

Data Bias: The quality of AI algorithms depends greatly on the data they are trained upon. If the training data contains biases, the AI model could reinforce that bias. Organizations need to ensure their AI systems are developed using unbiased data sets.

Ethical Considerations: The implementation of AI brings forth ethical dilemmas, including the potential use of AI in creating weapons or employing AI for facial recognition in ways that infringe on privacy rights. Companies must create and follow ethical standards for the application of AI.

Cost of Implementation: The deployment of AI solutions can come with high costs, especially for smaller firms. Nonetheless, the long-term advantages frequently surpass the initial expenses.

Benefits for Artificial Intelligence in Business

Artificial intelligence (AI) can offer numerous benefits for businesses, such as:

Increased efficiency

AI is capable of automating repetitive processes, like data entry, scheduling, and handling basic customer inquiries. This allows employees more time for intricate and creative tasks.

Reduced error

AI systems have the ability to learn and adapt, which greatly minimizes the chances of human mistakes. This level of accuracy is particularly beneficial in areas such as financial accounting or data management.

Improved customer experience

AI can assist companies in personalizing the customer journey. For instance, AI can analyze customer data and display relevant advertisements based on the customer's profile.

Faster decision-making

AI can support businesses in making quicker decisions based on the outputs generated by cognitive technologies.

New capabilities

AI can enable firms to broaden their business models. For example, companies in the autonomous vehicle sector can leverage AI to discover new revenue streams.

Forecasting

AI can aid businesses in predicting sales by evaluating numerous variable factors.

Social media monitoring

AI can assist businesses in tracking and engaging with social media.

Future Ai Trends and Business Opportunities

As AI continues to become more integrated into business technologies, it is likely that the emphasis will transition from particular AI-driven applications to more generalized AI assistance incorporated in websites, software, and hardware. For instance, Samsung's Galaxy S24 Ultra includes AI functionalities in the form of a transcript assistant, "circle to search" feature, and real-time translation capabilities.

Adriana Hoyos, an economics professor at IE University, states that as "technology's influence endures, collaboration between governments, businesses, and individuals takes on unprecedented significance," with "collaborating partnerships serving as incubators of innovation". A notable instance is Microsoft's alliance with Open AI, which seeks to responsibly democratize AI and enhance its accessibility. However, she emphasizes that governments "shoulder the responsibility of recalibrating regulations to harmonize with technological progress. " She anticipates that future job growth drivers will consist of big data analytics, climate change technology, encryption, and cyber security.

Numerous prosperous companies are engaging with AI to enhance existing initiatives and tasks, rather than aiming to substitute human employees with AI. This vision is already manifesting in the movement towards AI-augmented software engineering, yet AI researcher David De Cremer and chess grandmaster Garry Kasparov envision a future where humans collaborate with AI in a supportive manner, referring to it as the "new diversity. " This will require leaders who excel at forming inclusive teams and uniting various stakeholders.

Main Components of Business Intelligence System

1. Data Source
2. Data Mart / Data Warehouse

3. Data Exploration
4. Data Mining
5. Optimization
6. Decisions

Data Source

To start, the initial step involves collecting and uniting data from a variety of primary and secondary sources. These sources differ in origin and format, primarily consisting of operational system data but may also include unstructured documents such as emails and data from outside providers.

Data Mart / Data Warehouse

By using extraction and transformation tools, commonly referred to as extract, transform, load (ETL), data is collected from diverse sources and stored in databases specifically designed for business intelligence analysis. These databases, frequently called data warehouses and data marts, function as a centralized location for the accumulated data.

Data Exploration

The third level of the pyramid provides critical resources for conducting a passive analysis in business intelligence. These resources consist of query and reporting systems, as well as statistical methods. These methods are termed passive because decision-makers must first formulate ideas or set criteria for data extraction before employing analysis tools to discover answers and validate their initial hypotheses. For instance, a sales manager may notice a drop in revenues in a specific geographic area for a particular customer demographic. In reaction, she could use extraction and visualization tools to validate her assumption and then apply statistical testing to confirm her results based on the data.

Data Mining

The fourth level, referred to as active business intelligence techniques, concentrates on deriving valuable insights and knowledge from data. Part II of this book will explore different techniques such as mathematical models, pattern recognition, machine learning, and data mining. Unlike the tools mentioned in the previous level, active models do not depend on decision-makers to generate hypotheses but instead aim to enhance their comprehension.

Optimization

As you progress up the pyramid, you'll encounter optimization models that enable you to select the most effective course of action among numerous alternatives, which can frequently be quite extensive or even boundless. These models have also been successfully applied in marketing and logistics.

Decisions

Finally, the summit of the pyramid represents the final decision made and implemented, acting as the logical conclusion to the decision-making process. Despite the availability and effective use of business intelligence methodologies, the decision ultimately rests with the decision-makers, who can incorporate informal and unstructured information to refine and adjust the recommendations and outcomes generated by the mathematical models.

Role Business Intelligence

The features of a business intelligence analysis can be encapsulated by a logical and systematic approach.

Firstly, the goals are explicitly defined and performance indicators are selected to assess various alternatives.

Next, mathematical models are developed by utilizing the relationships between control variables, parameters, and evaluation metrics.

Finally, "what-if" scenarios are assessed to comprehend the effects of modifying control variables and parameters on performance.

Process used in Business Intelligence

BI (Business Intelligence) employs a collection of processes, technologies, and tools (such as Informatica/IBM) to convert raw data into valuable information and subsequently transform that information to generate knowledge. After that, some advantageous insights can be obtained either manually or through software, allowing decision-makers to make significant decisions based on these insights. To summarize briefly and clearly – Business Intelligence aims to deliver precise information in the appropriate and ethical format to the organization's decision-makers. Some key features of Business Intelligence include:

- Data-driven decision making.
- A comprehensive perspective on your business.

• Virtual team members aligned on information.

• Creation of KPIs (Key Performance Indicators) based on historical data entered into the system.

• Determine benchmarks and establish standards for various processes.

• Business Intelligence systems can be utilized to identify market trends and to recognize business issues that require identification and resolution.

• Business Intelligence enhances data visualization, thereby improving data quality and subsequently the quality of decision-making.

• Business Intelligence systems are applicable for large enterprises and organizations, as well as for Small and Medium Enterprises, because they are relatively affordable.

Types of users of Business Intelligence

Analyst (Data Analyst or Business Analyst): They act as the company's statisticians, utilizing BI based on historical data previously stored in the system.

Head or Manager of the Company: The head of the company leverages Business Intelligence to enhance profitability by improving decision-making efficiency based on all acquired knowledge.

IT Engineer: For their organization.

Small Business Owners: Small business proprietors can utilize it as it remains quite affordable.

Government Officials: In governmental decision-making.

Types of Decisions Supported by Business Intelligence

Strategic Level: This level involves the Heads of the company establishing business strategies.

Tactical Level: After developing strategies, there is a tactical level that encompasses all technologies and methodologies under one roof. This level is also responsible for the continuous updating of data.

Operational Level: Decisions regarding operations are made at this level. Operational decisions assist in the functioning of the system.

Applications of Business Intelligence

- In the decision-making process of organizations by decision-makers.
- In data mining during the extraction of knowledge.
- In operational analytics and management.
- In predictive analytics.
- In prescriptive analytics.
- Transforming unstructured data into structured data.
- In decision support systems.
- In executive information systems (EIS).

Business Intelligence Tools and Software

1. Tableau

A business intelligence and data visualization application that allows users to connect to various data sources, create interactive dashboards, and share insights with others.

2. Microsoft Power BI

A cloud-based business intelligence tool that permits users to connect to multiple data sources, generate visualizations, and present findings.

3. QlikView

A business intelligence and data visualization platform that lets users develop interactive dashboards and analyze data in innovative ways.

4. SAP BusinessObjects

A comprehensive business intelligence suite that incorporates data visualization, reporting, and analytics tools.

5. IBM Cognos

A corporate intelligence and performance management tool that supports users in creating reports, scorecards, and dashboards.

6. Oracle Business Intelligence

Offers a complete suite of business intelligence that includes data visualization, reporting, and analytics features.

7. MicroStrategy

A business intelligence and data visualization tool for creating dynamic dashboards and reports.

8. SAS Business Intelligence

A full-suite business intelligence platform comprising data visualization, reporting, and analytics tools.

9. TIBCO Spotfire

A business intelligence and data visualization platform that enables users to develop interactive dashboards and explore data in creative ways.

10. Looker

A business intelligence and data visualization tool that allows users to create interactive dashboards and analyze data in innovative manners.

Advantages of Business Intelligence

1. Decision-making: Decision-making is enhanced as users gain access to real-time data and insights via business intelligence tools. This allows users to make informed decisions based on accurate and up-to-date information.

2. Efficiency improvement: Numerous manual data analysis tasks are automated by business intelligence systems, which liberates time and resources for other activities.

3. Improved data management: Business intelligence technologies assist in organizing and managing data, simplifying the process of finding the information needed for decision-making.

4. Increased visibility: Business intelligence solutions provide users with a holistic view of the company's operations, helping them identify areas that may require enhancement.

5. A deeper understanding of customers: Business intelligence technologies enable organizations to better comprehend their customers, allowing them to tailor products and services to meet their needs.

6. Cost reductions: Business intelligence technologies help organizations identify inefficiencies and cost-saving opportunities, leading to increased revenue.

7. Enhanced forecasting: Organizations can analyze historical data and foresee future trends by utilizing business intelligence technologies, which aids in more effective planning for the future.

8. Competitive edge: Business intelligence technologies offer organizations access to critical data and insights that can inform better decision-making, giving them an advantage over competitors.

9. Collaboration: Collaboration is enhanced through the use of business intelligence technologies to share information among teams and departments. This fosters improved decision-making and teamwork.

10. Improved monitoring: Business intelligence technologies help organizations track crucial metrics such as revenue, customer satisfaction, and employee performance, facilitating performance oversight.

Disadvantages of Business Intelligence

1. Complexity: The deployment and maintenance of business intelligence systems can be extremely challenging and intricate. This could pose a drawback for companies with limited IT resources.

2. High expenses: Some organizations find the implementation and acquisition of business intelligence technologies to be excessively costly.

3. Business intelligence: Business intelligence relies heavily on accurate and current data. Insights generated by business intelligence technologies may not be reliable if the data is inconsistent, incorrect, or incomplete.

4. Data security: Business intelligence systems manage and store a significant amount of sensitive information, which is vulnerable to security breaches if not properly safeguarded.

5. Reliance on IT: Since business intelligence solutions often depend significantly on IT support, it can be difficult for businesses to access the data they need promptly.

6. Restricted scalability: For companies dealing with large volumes of data, business intelligence solutions may struggle to manage substantial data amounts.

Distinctions between Artificial Intelligence and Business Intelligence

COMPONENT	ARTIFICIAL INTELLIGENCE	BUSINESS INTELLIGENCE
Concept	Artificial intelligence encompasses human-like computer intelligence.	Business intelligence focuses on intelligent decision-making.
Focus	It encompasses the principles of statistical analysis.	It covers machine learning and deep learning algorithms.
Application	It is primarily utilized in robotics, image recognition, virtual gaming, fuzzy logic, etc.	It is employed in data extraction and data warehousing techniques.
Starts with	It initiates by instructing systems to think and act like humans, concluding with foresight about the future.	The process starts with the collection and analysis of data points from various sources, culminating in visual dashboards and reports.
Scope	Its scope pertains to future events.	Its scope relates to occurrences in the past.

Contributions	It contributes to disciplines such as biology and computer science.	It contributes to OLAP, enterprise reporting, and data analysis.
Algorithm	It employs the BFS (Breadth First Search) algorithm and adheres to the FIFO principle.	It utilizes the linear aggression module for data classification.
Drawback	It has disadvantages such as privacy and safety threats.	It has drawbacks such as inadequate technology and data misuse.
Intention	The primary intention of Artificial Intelligence is to create machines that can function like the human brain.	The primary intention of Business Intelligence is to analyze data and forecast the future based on past data.
Tools	It implements complex algorithms to derive logic.	It utilizes spreadsheets, query software, and data mining tools for analysis.
Research Areas	The following are examples of research areas in Artificial Intelligence (AI): • Expert systems • Neural networks • Natural language processing • Fuzzy logic • Robotics	The following are examples of research areas in Business Intelligence: • Data mining in social networks • Process analytics • Big data • Online Analytical Processing (OLAP)
Algorithms	The following are examples of Artificial Intelligence (AI) algorithms: • Breadth-first search algorithm • Depth First Search Algorithm • Uniform Cost Search Algorithm • Travelling Salesman Problem • Iterative Deepening Depth-first Search and others	The following are examples of Business Intelligence algorithms: • K-Means Algorithm • Naive Bayes • Apriori Algorithm • Decision Tree Algorithm • Generalized Linear Models and others
Type of analysis	Prescriptive analytics is heavily reliant on Artificial Intelligence (AI).	Business Intelligence (BI) assists with descriptive analytics.
Usefulness	It allows organizations to estimate and predict client demand, competitive positioning, and economic trends while developing human-like intelligence in machines.	It analyzes historical data, enabling companies to make improved data-driven decisions that enhance operational efficiency, customer satisfaction, and employee

		happiness.
Focus	Replicating human cognition and decision-making	Examining business data to guide decision-making
Data Input	Data Input Can process unstructured and semi-structured data	Typically necessitates structured data in a data warehouse or data mart
Outputs	Predictive analytics, decision-making,	automation Dashboards, reports, data visualizations
Techniques	Machine learning, deep learning, natural language processing	Data mining, data warehousing, data modeling
Goal	Automate tasks, enhance accuracy and efficiency, provide fresh insights	Optimize business processes, enhance performance, identify trends and patterns

Conclusion

AI is a formidable tool that can offer businesses considerable advantages. By adopting AI and thoughtfully incorporating it into their operations, businesses can attain enhanced efficiency, elevate customer service, and secure a competitive advantage in the market. As AI technology advances, we can anticipate a wider array of innovative applications to surface in the coming years. AI is certainly transforming the marketing landscape. It is evolving from a futuristic idea to an essential tool for companies of all sizes. By automating repetitive tasks, delivering critical insights, and customizing customer experiences, AI is enhancing efficiency, effectiveness, and growth. While issues such as data privacy, algorithm bias, and upfront investment costs exist, the advantages significantly surpass the disadvantages. As technology progresses, we can foresee AI becoming even more advanced, empowering marketers to produce hyper-personalized campaigns, predict customer behavior more accurately, and foster stronger, enduring relationships with their audience. Artificial intelligence (AI), or technology that is designed to replicate human intelligence, is making a substantial impact on the business landscape. Currently widespread in various software and applications, AI is transforming workflows, business practices, and entire sectors by altering the way we work, access information, and interpret data.

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The Impact of Digital Advertisement on Consumer Decision Making and Buying Behaviour

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Abstract

In the modern era, digital media has revolutionized the way businesses connect with consumers, reshaping buying behavior and decision-making processes. This research examines the impact of digital media advertising on consumer behavior, focusing on key factors such as ad frequency, format, and relevance. The study highlights the effectiveness of personalized and interactive advertisements in influencing consumer preferences, fostering engagement, and building brand loyalty. By analyzing relevant theories, empirical data, and case studies, the research provides actionable insights into the dynamics of digital advertising and its role in shaping consumer choices. The findings underscore the importance of creating relevant and engaging content to maximize the effectiveness of marketing strategies in an evolving digital marketplace. This study emphasizes the need for businesses to adapt to emerging trends in digital media to maintain competitiveness and drive sustainable growth. It concludes that when implemented strategically, digital advertising serves as a powerful tool for enhancing consumer experiences and achieving long-term marketing goal

Keywords: Digital media advertising, Consumer behaviour, Marketing, Brand.

Introduction

In the modern era, digital media has revolutionized the way businesses engage with consumers. Advertising on platforms such as social media, search engines, and video streaming services has become a cornerstone of marketing strategies, enabling brands to reach targeted audiences with unprecedented precision. This shift has profoundly influenced consumer buying behavior, reshaping decision-making processes, preferences, and purchase patterns. Digital media advertising leverages interactivity, personalized content, and real-time engagement, creating a dynamic marketplace where consumers are more informed and influenced by the content they consume. This research article seeks to analyze the impact of digital media advertising on consumer buying behavior, exploring how factors like ad frequency, format, and relevance influence

purchasing decisions. Understanding these dynamics is crucial for businesses aiming to optimize their marketing efforts and for researchers studying the evolving relationship between technology and consumer psychology.

By examining relevant theories, empirical data, and case studies, this study aims to provide actionable insights into the effectiveness of digital advertising strategies in shaping buying behavior and fostering brand loyalty.

Review of Literature

Dr. Madhu Bala and Deepak Verma (2018), in their study "Impact of Digital Marketing and Current Scenario in India," highlight the transformative influence of digital marketing strategies like email and social media marketing on consumer behavior, particularly in rural areas of India. The research underscores how digital platforms provide consumers with greater access to international markets and enable informed purchasing decisions through real-time product reviews. However, it also acknowledges the challenges posed by information overload, which can undermine trust in marketing sources. Despite these challenges, the study emphasizes digital marketing's potential to adapt to consumer-specific needs and foster more informed decision-making, positioning it as a key driver of consumer empowerment in India's evolving digital landscape.

Kunz and Hackworth (2011), in their study "Social Media Marketing by Top Retailers," published in the International Journal for Scientific Research and Development (IJSRD), investigate the use of social media by leading retailers and its impact on consumer behavior. The research highlights the transformative role of digital platforms in enhancing consumer decision-making by offering detailed product information, fostering interactive engagement, and facilitating direct communication between consumers and retailers. Social media advertising is identified as a key driver of brand awareness and consumer loyalty, emphasizing its strategic importance in modern retail marketing. The study provides valuable insights into how retailers can leverage social media to build lasting relationships with their customers and sustain competitive advantage.

Miklosik (2015), in the study "Digital Marketing in the Decision-Making Era," published in Webology (Volume 18, Issue 4), examines the evolution of consumer behavior in the digital age and the pivotal role of digital marketing. The research highlights how personalized and targeted advertisements enhance brand awareness and significantly influence purchasing decisions. Key factors such as product reviews, international market access, and discount strategies are identified as

critical to shaping consumer choices. The study emphasizes digital marketing's ability to improve consumer satisfaction by offering tailored products and providing real-time query resolution, positioning it as a crucial tool in modern decision-making processes.

Objectives

- To understand the concept and application of digital advertising in marketing
- To identify the effectiveness of digital advertising in the competitive market.
- To investigate customers' attitudes regarding internet purchasing.
- To investigate the major elements that influence customer purchasing behaviour
- Examine the types of items and services that customers buy when they purchase online.

Research Methodology

This study will use a mixed-methods approach, integrating both quantitative and qualitative data to provide a comprehensive analysis of consumer behaviour on Digital Marketing and Advertising in Tamil nadu. By combining these methodologies, the research aims to capture consumer spending patterns and the underlying digital influences that drive these behaviours.

Data Collection

The research instrument used to collect primary data in structured questionnaire prepared as well as google form

A Sample size of 50 respondents were selected for this study. The respondents were selected using a convenience sampling technique to ensure in terms of age, gender and socio-economic background, thereby enhancing the reliability and validity of the findings.

In Secondary data, Various academic and industrial sources have been used in this phase of the study. With the support of various literature reviews, the task of understanding the entire research topic and research work becomes easier and faster. In this phase all possible platforms or sources and published sources are being used where information can be obtained such as magazines, articles/e-articles, books/e-books, journals and e-journals, online past research thesis and web.

Data Analysis

To examine the relationship between Digital Media Advertising and Buying Behavior of Consumers, appropriate statistical tools of analysis are used such as mean, standard deviation,

correlation, t-value, f-value etc. SPSS (Statistical Package for Social Sciences) software have been used to analyze the collected data which allows calculation, graphical presentation of the results.

Tools used for Hypothesis Testing

ANOVA (Analysis of Variance)

Hypothesis

H0: There is no significant difference in consumer purchase decisions based on the type of digital media advertising (banner, video, influencer ads) across different age groups.

H0: There is no significant difference in consumer brand preference based on the digital advertising platform (social media, websites, apps) across different income levels.

Findings and Interpretation

1.H0: There is no significant difference in consumer purchase decisions based on the type of digital media advertising (banner, video, influencer ads) across different age groups.

Table 1.1

Which type of Ad catches your attention the most

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 20	3	1.6667	1.15470	.66667	-1.2018	4.5351	1.00	3.00
21 - 25	43	1.5814	.87919	.13408	1.3108	1.8520	1.00	4.00
26 - 30	4	2.5000	1.29099	.64550	.4457	4.5543	1.00	4.00
Total	50	1.6600	.93917	.13282	1.3931	1.9269	1.00	4.00

(source : Primary data collected through Questionnarie)

Table 1.2

ANOVA

Which type of Ad catches your attention the most

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.088	2	1.544	1.808	.175
Within Groups	40.132	47	.854		
Total	43.220	49			

(Source: Primary data collected through Questions)

Interpretation

The ANOVA results indicate no statistically significant difference in consumer purchase decisions based on the type of digital media advertising (banner, video, influencer ads) across different age groups, as the p-value (0.175) is greater than the standard threshold of 0.05. While there are observable differences in the mean attention scores—such as higher scores for the 26–30 age group—the variation is not significant enough to reject the null hypothesis.

This suggests that age group does not play a substantial role in determining the preferred type of advertising in this dataset. However, the small sample sizes for some groups (e.g., Below 20 and 26–30) may limit the reliability of these findings.

2.H0: There is no significant difference in consumer brand preference based on the digital advertising platform (social media, websites, apps) across different income levels.

Table 2.1

Which platforms do you encounter digital ads on the most

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Below 20000	19	1.6842	.94591	.21701	1.2283	2.1401	1.00	3.00
21000 - 50000	12	1.9167	1.44338	.41667	.9996	2.8337	1.00	5.00
Above 50000	18	1.3333	.76696	.18078	.9519	1.7147	1.00	3.00
11.00	1	1.0000	.	.	.	.	1.00	1.00
Total	50	1.6000	1.03016	.14569	1.3072	1.8928	1.00	5.00

(Source: Primary data collected through Questionnarie)

Table 2.2

ANOVA

Which platforms do you encounter digital ads on the most

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.978	3	.993	.931	.433
Within Groups	49.022	46	1.066		
Total	52.000	49			

(Source: Primary data collected through Questions)

Interpretation

The ANOVA results show no significant difference in consumer brand preference based on digital advertising platforms (social media, websites, apps) across income levels, as the p-value (0.433) exceeds 0.05. Mean scores vary slightly, with "Below 20,000" at 1.6842, "21,000–50,000" at 1.9167, and "Above 50,000" at 1.3333, but the F-statistic (0.931) confirms these differences are not significant. Most variation stems from individual differences within groups.

Thus, income level does not significantly influence the platform for encountering ads, though small samples and uneven group sizes limit reliability.

Conclusion

Digital media advertising has significantly transformed how businesses influence consumer buying behavior. This study shows that factors like ad frequency, format, and relevance play a vital role in shaping consumer decisions and preferences. Personalized and interactive ads have proven to be effective in building strong connections with consumers and encouraging brand loyalty.For businesses, focusing on creating relevant and engaging content is key to achieving better results in the digital marketplace. This research highlights the need for constant adaptation to evolving trends in digital media to meet consumer expectations and remain competitive. In summary, digital advertising is a powerful tool that, when used effectively, can drive consumer engagement, enhance buying experiences, and support long-term business growth.

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A Study on Financial Independence and Decision-Making Power of Women in Virudhunagar

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Abstract

Women Empowerment signifies the mechanism of granting women the chance to take charge of their lives, make knowledgeable choices, and engage equally in society. It has a substantial effect on the Economy of a Nation. When women are empowered, they are more inclined to join the workforce, launch their businesses, and add to the economy in diverse manners. Financial independence enables women to engage in the decision-making process and promote their rights. The current study assesses how women's financial autonomy affects their financial decision-making authority.

Keywords: Financial Independence, decision-making power, Empowerment of women.

Introduction

Financial independence for women is a vital component of gender equality and empowerment. It is crucial for their economic wellbeing and capacity to make choices independently. It entails having control over one's financial assets, making educated decisions, and being self-reliant. It enhances financial stability, security, and an improved work-life balance. Despite the increasing rates of literacy and knowledge among women, they still require economic empowerment. In India, women encounter various obstacles in attaining financial independence, such as cultural norms, insufficient access to education and training, and restricted economic opportunities. The current study clarifies how women's financial independence affects their freedom in financial decision-making. A questionnaire has been created to assess the financial independence of women.

Reviews of Literature

Several studies have identified factors that influence women's financial independence. These include:

1.Education and employment: Women's education and employment status significantly impact their financial independence.

2.Socio and cultural norms: Social expectations and cultural norms can limit women's financial independence.

3.Access to Financial services: Women's access to financial services, such as banking and credit, is essential for their financial independence.

Some additional resources:

4.Women's participation in the workforce: This study founded that increasing women's participation in the workforce can increase GDP by up to 27%

5.Research by the ILO found that women's entrepreneurship can increase women's economic empowerment by providing them with increased economic opportunities, autonomy, and decision-making power.

6.By providing access to banking, credit, insurance, and savings women 's economic participation can be substantially improved.

7.A systematic review found that financial inclusion is crucial for improving the living conditions of people from excluded groups, promoting economic environment.

Objectives of the Study

1. To analyze the demographic characteristics of women with reference to Virudhunagar.
2. To investigate the financial autonomy of women with reference to Virudhunagar.

Research Methodology

Research design: A descriptive research design is employed to carry out the research. The study utilizes primary data.

Sample design: The data from the identified respondents is collected using the Convenience Sampling Method.

Data collection: The study has gathered both primary and secondary data.

Scope of the Study

The researcher endeavors to examine the demographic factors to gain insight into the background of women, which will aid in understanding their financial independence.

Limitation of the Study

This current research study focuses on exploring the financial independence of women concerning their financial decisions.

Data Analysis and Interpretations

This study aims to investigate the financial independence of women in relation to their financial decisions. The researcher has attempted to assess the financial independence of women through various parameters as outlined in the tables.

Table - I

Parameters	Category	Frequency	Percentage
Age	21-30	60	40
	31-40	39	26
	41-50	33	22
	51-60	12	08
	60 &above	06	04
	Total	150	100
Qualifications	SSLC/HSC	09	06
	Graduate	43	29
	Post-graduate	62	41
	Professional degree	27	18
	Primary level	09	06
	Total	150	100
Occupation	Govt/Non-govt Employee	99	66
	Business	33	22
	Professional	12	08
	House-wife	06	04
	Total	150	100
Monthly income	Below 20,000p.m	84	56
	20000-40,000p.m	46	31
	40,000-60,000p.m	8	05
	60,000-80,000p.m	10	07
	Above 80,000	02	01
	Total	150	100
Marital status	Unmarried	52	35
	Married	98	65
	Total	150	100

The table above illustrates the demographic characteristics of female respondents regarding age, education level, job, monthly earnings, and marital status. It is evident that generating income serves as the financial resource for the female respondents.

Analysis

Weighted Arithmetic mean is utilized to examine the elements affecting women in achieving financial independence. The table below clarifies it.

Table - II

Particulars	Weighted Mean	Ranking
Education and skill development	62	1
Making Investments	61	2
Credit accessibility	60	3
Family support	57	4
Self- sufficiency	54	5

In the table above, it is evident that "Education and skill development" has secured the leading position, succeeded by other elements such as investments, access to credit, family support, and self-reliance. The table distinctly indicates that women possess the ability to make financial decisions independently for their development.

Conclusion

Financial independence provides women with the chance to take significant steps in their careers. For numerous women, the aspiration to begin a career is connected to the desire for increased control over their time, finances, and life direction. However, without financial resources, these aspirations frequently remain unfulfilled. When women attain financial independence, they are able to take calculated risks, invest in their entrepreneurial ideas, and emerge as leaders within their sectors.

When women achieve financial independence, they possess the ability to create a more significant impact on their communities and society. Financial independence means they can contribute more to the causes they are passionate about, invest in social transformation, and support organizations that resonate with their principles. The study mentioned above demonstrated that educated women saved money from their earnings and made financial decisions on their own.

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A Study on Impact of Online Teaching and Learning on the College Students in Rajapalayam Town

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Abstract

Traditional physical classroom learning is increasingly being replaced by internet-based and distance learning, commonly known as online education. Online education has become a vital component of the country's education system and has gained significant popularity in recent years. The COVID-19 pandemic forced colleges to close their campuses and transition abruptly to online education. This study utilized qualitative methods to investigate the impact of online education on college students, focusing on the quality of their online learning experiences. However, this sudden shift has raised several unresolved issues. While numerous studies have examined college students' attitudes toward online learning during the pandemic, the findings have been mixed. These varied results highlight factors that influenced students' acceptance of online learning during campus closures.

Keywords: Online, education, development, learning, teachers

Introduction

Technology has significantly transformed every industry, including education. One of the most recent advancements in this field is online education, which enables learning through the internet. Using smart phones, laptops, or tablets, students and teachers can engage in a flexible and productive learning experience. While online education offers numerous benefits, such as accessibility and convenience, it also presents several challenges. This study explores both the advantages and drawbacks of online education, emphasizing its impact on the learning experience.

There is no upper age limit for learning online, making it accessible to people of all ages. Online education offers the flexibility to choose when and where to study, as well as the subjects and skills you wish to learn. Many institutions now provide their degrees and courses online, making

education more convenient and accessible. This approach eliminates the need to physically attend schools or universities, saving both time and money on transportation and related expenses.

Online learning can be challenging for individuals living in areas with poor internet connectivity, as reliable internet access is essential for online education. Additionally, spending extended periods in front of screens can have negative effects on health. Online education requires a high degree of self-discipline, making it better suited for individuals who can manage their time and responsibilities effectively.

Online Vs Offline Education

1. **Time Management**

   Online education allows students to choose flexible time slots that suit their schedules, whereas offline education operates on a fixed timetable.

2. **Cost-Effectiveness**

   Online learning is more affordable compared to traditional learning, as it eliminates expenses such as transportation, uniforms, and other materials required in an offline educational system.

3. **Impact on Development**

   While online learning offers convenience, it can isolate students from their environment. Attending school in person contributes to both physical and mental development, as students interact with peers and teachers, fostering social skills and overall growth.

4. **Choice**

   Online education provides the flexibility to select specific subjects of interest and allows students to revisit lessons for better understanding. In contrast, offline education typically follows a predefined curriculum with limited flexibility for students.

5. **Knowledge Beyond Academics**

   Offline education promotes interpersonal interactions, helping students learn important life skills such as self-discipline, proper behavior, and social etiquette. These aspects are often lacking in online education.

Statement of the Problem

1. Online teaching is safer option due to pandemic situation
2. This help to stop wasting the time and gaps in the study of student
3. In COVID-19 situations, online technology has been increased by all around the world in demand. Students and employees are also impacted by the system closures.

Objectives of the Study

- Enhance the quality of learning and teaching through online education.
- Accommodate the diverse learning styles and needs of students with online education.
- Improve the efficiency and effectiveness of teaching and skill development via online education.
- Online learning provides an option for students to acquire skills and practical knowledge.

Limitations of the Study

E-learning limitations can be categorized into three main types: technological limitations, limitations compared to traditional campus learning, and personal issues. Any limitations that do not fit into these categories are considered 'other limitations.

Research Methodology

Research Design	:	Exploratory cum descriptive
Population	:	Private School and Colleges
Sampling unit	:	Private school and college Teachers and students
Sample size	:	70
Sample area	:	Rajapalayam Town
Source of Date	:	Primary Data (Questionnaires) and Secondary Data (Journals, Research paper and web sources)
Tools	:	Percentage analysis

Analysis and Interpretations

1. **Student and Teacher analysis**

S.No	Position	No. of Respondents	Percentage
1	Students	35	50
2	Teachers	35	50
	Total	**70**	**100**

The above table shows that, out of 70 per cent of the respondents, 50 per cent were students and 50 per cent were teachers."

2. Age wise Classification

S.No	Age	No. of Respondents	Percentage
1	15 -20	17	24
2	20 -25	18	26
3	25 – 30	10	14
4	30 -35	25	36
	Total	**70**	**100**

The above table indicates that the majority of respondents, 36 per cent, fall within the age group of 30–35 years.

3. Gender wise classification

S.No	Gender	Students Respondents	Percentage	Teacher Respondents	Percentage
1	Female	10	29	20	57
2	Male	25	71	15	43
	Total	**35**	**100**	**35**	**100**

The table shows that out of 70 per cent of the respondents, 50 per cent were students, and the remaining 50 per cent were teachers.

4. Effective of online class more than offline class

S.No	Gender	Students Respondents	Percentage	Teacher Respondents	Percentage
1	Yes	13	37	12	34
2	No	22	63	23	66
	Total	**35**	**100**	**35**	**100**

The above table clearly express the highly aggressive for the offline class is very effective. Majority of teacher and students respondents were highly recommend more than 60 per cent of the sample respondent online class is not effective.

5. Online or Offline classes provide better quality of knowledge

S.No	Classes	No. Of Respondents	Percentage
1	Online	53	76
2	Offline	17	24
	Total	**70**	**100**

The table shows that 76 per cent of the respondents preferred offline classes over online classes.

6. Online classes lack interaction

S.No	Classes	No. Of Respondents	Percentage
1	Very good	6	9
2	Good	4	6
3	Bad	36	51
4	Very Bad	24	34
	Total	**70**	**100**

The table shows that 51 per cent of the respondents identified a lack of interaction between students and teachers as a drawback of online classes.

7. Online classes cause distractions

S.No	Classes	No. Of Respondents	Percentage
1	Agree	63	90
2	Disagree	7	10
	Total	**70**	**100**

The above table clearly indicates that online classes are highly distracting. A majority of the respondents, including both teachers and students, strongly highlighted this issue, with 90 per cent of the sample agreeing that online classes are distracting.

8. **Online teaching and learning offer more advantages compared to offline learning**.

S.No	Classes	No. Of Respondents	Percentage
1	True	12	17
2	False	58	83
	Total	**70**	**100**

The table indicates that 83 per cent of students and teachers believe that online classes offer no advantages compared to offline classes.

Conclusion

The biggest problem with online learning is the lack of face-to-face interaction between students and teachers. Additionally, students may not experience the same level of pressure and engagement they typically feel in a physical classroom.

Some of the negative effects of online learning include students feeling isolated and spending excessive time in front of a screen. This limits their opportunities to go outside or engage in physical activities, which are typically a part of school or college life. Such limitations can also negatively impact their personality development."

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Insurance Distribution Channels – Transition Phase in Non-Metro Regions

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Abstract

Ever since the pandemic, we have come to know how uncertain life can become within a day, let it be personal or commercial. More than ever need for insurance has increased. While insurance industry in rest of the world is moving towards the remote market, Indian insurance sector still hasn't achieved complete penetration. However digital channels are being introduced in the country while traditional intermediaries are still dominating the suburban regions which would form the most of India. Young generation are more open to the new provisions available. They seem to go online for prospecting in the pre-purchase phase. They are willing to try digital channels unlike the old generation people who are comfortable with in-person purchases through agents. Since agents provide personalised advices and they make decisions and act on behalf of policyholders they are primarily preferred till date. The ultimate trust factor in the traditional channels can be used to gradually instil digitization in the sector. The limitation of technical literacy and lack of self- interest of suburban policyholders can be compensated with specially trained hybrid agents. Therefore, the unevenness in the digitization of Insurance industry can be filled gradually with the assistance of traditional channels.

Keywords: Policyholders, digitization, intermediaries, traditional channels, hybrid agents

Introduction

Insurance is a sector which entails hefty in-person customer relationship building. But with the 2019 pandemic world is moving towards the next normal, which will be marked by remote interactions and technologies. And so the physical sales force and intermediaries who rely on traditional in-person channels to close the dealings and build customer relationship are expected to adapt to virtual agent models. Likewise, insurers all over the world are expected to familiarise with hybrid agents and remote sales force. Less than 5% of agents had any in-person dealing, reported a US survey in May 2020. The

European Insurance Executives survey in April 2020 found that 89% of respondents anticipate digitization and channel mix. Now for a developing economy like India, digitization phase of insurance industry would be quite slow. India is the 15th largest non-life insurance market in the world. Insurance penetration in India is just 3.7% of the Gross Domestic Product. Digital transition wouldn't be the first concern in Indian market with narrow customer base. Since general insurance doesn't act as a savings people are reluctant about taking policies unless if there's alegal compulsion. An unbalance is always present between Indian metro cities, suburbs and rural areas. The demographic gap makes insurance penetration itself a challenging task. Variance in factors like technological acceptance, resistance to change, etc. alters digitization pace in various classes of Indian society. However, insurers are adapting B2B2C strategy to reach customers by making tie ups with banks and affinity firms. Aggregating platforms are also in the play to promote e-purchase. With little steps the industry is progressing towards the remote world. Even though growth is sluggish insurance sector has a wide scope in the future along with its traditional channels and intermediaries.

Review of Literature

Prasannavenkadesh (2021), in his article titled "The role of Distribution Channels in Insurance-Insurance Distribution at 2025- An Industry Outlook" mentioned that customer behaviour, regulatory changes and demographic aspectshave their influence on the channels. Even with new channels, agents and brokers stilltend to dominate the market. The article pointed-out some false threats prevailing in the sector, like; chat bots will end the agent and broker channel and the rise of Self-Service Portals would be the sunset of underwriters.

Prof Rajni Kant Singh, et al. (2020) in their article titled "Distribution Channels in Life and General Insurance: A Conceptual Analysis" stated that customers rely on internet for decision making and purchase. Even if customers aren'twilling to buy online, web channels still serve as a prospecting and communicating tool for agent-led channel. The study suggested Hybrid channel to provide personalisation and penetration of market.

The "General Insurance Yearbook" (2019-2020) by the General Insurance Council stated that privatisation of insurance sector was the reason for the emergence of various distribution channels other than agents and employed sales force. Banks promote insurance business among below poverty liners through government's social insurance schemes. Government's Consumer Service Centres has been allowed to handle insurance business, to increase rural penetration.

According to the study titled "Trends in Insurance Channels" by Mahesh Bhattad's (2012) was targeted on Western economies, though the current trends in India replicate a similar situation. With multiple channels to reach customer, insurers have to uphold stable customer service across all the channels. Customers expect insurers' presence in Social Media as it increases transparency. Modern channels would mostly be direct channels, so insurers have to manage channel conflicts while balancing between traditional and modern channels.

Kenneth Saldanha and Todd Staehle's (2021) in their article titled "Guide Insurance Customers to Safety and Well-being" focused on addressing generational consumer differences. Millennial and Gen Z customers have more interest towards digital insurance platforms. Meanwhile, the Gen X customers are slowly adapting to the digitalisation of Insurance sector. But still human contact seems to be inevitable. So, the insurers should provide a well-balanced service between traditional and digital channels.

Objectives

- To study the acceptance of suburban policy holders towards the digitization ofinsurance
- To find out why suburban policy holders are comfortable with traditional agent ledchannel

Methodology

Scope

- The study focuses the suburban general insurance policy holders' way of availing insurance services
- The study ponders on why people remain ignorant towards general insurance
- The study analyses why insurance industry resilient towards digitization

Importance

Despite the risk prevailing life-style we live in, majority of Indians don't intend to purchase insurance because of low income or lack of knowledge. However, insurance products should be able to reach people of all sorts like, illiterates, below poverty liners, rural dwellers, etc. To make it possible insurers need to devise new platforms to bring policy holders and intermediaries together. And importantly, make them comfortable with the new technologies in order to lead the industry in the new normal world.

Limitations

- The study's focus is only directed towards suburban policy holders

- The study completely ignores other insurance segments other than general insurance
- The study generalises the numerous sub-segments of general insurance

Population

Sivakasi's total population accounts for 2,60,047. In this, most of the individuals would possess motor insurance, so it makes them the target population. And there are over 5000 small and large businesses in Sivakasi, such business people might have insured their business. They might serve as the target population as well.

Sample Size

Sample size is 36. The researcher used convenience sampling method to collect data from 24 Individual policyholders and 20 Industrial policy holders. Out of 20 only 12 had insured their business. Therefore, only data collected from 12 were taken into consideration.

Hypothesis

H0: Millennial and Gen Z policy holders are not inquisitive towards change in traditional distribution channels

H1: Millennial and Gen Z policy holders are inquisitive towards change in traditional distribution channels

Data Collection Tools

The researcher used an Interview Schedule with pre-determined set of questions directed towards the policyholders as a data collection tool.

Analysis

Table 1. Most preferred Intermediary

S.no	Policy	Frequency	Percentage (%)
1	Agents	23	60.5
2	Directly from Insurer	15	39.5
Total		38	100

Source: Primary Data

It can be inferred from the Table 1 that Agents are the most preferred intermediary among general insurance policyholders, both individual as well as industrial.

Table 2. Will to try other try other channels

S.no	Willingness to try	Frequency	Percentage (%)
1	Yes	11	30.6
2	No	22	61.1
3	Missing	3	8.3
Total		36	100

Source: Primary Data

It can be inferred from the Table 2 that most of the respondents are not curious to explore the new platforms other than what they have been using so far.

Table 3. Word of Mouth

S.no	Recommend to others	Frequency	Percentage (%)
1	Yes	23	63.9
2	No	12	36.1
Total		36	100

Source: Primary Data

It is inferred from the Table 3 that most of the respondents are recommending their friends and family to make insurance purchases through the same intermediary they use.

Advanced Statistical Analysis

Pearson Correlation

Table 4. Correlation among Customer Service and Word of Mouth

		Word of Mouth	Service
Word of Mouth	Pearson Correlation	1	.212*
	Sig. (1- tailed)		.118
	N	36	33
Service	Pearson Correlation	.212*	1
	Sig. (1- tailed)	.118	
	N	33	33

Source: Computed using SPSS

*Correlation is significant at the 0.01 level (1 - tailed)

It is inferred from the Table 4 that correlation of the variables, Service with itselfand Word of Mouth with itself are equal to 1, even though they have different sample size. Therefore, both variables are perfectly correlated with themselves. And the Pearson's r (correlation coefficient) value of Customer Service and Word of Mouth is .212 and significance level is 0.01. Since, $0 < r < 1$, r value

shows that the variables have statistically significant linear relationship.

The direction of both the variables' relationship is positive, which means thesevariables tend to increase together.

T – Test

Table 5. Group Statistics

	Age	N	Mean	Standard Deviation	Standard Error Mean
Will to try other Channels	Upto 41	**11**	1.3636	.50452	.15212
	Above 42	**11**	2.0000	.00000	.00000

Source: Computed using SPSS

From the Table 5, it can be inferred that the Mean for policy holders who do not have the will to try new channels is higher than those who do, i.e. 2.0000 > 1.3636. The Standard deviation of both categories denotes the population's average rate of deviation from the mean, which is .50452 and .00000, respectively.

Table 6. Individual Samples Test

		Levene's test for equality of Variances		T – Test for equality of means						
		F	Sig.	t	df	Sig. (2- tailed)	Mean Difference	Standard error difference	95% Confidence interval of difference	
									Lower	Upper
Will to try other Channels	**Equal variances assumed**	124.444	.000	-4.183	20	.000	-.63636	.15212	.95368	-.31905
	Equal variances not assumed			-4.183	10.000	.002	-.63636	.15212	-.97531	-.29742

Source: Computed using SPSS
*Assumed Standard Alpha value is 0.01

From the Table 6, it can be inferred that the p value is lesser than the alpha value i.e., .00 < 0.01. The Standard Alpha value 0.01 means that the correlation is highly significant and not just a function of random sampling error.

The degree of freedom is 20 and 10.000, respectively. The Mean difference -.63636 is the difference between the two means in the Table 6.2. The 95% confidence interval marks the upper and lower range for the mean differences, correspondingly.

Findings

- Many retail businesses are not insured because of the fact that to take insurance against the correct value of the business proper accounts should be made and proper tax returns must be filed
- Traditional agent led channel is majorly viewed as the convenient channel by individual as well as industrial policy holders in non-metro areas
- Digital platforms are often used as a complimentary tool during pre-purchase researchphase by young policyholders
- If satisfied with the insurer and intermediary's service policyholders tend to spread word of mouth

Suggestions

- Insurers could invest in self-service platforms and target young age policy holders topromote digital services
- Traditional intermediaries could be trained to accustom as remote sales force andhybrid agents

Conclusion

Digitization of Insurance is not well received yet in suburban regions of India. Policyholders prefer to stick to their agents because of the convenience factor and personalised customer services. However, gradual transition can be brought into execution through young generation as they are not conservative about the ways of availing insurance services.

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Efficiency of Service sector – A Study with Special Reference to BSE Healthcare stocks in Bombay Stock Exchange Limited

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Abstract

Capital Market is a place where investors can buy and sell their securities. The Indian Stock Market has witnessed ups and downs like other emerging markets. The Capital Market has an impact on various groups like Investors, Government etc and the Stock Market decides the fortune of the country. It must be properly monitored at all times. It is important that the investment must be done intelligently. The Sectoral Index Analysis of Stock Exchange is a summary of the economic factors. The Sectoral Index Analysis quantifies the key parameters of the Indian Economy. Capital Market Efficiency measures the extent of the accuracy of the stock's price. This paper investigates the Capital Market Efficiency in Health Care Index sample stocks of Bombay Stock Exchange (BSE) during the study period from 2013 to 2022. The aim of this study was to examine the market efficiency and to analyze the normal distribution level of the sample stocks returns listed in BSE Health care Index. The study found that the performance of some sample stocks like KMC Speiality Hospitals was satisfactory to the Investors and Brokers.

Keywords: Capital Market, BSE, Sectoral Index, Healthcare Index, Normality Distribution

Introduction

The stock market is a marketplace where investors can purchase and sell equities. Market forces decide the price at which buying and selling transactions take place. A stock market, also known as an equity market, is a public institution that allows people to trade company stock (shares) and derivatives at a set price. These stocks are listed on a stock exchange. It also provides buy-and-sell services for securities and other financial instruments. Securities traded on a stock exchange include company shares, indices, pooled investment funds, and bonds (Kasi Raman et. al. 2021). There are 23 stock exchanges, including two national bodies, the BSE and NSE, and more than 21

regional exchanges. India's two most prominent stock exchanges are the BSE and the NSE. In 1992, the National Stock Exchange of India was created in Mumbai, Maharashtra. In terms of regular turnover and trading volume in both equity and derivative trading, the NSE is India's largest stock exchange. The NSE is jointly owned by a group of India's leading financial institutions, banks, insurance firms, and other financial intermediaries, but its ownership and management are not centralised.

Sectoral Analysis is typically employed by investors who plan to select better stocks to invest in. The investors normally identify most promising sectors and review the performance of companies within the sector to determine which individual stock would provide better returns and ultimately they purchase such stocks. The Sectoral Efficiency (market) is an important concept which helps to understand the working of capital markets. In this study, an analysis of stock prices of Sectoral Indices in National Stock Exchange (NSE) was carried out to test the market efficiency of Indian Stock Market. A capital market is deemed to be efficient with respect to an information item if the prices of securities fully reflect price returns implications. The study may be very useful to the Government, Investors, Stakeholders and Policy Makers to invest their money, and earn more return.

Review of literature

A study entitled **"Risk and Return Relationship - An empricial study of BSE SENSEX companies in India",** by Bedanta Bora and Anindita Adikary. (2015) examined that the Investment in stock Market focused to diverse risks and the expectation is excess of risk-free rate. The study adopted here is empirical in nature. The study Concluded that thus, while making investment decision, an investor Can Consider those Companies which have high positive influence on the SENSEX when the market is favourable.

Pramod Kumar Patjoshi (2016) in him study entitled **" Comparative Risk Return Analysis of Bombay stock Market with selected Banking stocks in India",**evaluated the correlation between Risk and Return of the SENSEX and banking sectors of BSE 30 (SENSEX). The collected data is calculated by t test. The study Concluded that to find out the Comparative risk return analysis between SENSEX returns that of sample banking stock returns.

A study entitled **"A study on Risk & Return Analysis of selected securitiesin India",**by Subramanyam and Nalla Bala Kalyan (2018) examined to invest in those areas where they can

maximize the return on their capital. The study concluded that risk return investigation helps the investor to pick up the securities based on his choice.

A study entitled **"Comparative Risk Return Analysis of Bombay stock exchange with selected Banking stocks in India",** by B. Ravi and S.K. Patil (2018) examined the banking sector engages major share among other sectors in Indian stock trading scenario. The study Concluded that the SENSEX returns and Banking stock returns have been used to find out the Comparative risk return analysis between SENSEX returns with that of sample banking stock returns.

According to the study entitled **"Comparative Risk and Return Analysis of Bombay stock exchange and steel sector in India",** by Pramod Kumar Patjoshi and Girija Nandini (2020) Aimed to the stock market has forced the investors to think before investment in financial securities. The study Concluded that Average daily returns of SENSEX displayed positive return, where all sample steel Companies displayed negative returns.

Statement of problem

There is no limit to people's wishes and the wish list is getting longer by the day. Therefore, everyone should find different investment alternatives to meet the needs of their family. investors have many investment options; they just want to find options that match their risk level. It is well known that investing in financial assets such as associations of companies traded in the job market is one of the most important topics in finance. Stock index forecasts are crucial for informed investment decisions. Events such as the global financial crisis have shown that investing in the stock market can result in significant losses for shareholders. Specific risks can be reduced by diversification. Most investors and business managers try to structure their investments to meet their investment goals. The commercial risks involved in the investment are an important issue that needs attention and evaluation. The main problem for investors and other stakeholders is that they do not know the difference between risk and reward. They cannot create the best portfolio for investments. This study attempts to analyse the difference in risk and return between SENSEX companies and the individual performance of securities against Bombay Stock Exchange stocks and inform them that good diversification of trading reduces risk.

Objectives

1. To Analyse the returns of the company to determine for the healthcare companies in BSE SENSEX.
2. To Investigate events related to selected Healthcare companies in BSE SENSEX.
3. To Document the findings, make recommendations, and close the review.
4. To advise investors before investing the Best security in BSE SENSEX.

Hypothesis

NH1- There is no Normality Distribution for the returns of BSE Sensex in Sample companies

Methodology of the Study

Sample Selection

Risk and return are analysed with the last monthly changes of 30 companies and the BSE 30 Healthcare Companies Index. Return and risk-based index of 30 company health as a measure of business return and business risk, respectively. In this analysis, simple sampling methods are used to identify samples. BSE SENSEX covers approximately 106 healthcare markets and benchmarks for 30 healthcare markets are taken from BSE. The list of sample companies is given below Table-1.

Source of Data

This study looks at daily returns based on secondary data, namely the BSE industry index and sample companies. Information about the criteria and organization was collected from the BSE expert website https://www.bseindia.com/. Other necessary information is gathered from various websites, books and magazines.

Period of Study

The data was collecting from the year 2013 to 2022 in BSE SENSEX.

Tools

Mean

The mean is one of the measures of central tendency, apart from the mode and median. Mean is nothing but the average of the given set of values. It denotes the equal distribution of values for a given data set.

Standard Deviation

Standard Deviation is a measure which shows how much variation (such as spread, dispersion, spread,) from the mean exists. The standard deviation indicates a "typical" deviation from the mean. It is a popular measure of variability because it returns to the original units of measure of the data set.

Skewness

Skewness is a measure of the asymmetry of a distribution. A distribution is asymmetrical when its left and right side are not mirror images.

Kurtosis

Kurtosis is a measure of the tailedness of a distribution. Tailedness is how often outliers occur. Excess kurtosis is the tailedness of a distribution relative to a normal distribution. Distributions with medium kurtosis (medium tails) are mesokurtic.

Analysis & Discussion

a. Risk & Return Analysis of BSE SENSEX

b. Normality Distribution of BSE SENSEX

Risk & Return Analysis of BSE SENSEX

From the Table 2 it is understood that 30 companies in BSE had no Positive mean value and all are Negative mean Value (Aarti Drugs Limited: -0.14283, Ajanta Pharma Limited: -0.13337, Alembic Pharmaceuticals Limited: -0.21211, Anuh Pharma Limited: -0.24393, Apollo Hospitals Enterprise Limited: -0.13557, Astrazeneca Pharma India Limited: -0.22282, Aurobindo Pharma Limited: -0.16462, Biocon Limited: -0.1806, Bliss Gvs Pharma Limited: -0.40042, Fermenta Biotech Limited: -0.17974, Fortis Healthcare Limited: -0.2074, Fortis Malar Hospitals Limited; -0.27343, Glenmark Pharmaceuticals Limited: -0.24265, Granules India Limited: -0.22637, Hikal Limited: -0.23207, Indoco Remedies Limited: -0.225, Indraprastha Medical Corp. Limited: -0.46587, Iol Chemicals & Pharmaceuticals Limited: -0.34513, Kmc Speciality Hospitals (India) Limited: -0.82624, Kovai Medical Center & Hospital Limited: -0.22379, Lincoln Pharmaceuticals Limited: -0.28569, Lupin Limited: -0.23971, Marksans Pharma Limited: -0.34854, Morepen Laboratories Limited: -0.39406, Nectar Lifesciences Limited: -0.50246, Neuland Laboratories Limited: -0.17466,

Novartis India Limited: -0.27174, Pfizer Limited: -0.20792, RPG Life Sciences Limited: -0.29203, Sanofi India Limited: -0.14459) in selected 30 companies during the period of 2013 to 2022.

It is to be noted that there exists high risk value (4.799835) in Kmc Speciality Hospitals (India) Limited during the period of 2013 to 2022.

Normality Distribution of BSE SENSEX

From the Table 3 it is understood that the 30 selected companies in BSE had high skewness value (Astrazeneca Pharma India Limited:1.508) and low skewness value (Lupin Limited:0.021) during the period of 2013 to 2022.

It is to be noted that no companies represents below the value of 3 that is platykurtic and all other companies (Aarti Drugs Limited: 7.143, Ajanta Pharma Limited: 5.774, Alembic Pharmaceuticals Limited: 5.488, Anuh Pharma Limited: 5.366, Apollo Hospitals Enterprise Limited: 5.46, Astrazeneca Pharma India Limited: 9.181, Aurobindo Pharma Limited: 8.897, Biocon Limited: 3.566, Bliss Gvs Pharma Limited: 11.588, Fermenta Biotech Limited: 3.56, Fortis Healthcare Limited: 7.102, Fortis Malar Hospitals Limited: 4.786, Glenmark Pharmaceuticals Limited: 9.884, Granules India Limited: 3.89, Hikal Limited: 7.109, Indoco Remedies Limited: 8.689, Indraprastha Medical Corp. Limited: 6.365, Iol Chemicals & Pharmaceuticals Limited: 5.496, Kmc Speciality Hospitals (India) Limited: 5.944, Kovai Medical Center & Hospital Limited: 3.366, Lincoln Pharmaceuticals Limited: 5.083, Lupin Limited: 6.816, Marksans Pharma Limited: 5.454, Morepen Laboratories Limited: 4.345, Nectar Lifesciences Limited: 4.997, Neuland Laboratories Limited: 5.84, Novartis India Limited: 10.268, Pfizer Limited: 13.083, RPG Life Sciences Limited: 6.155, Sanofi India Limited: 5.573) represents above the value of 3 that is leptokurtic during the period of 2013 to 2022.

Findings

From the Table 2 it is understood that 30 companies in BSE had no Positive mean value and all are Negative mean Value in selected 30 companies during the period of 2013 to 2022.It is to be noted that there exists high risk value (4.799835) in Kmc Speciality Hospitals (India) Limited during the period of 2013 to 2022.

From the Table 3 it is understood that the 30 selected companies in BSE had high skewness value (Astrazeneca Pharma India Limited:1.508) and low skewness value (Lupin Limited:0.021) during the period of 2013 to 2022. It is to be noted that no companiesrepresent below the value of 3 that is platykurtic and all 30 companies represents above the value of 3 that is leptokurtic during the period of 2013 to 2022.

Conclusion

The study examined the returns of 30 sample companies for studying the sectoral index by using Descriptive statistics. The study reveals that the results of Mean and Standard Deviation for KMC Specciality Hospitals in respect of performance support the normal distribution. This shows that the above stock was healthy during the study period and the investors invest their money in KMC Speciality Hospitals stock would have earned maximum returns in the stock market operations.

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Table-1

List of the healthcare Company in BSE SENSEX

S. No	Name of the companies
1.	Aarti Drugs Limited
2.	Ajanta Pharma Limited
3.	Alembic Pharmaceuticals Limited
4.	Anuh Pharma Limited
5.	Apollo Hospitals Enterprise Limited
6.	Astrazeneca Pharma India Limited
7.	Aurobindo Pharma Limited
8.	Biocon Limited
9.	Bliss Gvs Pharma Limited
10.	Fermenta Biotech Limited
11.	Fortis Healthcare Limited
12.	Fortis Malar Hospitals Limited
13.	Glenmark Pharmaceuticals Limited
14.	Granules India Limited
15.	Hikal Limited
16.	Indoco Remedies Limited
17.	Indraprastha Medical Corp. Limited
18.	Iol Chemicals & Pharmaceuticals Limited
19.	Kmc Speciality Hospitals (India) Limited
20.	Kovai Medical Center & Hospital Limited
21.	Lincoln Pharmaceuticals Limited
22.	Lupin Limited
23.	Marksans Pharma Limited
24.	Morepen Laboratories Limited
25.	Nectar Lifesciences Limited
26.	Neuland Laboratories Limited
27.	Novartis India Limited
28.	Pfizer Limited
29.	RPG Life Sciences Limited
30.	Sanofi India Limited

Table- 2

Risk and Return analysis of Healthcare Sample Companies in BSE SENSEX

2013 to 2022

Name of the companies	Mean	Std. Deviation
Aarti Drugs Limited	-0.14283	2.527163
Ajanta Pharma Limited	-0.13337	2.316377
Alembic Pharmaceuticals Limited	-0.21211	2.262694
Anuh Pharma Limited	-0.24393	2.94802
Apollo Hospitals Enterprise Limited	-0.13557	2.127882
Astrazeneca Pharma India Limited	-0.22282	2.357524
Aurobindo Pharma Limited	-0.16462	2.408461
Biocon Limited	-0.1806	2.016386
Bliss Gvs Pharma Limited	-0.40042	3.132938
Fermenta Biotech Limited	-0.17974	3.314773
Fortis Healthcare Limited	-0.2074	2.30238
Fortis Malar Hospitals Limited	-0.27343	3.392701
Glenmark Pharmaceuticals Limited	-0.24265	2.089319
Granules India Limited	-0.22637	2.732291
Hikal Limited	-0.23207	2.790448
Indoco Remedies Limited	-0.225	2.758358
Indraprastha Medical Corp. Limited	-0.46587	2.515454
Iol Chemicals & Pharmaceuticals Limited	-0.34513	3.454712
Kmc Speciality Hospitals (India) Limited	-0.82624	4.799835
Kovai Medical Center & Hospital Limited	-0.22379	2.546436
Lincoln Pharmaceuticals Limited	-0.28569	3.432501
Lupin Limited	-0.23971	1.817482
Marksans Pharma Limited	-0.34854	3.681156
Morepen Laboratories Limited	-0.39406	3.858972
Nectar Lifesciences Limited	-0.50246	3.660754
Neuland Laboratories Limited	-0.17466	3.572356
Novartis India Limited	-0.27174	2.074621
Pfizer Limited	-0.20792	1.681406
RPG Life Sciences Limited	-0.29203	3.205228
Sanofi India Limited	-0.14459	1.584291

Source: Collected from BSE and Calculated from SPSS

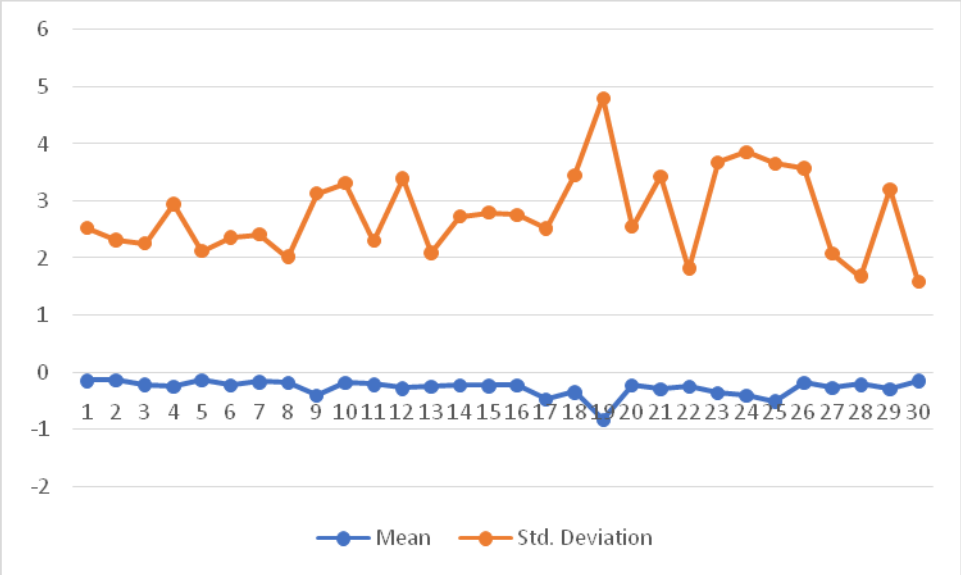

Fig: Risk and Return analysis of Healthcare Sample Companies in BSE SENSEX 2013to 2022

Table-3

Analysis of Normality Distribution in Healthcare Sample Companies in BSE SENSEX from 2018 to 2022

Name of the companies	Skewness	Kurtosis
Aarti Drugs Limited	1.073	7.143
Ajanta Pharma Limited	0.779	5.774
Alembic Pharmaceuticals Limited	0.672	5.488
Anuh Pharma Limited	1.036	5.366
Apollo Hospitals Enterprise Limited	0.397	5.46
Astrazeneca Pharma India Limited	1.508	9.181
Aurobindo Pharma Limited	0.443	8.897
Biocon Limited	0.158	3.566
Bliss Gvs Pharma Limited	0.727	11.588
Fermenta Biotech Limited	0.479	3.56
Fortis Healthcare Limited	0.729	7.102
Fortis Malar Hospitals Limited	0.761	4.786
Glenmark Pharmaceuticals Limited	0.091	9.884
Granules India Limited	0.761	3.89
Hikal Limited	0.642	7.109
Indoco Remedies Limited	0.362	8.689
Indraprastha Medical Corp. Limited	0.791	6.365

Iol Chemicals & Pharmaceuticals Limited	0.485	5.496
Kmc Speciality Hospitals (India) Limited	0.767	5.944
Kovai Medical Center & Hospital Limited	0.31	3.366
Lincoln Pharmaceuticals Limited	0.724	5.083
Lupin Limited	0.021	6.816
Marksans Pharma Limited	0.875	5.454
Morepen Laboratories Limited	0.845	4.345
Nectar Lifesciences Limited	1.058	4.997
Neuland Laboratories Limited	0.737	5.84
Novartis India Limited	1.399	10.268
Pfizer Limited	0.431	13.083
Rpg Life Sciences Limited	1.15	6.155
Sanofi India Limited	0.064	5.573

Source: Collected from BSE and Calculatedfrom SPSS

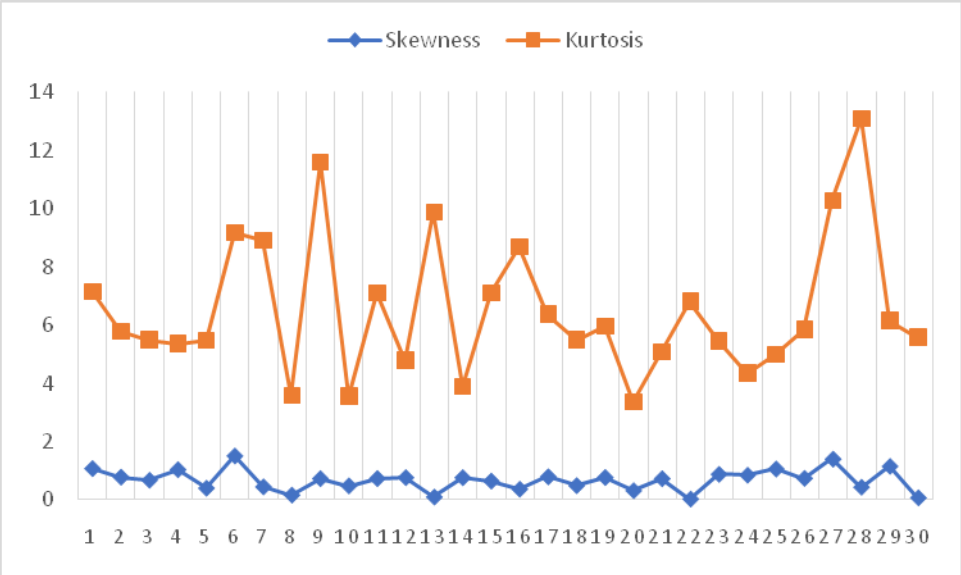

Fig: Analysis of Normality Distribution in Healthcare Sample Companies in BSE SENSE from 2018 to 2022

Exploring the Influence of Family Income on Awareness Levels and Institutional Initiatives towards Intellectual Property Rights (IPR) among Students

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Abstract

This article examines the relationship between students' family annual income and their awareness of Intellectual Property Rights (IPR), as well as the effectiveness of institutional initiatives aimed at enhancing IPR awareness. By analyzing data across different income brackets, the study identifies significant variations in IPR knowledge, including concept awareness, filing-related awareness, and patent publication awareness. Using One-Way ANOVA, the findings reveal that students from higher-income families exhibit higher levels of awareness in key areas of IPR, such as industrial design, copyright, and geographical indications. Additionally, institutional initiatives are found to be more effective among wealthier students, highlighting disparities in how these initiatives are perceived and absorbed across income levels. The study concludes that socioeconomic factors play a critical role in shaping IPR awareness and suggests the need for more targeted and inclusive educational strategies to ensure equal access to IPR knowledge for students from all income groups.

Keywords: Family Income, Awareness Levels, Institutional Initiatives, Socioeconomic Factors, ANOVA

Introduction

Intellectual Property Rights (IPR) are essential for fostering innovation and creativity, especially in academic environments where students play a crucial role in the generation of new ideas. However, awareness of IPR and the initiatives designed to promote this awareness may not be uniformly distributed across different socioeconomic groups. This article compares the awareness levels of IPR among students based on their family annual income, and evaluates the effectiveness of institutional initiatives aimed at enhancing this awareness.

The analysis uses statistical tools, including ANOVA tests, to examine the relationship between family income and both the awareness of IPR concepts and the perceived impact of institutional initiatives. This provides insight into whether income disparities influence students' comprehension and engagement with IPR-related topics.

Review of Literature

1. **Singh, A. (2020).** ***The Role of Socioeconomic Status in Intellectual Property Awareness Among Students*****:** This study highlights the influence of family income on students' understanding of IPR concepts. It shows that students from wealthier backgrounds tend to have greater access to resources and awareness about patent filing, copyrights, and trademarks. The research calls for more inclusive programs to bridge this knowledge gap.
2. **Kumar, V. (2019).** ***Institutional Initiatives for Enhancing IPR Awareness in Higher Education*****:** Kumar's study focuses on various institutional strategies aimed at increasing IPR awareness among students. It finds that while many institutions offer workshops and seminars, their effectiveness is often limited to students from higher-income groups, necessitating more targeted approaches for lower-income students.
3. **Rahman, S. (2021).** ***Impact of Education on Intellectual Property Rights Awareness: A Comparative Study of Socioeconomic Groups*****:** Rahman's work compares IPR awareness among students from different socioeconomic backgrounds, showing that students from lower-income families have significantly lower awareness of filing processes and patent publication. The study recommends improving outreach programs for economically disadvantaged students.
4. **Sharma, P., & Patel, M. (2018).** ***Factors Affecting Awareness of IPR in University Students*****:** This study explores the factors that influence IPR awareness in university students, including family income, educational background, and institutional support. It concludes that income is a significant factor in determining the level of IPR knowledge, with wealthier students showing greater familiarity with legal and filing procedures.
5. **Lal, K., & Gupta, R. (2022).** ***Bridging the IPR Knowledge Gap: Institutional Efforts and Student Awareness*****:** Lal and Gupta examine institutional initiatives aimed at increasing IPR awareness and their effectiveness across different income groups. The study emphasizes the need for tailored programs that address the specific needs of lower-income students to create a more equitable learning environment regarding IPR education.

Statement of the Problem

The growing significance of Intellectual Property Rights (IPR) in fostering innovation and protecting intellectual creations necessitates that students, particularly in higher education, possess adequate knowledge about IPR. However, awareness of IPR among students may vary based on their socioeconomic backgrounds, potentially influencing their ability to engage with IPR-related processes, such as filing patents, understanding copyrights, and recognizing trademarks. The effectiveness of institutional initiatives designed to enhance IPR awareness may also differ across income groups, creating disparities in IPR education. This study investigates the extent to which family income affects students' IPR awareness levels and evaluates the impact of institutional initiatives on bridging this gap, aiming to identify areas where educational interventions may be necessary to ensure equal access to IPR knowledge.

Objectives

The primary objective of this article is to explore the relationship between students' family annual income and their awareness of Intellectual Property Rights (IPR), while assessing the effectiveness of institutional initiatives aimed at increasing IPR awareness. Specifically, the article seeks to:

1. Analyze differences in IPR awareness levels among students from various income brackets, including concept awareness, filing-related awareness, and patent publication-related awareness.
2. Examine the impact of family income on the perceived effectiveness of institutional initiatives designed to enhance IPR knowledge.
3. Identify areas where institutional interventions may be needed to improve IPR awareness, especially for students from lower-income backgrounds.
4. Provide insights into how socioeconomic factors influence students' understanding of key IPR concepts and their engagement with related institutional programs.

Methodology

- The study used descriptive and inferential analysis
- Study area is the southern regions of the tamilnadu and the engineering colleges in these areas are taken
- 1384 samples are selected for the study

Sample size n = (ZS/E) 2

Where

Z = Standardized value corresponding to a confidence level of 95% = 1.96

S = Sample SD from Pilot study of 50 sample from (Dev Fac) = 0.9489

E = Acceptable Error = 5% = 0.05

Hence, Sample size = n = (ZS/E) 2

= (1.96*0.9489/0.05) 2

= 1383.61

= 1384

- **stratified random sampling** is adopted for the selection of samples
- **per centage, correlation techniques are adopted for analysis**

Table 1 Sample Selection

Sl.No	**District**	**Sample Size (Engineering College Students)**	**No of Colleges**
1	Dindigul	109	13
2	Madurai	168	20
3	Theni	51	6
4	Virudhunagar	101	12
5	Pudukkottai	92	11
6	Ramanathapuram	33	4
7	Sivaganga	97	8
8	Kanniyakumari,	219	29
9	Tuticorin	113	12
10	Tirunelveli	277	34
11	Thanjavur	124	15
Total		**1384**	**164**

Source: Primary Data

- Mean, standard deviation and correlation are applied to test the objective.

Analysis of the Study

Profile Variables

The study surveyed a total of 1384 engineering college students, with a majority being male (64.4%) and the remaining female (35.6%). The respondents' family annual income varied significantly, with most (74.2%) earning below 1.5 lakhs annually. Smaller segments of the population reported incomes in the ranges of 1.5-2.5 lakhs (10.4%), 2.5-3.5 lakhs (6.2%), 3.5-4.5 lakhs (6.0%), and above 4.5 lakhs (3.1%).

In terms of academic disciplines, the respondents were fairly distributed across several engineering fields. The largest group was from Electrical and Electronics Engineering (EEE) (24.9%), followed by Computer Engineering (22.2%), Mechanical Engineering (13.3%), and Electronics and Communication Engineering (ECE) (11.3%). Civil Engineering students made up 9.1% of the respondents, while those from other engineering disciplines comprised 19.1%. Regarding educational attainment, the vast majority of respondents were undergraduates (82.0%), with a smaller proportion pursuing postgraduate studies (18.0%). A significant portion of the respondents expressed entrepreneurial aspirations influenced by Intellectual Property (IP) creation, with 60.9% indicating a desire to become entrepreneurs as a result of IP creation, while 39.1% did not share this ambition. These demographic insights provide a comprehensive overview of the sample population, highlighting the diverse economic backgrounds, academic disciplines, and entrepreneurial inclinations of the respondents.

To Compare Awareness Level and Initiatives of Institution towards increase of awareness on IPR among students based on their Family Annual Income

To assess the relationship between family annual income and both the awareness level of Intellectual Property Rights (IPR) and the effectiveness of institutional initiatives designed to enhance IPR awareness, an analysis was conducted. This examination aims to determine whether there are significant differences in IPR awareness and the impact of institutional initiatives among students from different income brackets. By evaluating these differences, we can understand if family income influences students' awareness levels and the perceived effectiveness of initiatives aimed at increasing IPR knowledge. The statistical significance of these discrepancies is revealed through the p-values derived from ANOVA tests conducted for each category of IPR awareness.

Table 2 Awareness Level of IPR among students based on their Family Annual Income

Particulars		Family Annual Income in lakhs				
		Below 1.5	1.5-2.5	2.5-3.5	3.5-4.5	Above 4.5
Concept Awareness	Mean	25.57	25.29	26.22	28.13	27.12
	SD	(4.55)	(4.72)	(3.57)	(4.35)	(4.19)
Filing Related Awareness	Mean	31.47	30.72	32.38	33.48	33.12
	SD	(6.29)	(6.41)	(4.92)	(6.41)	(6.88)
Patent Publication Related Awareness	Mean	31.15	30.34	31.54	34.30	32.88
	SD	(6.36)	(6.42)	(5.49)	(7.11)	(6.78)
Industrial Design	Mean	49.26	48.12	49.82	53.33	52.41
	SD	(9.80)	(9.65)	(7.37)	(9.46)	(9.51)
Trademark	Mean	38.01	37.75	38.16	40.54	40.94

	SD	(8.11)	(7.92)	(6.17)	(8.87)	(8.06)
Layout Design	Mean	24.51	23.89	24.76	27.41	26.04
	SD	(5.84)	(6.36)	(4.88)	(5.08)	(6.36)
Trade Secrets	Mean	23.98	23.67	24.54	26.43	25.04
	SD	(6.12)	(6.13)	(4.39)	(5.95)	(5.67)
Copy Right	Mean	31.17	30.66	31.96	35.61	34.16
	SD	(7.85)	(7.87)	(5.53)	(6.42)	(7.72)
Geographical Indication	Mean	37.40	36.13	38.40	42.30	39.43
	SD	(9.28)	(9.42)	(7.57)	(9.31)	(8.54)

Source: Computed Data

The comparison of awareness levels of Intellectual Property Rights (IPR) among students based on their family annual income reveals notable disparities across income brackets. Generally, higher mean scores are observed in categories of IPR awareness as family income increases. For instance, in aspects like industrial design, trademark, copyright, and geographical indication, there are significant increases in mean scores with higher income brackets, indicating a strong correlation between income level and awareness in these domains. Conversely, while there are increases in mean scores across other categories such as concept awareness, filing-related awareness, and patent publication-related awareness, the associations are less pronounced. These findings underscore the influence of socioeconomic factors, particularly family income, on the awareness levels of IPR among students, with higher-income households exhibiting greater awareness across multiple aspects of IPR.

Awareness Level of IPR among students based on their Family Annual Income

To explore the impact of family annual income on students' awareness levels of Intellectual Property Rights (IPR), a One-Way ANOVA analysis was conducted. This analysis aims to determine whether there are statistically significant differences in IPR awareness among students from different income brackets. By evaluating these differences, we can assess if family income influences the extent of IPR awareness among students.

Ho1: Initiatives of Institution towards increase awareness on Patent among Family Annual Income of students are same

Table 3 Awareness Level on Patent among students based on their Family Annual Income

Variables		Sum of Squares	df	Mean Square	F	Sig.
Concept Awareness	Between Groups	423.175	4	105.794	5.194	<0.001**
	Within Groups	28090.477	1379	20.370		
	Total	28513.652	1383			
Filing Related Awareness	Between Groups	410.702	4	102.675	2.599	0.035*
	Within Groups	54469.445	1379	39.499		
	Total	54880.147	1383			
Patent Publication Related Awareness	Between Groups	667.022	4	166.755	4.105	0.003**
	Within Groups	56024.189	1379	40.627		
	Total	56691.211	1383			
Industrial Design	Between Groups	1367.073	4	341.768	3.640	0.006**
	Within Groups	129468.678	1379	93.886		
	Total	130835.751	1383			
Trademark	Between Groups	682.585	4	170.646	2.629	0.033*
	Within Groups	89506.799	1379	64.907		
	Total	90189.384	1383			
Layout Design	Between Groups	530.459	4	132.615	3.875	0.004**
	Within Groups	47188.413	1379	34.219		
	Total	47718.872	1383			
Trade Secrets	Between Groups	340.154	4	85.039	2.329	0.054*
	Within Groups	50360.065	1379	36.519		
	Total	50700.219	1383			
Copy Right	Between Groups	1324.139	4	331.035	5.535	<0.001**
	Within Groups	82473.283	1379	59.807		
	Total	83797.421	1383			
Geographical Indication	Between Groups	1500.102	4	375.025	4.422	0.001**
	Within Groups	116963.100	1379	84.817		
	Total	118463.202	1383			

Source: Computed Data

*5% level of significant, **1% level of significant

Concept Awareness exhibits a highly significant difference among income groups ($p < .001$), implying varied levels of understanding across different socioeconomic backgrounds. Similarly, Filing Related Awareness demonstrates a significant discrepancy ($p = .035$), indicating disparities in comprehension regarding the filing aspects of IPR among students from diverse income brackets. Notably, Awareness of Patent Publication Related Aspects also displays a significant variation ($p = .003$), indicating differing levels of awareness regarding patent publication processes among income groups.

Further, Industrial Design awareness manifests significant divergence ($p = .006$), underscoring varied understanding levels of industrial design-related aspects of IPR among students from different income backgrounds. Similarly, Trademark Awareness presents a notable difference ($p = .033$), reflecting varying levels of comprehension concerning trademark-related concepts among income strata.

Moreover, Layout Design Awareness reveals a significant variation ($p = .004$), indicative of differing levels of understanding of layout design-related aspects across income groups. While Trade Secrets Awareness demonstrates a borderline significant difference ($p = .054$), indicating a potential discrepancy in comprehension levels among income brackets, the significance is less pronounced.

However, Copyright Awareness shows a highly significant difference ($p < .001$), highlighting substantial disparities in understanding copyright-related aspects among students from different income groups. Similarly, Geographical Indication Awareness presents a significant variation ($p = .001$), underscoring divergent levels of comprehension concerning geographical indication-related concepts across income strata.

Suggestions

Based on the findings of this study, several recommendations can be made to improve the awareness and effectiveness of institutional initiatives related to Intellectual Property Rights (IPR):

1. **Targeted Educational Programs for Lower-Income Students**

   Institutions should develop specialized workshops, seminars, and resources focused on IPR awareness, particularly for students from lower-income families. Tailoring content to address the specific challenges faced by these students can help bridge the awareness gap.

2. **Strengthening Outreach and Engagement**

   To ensure broader participation, universities should enhance outreach efforts by collaborating with external IPR experts and industry partners. Providing interactive learning experiences such as simulations of the patent filing process or case studies on copyright infringement could make the subject more relatable and accessible to all income groups.

3. **Subsidized Access to IPR Resources**

   Institutions can offer financial support or subsidies to lower-income students, enabling them to access resources such as IPR databases, patent filing tools, and legal consultation

services. This would help equalize opportunities for students to explore intellectual property protection for their innovations.

4. **Mentorship and Peer Support Systems**

   Establishing mentorship programs where students with greater IPR knowledge can guide those who are less familiar with the concepts could foster peer learning. Faculty members and IPR professionals could also act as mentors to support students in navigating complex areas like patent filing and trademark registration.

5. **Evaluation and Continuous Improvement of Institutional Initiatives**

   Institutions should regularly assess the effectiveness of their IPR awareness programs by gathering feedback from students across all income levels. Continuous improvement of these programs, based on data-driven insights, will ensure that they remain relevant, inclusive, and impactful for students from diverse backgrounds.

Conclusion

The findings suggest that family income plays a significant role in determining the level of IPR awareness among students. Higher-income students are generally more informed about IPR-related topics, which points to a gap in accessibility to resources or exposure to institutional initiatives. Institutions should focus on tailoring awareness programs to bridge this gap, ensuring that students from all socioeconomic backgrounds can engage equally with IPR concepts.

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Customer Service Promotional Strategy for Service Organisations - A Study with Special Reference to GIC at Sivakasi

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Abstract

The insurance marketer faces several serious handicaps owing to the complex buying behavior of the prospective client. Sivakasi is having greater potential for general insurance products. Sivakasi general insurance companies should make a lot of innovative measures in their existing setup to seize not only the domestic business opportunities but also global business opportunities. The greater care of Sivakasi general insurance business units will result in greater business. The study area Sivakasi is with all its industrial and trade potentialities and also with population to have properties insurable under general insurance folio. The current number of general insurance companies both belong to both public sector and private sector make penetrating marketing endeavour in an intensified nature.

Keywords: Insurance products, Customer Service, Policyholders, Government Insurance Company

Introduction

Customer service play vital role in the marketing programs and performance of all modern organizations. The nature of service marketing requires that the service organization should devote most attention in offering effective services to the customers. As the services are available, they can gain confidence and goodwill of the customers through prompt and efficient customer service only. The best way of surviving and prospering in the competitive business environment is through providing the relevant, reliable, effective and efficient customer services at reasonable or no cost, when the customer is in need.

The Insurance Companies, among the service organizations, play an important role in meeting the types of risks to its customers. The general insurance corporation is one of the biggest Insurance companies providing insurance services in India, with its wide branch network, trained staff and decentralization of servicing functions to the branches. GIC have been trying to move closer to the customers(policyholders) by providing effective customer services without delay in servicing.

Customer Service in General Insurance

The market share of general insurance business is comparatively poorer than life insurance business. But the potential market opportunities are much wider for general insurance. So, the study on general insurance business with reference to quality becomes more important. General insurance company is under the category of hybrid variety of service offering which consist of different types of products and services tied up within the products.

The general insurance service is complicated since its needs are in different phases. The services are intangible inseparable, variable and perishable. All service sectors must follow important steps for their quality control aspects.

- Recruit right service employees and provide them excellent training
- Standardizing the service performance
- Monitoring customer satisfaction by means of suggestion schemes, accepting and reviewing the complaints customer survey comparison.

The importance of servicing the customer is of utmost importance in ever increasing, ever changing and highly competitive business scenarios.

Statement of the Problem

Insurance Company is a trust institution. It mobilizes savings from the public at large for its onward circulation in the economy. Insurers are important financial intermediaries selling promises for future delivery. The concept of quality management in the present day market in insurance industry aims basically at consumer satisfaction and hence insurance market in India must examine consumer satisfaction at prime duty. Therefore, an attempt has been made by the researcher to examine and evaluate the various types of customer services provided by GIC from the point of customers(policyholders).

Scope of the Study

The Researcher has attempted to study the marketing of general insurance products in Sivakasi. What the clients feel about the general insurance companies and what are their expectations and how well the general insurance subsidiary companies fulfill their expectations, are some of the issues that come under purview of the research. This study aims at identifying the factors which influence the policy holder in the selection of policies. Examinations of the perception of policy holders towards General Insurance services form part of this study. Since Sivakasi is an industrial

area, mainly concentrated with match industry, fireworks industry, printing industry etc. There is a wide scope for general insurance in this area.

Objectives of the study

The present study has made an attempt to o conduct an opinion survey with the policy holders of general insurance in the study area to know their opinion on the general insurance companies in providing insurance service right from the stage of knowing the need for insurance, till to the stage of getting service on claim settlement.

Review of Literature

Ch. Rajasham and K.Rajender in their paper titled "Changing scenario of Indian Insurance Sector" examined the reasons for the entry of private and foreign players into Indian Insurance Market and added that the present scenario of Insurance Sector needs to provide with a wide range of world class products and services at competitive price by adopting international best practices to maintain professor standards for enhancing their market share in global insurance players in Indian Insurance Market.

Hypothesis

1. Age, Sex, Education, Marital status, occupation and income of the policy holders are independent from the level of attitude towards the performance of General Insurance subsidiary companies in Sivakasi.
2. Age, gender, occupation and income of the policy holders do not influence the attitude of agents toward the performance of General Insurance companies in Sivakasi.

Period of the Study

The present study covers a period of 5 years from 2015-16 to 2019-20. During this period the corporation has launched various new plans.

Research Design

The various tools applied to analyze the data collected from the policyholders and Development Officers and from the secondary sources of information are Percentage analysis, Ratios, Growth Rates, Correlation Analysis, Trend Analysis, Garett Ranking and Chi-square test. Therefore this study is descriptive as well as analytical.

Sample Survey

Primary data is collected by means of pretested interview schedules. A separate interview schedule is prepared for the clients of the four subsidiaries of General Insurance Corporation and two private general insurance companies. The secondary data were collected from the records of Government owned General Insurance companies, books, magazines, journal and other relevant documents and also information through internet for private general insurance companies.

Sampling Design

A pilot study has been conducted to ascertain the opinion of various groups of clients and agents. All the four Government owned General Insurance Corporations are working in Sivakasi. They are New India Assurance Company Ltd., Oriental Insurance Company Ltd., United India Insurance Company Ltd., and National Insurance Company Ltd.

Nature of Policyholders' Status

The researcher has analysed the nature of business of Policy holders, because it is important to study the potentialities for taking insurance policy for the properties of their business. The following Table explains the nature of business of respondents.

Nature of Policyholders

S.No	Nature	No. of Respondents	Percentage to Total
1	Individual	80	25
2	Business Organization	240	75
Total		**320**	**100**

Source: Primary data

From the above Table, it is apparent that out of 320 respondents,80 respondents are individuals having insurable interest on their properties and business and the remaining 240 respondents belong to Business Organizations. However, Business Organizations have utilized the insurance services to a greater extent than the individuals.

Type of Policies

All General Insurance Companies offer different varieties of products to suit the different needs of their customers. The survey also tried to identify the type of policy which is popular in the study area and the results are displayed in the following Table.

Type of Policies

S.No	Type of Insurance	No. of Respondents	Percentage to Total
1	Fire	116	36.25
2	Marine	108	33.75
3	Motor	72	22.5
4	Miscellaneous	24	7.5
Total		**320**	**100**

Source: Primary data

The fire policies take the first place with 36.25 % of the total policies. The marine policies take the second place with 33.75% of the total policies, It is surprised to find equal number of policies (108 numbers) for marine insurance indicating the involvement of Sivakasi Industries in Export Business and transport ventures.

Types of Companies

The Government of India, markets general insurance through the General Insurance Companies of India. They do marketing as four public sector undertakings and they enjoy an autonomous status for internal management.

Type of Companies

S.No	Types of Companies	No. of Respondents	Percentage to Total
1	Government Companies	288	90.00
2	Private Companies	23	7.19
3	Both	9	2.81
Total		**320**	**100**

Source: Primary data

It is gratifying to note from the above Table that out of 320 respondents contacted, a majority of them (90 %) are taking policies from Government Companies, 7.19 % of policy holders are taking policies from private companies and the remaining 2.81 % of policy holders are taking policies both from Government and private companies.

Ranking the Type of Insurance Policies taken by Policy Holders

All general insurance companies offer different varieties of products to suit the different needs of customers.

Rank the Type of Insurance Policies taken by Policy Holders

T. No	S.No	Insurance	1st Rank (4)	2nd Rank (3)	3rd Rank (2)	4th Rank (1)	Total Points	Rank
2.8.1	1	Fire	848 (212×4)	183 (61×3)	62 (31×2)	16 (16×1)	1109	**I**
2.8.2	2	Marine	608 (152×4)	273 (91×3)	92 (16×2)	31 (31×1)	1004	**II**
2.8.3	3	Motor	308 (77×4)	138 (46×3)	302 (151×2)	46 (46×1)	794	**III**
2.8.4	4	Miscellaneous	248 (62×4)	228 (76×3)	92 (46×2)	136 (136×1)	704	**IV**
	Total		**2012**	**822**	**548**	**229**		

Source: Primary data / Computed

Key Factors on which Private Company Edges Government Company

The entry of the private players has enabled the industry to look at alternative distribution channels. To get a bigger share of the premium, every insurance company is adopting new distribution and marketing strategies. In the last two years alone, there were some fundamental changes in the Indian insurance industry.

Key Factors on which Private Company Edges Government Company

Reasons	1st Rank (4)	2nd Rank (3)	3rd Rank (2)	4th Rank (1)	Total Points	Mean Score	Rank
Good sequence of after sales service	12 (3)	36 (12)	8 (4)	2 (2)	58	2.71	II
No delay in transaction	8 (2)	15 (5)	26 (13)	1 (1)	50	2.33	III
Effective service of the Employees	60 (15)	12 (4)	2 (1)	1 (1)	75	3.50	I
Creating good awareness on General Insurance	0 (0)	9 (3)	8 (4)	14 (14)	31	1.45	IV
Total	**80**	**72**	**44**	**18**	**214**		

Source: Primary data / computed

During the survey a ranking analysis was made to find out the key factors on which private company edges Government company. The survey revealed that effective service of the employees was appreciated by the policy holders and it ranks first, with 75 points. Another major key factor is good sequence of after sales service and it ranks second with 58 points. The third rank goes to no delay in transaction with 50 points and fourth rank goes to the service of giving consultancy on policies to the policy holders.

Performance Analysis

Opinion of Policy Holders in Services of Employees and Officers in General Insurance Corporations

Performance Level as per the Respondents

Post	Performance level as per the respondents					Total	% of points
	Excellent	Very good	Good	Normal	Not good		
Manager	122	98	22	66	12	320	16.09
	(610)	(392)	(66)	(132)	(12)	(1212)	
Officers	133	113	33	30	11	320	17.08
	(665)	(452)	(99)	(60)	(11)	(1287)	
Clerks	132	112	13	58	5	320	16.83
	(660)	(448)	(39)	(116)	(5)	(1268)	
Development	126	88	69	30	7	320	16.67
	(630)	(352)	(207)	(60)	(7)	(1256)	
Agents	145	93	53	20	9	320	17.32
	(725)	(372)	(159)	(40)	(9)	(1305)	
Brokers	107	103	47	55	8	320	16.01
	(535)	(412)	(141)	(110)	(8)	(1206)	
Total	765	607	237	259	52	1920	100
	(3825)	(2428)	(711)	(518)	(52)	(7534)	

Source: Primary data/ Processed data

Table discloses the fact that the performances of the employees and officers satisfied the policy holders. Based on the points of the performance, the brokers has gained the less supportive points of 16.01 percent.

Suggestions as regards to policyholders

- The present scenario is such that the insurance company will have to look into finance, production, research and marketing.
- Research is an integral part for any marketing activity and more so for an Insurance company.
- Better claim management and grievance handling - claim / grievance status on web.

Conclusion

The marketing of insurance is more burdensome than the marketing of other financial services like banking and securities market. This happens to be so because of lesser exposure of the public to the insurance sector. The insurance marketer faces several serious handicaps owing to the complex buying behavior of the prospective client. Sivakasi is having greater potential for general insurance products. Sivakasi general insurance companies should make a lot of innovative measures in their existing setup to seize not only the domestic business opportunities but also global business opportunities. Compared to marketing other financial services like banking and stocks, selling insurance requires more work. The public's decreased exposure to the insurance industry is the reason behind this. The complex purchasing behavior of the potential client presents the insurance marketer with multiple significant challenges. General insurance products have more potential in Sivakasi. It is recommended that Sivakasi general insurance businesses implement several creative strategies in their current setup to effectively capitalize on both domestic and international business potential.

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